HEMET CENTER PHASE II COMMERCIAL PROJECT

AIR QUALITY and GREENHOUSE GAS STUDY

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RIVERSIDE COUNTY, CALIFORNIA

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AIR QUALITY and GREENHOUSE GAS STUDY

This report is an analysis of the potential air quality and greenhouse gas impacts associated with the proposed Hemet Center Phase II commercial project in unincorporated Riverside County. This report has been prepared by Birdseye Planning Group (BPG) under contract to the Al Husn, LP, to support preparation of the environmental documentation pursuant to the California Environmental Quality Act (CEQA). This study analyzes the potential for temporary impacts associated with construction activity and long-term impacts associated with operation of the proposed project.

PROJECT DESCRIPTION

The applicant proposes to construct two commercial restaurant buildings, parking and stormwater detention basin on a 1.61 net acre (2.69 gross acres) project site at the southeast corner of SR 74 and Amanda Avenue in the community of Winchester (APNs 458-103-01 and 02). The project site is vacant. The proposed project would construct one drive-thru restaurant building and one general retail building that could accommodate a restaurant and other uses. The building on parcel one would front State Route 74 and be 4,400 square feet in size with 37 parking stalls. The building on parcel two would be located to the south of parcel 2 and provide 7,340 square feet of leasable area. No drive-thru would be provided with the retail building. A total of 41 parking stalls would be provided for the retail building. A stormwater detention basin would be constructed on a third parcel located at the southeast corner of the site. Primary access would be from Amanda Avenue. Access directly to/from State Route 74 would also be provided.

The site is zoned Rural Residential (RR). The proposed zoning is scenic highway commercial. Adjacent land use is rural residential to the north (across State Highway 74), south (across Old State Highway 74) and west and commercial to the east. The project is proposed for construction in early 2019 and require approximately 6 months to complete. The project would be fully operational in late 2019.

SETTING

Air Pollution Regulation

The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate emissions of airborne pollutants and have established ambient air quality standards for the protection of public health. The EPA is the federal agency designated to administer air quality regulation, while the California Air Resources Board (ARB) is the state equivalent in California. Federal and state standards have been established for six criteria pollutants, including ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulates less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$), and lead (Pb). California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Table 1 lists the current federal and state standards for each of these pollutants. Standards have been set at levels intended to be protective of public health. California standards are generally more restrictive than federal standards for each of these pollutants except lead and the eight-hour average for CO.

Table 1
State and Federal Ambient Air Quality Standards

POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS[1]		NATIONAL STANDARDS[2]		
		Concentration[3]	Method[4]	Primary[3, 5]	Secondary[3, 6]	Method[7]
Ozone[8] (O_3)	1 hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 hours	0.070 ppm (137µg/m³)		0.070 ppm (137 µg/m³)		
Carbon Monoxide (CO)	8 hours	9.0 ppm (10 mg/m³)	Non-Dispersive Infrared Spectroscopy (NDIR)	9 ppm (10 mg/m³)	--	Non-Dispersive Infrared Spectroscopy (NDIR)
	1 hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
Nitrogen Dioxide (NO_2)[10]	Annual Average	0.030 ppm (57 µg/m³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m³)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 hour	0.18 ppm (339 µg/m³)		100 ppb (188 µg/m³)	--	
Sulfur Dioxide (SO_2)[11]	Annual Average	--	Ultraviolet Fluorescence	0.03 ppm (80 µg/m³)	--	Pararosaniline
	24 hours	0.04 ppm (105 µg/m³)		0.14 ppm (365 µg/m³)	--	
	3 hours	--		--	0.5 ppm (1300 µg/m³)	
	1 hour	0.25 ppm (655 µg/m³)		75 ppb (196 µg/m³)	--	
Respirable Particulate Matter (PM_{10})[9]	24 hours	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	150 µg/m³	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		--	--	
Fine Particulate Matter ($PM_{2.5}$)[9]	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12 µg/m³	15 µg/m³	Inertial Separation and Gravimetric Analysis
	24 hours	--		35 µg/m³	Same as Primary Standard	

POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS[1]		NATIONAL STANDARDS[2]		
		Concentration[3]	Method[4]	Primary[3, 5]	Secondary[3, 6]	Method[7]
Sulfates	24 hours	25 µg/m³	Ion Chromatography	--	--	--
Lead[12, 13] (Pb)	30-day Average	1.5 µg/m³	Atomic Absorption	--	--	High Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 µg/m³	Same as Primary Standard	
	3-month Rolling Average	--		0.15 µg/m³		
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence	--	--	--
Vinyl Chloride[12]	24 hours	0.010 ppm (26 µg/m³)	Gas Chromatography	--	--	--

Notes:

ppm = parts per million
µg/m³ = micrograms per cubic meter
mg/m³ = milligrams per cubic meter
Source: California Air Resources Board 2017

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/ m^3 to 12.0 μg/ m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/ m^3, as was the annual secondary standard of 15 μg/ m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/ m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 μg/ m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Local control in air quality management is provided by the ARB through county-level or regional (multi-county) Air Pollution Control Districts (APCDs). The ARB establishes air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The ARB has established 15 air basins statewide. The project site is located within the South Coast Air Basin (Basin), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality conditions in the Basin are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is 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. Depending on whether the standards are met or exceeded, the local air basin is classified as being in “attainment” or “non-attainment.” The Basin, in which the project area is located, is a non-attainment area for both the federal and state standards for ozone and $PM_{2.5}$. The Basin is in attainment for the state and federal standards for PM_{10}, nitrogen dioxide, and carbon monoxide. Characteristics of ozone, carbon monoxide, nitrogen dioxide, and suspended particulates are described below.

Ozone. Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_X) and reactive organic gases (ROG)[1]. Nitrogen oxides are formed during the combustion of fuels, while reactive organic compounds are formed during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it mostly occurs in concentrations considered serious between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

Carbon Monoxide. Carbon monoxide is a local pollutant that is found in high concentrations only near the source. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes. Carbon monoxide's health effects are related to its affinity for hemoglobin in the blood. At high concentrations, carbon monoxide reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity and impaired mental abilities.

Nitrogen Dioxide. Nitrogen dioxide (NO_2) is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. Nitrogen dioxide is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of PM_{10} and acid rain.

Suspended Particulates. PM_{10} is particulate matter measuring no more than 10 microns in diameter, while $PM_{2.5}$ is fine particulate matter measuring no more than 2.5 microns in diameter. Suspended particulates are mostly dust particles, nitrates and sulfates. Both PM_{10} and $PM_{2.5}$ are by-products of fuel combustion and wind erosion of soil and unpaved roads, and are directly emitted into the atmosphere through these processes. Suspended particulates are also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with the small particulates (those between 2.5 and 10 microns in diameter) and fine particulates ($PM_{2.5}$) can be very different. The small particulates generally come from windblown dust and dust kicked up from mobile sources. The fine particulates are generally associated with combustion processes as well as being formed in the atmosphere as a secondary pollutant through chemical reactions. Fine particulate matter is more likely to

[1] *Organic compound precursors of ozone are routinely described by a number of variations of three terms: hydrocarbons (HC), organic gases (OG), and organic compounds (OC). These terms are often modified by adjectives such as total, reactive, or volatile, and result in a rather confusing array of acronyms: HC, THC (total hydrocarbons), RHC (reactive hydrocarbons), TOG (total organic gases), ROG (reactive organic gases), TOC (total organic compounds), ROC (reactive organic compounds), and VOC (volatile organic compounds). While most of these differ in some significant way from a chemical perspective, from an air quality perspective two groups are important: non-photochemically reactive in the lower atmosphere, or photochemically reactive in the lower atmosphere (HC, RHC, ROG, ROC, and VOC).*

penetrate deeply into the lungs and poses a health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the small and fine particulate matter that is inhaled into the lungs remains there. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

Toxic Air Contaminants/Diesel Particulate Matter. Hazardous air pollutants, also known as toxic air pollutants (TACs) or air toxics, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. Examples of toxic air pollutants include:

- benzene, which is found in gasoline;
- perchloroethylene, which is emitted from some dry-cleaning facilities; and
- methylene chloride, which is used as a solvent.

Transportation related emissions are focused on particulate matter constituents within diesel exhaust and TAC constituents that comprise a portion of total organic gas (TOG) emissions from both diesel and gasoline fueled vehicles. Diesel engine emissions are comprised of exhaust particulate matter and TOGs which are collectively defined for the purpose of an HRA, as Diesel Particulate Matter (DPM). DPM and TOG emissions from both diesel and gasoline fueled vehicles is typically composed of carbon particles and carcinogenic substances including polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. Diesel exhaust also contains gaseous pollutants, including volatile organic compounds and oxides of nitrogen (NO_x). Information on TAC and DPM is provided herein for reference only. The project site is not located in proximity to a freeway or other use that would generate DPM or TACs in concentrations that would pose a health risk or justify further evaluation in a health risk assessment.

Regional Climate and Local Air Quality

South Coast Air Basin. The combination of topography, low mean mixing height, abundant sunshine, and emissions from the second largest urban area in the United States gives the SCAB the worst air pollution problem in the nation. Climate in the SCAB is determined by its terrain and geographical location. The SCAB consists of a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border, and high mountains surround the rest of the SCAB. The SCAB lies in the semi-permanent high-pressure zone of the eastern Pacific. The resulting climate is mild and is tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms or easterly Santa Ana wind conditions can occur.

Annual average temperatures vary little throughout the SCAB, ranging from the low-to-middle 60s, measured in degrees Fahrenheit. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The majority of annual rainfall in the SCAB occurs between October and March. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the SCAB and along the coastal side of the mountains. Average temperatures in winter months in the project area range from a low of 34 degrees F to a high of 68 degrees F. In the summer, average temperatures range from a low of 59 degrees F to a high of 98 degrees F. During an average year, the greatest amount of precipitation, 2.86 inches, occurs in February.

The SCAQMD operates a network of 38 ambient air monitoring stations throughout the South Coast Air Basin. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the California and federal standards. The air quality monitoring station located nearest to the project site is the Perris station, located approximately 9 miles northwest of the project site. As referenced in Table 2, data were also obtained from the Lake Elsinore monitoring station located on West Flint approximately 15 miles west of the project site. Table 2 provides a summary of monitoring data at the Perris station for ozone and PM_{10}. Nitrogen oxide and PM2.5 data from the West Flint Street monitoring station are also provided As referenced, the SCAB is a nonattainment area for these two pollutants.

As shown, both the federal and state ozone standards were exceeded at the Perris monitoring station during each of the last three years. The federal PM_{10} standard was not exceeded during the last three years. Insufficient data was available to determine whether the state standard was exceeded.

Air Quality Management Plan

Under state law, the SCAQMD is required to prepare a plan for air quality improvement for pollutants for which the District is in non-compliance. The SCAQMD updates the plan every three years. Each iteration of the SCAQMD's Air Quality Management Plan (AQMP) is an update of the previous plan and has a 20-year horizon. SCAQMD adopted the 2016 AQMP in March 2017. The 2016 AQMP incorporates new scientific data and notable regulatory actions that have occurred since adoption of the 2012 AQMP.

The 2016 AQMP was prepared to ensure continued progress towards clean air and comply with state and federal requirements. This AQMP builds upon the approaches taken in the 2012 AQMP for the South Coast Air Basin for the attainment of State and federal ozone air quality standards. The 2016 AQMP incorporates the 2016 Regional Transportation Plan/Sustainable Communities Strategy and updated emission inventory methodologies for applicable source categories. The 2016 AQMP also includes the new and changing federal requirements, implementation of new technology measures, and the continued development of economically

Table 2
Ambient Air Quality Data

Pollutant	2014	2015	2016
Ozone, ppm – First High 8-Hour Average (2015 Standard)	0.094	0.102	0.098
Number of days of above 2015 standard (>0.070 ppm)	59	49	55
Nitrogen Dioxide, ppm – First High National	45.3	47.2	51.3
Nitrogen Dioxide, ppm – First High State	45	47	51
Days above the State standard (>0.18 ppm)	0	0	0
Days above the national standard (>100 ppb)	0	0	0
Particulate Matter <10 microns, $\mu g/m^3$ First High Federal	87	188	76
Particulate Matter <10 microns, $\mu g/m^3$ First High State	82	178	*
Estimated number of days greater than national 24-hour standard (>150 $\mu g/m^3$)	0	6.6	0
Estimated number of days greater than state standard (>50 $\mu g/m^3$)	36.4	25.7	*
Particulate Matter <2.5 microns, $\mu g/m^3$ First High	33.7	42.2	31.5
Annual average (exceedances of 12 $\mu g/m^3$ standard not reported)	11.8	*	9.8
Number of samples of Federal exceedances (>12 $\mu g/m^3$)	*	*	*

Perris – 237 ½ North D Street Monitoring Station
Note – Nitrogen Dioxide and PM2.5 data from Lake Elsinore West Flint Street monitoring station
**Data insufficient to determine the value*
Source: California Air Resources Board, 2014, 2015, 2016 Annual Air Quality Data Summaries available at http://www.arb.ca.gov/adam/topfour/topfour1.php

sound, flexible compliance approaches. The 2016 AQMP is available to download at http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp.

Sensitive Receptors

Sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to air pollutants. Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare as well that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases. The closest properties defined herein as sensitive receptors are single-family residences located in proximity to the site. The nearest sensitive receptors to the project site are located approximately 100 feet south of the subject property.

AIR QUALITY IMPACT ANALYSIS

Methodology and Significance Thresholds

This air quality analysis conforms to the methodologies recommended in the SCAQMD's *CEQA Air Quality Handbook* (1993). The handbook includes thresholds for emissions associated with both construction and operation of proposed projects. All emissions were calculated using the California Emissions Estimator Model (CalEEMod) software version 2016.3.2.

Construction activities such as clearing, grading and excavation would generate diesel and dust emissions. Construction equipment that would generate criteria air pollutants includes excavators, graders, dump trucks, and loaders. It was assumed that all construction equipment used would be diesel-powered. Construction emissions associated with development of the proposed project by estimating the types of equipment (including the number) that would be used on-site during each of the construction phases. Construction emissions are analyzed using the regional thresholds established by the SCAQMD and published in the *CEQA Air Quality Handbook.*

Operational emissions include mobile source emissions, energy emissions, and area source emissions. Mobile source emissions are generated by motor vehicle trips associated with operation of the project. Emissions attributed to energy use include electricity and natural gas consumption for space and water heating. Area source emissions are generated by landscape maintenance equipment, consumer products and architectural coatings (i.e., paints). To determine whether a regional air quality impact would occur, the increase in emissions would be compared with the SCAQMD's recommended regional thresholds for operational emissions.

Regional Thresholds. Based on Appendix G of the *CEQA Guidelines*, a project would have a significant air quality impact if it would:

a) *Conflict with or obstruct implementation of the applicable air quality plan;*
b) *Violate any air quality standard or contribute substantially to an existing or projected air quality violation;*
c) *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);*
d) *Expose sensitive receptors to substantial pollutant concentrations; or*
e) *Create objectionable odors affecting a substantial number of people.*

The SCAQMD has developed specific quantitative thresholds that apply to projects within the SCAB. The following significance thresholds apply to short-term construction activities:

- *75 pounds per day of ROG*
- *100 pounds per day of NO_X*
- *550 pounds per day of CO*
- *150 pounds per day of SOx*
- *150 pounds per day of PM_{10}*
- *55 pounds per day of $PM_{2.5}$*

The following significance thresholds apply to long-term operational emissions:

- *55 pounds per day of ROG*
- *55 pounds per day of NO_X*
- *550 pounds per day of CO*
- *150 pounds per day of SO_X*
- *150 pounds per day of PM_{10}*
- *55 pounds per day of $PM_{2.5}$*

Construction Emissions

Project construction would generate temporary air pollutant emissions. These impacts are associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction vehicles, work crew vehicle trips in addition to ROG that would be released during the drying phase upon application of paint and other architectural coatings. Construction would generally consist of demolition, site preparation, grading, construction of the proposed buildings, paving, and architectural coating (i.e., paint) application.

This analysis assumes that graded soils would be balanced on the project site and that no soil import or export would be required. The project would be required to comply with SCAQMD Rule 403, which identifies measures to reduce fugitive dust and is required to be implemented at all construction sites located within the South Coast Air Basin. Therefore, the following conditions, which are required to reduce fugitive dust in compliance with SCAQMD Rule 403, were included in CalEEMod for site preparation and grading phases of construction.

1. **Minimization of Disturbance.** Construction contractors should minimize the area disturbed by clearing, grading, earth moving, or excavation operations to prevent excessive amounts of dust.
2. **Soil Treatment.** Construction contractors should treat all graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways to minimize fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll compaction as appropriate. Watering shall be done as often as necessary, and at least twice daily, preferably in the late morning and after work is done for the day.

3. **Soil Stabilization.** Construction contractors should monitor all graded and/or excavated inactive areas of the construction site at least weekly for dust stabilization. Soil stabilization methods, such as water and roll compaction, and environmentally safe dust control materials, shall be applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area shall be seeded and watered until landscape growth is evident, or periodically treated with environmentally safe dust suppressants, to prevent excessive fugitive dust.
4. **No Grading During High Winds.** Construction contractors should stop all clearing, grading, earth moving, and excavation operations during periods of high winds (20 miles per hour or greater, as measured continuously over a one-hour period).
5. **Street Sweeping.** Construction contractors should sweep all on-site driveways and adjacent streets and roads at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.

Construction emissions modeling for demolition, site preparation, grading, building construction, paving, and architectural coating application is based on the overall scope of the proposed development and construction phasing which is expected to begin early 2019 and extend through late 2019. The total area disturbed as a result of the project would be 2.69 acres with construction of two commercial buildings. For modeling purposes, it was assumed the maximum area disturbed daily is two acres and the site would be watered three times daily. In addition to SCAQMD Rule 403 requirements, emissions modeling also accounts for the use of low-VOC paint (50 g/L for nonflat coatings) as required by SCAQMD Rule 1113. Table 3 summarizes the estimated maximum mitigated daily emissions of pollutants occurring during 2019.

Table 3
Estimated Maximum Mitigated Daily Construction Emissions

Construction Phase		Maximum Emissions (lbs/day)				
	ROG	**NO_x**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
2019 Maximum lbs/day	23.7	10.6	8.4	0.015	1.5	0.7
SCAQMD Regional Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded 2019	**No**	**No**	**No**	**No**	**No**	**No**

As shown in Table 3, construction of the proposed project would not exceed the SCAQMD regional thresholds. No mitigation in addition to compliance with SCAQMD Rule 403 and Rule 1113 would be required to reduce construction emissions to less than significant.

Localized Significance Thresholds. The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (South Coast Air Quality Management District 2011). CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. Construction-related emissions reported by CalEEMod are compared to the localized significance threshold lookup tables. The CalEEMod output in Appendix A shows the equipment assumed for this analysis.

LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area (SRA), project size and distance to the sensitive receptor. However, LSTs only apply to emissions within a fixed stationary location, including idling emissions during both project construction and operation. LSTs have been developed for NO_X, CO, PM_{10} and $PM_{2.5}$. LSTs are not applicable to mobile sources such as cars on a roadway (Final Localized Significance Threshold Methodology, SCAQMD, June 2003). As such, LSTs for operational emissions do not apply to the proposed development as the majority of emissions would be generated by vehicles operating on roadways.

LSTs have been developed for emissions within areas up to five acres in size, with air pollutant modeling recommended for activity within larger areas. The SCAQMD provides lookup tables for project sites that measure one, two, or five acres. As referenced, a total of two acres is assumed to be disturbed daily during construction of the proposed project; thus, look up table values for two acres were used to provide a conservative evaluation of potential impacts. The project site is located in Source Receptor Area 24 (SRA-24, Perris Valley). LSTs for construction related emissions in the SRA 24 at varying distances between the source and receiving property are shown in Table 4.

Table 4
SCAQMD LSTs for Construction

Pollutant	**Allowable emissions as a function of receptor distance in meters from a two-acre site (lbs/day)**				
	25	**50**	**100**	**200**	**500**
Gradual conversion of NO_x to NO_2	170	200	264	379	684
CO	883	1,262	2,232	5,136	18,947
PM_{10}	7	20	38	75	186
$PM_{2.5}$	4	6	10	23	91

Source: http://www.aqmd.gov/CEQA/handbook/LST/appC.pdf, October 2009.

As referenced, the nearest sensitive receptors to the project site are located approximately 100 feet (33 meters) south of the property boundary. To provide a conservative evaluation of construction emissions relative to LST thresholds, allowable emissions for 25 meters were used. As shown in Table 3, emissions of NOx, CO, PM_{10} and $PM_{2.5}$ would not exceed the LST thresholds shown in Table 4 for 25 meters.

Project-related construction impacts would be less than significant per thresholds (b) and (d) referenced above.

Construction-Related Toxic Air Contaminant Impacts

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk". The California Office of Environmental Health Hazard Assessment (OEHHA) health risk guidance states that a residential receptor should be evaluated based on a 30-year exposure period. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. Given the short-term construction schedule, the proposed project would not result in a long-term (i.e., 30 or 70 year) exposure to a substantial source of toxic air contaminant emissions; and thus, would not be exposed to the related individual cancer risk. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project.

Construction-Related Odor Impacts

Potential sources of odor during construction activities include equipment exhaust and activities such as paving. The objectionable odors that may be produced during the construction process would occur periodically and end when construction is completed. No significant impact related to odors would occur during construction of the proposed project per threshold (e) referenced above.

Long-Term Regional Impacts

Regional Pollutant Emissions

Table 5 summarizes emissions associated with operation of the proposed project. Operational emissions include emissions from electricity consumption (energy sources), vehicle trips (mobile sources), and area sources including landscape equipment and architectural coating emissions as the structures are repainted over the life of the project. The majority of operational emissions are associated with vehicle trips to and from the project site. Trip volumes were based on trip generation factors for drive-thru restaurants and strip mall retail incorporated into CalEEMod.

As shown in Table 5, the net change in emissions would not exceed the SCAQMD thresholds for ROG, NO_X, CO, SO_X, PM_{10} or $PM_{2.5}$. Therefore, the project's regional air quality impacts (including impacts related to criteria pollutants, sensitive receptors and violations of air quality standards) would be less than significant per threshold b. Further, the project would not contribute to a cumulatively considerable impact. Impacts relative to threshold c would be less than significant.

Objectionable Odors

The primary source of odors during operation would be operation of the restaurant. During operation, the project would be subject to SCAQMD Rule 1138 which addresses restaurant emissions, specifically from chain-driven char-broilers. Rule 1138 requires the use of a catalytic oxidizer control device to control emission. With the implementation of Rule 1138, odors would be **less than significant** per threshold (e).

Table 5
Estimated Operational Emissions

	Estimated Emissions (lbs/day)					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Proposed Project						
Area	0.2	0.01	0.01	0.0	0.01	0.01
Energy	0.03	0.3	0.2	0.01	0.02	0.2
Mobile	6.4	39.3	44.5	0.1	8.5	2.4
Maximum lbs/day	**6.63**	**39.61**	**44.71**	**0.11**	**8.03**	**2.61**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

See Appendix for CalEEMod version. 2013.2.2 computer model output for the demolition of existing development. Summer emissions shown.

AQMP Consistency

A project may be inconsistent with the AQMP if it would generate population, housing, or employment growth exceeding forecasts used in the development of the AQMP. The 2016 AQMP, the most recent AQMP adopted by the SCAQMD, incorporates local city General Plans and the Southern California Association of Government's (SCAG) Regional Transportation Plan socioeconomic forecast projections of regional population, housing and employment growth.

The proposed project involves the construction of two commercial buildings; one for use as a fast-food drive-thru restaurant and the other for retail purposes, which may include a restaurant. The proposed project would not create housing and jobs are expected to be filled by local or regional residents. The proposed project would be consistent with neighboring properties and the transition of properties along SR 74 to commercial uses. Vehicle trips associated with the project would be consistent with similar uses in the area and as discussed herein, project-related emissions would not exceed thresholds recommended by the SCAQMD. Thus, the project would be consistent with the AQMP and not cause an adverse impact under threshold (a).

GREENHOUSE GAS EMISSION DISCUSSION

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and sulfur hexafluoride (SF_6) (California Environmental Protection Agency [CalEPA], 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2E), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a GWP of one. By contrast, methane (CH_4) has a GWP of 28, meaning its global warming effect is 28 times greater than carbon dioxide on a molecule per molecule basis (IPCC, 2014).

Total U.S. GHG emissions were 6,587 MMT CO_2E in 2015 (U.S. EPA, April 2017). Total U.S. emissions decreased over 2014 levels primarily as a result of less fossil fuel combustion. However, emissions vary annually. For example, emissions increased by 3.2 percent from 2009 to 2010. The increase was due in part to (1) an increase in economic output resulting in greater energy consumption across all sectors; and (2) warmer summer conditions resulting in an increase in electricity demand for air conditioning (U.S. EPA, April 2012). In 2015, electricity production and transportation accounted for 29 percent and 27 percent of CO_2 emissions from fossil fuel combustion, respectively. The residential and commercial end-use sectors accounted for 22 percent and 19 percent of CO_2 emissions from fossil fuel combustion, respectively, during 2010 (U.S. EPA, April 2012).

Based upon the California Air Resources Board (ARB) 2017 Scoping Plan (ARB, 2017), California produced 440.4 MMT CO_2E in 2015. The major source of GHG in California is transportation, contributing 37 percent of the state's total GHG emissions. The industrial sector is the second largest source, contributing 21 percent of the state's GHG emissions. California emissions result in part to its geographic size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. The ARB has projected statewide unregulated GHG emissions for the year 2020 is projected to be 509 MMT CO_2E (ARB, May 2014). These projections are based on Business As Usual (BAU) conditions and represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

California Regulations

In 2005, former Governor Schwarzenegger issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 states that by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent of 1990 levels (CalEPA, 2006). In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report") (CalEPA, 2006). The 2006 CAT Report recommended various strategies that the state could pursue to reduce GHG emissions. These strategies could be implemented by various state agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture.

Assembly Bill 32 and CARB's Scoping Plan

To further the goals established in EO S-3-05, the Legislature passed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020. Under AB 32, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_2E). CARB's adoption of this limit is in accordance with Health and Safety Code, Section 38550.

Further, in 2008, CARB adopted the Scoping Plan in accordance with Health and Safety Code, Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards;
2. Achieving a statewide renewable energy mix of 33%;
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions;
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

In the Scoping Plan (CARB 2008), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5% from the otherwise projected 2020 emissions level (i.e., those emissions that would occur in 2020) absent GHG reducing laws and regulations (referred to as Business-As-Usual (BAU)). To calculate this percentage reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (CARB 2011a), CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the BAU conditions. When the 2020 emissions level projection was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewables Portfolio Standard (RPS) (12% to 20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the BAU conditions.

In 2014, CARB adopted the First Update to the Climate Change Scoping Plan: Building on the Framework (First Update; CARB 2014). The stated purpose of the First Update is to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to

80% below 1990 levels by 2050" (CARB 2014). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California could reduce emissions further by 2030 to levels needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050" (CARB 2014). Those six areas are (1) energy, (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure), (3) agriculture, (4) water, (5) waste management, and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal (CARB 2014).

Based on CARB's research efforts presented in the First Update, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050" (CARB 2014). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the state's 1990 emissions level using more recent GWPs identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO_2E) and the revised 2020-emissions-level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the BAU conditions (CARB 2014).

In January 2017, CARB released, *The 2017 Climate Change Scoping Plan Update (*Second Update; CARB 2017b), for public review and comment. This update proposes CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20%. The Second Update incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017), acknowledges the need for reducing emissions in agriculture, and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon. During development of the Second Update, CARB held a number of public workshops in the Natural and Working Lands, Agriculture, Energy, and Transportation sectors to inform development of the 2030 Scoping Plan Update (CARB 2016). The Second Update has not been considered by CARB's Governing Board at the time this analysis was prepared.

Executive Order S-01-07 was enacted on January 18, 2007. The order mandates that a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020.

Other regulations affecting state and local GHG planning and policy development are summarized as follows:

Assembly Bill 939 and Senate Bill 1374
Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004 suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

Senate Bill 1368
Senate Bill 1368 (SB 1368) is the companion Bill of AB 32 and was adopted September, 2006. SB 1368 required the California Public Utilities Commission (CPUC) to establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1, 2007 and for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas-fired plant. Furthermore, the legislation states that all electricity provided to the State, including imported electricity, must be generated by plants that meet the standards set by California Public Utilities Commission (CPUC) and California Energy Commission (CEC).

Senate Bill 97
Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is an environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010. Pursuant to the requirements of SB 97 as stated above, on December 30, 2009 the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed sections of the CEQA Guidelines and incorporated GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance were provided and no specific mitigation measures were identified. The GHG emission reduction amendments went into effect on March 18, 2010 and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.

- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.

- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.

- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.

- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."

- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.

- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

Senate Bills 1078, 107, and X1-2 and Executive Orders S-14-08 and S-21-09
Senate Bill 1078 (SB 1078) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) changed the target date to 2010. Executive Order S-14-08 was signed on November 2008 and expands the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

California Code of Regulations (CCR) Title 24, Part 6
CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008 and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. All buildings for which an application for a building permit is submitted on or after July 1, 2014 must follow the 2013 standards. The 2013 commercial standards are estimated to be 30 percent more efficient than the 2008 standards; 2013 residential standards are at least 25 percent more efficient. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

Senate Bill 375

Senate Bill 375 (SB 375) was adopted in September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable community's strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 13 percent below 2005 per capita GHG emissions levels by 2035. In April 2016, SCAG adopted the 2016-2040 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS), which meets the CARB emission reduction requirements. The Housing Element Update is required by the State to be completed within 18 months after RTP/SCS adoption. The current Riverside County Housing Element 2013-2021 was adopted October 7, 2015.

City and County land use policies, including General Plans, are not required to be consistent with the RTP and associated SCS or APS. However, CEQA incentivizes, through streamlining and other provisions, qualified projects that are consistent with an approved SCS or APS and categorized as "transit priority projects."

Senate Bill X7-7

Senate Bill X7-7 (SB X7-7), enacted on November 9, 2009, mandates water conservation targets and efficiency improvements for urban and agricultural water suppliers. SB X7-7 requires the Department of Water Resources (DWR) to develop a task force and technical panel to develop alternative best management practices for the water sector. Additionally, SB X7-7 required the DWR to develop criteria for baseline uses for residential, commercial, and industrial uses for both indoor and landscaped area uses. The DWR was also required to develop targets and regulations that achieve a statewide 20 percent reduction in water usage.

California Green Building Standards

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402(b)(1)). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402(d)) and cost effectiveness (California Public Resources Code, Sections 25402(b)(2) and (b)(3)). These standards are updated to consider and incorporate new energy efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2016 Title 24 standards are the currently applicable building energy efficiency standards and became effective on January 1, 2017. In general, single-family homes built to the 2016 standards are anticipated to use approximately 28% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and nonresidential buildings built to the 2016 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2015a).

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as "CALGreen," and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings and schools and hospitals. The CALGreen 2016 standards became effective on January 1, 2017. The mandatory standards require the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings;
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance;
- Diversion of 65% of construction and demolition waste from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency;

- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations; and
- Low-pollutant-emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle board.

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements, stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs (24 CCR Part 11).

The California Public Utilities Commission, CEC, and CARB also have a shared, established goal of achieving zero net energy (ZNE) for new construction in California. The key policy timelines include the following: (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030 (CPUC 2013).[2] As most recently defined by the CEC in its 2015 Integrated Energy Policy Report (CEC 2015b), a ZNE code building is "one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building" using the CEC's Time Dependent Valuation metric.

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

Executive Order B-30-15

[2] It is expected that achievement of the ZNE goal will occur through revisions to the Title 24 standards.

EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO2E. EO B-30-15 also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

Senate Bill 32 and Assembly Bill 197

SB 32 and AB 197 (enacted in 2016) are companion bills that set new statewide GHG reduction targets, make changes to CARB's membership, increase legislative oversight of CARB's climate change–based activities, and expand dissemination of GHG and other air quality–related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

Local Regulations and CEQA Requirements

As referenced, pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted CEQA Guidelines provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, but contain no suggested thresholds of significance for GHG emissions. Instead, lead agencies are given the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. The general approach to developing a Threshold of Significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move the state towards climate stabilization. If a project would generate GHG emissions above the threshold level, its contribution to cumulative impacts would be considered significant. To date, the Bay Area Air Quality Management District (BAAQMD), the South Coast Air Quality Management District (SCAQMD), and the San Joaquin Air Pollution Control District (SJVAPCD) have adopted quantitative significance thresholds for GHGs. However, in March 2013 the Bay Area's thresholds were overruled by the Alameda County Superior Court (*California Building Industry Association v. Bay Area Air Quality Management District*), on the basis that adoption of the thresholds constitutes a "project" under CEQA, but did not receive the appropriate environmental review. As a result, BAAQMD has elected to not recommend specific GHG thresholds for use in CEQA documents.

The SCAQMD threshold, which was adopted in December 2008, considers emissions of over 10,000 metric tons CO2E /year to be significant. However, the SCAQMD's threshold applies only to stationary sources and is expressly intended to apply only when the SCAQMD is the CEQA lead agency. Although not formally adopted, the SCAQMD has developed a draft quantitative threshold for all land use types of 3,000 metric tons CO_2E /year (SCAQMD, September 2010). Note that lead agencies retain the responsibility to determine significance on a case-by-case basis for each specific project.

Riverside County Climate Action Plan

The Riverside County Climate Action Plan was adopted in December 2015. As referenced, SB 97 allows climate action plans and other greenhouse gas reduction plans to be used for determining whether a project has significant impacts, based upon its compliance with the plan.

Following the state's adopted AB 32 GHG reduction target, Riverside County has set a goal to reduce emissions back to 1990 levels by the year 2020. This target was calculated as a 15% decrease from 2008 levels, as recommended in the AB 32 Scoping Plan referenced above. The estimated community-wide emissions for the year 2020, based on population and housing growth projections associated with the assumptions used in the proposed General Plan Update, are 12,129,497 MT CO2e. To reach the reduction target, Riverside County must offset this growth in emissions and reduce community-wide emissions to 5,960,998 MT CO2e by the year 2020.

The specific goals and actions included in the County of Riverside Climate Action Plan that pertain to the proposed project include those addressing energy and water use reduction, promotion of green building measures, waste reduction, and reduction in vehicle miles traveled. The proposed project would also be required to implement all mandatory green building measures for new commercial development under the CALGreen Code. This would require the project be designed to reduce water consumption, increase building system efficiencies, divert construction waste from landfills, and install low pollutant emitting finish materials. The implementation of these stricter building and appliance standards would result in water, energy, and construction waste reductions for the proposed project.

The tool developed by Riverside County for determining project consistency with the CAP is referred to as the "Riverside County GHG Screening Table document". The Riverside County GHG Screening Table document provides guidance for the analysis of development projects and divide projects into two broad categories based upon the type of CEQA review being conducted. The screening table will provide a menu of reduction options. If a project can obtain 100 points from the screening table, the mitigated project will implement pertinent reduction measures such that it meets the reduction goals of the CAP and a less than significant finding can be made for the project. The CAP also recognizes that not all projects are large enough to warrant review per the screening tables. Projects that are projected to generate less than 3,000 metric MT CO_2e annually are defined as small projects with less than significant GHG emissions. These projects do not require evaluation per the screening tables (County of Riverside, 2015).

CLIMATE CHANGE IMPACT ANALYSIS

Thresholds of Significance

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions in March 2010. These guidelines are used in evaluating the cumulative significance of GHG emissions from the proposed project. According to the adopted CEQA Guidelines, impacts related to GHG emissions from the proposed project would be significant if the project would:

- *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or*
- *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). The proposed project is evaluated herein based on 3,000 MT CO_2e significance standard adopted in the Riverside County CAP as referenced above. To determine whether GHG emissions associated with the proposed project are "cumulatively considerable," consistency with applicable GHG emissions reductions strategies recommended by the 2006 CAT Report and the California Attorney General's Office is also discussed herein.

Methodology

GHG emissions associated with construction and operation of the proposed project and existing development have been estimated using California Emissions Estimator Model (CalEEMod) version 2016.3.2.

<u>Construction Emissions</u>

Construction of the proposed project would generate temporary GHG emissions primarily associated with the operation of construction equipment and truck trips. Site preparation and grading typically generate the greatest emission quantities because the use of heavy equipment is greatest during this phase of construction. Emissions associated with the construction period were estimated based on the projected maximum amount of equipment that would be used onsite at one time. Air districts such as the SCAQMD have recommended amortizing construction-related emissions over a 30-year period to calculate annual emissions. Complete CalEEMod results and assumptions can be viewed in the Appendix.

Operational Emissions

Default values used in CalEEMod version 2016.3.2 are based on the California Energy Commission (CEC) sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies. CalEEMod provides operational emissions of CO_2, N_2O and CH_4. This methodology has been subjected to peer review by numerous public and private stakeholders, and in particular by the CEC; and therefore, is considered reasonable and reliable for use in GHG impact analysis pursuant to CEQA. It is also recommended by CAPCOA (January 2008).

Emissions associated with area sources (i.e., consumer products, landscape maintenance, and architectural coating) were calculated in CalEEMod based on standard emission rates from CARB, USEPA, and district supplied emission factor values (CalEEMod User Guide, 2016). Emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CalEEMod User Guide, 2016). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

Emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California. Emissions from mobile sources were quantified based on trip generation estimates included in CalEEMod version 2016.3.2 for commercial projects.

Estimate of GHG Emissions

Construction Emissions

Construction activity is assumed to occur over a period of approximately 12 months beginning in early 2019 and conclude in late 2019. Based on CalEEMod results, construction activity for the project would generate an estimated 79 metric tons of carbon dioxide equivalent (CO_2E), as shown in Table 6. Amortized over a 30-year period (the assumed life of the project), construction of the proposed project would generate 2.6 metric tons of CO_2E per year.

Table 6
Estimated Construction Related Greenhouse Gas Emissions

Year	Annual Emissions (metric tons CO_2E)
2019	79.2
Total	**79.2**
Amortized over 30 years	**2.6 metric tons per year**

See Appendix for CalEEMod software program output for new construction.

Operational Indirect and Stationary Direct Emissions

Long-term emissions relate to energy use, solid waste, water use, and transportation. Each source is discussed below and includes the emissions associated with existing development and the anticipated emissions that would result from the proposed project.

Energy Use. Operation of onsite development would consume both electricity and natural gas (see Appendix for CalEEMod results). The generation of electricity through combustion of fossil fuels typically yields CO_2, and to a smaller extent, N_2O and CH_4. Natural gas emissions can be calculated using default values from the CEC sponsored CEUS and RASS studies which are built into CalEEMod. As shown in Table 7, the overall net increase in energy use at the project site would result in approximately 165 metric tons of CO_2E per year.

Water Use Emissions**.** The CalEEMod results indicate that the project would use approximately 1.9 million gallons of water per year. Based on the amount of electricity generated to supply and convey this amount of water, as shown in Table 8, the project would generate approximately 10 metric tons of CO_2E per year.

Solid Waste Emissions. For solid waste generated onsite, it was assumed that the project would be involved in a municipal recycling program that would achieve a 50% diversion rate, as required by the California Integrated Waste Management Act of 1989 (AB 939). The CalEEMod results indicate that the project would result in approximately 15 metric tons of CO_2E per year associated with solid waste disposed within landfills.

Table 7
Estimated Annual Energy-Related Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Proposed Project	
Electricity	100 metric tons
Natural Gas	65 metric tons

Total	**165 metric tons**

See Appendix for CalEEMod software program output (demolition and new construction).

Table 8
Estimated Annual
Solid Waste and Water Use Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Water	10 metric tons
Solid Waste	15 metric tons
Total Water and Solid Waste	**25 metric tons**

See Appendix for CalEEMod software program output (demolition and new construction).
[1]Based on a 50% diversion rate, as required by the California Integrated Waste Management Act (AB 939).

Transportation Emissions. Mobile source GHG emissions were estimated using the average daily trips calculated by CalEEMod for commercial drive-thru restaurant and strip mall retail projects. Table 9 shows the estimated mobile emissions of GHGs for the project based on the estimated annual VMT of 3,044,273. CalEEMod does not calculate N_2O emissions related to mobile sources. As such, N_2O emissions were calculated based on the project's VMT using calculation methods provided by the California Climate Action Registry General Reporting Protocol (January 2009) and fleet mix percentages calculated by CalEEMod. As shown in Table 9, the project would generate approximately 1,881 metric tons of CO_2E associated with new vehicle trips.

Table 9
Estimated Annual Mobile Emissions of Greenhouse Gases

Emission Source	Annual Emissions (CO_2E)
Proposed Project	
Mobile Emissions (CO_2 & CH_4)	1,819 metric tons
Mobile Emissions (N_2O) [1]	62 metric tons
Total	**1,881 metric tons**

See Appendix for CalEEMod software program output (demolitions and new construction).
[1] California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1,January 2009, page 30-35. See Appendix for calculations.

Combined Construction, Stationary and Mobile Source Emissions

Table 10 combines the net new construction, operational, and mobile GHG emissions associated with the proposed project. As discussed above, temporary emissions associated with construction activity (approximately 76.2 metric tons CO_2E) are amortized over 30 years (the anticipated life of the project).

Table 10
Combined Annual Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Construction	2.6 metric tons
Operational	
Energy	165 metric tons
Solid Waste	15 metric tons
Water	10 metric tons
Mobile	1,881 metric tons
Total	**2,073.6 metric tons**

See Appendix for CalEEMod software program output (demolition and new construction).

For the proposed project, the combined annual emissions would total approximately 2,073.6 metric tons per year in CO_2E. This total represents less than 0.001% of California's total 2015 emissions of 440.4 million metric tons. The majority (70%) of the project's GHG emissions are associated with motor vehicular travel. The proposed project is evaluated based on the threshold of 3,000 MT CO_2E annually (County of Riverside, 2015). Project-related annual GHG emissions would not exceed the threshold of 3,000 metric tons per year; therefore, impacts from GHG emissions would be less than significant per threshold a.

GHG Cumulative Significance. As indicated above, the CAT published the Climate Action Team Report to Governor Schwarzenegger and the Legislature (the "2006 CAT Report") in March 2006. The CAT Report identifies a recommended list of strategies that the State could pursue to reduce GHG emissions. The CAT strategies are recommended to reduce GHG emissions at a statewide level to meet the goals of the Executive Order S-3-05. These are strategies that could be implemented by various State agencies to ensure that the Governor's targets are met and can be met with existing authority of the State agencies. In addition, in 2008 the California Attorney General published The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level (Office of the California Attorney General, Global Warming Measures Updated May 21, 2008). This document provides information that may be helpful to local agencies in carrying out their duties under CEQA as they relate to global warming. Included in this document are various measures that may reduce the global warming related impacts of a project. Tables 11 and 12 illustrate that the proposed project would be consistent with the GHG reduction strategies set forth by the 2006 CAT Report as well as the 2008 Attorney General's Greenhouse Gas Reduction Measures.

As referenced, specific goals and actions included in the County of Riverside Climate Action Plan that pertain to the proposed project include those addressing energy and water use reduction, promotion of green building measures, waste reduction, and reduction in vehicle miles traveled. The proposed project would also be required to implement all mandatory green building measures for new commercial development under the CALGreen Code. This would require the project be designed to reduce water consumption, increase building system efficiencies, divert construction waste from landfills, and install low pollutant emitting finish materials. Implementation of these building and appliance standards would result in water, energy, and construction waste reductions for the proposed project.

Further, the project is expected to generate less than 3,000 metric MT CO_2e annually; and thus, are defined as small projects with less than significant GHG emissions. These projects do not require evaluation per the screening tables provided in CAP. Based on the fact that the project is consistent with the CAP and GHG reduction strategies set forth by the 2006 CAT Report as well as the 2008 Attorney General's Greenhouse Gas Reduction Measures, the proposed project would not conflict with an applicable plan, policy or regulation for the purpose of reducing the emissions of greenhouse gases. This would be an less than significant impact under threshold b.

Table 11
Project Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	***Project Consistency***
California Air Resources Board	
Vehicle Climate Change Standards AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the ARB in September 2004.	**Consistent** The vehicles that travel to and from the project site on public roadways would be in compliance with ARB vehicle standards that are in effect at the time of vehicle purchase.
Diesel Anti-Idling The ARB adopted a measure to limit diesel-fueled commercial motor vehicle idling in July 2004.	**Consistent** Current State law restricts diesel truck idling to five minutes or less. Diesel trucks operating from and making deliveries to the project site during construction and operation are subject to this state-wide law.
Hydrofluorocarbon Reduction 1) Ban retail sale of HFC in small cans. 2) Require that only low GWP refrigerants be used in new vehicular systems. 3) Adopt specifications for new commercial refrigeration. 4) Add refrigerant leak-tightness to the pass criteria for vehicular inspection and maintenance programs. 5) Enforce federal ban on releasing HFCs.	**Consistent** This strategy applies to consumer products. All applicable products would be required to comply with the regulations that are in effect at the time of manufacture.
Alternative Fuels: Biodiesel Blends ARB would develop regulations to require the use of 1 to 4% biodiesel displacement of California diesel fuel.	**Consistent** The diesel vehicles such as construction vehicles that travel to and from the project site on public roadways could utilize this fuel once commercially available.

Table 11
Project Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	*Project Consistency*
Alternative Fuels: Ethanol Increased use of E-85 fuel.	**Consistent** Customers and vendors could choose to purchase flex-fuel vehicles and utilize this fuel once commercially available.
Heavy-Duty Vehicle Emission Reduction Measures Increased efficiency in the design of heavy duty vehicles and an education program for the heavy duty vehicle sector.	**Consistent** The heavy-duty vehicles used for construction activities and deliveries that travel to and from the project site on public roadways would be subject to all applicable ARB efficiency standards that are in effect at the time of vehicle manufacture.
Achieve 50% Statewide Recycling Goal Achieving the State's 50% waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48% has been achieved on a statewide basis. Therefore, a 2% additional reduction is needed.	**Consistent** The County has enacted numerous programs to achieve the mandated 50% diversion. It is anticipated that the proposed project would participate in a waste diversion program and would similarly divert at least 50% or more of its solid waste. The project would also be subject to all applicable State and County requirements for solid waste reduction as they change in the future.
Department of Water Resources	
Water Use Efficiency Approximately 19% of all electricity, 30% of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions.	**Consistent** The proposed project would incorporate water saving features, such as low flow plumbing fixtures. In addition, the project would be required to comply with all State and local measures that address water use and conservation.
Energy Commission (CEC)	
Building Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).	**Consistent** The proposed project would need to comply with the standards of Title 24 and Green Building standards that are in effect at the time of development.
Appliance Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).	**Consistent** Under State law, appliances that are purchased for the project - both pre- and post-development – would be consistent with energy efficiency standards that are in effect at the time of manufacture.
Fuel-Efficient Replacement Tires & Inflation Programs State legislation established a statewide program to encourage the production and use of more efficient tires.	**Consistent** Customers, employees and vendors could purchase tires for their vehicles that comply with state programs for increased fuel efficiency.
Municipal Utility Energy Efficiency Programs/Demand Response Includes energy efficiency programs, renewable portfolio standard, combined heat and power, and transitioning away from carbon-intensive generation.	*Not applicable*, but project development would not preclude the implementation of this strategy by municipal utility providers.

Table 11
Project Consistency with Applicable Climate Action Team
Greenhouse Gas Emission Reduction Strategies

Strategy	*Project Consistency*
Municipal Utility Renewable Portfolio Standard California's Renewable Portfolio Standard (RPS), established in 2002, requires that all load serving entities achieve a goal of 20% of retail electricity sales from renewable energy sources by 2017, within certain cost constraints.	*Not applicable*, but the project would not preclude the implementation of this strategy by Southern California Edison.
Municipal Utility Combined Heat and Power Cost effective reduction from fossil fuel consumption in the commercial and industrial sector through the application of on-site power production to meet both heat and electricity loads.	*Not applicable* since this strategy addresses incentives that could be provided by utility providers such as Southern California Edison and The Gas Company.
Alternative Fuels: Non-Petroleum Fuels Increasing the use of non-petroleum fuels in California's transportation sector, as recommended as recommended in the CEC's 2003 and 2005 Integrated Energy Policy Reports.	**Consistent** Customers and vendors could purchase alternative fuel vehicles and utilize these fuels once they are commercially available regionally and locally.
Green Buildings Initiative Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20% by the year 2015, as compared with 2003 levels. The Executive Order and related action plan spell out specific actions state agencies are to take with state-owned and -leased buildings. The order and plan also discuss various strategies and incentives to encourage private building owners and operators to achieve the 20% target.	**Consistent** As discussed previously, the project would be required to be constructed in compliance with the standards of Title 24 that are in effect at the time of development. The 2008 Title 24 standards are approximately 15% more efficient than those of the 2005 standards.
Business, Transportation and Housing	
Smart Land Use and Intelligent Transportation Systems (ITS) Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services. The Governor is finalizing a comprehensive 10-year strategic growth plan with the intent of developing ways to promote, through state investments, incentives and technical assistance, land use, and technology strategies that provide for a prosperous economy, social equity and a quality environment. Smart land use, demand management, ITS, and value pricing are critical elements in this plan for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and	*No applicable.* The project is intended to provide two commercial buildings for use as a drive-thru fast food restaurant and strip mall retail. It is located in a rural area rather than in an urbanized area where smart land use, ITS and transit management can be integrated and provide alternative mobility options.

Table 11
Project Consistency with Applicable Climate Action Team
Greenhouse Gas Emission Reduction Strategies

Strategy	*Project Consistency*
comprehensive, integrated, multimodal/intermodal transportation planning.	
Public Utilities Commission (PUC)	
Accelerated Renewable Portfolio Standard The Governor has set a goal of achieving 33% renewable in the State's resource mix by 2020. The joint PUC/Energy Commission September 2005 Energy Action Plan II (EAP II) adopts the 33% goal.	*Not applicable*, but project development would not preclude the implementation of this strategy by energy providers.

Table 12
Project Consistency with Applicable Attorney General
Greenhouse Gas Reduction Measures

Strategy	*Project Consistency*
Transportation-Related Emissions	
Diesel Anti-Idling Set specific limits on idling time for commercial vehicles, including delivery vehicles.	**Consistent** Currently, the California Air Resources Board's (CARB) Airborne Toxic Control Measure (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling restricts diesel truck idling to five minutes or less. Construction vehicles are subject to this regulation.
Transportation Emissions Reduction Provide services that improve access to public transportation.	*Not applicable.* The project site is a commercial use and not required to provide transit or dial-a-ride services
Solid Waste and Energy Emissions	
Solid Waste Reduction Strategy Project construction shall require reuse and recycling of construction and demolition waste.	**Consistent** It is anticipated that the proposed project would participate in a waste diversion programs and would divert at least 50% of its solid waste from construction.
Water Use Efficiency Require measures that reduce the amount of water sent to the sewer system – see examples in CAT standard above. (Reduction in water volume sent to the sewer system means less water has to be treated and pumped to the end user, thereby saving energy.	**Consistent** As described above, the proposed project would incorporate water saving features such as the use of low flow plumbing fixtures. In addition, the project would be required to comply with all State and local measures that address water use and conservation.
Land Use Measures, Smart Growth Strategies and Carbon Offsets	
Smart Land Use and Intelligent Transportation Systems Require pedestrian-only streets and plazas within the project site and destinations that may be reached conveniently by public transportation, walking or bicycling.	*Not applicable.* The project site is located within a rural area along a state highway. It is not designed to accommodate pedestrian only streets and plazas that facilitate walking, transit or bicycle use.

As indicated in Tables 11 and 12, the proposed project would be consistent with the applicable CAT strategies and the 2008 Attorney General Greenhouse Gas Reduction Measures.

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Appendix A

CalEEMod Air Quality and Greenhouse Gas Emissions Model Results – Summer/Annual, and N_2O from Mobile Emissions Sources

Hemet Center Phase II

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	4.40	1000sqft	0.10	4,400.00	0
Strip Mall	7.34	1000sqft	0.17	7,340.00	0
Parking Lot	78.00	Space	0.70	31,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Grading - Site is 2.69 gross acres

Construction Off-road Equipment Mitigation -

Area Mitigation - Rule 1113 low VOC paint

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	50
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblGrading	AcresOfGrading	0.50	2.69

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					
2019	23.7843	10.6750	8.4477	0.0152	2.9086	0.6126	3.2762	0.4434	0.5638	0.9565	0.0000	1,515.1602	1,515.1602	0.3777	0.0000	1,524.6034
Maximum	**23.7843**	**10.6750**	**8.4477**	**0.0152**	**2.9086**	**0.6126**	**3.2762**	**0.4434**	**0.5638**	**0.9565**	**0.0000**	**1,515.1602**	**1,515.1602**	**0.3777**	**0.0000**	**1,524.6034**

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					
2019	23.7843	10.6750	8.4477	0.0152	1.1685	0.6126	1.5360	0.1910	0.5638	0.7041	0.0000	1,515.1602	1,515.1602	0.3777	0.0000	1,524.6034
Maximum	**23.7843**	**10.6750**	**8.4477**	**0.0152**	**1.1685**	**0.6126**	**1.5360**	**0.1910**	**0.5638**	**0.7041**	**0.0000**	**1,515.1602**	**1,515.1602**	**0.3777**	**0.0000**	**1,524.6034**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**59.83**	**0.00**	**53.12**	**56.92**	**0.00**	**26.39**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	0.2766	9.0000e-005	9.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0196	0.0196	5.0000e-005		0.0210
Energy	0.0360	0.3275	0.2751	1.9700e-003		0.0249	0.0249		0.0249	0.0249		393.0478	393.0478	7.5300e-003	7.2100e-003	395.3835
Mobile	6.4868	39.3747	44.5250	0.1487	8.4518	0.1471	8.5989	2.2619	0.1388	2.4007		15,203.3065	15,203.3065	1.2689		15,235.0301
Total	**6.7994**	**39.7023**	**44.8094**	**0.1507**	**8.4518**	**0.1720**	**8.6238**	**2.2619**	**0.1638**	**2.4256**		**15,596.3739**	**15,596.3739**	**1.2765**	**7.2100e-003**	**15,630.4345**

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	0.2617	9.0000e-005	9.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0196	0.0196	5.0000e-005		0.0210
Energy	0.0360	0.3275	0.2751	1.9700e-003		0.0249	0.0249		0.0249	0.0249		393.0478	393.0478	7.5300e-003	7.2100e-003	395.3835
Mobile	6.4868	39.3747	44.5250	0.1487	8.4518	0.1471	8.5989	2.2619	0.1388	2.4007		15,203.3065	15,203.3065	1.2689		15,235.0301
Total	**6.7845**	**39.7023**	**44.8094**	**0.1507**	**8.4518**	**0.1720**	**8.6238**	**2.2619**	**0.1638**	**2.4256**		**15,596.3739**	**15,596.3739**	**1.2765**	**7.2100e-003**	**15,630.4345**

	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	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	1/2/2019	1/15/2019	5	10	
2	Site Preparation	Site Preparation	1/16/2019	1/16/2019	5	1	
3	Grading	Grading	1/17/2019	1/18/2019	5	2	
4	Building Construction	Building Construction	1/19/2019	6/7/2019	5	100	
5	Paving	Paving	6/8/2019	6/14/2019	5	5	
6	Architectural Coating	Architectural Coating	6/15/2019	6/21/2019	5	5	

Acres of Grading (Site Preparation Phase): 2.69

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 17,610; Non-Residential Outdoor: 5,870; Striped Parking Area: 1,872 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	17.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2019

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	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125		1,159.657 0	1,159.657 0	0.2211		1,165.184 7
Total	**0.9530**	**8.6039**	**7.6917**	**0.0120**		**0.5371**	**0.5371**		**0.5125**	**0.5125**		**1,159.657 0**	**1,159.657 0**	**0.2211**		**1,165.184 7**

3.2 Demolition - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	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
Worker	0.0551	0.0338	0.4443	1.1400e-003	0.1118	6.9000e-004	0.1125	0.0296	6.4000e-004	0.0303		113.7522	113.7522	3.1800e-003		113.8319
Total	**0.0551**	**0.0338**	**0.4443**	**1.1400e-003**	**0.1118**	**6.9000e-004**	**0.1125**	**0.0296**	**6.4000e-004**	**0.0303**		**113.7522**	**113.7522**	**3.1800e-003**		**113.8319**

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	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847
Total	**0.9530**	**8.6039**	**7.6917**	**0.0120**		**0.5371**	**0.5371**		**0.5125**	**0.5125**	**0.0000**	**1,159.6570**	**1,159.6570**	**0.2211**		**1,165.1847**

3.2 Demolition - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	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
Worker	0.0551	0.0338	0.4443	1.1400e-003	0.1118	6.9000e-004	0.1125	0.0296	6.4000e-004	0.0303		113.7522	113.7522	3.1800e-003		113.8319
Total	**0.0551**	**0.0338**	**0.4443**	**1.1400e-003**	**0.1118**	**6.9000e-004**	**0.1125**	**0.0296**	**6.4000e-004**	**0.0303**		**113.7522**	**113.7522**	**3.1800e-003**		**113.8319**

3.3 Site Preparation - 2019

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					2.8528	0.0000	2.8528	0.3080	0.0000	0.3080			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378		965.1690	965.1690	0.3054		972.8032
Total	**0.7195**	**8.9170**	**4.1407**	**9.7500e-003**	**2.8528**	**0.3672**	**3.2200**	**0.3080**	**0.3378**	**0.6459**		**965.1690**	**965.1690**	**0.3054**		**972.8032**

3.3 Site Preparation - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	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
Worker	0.0275	0.0169	0.2221	5.7000e-004	0.0559	3.4000e-004	0.0562	0.0148	3.2000e-004	0.0151		56.8761	56.8761	1.5900e-003		56.9159
Total	**0.0275**	**0.0169**	**0.2221**	**5.7000e-004**	**0.0559**	**3.4000e-004**	**0.0562**	**0.0148**	**3.2000e-004**	**0.0151**		**56.8761**	**56.8761**	**1.5900e-003**		**56.9159**

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					1.1126	0.0000	1.1126	0.1201	0.0000	0.1201			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378	0.0000	965.1690	965.1690	0.3054		972.8032
Total	**0.7195**	**8.9170**	**4.1407**	**9.7500e-003**	**1.1126**	**0.3672**	**1.4798**	**0.1201**	**0.3378**	**0.4580**	**0.0000**	**965.1690**	**965.1690**	**0.3054**		**972.8032**

3.3 Site Preparation - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	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
Worker	0.0275	0.0169	0.2221	5.7000e-004	0.0559	3.4000e-004	0.0562	0.0148	3.2000e-004	0.0151		56.8761	56.8761	1.5900e-003		56.9159
Total	**0.0275**	**0.0169**	**0.2221**	**5.7000e-004**	**0.0559**	**3.4000e-004**	**0.0562**	**0.0148**	**3.2000e-004**	**0.0151**		**56.8761**	**56.8761**	**1.5900e-003**		**56.9159**

3.4 Grading - 2019

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125		1,159.6570	1,159.6570	0.2211		1,165.1847
Total	**0.9530**	**8.6039**	**7.6917**	**0.0120**	**0.7528**	**0.5371**	**1.2898**	**0.4138**	**0.5125**	**0.9263**		**1,159.6570**	**1,159.6570**	**0.2211**		**1,165.1847**

3.4 Grading - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	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
Worker	0.0551	0.0338	0.4443	1.1400e-003	0.1118	6.9000e-004	0.1125	0.0296	6.4000e-004	0.0303		113.7522	113.7522	3.1800e-003		113.8319
Total	**0.0551**	**0.0338**	**0.4443**	**1.1400e-003**	**0.1118**	**6.9000e-004**	**0.1125**	**0.0296**	**6.4000e-004**	**0.0303**		**113.7522**	**113.7522**	**3.1800e-003**		**113.8319**

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					0.2936	0.0000	0.2936	0.1614	0.0000	0.1614			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847
Total	**0.9530**	**8.6039**	**7.6917**	**0.0120**	**0.2936**	**0.5371**	**0.8307**	**0.1614**	**0.5125**	**0.6738**	**0.0000**	**1,159.6570**	**1,159.6570**	**0.2211**		**1,165.1847**

3.4 Grading - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	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
Worker	0.0551	0.0338	0.4443	1.1400e-003	0.1118	6.9000e-004	0.1125	0.0296	6.4000e-004	0.0303		113.7522	113.7522	3.1800e-003		113.8319
Total	**0.0551**	**0.0338**	**0.4443**	**1.1400e-003**	**0.1118**	**6.9000e-004**	**0.1125**	**0.0296**	**6.4000e-004**	**0.0303**		**113.7522**	**113.7522**	**3.1800e-003**		**113.8319**

3.5 Building Construction - 2019

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	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892
Total	**0.9576**	**9.8207**	**7.5432**	**0.0114**		**0.6054**	**0.6054**		**0.5569**	**0.5569**		**1,127.6696**	**1,127.6696**	**0.3568**		**1,136.5892**

3.5 Building Construction - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0233	0.7968	0.1493	1.8400e-003	0.0448	6.0500e-003	0.0509	0.0129	5.7900e-003	0.0187		194.1118	194.1118	0.0155		194.5001
Worker	0.0936	0.0574	0.7552	1.9400e-003	0.1900	1.1700e-003	0.1912	0.0504	1.0800e-003	0.0515		193.3788	193.3788	5.4100e-003		193.5141
Total	**0.1169**	**0.8543**	**0.9046**	**3.7800e-003**	**0.2349**	**7.2200e-003**	**0.2421**	**0.0633**	**6.8700e-003**	**0.0702**		**387.4906**	**387.4906**	**0.0209**		**388.0143**

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	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892
Total	**0.9576**	**9.8207**	**7.5432**	**0.0114**		**0.6054**	**0.6054**		**0.5569**	**0.5569**	**0.0000**	**1,127.6696**	**1,127.6696**	**0.3568**		**1,136.5892**

3.5 Building Construction - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0233	0.7968	0.1493	1.8400e-003	0.0448	6.0500e-003	0.0509	0.0129	5.7900e-003	0.0187		194.1118	194.1118	0.0155		194.5001
Worker	0.0936	0.0574	0.7552	1.9400e-003	0.1900	1.1700e-003	0.1912	0.0504	1.0800e-003	0.0515		193.3788	193.3788	5.4100e-003		193.5141
Total	**0.1169**	**0.8543**	**0.9046**	**3.7800e-003**	**0.2349**	**7.2200e-003**	**0.2421**	**0.0633**	**6.8700e-003**	**0.0702**		**387.4906**	**387.4906**	**0.0209**		**388.0143**

3.6 Paving - 2019

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	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106		1,055.1823	1,055.1823	0.3016		1,062.7231
Paving	0.3668					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1968**	**7.8446**	**7.1478**	**0.0113**		**0.4425**	**0.4425**		**0.4106**	**0.4106**		**1,055.1823**	**1,055.1823**	**0.3016**		**1,062.7231**

3.6 Paving - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	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
Worker	0.0991	0.0608	0.7997	2.0600e-003	0.2012	1.2400e-003	0.2024	0.0534	1.1400e-003	0.0545		204.7540	204.7540	5.7300e-003		204.8973
Total	**0.0991**	**0.0608**	**0.7997**	**2.0600e-003**	**0.2012**	**1.2400e-003**	**0.2024**	**0.0534**	**1.1400e-003**	**0.0545**		**204.7540**	**204.7540**	**5.7300e-003**		**204.8973**

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	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106	0.0000	1,055.1823	1,055.1823	0.3016		1,062.7231
Paving	0.3668					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1968**	**7.8446**	**7.1478**	**0.0113**		**0.4425**	**0.4425**		**0.4106**	**0.4106**	**0.0000**	**1,055.1823**	**1,055.1823**	**0.3016**		**1,062.7231**

3.6 Paving - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	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
Worker	0.0991	0.0608	0.7997	2.0600e-003	0.2012	1.2400e-003	0.2024	0.0534	1.1400e-003	0.0545		204.7540	204.7540	5.7300e-003		204.8973
Total	**0.0991**	**0.0608**	**0.7997**	**2.0600e-003**	**0.2012**	**1.2400e-003**	**0.2024**	**0.0534**	**1.1400e-003**	**0.0545**		**204.7540**	**204.7540**	**5.7300e-003**		**204.8973**

3.7 Architectural Coating - 2019

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					
Archit. Coating	23.5013					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**23.7677**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	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
Worker	0.0165	0.0101	0.1333	3.4000e-004	0.0335	2.1000e-004	0.0337	8.8900e-003	1.9000e-004	9.0800e-003		34.1257	34.1257	9.6000e-004		34.1496
Total	**0.0165**	**0.0101**	**0.1333**	**3.4000e-004**	**0.0335**	**2.1000e-004**	**0.0337**	**8.8900e-003**	**1.9000e-004**	**9.0800e-003**		**34.1257**	**34.1257**	**9.6000e-004**		**34.1496**

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	23.5013					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**23.7677**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	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
Worker	0.0165	0.0101	0.1333	3.4000e-004	0.0335	2.1000e-004	0.0337	8.8900e-003	1.9000e-004	9.0800e-003		34.1257	34.1257	9.6000e-004		34.1496
Total	**0.0165**	**0.0101**	**0.1333**	**3.4000e-004**	**0.0335**	**2.1000e-004**	**0.0337**	**8.8900e-003**	**1.9000e-004**	**9.0800e-003**		**34.1257**	**34.1257**	**9.6000e-004**		**34.1496**

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	6.4868	39.3747	44.5250	0.1487	8.4518	0.1471	8.5989	2.2619	0.1388	2.4007		15,203.3065	15,203.3065	1.2689		15,235.0301
Unmitigated	6.4868	39.3747	44.5250	0.1487	8.4518	0.1471	8.5989	2.2619	0.1388	2.4007		15,203.3065	15,203.3065	1.2689		15,235.0301

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	2,182.93	3,176.93	2387.97	2,477,552	2,477,552
Parking Lot	0.00	0.00	0.00		
Strip Mall	325.31	308.57	149.96	566,722	566,722
Total	2,508.24	3,485.51	2,537.92	3,044,273	3,044,273

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
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Fast Food Restaurant with Drive Thru	0.533383	0.039495	0.183627	0.126156	0.018688	0.005561	0.017029	0.066607	0.001345	0.001247	0.004677	0.000974	0.001211
Parking Lot	0.533383	0.039495	0.183627	0.126156	0.018688	0.005561	0.017029	0.066607	0.001345	0.001247	0.004677	0.000974	0.001211
Strip Mall	0.533383	0.039495	0.183627	0.126156	0.018688	0.005561	0.017029	0.066607	0.001345	0.001247	0.004677	0.000974	0.001211

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	0.0360	0.3275	0.2751	1.9700e-003		0.0249	0.0249		0.0249	0.0249		393.0478	393.0478	7.5300e-003	7.2100e-003	395.3835
NaturalGas Unmitigated	0.0360	0.3275	0.2751	1.9700e-003		0.0249	0.0249		0.0249	0.0249		393.0478	393.0478	7.5300e-003	7.2100e-003	395.3835

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					
Fast Food Restaurant with Drive Thru	3296.26	0.0356	0.3232	0.2715	1.9400e-003		0.0246	0.0246		0.0246	0.0246		387.7957	387.7957	7.4300e-003	7.1100e-003	390.1001
Parking Lot	0	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
Strip Mall	44.6433	4.8000e-004	4.3800e-003	3.6800e-003	3.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		5.2522	5.2522	1.0000e-004	1.0000e-004	5.2834
Total		**0.0360**	**0.3275**	**0.2751**	**1.9700e-003**		**0.0249**	**0.0249**		**0.0249**	**0.0249**		**393.0478**	**393.0478**	**7.5300e-003**	**7.2100e-003**	**395.3835**

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					
Fast Food Restaurant with Drive Thru	3.29626	0.0356	0.3232	0.2715	1.9400e-003		0.0246	0.0246		0.0246	0.0246		387.7957	387.7957	7.4300e-003	7.1100e-003	390.1001
Parking Lot	0	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
Strip Mall	0.0446433	4.8000e-004	4.3800e-003	3.6800e-003	3.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		5.2522	5.2522	1.0000e-004	1.0000e-004	5.2834
Total		**0.0360**	**0.3275**	**0.2751**	**1.9700e-003**		**0.0249**	**0.0249**		**0.0249**	**0.0249**		**393.0478**	**393.0478**	**7.5300e-003**	**7.2100e-003**	**395.3835**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	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	0.2617	9.0000e-005	9.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0196	0.0196	5.0000e-005		0.0210
Unmitigated	0.2766	9.0000e-005	9.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0196	0.0196	5.0000e-005		0.0210

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	0.0322					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2435					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.8000e-004	9.0000e-005	9.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0196	0.0196	5.0000e-005		0.0210
Total	**0.2766**	**9.0000e-005**	**9.2500e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0196**	**0.0196**	**5.0000e-005**		**0.0210**

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	0.0173					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2435					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.8000e-004	9.0000e-005	9.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0196	0.0196	5.0000e-005		0.0210
Total	**0.2617**	**9.0000e-005**	**9.2500e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0196**	**0.0196**	**5.0000e-005**		**0.0210**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Hemet Center Phase II

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	4.40	1000sqft	0.10	4,400.00	0
Strip Mall	7.34	1000sqft	0.17	7,340.00	0
Parking Lot	78.00	Space	0.70	31,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Grading - Site is 2.69 gross acres

Construction Off-road Equipment Mitigation -

Area Mitigation - Rule 1113 low VOC paint

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	50
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblGrading	AcresOfGrading	0.50	2.69

2.0 Emissions Summary

2.1 Overall Construction

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	tons/yr										MT/yr					
2019	0.1224	0.6152	0.4925	8.7000e-004	0.0150	0.0355	0.0505	4.0200e-003	0.0328	0.0368	0.0000	78.7619	78.7619	0.0193	0.0000	79.2432
Maximum	**0.1224**	**0.6152**	**0.4925**	**8.7000e-004**	**0.0150**	**0.0355**	**0.0505**	**4.0200e-003**	**0.0328**	**0.0368**	**0.0000**	**78.7619**	**78.7619**	**0.0193**	**0.0000**	**79.2432**

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	tons/yr										MT/yr					
2019	0.1224	0.6152	0.4925	8.7000e-004	0.0137	0.0355	0.0491	3.6800e-003	0.0328	0.0365	0.0000	78.7618	78.7618	0.0193	0.0000	79.2431
Maximum	**0.1224**	**0.6152**	**0.4925**	**8.7000e-004**	**0.0137**	**0.0355**	**0.0491**	**3.6800e-003**	**0.0328**	**0.0365**	**0.0000**	**78.7618**	**78.7618**	**0.0193**	**0.0000**	**79.2431**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**8.87**	**0.00**	**2.64**	**8.46**	**0.00**	**0.92**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-2-2019	4-1-2019	0.3649	0.3649
2	4-2-2019	7-1-2019	0.3682	0.3682
		Highest	0.3682	0.3682

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	tons/yr										MT/yr					
Area	0.0504	1.0000e-005	1.1600e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.2300e-003	2.2300e-003	1.0000e-005	0.0000	2.3800e-003
Energy	6.5800e-003	0.0598	0.0502	3.6000e-004		4.5400e-003	4.5400e-003		4.5400e-003	4.5400e-003	0.0000	164.6542	164.6542	5.3600e-003	2.0400e-003	165.3972
Mobile	0.7397	5.4675	5.8962	0.0196	1.1625	0.0207	1.1833	0.3115	0.0196	0.3311	0.0000	1,814.8136	1,814.8136	0.1639	0.0000	1,818.9107
Waste						0.0000	0.0000		0.0000	0.0000	11.8526	0.0000	11.8526	0.7005	0.0000	29.3644
Water						0.0000	0.0000		0.0000	0.0000	0.5962	9.2779	9.8741	0.0616	1.5300e-003	11.8690
Total	**0.7967**	**5.5273**	**5.9476**	**0.0199**	**1.1625**	**0.0253**	**1.1878**	**0.3115**	**0.0241**	**0.3357**	**12.4488**	**1,988.7480**	**2,001.1968**	**0.9313**	**3.5700e-003**	**2,025.5436**

2.2 Overall Operational

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	tons/yr										MT/yr					
Area	0.0477	1.0000e-005	1.1600e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.2300e-003	2.2300e-003	1.0000e-005	0.0000	2.3800e-003
Energy	6.5800e-003	0.0598	0.0502	3.6000e-004		4.5400e-003	4.5400e-003		4.5400e-003	4.5400e-003	0.0000	164.6542	164.6542	5.3600e-003	2.0400e-003	165.3972
Mobile	0.7397	5.4675	5.8962	0.0196	1.1625	0.0207	1.1833	0.3115	0.0196	0.3311	0.0000	1,814.8136	1,814.8136	0.1639	0.0000	1,818.9107
Waste						0.0000	0.0000		0.0000	0.0000	5.9263	0.0000	5.9263	0.3502	0.0000	14.6822
Water						0.0000	0.0000		0.0000	0.0000	0.4770	7.6282	8.1052	0.0493	1.2200e-003	9.7019
Total	**0.7939**	**5.5273**	**5.9476**	**0.0199**	**1.1625**	**0.0253**	**1.1878**	**0.3115**	**0.0241**	**0.3357**	**6.4033**	**1,987.0983**	**1,993.5016**	**0.5688**	**3.2600e-003**	**2,008.6943**

	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	**0.34**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**48.56**	**0.08**	**0.38**	**38.93**	**8.68**	**0.83**

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	1/2/2019	1/15/2019	5	10	
2	Site Preparation	Site Preparation	1/16/2019	1/16/2019	5	1	
3	Grading	Grading	1/17/2019	1/18/2019	5	2	
4	Building Construction	Building Construction	1/19/2019	6/7/2019	5	100	
5	Paving	Paving	6/8/2019	6/14/2019	5	5	
6	Architectural Coating	Architectural Coating	6/15/2019	6/21/2019	5	5	

Acres of Grading (Site Preparation Phase): 2.69

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 17,610; Non-Residential Outdoor: 5,870; Striped Parking Area: 1,872 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	17.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2019

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	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

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	tons/yr										MT/yr					
Hauling	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
Vendor	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
Worker	2.5000e-004	1.8000e-004	1.9000e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4748	0.4748	1.0000e-005	0.0000	0.4751
Total	**2.5000e-004**	**1.8000e-004**	**1.9000e-003**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4748**	**0.4748**	**1.0000e-005**	**0.0000**	**0.4751**

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	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

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	tons/yr										MT/yr					
Hauling	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
Vendor	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
Worker	2.5000e-004	1.8000e-004	1.9000e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4748	0.4748	1.0000e-005	0.0000	0.4751
Total	**2.5000e-004**	**1.8000e-004**	**1.9000e-003**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4748**	**0.4748**	**1.0000e-005**	**0.0000**	**0.4751**

3.3 Site Preparation - 2019

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	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**1.4300e-003**	**1.8000e-004**	**1.6100e-003**	**1.5000e-004**	**1.7000e-004**	**3.2000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	tons/yr										MT/yr					
Hauling	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
Vendor	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
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0237	0.0237	0.0000	0.0000	0.0238
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0237**	**0.0237**	**0.0000**	**0.0000**	**0.0238**

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	tons/yr										MT/yr					
Fugitive Dust					5.6000e-004	0.0000	5.6000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**5.6000e-004**	**1.8000e-004**	**7.4000e-004**	**6.0000e-005**	**1.7000e-004**	**2.3000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	tons/yr										MT/yr					
Hauling	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
Vendor	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
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0237	0.0237	0.0000	0.0000	0.0238
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0237**	**0.0237**	**0.0000**	**0.0000**	**0.0238**

3.4 Grading - 2019

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	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	tons/yr										MT/yr					
Hauling	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
Vendor	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
Worker	5.0000e-005	4.0000e-005	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0950	0.0950	0.0000	0.0000	0.0950
Total	**5.0000e-005**	**4.0000e-005**	**3.8000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0950**	**0.0950**	**0.0000**	**0.0000**	**0.0950**

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	tons/yr										MT/yr					
Fugitive Dust					2.9000e-004	0.0000	2.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**2.9000e-004**	**5.4000e-004**	**8.3000e-004**	**1.6000e-004**	**5.1000e-004**	**6.7000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	tons/yr										MT/yr					
Hauling	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
Vendor	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
Worker	5.0000e-005	4.0000e-005	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0950	0.0950	0.0000	0.0000	0.0950
Total	**5.0000e-005**	**4.0000e-005**	**3.8000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0950**	**0.0950**	**0.0000**	**0.0000**	**0.0950**

3.5 Building Construction - 2019

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	tons/yr										MT/yr					
Off-Road	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548
Total	**0.0479**	**0.4910**	**0.3772**	**5.7000e-004**		**0.0303**	**0.0303**		**0.0279**	**0.0279**	**0.0000**	**51.1502**	**51.1502**	**0.0162**	**0.0000**	**51.5548**

3.5 Building Construction - 2019

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	tons/yr										MT/yr					
Hauling	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
Vendor	1.1900e-003	0.0404	8.0400e-003	9.0000e-005	2.2100e-003	3.0000e-004	2.5100e-003	6.4000e-004	2.9000e-004	9.3000e-004	0.0000	8.6666	8.6666	7.4000e-004	0.0000	8.6850
Worker	4.2200e-003	3.0700e-003	0.0323	9.0000e-005	9.3400e-003	6.0000e-005	9.4000e-003	2.4800e-003	5.0000e-005	2.5300e-003	0.0000	8.0717	8.0717	2.2000e-004	0.0000	8.0772
Total	**5.4100e-003**	**0.0435**	**0.0403**	**1.8000e-004**	**0.0116**	**3.6000e-004**	**0.0119**	**3.1200e-003**	**3.4000e-004**	**3.4600e-003**	**0.0000**	**16.7382**	**16.7382**	**9.6000e-004**	**0.0000**	**16.7622**

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	tons/yr										MT/yr					
Off-Road	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548
Total	**0.0479**	**0.4910**	**0.3772**	**5.7000e-004**		**0.0303**	**0.0303**		**0.0279**	**0.0279**	**0.0000**	**51.1502**	**51.1502**	**0.0162**	**0.0000**	**51.5548**

3.5 Building Construction - 2019

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	tons/yr										MT/yr					
Hauling	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
Vendor	1.1900e-003	0.0404	8.0400e-003	9.0000e-005	2.2100e-003	3.0000e-004	2.5100e-003	6.4000e-004	2.9000e-004	9.3000e-004	0.0000	8.6666	8.6666	7.4000e-004	0.0000	8.6850
Worker	4.2200e-003	3.0700e-003	0.0323	9.0000e-005	9.3400e-003	6.0000e-005	9.4000e-003	2.4800e-003	5.0000e-005	2.5300e-003	0.0000	8.0717	8.0717	2.2000e-004	0.0000	8.0772
Total	**5.4100e-003**	**0.0435**	**0.0403**	**1.8000e-004**	**0.0116**	**3.6000e-004**	**0.0119**	**3.1200e-003**	**3.4000e-004**	**3.4600e-003**	**0.0000**	**16.7382**	**16.7382**	**9.6000e-004**	**0.0000**	**16.7622**

3.6 Paving - 2019

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	tons/yr										MT/yr					
Off-Road	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102
Paving	9.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.9900e-003**	**0.0196**	**0.0179**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**2.3931**	**2.3931**	**6.8000e-004**	**0.0000**	**2.4102**

3.6 Paving - 2019

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	tons/yr										MT/yr					
Hauling	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
Vendor	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
Worker	2.2000e-004	1.6000e-004	1.7100e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4273	0.4273	1.0000e-005	0.0000	0.4276
Total	**2.2000e-004**	**1.6000e-004**	**1.7100e-003**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4273**	**0.4273**	**1.0000e-005**	**0.0000**	**0.4276**

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	tons/yr										MT/yr					
Off-Road	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102
Paving	9.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.9900e-003**	**0.0196**	**0.0179**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**2.3931**	**2.3931**	**6.8000e-004**	**0.0000**	**2.4102**

3.6 Paving - 2019

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	tons/yr										MT/yr					
Hauling	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
Vendor	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
Worker	2.2000e-004	1.6000e-004	1.7100e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4273	0.4273	1.0000e-005	0.0000	0.4276
Total	**2.2000e-004**	**1.6000e-004**	**1.7100e-003**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4273**	**0.4273**	**1.0000e-005**	**0.0000**	**0.4276**

3.7 Architectural Coating - 2019

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	tons/yr										MT/yr					
Archit. Coating	0.0588					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	**0.0594**	**4.5900e-003**	**4.6000e-003**	**1.0000e-005**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6397**

3.7 Architectural Coating - 2019

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	tons/yr										MT/yr					
Hauling	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
Vendor	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
Worker	4.0000e-005	3.0000e-005	2.8000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0712	0.0712	0.0000	0.0000	0.0713
Total	**4.0000e-005**	**3.0000e-005**	**2.8000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0712**	**0.0712**	**0.0000**	**0.0000**	**0.0713**

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	tons/yr										MT/yr					
Archit. Coating	0.0588					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	**0.0594**	**4.5900e-003**	**4.6000e-003**	**1.0000e-005**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6397**

3.7 Architectural Coating - 2019

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	tons/yr										MT/yr					
Hauling	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
Vendor	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
Worker	4.0000e-005	3.0000e-005	2.8000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0712	0.0712	0.0000	0.0000	0.0713
Total	**4.0000e-005**	**3.0000e-005**	**2.8000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0712**	**0.0712**	**0.0000**	**0.0000**	**0.0713**

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	tons/yr										MT/yr					
Mitigated	0.7397	5.4675	5.8962	0.0196	1.1625	0.0207	1.1833	0.3115	0.0196	0.3311	0.0000	1,814.8136	1,814.8136	0.1639	0.0000	1,818.9107
Unmitigated	0.7397	5.4675	5.8962	0.0196	1.1625	0.0207	1.1833	0.3115	0.0196	0.3311	0.0000	1,814.8136	1,814.8136	0.1639	0.0000	1,818.9107

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	2,182.93	3,176.93	2387.97	2,477,552	2,477,552
Parking Lot	0.00	0.00	0.00		
Strip Mall	325.31	308.57	149.96	566,722	566,722
Total	2,508.24	3,485.51	2,537.92	3,044,273	3,044,273

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
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Fast Food Restaurant with Drive Thru	0.533383	0.039495	0.183627	0.126156	0.018688	0.005561	0.017029	0.066607	0.001345	0.001247	0.004677	0.000974	0.001211
Parking Lot	0.533383	0.039495	0.183627	0.126156	0.018688	0.005561	0.017029	0.066607	0.001345	0.001247	0.004677	0.000974	0.001211
Strip Mall	0.533383	0.039495	0.183627	0.126156	0.018688	0.005561	0.017029	0.066607	0.001345	0.001247	0.004677	0.000974	0.001211

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	99.5807	99.5807	4.1100e-003	8.5000e-004	99.9370
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	99.5807	99.5807	4.1100e-003	8.5000e-004	99.9370
NaturalGas Mitigated	6.5800e-003	0.0598	0.0502	3.6000e-004		4.5400e-003	4.5400e-003		4.5400e-003	4.5400e-003	0.0000	65.0735	65.0735	1.2500e-003	1.1900e-003	65.4602
NaturalGas Unmitigated	6.5800e-003	0.0598	0.0502	3.6000e-004		4.5400e-003	4.5400e-003		4.5400e-003	4.5400e-003	0.0000	65.0735	65.0735	1.2500e-003	1.1900e-003	65.4602

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	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	1.20314e+006	6.4900e-003	0.0590	0.0495	3.5000e-004		4.4800e-003	4.4800e-003		4.4800e-003	4.4800e-003	0.0000	64.2039	64.2039	1.2300e-003	1.1800e-003	64.5855
Parking Lot	0	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
Strip Mall	16294.8	9.0000e-005	8.0000e-004	6.7000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8696	0.8696	2.0000e-005	2.0000e-005	0.8747
Total		**6.5800e-003**	**0.0598**	**0.0502**	**3.5000e-004**		**4.5400e-003**	**4.5400e-003**		**4.5400e-003**	**4.5400e-003**	**0.0000**	**65.0735**	**65.0735**	**1.2500e-003**	**1.2000e-003**	**65.4602**

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	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	1.20314e+006	6.4900e-003	0.0590	0.0495	3.5000e-004		4.4800e-003	4.4800e-003		4.4800e-003	4.4800e-003	0.0000	64.2039	64.2039	1.2300e-003	1.1800e-003	64.5855
Parking Lot	0	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
Strip Mall	16294.8	9.0000e-005	8.0000e-004	6.7000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8696	0.8696	2.0000e-005	2.0000e-005	0.8747
Total		**6.5800e-003**	**0.0598**	**0.0502**	**3.5000e-004**		**4.5400e-003**	**4.5400e-003**		**4.5400e-003**	**4.5400e-003**	**0.0000**	**65.0735**	**65.0735**	**1.2500e-003**	**1.2000e-003**	**65.4602**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	208912	66.5638	2.7500e-003	5.7000e-004	66.8020
Parking Lot	10920	3.4794	1.4000e-004	3.0000e-005	3.4918
Strip Mall	92704.2	29.5375	1.2200e-003	2.5000e-004	29.6432
Total		**99.5807**	**4.1100e-003**	**8.5000e-004**	**99.9370**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	208912	66.5638	2.7500e-003	5.7000e-004	66.8020
Parking Lot	10920	3.4794	1.4000e-004	3.0000e-005	3.4918
Strip Mall	92704.2	29.5375	1.2200e-003	2.5000e-004	29.6432
Total		**99.5807**	**4.1100e-003**	**8.5000e-004**	**99.9370**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	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	tons/yr										MT/yr					
Mitigated	0.0477	1.0000e-005	1.1600e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.2300e-003	2.2300e-003	1.0000e-005	0.0000	2.3800e-003
Unmitigated	0.0504	1.0000e-005	1.1600e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.2300e-003	2.2300e-003	1.0000e-005	0.0000	2.3800e-003

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	tons/yr										MT/yr					
Architectural Coating	5.8800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0444					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1000e-004	1.0000e-005	1.1600e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.2300e-003	2.2300e-003	1.0000e-005	0.0000	2.3800e-003
Total	**0.0504**	**1.0000e-005**	**1.1600e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.2300e-003**	**2.2300e-003**	**1.0000e-005**	**0.0000**	**2.3800e-003**

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	tons/yr										MT/yr					
Architectural Coating	3.1500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0444					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1000e-004	1.0000e-005	1.1600e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.2300e-003	2.2300e-003	1.0000e-005	0.0000	2.3800e-003
Total	**0.0477**	**1.0000e-005**	**1.1600e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.2300e-003**	**2.2300e-003**	**1.0000e-005**	**0.0000**	**2.3800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.1052	0.0493	1.2200e-003	9.7019
Unmitigated	9.8741	0.0616	1.5300e-003	11.8690

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	1.33555 / 0.0852478	6.2664	0.0438	1.0800e-003	7.6815
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.543692 / 0.333231	3.6077	0.0179	4.5000e-004	4.1876
Total		**9.8741**	**0.0616**	**1.5300e-003**	**11.8691**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	1.06844 / 0.0800477	5.0550	0.0350	8.6000e-004	6.1873
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.434954 / 0.312904	3.0502	0.0143	3.6000e-004	3.5146
Total		**8.1052**	**0.0493**	**1.2200e-003**	**9.7019**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.9263	0.3502	0.0000	14.6822
Unmitigated	11.8526	0.7005	0.0000	29.3644

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	50.68	10.2876	0.6080	0.0000	25.4871
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	7.71	1.5651	0.0925	0.0000	3.8774
Total		**11.8526**	**0.7005**	**0.0000**	**29.3644**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	25.34	5.1438	0.3040	0.0000	12.7435
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	3.855	0.7825	0.0463	0.0000	1.9387
Total		**5.9263**	**0.3502**	**0.0000**	**14.6822**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

State Highway 74/Amanda Avenue Commercial Project
Winchester, California

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Prepared for:

Al Husn, LP

764 West Ramona Expressway
Perris, CA 92571

Prepared by:

BPG
BIRDSEYE
PLANNING GROUP

February 2018

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EXECUTIVE SUMMARY

This report presents the findings of a Phase I Environmental Site Assessment (ESA) for the property at the southeast corner of the State Route 74/Amanda Avenue intersection in the unincorporated community of Winchester, California, 92545. The subject property is comprised of two parcels (APNs 458-103-01 and 02) totaling approximately 2.69 gross acres. Al Husn, LP, is currently performing due diligence review on the property for acquisition for development purposes. The subject property is located in rural area surrounded primarily by rural residential land and commercial uses. The subject property is currently vacant and surrounded by a perimeter fence.

Birdseye Planning Group (BPG) performed a reconnaissance of the subject property on February 15, 2017. The purpose of the reconnaissance was to observe existing subject property conditions and obtain information indicating the presence of recognized environmental conditions in connection with the subject property. During the site reconnaissance, no existing development was observed. Three electrical poles, debris and ruderal vegetation is present around the site perimeter. No evidence of hazardous materials or substances were observed.

BPG contracted with Environmental Data Resources, Inc. (EDR) to provide a database search of public lists of sites that generate, store, treat or dispose of hazardous materials or sites for which a release or incident has occurred. The EDR search was conducted for the subject property and included data from surrounding sites within a specified radius of the property. The subject property was not listed in any of the databases searched and is not recorded as a subject of a known hazardous materials review. No action related to hazards or hazardous materials is associated with the subject property. Multiple mapped sites are located within the 0.5- mile search radius. These sites are documented herein.

Historical sources reviewed as part of the Phase I ESA include aerial photographs and topographic maps. The historic aerial maps reviewed date back to 1938 with photos taken during intervening years through 2014. There is historic evidence of development having been constructed on the site between 1961 and 1968.

Based on the findings of this Phase I ESA, it is our opinion that there are no recognized environmental conditions (RECs) in connection with the subject property. No further investigation is required to address the presence of hazards or hazardous materials on or adjacent to the subject property.

INTRODUCTION

This report presents the findings of a Phase I ESA conducted for the property located at the southeast corner of State Highway 74 and Amanda Avenue in the community of Winchester in unincorporated Riverside County. The Phase I ESA was performed by Birdseye Planning Group, Inc. (BPG) for Al Husn, LP, in general conformance with ASTM E 1527-13 and our proposal dated February 1, 2018. The following sections present our findings and opinion as to the potential presence and impact of environmental site conditions.

PURPOSE

The purpose of this Phase I ESA is to assess the environmental conditions of the subject location taking into account commonly and reasonably ascertainable information and to qualify for Landowner Liability Protections under the Brownfields Amendments to CERCLA Liability.

A Recognized Environmental Condition (REC) is defined pursuant to ASTM E 1527-13 as:

> *"the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment; 3) under conditions that pose a material threat of a future release to the environment".*

A Controlled REC is defined pursuant to ASTM E 1527-13 as:

> *"a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report".*

A Historical REC is defined pursuant to ASTM E 1527-13 as:

> *"a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by regulatory authority, without subjecting the property to any required controls (for example, use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental*

condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition".

A de minimis condition is defined pursuant to ASTM E 1527-13 as:

"a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis conditions are not recognized environmental conditions nor controlled recognized environmental conditions".

SCOPE OF SERVICES

The scope of services conducted for this study is outlined below:

- Perform a reconnaissance of the site to identify obvious indicators of the existence of hazardous materials.
- Observe adjacent or nearby properties from public thoroughfares in an attempt to see if such properties are likely to use, store, generate, or dispose of hazardous materials.
- Obtain and review an environmental records database search from Environmental Data Resources, Inc. (EDR) to obtain information about the potential for hazardous materials to exist at the subject property or at properties located in the vicinity of the subject property.
- Review files for the subject property and immediately adjacent properties as identified in the EDR report, as applicable.
- Review the current U.S. Geological Survey (USGS) topographic map to obtain information about the subject property's topography and uses of the subject property and properties in the vicinity of the subject property.
- Review additional pertinent record sources (e.g., California Division of Oil and Gas records, online databases of hazardous substance release sites), as necessary, to identify the presence of RECs at the subject property.
- Review reasonably ascertainable historical resources (e.g., aerial photographs, topographic maps, fire insurance maps, city directories) to assess the historical land use of the subject property and adjacent properties.
- Provide a property owner interview questionnaire to the property owner or a designated subject property representative identified to BPG by Al Husn, LP.
- Provide a user interview questionnaire to a representative of Al Husn LP, the user of the Phase I ESA.
- Conduct interviews with other property representatives as applicable.
- Review Client-provided information (e.g., previous environmental reports, title documentation), as applicable.

Pursuant to ASTM E 1527-13, the scope of work did not include any inquiries with respect to asbestos containing building materials, biological agents, cultural and historic resources, ecological resources, endangered species, health and safety, indoor air quality unrelated to release of hazardous substances or petroleum products into the environment, industrial hygiene, lead-based paint, lead in drinking water, mold, radon, regulatory compliance, wetlands, or high voltage power lines.

SIGNIFICANT ASSUMPTIONS, LIMITATIONS, DEVIATIONS, EXCEPTIONS, SPECIAL TERMS AND CONDITIONS

Al Husn, LP, has requested this assessment and will use the assessment to provide information to assist in the due diligence and transactional process. No other use or disclosure is intended or authorized by BPG. Also, this report is issued with the understanding that it is to be used only in its entirety. It is intended for use only by the client, and no other person or entity may rely upon the report without the express written consent of BPG.

This work is intended to adhere to good commercial, customary and generally accepted environmental investigation practices for similar investigations conducted at this time and in this geographic area. No guarantee or warranties, expressed or implied are provided.
The findings and opinions conveyed in this report are based on findings derived from a site reconnaissance, review of an environmental database report, specified regulatory records and historical sources, and comments made by interviewees. This report is not intended as a comprehensive site characterization and should not be construed as such. Standard data sources relied upon during the completion of Phase I ESAs may vary with regard to accuracy and completeness. Although BPG believes the data sources are reasonably reliable, we cannot and do not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary analysis.

BPG has found no evidence that hazardous materials or petroleum products exist at the subject property. BPG does not under any circumstances warrant or guarantee that not finding evidence of hazardous materials or petroleum products means that hazardous materials or petroleum products do not exist on the subject property. Additional research, including surface or subsurface sampling and analysis, can reduce risks, but no techniques commonly employed can eliminate these risks altogether. In addition, in accordance with our authorized work scope and contract, no attempt was made to check for the presence of asbestos containing building materials, biological agents, cultural and historic resources, ecological resources, endangered species, health and safety, indoor air quality unrelated to release of hazardous substances or petroleum products into the environment, industrial hygiene, lead-based paint, lead in drinking water, mold, radon, regulatory compliance, wetlands, or high voltage power lines.

USER RELIANCE

This Phase I ESA was prepared for use solely and exclusively by Al Husn, LP. This report shall not be relied upon by or transferred to any other party without the express written authorization of BPG.

SITE DESCRIPTION

Location

The subject property is comprised of two parcels (APNs 458-103-01 and 02) totaling 2.69 acres in the community of Winchester, unincorporated Riverside County, California. The entire property would be disturbed by construction of the proposed project (see Figure 1, Vicinity Map).

Subject Property and Vicinity General Characteristics

The subject property is currently a bare undeveloped pad with a perimeter fence. The subject property is adjacent to vacant land, rural residential and commercial uses. The current adjacent land uses are described in Table 1 and depicted on Figure 2, Site Map and Adjacent Land Uses.

Table 1 - Current Uses of Adjacent Properties

Area	Use
Northern Properties	Rural single-family residential
Eastern Properties	Commercial
Southern Properties	Rural single-family residential
Western Properties	Rural single-family residential

Descriptions of Structures, Roads, Other Improvements on the Site

During the site reconnaissance, the project site and adjacent parcels were observed. The site is undeveloped and vacant. Three remnant electrical poles are located on the site. The site is fenced. There are no existing driveways from either State Route 74 or Amanda Avenue. Neighboring properties are vacant or developed with commercial and residential uses. Figure 3, Site Photographs, shows representative photos of the subject site.

Figure 1—Vicinity Map

Figure 2—Surrounding Land Use

Figure 3a: Project Site Looking Southwest

Figure 3b: Site Looking South Along West Boundary

Figure 3c: Representative Electrical Pole

Figure 3d: Representative Debris Along Southern Property Boundary

USER PROVIDED INFORMATION

As described in ASTM E 1527-13 Section 6, Al Husn, LP, was interviewed for actual knowledge pertaining to the location to help identify RECs in connection with the property. Mr. Rumzi Alabbasi was provided a user questionnaire prior to the site reconnaissance. The questionnaire was returned and the user is not aware of any hazards or the presence of hazardous materials that may affect the property. It is assumed the user and owner reviewed the following sources of information and/or is unaware of information regarding the following:

- Recorded land title records (or judicial records, where appropriate) that identify any environmental liens filed or recorded against the property
- Recorded land title records (or judicial records, where appropriate) that identify any activity and land use limitations (AULs), such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law
- Title Report that identifies information pertaining to environmental cleanup liens or AULs for the subject property
- Specialized knowledge or experience related to the property or nearby properties
- Commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases
- Obvious indicators that point to the presence or likely presence of releases at the property
- Pending, threatened, or past litigation relevant to hazardous substances or petroleum products, in, on, or from the site
- Pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site
- Notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products

The owner/user is not aware of a reduction in value of the property for known environmental issues. The owner and user questionnaires are provided in Appendix D.

RECORDS REVIEW

PHYSICAL SETTING SOURCES

Topography

The current USGS topographic map (Winchester Quadrangle, 2012) indicates that the subject property is situated at an elevation of about 1,562 feet above mean sea level with topography that is generally flat.

Geology

According to the EDR, the soil types in the study area is Monserate sandy loam. This soil type is comprised of silt and clay materials. This soil type has a Class D hydrological characteristic which is characterized as having very slow infiltration rates.

Hydrogeology

No site specific hydrogeological data was provided by EDR for the project site. A soils study prepared for the site in 2009 indicated that groundwater was encountered at approximately 48 feet below ground level. Groundwater flow within the study area is undetermined; however, based on topography, subsurface flow is presumed to flow south/southeast.

STANDARD ENVIRONMENTAL RECORD SOURCES

EDR was contracted to provide a database search of public lists of sites that generate, store, treat or dispose of hazardous materials or sites for which a release or incident has occurred. The EDR search was conducted for the subject property and included data from surrounding sites within specified radii of the property. A copy of the EDR report, which specifies the ASTM search distance for each public list, is included as Appendix A. As shown on the attached EDR report, federal, state and county lists were reviewed as part of the research effort. Please refer to Appendix B for a complete listing of sites reported by EDR and a description of the databases reviewed.

The Map Findings Summary, included in the EDR report, provides a summary of the databases searched, the number of reported facilities within the search radii, and whether the facility is located onsite or adjacent to the subject property. The following information is based on our review of the Map Findings Summary and the information contained in the EDR report.

Subject Property

The subject property was not listed in any of the regulatory databases reviewed.

Offsite Properties

Offsite properties listed by EDR fall under two general categories of databases: those reporting unauthorized releases of hazardous substances (e.g., LUST, National Priority List [a.k.a. Superfund sites], and corrective action facilities), and databases of businesses permitted to use hazardous materials or generate hazardous wastes, for which an unauthorized release has not been reported to a regulatory agency.

BPG reviewed the EDR Radius Map and select detailed listings to evaluate their potential to impact the subject property based on the following factors:

- Reported distance of the facility from the subject property
- The nature of the database on which the facility is listed, and/or whether the facility was listed on a database reporting unauthorized releases of hazardous materials, petroleum products, or hazardous wastes
- Reported case type (e.g., soil only, failed UST test only)
- Reported substance released (e.g., chlorinated solvents, gasoline, metals)
- Reported regulatory agency status (e.g., case closed, "no further action")
- Location of the facility with respect to the reported groundwater flow direction (discussed in the Geology and Hydrogeology section of this report)

Facilities/properties that were interpreted by BPG to be of potential environmental concern to the subject property, based on one or more of the factors listed above, are summarized in Table 2. None are open cases but are reported for informational purpose. In accordance with ASTM, contamination migration pathways in soil, groundwater, and soil vapor were considered in our analysis of offsite properties of potential environmental concern.

Table 2
EDR Listing Summary of Select Sites within One-Half Mile of the Subject Site

Site Name	EDR Site ID	Site Address	Distance from Subject Property (miles)	Database Reference
Down-gradient Sites				
High School #3	11	27230 Richmond Road	0.98 miles SSE	Envirostor – Inactive

Site 11 is a school site investigation and was identified as an agricultural with the potential presence of pesticides and fertilizers. The investigation was withdrawn. No hazards or hazardous materials are known to be present on the subject property.

Orphan Listings

Orphan or unmapped site listings are those sites located within the study area which EDR is unable to plot due to insufficient address information). Orphan sites are summarized in Table 3. No orphan sites are located within the study area.

Table 3
Orphan Sites

Site Name	EDR Site ID	Site Address	Database Reference
None	N/A	N/A	N/A

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

Review of Agency Files

As a follow-up to the database search, BPG reviewed regulatory information for facilities within the specified search radii that were interpreted to have the potential to impact the subject property, based on one or more factors previously discussed (e.g., distance, open case status, up-gradient location, soil vapor migration). In addition, a review of building permit records for the site was conducted at the County of Riverside, California on February 15, 2018.

The following is a summary of our review of regulatory information obtained from review of online sources (e.g., SWRCB GeoTracker database, DTSC Envirostor database). Copies of selected documents reviewed are included in Appendix B.

Subject Property
The subject property/location was not listed in any of the databases searched by EDR.

Adjacent Properties
EDR Site 11 referenced in Table 2 is 0.98 miles southeast of the project site. It is listed on the Envirostor database. The case was a school site investigation that was withdrawn. The case has been reported closed by the Department of Toxic and Substance Control.

Up-Gradient Release Sites
Up-gradient sites listed in databases searched by EDR are shown in Table 4.

Table 4
EDR Listing Summary of Up-Gradient Sites within One-Half Mile of Subject Site

Site Name	EDR Site ID	Site Address	Distance from Subject Property (miles)	Database Reference
Down-gradient Sites				
ARCO 05750	A1	33440 Highway 74	0.039 miles NE	RCRA SQG – small quantity generator
Prestige Stations, Inc.	A2	33440 Highway 74	0.039 miles NE	EDR – Hist Auto
ARCO 5750	A3	33440 Highway 74	0.039 miles NE	LUST – case closed
Homeland Shell	A3	33401 Highway 74	0.048 miles ENE	UST
ARCO 5750	B5	33440 Highway 74	0.039 miles NE	SWEEPS UST, CA FID UST, HAZNET
ARCO AMPM Winchester	B6	33440 Highway 74	0.039 miles NE	UST
Prestige Stations, Inc.	B7	33440 Highway 74	0.039 miles NE	EDR – Hist Auto
Frontier California	C8	26501 Winchester Road	0.158 miles SE	UST
GTE California Homeland	C9	26501 Winchester Road	0.158 miles SE	UST
GTE Homeland	C10	26501 Winchester Road	0.158 miles SE	SWEEPS UST

Known or Suspect Contaminated Release Sites with Potential Vapor Migration
The EDR report was reviewed to identify nearby known or suspect contaminated sites that have the potential for contaminated vapor originating from the nearby site to be migrating beneath the subject property. Based on the ASTM E 2600-10, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*, the following minimum search distances were initially used to determine if contaminated soil vapors from a nearby known or suspect contaminated site have the potential to be migrating beneath the subject property:

- 1/10 mile (528 feet) for petroleum hydrocarbons
- 1/3 mile (1,760 feet) for other contaminants of concern (COCs)

If up-gradient known or suspect contaminated sites are located within the above referenced distances from the subject property, online resources are reviewed to determine the extent of the contaminated plume at those sites. The following describes search distances for contaminated plumes of petroleum hydrocarbons and other COCs up-gradient of the subject property.

Petroleum Hydrocarbons
Based on our review of the EDR report information as indicated above, there are no adjacent or up-gradient known or suspect petroleum hydrocarbon impacted soil or groundwater plumes located within 528 feet of the subject property.

Other COCs
Based on our review of the EDR report, there are no adjacent or up-gradient known or suspect contaminated soil or groundwater plumes located within 1,760 feet of the subject property.

Review of State of California Division of Oil and Gas Records

A review of the Department of Conservation, Division of Oil, Gas & Geothermal Resources Online Mapping System indicates that no oil wells are located within one mile of the subject property.

HISTORICAL USE INFORMATION ON THE PROPERTY AND THE ADJOINING PROPERTIES

The historic records review completed for this Phase I ESA includes aerial photographs and topographic maps as detailed in the following sections. Copies of the historical resources reviewed are included in Appendix B.

Review of Historic Aerial Photographs

Aerial photographs from EDR's aerial photograph collection were obtained and reviewed.

Review of City Directory Listings

The City Directory Listings were reviewed to determine past owners/use of the property. The site address is unknown; and thus, no specific owner or use was identified in the City Directory listings.

Review of Fire Insurance Maps

Sanborn maps and related records are requested for the subject property or adjacent properties. No Sanborn maps are available for the property as reported by EDR.

Review of Historic Topographic Maps

Historic topographic maps from EDR's map collection were reviewed.

Review of Building Permit Records

The project applicant currently owns the subject property and all developed structures have been removed. The County of Riverside Building Department was not contacted to obtain permit information for past development occurring on the site.

Summary of Historic Uses

Subject Property
Aerial photographs of the site were obtained as part of the EDR report from 1939 and intervening years through 2014. Evidence of what appears to be residential development with outbuildings on both parcels is evident in the 1953 aerial photo. The number and location of structures changes over the years but the same general footprint has remained consistent. The mobile home removed from the site is visible in the 1985-2014 aerial photos. A recreational vehicle storage area located south of the mobile home is visible in the yard; however, the site configuration appears to have been modified between the 1970 and 1979 aerial photos.

Northern Adjacent Property
Based on a review of the documents listed above and site visit, the northern property is developed with rural single family residential. Residential development in this area is evident in the 1938 aerial photo. The density and location of development has changed over the years but the land use has remained consistent.

Eastern Adjacent Property
Based on a review of the topographic maps, aerial photographs and site visit, the land east of the site is commercial. Evidence of residential development is visible through 1978. Commercial development is visible in the 1989 aerial photo.

Southern Adjacent Property
Based on our review of the topographic maps and aerial photographs, evidence of single family residential uses to the south is visible in the 1938 photo with the location of development and densities changing in intervening years.

Western Adjacent Property
Based on our review of the topographic maps and aerial photographs, evidence of single family residential uses to the west is visible in the 1938 photo with the location of development and densities changing in intervening years.

Gaps in Historical Sources

Several gaps of greater than 5 years were identified in the historical records reviewed, from 1938 to 1949, from 1953 to 1961, from 1961 to 1967 from 1967 to 1978, from 1978 to 1985, 1989 to 1996, and 1996 to 2002. These gaps are considered insignificant because the subject property land use is the same in years before and after the specified data gaps.

INTERVIEWS

Interview with Owner

An interview questionnaire was provided to the buyer for distribution to the property owner prior to the site reconnaissance. The questionnaires were returned during Phase I research. See Appendix D.

Interview with Site Manager

No site manager is affiliated with the property. No formal verbal interview was conducted.

Interviews with Occupants

The site is vacant. No tenants were interviewed as part of the Phase I research process.

Interviews with Local Government Officials

The City of Indio Planning Department was interviewed regarding past use of the subject property. No uses were reported for the property.

Interviews with Others

BPG did not attempt to formally interview neighboring property owners or others as part of this research effort.

SITE RECONNAISSANCE

BPG performed a reconnaissance of the subject property on February 15, 2018. The purpose of the reconnaissance was to observe existing subject property conditions and to obtain information indicating the presence of RECs in connection with the subject property.

METHODOLOGY AND LIMITING CONDITIONS

The site reconnaissance was conducted by 1) observing the subject property from public thoroughfares and walking the site, and 2) observing the adjacent properties from public thoroughfares and the subject property.

CURRENT USE OF THE PROPERTY AND ADJACENT PROPERTIES

The subject property is a vacant undeveloped site. Sparse ruderal vegetation and debris is located around the perimeter. Three electrical poles associated with past development remain on the site. The site is fenced and gated. No evidence of transient use is visible on the property. There is no evidence of any hazardous materials, features or substances associated with current or past use of the site.

PAST USE OF THE PROPERTY AND ADJACENT PROPERTIES

Based on our site reconnaissance, the site has not been developed. No features indicating previous uses of the property are visible.

CURRENT OR PAST USES IN THE SURROUNDING AREAS

The subject property is surrounded by commercial and single-family residential properties.

GEOLOGIC, HYDROGEOLOGIC, HYDROLOGIC AND TOPOGRAPHIC CONDITIONS

Geologic, Hydrogeologic, Hydrologic and Topographic information are as previously stated in the Physical Settings Section of this report.

GENERAL DESCRIPTION OF STRUCTURES

No structures are located on the property. The site is a vacant, fenced lot.

INTERIOR AND EXTERIOR OBSERVATIONS

Storage Tanks

During the site reconnaissance, no above ground or below ground storage tanks or evidence of above ground or below ground storage tanks were observed on the subject property.

Drums

During the site reconnaissance, no drums capable of containing material were observed.

Hazardous Substances and Petroleum Products

No hazardous substances or petroleum products were observed on or adjacent to the subject property. No stains or other evidence of a petroleum spill were observed on-site.

Unidentified Substance Containers

No unidentified substance containers or unidentified containers that might contain hazardous substances were observed during the site reconnaissance.

Odors

During the site reconnaissance, no strong, pungent, or noxious odors were detected.

Pools of Liquid

During the site reconnaissance, no pooled liquid was visible.

Indications of Polychlorinated Biphenyls (PCBs)

During the site reconnaissance, no indications of PCBs on the subject property were observed.

Other Conditions of Concern

During the site reconnaissance none of the following interior or exterior observations were noted:

- heating/cooling systems
- clarifiers and sumps
- pits, ponds, and lagoons
- stressed vegetation
- waste water

- wells
- septic systems/effluent disposal system

Solid Waste/Debris– Miscellaneous litter has accumulated on the site. No hazardous materials were observed.

EVALUATION

FINDINGS

As discussed, the site has historically been developed with single-family residences. It is currently vacant and fenced.

OPINIONS

There is no evidence that indicates the presence of recognized environmental conditions either or adjacent to the subject property. No additional review pertaining to hazards or hazardous materials is warranted at this time.

CONCLUSIONS

This Phase I ESA is intended to be in general conformance with the scope and limitations of ASTM E 1527-13 for the subject property located at the southeast corner of State Highway 74 and Amanda Avenue (APNs 458-103-01 and 02) Winchester, California. This assessment has revealed no evidence of RECs in connection with the property.

RECOMMENDATIONS

No further actions are recommended.

DEVIATIONS

No deviations from ASTM Practice occurred during the completion of this Phase I ESA.

REFERENCES

The following published reference materials were used in preparation of this Phase I ESA:

Environmental database: Environmental Data Resources (EDR) report dated February 7, 2018

Topography: USGS topographic map (Winchester Quadrangle, 2012)

Oil and gas records: State of California, Division of Oil, Gas and Geothermal Resources website: http://www.consrv.ca.gov/DOG/index.htm

Aerial photographs: Photos maintained by EDR

Historic topographic maps: Maps maintained by EDR

SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

The qualified environmental professional responsible for preparing the report is Ryan Birdseye. Their qualifications are summarized in the following section.

“We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 312.10 of 40 CFR 312. We have the specific qualifications based on education, training and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.”

	February 23, 2018
Signature	Date
Ryan Birdseye	Principal
Name	Title

QUALIFICATIONS OF ENVIRONMENTAL CONSULTANTS

The environmental consultant responsible for conducting this Phase I ESA and preparing the report is Ryan Birdseye. His qualifications are summarized below.

Environmental Professional Qualifications	X2.1.1 (2) (i) - Professional Engineer or Professional Geologist License or Registration, and 3 years of full-time relevant experience	X2.1.1 (2) (ii) - Licensed or certified by the Federal Government, State, Tribe, or U.S. Territory to perform environmental inquiries	X2.1.1 (2) (iii) – Baccalaureate or Higher Degree from an accredited institution of higher education in a discipline of engineering or science and the equivalent of 5 years of full-time relevant experience	X2.1.1 (2) (iii) – Equivalent of 10 years of full-time relevant experience
Ryan Birdseye			Masters – Urban and Regional Planning	25 years

Ryan Birdseye, is a Principal with BPG. He holds a Bachelor of Science degree in Geography and a Masters of Urban and Regional Planning degree from the University of Oregon. He has over 27 years of experience as a project manager and environmental analyst for a broad range of environmental planning, site assessment and regulatory compliance projects throughout California and the western United States.

Appendix A

Regulatory Records Documentation

Appendix B

Historical Research Documentation

Appendix C

Aerial Photos

Appendix D

Owner/User Questionnaires

CASE: PP26240
EXHIBIT: TIA
DATE: 10/24/2019
PLANNER: B. Dawson
Page #: 1-334

☐ Meeting ☑ Comment Agenda ☐ Final

COMMENT LEGEND

- BROWN = BUILDING & SAFETY GRADING DIVISION
- PURPLE = PLANNING DEPARTMENT
- GREEN = ENVIRONMENTAL PROGRAMS DEPARTMENT
- LIGHT ORANGE = TRANSPORTATION DEPARTMENT
- BLUE = FLOOD CONTROL DISTRICT
- LIGHT GREEN = REGIONAL PARKS & OPEN SPACE DISTRICT
- RED = FIRE DEPARTMENT
- YELLOW = ENVIRONMENTAL HEALTH DEPARTMENT
- LIGHT BLUE = BUILDING & SAFETY PLAN CHECK
- ORANGE = WASTE MANAGEMENT DEPARTMENT
- PINK = ARCHAEOLOGY
- GRAY = GEOLOGY

PLOT PLAN NO. 26240 PROJECT TRAFFIC IMPACT ANALYSIS

County of Riverside

March 20, 2019

ganddini

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

PLOT PLAN NO. 26240 PROJECT TRAFFIC IMPACT ANALYSIS

County of Riverside

March 20, 2019

prepared by

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01-7209

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EXECUTIVE SUMMARY

The purpose of this report is to provide an assessment of potential traffic impacts resulting from development of the proposed Plot Plan No. 26240 project and to identify the traffic mitigation measures necessary to maintain the established level of service standard for the elements of the impacted roadway system. The traffic issues related to the proposed land use and development have been evaluated in the context of the California Environmental Quality Act.

The County of Riverside is the lead agency responsible for preparation of the traffic impact analysis, in accordance with California Environmental Quality Act authorizing legislation. The study objectives include (1) documentation of Existing traffic conditions in the vicinity of the site; (2) calculation of Existing Plus Project traffic conditions (3) analysis of Existing Plus Ambient Growth Plus Project traffic conditions; (4) evaluation of traffic conditions for Existing Plus Ambient Growth Plus Project Plus Cumulative; and (5) determination of on-site and off-site improvements and system management actions needed to achieve County of Riverside Level of Service requirements.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided in Appendix A.

A. Project Description

The project site (33336 Highway 74) is located east of Amanda Avenue between Highway 74 and Old State Highway in the County of Riverside. The site is currently vacant. The project site is proposed to consist of 7,340 square feet of retail/variety store and a 4,400 square foot fast-food restaurant with drive-thru. A right turns in/out only access driveway is proposed to be provided on Highway 74 and a full access driveway is proposed to be provided on Amanda Avenue.

For purposes of this traffic impact analysis, the proposed project is assumed to be fully operational by Year 2020.

B. Traffic Conditions

Existing Traffic Conditions. The study intersections currently operate at Level of Service D or better during the peak hours for Existing traffic conditions (see Table 1), except for the following study intersection that currently operates at Level of Service F during the peak hours:

Truelson Avenue (NS) at:
Highway 74 (EW) – #9

Project Trips. The proposed project is forecast to generate a total of approximately 2,157 net daily trips, 169 net trips of which will occur during the morning peak hour and 165 net trips of which will occur during the evening peak hour (see Table 2).

Existing Plus Project Traffic Conditions. The study intersections are projected to operate at Level of Service D or better during the peak hours for Existing Plus Project traffic conditions, except for the following study intersection that is projected to operate at Level of Service F during the peak hours:

Truelson Avenue (NS) at:
Highway 74 (EW) – #9

The following improvements are recommended at the study intersection for Existing Plus Project traffic conditions (see Table 4) to achieve an acceptable Level of Service during the peak hours:

Truelson Avenue (NS) at:
Highway 74 (EW) – #9

- Restrict northbound and southbound left turn movements

Existing Plus Ambient Growth Plus Project Traffic Conditions. The study intersections are projected to operate at Level of Service D or better during the peak hours for Existing Plus Ambient Growth Plus Project traffic conditions (see Table 5), except for the following study intersection that is projected to operate at Level of Service F during the peak hours:

Truelson Avenue (NS) at:
Highway 74 (EW) – #9

The following improvements are recommended at the study intersection for Existing Plus Ambient Growth Plus Project traffic conditions (see Table 5) to achieve an acceptable Level of Service during the peak hours:

Truelson Avenue (NS) at:
Highway 74 (EW) – #9

- Restrict northbound and southbound left turn movements

Existing Plus Ambient Growth Plus Project Plus Cumulative Traffic Conditions. The study intersections are projected to operate at Level of Service D or better during the peak hours for Existing Plus Ambient Growth Plus Project Plus Cumulative traffic conditions, except for the following study intersection that is projected to operate at Level of Service E/F during the peak hours:

Truelson Avenue (NS) at:
Highway 74 (EW) – #9

Traffic signals are projected to be warranted at the following study intersection for Existing Plus Ambient Growth Plus Project Plus Cumulative traffic conditions (see Appendix E):

Truelson Avenue (NS) at:
Highway 74 (EW) – #9

The following improvements are recommended at the study intersections for Existing Plus Ambient Growth Plus Project Plus Cumulative traffic conditions (see Table 6) to achieve an acceptable Level of Service during the peak hours:

Truelson Avenue (NS) at:

Highway 74 (EW) – #9

- New traffic signal
- Northbound left turn lane
- Southbound left turn lane

C. Traffic Impact and Mitigation

Off-site intersection improvements were identified to address significant traffic impacts at the study intersections for the scenarios analyzed.

For Existing Plus Project and Existing Plus Ambient Growth Plus Project traffic conditions, the following improvements are recommended:

Truelson Avenue (NS) at:

Highway 74 (EW) – #9

- Restrict northbound and southbound left turn movements

D. On-Site/Access Recommendations

Site-specific circulation and access recommendations are depicted on Figure 31.

The Project Driveway on Highway 74 will be stop-controlled and restricted to right turns in/out only access.

The Project Driveway on Amanda Avenue will be stop-controlled and provided with full access.

Highway 74 along the project boundary should be constructed at the ultimate half-section width as an Expressway, including landscaping and parkway improvements in conjunction with development, or as otherwise approved by the County of Riverside Transportation Department. The projected eastbound right turn movement on State Highway 74 turning into the proposed driveway is approximately 31 vehicles. The proposed project will widen Highway 74 and sufficient length is provided to accommodate the project eastbound right turning vehicles between Amanda Avenue and the proposed driveway.

Amanda Avenue along the project boundary should be constructed at the ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise approved by the County of Riverside Transportation Department.

Old State Highway along the project boundary should be constructed at the ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise approved by the County of Riverside Transportation Department.

The proposed project driveways should be constructed in conformance with County of Riverside standards, including provisions for sight distance requirements and truck turning radii, or as otherwise approved by the County of Riverside Transportation Department.

All on-site and site-adjacent improvements, including traffic signing/striping and project driveways, should be constructed as approved by the County of Riverside Transportation Department.

On-site parking should be provided to the satisfaction of County of Riverside Planning Department.

As is the case for any roadway design, the County of Riverside should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

E. Project Driveway Deceleration Distance Assessment

The proposed project driveway on Highway 74 will be a stop-controlled access and restricted to right turns in/out only access, and it will be located at a midpoint between Amanda Avenue and the existing driveway for the existing Shell service station. The proposed driveway will be located approximately 200 feet east of Amanda Avenue and approximately 200 feet west of the existing Shell service station driveway. The southern half-section of Highway 74 between the existing Shell service station driveway and the east project boundary has been constructed to its ultimate half-section width as an Expressway, and it currently has two eastbound travel lanes and a wide shoulder that is striped with “chevron” pavement marking. Even though the wide shoulder is not configured as a right turn lane, vehicles could use the wide shoulder as a deceleration lane to make eastbound right turns into the existing Shell service station driveway. The existing Shell service station driveway currently has a driveway configuration that is similar to the proposed configuration of the project driveway on Highway 74 in terms of visibility for the eastbound traffic volumes and the length of the wide shoulder that could be used a deceleration lane. Even though the applicant would like to obtain a reciprocal access agreement for the parking lot between the project and the existing Shell service station, there is no guarantee that the owner of the adjacent development would agree to a reciprocal access agreement because the other tenants may not be willing to share parking supply or have other concerns.

The proposed project will continue the half-section improvement of Highway 74 so that the wide shoulder will be consistent from the existing Shell service station driveway to the proposed project driveway and also to Amanda Avenue. Similar to the existing Shell service station driveway, vehicles entering the proposed project driveway could utilize the wide shoulder on Highway 74 as a 150-foot deceleration lane to slow down to make eastbound right turns into the proposed project driveway. The applicant will also improve Amanda Avenue so that the roadway grade will become flat as Amanda Avenue intersects with Highway 74, where the existing northbound approach of Amanda Avenue currently has an uphill grade because the existing elevation of Amanda Avenue is lower than Highway 74.

The adequacy of the deceleration distance between Amanda Avenue and the proposed driveway is evaluated based on the following 4 assessments:

- Sight distance analysis based on the Highway Design Manual sight distance standards (included in Appendix F of the traffic study)
- On-site line of sight field measurements
- On-site driving trials and observations
- Desirable deceleration lane length requirements based on the AASHTO Green Book

Sight Distance Evaluation

The speed limit on Highway 74 is currently posted at 50 miles per hour. Based on the Highway Design Manual, the minimum stopping sight distance standard is 430 feet on a roadway with a design speed of 50 mile per hour. The minimum corner sight distance standard is 550 feet. Appendix F includes the Highway Design Manual sight distance standards. Figure 32 shows the sight distance analysis for the proposed project driveway on Highway 74. As shown on Figure 32, the proposed project driveway has adequate sight distances when the yellow highlighted triangular areas are clear of visual obstructions that are more than 2 feet tall. For the vegetation located south of Highway 74 and west of Amanda Avenue, it is recommended that vegetation be trimmed below 2 feet tall and some of the dead trees be removed to avoid obstructing the sight line and to improve visibility. The proposed project should also provide store signage to improve the visibility of the proposed buildings and the proposed driveway for the approaching traffic volumes on Highway 74.

On-Site Line of Sight Field Measurements

Based on field observation and measurement, the proposed project driveway location is visible approximately 715 feet away, which is longer than the minimum stopping sight distance of 430 feet. The proposed buildings and the store signage should also be visible approximately 715 feet away. The proposed buildings and the store signage should also be visible approximately 715 feet away. The vegetation on the north side of Highway 74 is not obstructing the line of sight.

On-Site Driving Trials and Observations

Based on the on-site driving observation with the vehicle traveling with speeds at a minimum of 50 miles per hour or the speed limit, the proposed project driveway location appears to be visible approximately 715 feet away which gives the driver adequate reaction time to begin slowing down by taking the foot off the gas pedal, and as the vehicle gets closer to the proposed project driveway then applying reasonable amount of pressure on the brake pedal to merge into the wide shoulder area and then make a right turn into the proposed project driveway. The wide shoulder area, between Amanda Avenue and the proposed project driveway, could serve as a 150-foot deceleration lane which would be very beneficial in terms of reducing vehicle speed.

On the other hand, making an eastbound right turn movement at Amanda Avenue to enter the proposed project at another driveway may be less desirable because there is no wide shoulder east of Amanda Avenue to serve as a deceleration lane. Therefore, it would enhance awareness if the proposed project provides a right turns in/out only driveway on Highway 74 with a wide shoulder to serve as a deceleration lane on Highway 74.

Desirable Deceleration Lane Length

American Association of State Highway and Transportation Officials (AASHTO) published a design reference that titled "A Policy on Geometric Design of Highway and Street" (also known as the Green Book) which shows desirable full deceleration lengths in Table 9-22. It would be desirable that the total physical length of the auxiliary lane should be the sum of the length for these three components: 1) centering taper length; 2) deceleration length; and 3) the storage length. Common practice, however, is to accept a moderate amount of deceleration within the through lanes and to consider the taper length as a part of the deceleration within the through lanes. On many facilities, it is not practical to provide the full length of the auxiliary lane for deceleration due to constraints such as restricted right-of-way, distance available between adjacent intersections, and extreme storage needs. In such cases, at least part of the deceleration by drivers needs to be accomplished before entering the auxiliary lane. Inclusion of the taper length as part of the deceleration distance for an auxiliary lane assumes that an approaching turning vehicle can decelerate comfortably up to 10 miles per hour (mph) before clearing a through lane. Shorter auxiliary lane lengths will increase the speed differential between turning vehicles and through traffic. A 10-mph differential is commonly considered acceptable on arterial roadways. Higher speed differentials may be acceptable on collector highways and streets due to higher levels of driver tolerance for vehicles leaving or entering the roadway due to slow speeds or high volumes. Therefore, the desirable full deceleration lengths shown in Table 9-22 of the AASHTO Green Book should be accepted as a desirable goal and should be provided where practical. The deceleration distances shown in Table 9-22 are applicable to both left- and right-turning lanes, but the approach speed is usually lower in the right turn lane than in the left turn lane.

Since the proposed project driveway on Highway 74 could utilize the wide shoulder on Highway 74 as a 150-foot right turn deceleration lane where the approach speed is usually lower in the right turn lane than in the left turn lane, and that there appears to be adequate sight distance where the vehicle may begin reducing speed earlier down the road, it would be practical to assume that the approach speed may have a potential 20-mph differential or a 30 mph travel speed for the westbound traffic on SR-74 entering the right turn lane. As shown in Table 9-22, a minimum right turn deceleration lane length of 160 feet may be practical based on a 20-mph differential or a 30 mph travel speed. As confirmed by the on-site driving trial and observation discussed earlier, a right turn deceleration lane length of approximately 150 feet appears to be adequate for practical driving conditions.

It is concluded that there appears to be adequate deceleration distance between Amanda Avenue and the proposed driveway based on the sight distance analysis, on-site driving experience and minimum deceleration lane length requirements in the AASHTO Green Book.

I. INTRODUCTION

This section introduces the project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

A. Purpose and Objectives

The purpose of this report is to provide an assessment of the traffic impacts resulting from redevelopment of the proposed Plot Plan No. 26240 project. The study objectives include (1) documentation of Existing traffic conditions in the vicinity of the site; (2) calculation of Existing Plus Project traffic conditions (3) analysis of Existing Plus Ambient Growth Plus Project traffic conditions; (4) evaluation of traffic conditions for Existing Plus Ambient Growth Plus Project Plus Cumulative; and (5) determination of on-site and off-site improvements and system management actions needed to achieve County of Riverside Level of Service requirements.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided in Appendix A.

B. Project Description

The project site (33336 Highway 74) is located east of Amanda Avenue between Highway 74 and Old State Highway in the County of Riverside. The site is currently vacant.

The project site is proposed to consist of 7,340 square feet of retail/variety store and a 4,400 square foot fast-food restaurant with drive-thru.

A right turns in/out only access driveway is proposed to be provided on Highway 74 and a full access driveway is proposed to be provided on Amanda Avenue.

For purposes of this traffic impact analysis, the proposed project is assumed to be fully operational by Year 2020.

C. Study Area

Based on the scoping agreement (see Appendix B) with County of Riverside, the study area consists of the following study intersections:

Study Intersections	Jurisdiction
Cortrite Avenue (NS) at: Highway 74 (EW) – #1[1]	County of Riverside/California Department of Transportation (Caltrans)
Amanda Avenue (NS) at: Highway 74 (EW) – #2 Project Driveway (EW) – #3 Old State Highway (EW) – #4	County of Riverside / Caltrans County of Riverside County of Riverside
Project Driveway (NS) at: Highway 74 (EW) – #5	County of Riverside / Caltrans
Vista Place/State Route 79 (NS) at: Highway 74 (EW) – #6 Old State Highway (EW) – #7 Stetson Avenue (EW) – #8	County of Riverside / Caltrans County of Riverside / Caltrans County of Riverside / Caltrans
Truelson Avenue (NS) at: Highway 74 (EW) – #9	County of Riverside / Caltrans

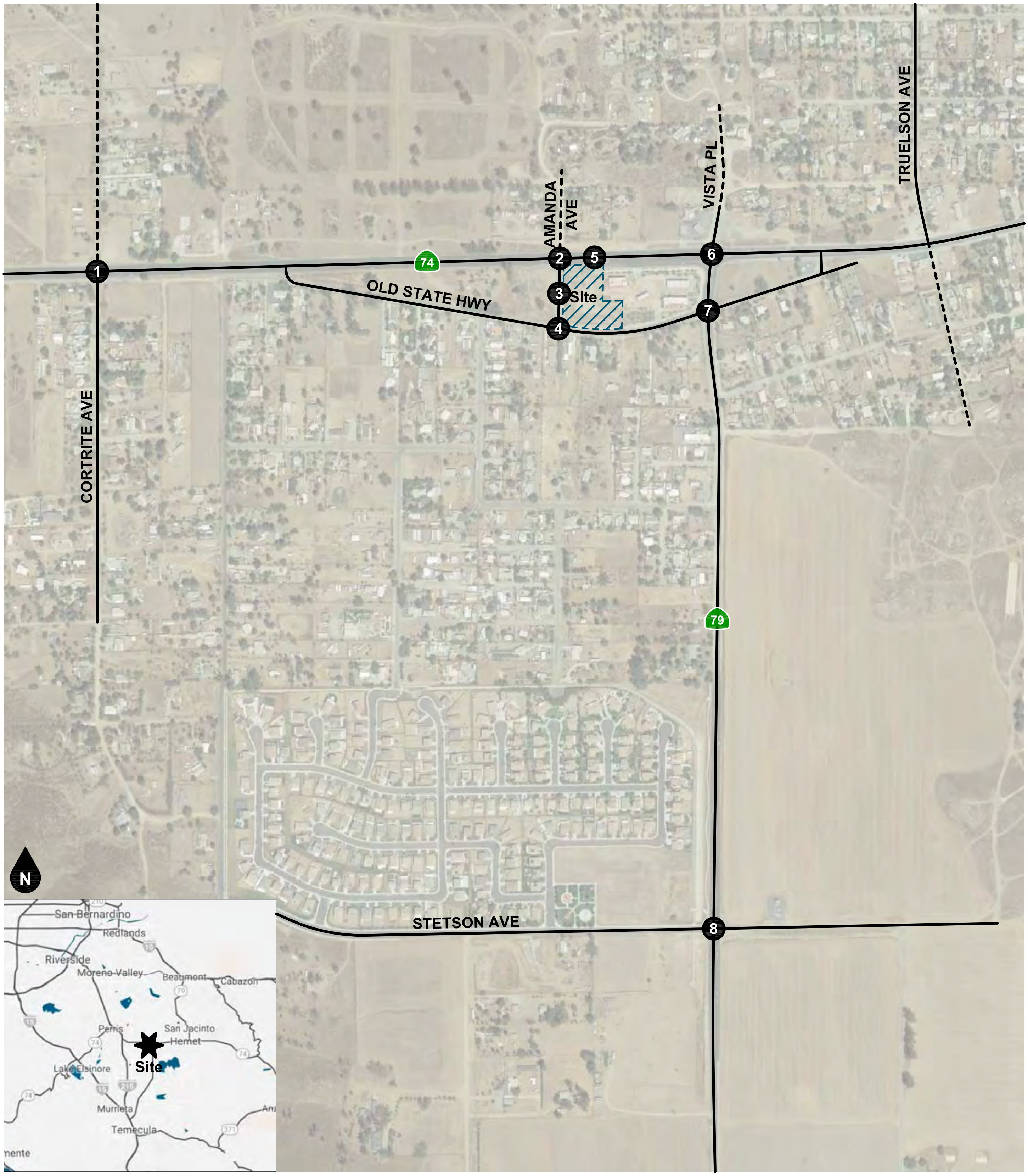
D. Analysis Scenarios

The following four (4) scenarios are analyzed:

1. Existing Conditions,
2. Existing Plus Project Conditions[2],
3. Existing Plus Ambient Growth Plus Project Conditions,
4. Existing Plus Ambient Growth Plus Project Plus Cumulative Conditions,

[1] (NS) North-South roadway; (EW) = East-West roadway

[2] The existing plus project conditions has been analyzed to comply with the Sunnyvale West Neighborhood Association v. City of Sunnyvale CEQA court case. This scenario assumes the full development of the proposed project and full absorption of the proposed project trips on the circulation system at the present time.



Legend
Study Intersection

Figure 1
Project Location Map

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Plot Plan No. 26240
Traffic Impact Analysis
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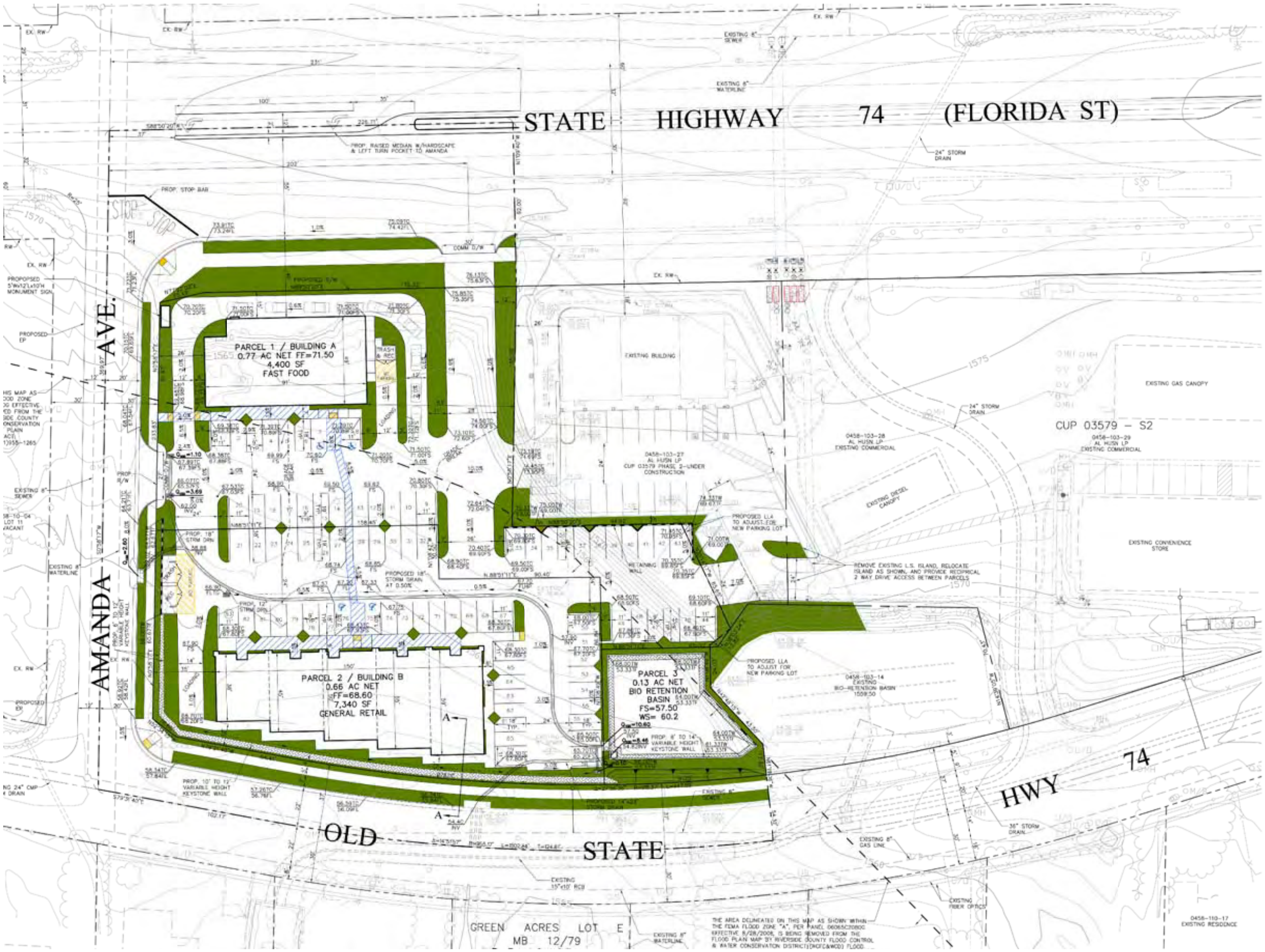


Figure 2
Site Plan

Plot Plan No. 26240
Traffic Impact Analysis
7209

II. METHODOLOGY

A. Highway Capacity Manual Delay Methodology

The technique used to assess the performance of an un-signalized study intersection is known as the intersection delay method based on the procedures contained in the Highway Capacity Manual (Transportation Research Board, 6th Edition). The methodology compares the traffic volumes using the intersection to the capacity of the intersection to calculate the delay associated with the traffic control at the intersection. The intersection delay is then correlated to a performance measure known as Level of Service based on the following thresholds:

Level of Service	Un-signalized Intersection Control Delay (Seconds/Vehicle)
A	≤ 10.0
B	> 10.0 to ≤ 15.0
C	> 15.0 to ≤ 25.0
D	> 25.0 to ≤ 35.0
E	> 35.0 to ≤ 50.0
F	> 50.0

Source: Highway Capacity Manual 2010 (Transportation Research Board, 2010).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure).

The Level of Service analysis for signalized intersections has been performed using optimized signal timing. This analysis has included an assumed lost time of two seconds per phase. Traffic signal timing optimization has considered pedestrian safety and signal coordination requirements. Appropriate time for pedestrian crossings has also been considered in the signalized intersection analysis. The following formula has been used to calculate the pedestrian minimum times for all Highway Capacity Manual runs:

(Curb to curb distance) / (3.5 feet/second) + 7 seconds.

Saturation flow rates of 1,900 vehicles per hour of green for travel lanes have been assumed for the capacity analysis.

The peak hour intersection turning movement volumes have been adjusted to peak 15 minute volumes for analysis purposes using the existing observed peak 15 minute to peak hour factors for all scenarios analyzed.

B. Thresholds of Significance

The following definitions of deficiencies and significant impacts have been developed in accordance with the County of Riverside requirements.

1. Definition of Deficiency

The definition of an intersection deficiency has been obtained from the County of Riverside General Plan. The General Plan states that peak hour intersection operations of Level of Service C or better are generally acceptable along all County maintained roads and conventional state highways. As an exception, Level of Service D may be allowed in Community Development areas, only at intersections of any combination of Secondary Highways, Major Highways, Arterial Highways, Urban Arterial Highways, Expressways, conventional state highways or freeway ramp intersections.

2. Definition of Significant Impact

A project results in a significant impact if the addition of project generated trips to a study intersection causes the operating Level of Service of the study intersection to change from an acceptable Level of Service (Level of Service D or better) to a deficient Level of Service (Level of Service E or F) during either the morning peak hour or the evening peak hour.

III. EXISTING CONDITIONS

A. Existing Roadway Facilities

Figure 3 identifies the Existing number of through lanes, intersection traffic controls, and intersection geometry based on a field survey of the study area.

Regional access to the project site is provided by State Highway 74 and State Highway 79. Local north-south circulation is provided by Cortrite Avenue, Truelson Avenue, and Amanda Avenue. Local east-west circulation is provided by Old State Highway and Stetson Avenue.

B. Existing Traffic Volumes

Existing peak hour intersection turning movement volumes are based upon morning peak period and evening peak period intersection turning movement counts obtained by Kunzman Associates, Inc. in March 2018 during typical weekday conditions. The morning peak period was counted between 7:00 AM and 9:00 AM and the evening peak period was counted between 4:00 PM and 6:00 PM. The actual peak hour within the peak period is the four consecutive 15-minute periods with the highest total volume when all movements are added together. Thus, the weekday evening peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15-minute periods have the highest combined volume. Intersection turning movement count worksheets are included in Appendix C.

The Existing average daily traffic volumes were obtained from the 2016 Traffic Volumes on California State Highways by the California Department of Transportation and factored from peak hour intersection turning movement counts using the following formula for each intersection leg:

PM Peak Hour (Approach + Exit Volume) x 12 = Daily Leg Volume.

The factor is estimated based on a comparison of the existing peak hour intersection turning movement volumes with the average daily traffic volume data obtained from the California Department of Transportation. This is a conservative estimate and may over-estimate the average daily traffic volumes.

Figure 4 depicts the average daily traffic volumes for Existing traffic conditions. Figure 5 and Figure 6 show the morning peak hour and evening peak hour intersection turning movement volumes for Existing traffic conditions, respectively.

C. Existing Intersection Level of Service

The morning and evening peak hour Levels of Service for Existing traffic conditions have been calculated and are shown in Table 1. Existing Level of Service calculation worksheets are provided in Appendix D. The study intersections currently operate at Level of Service D or better during the peak hours for Existing traffic conditions (see Table 1), except for the following study intersection that currently operates at Level of Service F during the peak hours:

Truelson Avenue (NS) at:
Highway 74 (EW) – #9

D. General Plan Context

The County of Riverside General Plan Circulation Element is shown on Figure 7. Existing and future roadways are included in the Circulation Element of the General Plan and are graphically depicted on Figure 7. This figure shows the nature and extent of arterial highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The County of Riverside General Plan roadway cross-sections are shown on Figure 8.

Figure 9 shows the current City of Hemet General Plan Circulation Element. Both existing and future roadways are included in the Circulation Element of the General Plan and are graphically depicted on Figure 9. This figure shows the nature and extent of arterial highways that are needed to nominally serve the ultimate development depicted by the land use element of the General Plan. The City of Hemet General Plan roadway cross-sections are illustrated on Figure 10.

E. Transit Service

Figure 11 shows the Riverside Transit Agency System Map for the study area.. As shown on Figure 11, Transit Route 27 and 212 operate on Highway 74 in the study area.

F. Bicycle & Pedestrian Facilities

The County of Riverside General Plan Trail and Bike Plan are illustrated on Figure 12. Existing pedestrian facilities adjacent to the project site are shown on Figure 13.

Table 1

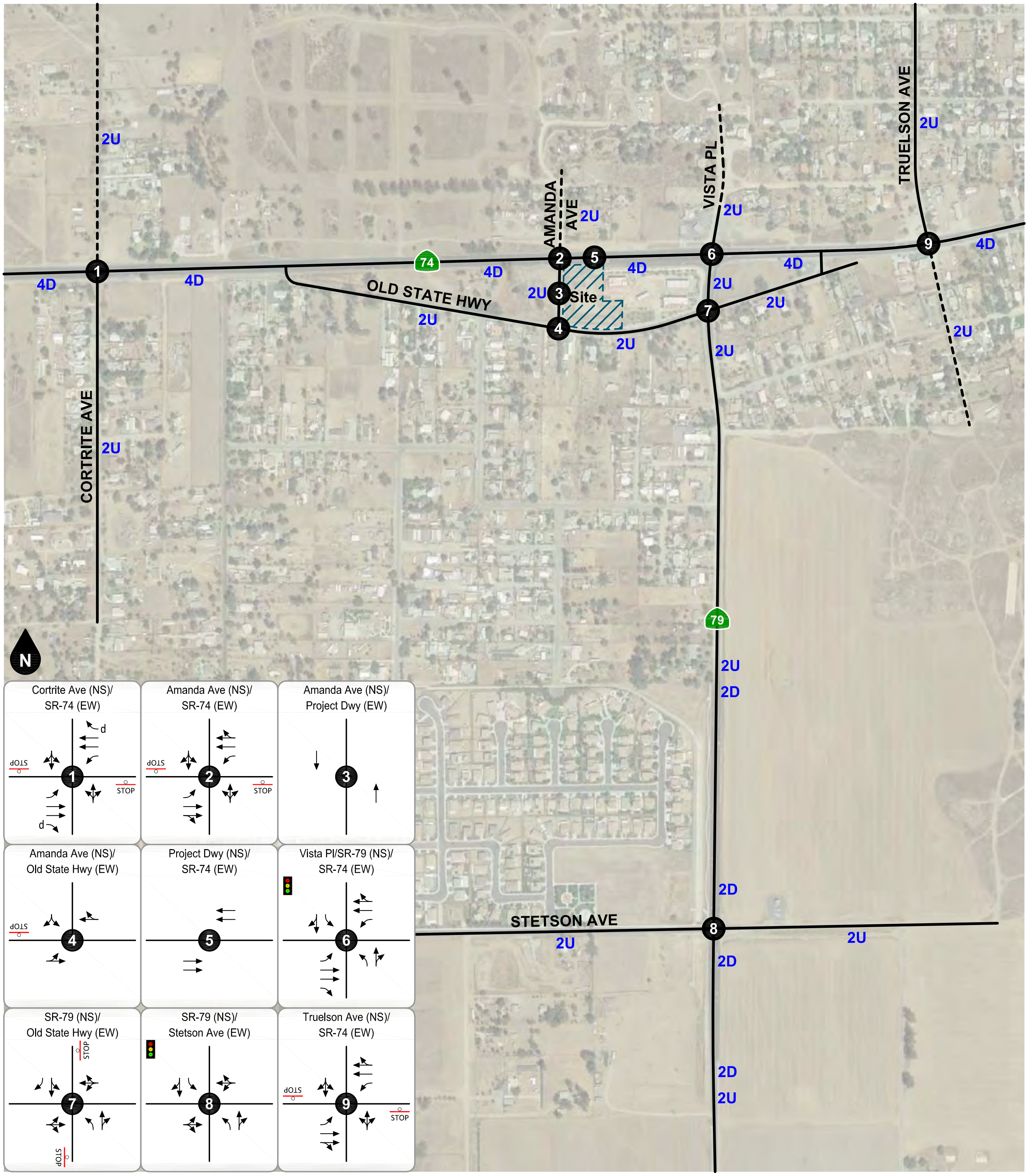
Existing Intersection Delay and Levels of Service

Intersection	Traffic Control[2]	Intersection Approach Lanes[1]												Peak Hour Delay - Level of Service	
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
1 Cortrite Avenue (NS) at: Highway 74 (EW)	CSS	0	<1>	0	0	<1>	0	1	2	d	1	2	d	20.2 - C	28.4 - D
2 Amanda Avenue (NS) at: Highway 74 (EW)	CSS	0	<1>	0	0	<1>	0	1	1.5	0.5	1	1.5	0.5	19.7 - C	26.8 - D
4 Amanda Avenue (NS) at: Old State Highway (EW)	CSS	0	0	0	0.5	0	0.5	0.5	0.5	0	0	0.5	0.5	9.1 - A	9.0 - A
6 Vista Place/SR-79 (NS) at: Highway 74 (EW)	TS	0.5	0.5	1	1	0.5	0.5	1	2	1	1	1.5	0.5	19.8 - B	27.7 - C
7 State Route 79 (NS) at: Old State Highway (EW)	CSS	1	0.5	0.5	0.5	0.5	1	0	<1>	0	0	<1>	0	26.9 - D	31.8 - D
8 State Route 79 (NS) at: Stetson Avenue (EW)	TS	1	0.5	0.5	1	0.5	0.5	0	<1>	0	0	<1>	0	8.3 - A	6.7 - A
9 Truelson Avenue (NS) at: Highway 74 (EW)	CSS	0	<1>	0	0	<1>	0	1	1.5	0.5	1	1.5	0.5	121.7 - F	232.6 - F

Note:

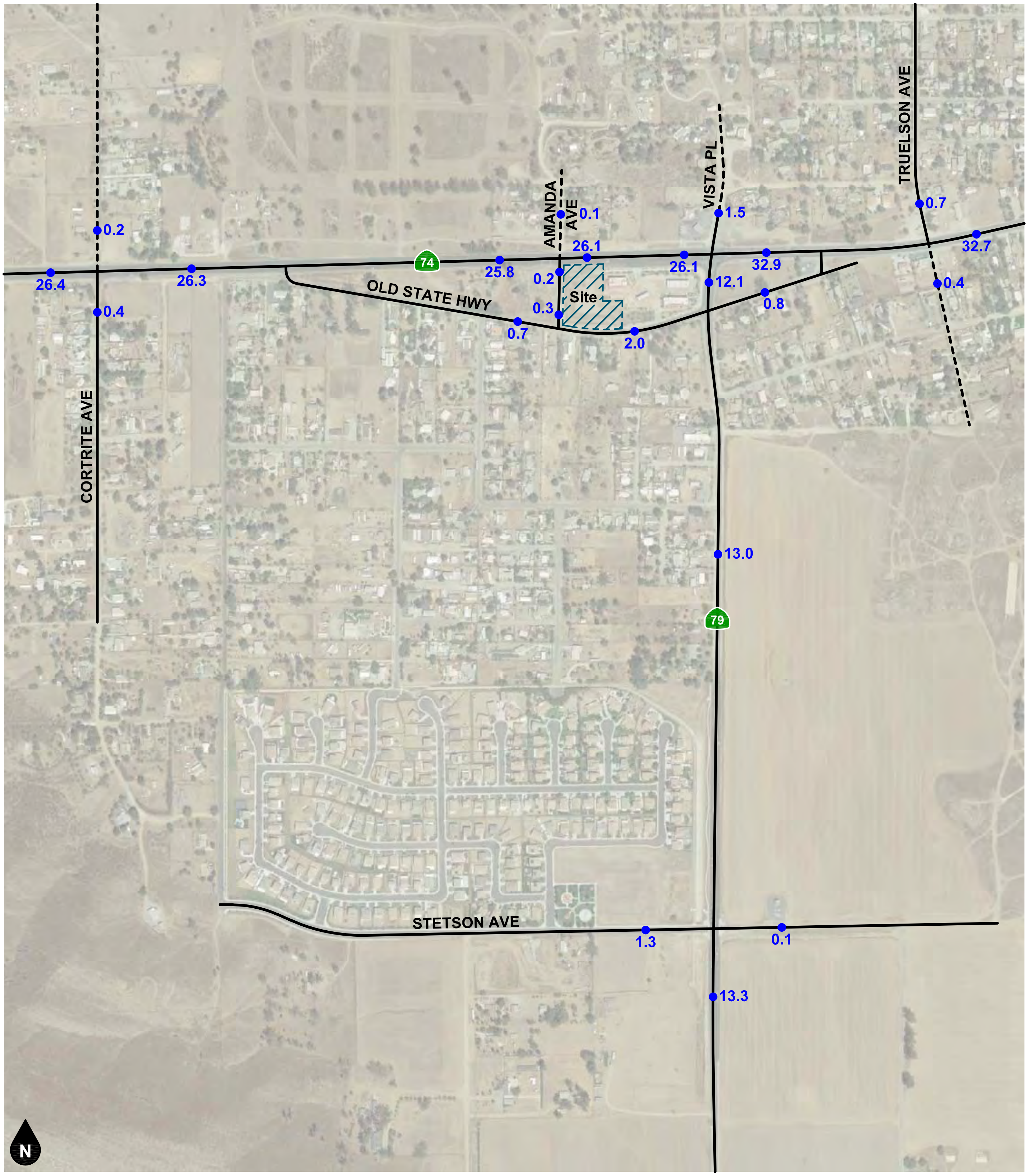
1 When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes (de facto right turn lane). L = Left; T = Through; R = Right; > = Right Turn Overlap; <1> = Shared Left/Through/Right Lane; 0.5 = Shared Lane with 2 turning movements; d = De Facto Right Turn Lane

2 TS = Traffic Signal; CSS = Cross Street Stop



Legend
- Traffic Signal
- STOP Stop Sign
- #D #-Lane Divided Roadway
- #U #-Lane Undivided Roadway
- Existing Lane
- d De Facto Right Turn Lane

Figure 3
Existing Lane Geometry and Intersection Traffic Controls



Legend
●## Vehicles Per Day (1,000's)

Figure 4
Existing Average Daily Traffic Volumes

Plot Plan No. 26240
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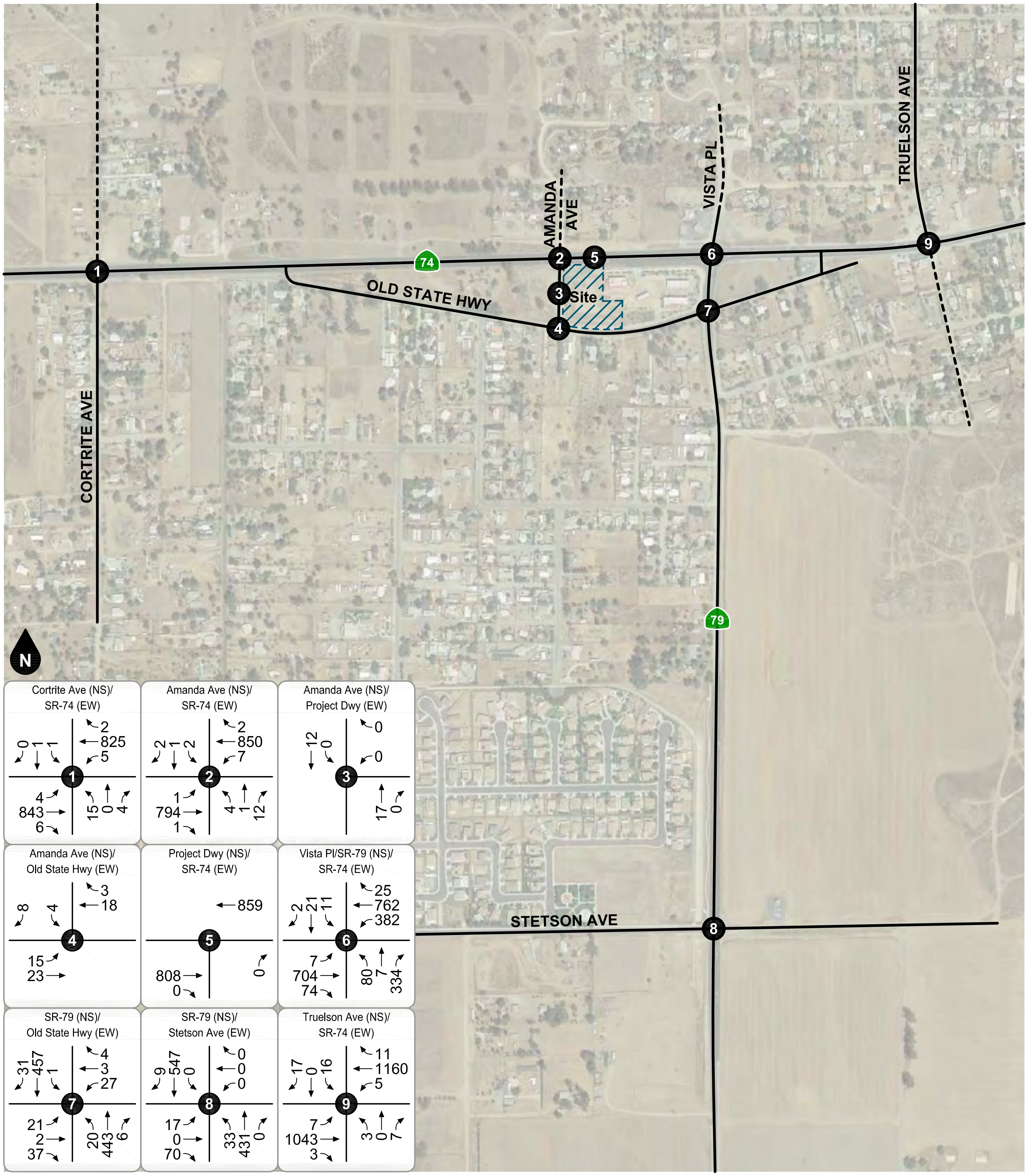
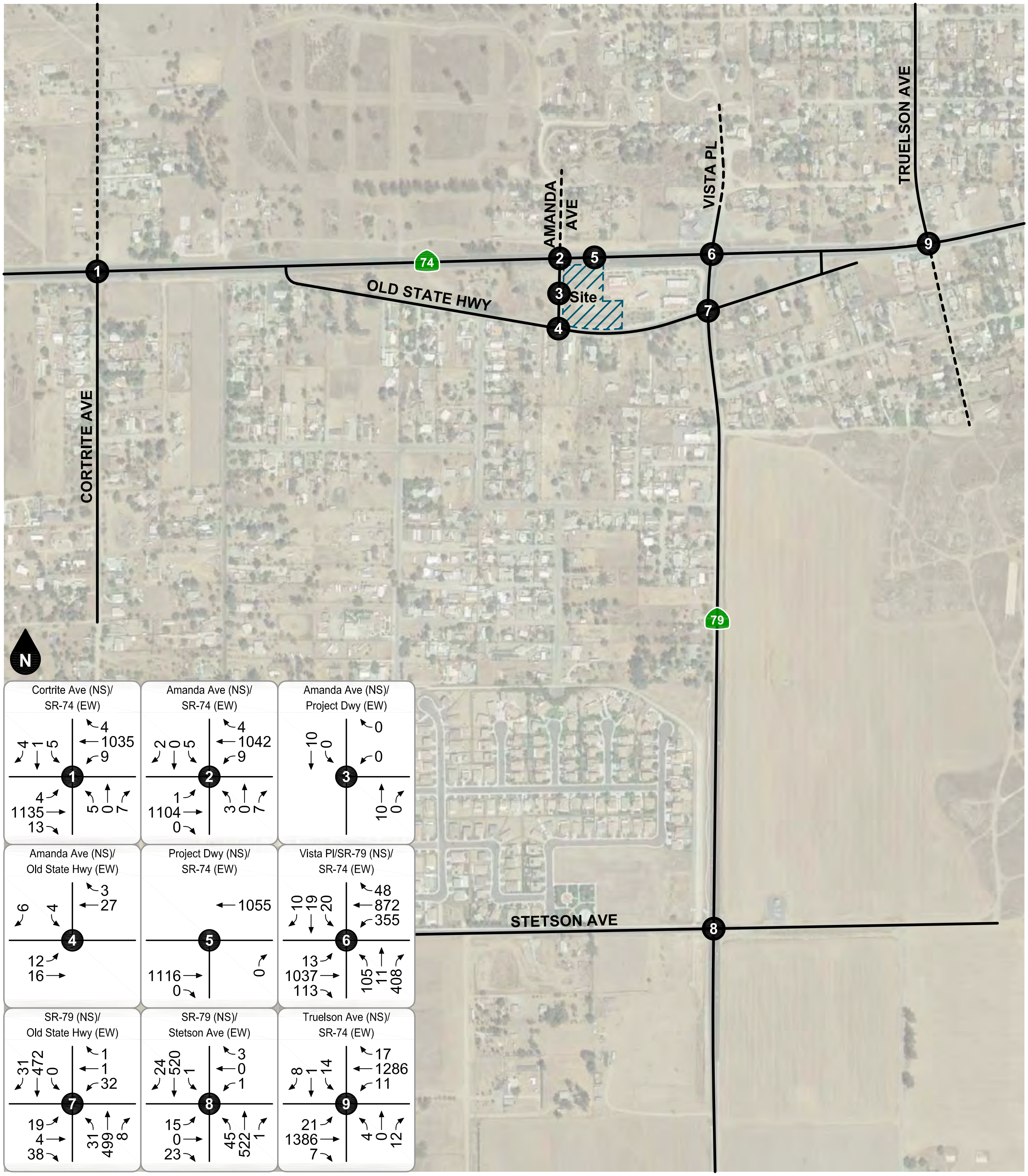


Legend

\# Study Intersection

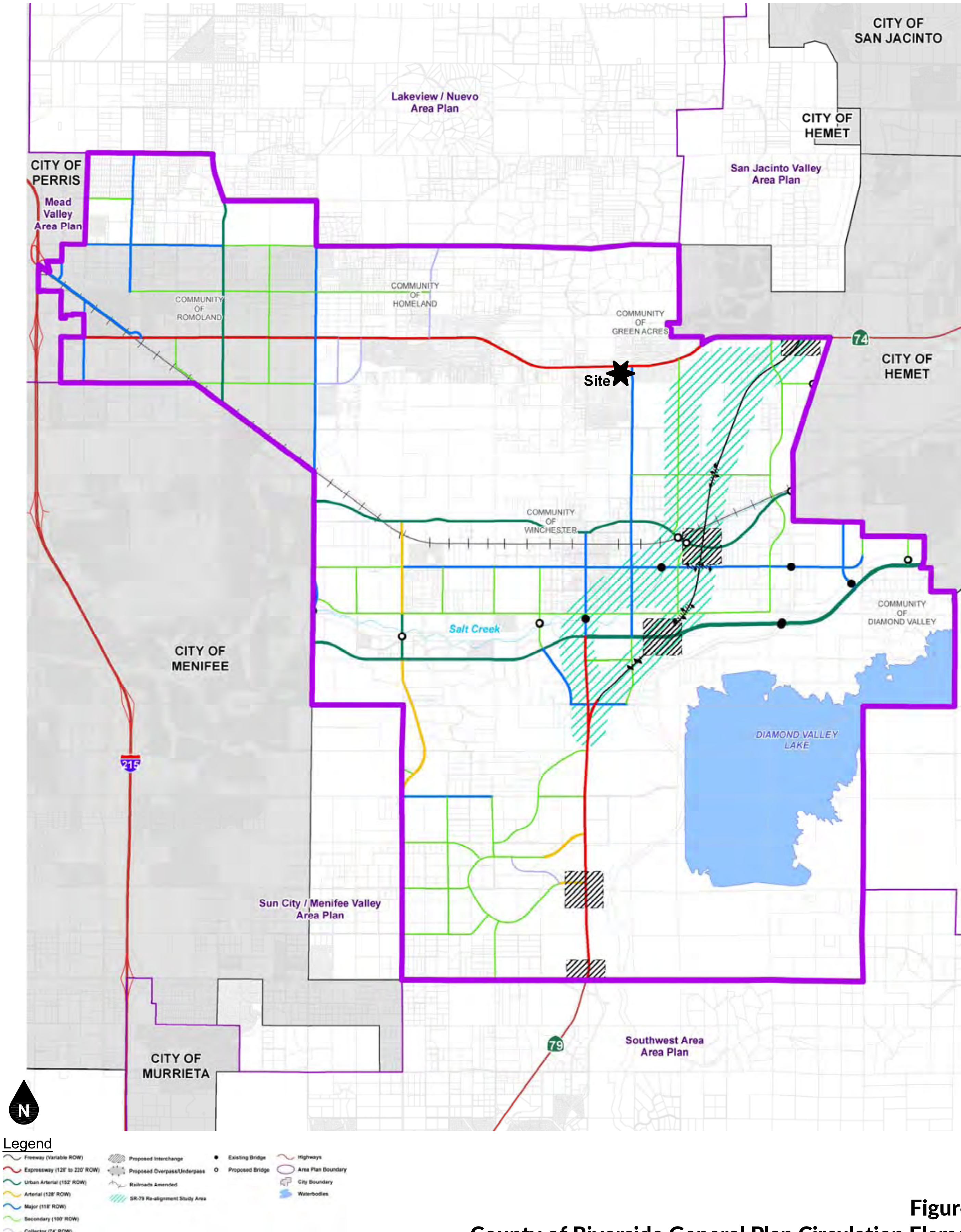
Figure 5
Existing AM Peak Hour Intersection Turning Movement Volumes



Legend

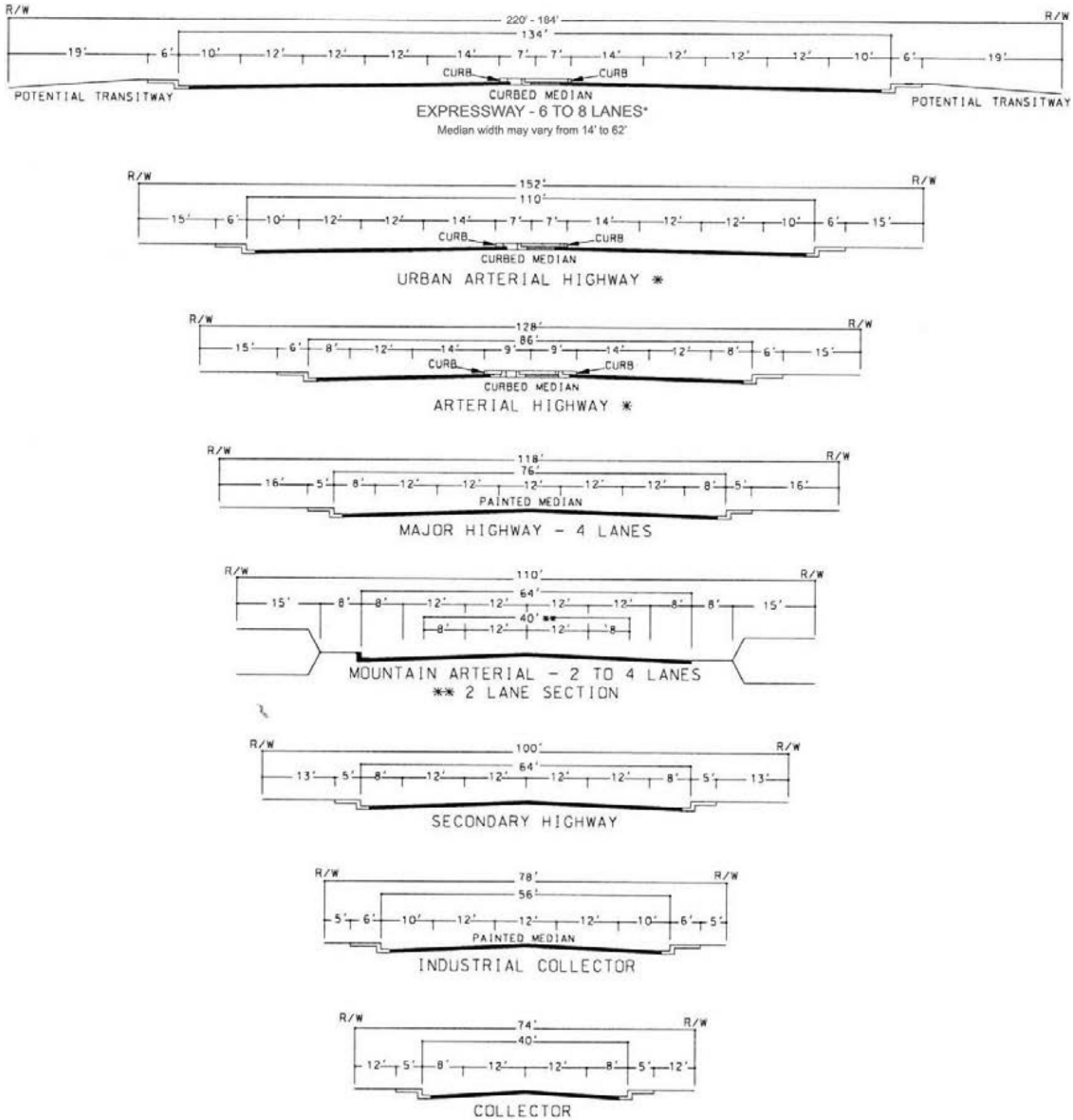
\# Study Intersection

Figure 6
Existing PM Peak Hour Intersection Turning Movement Volumes



Source: County of Riverside

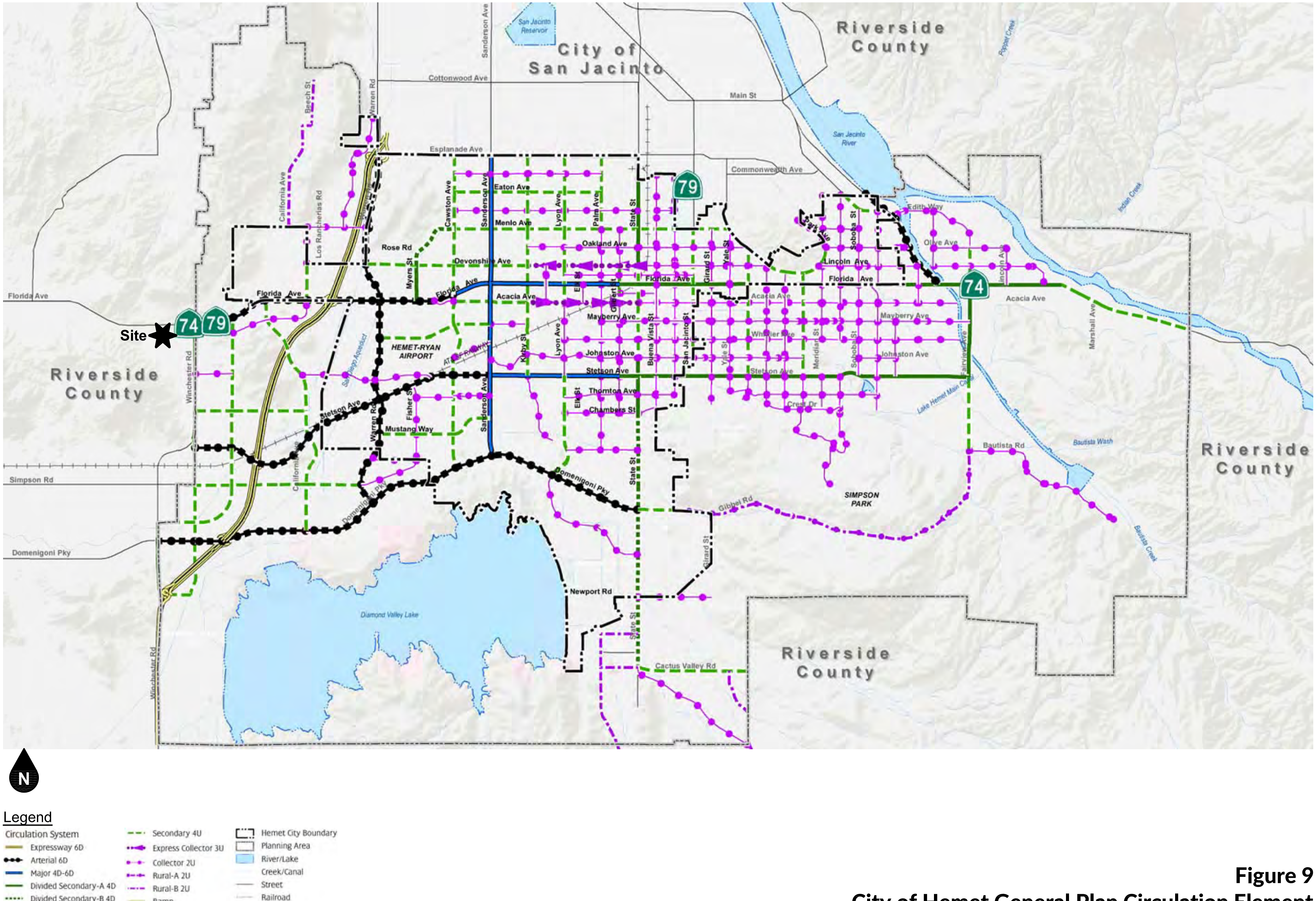
Figure 7
County of Riverside General Plan Circulation Element



*IMPROVEMENTS MAY BE RECONFIGURED TO ACCOMMODATE EXCLUSIVE TRANSIT LANES OR ALTERNATIVE LANE ARRANGEMENTS. ADDITIONAL RIGHT OF WAY MAY BE REQUIRED AT INTERSECTIONS TO ACCOMMODATE. ULTIMATE IMPROVEMENTS FOR STATE HIGHWAYS SHALL CONFORM TO CALTRANS DESIGN STANDARDS.

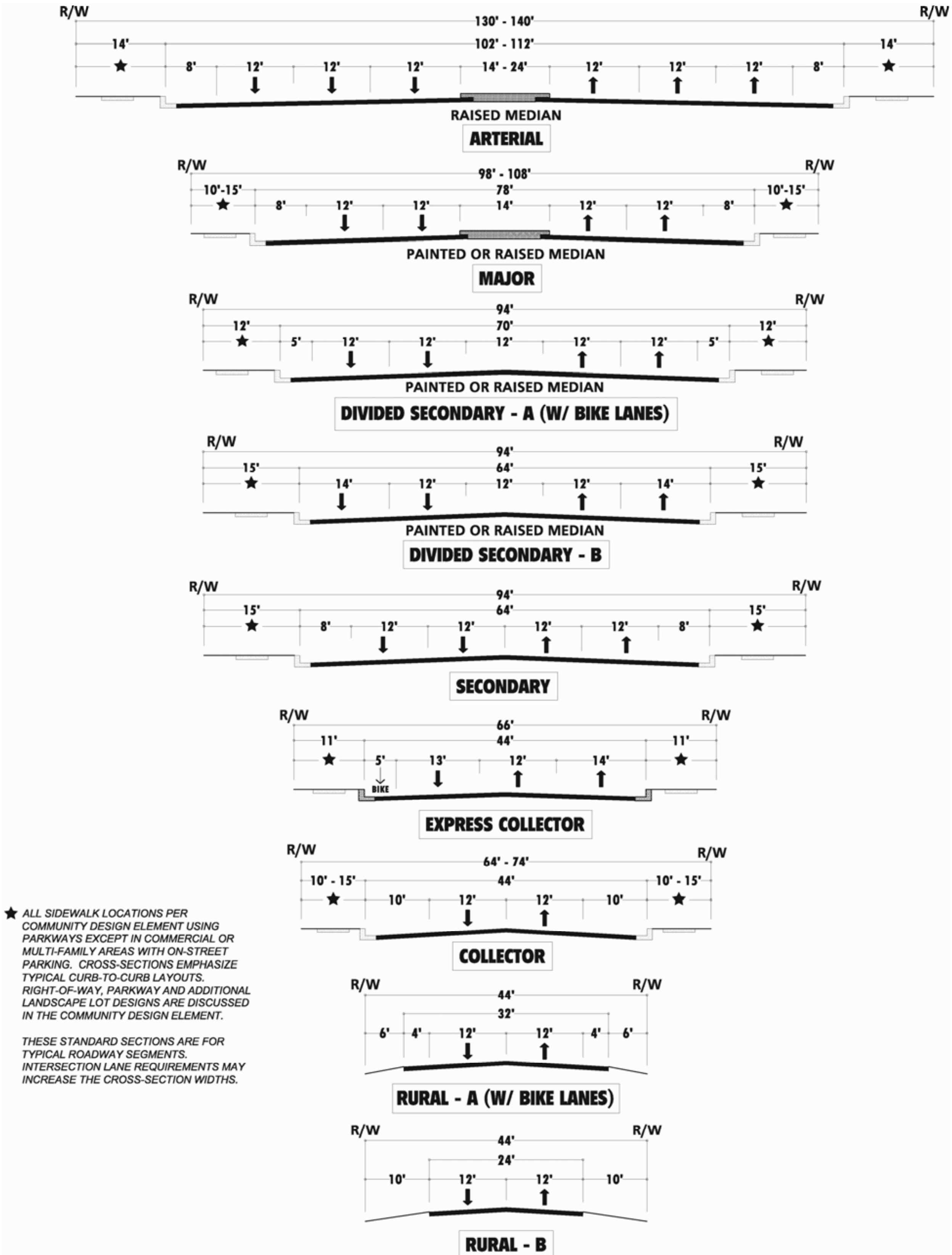
Figure 8
County of Riverside General Plan Roadway Cross-Sections

Source: County of Riverside



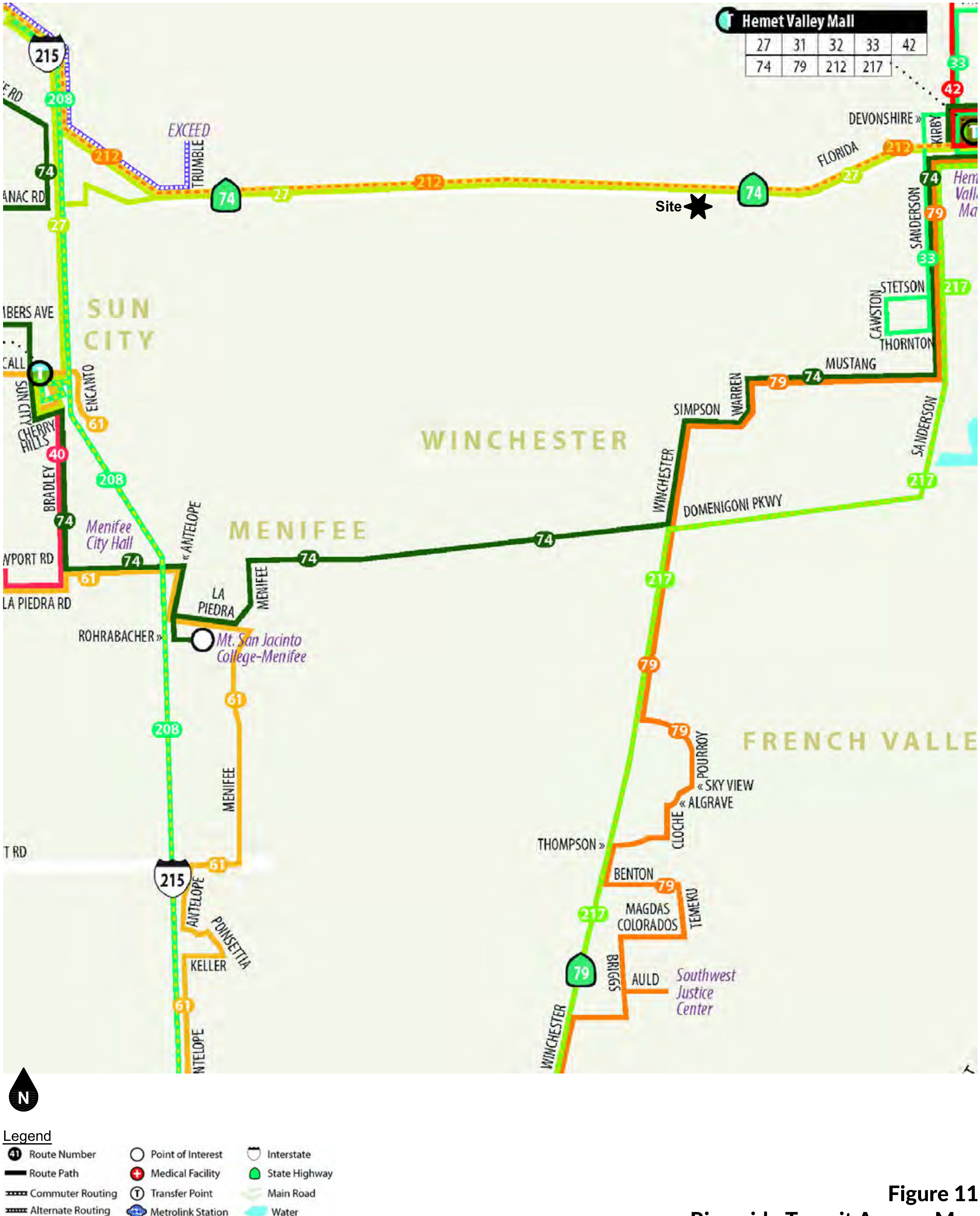
Source: City of Hemet

Figure 9
City of Hemet General Plan Circulation Element



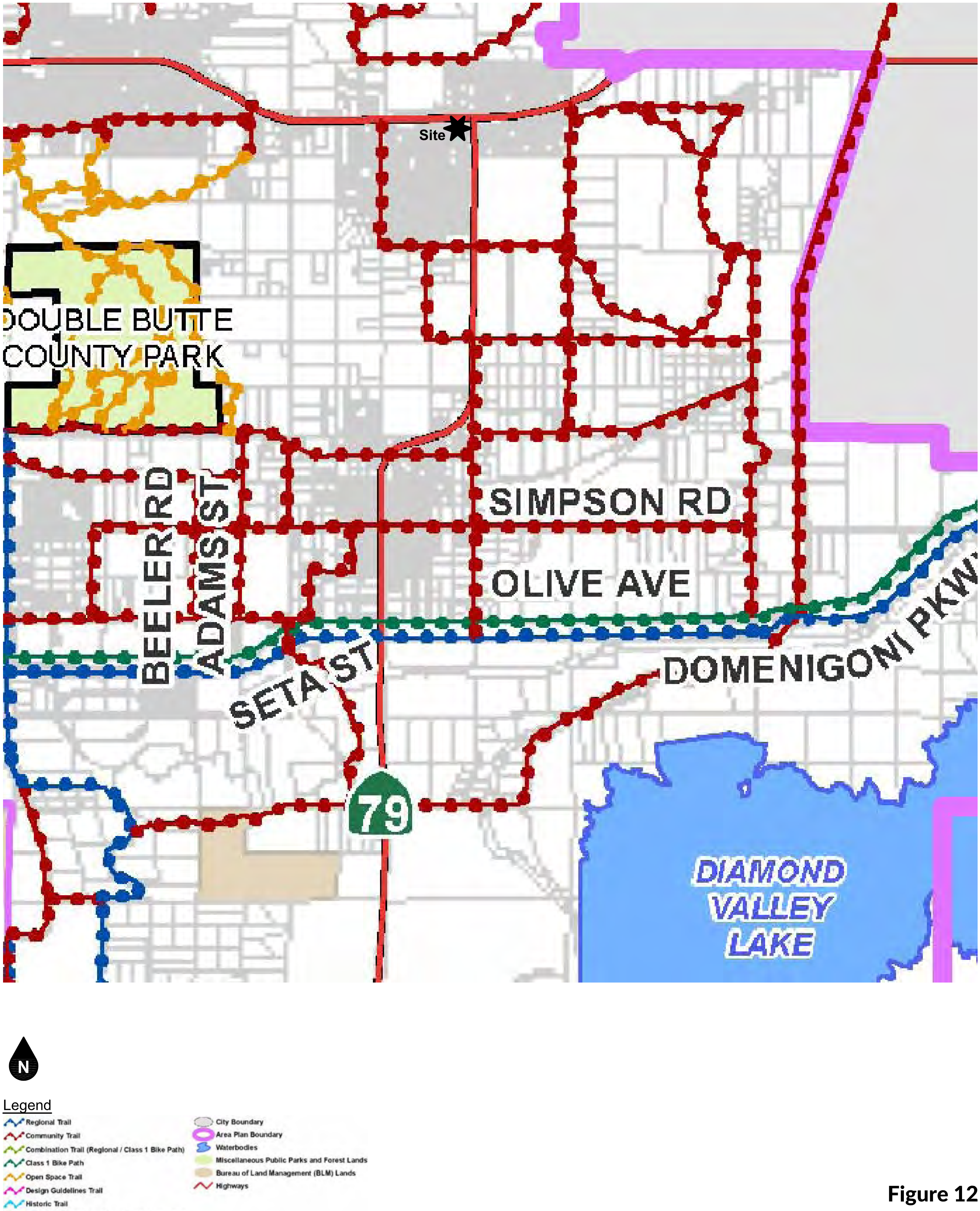
Source: City of Hemet

Figure 10
City of Hemet General Plan Roadway Cross Sections



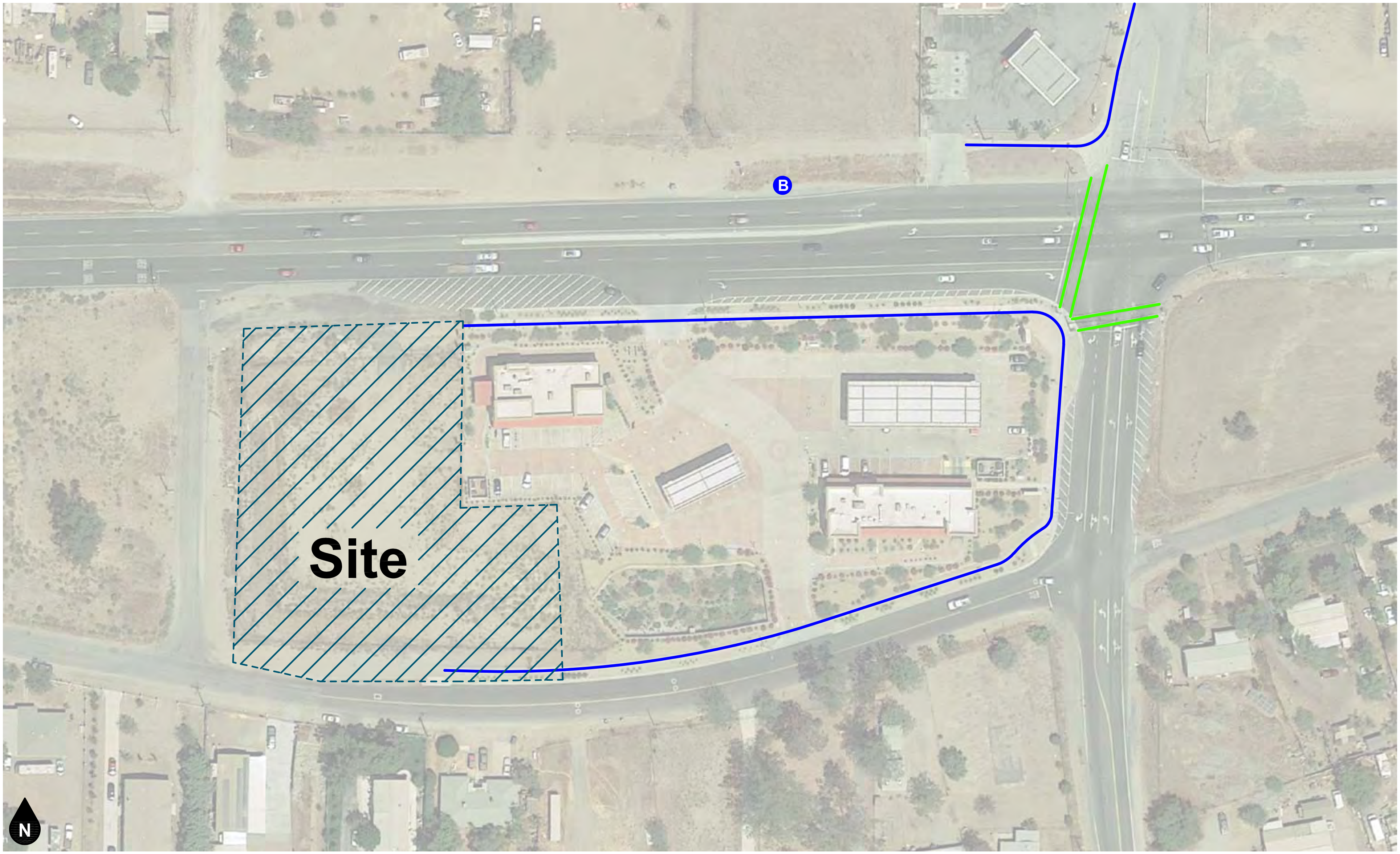
Source: Riverside Transit Agency

Figure 11
Riverside Transit Agency Map



Source: County of Riverside

Figure 12
County of Riverside General Plan Trail and Bikeway Plan



Legend

- Sidewalk
- Cross Walk
- Bus Stop

Figure 13
Existing Pedestrian Facilities

ganddini

Plot Plan No. 26240
Traffic Impact Analysis
7209

IV. PROJECT TRIPS

A. Project Description

The site is currently vacant. The project site is proposed to consist of 7,340 square feet of retail/variety store and a 4,400 square foot fast-food restaurant with drive-thru.

A right turns in/out only access driveway is proposed to be provided on Highway 74 and a full access driveway is proposed to be provided on Amanda Avenue.

B. Trip Generation

The trips generated by the project are determined by multiplying an appropriate trip generation rate by the quantity of land use. Trip generation rates are predicated on the assumption that energy costs, the availability of roadway capacity, the availability of vehicles to drive, and life styles remain similar to what are known today. A major change in these variables may affect trip generation rates.

Trip generation rates were determined for daily trips, morning peak hour inbound and outbound trips, and evening peak hour inbound and outbound trips for the proposed land uses. By multiplying the trip generation rates by the land use quantities, the traffic volumes are determined. Table 2 shows the project trip generation based upon rates obtained from the Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017.

It should be noted that for fast-food restaurant and commercial retail, a portion of the trips would come from pass-by trips from adjacent roadways, trips that are currently on the roadway system. In order to analyze pass-by trips, the traffic volumes from the project have been reduced as a result of pass-by trips (see Table 2) based upon the Institute of Transportation Engineers, Trip Generation Handbook, 2017. A more conservative (lower) pass-by trip reduction percentage of 15% is utilized in the trip generation calculation.

As shown in Table 2, the proposed project is forecast to generate a total of approximately 2,157 net daily trips, 169 net trips of which will occur during the morning peak hour and 165 net trips of which will occur during the evening peak hour.

C. Trip Distribution

Figure 14 and Figure 15 show the forecast directional outbound and inbound distributions of the project generated trips, respectively. The project trip distribution patterns are based on review of existing traffic volume data, surrounding land uses, and the local and regional roadway facilities in the project vicinity.

D. Trip Assignment

Based on the identified trip generation and distributions, project average daily traffic volumes have been calculated and shown on Figure 16. Morning and evening peak hour intersection turning movement volumes expected from the project are shown on Figure 17 and Figure 18, respectively.

Table 2

Project Trip Generation

Trip Rates										
Project				Morning Peak			Afternoon Peak			Daily
No.	Land Use	Code[1]	Unit[2]	In%	Out%	Total	In%	Out%	Total	
1	Variety Store	ITE 814	TSF	57%	43%	3.18	52%	48%	6.84	63.47
2	Fast-Food Restaurant with Drive-Thru Window	ITE 934	TSF	51%	49%	40.19	52%	48%	32.67	470.95

Trip Generation									
Project			Morning Peak			Afternoon Peak			Daily
No.	Land Use	Quantity[2]	In	Out	Total	In	Out	Total	
1	Variety Store	7.340 TSF	13	10	23	26	24	50	466
	Pass-By Trips[3]	15% [3]	-2	-2	-4	-4	-4	-8	-70
	Subtotal Net Trips		11	8	19	22	20	42	396
2	Fast-Food Restaurant with Drive-Thru Window	4.400 TSF	90	87	177	75	69	144	2,072
	Pass-By Trips[3]	15% [3]	-14	-13	-27	-11	-10	-21	-311
	Subtotal Net Trips		76	74	150	64	59	123	1,761
Total Trips without Adjustment		11.740 TSF	103	97	200	101	93	194	2,538
Total Pass-By Trip Reduction			-16	-15	-31	-15	-14	-29	-381
Total Net Trips with Pass-By Trip Reduction			87	82	169	86	79	165	2,157

Note:

[1] Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th Edition, 2017.

[2] TSF = Thousand Square Feet

[3] Pass-By Trips: Institute of Transportation Engineers, Trip Generation Handbook, 3rd Edition, 2017.

Table E.5, Land Use Code 814 - Variety Store, Average Pass-By Trip Percentage = 34%.

Table E.31, Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window, Average Pass-By Trip Percentage = 49%.

A more conservative (lower) pass-by trip reduction percentage is utilized in the trip generation calculations.

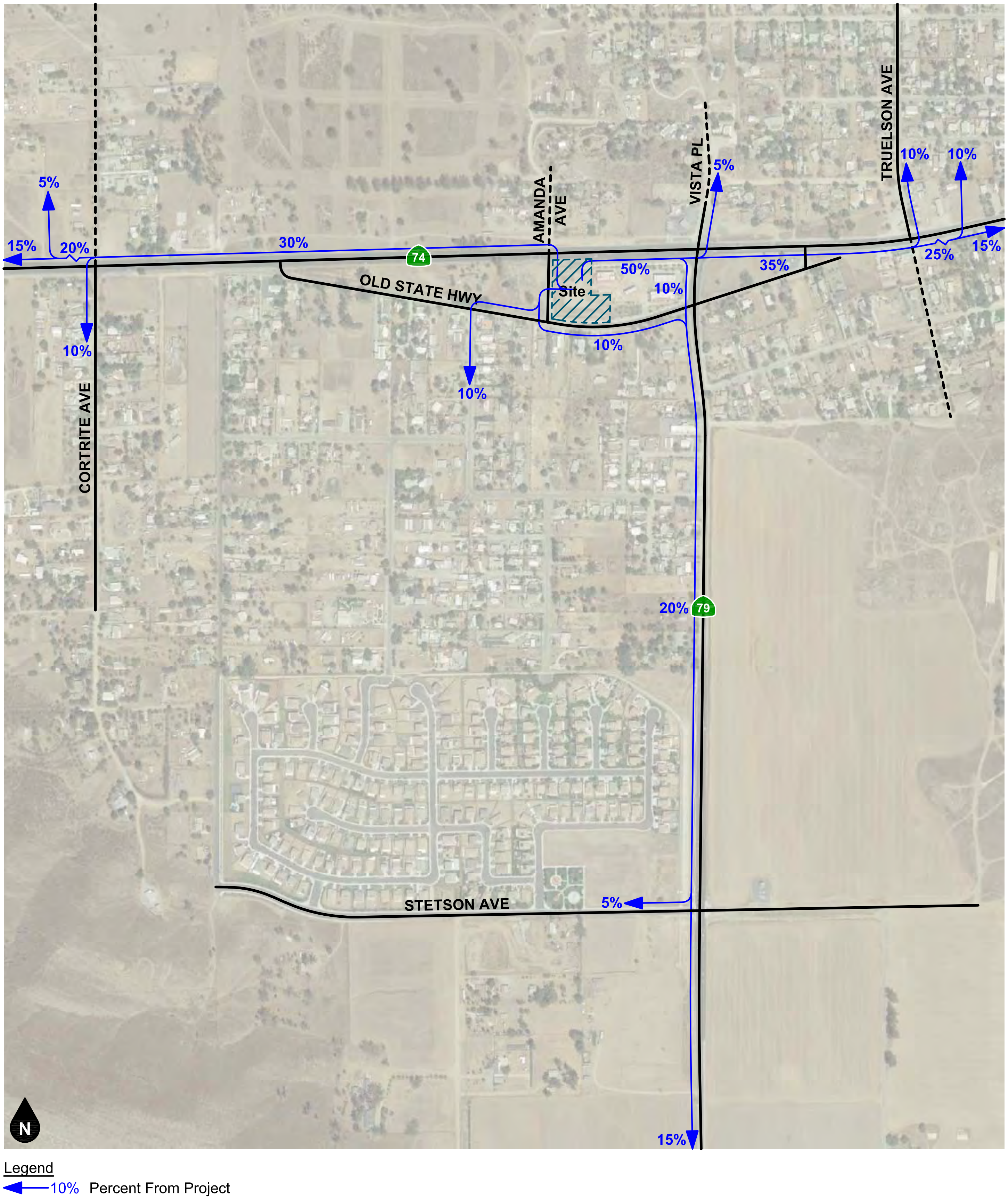
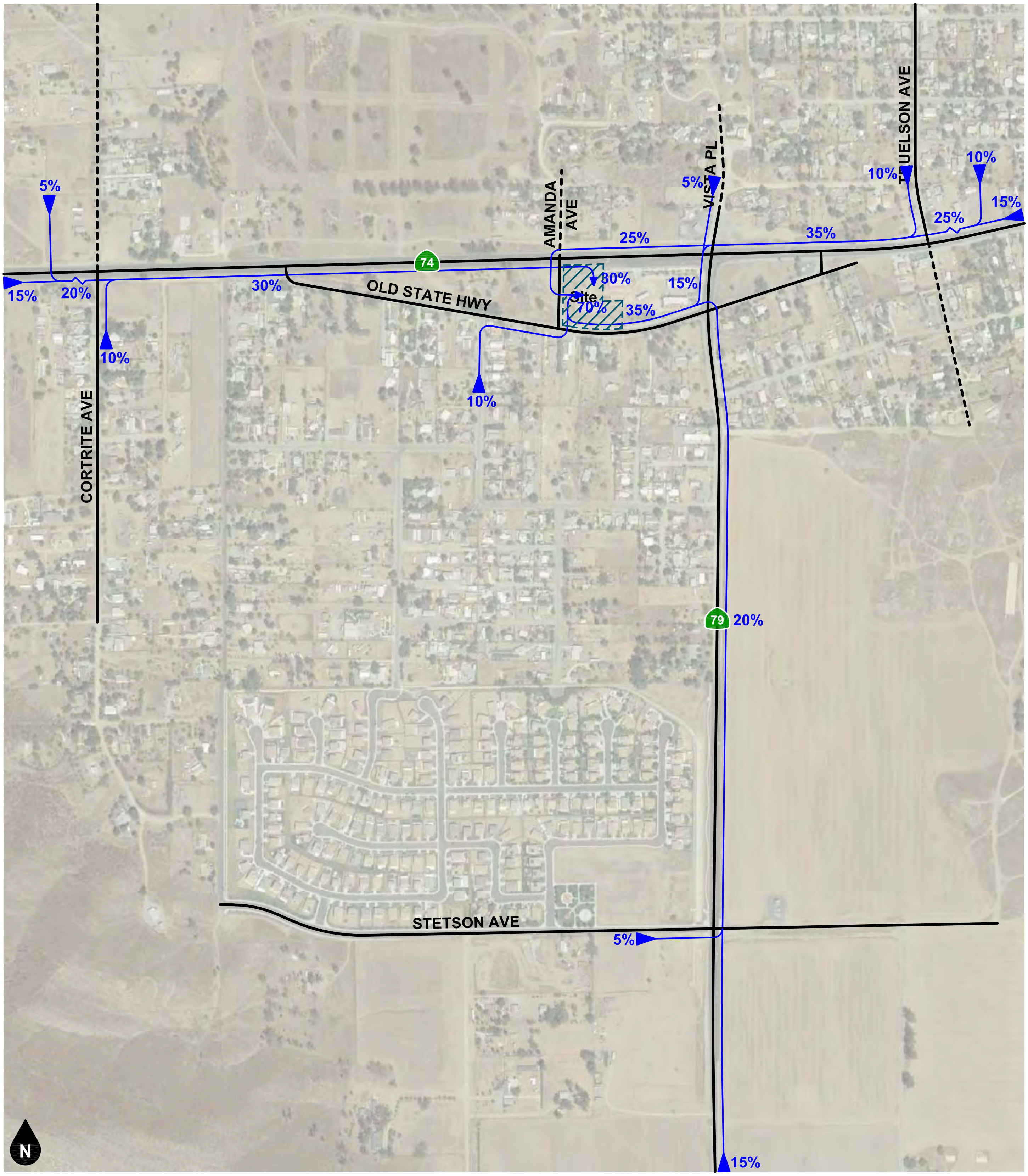
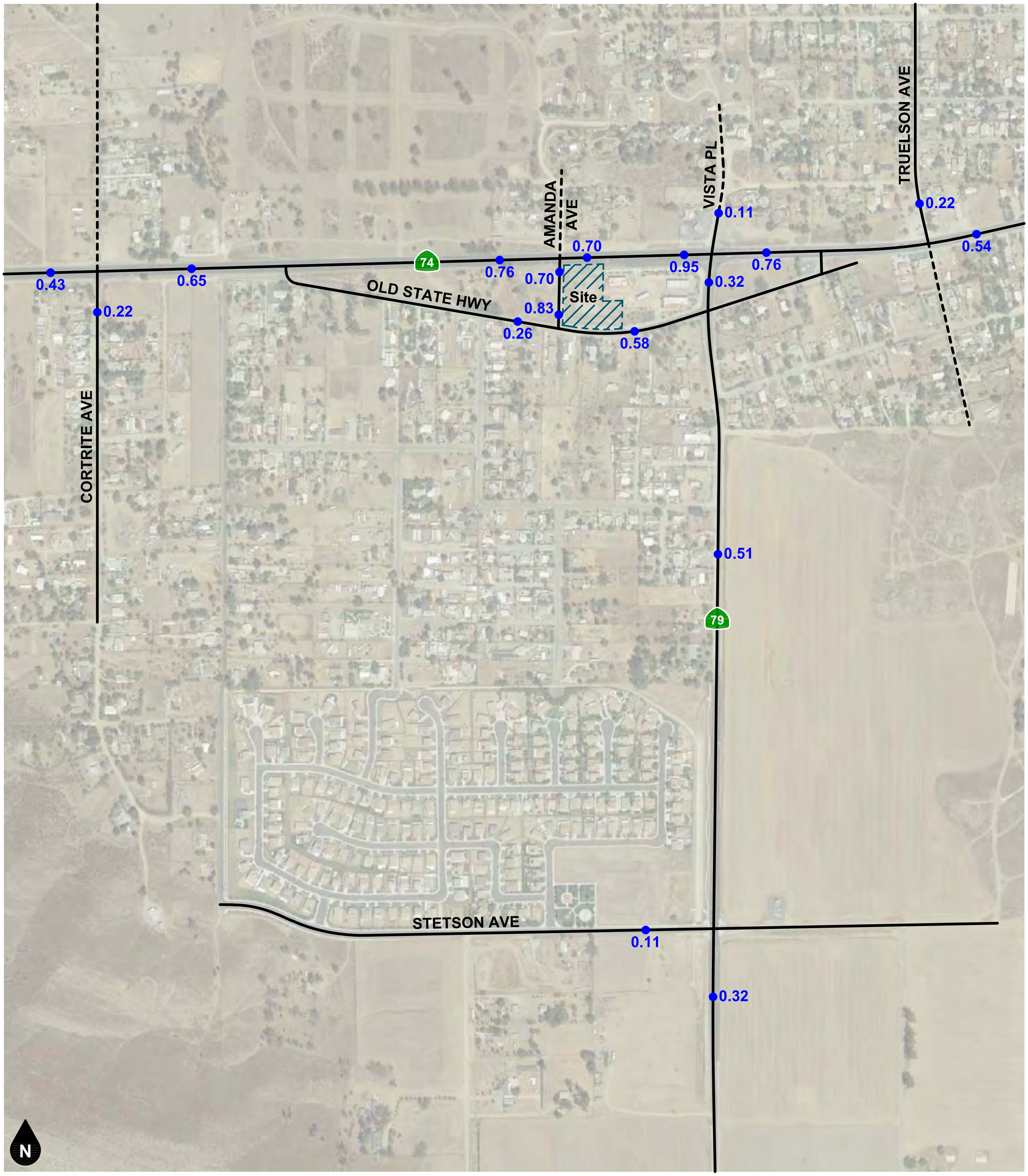


Figure 14
Project Outbound Trip Distribution



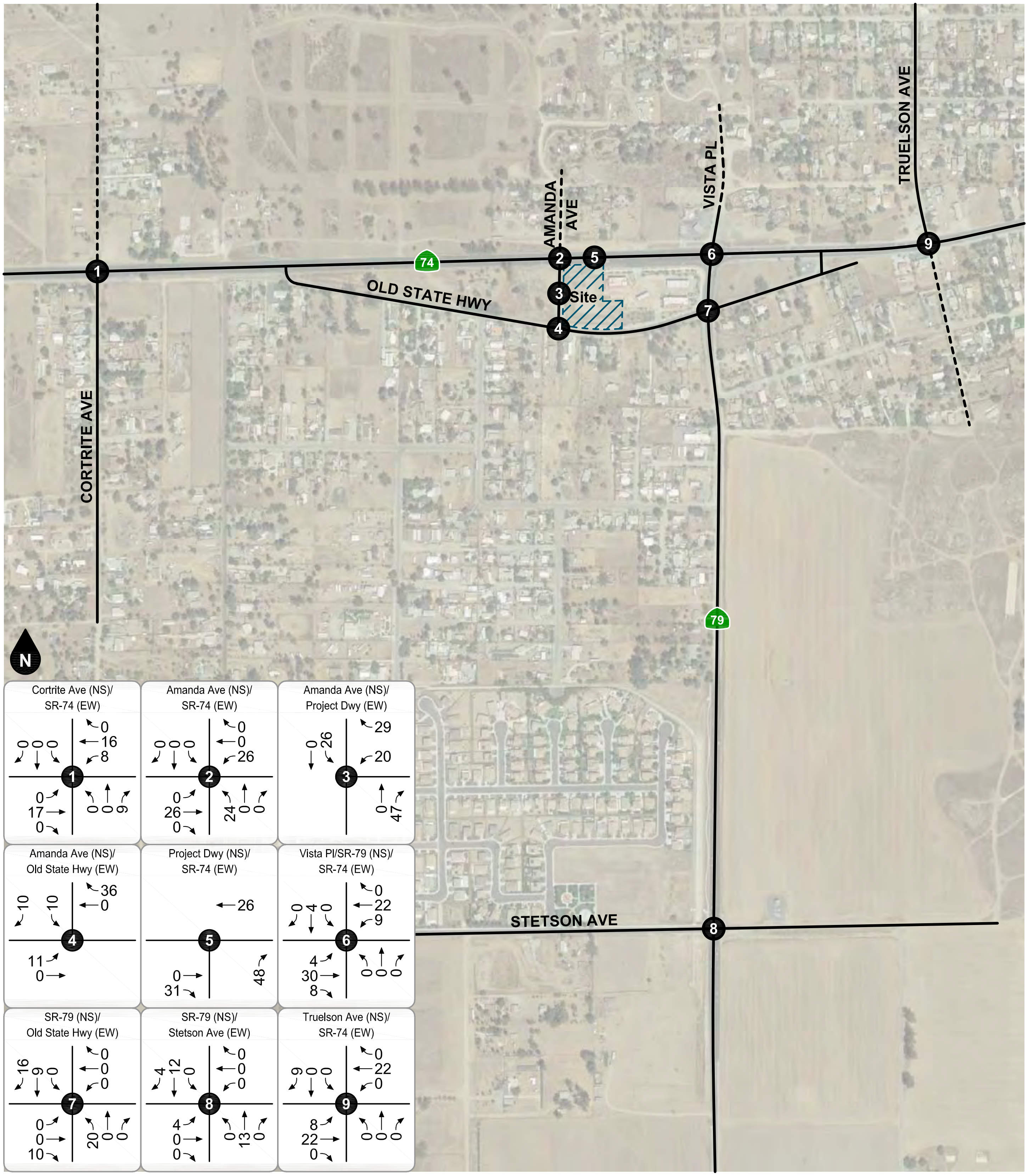
Legend
10% Percent To Project

Figure 15
Project Inbound Trip Distribution



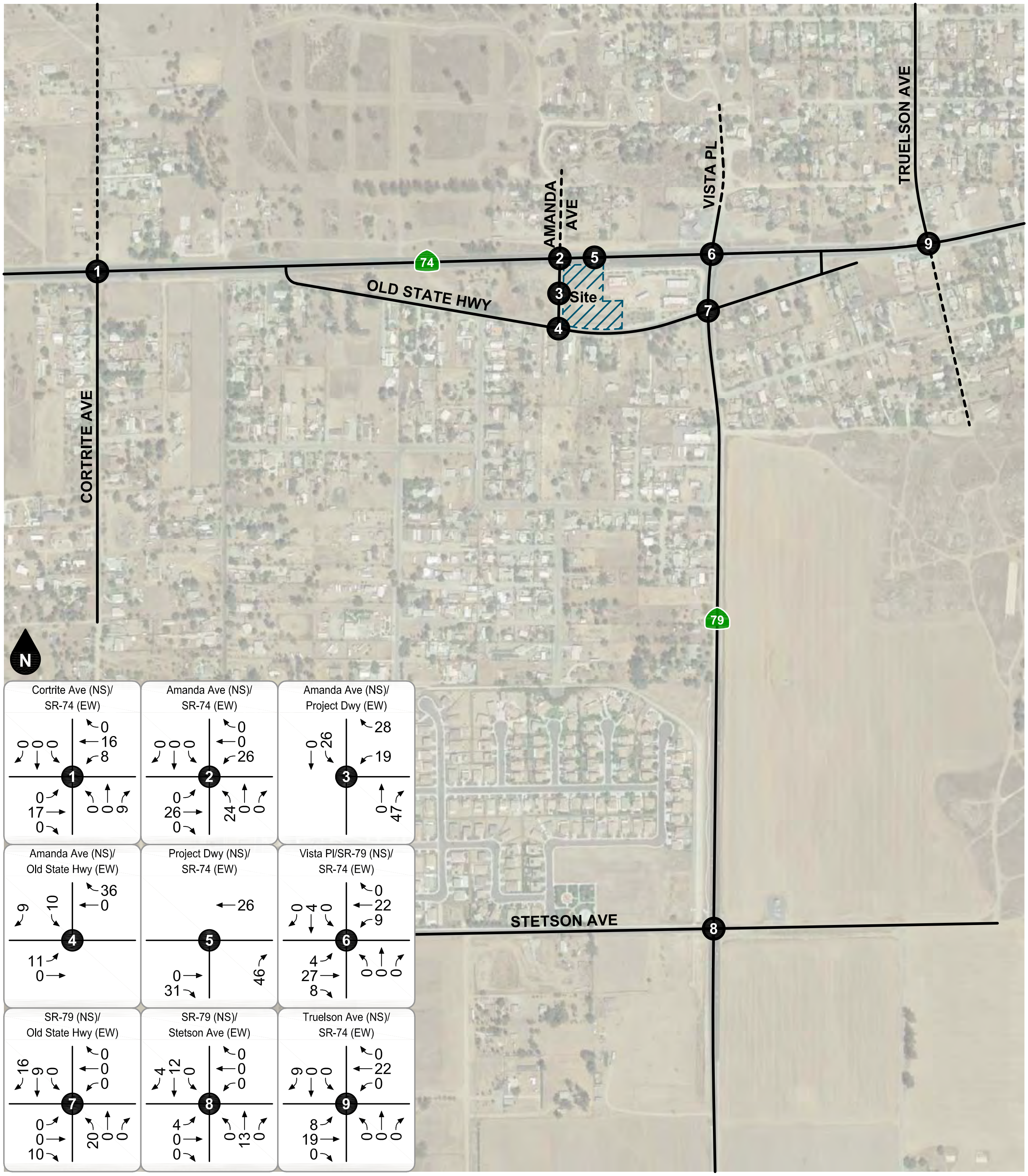
Legend
●## Vehicles Per Day (1,000's)

Figure 16
Project Average Daily Traffic Volumes



Legend
\# Study Intersection

Figure 17
Project AM Peak Hour Intersection Turning Movement Volumes



Legend
Study Intersection

Figure 18
Project PM Peak Hour Intersection Turning Movement Volumes

V. TRAFFIC FORECASTS

To assess future traffic conditions, existing traffic volumes are combined with ambient growth, other development trips, and project trips. The opening year for analysis purposes in this report is 2020.

A. Method of Projection

1. Ambient Growth

To account for ambient growth on roadways for Opening Year (2020) conditions, existing traffic volumes were increased by 2.0 percent (2.0%) per year over a two year period, which is a total of 4.0%.

2. Cumulative Development

Potential developments within the study area are included in the analysis if they are not currently built, they are approved, their approval has not expired, and they would contribute trips to the study intersections.

Table 3 lists the proposed land uses for the other cumulative developments, and shows the daily and peak hour vehicle trips generated by the other development in the study area. Cumulative project information is included in Appendix G. Based on the identified trip generation and distributions, other cumulative development average daily traffic volumes have been calculated and shown on Figure 19. Figure 20 and Figure 21 show the other cumulative development morning and evening peak hour intersection turning movement volumes, respectively.

B. Traffic Volumes for Analysis

1. Existing Plus Project Traffic Volumes

The traffic volumes for Existing Plus Project conditions have been derived by adding the project generated trips to existing traffic volumes.

Existing Plus Project average daily traffic volumes are shown on Figure 22. Existing Plus Project morning and evening peak hour intersection turning movement volumes are shown on Figure 23 and Figure 24, respectively.

2. Existing Plus Ambient Growth Plus Project Traffic Volumes

Existing Plus Ambient Growth Plus Project average daily traffic volumes are shown on Figure 25. Existing Plus Ambient Growth Plus Project morning and evening peak hour intersection turning movement volumes are shown on Figure 26 and Figure 27, respectively.

3. Existing Plus Ambient Growth Plus Project Plus Cumulative Traffic Volumes

To assess Existing Plus Ambient Growth Plus Project Plus Cumulative traffic conditions, the project generated trips are added to Existing Plus Ambient Growth Plus Project traffic volumes.

Existing Plus Ambient Growth Plus Project Plus Cumulative average daily traffic volumes are shown on Figure 28. Existing Plus Ambient Growth Plus Project Plus Cumulative morning and evening peak hour intersection turning movement volumes are shown on Figure 29 and Figure 30, respectively.

C. Traffic Signal Warrant Analysis

Traffic signals are projected to be warranted at the following study intersection for Existing Plus Ambient Growth Plus Project Plus Cumulative traffic conditions (see Appendix E):

Truelson Avenue (NS) at:
Highway 74 (EW) – #9

The unsignalized intersections have been evaluated for traffic signals using the California Department of Transportation Warrant 3 Peak Hour traffic signal warrant analysis, as specified in the California Manual of Uniform Traffic Control Devices (2014 Update).

Table 3 (1 of 2)

Other Cumulative Development Trip Generation

Project					Morning Peak Hour			Evening Peak Hour			Daily
	Land Use	Code[1]	Quantity[2]		In	Out	Total	In	Out	Total	
Riverside County											
RC1	Outdoor Kart Track	ITE 453	86.882	TSF	0	0	0	0	24	24	48
RC2	Gas Station	ITE 945	8	VFP	51	49	100	7	7	14	1643
	Pass-By Trip Reduction		25%		-13	-12	-25	-2	-2	-3	-411
	Fast-Food w/Drive Thru	ITE 934	1.500	TSF	31	30	60	25	24	49	706
	Pass-By Trip Reduction		20%		-6	-6	-12	-5	-5	-10	-141
RC3	Single-Family Detached Housing	ITE 210	4	DU	1	2	3	2	1	4	38
RC4	Single-Family Detached Housing	ITE 210	432	DU	80	240	320	269	158	428	4078
RC5	Single-Family Detached Housing	ITE 211	44	DU	8	24	33	27	16	44	415
RC6	Fast-Food w/Drive Thru	ITE 934	2.783	TSF	57	55	112	47	44	91	1311
	Pass-By Trip Reduction		25%		-14	-14	-28	-12	-11	-23	-328
RC7	Single-Family Detached Housing	ITE 210	197	DU	36	109	146	123	72	195	1860
RC8	Single-Family Detached Housing	ITE 210	726	DU	134	403	537	453	266	719	6853
RC9	Single-Family Detached Housing	ITE 210	98	DU	18	54	73	61	36	97	925
RC10	Single-Family Detached Housing	ITE 210	86	DU	16	48	64	54	32	85	812
RC11	Single-Family Detached Housing	ITE 210	16	DU	3	9	12	10	6	16	151
RC12	Single-Family Detached Housing	ITE 210	384	DU	71	213	284	240	141	380	3625
RC13	Single-Family Detached Housing	ITE 210	422	DU	78	234	312	263	155	418	3984
	Single-Family Detached Housing	ITE 210	243	DU	45	135	180	152	89	241	2294
	Single-Family Detached Housing	ITE 210	127	DU	23	70	94	79	47	126	1199
	Single-Family Detached Housing	ITE 210	31	DU	6	17	23	19	11	31	293
	Single-Family Detached Housing	ITE 210	160	DU	30	89	118	100	59	158	1510
	Single-Family Detached Housing	ITE 210	207	DU	38	115	153	129	76	205	1954
	Single-Family Detached Housing	ITE 210	625	DU	116	347	463	390	229	619	5900
RC14	Multi-Family Housing (Low-Rise)	ITE 220	150	DU	16	53	69	53	31	84	1098
	Multi-Family Housing (Low-Rise)	ITE 220	138	DU	15	49	63	49	29	77	1010
	Multi-Family Housing (Low-Rise)	ITE 220	180	DU	19	64	83	64	37	101	1318
RC16	Single-Family Detached Housing	ITE 210	562	DU	104	312	416	351	206	556	5305
RC17	Mobile Home Park	ITE 240	60	SPACES	5	11	16	17	10	28	300
RC18	Multi-Family Housing (Low-Rise)	ITE 220	102	DU	11	36	47	36	21	57	747
	Single-Family Detached Housing	ITE 210	224	DU	41	124	166	140	82	222	2115
	Single-Family Detached Housing	ITE 210	57	DU	11	32	42	36	21	56	538
	Single-Family Detached Housing	ITE 210	14	DU	3	8	10	9	5	14	132
	Single-Family Detached Housing	ITE 210	140	DU	26	78	104	87	51	139	1322
	Single-Family Detached Housing	ITE 210	185	DU	34	103	137	115	68	183	1746
	Single-Family Detached Housing	ITE 210	340	DU	63	189	252	212	125	337	3210
	Elementary School	ITE 520	600	STU	217	185	402	49	53	102	1134

Table 3 (2 of 2)

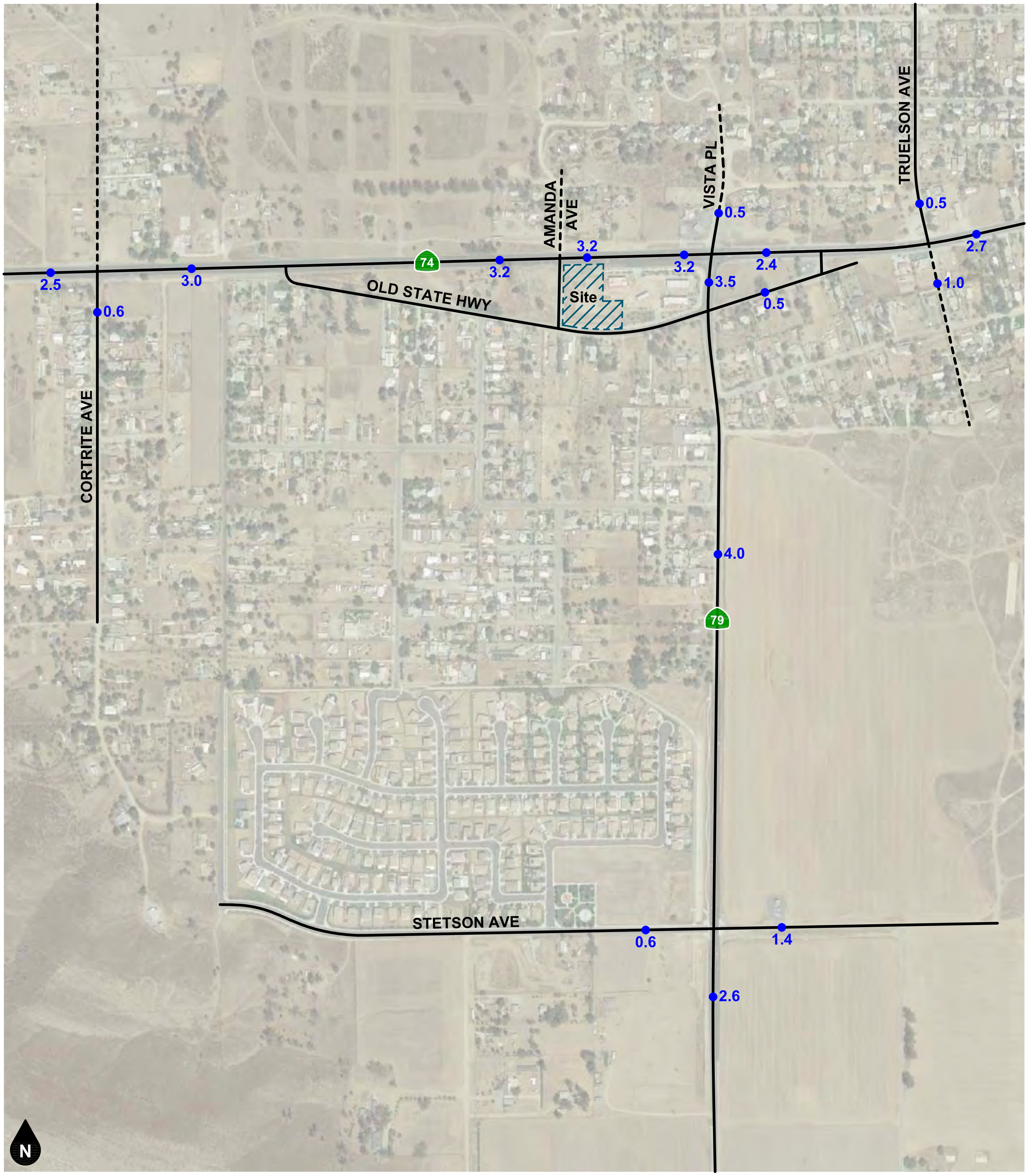
Other Cumulative Development Trip Generation

Project					Morning Peak Hour			Evening Peak Hour			Daily
	Land Use	Code[1]	Quantity[2]		In	Out	Total	In	Out	Total	
RC19	Single-Family Detached Housing	ITE 210	43	DU	8	24	32	27	16	43	406
RC21	Automotive Retail	ITE 840	8.200	TSF	11	4	15	8	12	20	228
RC22	Single-Family Detached Housing	ITE 210	38	DU	7	21	28	24	14	38	359
RC23	Single-Family Detached Housing	ITE 210	273	DU	51	152	202	170	100	270	2577
RC25	Fast-Food w/o Drive Thru	ITE 933	2.475	TSF	37	25	62	35	35	70	857
	Pass-By Trip Reduction		25%		-9	-6	-16	-9	-9	-18	-214
RC26	Fast-Food w/o Drive Thru	ITE 933	1.200	TSF	18	12	30	17	17	34	415
	Pass-By Trip Reduction		25%		-5	-3	-8	-4	-4	-9	-104
RC27	Single-Family Detached Housing	ITE 210	257.000	TSF	0	1	1	1	0	1	11
City of Hemet											
H4	Single-Family Detached Housing	ITE 210	1077	DU	199	598	797	672	395	1066	10167
	Shopping Center	ITE 820	535.788	TSF	312	191	504	980	1062	2041	20226
	Pass-By Trip Reduction		25%		-78	-48	-126	-245	-265	-510	-5056
	Recreation Spine	ITE 411	36.000	AC	0	0	1	2	2	4	28
H6	Commercial	ITE 150	108.000	TSF	14	4	18	6	15	21	159
	Pass-By Trip Reduction		25%		-4	-1	-5	-1	-4	-5	-40
H7	Single-Family Detached Housing	ITE 210	178	DU	33	99	132	111	65	176	1680
H8	Single-Family Detached Housing	ITE 210	16	DU	3	9	12	10	6	16	151
	Park	ITE 411	0.76	AC	0	0	0	0	0	0	1
H46	Gas Station w/Store & Car Wash	ITE 945	20	VFP	127	122	249	143	137	280	4107
	Pass-By Trip Reduction		25%		-32	-31	-62	-36	-34	-70	-1027
Subtotal					2,067	4,627	6,694	5,559	3,771	9,330	93,625

Note:

¹ Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th Edition, 2017.

² TSF = Thousand Square Feet, VFP = Vehicle Fueling Positions, DU = Dwelling Units

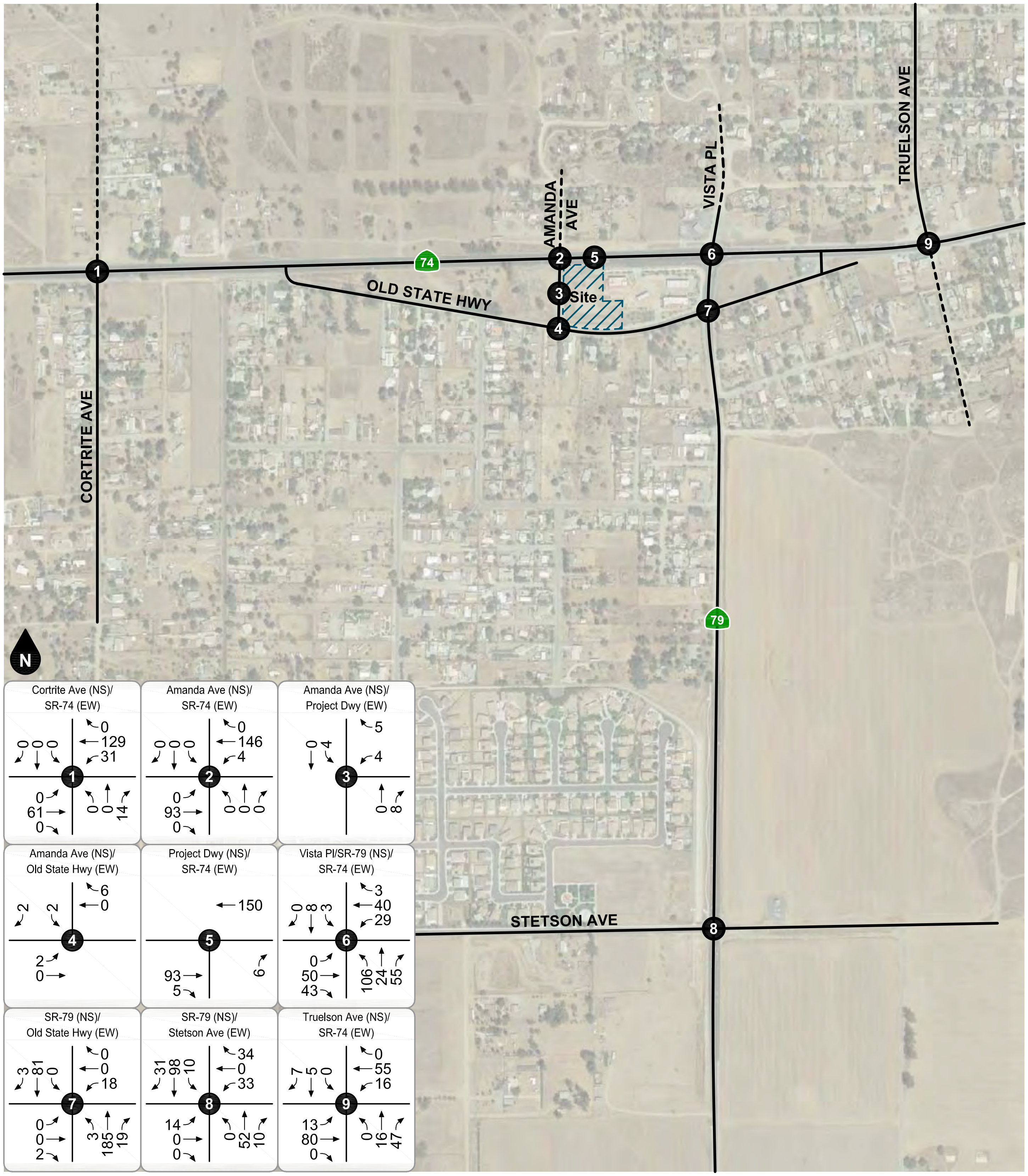


Legend

●## Vehicles Per Day (1,000's)

Figure 19
Other Cumulative Development Average Daily Traffic Volumes

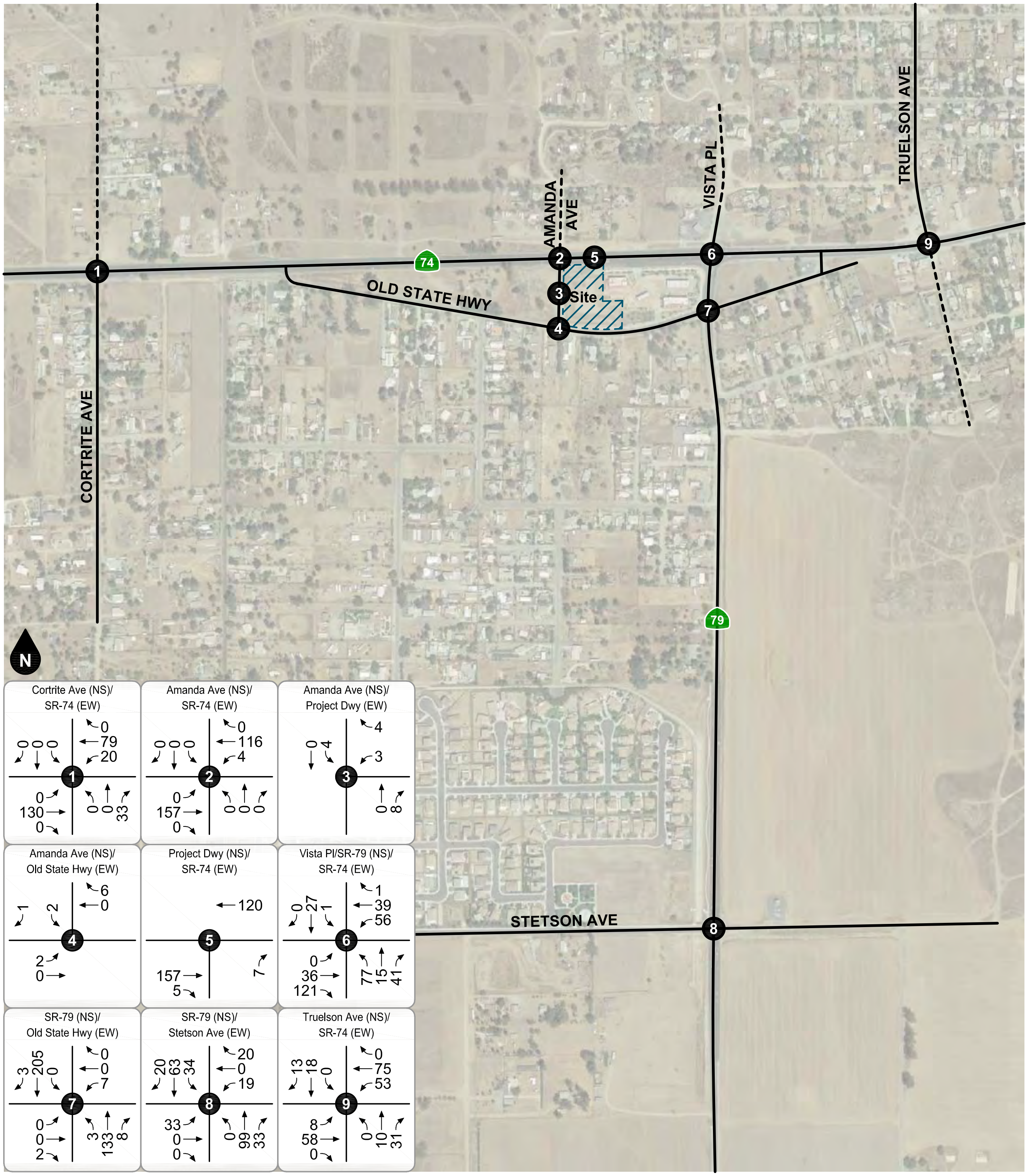
Plot Plan No. 26240
Traffic Impact Analysis
7209



Legend

Study Intersection

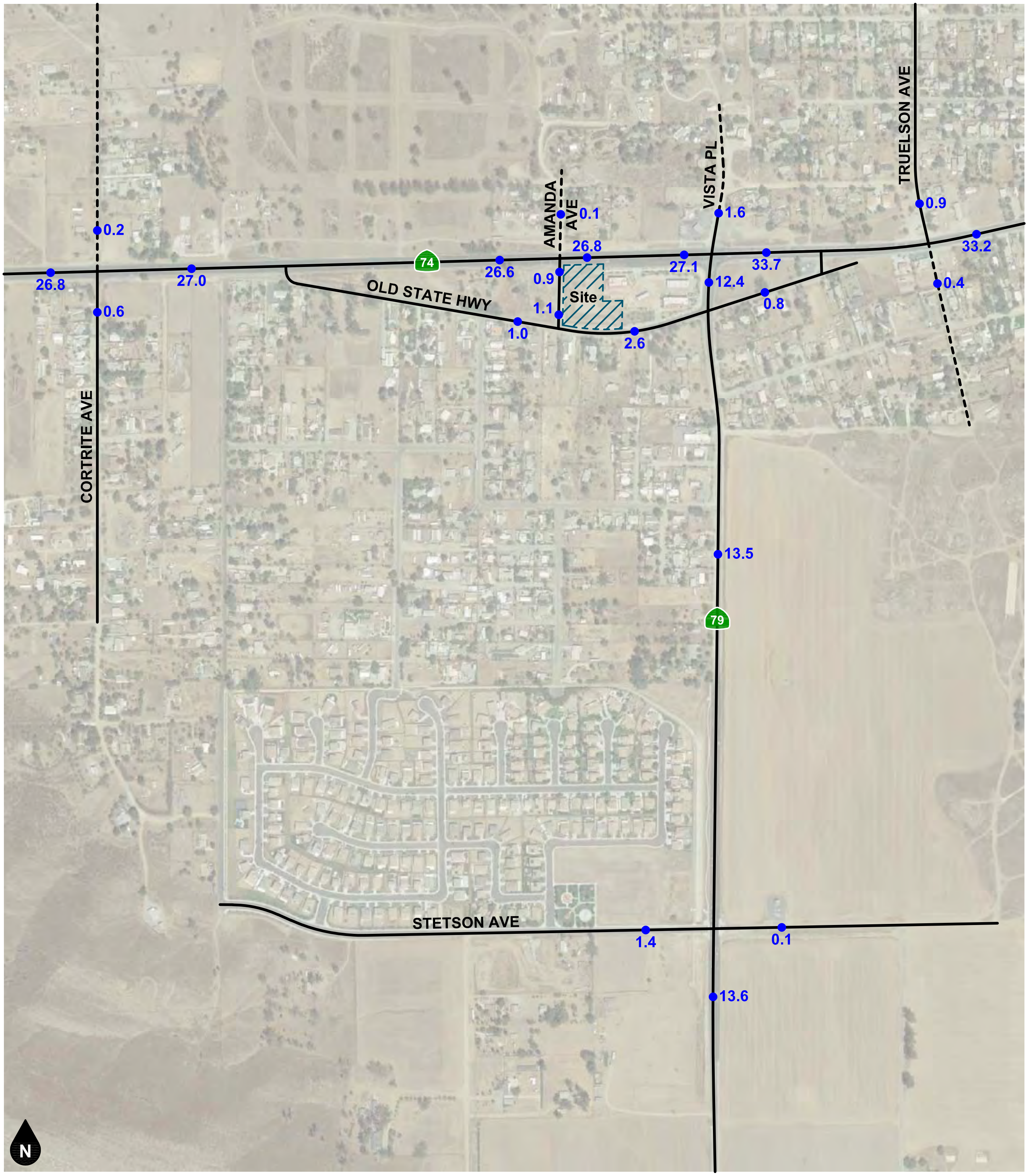
Figure 20
Other Cumulative Development
AM Peak Hour Intersection Turning Movement Volumes



Legend

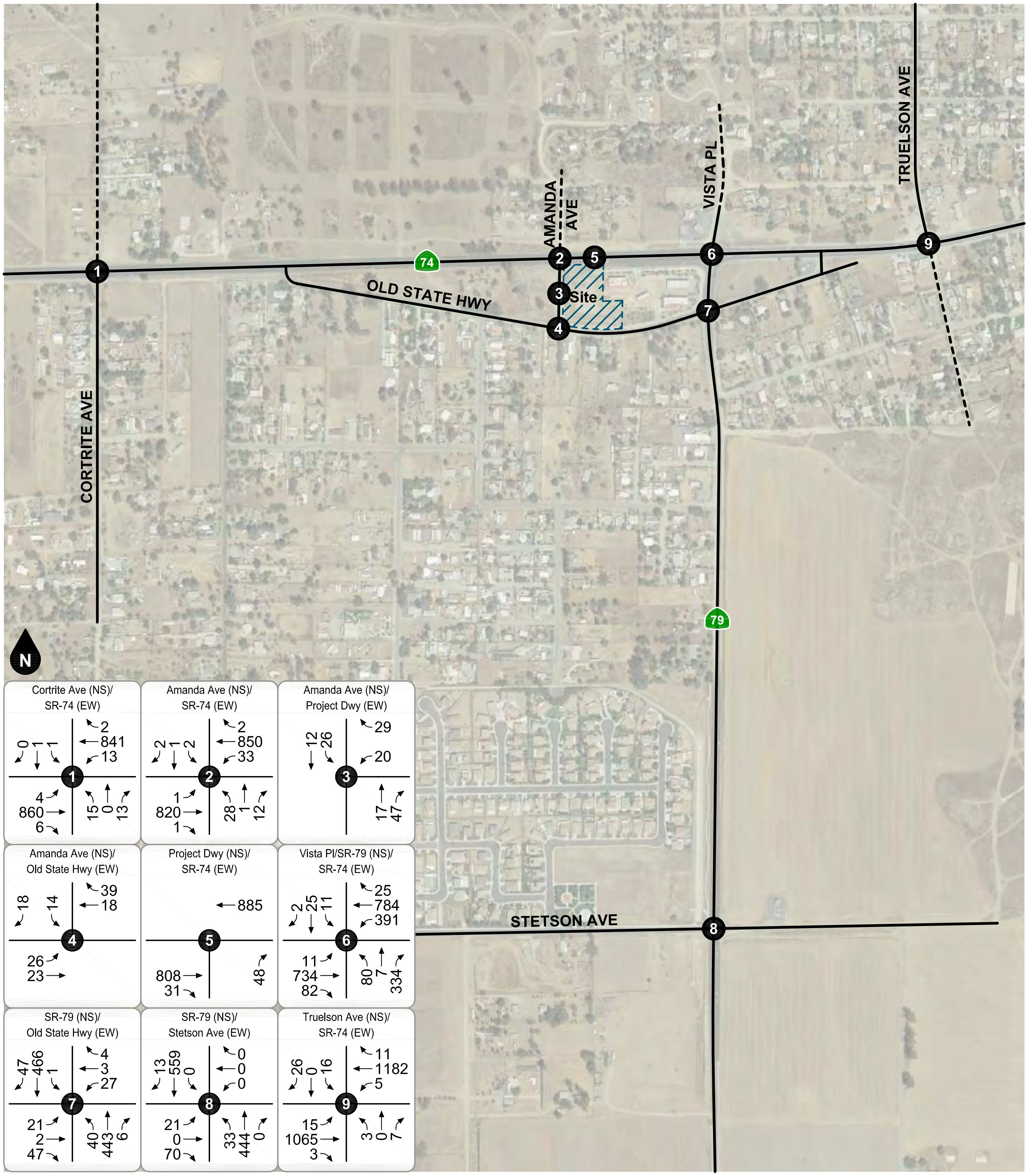
Study Intersection

Figure 21
Other Cumulative Development
PM Peak Hour Intersection Turning Movement Volumes



Legend
●## Vehicles Per Day (1,000's)

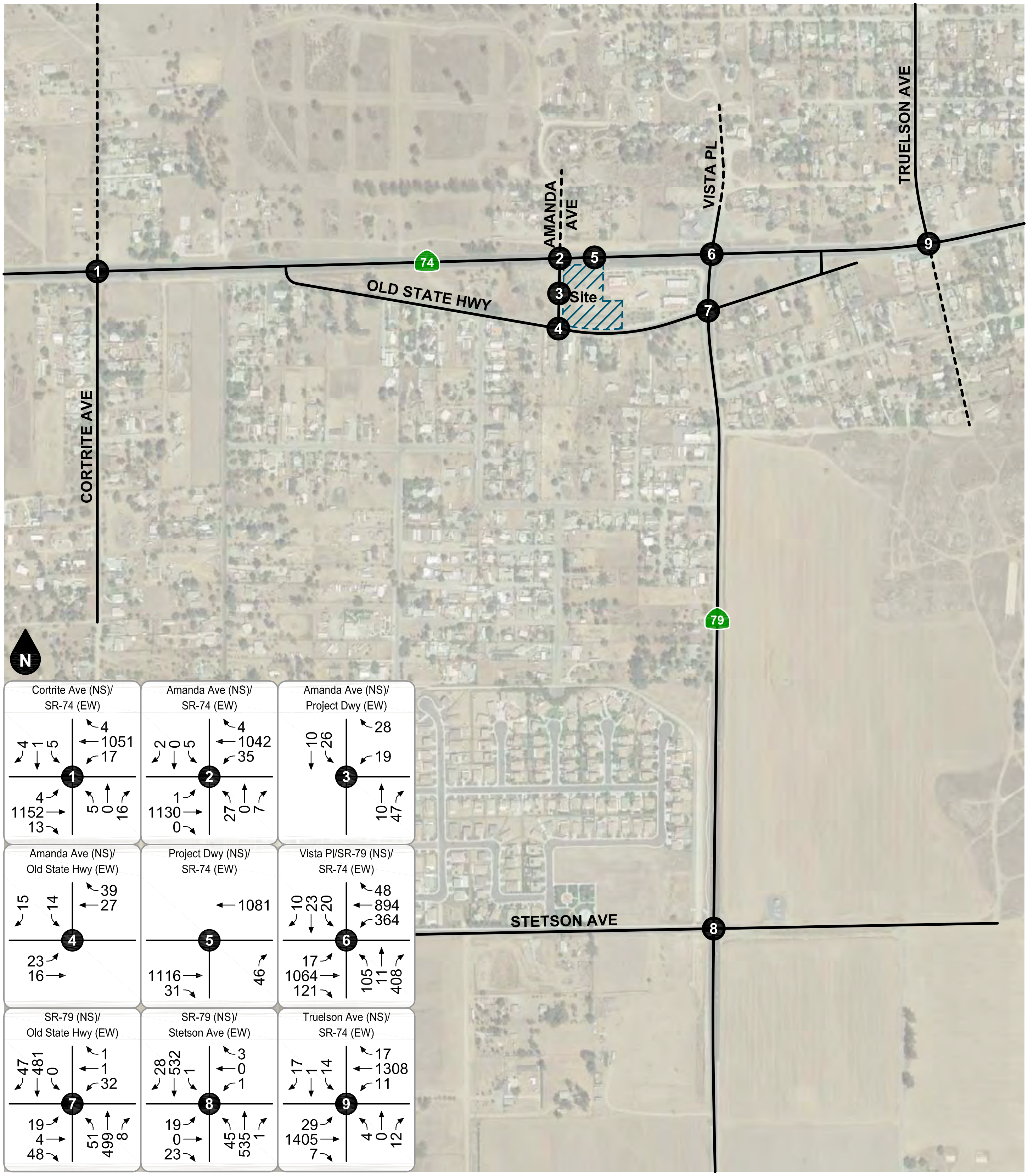
Figure 22
Existing Plus Project Average Daily Traffic Volumes



Legend

(#) Study Intersection

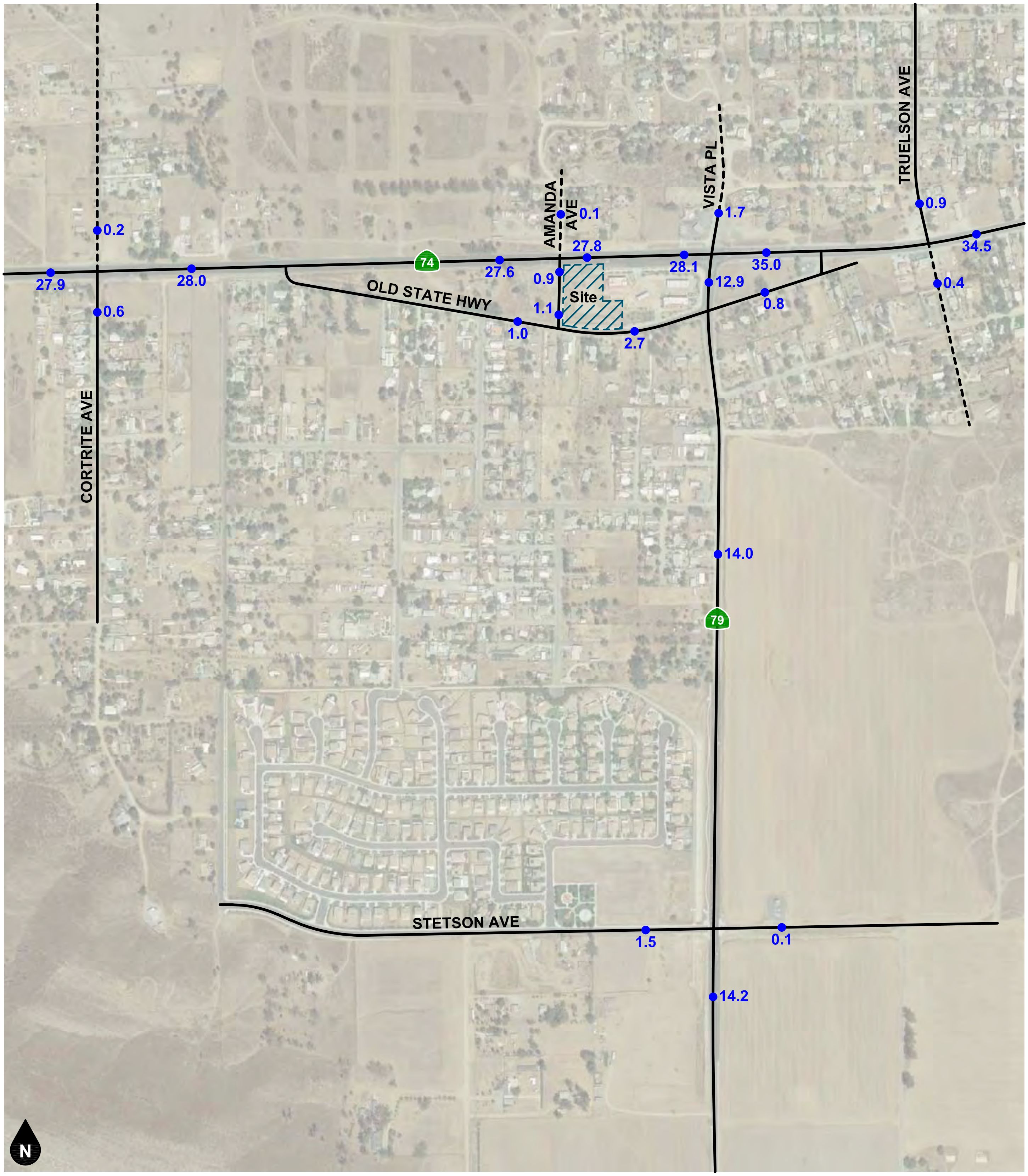
Figure 23
Existing Plus Project
AM Peak Hour Intersection Turning Movement Volumes



Legend

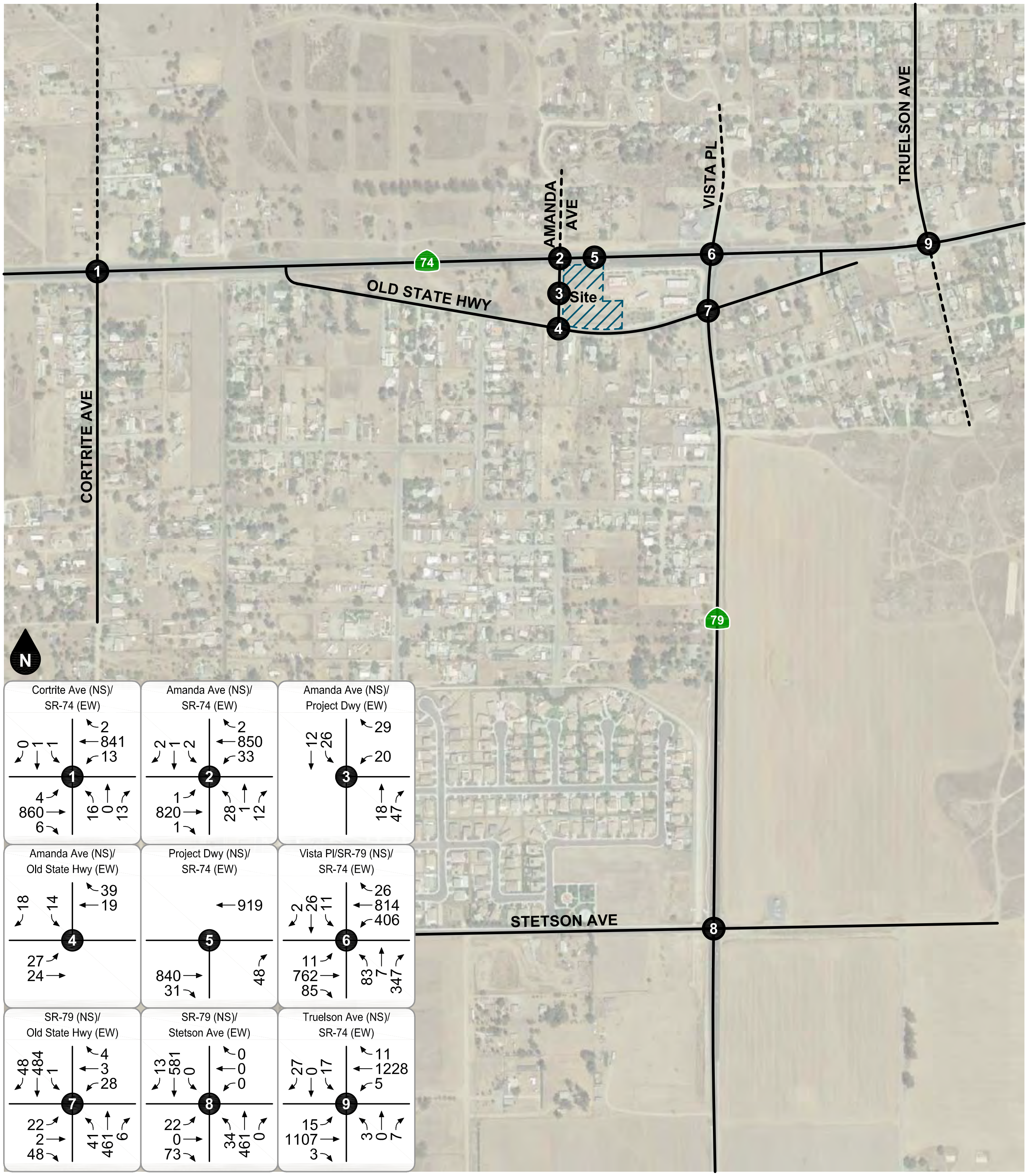
Study Intersection

Figure 24
Existing Plus Project
PM Peak Hour Intersection Turning Movement Volumes



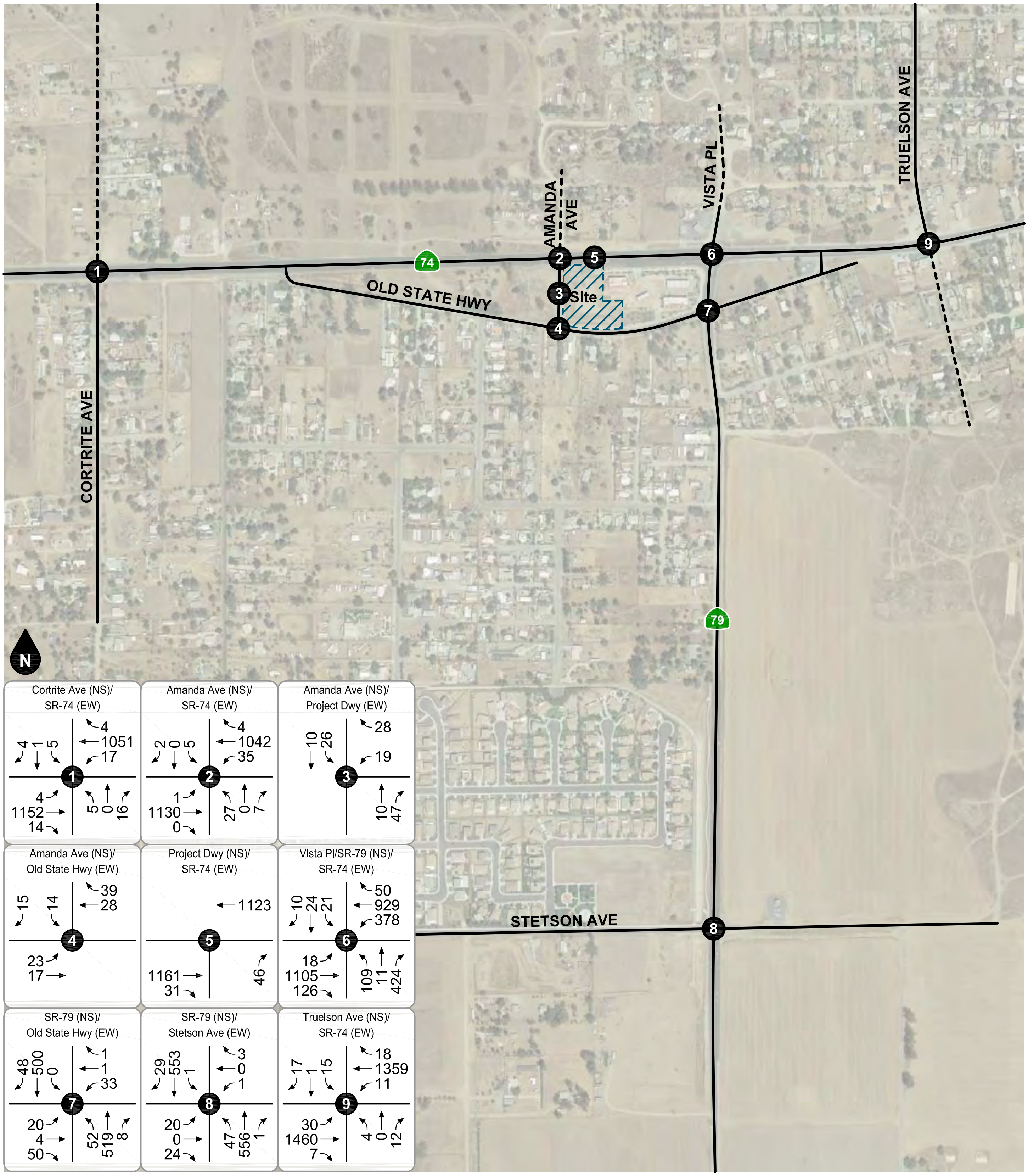
Legend
●## Vehicles Per Day (1,000's)

Figure 25
Existing Plus Ambient Growth Plus Project Average Daily Traffic Volumes



Legend
\# Study Intersection

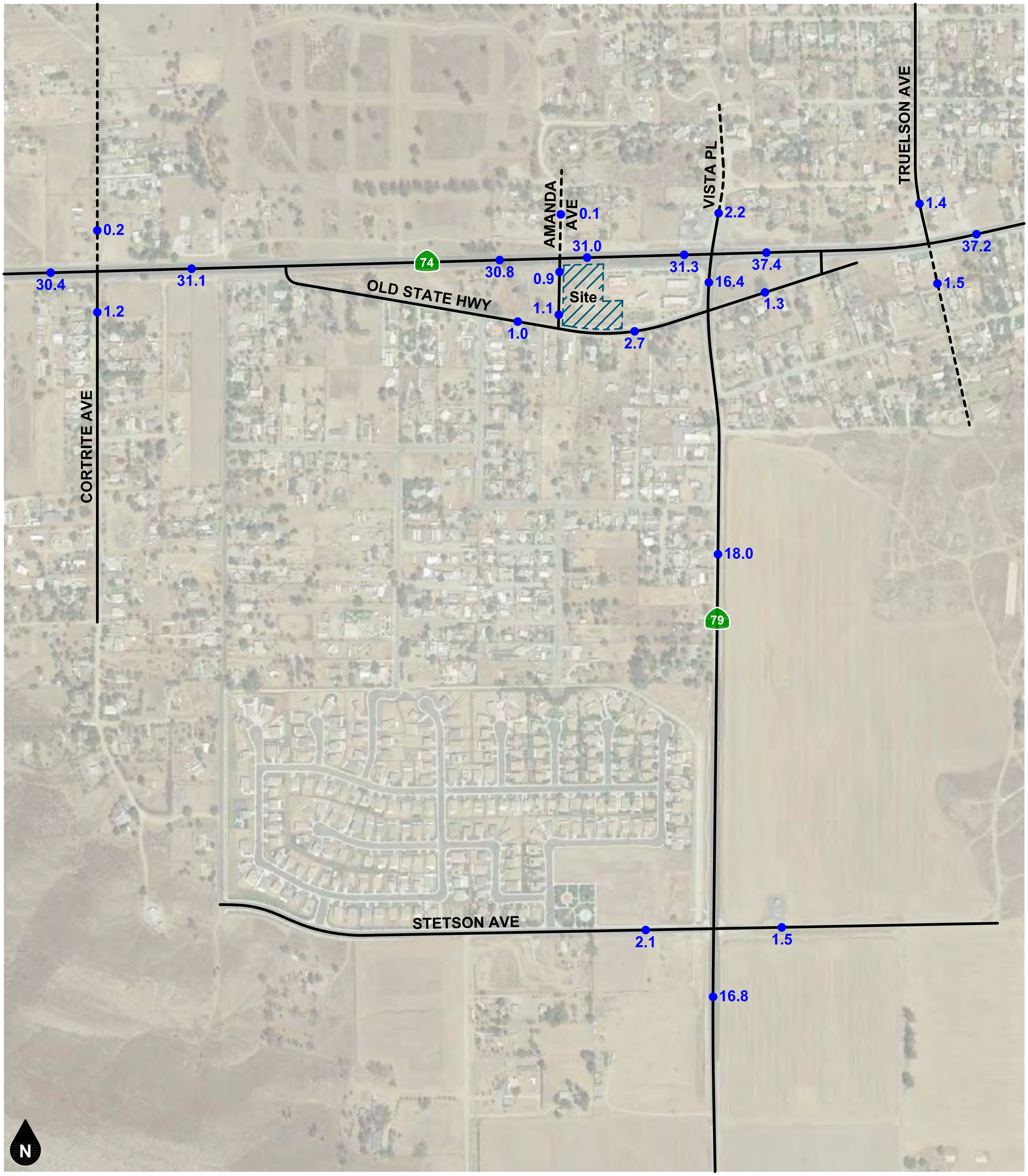
Figure 26
Existing Plus Ambient Growth Plus Project
AM Peak Hour Intersection Turning Movement Volumes



Legend

\# Study Intersection

Figure 27
Existing Plus Ambient Growth Plus Project
PM Peak Hour Intersection Turning Movement Volumes



Legend
●## Vehicles Per Day (1,000's)

Figure 28
Existing Plus Ambient Growth Plus Project Plus Cumulative Average Daily Traffic Volumes

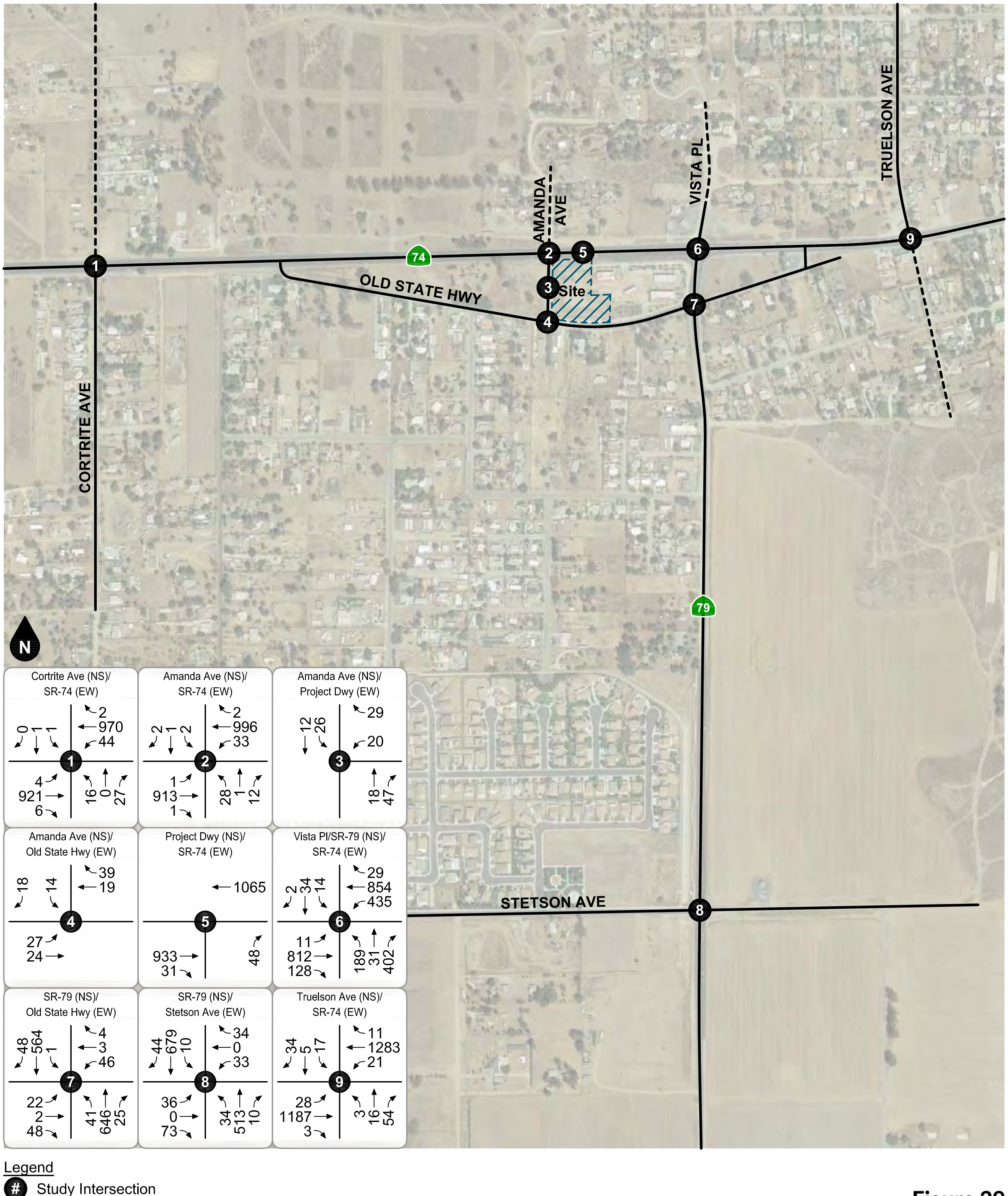
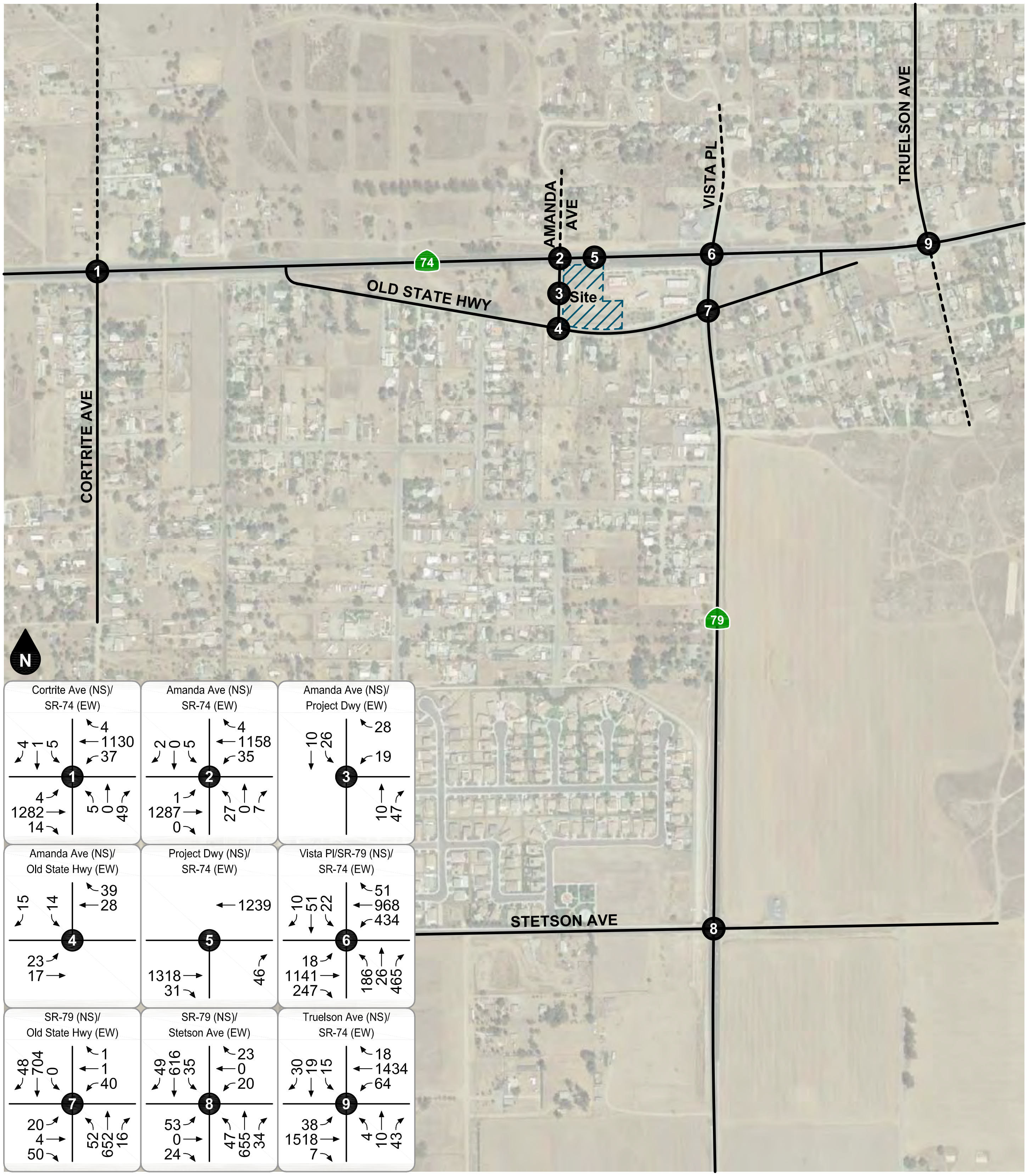


Figure 29
Existing Plus Ambient Growth Plus Project Plus Cumulative AM Peak Hour Intersection Turning Movement Volumes



Legend
Study Intersection

Figure 30
Existing Plus Ambient Growth Plus Project Plus Cumulative PM Peak Hour Intersection Turning Movement Volumes

VI. TRAFFIC IMPACT ANALYSIS

This section contains an evaluation of the project impact on the study roadway facilities and identifies the improvements necessary to mitigate the project impact, if any. Level of Service calculation worksheets for the future scenarios presented in this section are contained in Appendix D.

A. Existing Plus Project

The Existing Plus Project Levels of Service for the study intersections are shown in Table 4. Table 4 shows the intersection delay and Levels of Service at the study intersections without and with improvements.

As shown in Table 4, the study intersections are projected to operate at Level of Service D or better during the peak hours for Existing Plus Project traffic conditions, except for the following study intersection that is projected to operate at Level of Service F during the peak hours:

Truelson Avenue (NS) at:
Highway 74 (EW) – #9

As also shown in Table 4, the following improvements are recommended at the study intersection for Existing Plus Project traffic conditions to achieve an acceptable Level of Service during the peak hours:

Truelson Avenue (NS) at:
Highway 74 (EW) – #9

- Restrict northbound and southbound left turn movements

B. Existing Plus Ambient Growth Plus Project

The Existing Plus Ambient Growth Plus Project Levels of Service for the study intersections are shown in Table 5. Table 5 shows the intersection delay and Levels of Service at the study intersections without and with improvements.

As shown in Table 5, the study intersections are projected to operate at Level of Service D or better during the peak hours for Existing Plus Ambient Growth Plus Project traffic conditions, except for the following study intersection that is projected to operate at Level of Service F during the peak hours:

Truelson Avenue (NS) at:
Highway 74 (EW) – #9

As also shown in Table 5, the following improvements are recommended at the study intersection for Existing Plus Ambient Growth Plus Project traffic conditions to achieve an acceptable Level of Service during the peak hours:

Truelson Avenue (NS) at:

Highway 74 (EW) – #9

- Restrict northbound and southbound left turn movements

C. <u>Existing Plus Ambient Growth Plus Project Plus Cumulative</u>

The Existing Plus Ambient Growth Plus Project Plus Cumulative Levels of Service for the study intersections are shown in Table 6. Table 6 shows the intersection delay and Levels of Service at the study intersections without and with improvements.

As shown in Table 6, the study intersections are projected to operate at Level of Service D or better during the peak hours for Existing Plus Ambient Growth Plus Project Plus Cumulative traffic conditions, except at the following intersection:

Truelson Avenue (NS) at:

Highway 74 (EW) – #9

As also shown in Table 6, the following improvements are recommended at the study intersections for Existing Plus Ambient Growth Plus Project Plus Cumulative traffic conditions to achieve an acceptable Level of Service during the peak hours:

Truelson Avenue (NS) at:

Highway 74 (EW) – #9

- New traffic signal
- Northbound left turn lane
- Southbound left turn lane

Table 4

Existing Plus Project Intersection Delay and Levels of Service

Intersection	Traffic Control[2]	Intersection Approach Lanes[1] Northbound			Southbound			Eastbound			Westbound			Peak Hour Delay - Level of Service	
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
1 Cortrite Avenue (NS) at: Highway 74 (EW)	CSS	0	<1>	0	0	<1>	0	1	2	d	1	2	d	20.9 - C	29.6 - D
2 Amanda Avenue (NS) at: Highway 74 (EW)	CSS	0	<1>	0	0	<1>	0	1	1.5	0.5	1	1.5	0.5	22.5 - C	32.5 - D
3 Amanda Avenue (NS) at: Project Driveway (EW)	CSS	0	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0	0.5	9.3 - A	9.3 - A
4 Amanda Avenue (NS) at: Old State Highway (EW)	CSS	0	0	0	0.5	0	0.5	0.5	0.5	0	0	0.5	0.5	9.6 - A	9.5 - A
5 Project Driveway (NS) at: Highway 74 (EW)	CSS	0	0	**1**	0	0	0	0	1.5	0.5	0	2	0	11.8 - B	13.9 - B
6 Vista Place/SR-79 (NS) at: Highway 74 (EW)	TS	0.5	0.5	1	1	0.5	0.5	1	2	1	1	1.5	0.5	20.3 - C	29.4 - C
7 State Route 79 (NS) at: Old State Highway (EW)	CSS	1	0.5	0.5	0.5	0.5	1	0	<1>	0	0	<1>	0	30.7 - D	34.3 - D
8 State Route 79 (NS) at: Stetson Avenue (EW)	TS	1	0.5	0.5	1	0.5	0.5	0	<1>	0	0	<1>	0	8.5 - A	6.9 - A
9 Truelson Avenue (NS) at: Highway 74 (EW)	CSS	0	<1>	0	0	<1>	0	1	1.5	0.5	1	1.5	0.5	135.6 - F	260.8 - F
- Restrict NB/SB Left Turn	CSS	0	0	**1**	0	0	**1**	1	1.5	0.5	1	1.5	0.5	14.7 - B	15.2 - C

Note:

1 When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes (de facto right turn lane). L = Left; T = Through; R = Right; > = Right Turn Overlap; <1> = Shared Left/Through/Right Lane; 0.5 = Shared Lane with 2 turning movements; d = De Facto Right Turn Lane; **BOLD** = Improvements

2 TS = Traffic Signal; CSS = Cross Street Stop

Table 5

Existing Plus Ambient Growth Plus Project Intersection Delay and Levels of Service

Intersection	Traffic Control[2]	Intersection Approach Lanes[1]												Peak Hour Delay - Level of Service	
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
1 Cortrite Avenue (NS) at: Highway 74 (EW)	CSS	0	<1>	0	0	<1>	0	1	2	d	1	2	d	21.0 - C	29.6 - D
2 Amanda Avenue (NS) at: Highway 74 (EW)	CSS	0	<1>	0	0	<1>	0	1	1.5	0.5	1	1.5	0.5	22.5 - C	32.5 - D
3 Amanda Avenue (NS) at: Project Driveway (EW)	CSS	0	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0	0.5	9.4 - A	9.3 - A
4 Amanda Avenue (NS) at: Old State Highway (EW)	CSS	0	0	0	0.5	0	0.5	0.5	0.5	0	0	0.5	0.5	9.6 - A	9.5 - A
5 Project Driveway (NS) at: Highway 74 (EW)	CSS	0	0	**1**	0	0	0	0	1.5	0.5	0	2	0	12.0 - B	14.3 - B
6 Vista Place/SR-79 (NS) at: Highway 74 (EW)	TS	0.5	0.5	1	1	0.5	0.5	1	2	1	1	1.5	0.5	21.6 - C	34.0 - C
7 State Route 79 (NS) at: Old State Highway (EW)	CSS	1	0.5	0.5	0.5	0.5	1	0	<1>	0	0	<1>	0	33.2 - D	34.5 - D
8 State Route 79 (NS) at: Stetson Avenue (EW)	TS	1	0.5	0.5	1	0.5	0.5	0	<1>	0	0	<1>	0	8.8 - A	7.1 - A
9 Truelson Avenue (NS) at: Highway 74 (EW)	CSS	0	<1>	0	0	<1>	0	1	1.5	0.5	1	1.5	0.5	156.1 - F	312.5 - F
- Restrict NB/SB Left Turn	CSS	0	0	**1**	0	0	**1**	1	1.5	0.5	1	1.5	0.5	15.2 - C	15.7 - C

Note:

1 When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes (de facto right turn lane). L = Left; T = Through; R = Right; > = Right Turn Overlap; <1> = Shared Left/Through/Right Lane; 0.5 = Shared Lane with 2 turning movements; d = De Facto Right Turn Lane; **BOLD** = Improvements

2 TS = Traffic Signal; CSS = Cross Street Stop

Table 6

Existing Plus Ambient Growth Plus Project Plus Cumulative Intersection Delay and Levels of Service

Intersection	Traffic Control[2]	Intersection Approach Lanes[1]												Peak Hour Delay - Level of Service	
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
1 Cortrite Avenue (NS) at: Highway 74 (EW)	CSS	0	<1>	0	0	<1>	0	1	2	d	1	2	d	24.8 - C	34.7 - D
2 Amanda Avenue (NS) at: Highway 74 (EW)	CSS	0	<1>	0	0	<1>	0	1	1.5	0.5	1	1.5	0.5	26.0 - D	34.8 - D
3 Amanda Avenue (NS) at: Project Driveway (EW)	CSS	0	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0	0.5	9.4 - A	9.3 - A
4 Amanda Avenue (NS) at: Old State Highway (EW)	CSS	0	0	0	0.5	0	0.5	0.5	0.5	0	0	0.5	0.5	9.6 - A	9.5 - A
5 Project Driveway (NS) at: Highway 74 (EW)	CSS	0	0	**1**	0	0	0	0	1.5	0.5	0	2	0	12.6 - B	15.7 - C
6 Vista Place/SR-79 (NS) at: Highway 74 (EW)	TS	0.5	0.5	1	1	0.5	0.5	1	2	1	1	1.5	0.5	28.6 - C	48.7 - D
7 State Route 79 (NS) at: Old State Highway (EW)	CSS	1	0.5	0.5	0.5	0.5	1	0	<1>	0	0	<1>	0	34.6 - D	34.9 - D
8 State Route 79 (NS) at: Stetson Avenue (EW)	TS	1	0.5	0.5	1	0.5	0.5	0	<1>	0	0	<1>	0	11.2 - B	10.7 - B
9 Truelson Avenue (NS) at: Highway 74 (EW)	CSS	0	<1>	0	0	<1>	0	1	1.5	0.5	1	1.5	0.5	>1000 - F	>1000 - F
- New Traffic Signal	**TS**	**1**	0.5	0.5	**1**	0.5	0.5	1	1.5	0.5	1	1.5	0.5	4.5 - A	4.5 - A

Note:

1 When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes (de facto right turn lane). L = Left; T = Through; R = Right; > = Right Turn Overlap; <1> = Shared Left/Through/Right Lane; 0.5 = Shared Lane with 2 turning movements; d = De Facto Right Turn Lane; **BOLD** = Improvements

2 TS = Traffic Signal; CSS = Cross Street Stop

VII. MITIGATION MEASURES

A. On-Site/Access Recommendations

Site-specific circulation and access recommendations are depicted on Figure 31.

The Project Driveway on Highway 74 will be stop-controlled access and restricted to right turns in/out only access.

The Project Driveway on Amanda Avenue will be stop-controlled and provided with full access.

Highway 74 along the project boundary should be constructed at the ultimate half-section width as an Expressway, including landscaping and parkway improvements in conjunction with development, or as otherwise approved by the County of Riverside Transportation Department. The projected eastbound right turn movement on State Highway 74 turning into the proposed driveway is approximately 31 vehicles. The proposed project will widen Highway 74 and sufficient length is provided to accommodate the project eastbound right turning vehicles between Amanda Avenue and the proposed driveway.

Amanda Avenue along the project boundary should be constructed at the ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise approved by the County of Riverside Transportation Department.

Old State Highway along the project boundary should be constructed at the ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise approved by the County of Riverside Transportation Department.

The proposed project driveways should be constructed in conformance with County of Riverside standards, including provisions for sight distance requirements and truck turning radii, or as otherwise approved by the County of Riverside Transportation Department.

All on-site and site-adjacent improvements, including traffic signing/striping and project driveways, should be constructed as approved by the County of Riverside Transportation Department.

On-site parking should be provided to the satisfaction of County of Riverside Planning Department.

As is the case for any roadway design, the County of Riverside should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

B. Project Driveway Deceleration Distance Analysis

The proposed project driveway on Highway 74 will be a stop-controlled access and restricted to right turns in/out only access, and it will be located at a midpoint between Amanda Avenue and the existing driveway for the existing Shell service station. The proposed driveway will be located approximately 200 feet east of Amanda Avenue and approximately 200 feet west of the existing Shell service station driveway. The southern half-section of Highway 74 between the existing Shell service station driveway and the east project boundary has been constructed to its ultimate half-section width as an Expressway, and it currently has two eastbound travel lanes and a wide shoulder that is striped with "chevron" pavement marking. Even though the wide shoulder is not configured as a right turn lane, vehicles could use the wide shoulder as a deceleration lane to make eastbound right turns into the existing Shell service station driveway. The existing Shell service station driveway currently has a driveway configuration that is similar to the proposed configuration of the project driveway on Highway 74 in terms of visibility for the eastbound traffic volumes and the length of the wide shoulder that could be used a deceleration lane. Even though the applicant would like to obtain a reciprocal access agreement for the parking lot between the project and the existing Shell service station, there is no guarantee that the owner of the adjacent development would agree to a reciprocal access agreement because the other tenants may not be willing to share parking supply or have other concerns.

The proposed project will continue the half-section improvement of Highway 74 so that the wide shoulder will be consistent from the existing Shell service station driveway to the proposed project driveway and also to Amanda Avenue. Similar to the existing Shell service station driveway, vehicles entering the proposed project driveway could utilize the wide shoulder on Highway 74 as a 150-foot deceleration lane to slow down to make eastbound right turns into the proposed project driveway. The applicant will also improve Amanda Avenue so that the roadway grade will become flat as Amanda Avenue intersects with Highway 74, where the existing northbound approach of Amanda Avenue currently has an uphill grade because the existing elevation of Amanda Avenue is lower than Highway 74.

The adequacy of the deceleration distance between Amanda Avenue and the proposed driveway is evaluated based on the following 4 assessments:

- Sight distance analysis based on the Highway Design Manual sight distance standards (included in Appendix F of the traffic study)
- On-site line of sight field measurements
- On-site driving trials and observations
- Desirable deceleration lane length requirements based on the AASHTO Green Book

Sight Distance Evaluation

The speed limit on Highway 74 is currently posted at 50 miles per hour. Based on the Highway Design Manual, the minimum stopping sight distance standard is 430 feet on a roadway with a design speed of 50 mile per hour. The minimum corner sight distance standard is 550 feet. Appendix F includes the Highway Design Manual sight distance standards. Figure 32 shows the sight distance analysis for the proposed project driveway on Highway 74. As shown on Figure 32, the proposed project driveway has adequate sight distances when the yellow highlighted triangular areas are clear of visual obstructions that are more than 2 feet tall. For the vegetation located south of Highway 74 and west of Amanda Avenue, it is recommended that vegetation be trimmed below 2 feet tall and some of the dead trees be removed to avoid obstructing the sight line and to improve visibility. The proposed project should also provide store signage to improve the visibility of the proposed buildings and the proposed driveway for the approaching traffic volumes on Highway 74.

On-Site Line of Sight Field Measurements

Based on field observation and measurement, the proposed project driveway location is visible approximately 715 feet away, which is longer than the minimum stopping sight distance of 430 feet. The proposed buildings and the store signage should also be visible approximately 715 feet away. The proposed buildings and the store signage should also be visible approximately 715 feet away. The vegetation on the north side of Highway 74 is not obstructing the line of sight.

On-Site Driving Trials and Observations

Based on the on-site driving observation with the vehicle traveling with speeds at a minimum of 50 miles per hour or the speed limit, the proposed project driveway location appears to be visible approximately 715 feet away which gives the driver adequate reaction time to begin slowing down by taking the foot off the gas pedal, and as the vehicle gets closer to the proposed project driveway then applying reasonable amount of pressure on the brake pedal to merge into the wide shoulder area and then make a right turn into the proposed project driveway. The wide shoulder area, between Amanda Avenue and the proposed project driveway, could serve as a 150-foot deceleration lane which would be very beneficial in terms of reducing vehicle speed.

On the other hand, making an eastbound right turn movement at Amanda Avenue to enter the proposed project at another driveway may be less desirable because there is no wide shoulder east of Amanda Avenue to serve as a deceleration lane. Therefore, it would enhance awareness if the proposed project provides a right turns in/out only driveway on Highway 74 with a wide shoulder to serve as a deceleration lane on Highway 74.

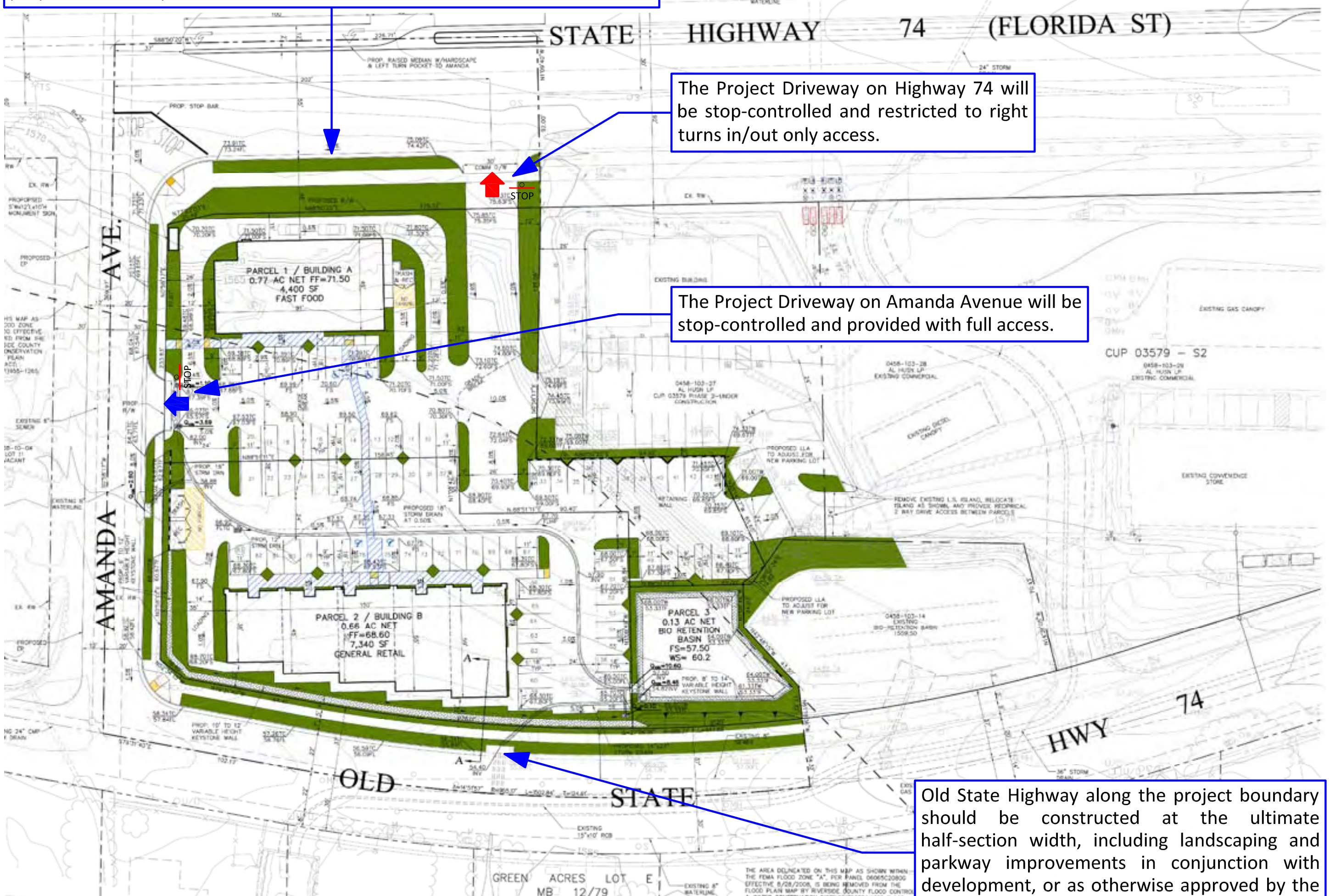
Desirable Deceleration Lane Length

American Association of State Highway and Transportation Officials (AASHTO) published a design reference that titled "A Policy on Geometric Design of Highway and Street" (also known as the Green Book) which shows desirable full deceleration lengths in Table 9-22. It would be desirable that the total physical length of the auxiliary lane should be the sum of the length for these three components: 1) centering taper length; 2) deceleration length; and 3) the storage length. Common practice, however, is to accept a moderate amount of deceleration within the through lanes and to consider the taper length as a part of the deceleration within the through lanes. On many facilities, it is not practical to provide the full length of the auxiliary lane for deceleration due to constraints such as restricted right-of-way, distance available between adjacent intersections, and extreme storage needs. In such cases, at least part of the deceleration by drivers needs to be accomplished before entering the auxiliary lane. Inclusion of the taper length as part of the deceleration distance for an auxiliary lane assumes that an approaching turning vehicle can decelerate comfortably up to 10 miles per hour (mph) before clearing a through lane. Shorter auxiliary lane lengths will increase the speed differential between turning vehicles and through traffic. A 10-mph differential is commonly considered acceptable on arterial roadways. Higher speed differentials may be acceptable on collector highways and streets due to higher levels of driver tolerance for vehicles leaving or entering the roadway due to slow speeds or high volumes. Therefore, the desirable full deceleration lengths shown in Table 9-22 of the AASHTO Green Book should be accepted as a desirable goal and should be provided where practical. The deceleration distances shown in Table 9-22 are applicable to both left- and right-turning lanes, but the approach speed is usually lower in the right turn lane than in the left turn lane.

Since the proposed project driveway on Highway 74 could utilize the wide shoulder on Highway 74 as a 150-foot right turn deceleration lane where the approach speed is usually lower in the right turn lane than in the left turn lane, and that there appears to be adequate sight distance where the vehicle may begin reducing speed earlier down the road, it would be practical to assume that the approach speed may have a potential 20-mph differential or a 30 mph travel speed for the westbound traffic on SR-74 entering the right turn lane. As shown in Table 9-22, a minimum right turn deceleration lane length of 160 feet may be practical based on a 20-mph differential or a 30 mph travel speed. As confirmed by the on-site driving trial and observation discussed earlier, a right turn deceleration lane length of approximately 150 feet appears to be adequate for practical driving conditions.

It is concludes that there appears to be adequate deceleration distance between Amanda Avenue and the proposed driveway based on the sight distance analysis, on-site driving experience and minimum deceleration lane length requirements in the AASHTO Green Book.

Highway 74 along the project boundary should be constructed at the ultimate half-section width as an Expressway, including landscaping and parkway improvements in conjunction with development, or as otherwise approved by the County of Riverside Transportation Department. The projected eastbound right turn movement on State Highway 74 turning into the proposed driveway is approximately 31 vehicles. The proposed project will widen Highway 74 and sufficient length is provided to accommodate the project eastbound right turning vehicles between Amanda Avenue and the proposed driveway.



The Project Driveway on Highway 74 will be stop-controlled and restricted to right turns in/out only access.

The Project Driveway on Amanda Avenue will be stop-controlled and provided with full access.

Old State Highway along the project boundary should be constructed at the ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise approved by the County of Riverside Transportation Department.

Amanda Avenue along the project boundary should be constructed at the ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise approved by the County of Riverside Transportation Department.

The proposed project driveways should be constructed in conformance with County of Riverside standards, including provisions for sight distance requirements and truck turning radii, or as otherwise approved by the County of Riverside Transportation Department.

All on-site and site-adjacent improvements, including traffic signing/striping and project driveways, should be constructed as approved by the County of Riverside Transportation Department.

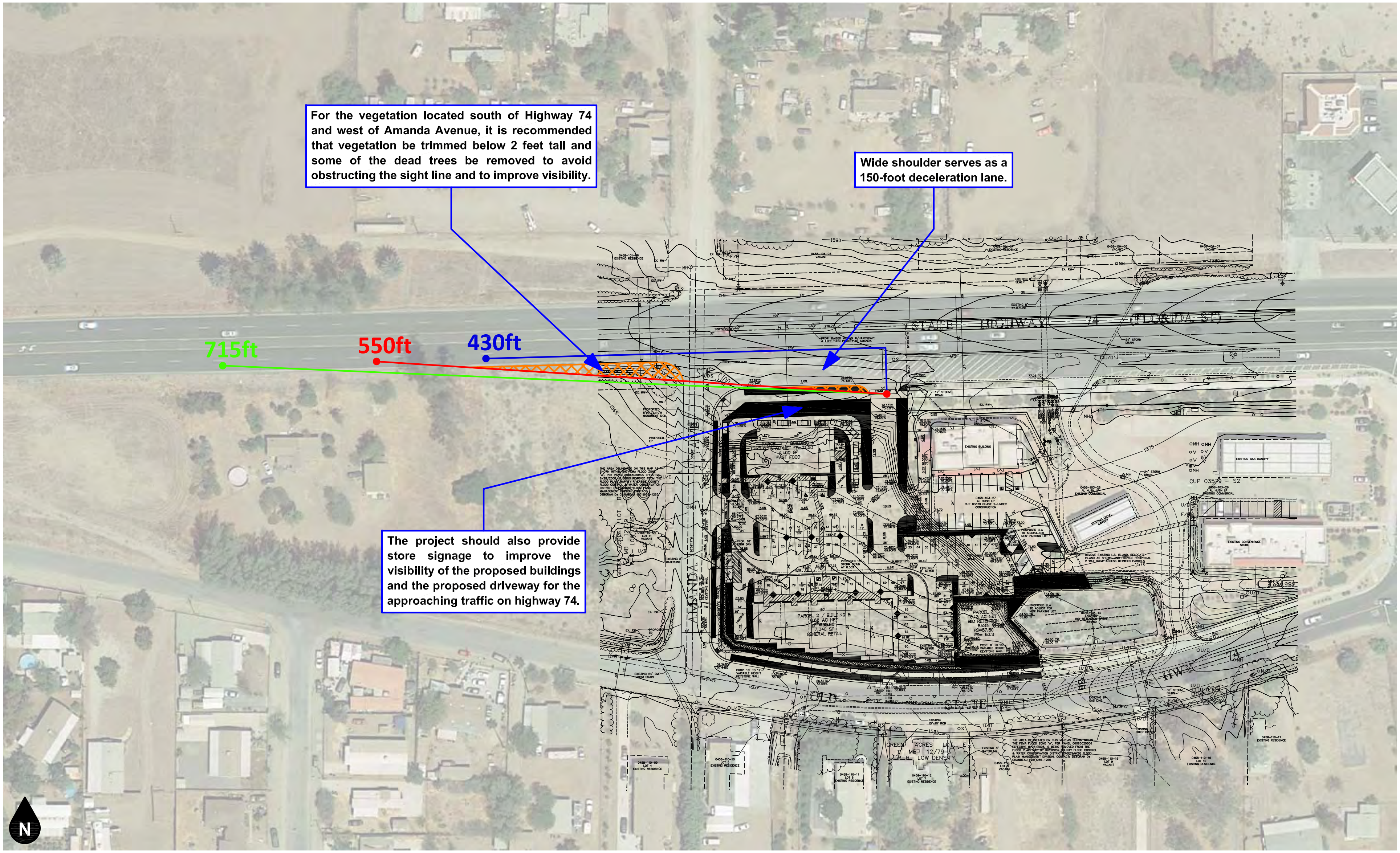
On-site parking should be provided to the satisfaction of County of Riverside Planning Department.

As is the case for any roadway design, the County of Riverside should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

N

Legend
STOP Stop Sign
Full Access Driveway
Right Turns In/Out Only Access Driveway

Figure 31
Circulation Recommendations



Legend
- Minimum Corner Sight Distance
- Minimum Stopping Sight Distance
- On-Site Observed Sight Distance
- Restricted Use Area

Figure 32
Sight Distance Analysis

gandddi

Plot Plan No. 26240
Traffic Impact Analysis
7209

APPENDICES

Appendix A – Glossary of Transportation Terms

Appendix B – Traffic Study Scoping Agreement

Appendix C – Intersection Turning Movement Count Worksheets

Appendix D – Explanation and Calculation of Intersection Delay

Appendix E – Traffic Signal Warrant Analysis Worksheets

Appendix F – Sight Distance Standards

Appendix G – Cumulative Project Information

APPENDIX A

Glossary of Transportation Terms

GLOSSARY OF TRANSPORTATION TERMS

COMMON ABBREVIATIONS

AC:	Acres
ADT:	Average Daily Traffic
Caltrans:	California Department of Transportation
DU:	Dwelling Unit
ICU:	Intersection Capacity Utilization
LOS:	Level of Service
TSF:	Thousand Square Feet
V/C:	Volume/Capacity
VMT:	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The total volume during a year divided by the number of days in a year. Usually only weekdays are included.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A constriction along a travelway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CYCLE LENGTH: The time period in seconds required for one complete signal cycle.

CUL-DE-SAC STREET: A local street open at one end only, and with special provisions for turning around.

DAILY CAPACITY: The daily volume of traffic that will result in a volume during the peak hour equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

ORIGIN-DESTINATION SURVEY: A survey to determine the point of origin and the point of destination for a given vehicle trip.

PASSENGER CAR EQUIVALENTS (PCE): One car is one Passenger Car Equivalent. A truck is equal to 2 or 3 Passenger Car Equivalents in that a truck requires longer to start, goes slower, and accelerates slower. Loaded trucks have a higher Passenger Car Equivalent than empty trucks.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through a signalized intersection.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination (i.e., each trip has two trip-ends). A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

Traffic Study Scoping Agreement

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the Riverside County Transportation Department requirements for traffic impact analysis of the following project. The analysis must follow the Riverside County Transportation Department Traffic Study Guidelines dated April 2008.

Case No. ______
Related Cases -
SP No. ______
EIR No. ______
GPA No. ______
CZ No. ______
Project Name: Plot Plan No. 26240 See Figure 1
Project Address: 33336 Highway 74, Hemet, CA 92545 (East of Amanda Avenue between SR-74 and Old Highway 74)
Project Description: 4,400 SF Fast Food Restaurant with Drive-Thru; 7,340 SF General Retail/Variety Store

	Consultant	Developer
Name:	Tom Huang, Kunzman Associates, Inc.	ALABBASI CONSTRUCTION & ENGINEERING
Address:	1111 Town and County Road, Suite 34	764 West Ramona Expressway, Suite C
	Orange, CA 92868	Perris, CA 92571
Telephone:	714-973-8383 ext 225	951-776-9300
Fax:	tom@traffic-engineer.com	tumzi@alabbasi.biz

A. Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation, 10th Edition, 2017
See Table 1

Current GP Land Use	Commercial Retail	Proposed Land Use	CR - Commercial Retail
Current Zoning	R-R	Proposed Zoning	C-P-S

Current Trip Generation / Proposed Trip Generation See Table 1

	Current In	Current Out	Current Total	Proposed In	Proposed Out	Proposed Total
AM Trips	-	-	-	87	82	169
PM Trips	-	-	-	86	79	165

Internal Trip Allowance ☐ Yes ☒ No (______ % Trip Discount)
Pass-By Trip Allowance ☒ Yes ☐ No (15% % Trip Discount)

A passby trip discount of 25% is allowed for appropriate land uses. The passby trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

B. Trip Geographic Distribution: N 30 % S 35 % E 15 % W 20 %
(attach exhibit for detailed assignment) See Figures 3 and 4

C. Background Traffic

Project Build-out Year: 2020 Annual Ambient Growth Rate: 2.0 %

Phase Year(s) ______
Other area projects to be analyzed: Please, provide cumulative data.

Model/Forecast methodology ______

Exhibit B – Scoping Agreement – Page 2

D. Study intersections: *(NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)*

1. Cortrite Avenue (NS) at Highway 74 (EW)
2. Amanda Avenue (NS) at Highway 74 (EW)
3. Amanda Avenue (NS) at Project Driveway (EW)
4. Amanda Avenue (NS) at Old State Highway (EW)
5. Project Driveway (NS) at Highway 74 (EW)
6. Vista Place (NS) at Highway 74 (EW)
7. Vista Place (NS) at Old State Highway (EW)
8. Vista Place (NS) at Stetson Avenue (EW)
9. Truelson Avenue (NS) at Highway 74 (EW)
10. __________

E. Study Roadway Segments: *(NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)*

1. __________
2. __________
3. __________
4. __________
5. __________
6. __________
7. __________
8. __________
9. __________
10. __________

E. Other Jurisdictional Impacts

Is this project within a City's Sphere of Influence or one-mile radius of City boundaries? [X] Yes [ ] No

If so, name of City Jurisdiction: Hemet

F. Site Plan (please attach reduced copy) See Figure 2

G. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Transportation Department)
(NOTE: If the traffic study states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted," or similar statement) at an existing unsignalized intersection under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.)

Sight distance analysis and on-site driving observation for the project driveway on Highway 74.

H. Existing Conditions

Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.
Date of counts New Counts

***NOTE* Traffic Study Submittal Form and appropriate fee must be submitted with, or prior to submittal of this form. Transportation Department staff will not process the Scoping Agreement prior to receipt of the fee.**

Recommended by:

__________ 5/3/2018
Consultant's Representative Date

Scoping Agreement Submitted on 2/27/2018

Revised on 5/3/2018

Approved Scoping Agreement:

__________ __________
Riverside County Transportation Department Date

Table 1

Project Trip Generation

Trip Rates										
Project				Morning Peak			Afternoon Peak			Daily
No.	Land Use	Code[1]	Unit[2]	In%	Out%	Total	In%	Out%	Total	
1	Variety Store	ITE 814	TSF	57%	43%	3.18	52%	48%	6.84	63.47
2	Fast-Food Restaurant with Drive-Thru Window	ITE 934	TSF	51%	49%	40.19	52%	48%	32.67	470.95

Trip Generation									
Project			Morning Peak			Afternoon Peak			Daily
No.	Land Use	Quantity[2]	In	Out	Total	In	Out	Total	
1	Variety Store	7.340 TSF	13	10	23	26	24	50	466
	Pass-By Trips[3]	15% [3]	-2	-2	-4	-4	-4	-8	-70
	Subtotal Net Trips		11	8	19	22	20	42	396
2	Fast-Food Restaurant with Drive-Thru Window	4.400 TSF	90	87	177	75	69	144	2,072
	Pass-By Trips[3]	15% [3]	-14	-13	-27	-11	-10	-21	-311
	Subtotal Net Trips		76	74	150	64	59	123	1,761
Total Trips without Adjustment		11.740 TSF	103	97	200	101	93	194	2,538
Total Pass-By Trip Reduction			-16	-15	-31	-15	-14	-29	-381
Total Net Trips with Pass-By Trip Reduction			87	82	169	86	79	165	2,157

[1] Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th Edition, 2017.

[2] TSF = Thousand Square Feet

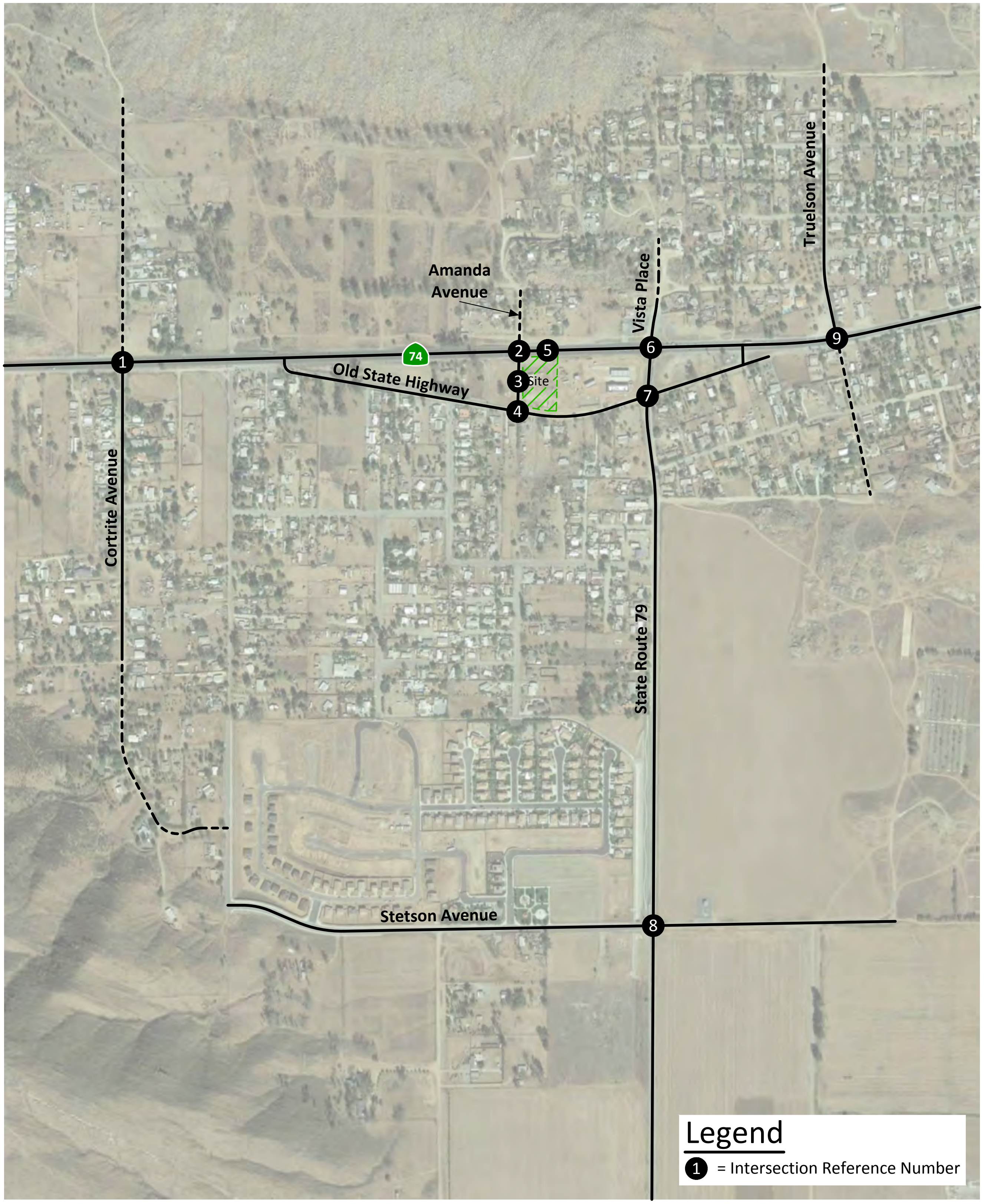
[3] Pass-By Trips: Institute of Transportation Engineers, Trip Generation Handbook, 3rd Edition, 2017.

Table E.5, Land Use Code 814 - Variety Store, Average Pass-By Trip Percentage = 34%.

Table E.31, Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window, Average Pass-By Trip Percentage = 49%.

A more conservative (lower) pass-by trip reduction percentage is utilized in the trip generation calculations.

Figure 1
Project Location Map

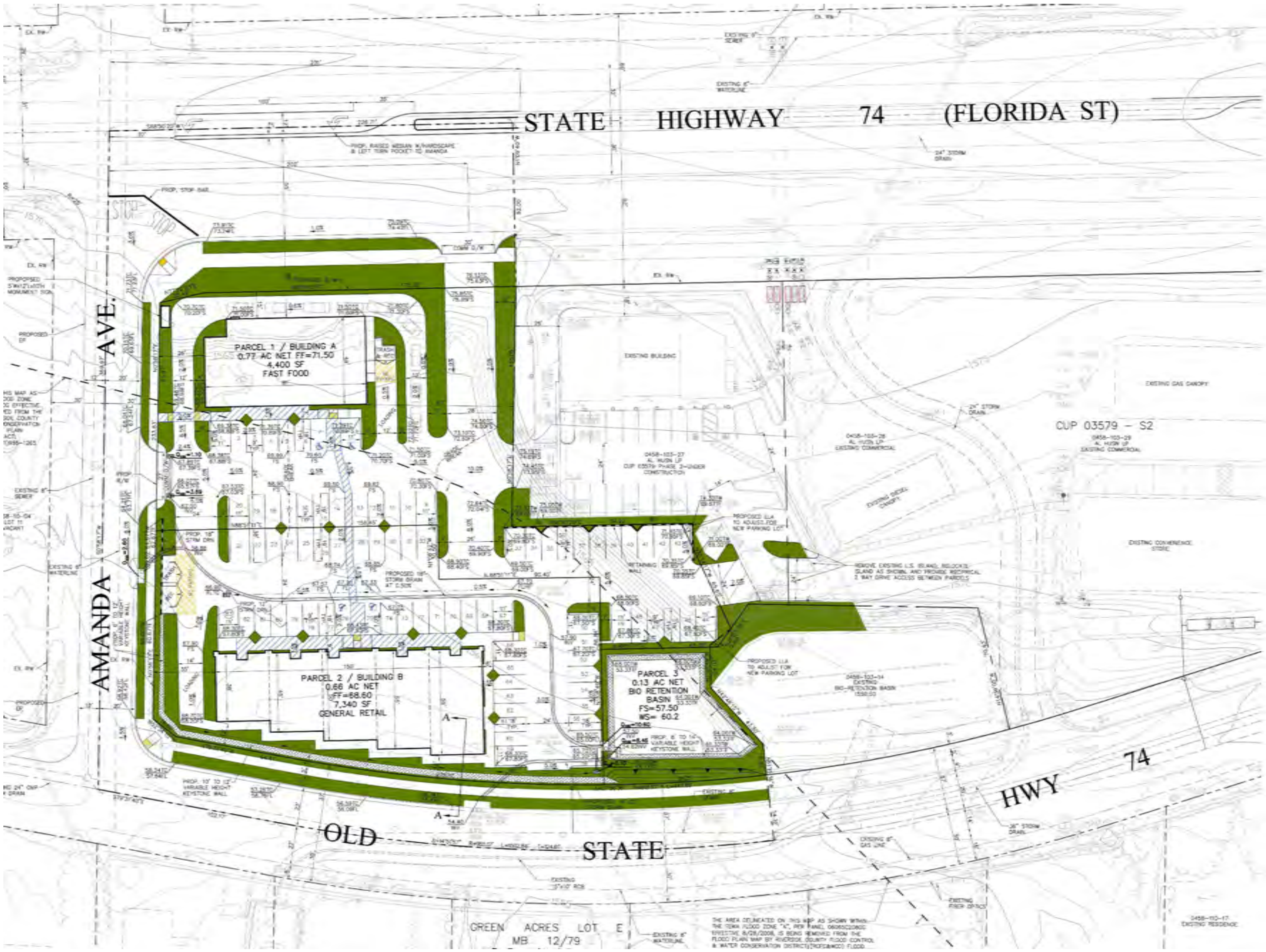


Kunzman Associates, Inc.

Over 40 Years of Excellent Service

JN 7209

Figure 2
Site Plan



KUNZMAN ASSOCIATES, INC.

OVER 40 YEARS OF EXCELLENT SERVICE

JN 7209

Figure 3
Project Outbound Trip Distribution

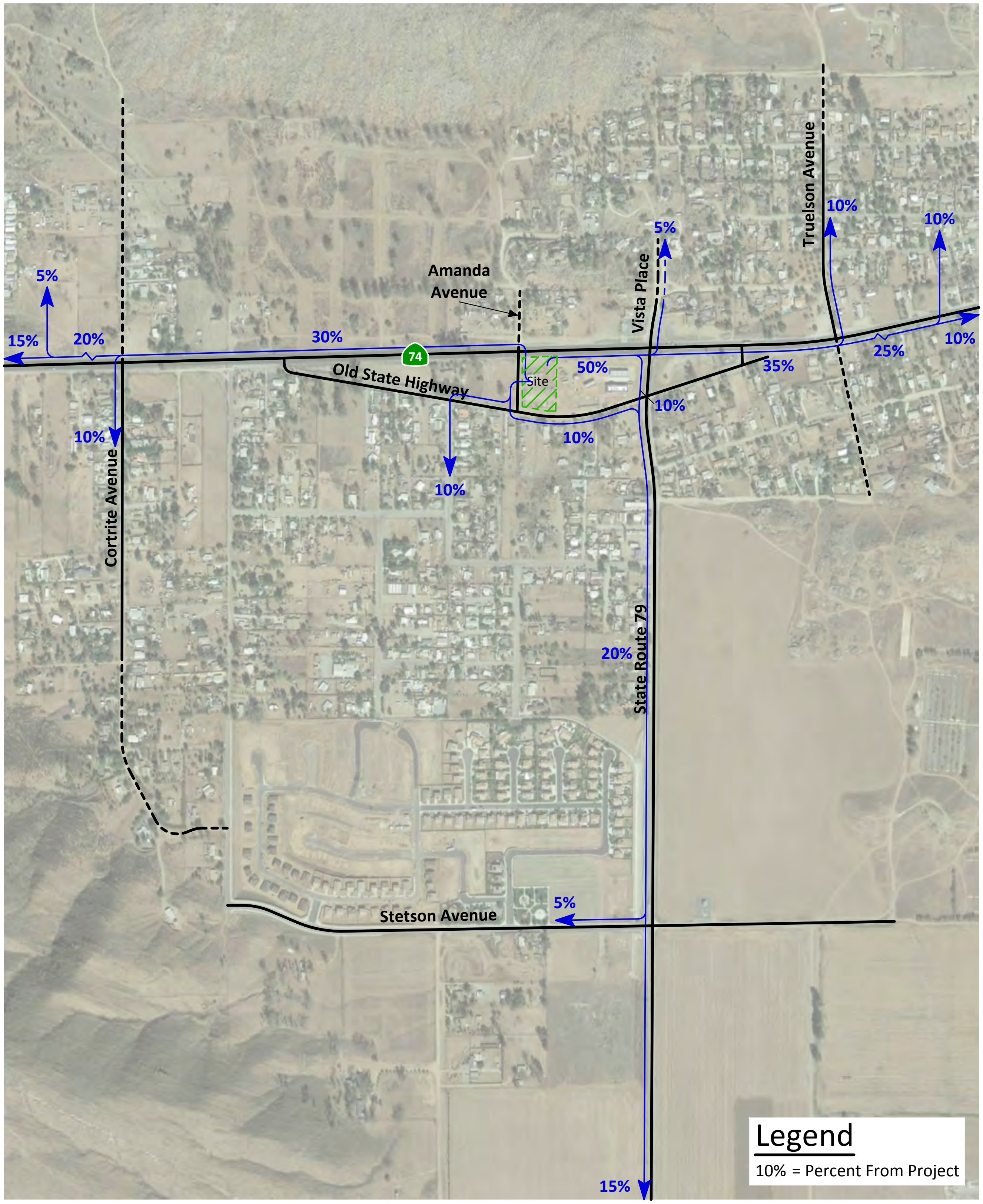
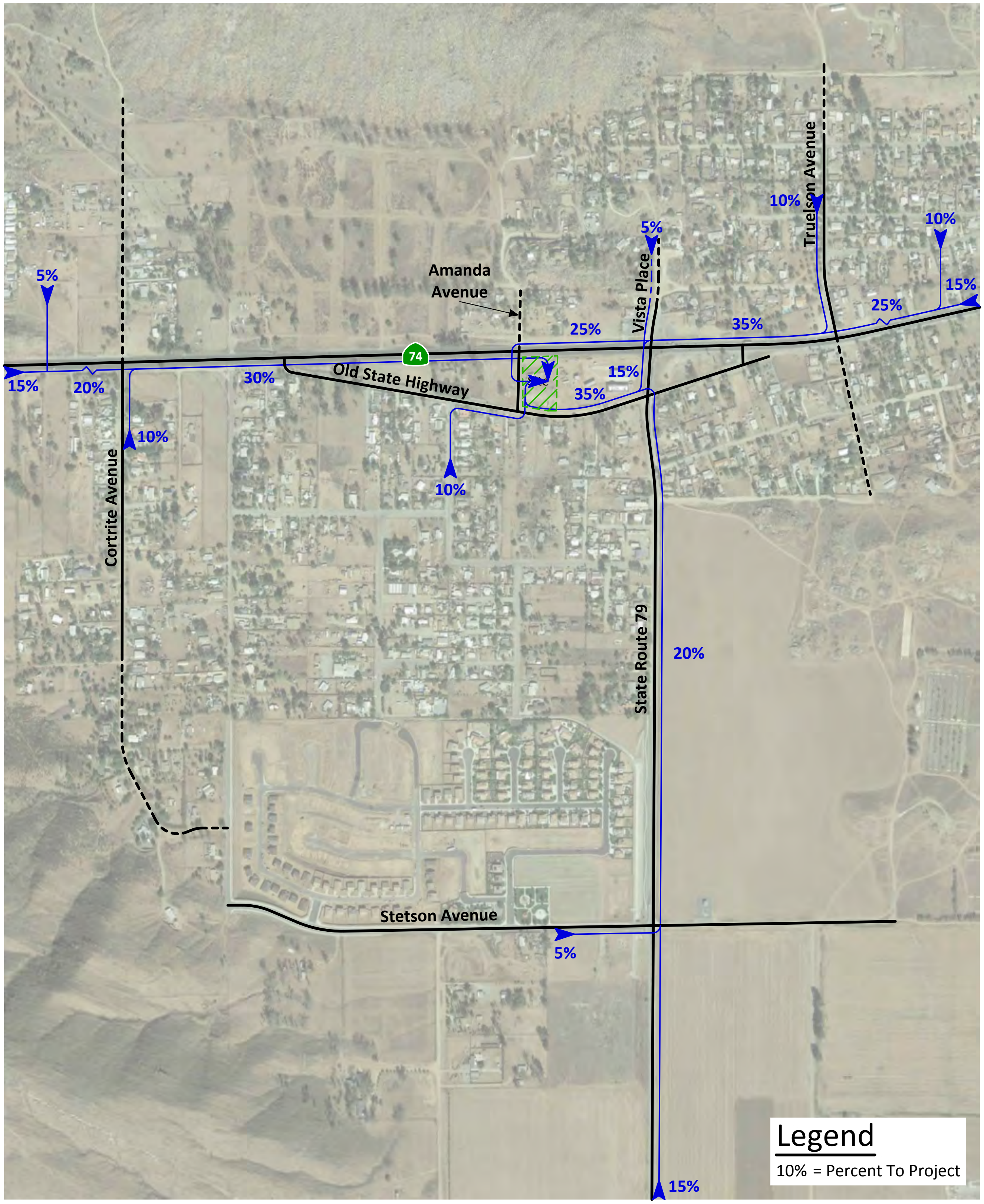


Figure 4
Project Inbound Trip Distribution



Kunzman Associates, Inc.

Over 40 Years of Excellent Service

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APPENDIX C

Intersection Turning Movement Count Worksheets

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of Riverside
N/S: Cortrite Avenue
E/W: SR-74
Weather: Clear

File Name : 01_CRV_Cortrite_SR74 AM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 1

Groups Printed- Total Volume

	Cortrite Avenue Southbound				SR-74 Westbound				Cortrite Avenue Northbound				SR-74 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	1	1	0	215	0	215	1	0	4	5	1	158	0	159	380
07:15 AM	1	0	0	1	0	229	0	229	3	0	0	3	0	211	0	211	444
07:30 AM	0	0	0	0	3	235	2	240	6	0	2	8	1	196	3	200	448
07:45 AM	0	0	0	0	1	188	0	189	4	0	0	4	1	231	3	235	428
Total	1	0	1	2	4	867	2	873	14	0	6	20	3	796	6	805	1700
08:00 AM	0	1	0	1	1	173	0	174	2	0	2	4	2	205	0	207	386
08:15 AM	2	0	1	3	1	164	1	166	1	0	1	2	0	205	3	208	379
08:30 AM	0	0	0	0	4	172	1	177	0	0	4	4	0	194	2	196	377
08:45 AM	2	0	0	2	4	145	1	150	1	0	6	7	2	163	0	165	324
Total	4	1	1	6	10	654	3	667	4	0	13	17	4	767	5	776	1466
Grand Total	5	1	2	8	14	1521	5	1540	18	0	19	37	7	1563	11	1581	3166
Apprch %	62.5	12.5	25		0.9	98.8	0.3		48.6	0	51.4		0.4	98.9	0.7		
Total %	0.2	0	0.1	0.3	0.4	48	0.2	48.6	0.6	0	0.6	1.2	0.2	49.4	0.3	49.9	

	Cortrite Avenue Southbound				SR-74 Westbound				Cortrite Avenue Northbound				SR-74 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**1**	0	0	**1**	0	229	0	229	3	0	0	3	0	211	0	211	444
07:30 AM	0	0	0	0	**3**	**235**	**2**	**240**	**6**	0	**2**	**8**	1	196	**3**	200	**448**
07:45 AM	0	0	0	0	1	188	0	189	4	0	0	4	1	**231**	3	**235**	428
08:00 AM	0	**1**	0	1	1	173	0	174	2	0	2	4	**2**	205	0	207	386
Total Volume	1	1	0	2	5	825	2	832	15	0	4	19	4	843	6	853	1706
% App. Total	50	50	0		0.6	99.2	0.2		78.9	0	21.1		0.5	98.8	0.7		
PHF	.250	.250	.000	.500	.417	.878	.250	.867	.625	.000	.500	.594	.500	.912	.500	.907	.952

Counts Unlimited
PO Box 1178
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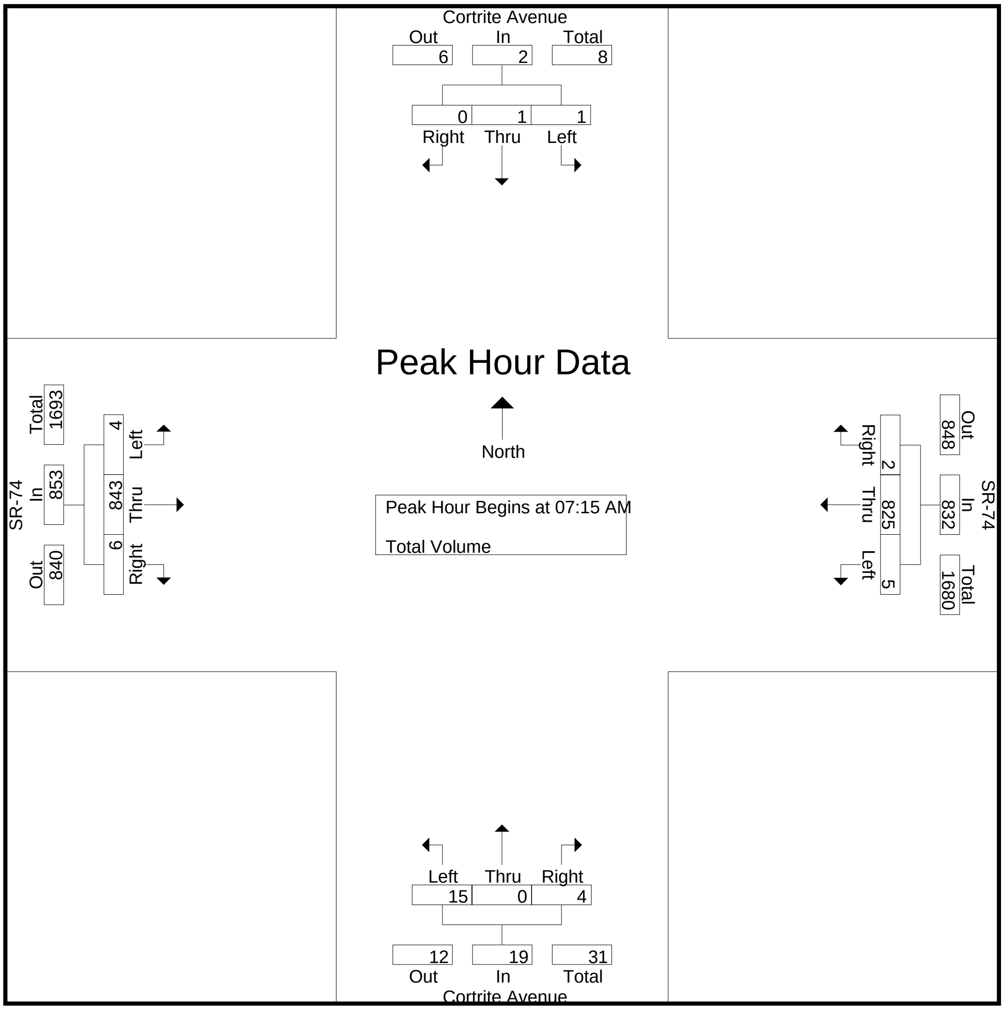
County of Riverside
N/S: Cortrite Avenue
E/W: SR-74
Weather: Clear

File Name : 01_CRV_Cortrite_SR74 AM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				07:00 AM				07:15 AM			
+0 mins.	0	**1**	0	1	0	215	0	215	1	0	**4**	5	0	211	0	211
+15 mins.	**2**	0	**1**	**3**	0	229	0	229	3	0	0	3	1	196	**3**	200
+30 mins.	0	0	0	0	**3**	**235**	**2**	**240**	**6**	0	2	**8**	1	**231**	3	**235**
+45 mins.	2	0	0	2	1	188	0	189	4	0	0	4	**2**	205	0	207
Total Volume	4	1	1	6	4	867	2	873	14	0	6	20	4	843	6	853
% App. Total	66.7	16.7	16.7		0.5	99.3	0.2		70	0	30		0.5	98.8	0.7	
PHF	.500	.250	.250	.500	.333	.922	.250	.909	.583	.000	.375	.625	.500	.912	.500	.907

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County of Riverside
N/S: Cortrite Avenue
E/W: SR-74
Weather: Clear

File Name : 01_CRV_Cortrite_SR74 PM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 1

Groups Printed- Total Volume

	Cortrite Avenue Southbound				SR-74 Westbound				Cortrite Avenue Northbound				SR-74 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	0	1	4	222	1	227	3	0	4	7	1	282	5	288	523
04:15 PM	1	0	0	1	0	240	2	242	0	0	2	2	1	292	3	296	541
04:30 PM	2	0	1	3	5	270	1	276	3	0	3	6	1	271	3	275	560
04:45 PM	1	0	1	2	2	239	2	243	0	0	2	2	0	309	2	311	558
Total	5	0	2	7	11	971	6	988	6	0	11	17	3	1154	13	1170	2182
05:00 PM	1	1	1	3	2	229	0	231	1	0	1	2	1	250	3	254	490
05:15 PM	1	0	1	2	0	297	1	298	1	0	1	2	2	305	5	312	614
05:30 PM	0	0	1	1	4	237	1	242	0	0	4	4	0	255	3	258	505
05:45 PM	1	1	0	2	0	242	1	243	2	0	1	3	0	262	2	264	512
Total	3	2	3	8	6	1005	3	1014	4	0	7	11	3	1072	13	1088	2121
Grand Total	8	2	5	15	17	1976	9	2002	10	0	18	28	6	2226	26	2258	4303
Apprch %	53.3	13.3	33.3		0.8	98.7	0.4		35.7	0	64.3		0.3	98.6	1.2		
Total %	0.2	0	0.1	0.3	0.4	45.9	0.2	46.5	0.2	0	0.4	0.7	0.1	51.7	0.6	52.5	

	Cortrite Avenue Southbound				SR-74 Westbound				Cortrite Avenue Northbound				SR-74 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**2**	0	**1**	**3**	**5**	270	1	276	**3**	0	**3**	**6**	1	271	3	275	560
04:45 PM	1	0	1	2	2	239	**2**	243	0	0	2	2	0	**309**	2	311	558
05:00 PM	1	**1**	1	3	2	229	0	231	1	0	1	2	1	250	3	254	490
05:15 PM	1	0	1	2	0	**297**	1	**298**	1	0	1	2	**2**	305	**5**	**312**	**614**
Total Volume	5	1	4	10	9	1035	4	1048	5	0	7	12	4	1135	13	1152	2222
% App. Total	50	10	40		0.9	98.8	0.4		41.7	0	58.3		0.3	98.5	1.1		
PHF	.625	.250	1.00	.833	.450	.871	.500	.879	.417	.000	.583	.500	.500	.918	.650	.923	.905

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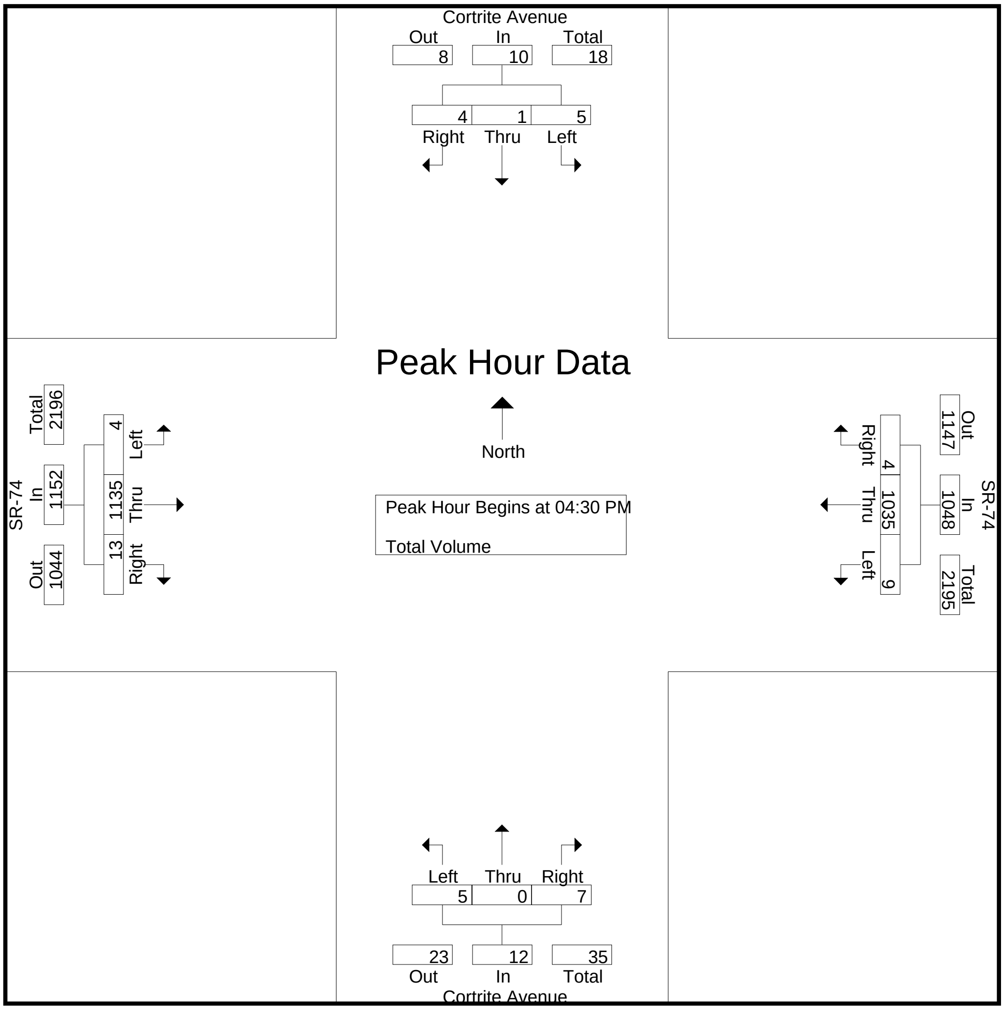
County of Riverside
N/S: Cortrite Avenue
E/W: SR-74
Weather: Clear

File Name : 01_CRV_Cortrite_SR74 PM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:00 PM				04:00 PM			
+0 mins.	**2**	0	**1**	**3**	**5**	270	1	276	**3**	0	**4**	**7**	**1**	282	**5**	288
+15 mins.	1	0	1	2	2	239	**2**	243	0	0	2	2	1	292	3	296
+30 mins.	1	**1**	1	3	2	229	0	231	3	0	3	6	1	271	3	275
+45 mins.	1	0	1	2	0	**297**	1	**298**	0	0	2	2	0	**309**	2	**311**
Total Volume	5	1	4	10	9	1035	4	1048	6	0	11	17	3	1154	13	1170
% App. Total	50	10	40		0.9	98.8	0.4		35.3	0	64.7		0.3	98.6	1.1	
PHF	.625	.250	1.000	.833	.450	.871	.500	.879	.500	.000	.688	.607	.750	.934	.650	.941

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County of Riverside
N/S: Amanda Avenue
E/W: SR-74
Weather: Clear

File Name : 02_CRV_Amanda_SR74 AM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 1

Groups Printed- Total Volume

	Amanda Avenue Southbound				SR-74 Westbound				Amanda Avenue Northbound				SR-74 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	0	0	1	1	220	0	221	1	0	5	6	1	163	0	164	392
07:15 AM	1	1	1	3	1	229	1	231	2	1	2	5	0	210	0	210	449
07:30 AM	0	0	1	1	3	216	0	219	1	0	3	4	0	212	1	213	437
07:45 AM	0	0	0	0	2	185	1	188	0	0	2	2	0	209	0	209	399
Total	2	1	2	5	7	850	2	859	4	1	12	17	1	794	1	796	1677
08:00 AM	0	0	0	0	2	167	0	169	0	0	7	7	0	212	1	213	389
08:15 AM	1	0	0	1	2	168	0	170	2	0	1	3	0	205	0	205	379
08:30 AM	0	0	0	0	2	180	1	183	1	0	1	2	0	187	0	187	372
08:45 AM	0	0	0	0	3	134	2	139	0	0	1	1	0	184	0	184	324
Total	1	0	0	1	9	649	3	661	3	0	10	13	0	788	1	789	1464
Grand Total	3	1	2	6	16	1499	5	1520	7	1	22	30	1	1582	2	1585	3141
Apprch %	50	16.7	33.3		1.1	98.6	0.3		23.3	3.3	73.3		0.1	99.8	0.1		
Total %	0.1	0	0.1	0.2	0.5	47.7	0.2	48.4	0.2	0	0.7	1	0	50.4	0.1	50.5	

	Amanda Avenue Southbound				SR-74 Westbound				Amanda Avenue Northbound				SR-74 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**1**	0	0	1	1	220	0	221	1	0	**5**	**6**	**1**	163	0	164	392
07:15 AM	1	**1**	**1**	**3**	1	**229**	**1**	**231**	**2**	**1**	2	5	0	210	0	210	**449**
07:30 AM	0	0	1	1	**3**	216	0	219	1	0	3	4	0	**212**	**1**	**213**	437
07:45 AM	0	0	0	0	2	185	1	188	0	0	2	2	0	209	0	209	399
Total Volume	2	1	2	5	7	850	2	859	4	1	12	17	1	794	1	796	1677
% App. Total	40	20	40		0.8	99	0.2		23.5	5.9	70.6		0.1	99.7	0.1		
PHF	.500	.250	.500	.417	.583	.928	.500	.930	.500	.250	.600	.708	.250	.936	.250	.934	.934

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County of Riverside
N/S: Amanda Avenue
E/W: SR-74
Weather: Clear

File Name : 02_CRV_Amanda_SR74 AM
Site Code : 07518157
Start Date : 3/1/2018
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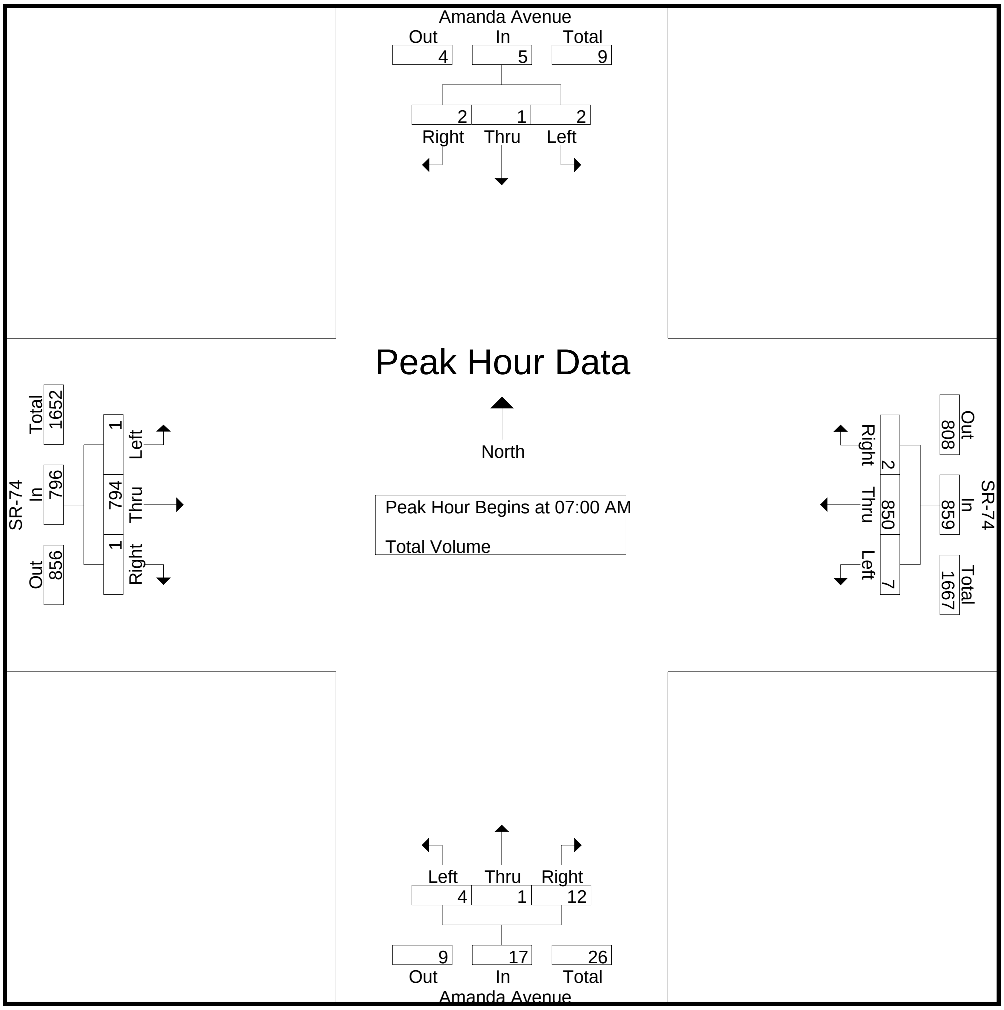

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:15 AM				07:15 AM			
+0 mins.	**1**	0	0	1	1	220	0	221	**2**	**1**	2	5	0	210	0	210
+15 mins.	1	**1**	**1**	**3**	1	**229**	**1**	**231**	1	0	3	4	0	**212**	**1**	**213**
+30 mins.	0	0	1	1	**3**	216	0	219	0	0	2	2	0	209	0	209
+45 mins.	0	0	0	0	2	185	1	188	0	0	**7**	**7**	0	212	1	213
Total Volume	2	1	2	5	7	850	2	859	3	1	14	18	0	843	2	845
% App. Total	40	20	40		0.8	99	0.2		16.7	5.6	77.8		0	99.8	0.2	
PHF	.500	.250	.500	.417	.583	.928	.500	.930	.375	.250	.500	.643	.000	.994	.500	.992

Counts Unlimited
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County of Riverside
N/S: Amanda Avenue
E/W: SR-74
Weather: Clear

File Name : 02_CRV_Amanda_SR74 PM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 1

Groups Printed- Total Volume

	Amanda Avenue Southbound				SR-74 Westbound				Amanda Avenue Northbound				SR-74 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	2	228	3	233	0	0	2	2	2	287	0	289	524
04:15 PM	2	0	0	2	1	251	0	252	1	0	1	2	0	284	0	284	540
04:30 PM	4	0	0	4	6	267	0	273	1	0	0	1	1	257	0	258	536
04:45 PM	1	0	0	1	0	250	2	252	1	0	0	1	0	318	0	318	572
Total	7	0	0	7	9	996	5	1010	3	0	3	6	3	1146	0	1149	2172
05:00 PM	0	0	1	1	1	240	0	241	0	0	6	6	0	224	0	224	472
05:15 PM	0	0	1	1	2	285	2	289	1	0	1	2	0	305	0	305	597
05:30 PM	2	0	0	2	5	250	2	257	1	0	2	3	0	263	0	263	525
05:45 PM	1	0	0	1	2	238	1	241	2	0	2	4	0	249	0	249	495
Total	3	0	2	5	10	1013	5	1028	4	0	11	15	0	1041	0	1041	2089
Grand Total	10	0	2	12	19	2009	10	2038	7	0	14	21	3	2187	0	2190	4261
Apprch %	83.3	0	16.7		0.9	98.6	0.5		33.3	0	66.7		0.1	99.9	0		
Total %	0.2	0	0	0.3	0.4	47.1	0.2	47.8	0.2	0	0.3	0.5	0.1	51.3	0	51.4	

	Amanda Avenue Southbound				SR-74 Westbound				Amanda Avenue Northbound				SR-74 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**4**	0	0	**4**	**6**	267	0	273	**1**	0	0	1	**1**	257	0	258	536
04:45 PM	1	0	0	1	0	250	**2**	252	1	0	0	1	0	**318**	0	**318**	572
05:00 PM	0	0	**1**	1	1	240	0	241	0	0	**6**	**6**	0	224	0	224	472
05:15 PM	0	0	1	1	2	**285**	2	**289**	1	0	1	2	0	305	0	305	**597**
Total Volume	5	0	2	7	9	1042	4	1055	3	0	7	10	1	1104	0	1105	2177
% App. Total	71.4	0	28.6		0.9	98.8	0.4		30	0	70		0.1	99.9	0		
PHF	.313	.000	.500	.438	.375	.914	.500	.913	.750	.000	.292	.417	.250	.868	.000	.869	.912

Counts Unlimited
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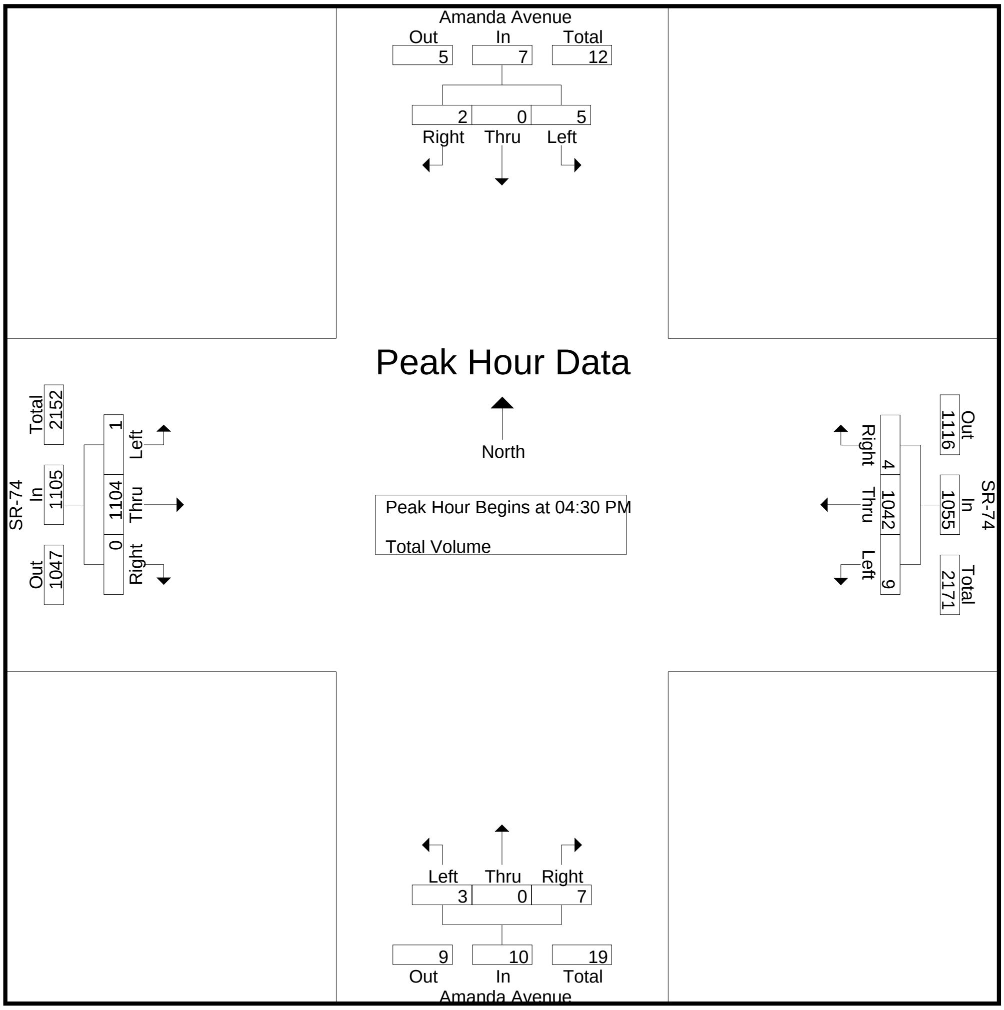
(951) 268-6268

County of Riverside
N/S: Amanda Avenue
E/W: SR-74
Weather: Clear

File Name : 02_CRV_Amanda_SR74 PM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:30 PM				05:00 PM				04:00 PM			
+0 mins.	2	0	0	2	**6**	267	0	273	0	0	**6**	**6**	**2**	287	0	289
+15 mins.	**4**	0	0	**4**	0	250	**2**	252	1	0	1	2	0	284	0	284
+30 mins.	1	0	0	1	1	240	0	241	1	0	2	3	1	257	0	258
+45 mins.	0	0	**1**	1	2	**285**	2	**289**	**2**	0	2	4	0	**318**	0	**318**
Total Volume	7	0	1	8	9	1042	4	1055	4	0	11	15	3	1146	0	1149
% App. Total	87.5	0	12.5		0.9	98.8	0.4		26.7	0	73.3		0.3	99.7	0	
PHF	.438	.000	.250	.500	.375	.914	.500	.913	.500	.000	.458	.625	.375	.901	.000	.903

Counts Unlimited
PO Box 1178
Corona, CA 92878
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County of Riverside
N/S: Amanda Avenue
E/W: Old State Highway
Weather: Clear

File Name : 03_CRV_Amanda_Old State Hwy AM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 1

Groups Printed- Total Volume

	Amanda Avenue Southbound			Old State Highway Westbound			Old State Highway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	2	0	2	6	5	11	13
07:15 AM	0	1	1	0	3	3	2	8	10	14
07:30 AM	2	2	4	3	0	3	4	6	10	17
07:45 AM	0	0	0	3	1	4	2	9	11	15
Total	2	3	5	8	4	12	14	28	42	59
08:00 AM	1	4	5	7	0	7	8	4	12	24
08:15 AM	1	2	3	5	2	7	1	4	5	15
08:30 AM	0	0	0	4	1	5	1	4	5	10
08:45 AM	1	3	4	2	0	2	1	3	4	10
Total	3	9	12	18	3	21	11	15	26	59
Grand Total	5	12	17	26	7	33	25	43	68	118
Apprch %	29.4	70.6		78.8	21.2		36.8	63.2		
Total %	4.2	10.2	14.4	22	5.9	28	21.2	36.4	57.6	

	Amanda Avenue Southbound			Old State Highway Westbound			Old State Highway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	**2**	2	4	3	0	3	4	6	10	17
07:45 AM	0	0	0	3	1	4	2	**9**	11	15
08:00 AM	1	**4**	**5**	**7**	0	**7**	**8**	4	**12**	**24**
08:15 AM	1	2	3	5	**2**	7	1	4	5	15
Total Volume	4	8	12	18	3	21	15	23	38	71
% App. Total	33.3	66.7		85.7	14.3		39.5	60.5		
PHF	.500	.500	.600	.643	.375	.750	.469	.639	.792	.740

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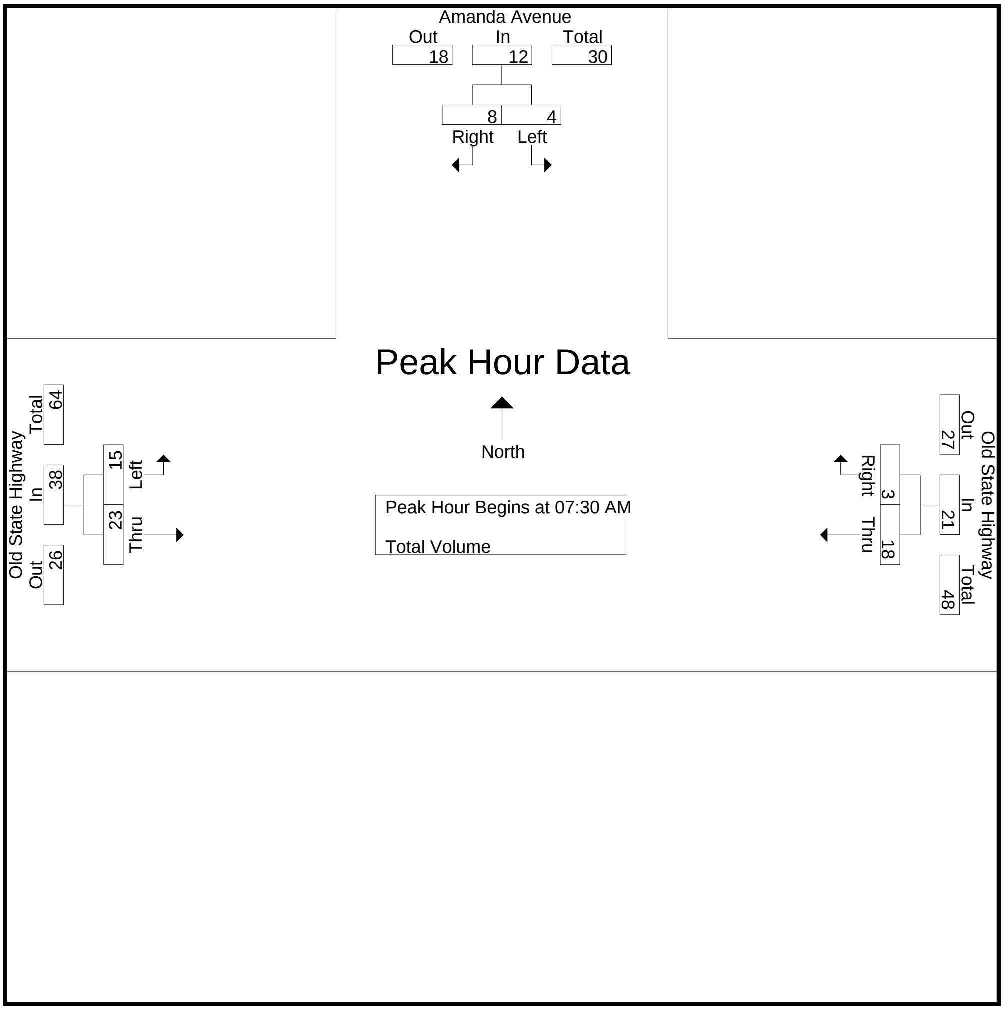
County of Riverside
N/S: Amanda Avenue
E/W: Old State Highway
Weather: Clear

File Name : 03_CRV_Amanda_Old State Hwy AM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:45 AM			07:15 AM		
+0 mins.	**2**	2	4	3	1	4	2	8	10
+15 mins.	0	0	0	**7**	0	**7**	4	6	10
+30 mins.	1	**4**	**5**	5	**2**	7	2	**9**	11
+45 mins.	1	2	3	4	1	5	**8**	4	**12**
Total Volume	4	8	12	19	4	23	16	27	43
% App. Total	33.3	66.7		82.6	17.4		37.2	62.8	
PHF	.500	.500	.600	.679	.500	.821	.500	.750	.896

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County of Riverside
N/S: Amanda Avenue
E/W: Old State Highway
Weather: Clear

File Name : 03_CRV_Amanda_Old State Hwy PM
Site Code : 07518157
Start Date : 3/1/2018
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Groups Printed- Total Volume

	Amanda Avenue Southbound			Old State Highway Westbound			Old State Highway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	2	2	1	0	1	3	6	9	12
04:15 PM	2	2	4	4	1	5	2	7	9	18
04:30 PM	1	5	6	4	1	5	0	5	5	16
04:45 PM	0	0	0	4	1	5	0	3	3	8
Total	3	9	12	13	3	16	5	21	26	54
05:00 PM	0	1	1	4	0	4	6	5	11	16
05:15 PM	2	0	2	7	0	7	2	6	8	17
05:30 PM	2	3	5	11	1	12	2	3	5	22
05:45 PM	0	2	2	5	2	7	2	2	4	13
Total	4	6	10	27	3	30	12	16	28	68
Grand Total	7	15	22	40	6	46	17	37	54	122
Apprch %	31.8	68.2		87	13		31.5	68.5		
Total %	5.7	12.3	18	32.8	4.9	37.7	13.9	30.3	44.3	

	Amanda Avenue Southbound			Old State Highway Westbound			Old State Highway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	1	1	4	0	4	**6**	5	**11**	16
05:15 PM	**2**	0	2	7	0	7	2	**6**	8	17
05:30 PM	2	**3**	**5**	**11**	1	**12**	2	3	5	**22**
05:45 PM	0	2	2	5	**2**	7	2	2	4	13
Total Volume	4	6	10	27	3	30	12	16	28	68
% App. Total	40	60		90	10		42.9	57.1		
PHF	.500	.500	.500	.614	.375	.625	.500	.667	.636	.773

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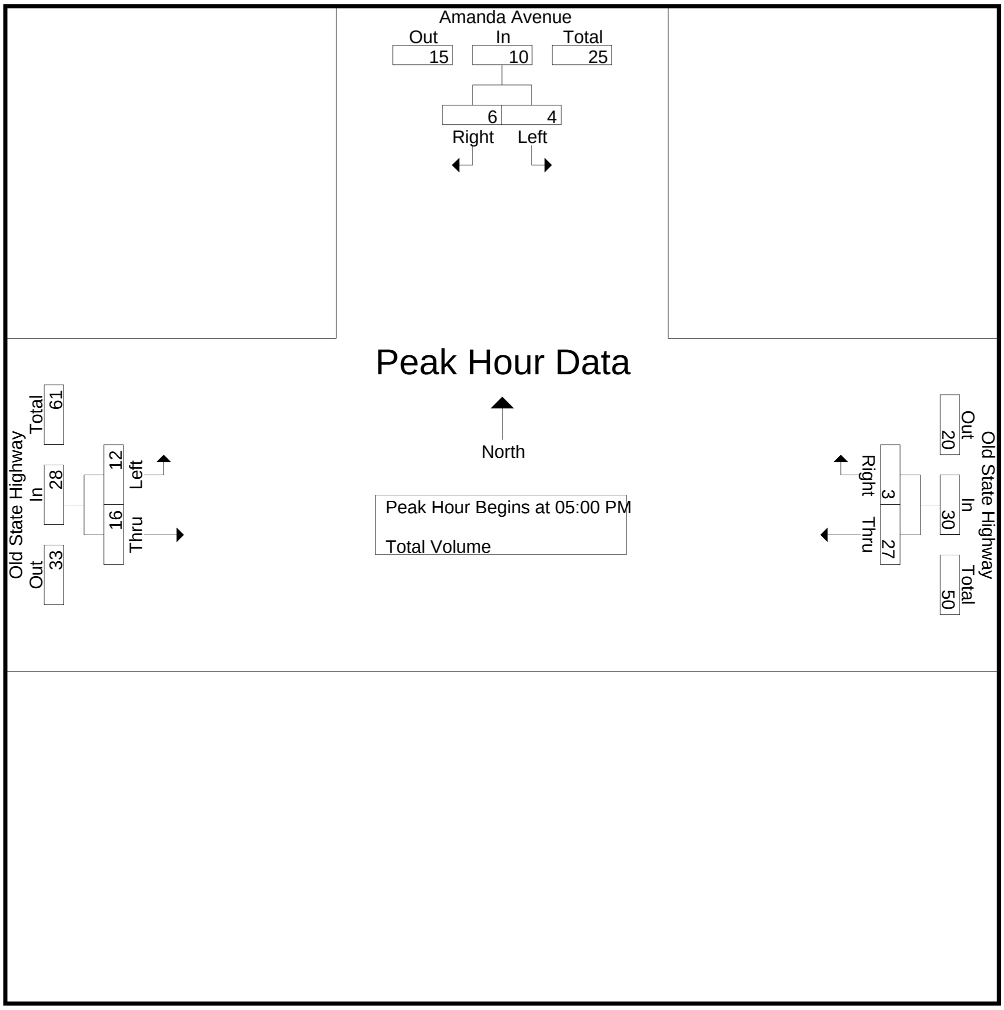
County of Riverside
N/S: Amanda Avenue
E/W: Old State Highway
Weather: Clear

File Name : 03_CRV_Amanda_Old State Hwy PM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			05:00 PM			04:15 PM		
+0 mins.	0	2	2	4	0	4	2	**7**	9
+15 mins.	**2**	2	4	7	0	7	0	5	5
+30 mins.	1	**5**	**6**	**11**	1	**12**	0	3	3
+45 mins.	0	0	0	5	**2**	7	**6**	5	**11**
Total Volume	3	9	12	27	3	30	8	20	28
% App. Total	25	75		90	10		28.6	71.4	
PHF	.375	.450	.500	.614	.375	.625	.333	.714	.636

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County of Riverside
N/S: Vista Place/Winchester Road (SR-79)
E/W: Florida Avenue (SR-74)
Weather: Clear

File Name : 04_CRV_Vista_Winchester_SR74 AM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 1

Groups Printed- Total Volume

	Vista Place Southbound				Florida Avenue Westbound				Winchester Road Northbound				Florida Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	6	2	10	90	204	5	299	14	0	74	88	2	143	15	160	557
07:15 AM	1	6	0	7	104	205	7	316	20	2	84	106	1	181	18	200	629
07:30 AM	1	5	0	6	100	192	6	298	26	2	92	120	2	173	24	199	623
07:45 AM	7	4	0	11	88	161	7	256	20	3	84	107	2	207	17	226	600
Total	11	21	2	34	382	762	25	1169	80	7	334	421	7	704	74	785	2409
08:00 AM	2	4	0	6	90	150	6	246	8	2	71	81	1	181	21	203	536
08:15 AM	6	5	3	14	95	148	6	249	17	4	100	121	2	195	19	216	600
08:30 AM	2	1	2	5	66	159	6	231	12	5	57	74	4	179	11	194	504
08:45 AM	5	5	1	11	74	123	8	205	12	0	54	66	1	154	13	168	450
Total	15	15	6	36	325	580	26	931	49	11	282	342	8	709	64	781	2090
Grand Total	26	36	8	70	707	1342	51	2100	129	18	616	763	15	1413	138	1566	4499
Apprch %	37.1	51.4	11.4		33.7	63.9	2.4		16.9	2.4	80.7		1	90.2	8.8		
Total %	0.6	0.8	0.2	1.6	15.7	29.8	1.1	46.7	2.9	0.4	13.7	17	0.3	31.4	3.1	34.8	

	Vista Place Southbound				Florida Avenue Westbound				Winchester Road Northbound				Florida Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	2	**6**	**2**	10	90	204	5	299	14	0	74	88	**2**	143	15	160	557
07:15 AM	1	6	0	7	**104**	**205**	**7**	**316**	20	2	84	106	1	181	18	200	**629**
07:30 AM	1	5	0	6	100	192	6	298	**26**	2	**92**	**120**	2	173	**24**	199	623
07:45 AM	**7**	4	0	**11**	88	161	7	256	20	**3**	84	107	2	**207**	17	**226**	600
Total Volume	11	21	2	34	382	762	25	1169	80	7	334	421	7	704	74	785	2409
% App. Total	32.4	61.8	5.9		32.7	65.2	2.1		19	1.7	79.3		0.9	89.7	9.4		
PHF	.393	.875	.250	.773	.918	.929	.893	.925	.769	.583	.908	.877	.875	.850	.771	.868	.957

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County of Riverside
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E/W: Florida Avenue (SR-74)
Weather: Clear

File Name : 04_CRV_Vista_Winchester_SR74 AM
Site Code : 07518157
Start Date : 3/1/2018
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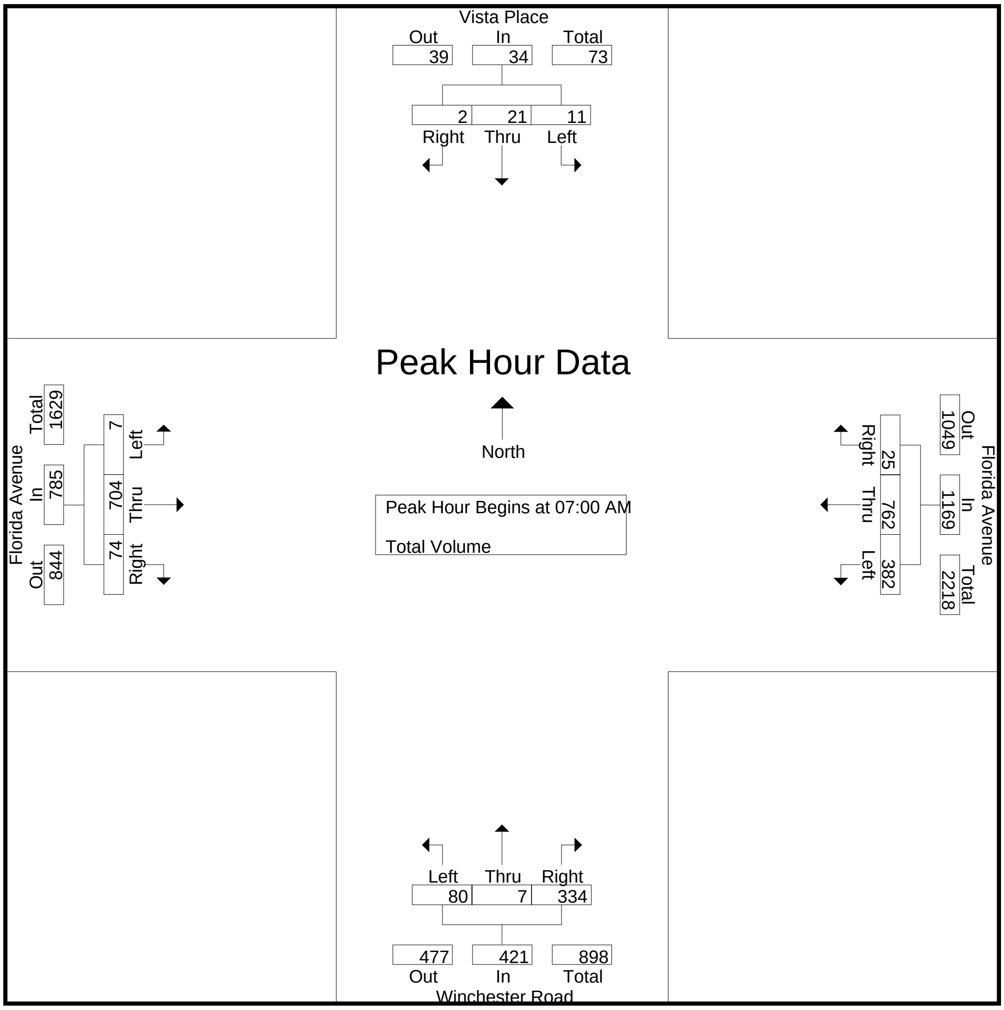

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:30 AM				07:30 AM			
+0 mins.	1	**5**	0	6	90	204	5	299	**26**	2	92	120	**2**	173	**24**	199
+15 mins.	**7**	4	0	11	**104**	**205**	**7**	**316**	20	3	84	107	2	**207**	17	**226**
+30 mins.	2	4	0	6	100	192	6	298	8	2	71	81	1	181	21	203
+45 mins.	6	5	**3**	**14**	88	161	7	256	17	**4**	**100**	**121**	2	195	19	216
Total Volume	16	18	3	37	382	762	25	1169	71	11	347	429	7	756	81	844
% App. Total	43.2	48.6	8.1		32.7	65.2	2.1		16.6	2.6	80.9		0.8	89.6	9.6	
PHF	.571	.900	.250	.661	.918	.929	.893	.925	.683	.688	.868	.886	.875	.913	.844	.934

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County of Riverside
N/S: Vista Place/Winchester Road (SR-79)
E/W: Florida Avenue (SR-74)
Weather: Clear

File Name : 04_CRV_Vista_Winchester_SR74 PM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 1

Groups Printed- Total Volume

	Vista Place Southbound				Florida Avenue Westbound				Winchester Road Northbound				Florida Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	4	5	2	11	81	197	12	290	23	0	126	149	2	261	30	293	743
04:15 PM	4	5	3	12	91	216	13	320	31	3	96	130	3	264	21	288	750
04:30 PM	7	5	4	16	93	241	12	346	31	7	105	143	5	231	32	268	773
04:45 PM	5	4	1	10	90	218	11	319	20	1	81	102	3	281	30	314	745
Total	20	19	10	49	355	872	48	1275	105	11	408	524	13	1037	113	1163	3011
05:00 PM	4	6	2	12	96	201	9	306	33	1	100	134	1	220	18	239	691
05:15 PM	2	6	1	9	103	259	10	372	27	2	102	131	3	257	27	287	799
05:30 PM	3	5	1	9	115	224	8	347	24	3	98	125	5	243	16	264	745
05:45 PM	8	1	1	10	86	214	4	304	23	4	76	103	2	242	16	260	677
Total	17	18	5	40	400	898	31	1329	107	10	376	493	11	962	77	1050	2912
Grand Total	37	37	15	89	755	1770	79	2604	212	21	784	1017	24	1999	190	2213	5923
Apprch %	41.6	41.6	16.9		29	68	3		20.8	2.1	77.1		1.1	90.3	8.6		
Total %	0.6	0.6	0.3	1.5	12.7	29.9	1.3	44	3.6	0.4	13.2	17.2	0.4	33.7	3.2	37.4	

	Vista Place Southbound				Florida Avenue Westbound				Winchester Road Northbound				Florida Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	4	**5**	2	11	81	197	12	290	23	0	**126**	**149**	2	261	30	293	743
04:15 PM	4	5	3	12	91	216	**13**	320	**31**	3	96	130	3	264	21	288	750
04:30 PM	**7**	5	**4**	**16**	**93**	**241**	12	**346**	31	**7**	105	143	**5**	231	**32**	268	**773**
04:45 PM	5	4	1	10	90	218	11	319	20	1	81	102	3	**281**	30	**314**	745
Total Volume	20	19	10	49	355	872	48	1275	105	11	408	524	13	1037	113	1163	3011
% App. Total	40.8	38.8	20.4		27.8	68.4	3.8		20	2.1	77.9		1.1	89.2	9.7		
PHF	.714	.950	.625	.766	.954	.905	.923	.921	.847	.393	.810	.879	.650	.923	.883	.926	.974

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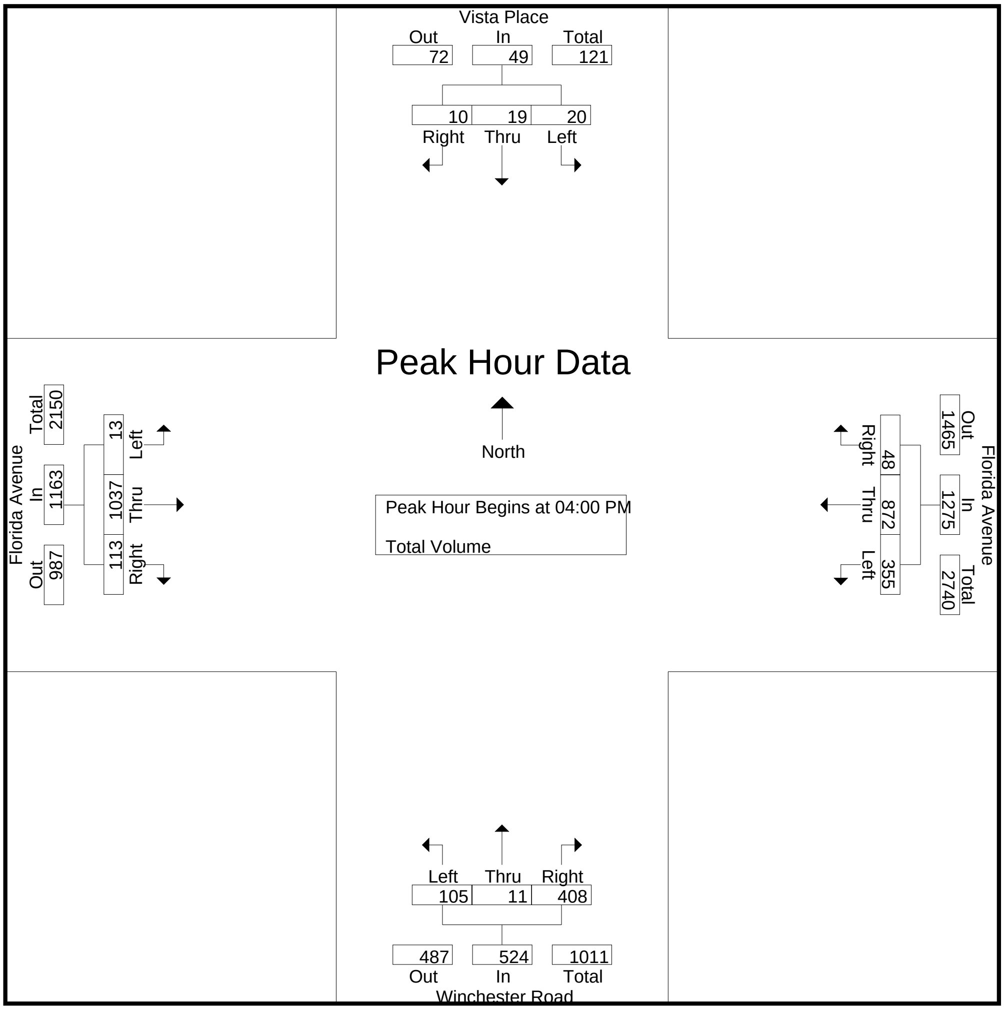
County of Riverside
N/S: Vista Place/Winchester Road (SR-79)
E/W: Florida Avenue (SR-74)
Weather: Clear

File Name : 04_CRV_Vista_Winchester_SR74 PM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:45 PM				04:00 PM				04:00 PM			
+0 mins.	4	5	3	12	90	218	**11**	319	23	0	**126**	**149**	2	261	30	293
+15 mins.	**7**	5	**4**	**16**	96	201	9	306	**31**	3	96	130	3	264	21	288
+30 mins.	5	4	1	10	103	**259**	10	**372**	31	**7**	105	143	**5**	231	**32**	268
+45 mins.	4	**6**	2	12	**115**	224	8	347	20	1	81	102	3	**281**	30	**314**
Total Volume	20	20	10	50	404	902	38	1344	105	11	408	524	13	1037	113	1163
% App. Total	40	40	20		30.1	67.1	2.8		20	2.1	77.9		1.1	89.2	9.7	
PHF	.714	.833	.625	.781	.878	.871	.864	.903	.847	.393	.810	.879	.650	.923	.883	.926

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County of Riverside
N/S: Winchester Road (SR-79)
E/W: Old State Highway
Weather: Clear

File Name : CRV_SR-79_Old State Hwy_AM
Site Code : 07518202
Start Date : 3/14/2018
Page No : 1

Groups Printed- Total Volume

	Winchester Road Southbound				Old State Highway Westbound				Winchester Road Northbound				Old State Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	109	8	117	9	1	0	10	7	99	2	108	5	2	14	21	256
07:15 AM	0	121	4	125	7	0	1	8	4	104	0	108	7	0	6	13	254
07:30 AM	0	121	8	129	5	1	3	9	4	111	1	116	6	0	6	12	266
07:45 AM	1	106	11	118	6	1	0	7	5	129	3	137	3	0	11	14	276
Total	1	457	31	489	27	3	4	34	20	443	6	469	21	2	37	60	1052
08:00 AM	0	94	7	101	8	1	1	10	6	84	1	91	5	2	11	18	220
08:15 AM	0	85	3	88	7	0	0	7	6	109	2	117	3	0	7	10	222
08:30 AM	0	80	7	87	13	0	0	13	6	81	2	89	8	0	10	18	207
08:45 AM	0	76	11	87	3	0	0	3	7	107	0	114	4	0	11	15	219
Total	0	335	28	363	31	1	1	33	25	381	5	411	20	2	39	61	868
Grand Total	1	792	59	852	58	4	5	67	45	824	11	880	41	4	76	121	1920
Apprch %	0.1	93	6.9		86.6	6	7.5		5.1	93.6	1.2		33.9	3.3	62.8		
Total %	0.1	41.2	3.1	44.4	3	0.2	0.3	3.5	2.3	42.9	0.6	45.8	2.1	0.2	4	6.3	

	Winchester Road Southbound				Old State Highway Westbound				Winchester Road Northbound				Old State Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	109	8	117	**9**	**1**	0	**10**	**7**	99	2	108	5	**2**	**14**	**21**	256
07:15 AM	0	**121**	4	125	7	0	1	8	4	104	0	108	**7**	0	6	13	254
07:30 AM	0	121	8	**129**	5	1	**3**	9	4	111	1	116	6	0	6	12	266
07:45 AM	**1**	106	**11**	118	6	1	0	7	5	**129**	**3**	**137**	3	0	11	14	**276**
Total Volume	1	457	31	489	27	3	4	34	20	443	6	469	21	2	37	60	1052
% App. Total	0.2	93.5	6.3		79.4	8.8	11.8		4.3	94.5	1.3		35	3.3	61.7		
PHF	.250	.944	.705	.948	.750	.750	.333	.850	.714	.859	.500	.856	.750	.250	.661	.714	.953

County of Riverside
N/S: Winchester Road (SR-79)
E/W: Old State Highway
Weather: Clear

File Name : CRV_SR-79_Old State Hwy_AM
Site Code : 07518202
Start Date : 3/14/2018
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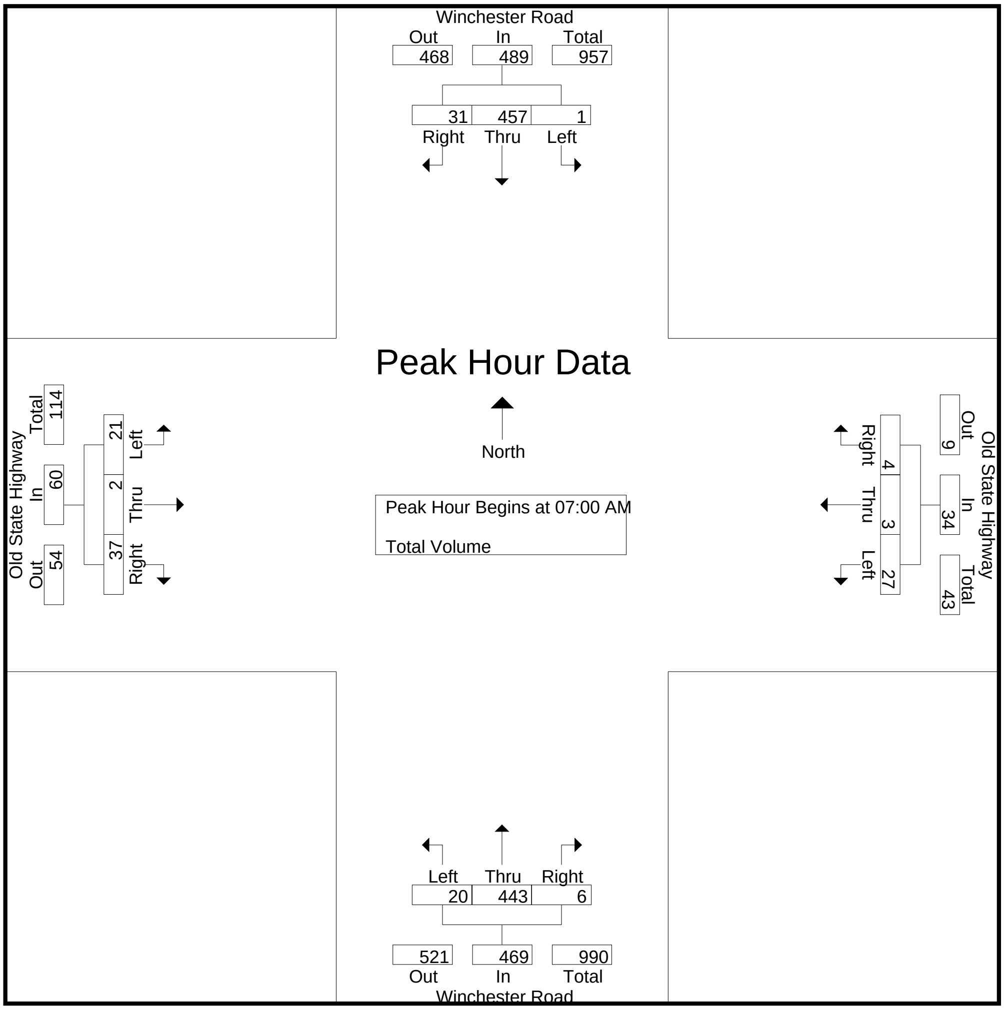

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:45 AM				07:00 AM				08:00 AM			
+0 mins.	0	109	8	117	6	**1**	0	7	**7**	99	2	108	5	**2**	**11**	**18**
+15 mins.	0	**121**	4	125	8	1	**1**	10	4	104	0	108	3	0	7	10
+30 mins.	0	121	8	**129**	7	0	0	7	4	111	1	116	**8**	0	10	18
+45 mins.	**1**	106	**11**	118	**13**	0	0	**13**	5	**129**	**3**	**137**	4	0	11	15
Total Volume	1	457	31	489	34	2	1	37	20	443	6	469	20	2	39	61
% App. Total	0.2	93.5	6.3		91.9	5.4	2.7		4.3	94.5	1.3		32.8	3.3	63.9	
PHF	.250	.944	.705	.948	.654	.500	.250	.712	.714	.859	.500	.856	.625	.250	.886	.847

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County of Riverside
N/S: Winchester Road (SR-79)
E/W: Old State Highway
Weather: Clear

File Name : CRV_SR-79_Old State Hwy_PM
Site Code : 07518202
Start Date : 3/14/2018
Page No : 1

Groups Printed- Total Volume

	Winchester Road Southbound				Old State Highway Westbound				Winchester Road Northbound				Old State Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	104	8	112	10	0	0	10	9	129	1	139	7	1	5	13	274
04:15 PM	0	110	3	113	11	0	0	11	10	119	3	132	8	2	7	17	273
04:30 PM	0	117	11	128	4	1	0	5	5	127	1	133	2	0	11	13	279
04:45 PM	0	120	8	128	8	0	1	9	8	127	2	137	3	1	12	16	290
Total	0	451	30	481	33	1	1	35	32	502	7	541	20	4	35	59	1116
05:00 PM	0	125	9	134	9	0	0	9	8	126	2	136	6	1	8	15	294
05:15 PM	0	112	9	121	8	0	0	8	8	125	0	133	4	0	3	7	269
05:30 PM	1	104	7	112	5	1	0	6	9	134	3	146	8	0	6	14	278
05:45 PM	1	97	10	108	4	1	0	5	7	105	3	115	3	1	7	11	239
Total	2	438	35	475	26	2	0	28	32	490	8	530	21	2	24	47	1080
Grand Total	2	889	65	956	59	3	1	63	64	992	15	1071	41	6	59	106	2196
Apprch %	0.2	93	6.8		93.7	4.8	1.6		6	92.6	1.4		38.7	5.7	55.7		
Total %	0.1	40.5	3	43.5	2.7	0.1	0	2.9	2.9	45.2	0.7	48.8	1.9	0.3	2.7	4.8	

	Winchester Road Southbound				Old State Highway Westbound				Winchester Road Northbound				Old State Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	110	3	113	**11**	0	0	**11**	**10**	119	**3**	132	**8**	**2**	7	**17**	273
04:30 PM	0	117	**11**	128	4	**1**	0	5	5	**127**	1	133	2	0	11	13	279
04:45 PM	0	120	8	128	8	0	**1**	9	8	127	2	**137**	3	1	**12**	16	290
05:00 PM	0	**125**	9	**134**	9	0	0	9	8	126	2	136	6	1	8	15	**294**
Total Volume	0	472	31	503	32	1	1	34	31	499	8	538	19	4	38	61	1136
% App. Total	0	93.8	6.2		94.1	2.9	2.9		5.8	92.8	1.5		31.1	6.6	62.3		
PHF	.000	.944	.705	.938	.727	.250	.250	.773	.775	.982	.667	.982	.594	.500	.792	.897	.966

Counts Unlimited
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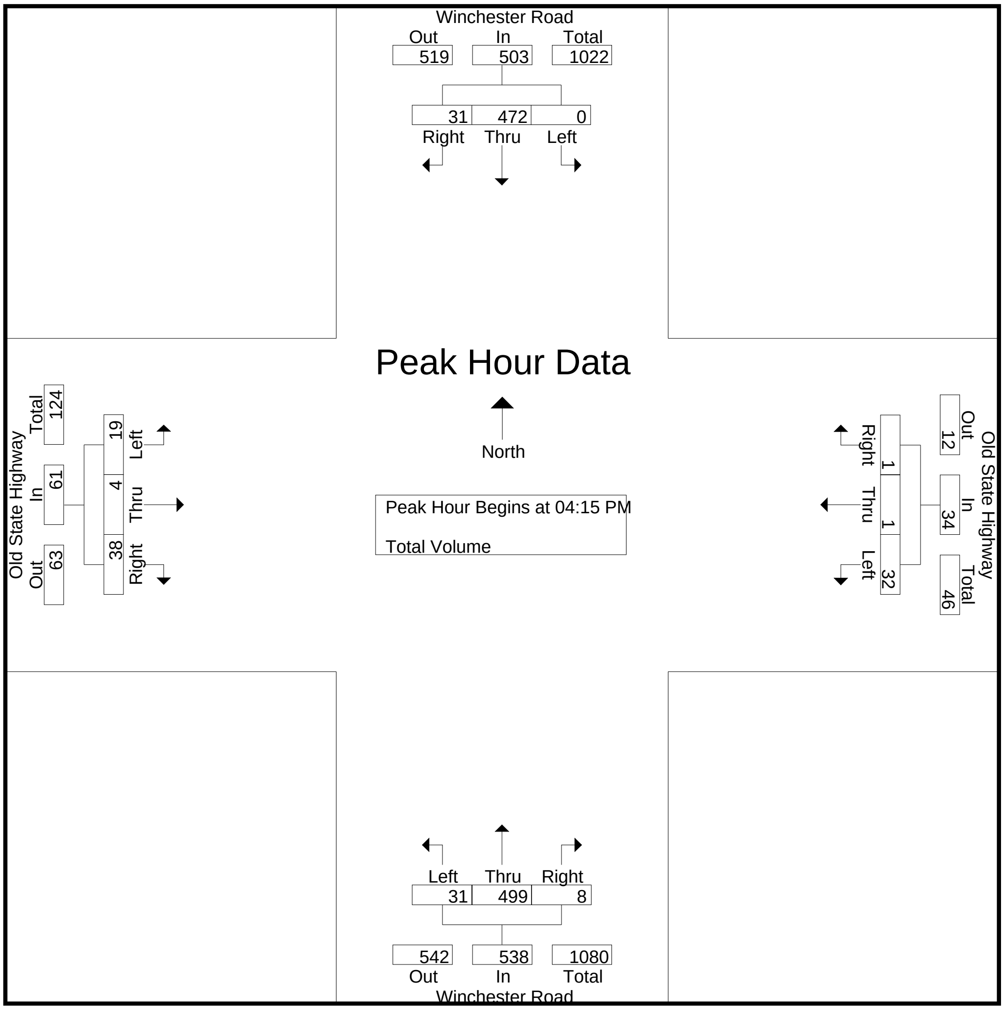
County of Riverside
N/S: Winchester Road (SR-79)
E/W: Old State Highway
Weather: Clear

File Name : CRV_SR-79_Old State Hwy_PM
Site Code : 07518202
Start Date : 3/14/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:00 PM				04:45 PM				04:15 PM			
+0 mins.	0	117	**11**	128	10	0	0	10	8	127	2	137	**8**	**2**	7	**17**
+15 mins.	0	120	8	128	**11**	0	0	**11**	8	126	2	136	2	0	11	13
+30 mins.	0	**125**	9	**134**	4	**1**	0	5	8	125	0	133	3	1	**12**	16
+45 mins.	0	112	9	121	8	0	**1**	9	**9**	**134**	**3**	**146**	6	1	8	15
Total Volume	0	474	37	511	33	1	1	35	33	512	7	552	19	4	38	61
% App. Total	0	92.8	7.2		94.3	2.9	2.9		6	92.8	1.3		31.1	6.6	62.3	
PHF	.000	.948	.841	.953	.750	.250	.250	.795	.917	.955	.583	.945	.594	.500	.792	.897

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County of Riverside
N/S: Winchester Road (SR-79)
E/W: Stetson Avenue
Weather: Clear

File Name : 05_CRV_Winchester_Stetson AM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 1

Groups Printed- Total Volume

	Winchester Road Southbound				Stetson Avenue Westbound				Winchester Road Northbound				Stetson Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	128	0	128	0	0	0	0	2	92	0	94	5	0	17	22	244
07:15 AM	0	145	2	147	0	0	0	0	2	96	0	98	2	0	16	18	263
07:30 AM	0	148	1	149	0	0	0	0	10	124	0	134	4	0	26	30	313
07:45 AM	0	131	3	134	0	0	0	0	5	105	0	110	5	0	13	18	262
Total	0	552	6	558	0	0	0	0	19	417	0	436	16	0	72	88	1082
08:00 AM	0	114	3	117	0	0	0	0	8	90	0	98	7	0	14	21	236
08:15 AM	0	154	2	156	0	0	0	0	10	112	0	122	1	0	17	18	296
08:30 AM	0	78	3	81	0	0	0	0	10	99	0	109	5	0	15	20	210
08:45 AM	0	97	4	101	0	0	0	0	6	64	0	70	2	0	6	8	179
Total	0	443	12	455	0	0	0	0	34	365	0	399	15	0	52	67	921
Grand Total	0	995	18	1013	0	0	0	0	53	782	0	835	31	0	124	155	2003
Apprch %	0	98.2	1.8		0	0	0		6.3	93.7	0		20	0	80		
Total %	0	49.7	0.9	50.6	0	0	0	0	2.6	39	0	41.7	1.5	0	6.2	7.7	

	Winchester Road Southbound				Stetson Avenue Westbound				Winchester Road Northbound				Stetson Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	148	1	149	0	0	0	0	**10**	**124**	0	**134**	4	0	**26**	**30**	**313**
07:45 AM	0	131	**3**	134	0	0	0	0	5	105	0	110	5	0	13	18	262
08:00 AM	0	114	3	117	0	0	0	0	8	90	0	98	**7**	0	14	21	236
08:15 AM	0	**154**	2	**156**	0	0	0	0	10	112	0	122	1	0	17	18	296
Total Volume	0	547	9	556	0	0	0	0	33	431	0	464	17	0	70	87	1107
% App. Total	0	98.4	1.6		0	0	0		7.1	92.9	0		19.5	0	80.5		
PHF	.000	.888	.750	.891	.000	.000	.000	.000	.825	.869	.000	.866	.607	.000	.673	.725	.884

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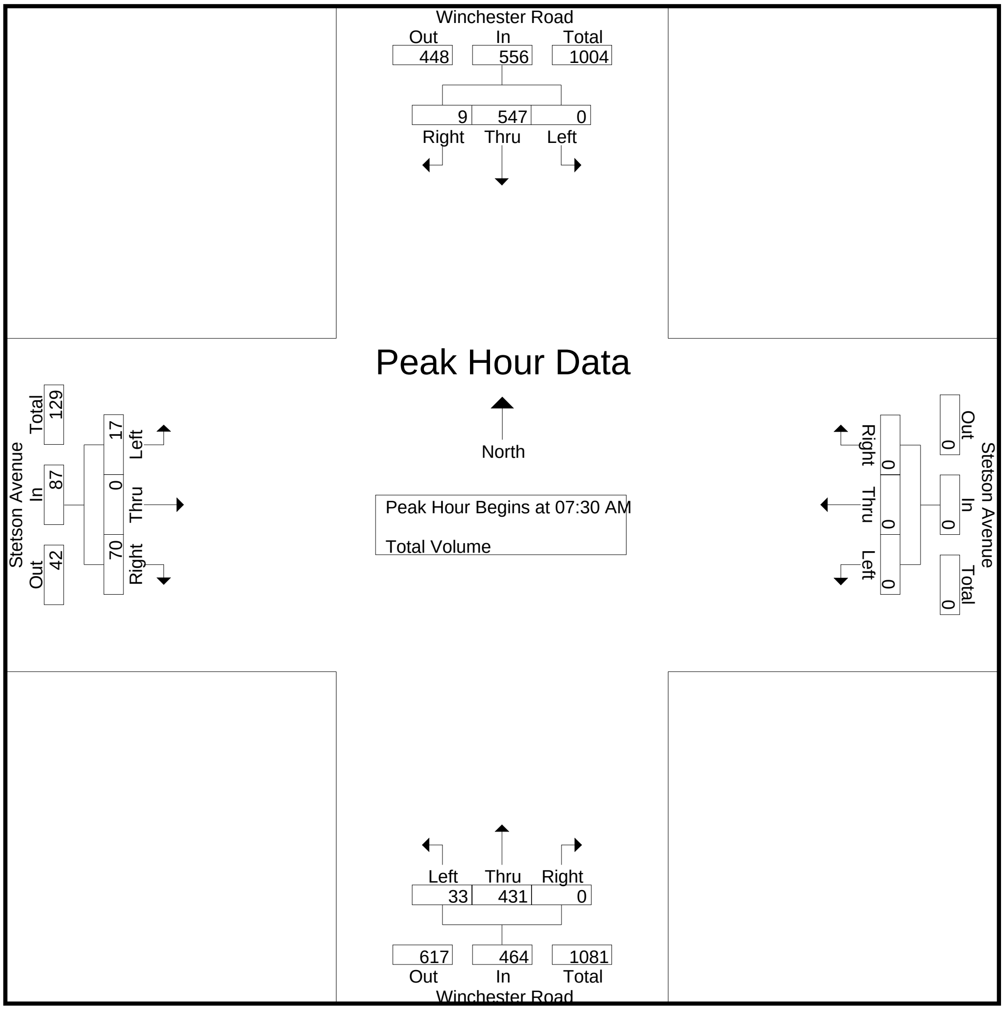
County of Riverside
N/S: Winchester Road (SR-79)
E/W: Stetson Avenue
Weather: Clear

File Name : 05_CRV_Winchester_Stetson AM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:30 AM				07:00 AM			
+0 mins.	0	128	0	128	0	0	0	0	**10**	**124**	0	**134**	**5**	0	17	22
+15 mins.	0	145	2	147	0	0	0	0	5	105	0	110	2	0	16	18
+30 mins.	0	**148**	1	**149**	0	0	0	0	8	90	0	98	4	0	**26**	**30**
+45 mins.	0	131	**3**	134	0	0	0	0	10	112	0	122	5	0	13	18
Total Volume	0	552	6	558	0	0	0	0	33	431	0	464	16	0	72	88
% App. Total	0	98.9	1.1		0	0	0		7.1	92.9	0		18.2	0	81.8	
PHF	.000	.932	.500	.936	.000	.000	.000	.000	.825	.869	.000	.866	.800	.000	.692	.733

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County of Riverside
N/S: Winchester Road (SR-79)
E/W: Stetson Avenue
Weather: Clear

File Name : 05_CRV_Winchester_Stetson PM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 1

Groups Printed- Total Volume

	Winchester Road Southbound				Stetson Avenue Westbound				Winchester Road Northbound				Stetson Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	122	7	130	0	0	0	0	15	155	0	170	5	0	3	8	308
04:15 PM	0	107	6	113	0	0	0	0	5	139	0	144	1	0	7	8	265
04:30 PM	0	132	5	137	0	0	0	0	16	146	0	162	2	0	7	9	308
04:45 PM	0	123	7	130	0	0	2	2	7	126	0	133	1	0	6	7	272
Total	1	484	25	510	0	0	2	2	43	566	0	609	9	0	23	32	1153
05:00 PM	1	116	4	121	0	0	0	0	12	127	0	139	7	0	7	14	274
05:15 PM	0	135	8	143	1	0	1	2	14	131	1	146	3	0	6	9	300
05:30 PM	0	146	5	151	0	0	0	0	12	138	0	150	4	0	4	8	309
05:45 PM	0	131	4	135	0	0	0	0	10	109	0	119	3	0	12	15	269
Total	1	528	21	550	1	0	1	2	48	505	1	554	17	0	29	46	1152
Grand Total	2	1012	46	1060	1	0	3	4	91	1071	1	1163	26	0	52	78	2305
Apprch %	0.2	95.5	4.3		25	0	75		7.8	92.1	0.1		33.3	0	66.7		
Total %	0.1	43.9	2	46	0	0	0.1	0.2	3.9	46.5	0	50.5	1.1	0	2.3	3.4	

	Winchester Road Southbound				Stetson Avenue Westbound				Winchester Road Northbound				Stetson Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	123	7	130	0	0	**2**	**2**	7	126	0	133	1	0	6	7	272
05:00 PM	**1**	116	4	121	0	0	0	0	12	127	0	139	**7**	0	**7**	**14**	274
05:15 PM	0	135	**8**	143	**1**	0	1	2	**14**	131	**1**	146	3	0	6	9	300
05:30 PM	0	**146**	5	**151**	0	0	0	0	12	**138**	0	**150**	4	0	4	8	**309**
Total Volume	1	520	24	545	1	0	3	4	45	522	1	568	15	0	23	38	1155
% App. Total	0.2	95.4	4.4		25	0	75		7.9	91.9	0.2		39.5	0	60.5		
PHF	.250	.890	.750	.902	.250	.000	.375	.500	.804	.946	.250	.947	.536	.000	.821	.679	.934

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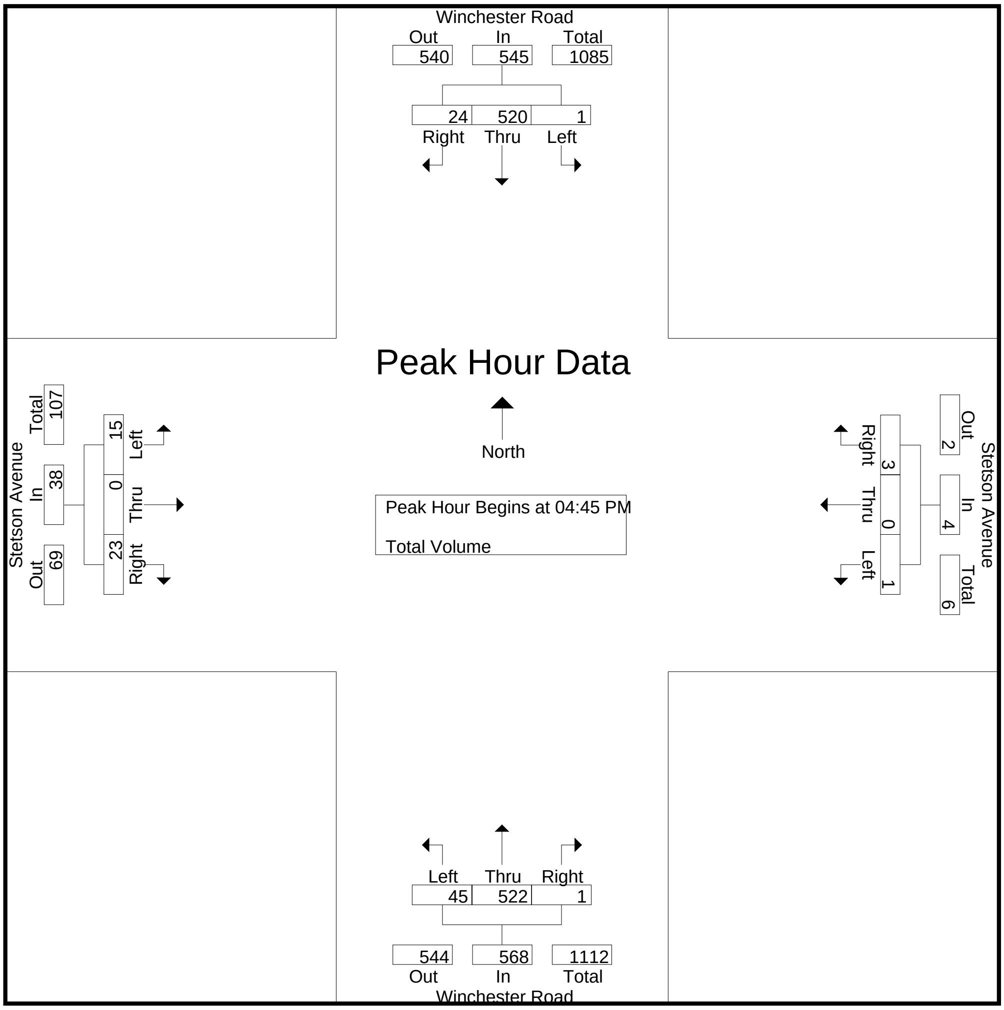
County of Riverside
N/S: Winchester Road (SR-79)
E/W: Stetson Avenue
Weather: Clear

File Name : 05_CRV_Winchester_Stetson PM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:00 PM				05:00 PM			
+0 mins.	**1**	116	4	121	0	0	0	0	15	**155**	0	**170**	**7**	0	7	14
+15 mins.	0	135	**8**	143	0	0	**2**	**2**	5	139	0	144	3	0	6	9
+30 mins.	0	**146**	5	**151**	0	0	0	0	**16**	146	0	162	4	0	4	8
+45 mins.	0	131	4	135	**1**	0	1	2	7	126	0	133	3	0	**12**	**15**
Total Volume	1	528	21	550	1	0	3	4	43	566	0	609	17	0	29	46
% App. Total	0.2	96	3.8		25	0	75		7.1	92.9	0		37	0	63	
PHF	.250	.904	.656	.911	.250	.000	.375	.500	.672	.913	.000	.896	.607	.000	.604	.767

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County of Riverside
N/S: Truelson Avenue
E/W: Florida Avenue (SR-74)
Weather: Clear

File Name : 06_CRV_Truelson_SR74 AM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 1

Groups Printed- Total Volume

	Truelson Avenue Southbound				Florida Avenue Westbound				Truelson Avenue Northbound				Florida Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	5	0	3	8	2	286	3	291	2	0	1	3	0	228	0	228	530
07:15 AM	4	0	3	7	0	334	3	337	0	0	1	1	1	266	1	268	613
07:30 AM	4	0	7	11	2	298	2	302	0	0	3	3	5	270	2	277	593
07:45 AM	3	0	4	7	1	242	3	246	1	0	2	3	1	279	0	280	536
Total	16	0	17	33	5	1160	11	1176	3	0	7	10	7	1043	3	1053	2272
08:00 AM	7	0	6	13	1	243	5	249	0	0	1	1	3	258	0	261	524
08:15 AM	5	0	5	10	0	255	1	256	1	1	1	3	1	311	2	314	583
08:30 AM	1	1	4	6	0	247	4	251	0	1	0	1	2	239	0	241	499
08:45 AM	4	0	3	7	4	207	0	211	0	0	0	0	0	227	0	227	445
Total	17	1	18	36	5	952	10	967	1	2	2	5	6	1035	2	1043	2051
Grand Total	33	1	35	69	10	2112	21	2143	4	2	9	15	13	2078	5	2096	4323
Apprch %	47.8	1.4	50.7		0.5	98.6	1		26.7	13.3	60		0.6	99.1	0.2		
Total %	0.8	0	0.8	1.6	0.2	48.9	0.5	49.6	0.1	0	0.2	0.3	0.3	48.1	0.1	48.5	

	Truelson Avenue Southbound				Florida Avenue Westbound				Truelson Avenue Northbound				Florida Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**5**	0	3	8	**2**	286	**3**	291	**2**	0	1	**3**	0	228	0	228	530
07:15 AM	4	0	3	7	0	**334**	3	**337**	0	0	1	1	1	266	1	268	**613**
07:30 AM	4	0	**7**	**11**	2	298	2	302	0	0	**3**	3	**5**	270	**2**	277	593
07:45 AM	3	0	4	7	1	242	3	246	1	0	2	3	1	**279**	0	**280**	536
Total Volume	16	0	17	33	5	1160	11	1176	3	0	7	10	7	1043	3	1053	2272
% App. Total	48.5	0	51.5		0.4	98.6	0.9		30	0	70		0.7	99.1	0.3		
PHF	.800	.000	.607	.750	.625	.868	.917	.872	.375	.000	.583	.833	.350	.935	.375	.940	.927

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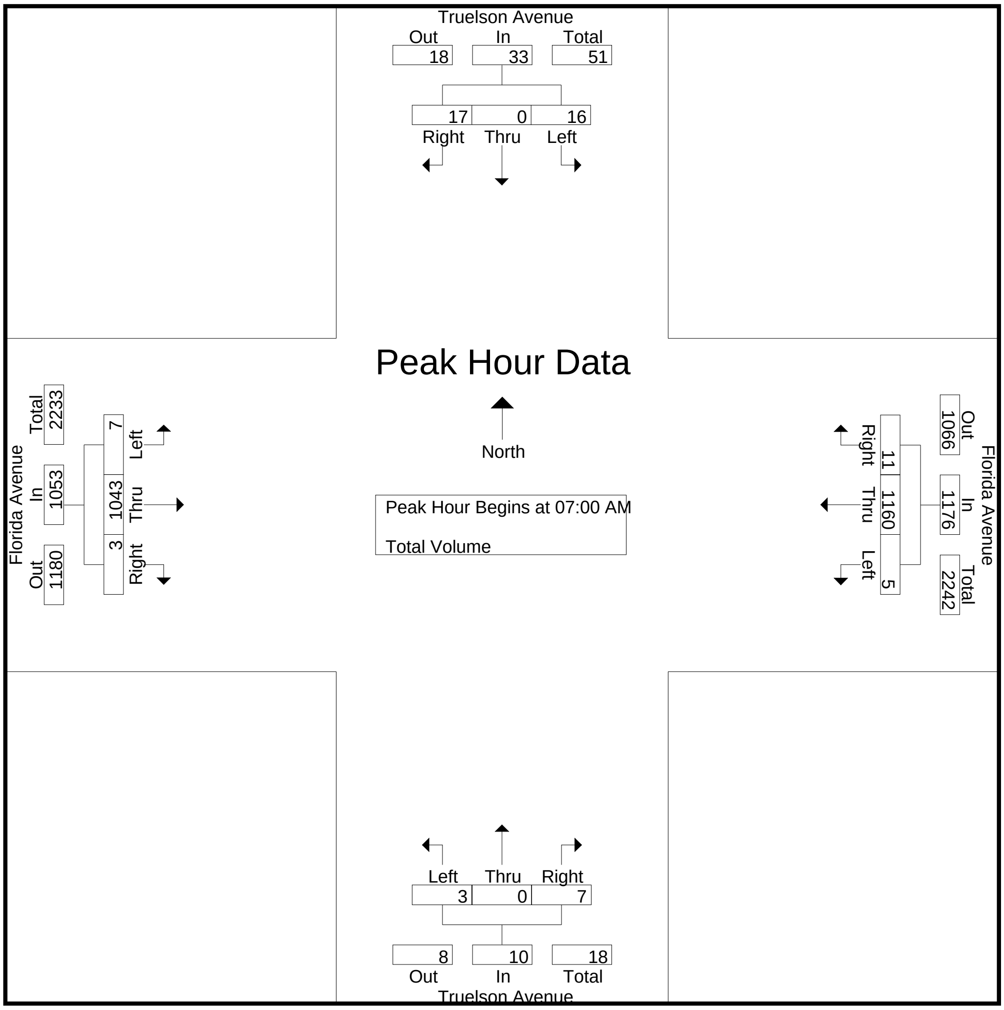
County of Riverside
N/S: Truelson Avenue
E/W: Florida Avenue (SR-74)
Weather: Clear

File Name : 06_CRV_Truelson_SR74 AM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:00 AM				07:30 AM			
+0 mins.	4	0	**7**	11	**2**	286	**3**	291	**2**	0	1	**3**	**5**	270	**2**	277
+15 mins.	3	0	4	7	0	**334**	3	**337**	0	0	1	1	1	279	0	280
+30 mins.	**7**	0	6	**13**	2	298	2	302	0	0	**3**	3	3	258	0	261
+45 mins.	5	0	5	10	1	242	3	246	1	0	2	3	1	**311**	2	**314**
Total Volume	19	0	22	41	5	1160	11	1176	3	0	7	10	10	1118	4	1132
% App. Total	46.3	0	53.7		0.4	98.6	0.9		30	0	70		0.9	98.8	0.4	
PHF	.679	.000	.786	.788	.625	.868	.917	.872	.375	.000	.583	.833	.500	.899	.500	.901

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County of Riverside
N/S: Truelson Avenue
E/W: Florida Avenue (SR-74)
Weather: Clear

File Name : 06_CRV_Truelson_SR74 PM
Site Code : 07518157
Start Date : 3/1/2018
Page No : 1

Groups Printed- Total Volume

	Truelson Avenue Southbound				Florida Avenue Westbound				Truelson Avenue Northbound				Florida Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	4	1	4	9	4	291	11	306	2	0	3	5	6	371	1	378	698
04:15 PM	5	0	1	6	2	336	3	341	0	0	3	3	3	352	2	357	707
04:30 PM	4	0	2	6	1	354	2	357	1	0	1	2	7	314	4	325	690
04:45 PM	1	0	1	2	4	305	1	310	1	0	5	6	5	349	0	354	672
Total	14	1	8	23	11	1286	17	1314	4	0	12	16	21	1386	7	1414	2767
05:00 PM	5	0	5	10	0	312	6	318	0	0	0	0	8	296	0	304	632
05:15 PM	5	0	4	9	3	384	7	394	0	0	0	0	4	339	1	344	747
05:30 PM	2	0	3	5	0	360	1	361	3	0	4	7	6	318	3	327	700
05:45 PM	8	0	3	11	4	298	1	303	1	0	2	3	4	303	3	310	627
Total	20	0	15	35	7	1354	15	1376	4	0	6	10	22	1256	7	1285	2706
Grand Total	34	1	23	58	18	2640	32	2690	8	0	18	26	43	2642	14	2699	5473
Apprch %	58.6	1.7	39.7		0.7	98.1	1.2		30.8	0	69.2		1.6	97.9	0.5		
Total %	0.6	0	0.4	1.1	0.3	48.2	0.6	49.2	0.1	0	0.3	0.5	0.8	48.3	0.3	49.3	

	Truelson Avenue Southbound				Florida Avenue Westbound				Truelson Avenue Northbound				Florida Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	4	**1**	**4**	**9**	**4**	291	**11**	306	**2**	0	3	5	6	**371**	1	**378**	698
04:15 PM	**5**	0	1	6	2	336	3	341	0	0	3	3	3	352	2	357	**707**
04:30 PM	4	0	2	6	1	**354**	2	**357**	1	0	1	2	**7**	314	**4**	325	690
04:45 PM	1	0	1	2	4	305	1	310	1	0	**5**	**6**	5	349	0	354	672
Total Volume	14	1	8	23	11	1286	17	1314	4	0	12	16	21	1386	7	1414	2767
% App. Total	60.9	4.3	34.8		0.8	97.9	1.3		25	0	75		1.5	98	0.5		
PHF	.700	.250	.500	.639	.688	.908	.386	.920	.500	.000	.600	.667	.750	.934	.438	.935	.978

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County of Riverside
N/S: Truelson Avenue
E/W: Florida Avenue (SR-74)
Weather: Clear

File Name : 06_CRV_Truelson_SR74 PM
Site Code : 07518157
Start Date : 3/1/2018
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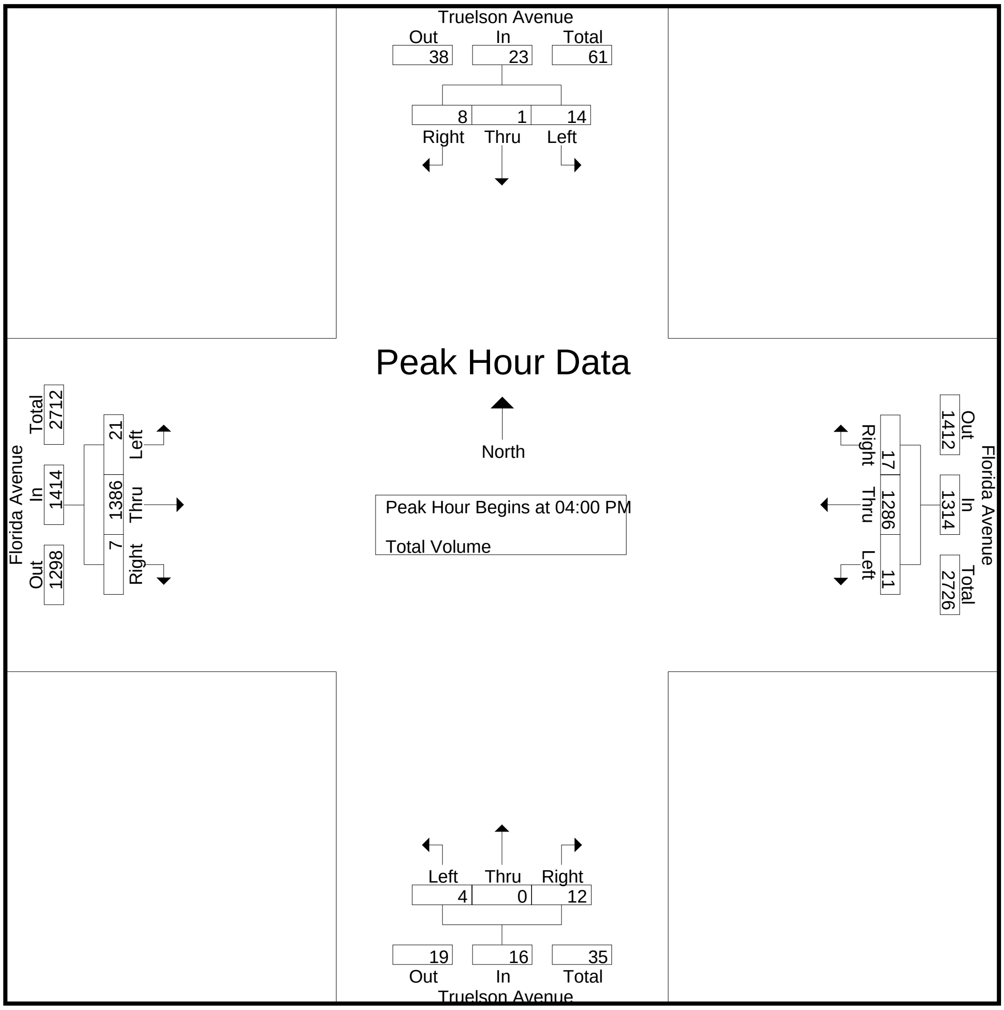

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:00 PM				04:00 PM			
+0 mins.	5	0	**5**	10	**4**	305	1	310	**2**	0	3	5	6	**371**	1	**378**
+15 mins.	5	0	4	9	0	312	6	318	0	0	3	3	3	352	2	357
+30 mins.	2	0	3	5	3	**384**	**7**	**394**	1	0	1	2	**7**	314	**4**	325
+45 mins.	**8**	0	3	**11**	0	360	1	361	1	0	**5**	**6**	5	349	0	354
Total Volume	20	0	15	35	7	1361	15	1383	4	0	12	16	21	1386	7	1414
% App. Total	57.1	0	42.9		0.5	98.4	1.1		25	0	75		1.5	98	0.5	
PHF	.625	.000	.750	.795	.438	.886	.536	.878	.500	.000	.600	.667	.750	.934	.438	.935

APPENDIX D

Explanation and Calculation of Intersection Level of Service Using Delay Methodology

EXPLANATION AND CALCULATION OF INTERSECTION LEVEL OF SERVICE USING DELAY METHODOLOGY

The levels of service at the unsignalized and signalized intersections are calculated using the delay methodology in the Highway Capacity Manual. This methodology views an intersection as consisting of several lane groups. A lane group is a set of lanes serving a movement. If there are two northbound left turn lanes, then the lane group serving the northbound left turn movement has two lanes. Similarly, there may be three lanes in the lane group serving the northbound through movement, one lane in the lane group serving the northbound right turn movement, and so forth. It is also possible for one lane to serve two lane groups. A shared lane might result in there being 1.5 lanes in the northbound left turn lane group and 2.5 lanes in the northbound through lane group.

For each lane group, there is a capacity. That capacity is calculated by multiplying the number of lanes in the lane group times a theoretical maximum lane capacity per lane time's 12 adjustment factors.

Each of the 12 adjustment factors has a value of approximately 1.00. A value less than 1.00 is generally assigned when a less than desirable condition occurs.

The 12 adjustment factors are as follows:

1. Peak hour factor (to account for peaking within the peak hour)
2. Lane utilization factor (to account for not all lanes loading equally)
3. Lane width
4. Percent of heavy trucks
5. Approach grade
6. Parking
7. Bus stops at intersections
8. Area type (CBD or other)
9. Right turns
10. Left turns
11. Pedestrian activity
12. Signal progression

The maximum theoretical lane capacity and the 12 adjustment factors for it are all unknowns for which approximate estimates have been recommended in the Highway Capacity Manual. For the most part, the recommended values are not based on statistical analysis but rather on educated estimates. However, it is possible to use the delay method and get reasonable results as will be discussed below.

Once the lane group volume is known and the lane group capacity is known, a volume to capacity ratio can be calculated for the lane group.

With a volume to capacity ratio calculated, average delay per vehicle in a lane group can be estimated. The average delay per vehicle in a lane group is calculated using a complex formula provided by the Highway Capacity Manual, which can be simplified and described as follows:

Delay per vehicle in a lane group is a function of the following:

1. Cycle length
2. Amount of red time faced by a lane group
3. Amount of yellow time for that lane group
4. The volume to capacity ratio of the lane group

The average delay per vehicle for each lane group is calculated, and eventually an overall average delay for all vehicles entering the intersection is calculated. This average delay per vehicle is then used to judge Level of Service. The Level of Services are defined in the table that follows this discussion.

Experience has shown that when a maximum lane capacity of 1,900 vehicles per hour is used (as recommended in the Highway Capacity Manual), little or no yellow time penalty is used, and none of the 12 penalty factors are applied, calculated delay is realistic. The delay calculation for instance assumes that yellow time is totally unused. Yet experience shows that most of the yellow time is used.

An idiosyncrasy of the delay methodology is that it is possible to add traffic to an intersection and reduce the average total delay per vehicle. If the average total delay is 30 seconds per vehicle for all vehicles traveling through an intersection, and traffic is added to a movement that has an average total delay of 15 seconds per vehicle, then the overall average total delay is reduced.

The delay calculation for a lane group is based on a concept that the delay is a function of the amount of unused capacity available. As the volume approaches capacity and there is no more unused capacity available, then the delay rapidly increases. Delay is not proportional to volume, but rather increases rapidly as the unused capacity approaches zero.

Because delay is not linearly related to volumes, the delay does not reflect how close an intersection is to overloading. If an intersection is operating at Level of Service C and has an average total delay of 18 seconds per vehicle, you know very little as to what percent the traffic can increase before Level of Service E is reached.

LEVEL OF SERVICE DESCRIPTION[1]

Level of Service	Description	Average Total Delay per Vehicle (Seconds)	
		Signalized	Unsignalized
A	Level of Service A occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	0 to 10.00	0 to 10.00
B	Level of Service B generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing higher levels of average total delay.	10.01 to 20.00	10.01 to 15.00
C	Level of Service C generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	20.01 to 35.00	15.01 to 25.00
D	Level of Service D generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35.01 to 55.00	25.01 to 35.00
E	Level of Service E is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent occurrences.	55.01 to 80.00	35.01 to 50.00
F	Level of Service F is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume to capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	80.01 and up	50.01 and up

[1] Source: Highway Capacity Manual Special Report 209, Transportation Research Board, National Research Council, Washington, D.C., 2010.

Existing

Plot Plan No. 26240

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Report File: G:\...\AM E.pdf

Scenario 1 Existing
3/12/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Cortrite Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	20.2	C
2	Amanda Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.004	19.7	C
4	Amanda Ave (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	SB Left	0.006	9.1	A
6	Vista Pl/SR-79 (NS) at SR-74 (EW)	Signalized	HCM 6th Edition	EB Left	0.817	19.8	B
7	SR-79 (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	WB Left	0.145	26.9	D
8	SR-79 (NS) at Stetson Ave (EW)	Signalized	HCM 6th Edition	NB Left	0.515	8.3	A
9	Truelson Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	121.7	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Cortrite Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	20.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Base Volume Input [veh/h]	15	0	4	1	1	0	4	843	6	5	825	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	0	4	1	1	0	4	843	6	5	825	2
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	1	0	0	0	1	221	2	1	217	1
Total Analysis Volume [veh/h]	16	0	4	1	1	0	4	886	6	5	867	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	19.48	20.21	12.28	18.49	19.50	11.42	9.69	0.00	0.00	9.79	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.22	0.02	0.02	0.02	0.02	0.00	0.00	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.40	5.40	5.40	0.58	0.58	0.58	0.39	0.00	0.00	0.50	0.00	0.00
d_A, Approach Delay [s/veh]	18.04			19.00			0.04			0.06		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.27											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 2: Amanda Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	19.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Base Volume Input [veh/h]	4	1	12	2	1	2	1	794	1	7	850	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	12	2	1	2	1	794	1	7	850	2
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	3	1	0	1	0	213	0	2	228	1
Total Analysis Volume [veh/h]	4	1	13	2	1	2	1	850	1	7	910	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	18.38	19.70	11.59	19.34	19.61	11.70	9.85	0.00	0.00	9.64	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.13	0.05	0.05	0.05	0.00	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.20	3.20	3.20	1.18	1.18	1.18	0.10	0.00	0.00	0.68	0.00	0.00
d_A, Approach Delay [s/veh]	13.55			16.34			0.01			0.07		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	0.22											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 4: Amanda Ave (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Base Volume Input [veh/h]	4	8	15	23	18	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	8	15	23	18	3
Peak Hour Factor	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	5	8	6	1
Total Analysis Volume [veh/h]	5	11	20	31	24	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.10	8.49	7.30	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.03	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.23	1.23	0.72	0.72	0.00	0.00
d_A, Approach Delay [s/veh]	8.68		2.86		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Vista Pl/SR-79 (NS) at SR-74 (EW)

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.817

Intersection Setup

Name	SR-79			Vista Pl			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	76.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	SR-79			Vista Pl			SR-74			SR-74		
Base Volume Input [veh/h]	80	7	334	11	21	2	7	704	74	382	762	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	7	334	11	21	2	7	704	74	382	762	25
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	2	87	3	5	1	2	184	19	100	199	7
Total Analysis Volume [veh/h]	84	7	349	11	22	2	7	736	77	399	796	26
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	21	0	0	21	0	22	21	0	18	17	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	15	15	1	18	18	15	32	32
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.01	0.30	0.30	0.25	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.06	0.22	0.01	0.01	0.00	0.21	0.05	0.22	0.22	0.22
s, saturation flow rate [veh/h]	1387	1594	1025	1843	1781	3560	1589	1781	1870	1849
c, Capacity [veh/h]	416	405	128	468	25	1055	471	445	996	985
d1, Uniform Delay [s]	19.76	21.53	29.85	16.94	29.33	18.75	15.64	21.77	8.43	8.43
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	6.27	0.28	0.04	6.07	3.83	0.75	6.59	1.28	1.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.88	0.09	0.05	0.28	0.70	0.16	0.90	0.41	0.42
d, Delay for Lane Group [s/veh]	20.00	27.80	30.13	16.99	35.39	22.59	16.38	28.37	9.71	9.73
Lane Group LOS	B	C	C	B	D	C	B	C	A	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.88	4.78	0.16	0.24	0.13	4.25	0.74	5.29	2.47	2.45
50th-Percentile Queue Length [ft/ln]	22.04	119.45	4.11	6.10	3.27	106.24	18.52	132.28	61.75	61.22
95th-Percentile Queue Length [veh/ln]	1.59	8.36	0.30	0.44	0.24	7.63	1.33	9.06	4.45	4.41
95th-Percentile Queue Length [ft/ln]	39.67	209.07	7.40	10.98	5.88	190.76	33.34	226.59	111.15	110.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	20.00	27.80	27.80	30.13	16.99	16.99	35.39	22.59	16.38	28.37	9.72	9.73
Movement LOS	B	C	C	C	B	B	D	C	B	C	A	A
d_A, Approach Delay [s/veh]	26.31			21.12			22.11			15.81		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	19.78											
Intersection LOS	B											
Intersection V/C	0.817											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.01	0.00	20.01	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.451	0.000	3.011	0.000
Crosswalk LOS	B	F	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	567	567	433
d_b, Bicycle Delay [s]	15.41	15.41	15.41	18.41
I_b,int, Bicycle LOS Score for Intersection	2.286	1.617	2.236	2.567
Bicycle LOS	B	A	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: SR-79 (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	26.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.145

Intersection Setup

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Base Volume Input [veh/h]	20	443	6	1	457	31	21	2	37	27	3	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	443	6	1	457	31	21	2	37	27	3	4
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	116	2	0	120	8	6	1	10	7	1	1
Total Analysis Volume [veh/h]	21	465	6	1	480	33	22	2	39	28	3	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.10	0.01	0.07	0.14	0.01	0.01
d_M, Delay for Movement [s/veh]	8.49	0.00	0.00	8.30	0.00	0.00	23.74	22.17	13.29	26.91	23.95	14.35
Movement LOS	A	A	A	A	A	A	C	C	B	D	C	B
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	0.00	0.00	0.63	0.63	0.63	0.58	0.58	0.58
95th-Percentile Queue Length [ft/ln]	1.53	0.00	0.00	0.07	0.07	0.00	15.79	15.79	15.79	14.39	14.39	14.39
d_A, Approach Delay [s/veh]	0.36			0.02			17.22			25.22		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	1.95											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 8: SR-79 (NS) at Stetson Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.515

Intersection Setup

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	160.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Base Volume Input [veh/h]	33	431	0	0	547	9	17	0	70	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	431	0	0	547	9	17	0	70	0	0	0
Peak Hour Factor	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	122	0	0	155	3	5	0	20	0	0	0
Total Analysis Volume [veh/h]	37	488	0	0	619	10	19	0	79	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	26	0	18	32	0	0	21	0	0	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	47	0	44	6	6
g / C, Green / Cycle	0.05	0.72	0.00	0.67	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.02	0.26	0.00	0.34	0.06	0.00
s, saturation flow rate [veh/h]	1781	1870	1781	1865	1584	1373
c, Capacity [veh/h]	97	1352	3	1250	210	180
d1, Uniform Delay [s]	29.74	3.38	0.00	5.35	28.64	0.00
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.45	0.75	0.00	1.45	1.61	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.36	0.00	0.50	0.47	0.00
d, Delay for Lane Group [s/veh]	32.18	4.13	0.00	6.80	30.25	0.00
Lane Group LOS	C	A	A	A	C	A
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.58	1.22	0.00	2.75	1.51	0.00
50th-Percentile Queue Length [ft/ln]	14.44	30.41	0.00	68.75	37.72	0.00
95th-Percentile Queue Length [veh/ln]	1.04	2.19	0.00	4.95	2.72	0.00
95th-Percentile Queue Length [ft/ln]	25.99	54.74	0.00	123.75	67.89	0.00

Movement, Approach, & Intersection Results

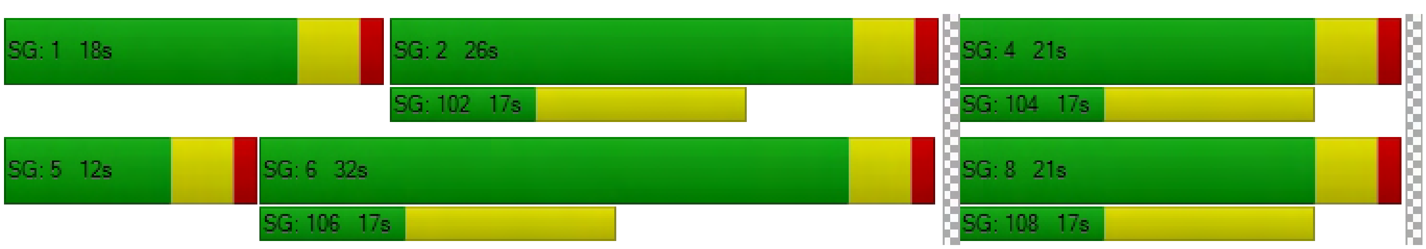
d_M, Delay for Movement [s/veh]	32.18	4.13	4.13	0.00	6.80	6.80	30.25	30.25	30.25	0.00	0.00	0.00
Movement LOS	C	A	A	A	A	A	C	C	C	A	A	A
d_A, Approach Delay [s/veh]		6.11			6.80			30.25			0.00	
Approach LOS		A			A			C			A	
d_I, Intersection Delay [s/veh]	8.34											
Intersection LOS	A											
Intersection V/C	0.515											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.43	22.43	22.43	22.43
I_p,int, Pedestrian LOS Score for Intersection	2.518	2.555	1.768	1.697
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	677	862	523	523
d_b, Bicycle Delay [s]	14.22	10.53	17.72	17.72
I_b,int, Bicycle LOS Score for Intersection	2.426	2.597	1.721	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	121.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	3	0	7	16	0	17	7	1043	3	5	1160	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	7	16	0	17	7	1043	3	5	1160	11
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	2	4	0	5	2	281	1	1	313	3
Total Analysis Volume [veh/h]	3	0	8	17	0	18	8	1125	3	5	1251	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	Yes		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.02	0.11	0.00	0.04	0.01	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	80.65	121.65	14.84	30.37	29.19	16.19	11.69	0.00	0.00	10.90	0.00	0.00
Movement LOS	F	F	B	D	D	C	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.25	0.25	0.25	0.52	0.52	0.52	0.04	0.00	0.00	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.27	6.27	6.27	12.93	12.93	12.93	1.11	0.00	0.00	0.61	0.00	0.00
d_A, Approach Delay [s/veh]	32.79			23.08			0.08			0.04		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	0.54											
Intersection LOS	F											

Plot Plan No. 26240

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Scenario 1 Existing
3/12/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Cortrite Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Left	0.038	28.4	D
2	Amanda Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	SB Thru	0.000	26.8	D
4	Amanda Ave (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	SB Left	0.006	9.0	A
6	Vista Pl/SR-79 (NS) at SR-74 (EW)	Signalized	HCM 6th Edition	NB Right	0.948	27.7	C
7	SR-79 (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	WB Left	0.197	31.8	D
8	SR-79 (NS) at Stetson Ave (EW)	Signalized	HCM 6th Edition	SB Left	0.442	6.7	A
9	Truelson Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	232.6	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Cortrite Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	28.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.038

Intersection Setup

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Base Volume Input [veh/h]	5	0	7	5	1	4	4	1135	13	9	1035	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	7	5	1	4	4	1135	13	9	1035	4
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	2	1	0	1	1	314	4	2	286	1
Total Analysis Volume [veh/h]	6	0	8	6	1	4	4	1254	14	10	1144	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.02	0.03	0.01	0.01	0.01	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	28.43	27.57	14.31	26.26	28.05	13.59	11.00	0.00	0.00	11.74	0.00	0.00
Movement LOS	D	D	B	D	D	B	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.18	0.15	0.15	0.15	0.02	0.00	0.00	0.06	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.45	4.45	4.45	3.83	3.83	3.83	0.50	0.00	0.00	1.40	0.00	0.00
d_A, Approach Delay [s/veh]	20.36			21.82			0.03			0.10		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.28											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 2: Amanda Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	26.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Base Volume Input [veh/h]	3	0	7	5	0	2	1	1104	0	9	1042	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	7	5	0	2	1	1104	0	9	1042	4
Peak Hour Factor	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	2	1	0	1	0	303	0	2	286	1
Total Analysis Volume [veh/h]	3	0	8	5	0	2	1	1211	0	10	1143	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.02	0.03	0.00	0.00	0.00	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	26.49	26.28	13.61	25.82	26.77	13.35	10.96	0.00	0.00	11.41	0.00	0.00
Movement LOS	D	D	B	D	D	B	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.11	0.11	0.11	0.10	0.10	0.10	0.00	0.00	0.00	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.77	2.77	2.77	2.51	2.51	2.51	0.12	0.00	0.00	1.33	0.00	0.00
d_A, Approach Delay [s/veh]	17.12			22.25			0.01			0.10		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.20											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 4: Amanda Ave (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Base Volume Input [veh/h]	4	6	12	16	27	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	6	12	16	27	3
Peak Hour Factor	0.7730	0.7730	0.7730	0.7730	0.7730	0.7730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	4	5	9	1
Total Analysis Volume [veh/h]	5	8	16	21	35	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.04	8.53	7.32	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.01	1.01	0.58	0.58	0.00	0.00
d_A, Approach Delay [s/veh]	8.73		3.16		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.59					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Vista Pl/SR-79 (NS) at SR-74 (EW)

Control Type:	Signalized	Delay (sec / veh):	27.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.948

Intersection Setup

Name	SR-79			Vista Pl			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	76.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	SR-79			Vista Pl			SR-74			SR-74		
Base Volume Input [veh/h]	105	11	408	20	19	10	13	1037	113	355	872	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	11	408	20	19	10	13	1037	113	355	872	48
Peak Hour Factor	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	3	105	5	5	3	3	266	29	91	224	12
Total Analysis Volume [veh/h]	108	11	419	21	20	10	13	1065	116	364	895	49
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	22	0	0	22	0	21	25	0	18	22	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	18	18	18	1	21	21	14	34	34
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.02	0.32	0.32	0.21	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.08	0.27	0.02	0.02	0.01	0.30	0.07	0.20	0.25	0.25
s, saturation flow rate [veh/h]	1379	1596	958	1766	1781	3560	1589	1781	1870	1836
c, Capacity [veh/h]	434	442	111	489	41	1157	516	381	964	946
d1, Uniform Delay [s]	20.68	23.27	32.52	17.29	31.26	21.15	15.99	25.27	10.24	10.25
k, delay calibration	0.11	0.15	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	17.51	0.82	0.05	4.33	13.21	1.01	13.34	1.81	1.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.97	0.19	0.06	0.32	0.92	0.22	0.96	0.49	0.49
d, Delay for Lane Group [s/veh]	20.98	40.78	33.34	17.35	35.60	34.36	17.00	38.61	12.04	12.09
Lane Group LOS	C	D	C	B	D	C	B	D	B	B
Critical Lane Group	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.24	7.74	0.35	0.32	0.23	8.52	1.20	6.17	3.65	3.60
50th-Percentile Queue Length [ft/ln]	30.96	193.44	8.72	8.11	5.77	212.88	29.94	154.16	91.13	89.97
95th-Percentile Queue Length [veh/ln]	2.23	12.30	0.63	0.58	0.42	13.30	2.16	10.24	6.56	6.48
95th-Percentile Queue Length [ft/ln]	55.72	307.49	15.69	14.60	10.39	332.52	53.89	255.97	164.03	161.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	20.98	40.78	40.78	33.34	17.35	17.35	35.60	34.36	17.00	38.61	12.07	12.09
Movement LOS	C	D	D	C	B	B	D	C	B	D	B	B
d_A, Approach Delay [s/veh]	36.81			23.93			32.68			19.46		
Approach LOS	D			C			C			B		
d_I, Intersection Delay [s/veh]	27.66											
Intersection LOS	C											
Intersection V/C	0.948											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.43	0.00	22.43	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.493	0.000	3.186	0.000
Crosswalk LOS	B	F	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	554	646	554
d_b, Bicycle Delay [s]	16.99	16.99	14.89	16.99
I_b,int, Bicycle LOS Score for Intersection	2.447	1.644	2.545	2.639
Bicycle LOS	B	A	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: SR-79 (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	31.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.197

Intersection Setup

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Base Volume Input [veh/h]	31	499	8	0	472	31	19	4	38	32	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	499	8	0	472	31	19	4	38	32	1	1
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	129	2	0	122	8	5	1	10	8	0	0
Total Analysis Volume [veh/h]	32	517	8	0	489	32	20	4	39	33	1	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.00	0.00	0.00	0.10	0.02	0.07	0.20	0.00	0.00
d_M, Delay for Movement [s/veh]	8.55	0.00	0.00	8.46	0.00	0.00	26.32	24.53	13.76	31.84	27.95	16.79
Movement LOS	A	A	A	A	A	A	D	C	B	D	D	C
95th-Percentile Queue Length [veh/ln]	0.09	0.00	0.00	0.00	0.00	0.00	0.69	0.69	0.69	0.74	0.74	0.74
95th-Percentile Queue Length [ft/ln]	2.37	0.00	0.00	0.00	0.00	0.00	17.30	17.30	17.30	18.43	18.43	18.43
d_A, Approach Delay [s/veh]	0.49			0.00			18.43			31.30		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	2.15											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 8: SR-79 (NS) at Stetson Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	6.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.442

Intersection Setup

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	160.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Base Volume Input [veh/h]	45	522	1	1	520	24	15	0	23	1	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	522	1	1	520	24	15	0	23	1	0	3
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	140	0	0	139	6	4	0	6	0	0	1
Total Analysis Volume [veh/h]	48	559	1	1	557	26	16	0	25	1	0	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	36	0	13	38	0	0	21	0	0	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	54	0	50	4	4
g / C, Green / Cycle	0.06	0.77	0.00	0.71	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.03	0.30	0.00	0.31	0.03	0.00
s, saturation flow rate [veh/h]	1781	1869	1781	1855	1638	1708
c, Capacity [veh/h]	111	1437	6	1317	164	161
d1, Uniform Delay [s]	31.67	2.68	34.83	4.31	31.95	31.27
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.63	0.80	10.84	1.08	0.79	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.39	0.16	0.44	0.25	0.02
d, Delay for Lane Group [s/veh]	34.30	3.48	45.66	5.39	32.73	31.33
Lane Group LOS	C	A	D	A	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.81	1.05	0.04	2.14	0.69	0.06
50th-Percentile Queue Length [ft/ln]	20.16	26.14	0.88	53.55	17.15	1.62
95th-Percentile Queue Length [veh/ln]	1.45	1.88	0.06	3.86	1.23	0.12
95th-Percentile Queue Length [ft/ln]	36.28	47.05	1.58	96.39	30.87	2.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.30	3.48	3.48	45.66	5.39	5.39	32.73	32.73	32.73	31.33	31.33	31.33
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	5.91			5.46			32.73			31.33		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	6.67											
Intersection LOS	A											
Intersection V/C	0.442											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.508	2.565	1.757	1.704
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	914	971	486	486
d_b, Bicycle Delay [s]	10.31	9.26	20.06	20.06
I_b,int, Bicycle LOS Score for Intersection	2.563	2.523	1.627	1.566
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	232.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	4	0	12	14	1	8	21	1386	7	11	1286	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	12	14	1	8	21	1386	7	11	1286	17
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	3	4	0	2	5	354	2	3	329	4
Total Analysis Volume [veh/h]	4	0	12	14	1	8	21	1417	7	11	1315	17
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	Yes		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.00	0.03	0.10	0.01	0.02	0.04	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	156.02	232.59	24.27	34.86	36.91	17.07	12.30	0.00	0.00	12.78	0.00	0.00
Movement LOS	F	F	C	D	E	C	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.65	0.65	0.65	0.45	0.45	0.45	0.13	0.00	0.00	0.07	0.00	0.00
95th-Percentile Queue Length [ft/ln]	16.25	16.25	16.25	11.14	11.14	11.14	3.19	0.00	0.00	1.78	0.00	0.00
d_A, Approach Delay [s/veh]	57.20			28.76			0.18			0.10		
Approach LOS	F			D			A			A		
d_I, Intersection Delay [s/veh]	0.70											
Intersection LOS	F											

Existing Plus Project

Plot Plan No. 26240

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Scenario 2 Existing Plus project
3/12/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Cortrite Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	20.9	C
2	Amanda Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.004	22.5	C
3	Amanda Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	WB Left	0.024	9.3	A
4	Amanda Ave (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	SB Left	0.023	9.6	A
5	Project Dwy (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Right	0.088	11.8	B
6	Vista Pl/SR-79 (NS) at SR-74 (EW)	Signalized	HCM 6th Edition	EB Left	0.835	20.3	C
7	SR-79 (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	WB Left	0.166	30.7	D
8	SR-79 (NS) at Stetson Ave (EW)	Signalized	HCM 6th Edition	NB Left	0.531	8.5	A
9	Truelson Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	135.6	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Cortrite Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	20.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Base Volume Input [veh/h]	15	0	4	1	1	0	4	843	6	5	825	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	9	0	0	0	0	17	0	8	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	0	13	1	1	0	4	860	6	13	841	2
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	3	0	0	0	1	226	2	3	221	1
Total Analysis Volume [veh/h]	16	0	14	1	1	0	4	903	6	14	883	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.03	0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	20.05	20.91	12.49	19.35	20.26	11.51	9.76	0.00	0.00	9.93	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.29	0.02	0.02	0.02	0.02	0.00	0.00	0.06	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.15	7.15	7.15	0.62	0.62	0.62	0.40	0.00	0.00	1.44	0.00	0.00
d_A, Approach Delay [s/veh]	16.52			19.81			0.04			0.15		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.39											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 2: Amanda Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	22.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Base Volume Input [veh/h]	4	1	12	2	1	2	1	794	1	7	850	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	0	0	0	0	26	0	22	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	4	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	1	12	2	1	2	1	820	1	33	850	2
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	3	1	0	1	0	219	0	9	228	1
Total Analysis Volume [veh/h]	30	1	13	2	1	2	1	878	1	35	910	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.00	0.02	0.01	0.00	0.00	0.00	0.01	0.00	0.05	0.01	0.00
d_M, Delay for Movement [s/veh]	20.85	22.46	13.32	21.07	21.32	11.74	9.85	0.00	0.00	9.94	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.49	0.49	0.49	0.05	0.05	0.05	0.00	0.00	0.00	0.14	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.34	12.34	12.34	1.29	1.29	1.29	0.10	0.00	0.00	3.59	0.00	0.00
d_A, Approach Delay [s/veh]	18.66			17.39			0.01			0.37		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.67											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 3: Amanda Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	Amanda Ave		Amanda Ave		Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Amanda Ave		Project Dwy	
Base Volume Input [veh/h]	17	0	0	12	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	22	0	16	24
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	8	4	0	4	5
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	47	26	12	20	29
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	12	7	3	5	8
Total Analysis Volume [veh/h]	18	49	27	13	21	31
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.02	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	7.39	0.00	9.34	8.72
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.05	0.17	0.17
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.29	1.29	4.29	4.29
d_A, Approach Delay [s/veh]	0.00		4.99		8.97	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.19					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Amanda Ave (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Base Volume Input [veh/h]	4	8	15	23	18	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	8	9	0	0	30
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	2	2	2	0	0	6
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	18	26	23	18	39
Peak Hour Factor	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	6	9	8	6	13
Total Analysis Volume [veh/h]	19	24	35	31	24	53
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.02	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.58	8.73	7.42	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.67	3.67	1.30	1.30	0.00	0.00
d_A, Approach Delay [s/veh]	9.10		3.94		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.50					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Project Dwy (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.088

Intersection Setup

Name	Project Dwy		SR-74		SR-74	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy		SR-74		SR-74	
Base Volume Input [veh/h]	0	0	808	0	0	859
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	42	0	26	0	22
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	6	0	5	0	4
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	48	808	31	0	885
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	213	8	0	233
Total Analysis Volume [veh/h]	0	51	851	33	0	932
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	11.84	0.00	0.00	0.00	0.00
Movement LOS		B	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.29	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	7.24	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.84		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.32					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Vista Pl/SR-79 (NS) at SR-74 (EW)

Control Type:	Signalized	Delay (sec / veh):	20.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.835

Intersection Setup

Name	SR-79			Vista Pl			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	76.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	SR-79			Vista Pl			SR-74			SR-74		
Base Volume Input [veh/h]	80	7	334	11	21	2	7	704	74	382	762	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	4	0	4	30	8	9	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	7	334	11	25	2	11	734	82	391	784	25
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	2	87	3	7	1	3	192	21	102	205	7
Total Analysis Volume [veh/h]	84	7	349	11	26	2	11	767	86	409	819	26
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	21	0	0	21	0	22	21	0	18	17	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	15	15	1	17	17	15	32	32
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.02	0.29	0.29	0.26	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.06	0.22	0.01	0.02	0.01	0.22	0.05	0.23	0.23	0.23
s, saturation flow rate [veh/h]	1382	1594	1025	1847	1781	3560	1589	1781	1870	1850
c, Capacity [veh/h]	413	405	128	469	37	1040	464	453	983	972
d1, Uniform Delay [s]	19.85	21.53	29.85	16.98	28.99	19.18	15.91	21.70	8.74	8.75
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	6.27	0.28	0.05	4.45	4.67	0.88	6.95	1.38	1.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.88	0.09	0.06	0.30	0.74	0.19	0.90	0.43	0.43
d, Delay for Lane Group [s/veh]	20.09	27.80	30.13	17.03	33.44	23.86	16.79	28.65	10.13	10.15
Lane Group LOS	C	C	C	B	C	C	B	C	B	B
Critical Lane Group	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.88	4.78	0.16	0.29	0.18	4.60	0.84	5.45	2.63	2.61
50th-Percentile Queue Length [ft/ln]	22.11	119.45	4.11	7.13	4.61	114.97	21.08	136.34	65.82	65.29
95th-Percentile Queue Length [veh/ln]	1.59	8.36	0.30	0.51	0.33	8.12	1.52	9.28	4.74	4.70
95th-Percentile Queue Length [ft/ln]	39.80	209.06	7.40	12.84	8.30	202.90	37.95	232.09	118.47	117.52

Movement, Approach, & Intersection Results

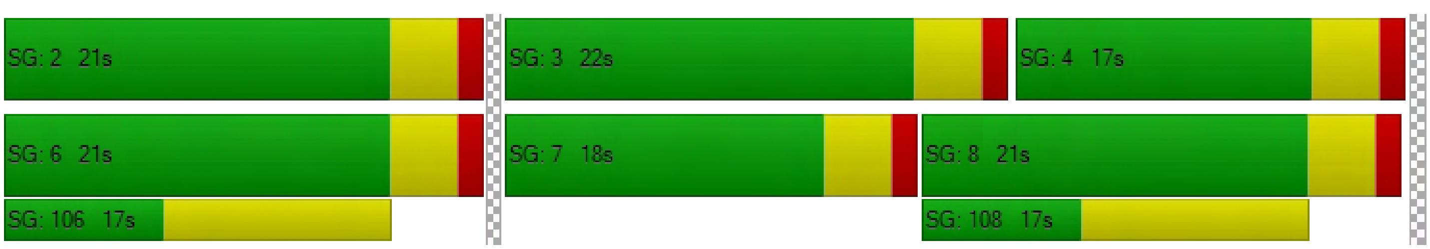
d_M, Delay for Movement [s/veh]	20.09	27.80	27.80	30.13	17.03	17.03	33.44	23.86	16.79	28.65	10.14	10.15
Movement LOS	C	C	C	C	B	B	C	C	B	C	B	B
d_A, Approach Delay [s/veh]	26.33			20.72			23.27			16.18		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	20.33											
Intersection LOS	C											
Intersection V/C	0.835											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.01	0.00	20.01	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.460	0.000	3.029	0.000
Crosswalk LOS	B	F	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	567	567	433
d_b, Bicycle Delay [s]	15.41	15.41	15.41	18.41
I_b,int, Bicycle LOS Score for Intersection	2.286	1.624	2.272	2.594
Bicycle LOS	B	A	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: SR-79 (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	30.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.166

Intersection Setup

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Base Volume Input [veh/h]	20	443	6	1	457	31	21	2	37	27	3	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	0	0	0	8	13	0	0	8	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	3	0	0	0	1	3	0	0	2	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	443	6	1	466	47	21	2	47	27	3	4
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	116	2	0	122	12	6	1	12	7	1	1
Total Analysis Volume [veh/h]	42	465	6	1	489	49	22	2	49	28	3	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.08	0.17	0.01	0.01
d_M, Delay for Movement [s/veh]	8.64	0.00	0.00	8.30	0.00	0.00	25.90	24.06	13.82	30.73	26.90	15.44
Movement LOS	A	A	A	A	A	A	D	C	B	D	D	C
95th-Percentile Queue Length [veh/ln]	0.13	0.00	0.00	0.00	0.00	0.00	0.76	0.76	0.76	0.67	0.67	0.67
95th-Percentile Queue Length [ft/ln]	3.18	0.00	0.00	0.07	0.07	0.00	19.00	19.00	19.00	16.70	16.70	16.70
d_A, Approach Delay [s/veh]	0.71			0.02			17.74			28.65		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	2.30											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 8: SR-79 (NS) at Stetson Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.531

Intersection Setup

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	160.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Base Volume Input [veh/h]	33	431	0	0	547	9	17	0	70	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	13	0	0	12	4	4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	444	0	0	559	13	21	0	70	0	0	0
Peak Hour Factor	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	126	0	0	158	4	6	0	20	0	0	0
Total Analysis Volume [veh/h]	37	502	0	0	632	15	24	0	79	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	26	0	18	32	0	0	21	0	0	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	47	0	44	6	6
g / C, Green / Cycle	0.05	0.72	0.00	0.67	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.02	0.27	0.00	0.35	0.07	0.00
s, saturation flow rate [veh/h]	1781	1870	1781	1862	1583	1352
c, Capacity [veh/h]	97	1349	3	1245	215	180
d1, Uniform Delay [s]	29.74	3.46	0.00	5.48	28.63	0.00
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.45	0.79	0.00	1.55	1.66	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.37	0.00	0.52	0.48	0.00
d, Delay for Lane Group [s/veh]	32.18	4.25	0.00	7.03	30.29	0.00
Lane Group LOS	C	A	A	A	C	A
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.58	1.29	0.00	2.91	1.59	0.00
50th-Percentile Queue Length [ft/ln]	14.44	32.16	0.00	72.79	39.69	0.00
95th-Percentile Queue Length [veh/ln]	1.04	2.32	0.00	5.24	2.86	0.00
95th-Percentile Queue Length [ft/ln]	25.99	57.89	0.00	131.03	71.44	0.00

Movement, Approach, & Intersection Results

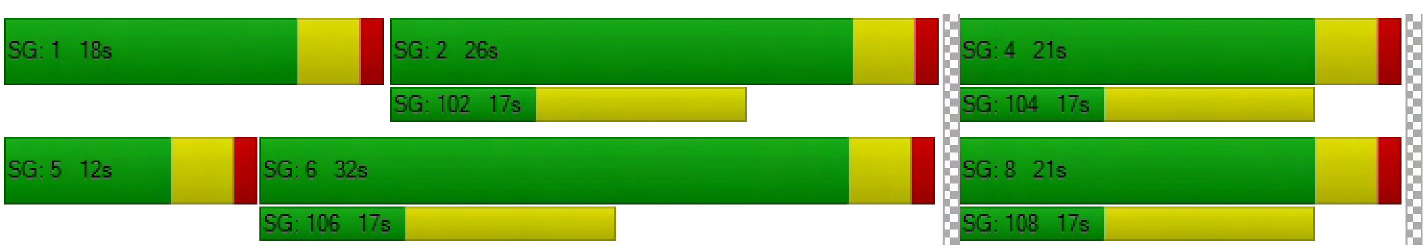
d_M, Delay for Movement [s/veh]	32.18	4.25	4.25	0.00	7.03	7.03	30.29	30.29	30.29	0.00	0.00	0.00
Movement LOS	C	A	A	A	A	A	C	C	C	A	A	A
d_A, Approach Delay [s/veh]	6.16			7.03			30.29			0.00		
Approach LOS	A			A			C			A		
d_I, Intersection Delay [s/veh]	8.53											
Intersection LOS	A											
Intersection V/C	0.531											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.43	22.43	22.43	22.43
I_p,int, Pedestrian LOS Score for Intersection	2.532	2.576	1.772	1.697
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	677	862	523	523
d_b, Bicycle Delay [s]	14.22	10.53	17.72	17.72
I_b,int, Bicycle LOS Score for Intersection	2.449	2.627	1.730	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	135.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	3	0	7	16	0	17	7	1043	3	5	1160	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	9	8	22	0	0	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	7	16	0	26	15	1065	3	5	1182	11
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	2	4	0	7	4	287	1	1	319	3
Total Analysis Volume [veh/h]	3	0	8	17	0	28	16	1149	3	5	1275	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	Yes		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.00	0.02	0.11	0.00	0.07	0.03	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	91.29	135.63	15.52	31.67	30.60	16.74	11.94	0.00	0.00	11.03	0.00	0.00
Movement LOS	F	F	C	D	D	C	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.28	0.28	0.28	0.64	0.64	0.64	0.09	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.01	7.01	7.01	15.93	15.93	15.93	2.31	0.00	0.00	0.63	0.00	0.00
d_A, Approach Delay [s/veh]	36.18			22.38			0.16			0.04		
Approach LOS	E			C			A			A		
d_I, Intersection Delay [s/veh]	0.66											
Intersection LOS	F											

Plot Plan No. 26240

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Scenario 2 Existing Plus project

3/12/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Cortrite Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	SB Thru	0.007	29.6	D
2	Amanda Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	32.5	D
3	Amanda Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	WB Left	0.023	9.3	A
4	Amanda Ave (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	SB Left	0.022	9.5	A
5	Project Dwy (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Right	0.106	13.9	B
6	Vista Pl/SR-79 (NS) at SR-74 (EW)	Signalized	HCM 6th Edition	WB Left	0.964	29.4	C
7	SR-79 (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	WB Left	0.212	34.3	D
8	SR-79 (NS) at Stetson Ave (EW)	Signalized	HCM 6th Edition	SB Left	0.456	6.9	A
9	Truelson Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	260.8	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Cortrite Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	29.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Base Volume Input [veh/h]	5	0	7	5	1	4	4	1135	13	9	1035	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	9	0	0	0	0	17	0	8	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	16	5	1	4	4	1152	13	17	1051	4
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	4	1	0	1	1	318	4	5	290	1
Total Analysis Volume [veh/h]	6	0	18	6	1	4	4	1273	14	19	1161	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.04	0.04	0.01	0.01	0.01	0.01	0.00	0.04	0.01	0.00
d_M, Delay for Movement [s/veh]	29.41	28.71	14.65	27.83	29.59	13.80	11.09	0.00	0.00	11.98	0.00	0.00
Movement LOS	D	D	B	D	D	B	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.26	0.16	0.16	0.16	0.02	0.00	0.00	0.11	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.62	6.62	6.62	4.07	4.07	4.07	0.51	0.00	0.00	2.76	0.00	0.00
d_A, Approach Delay [s/veh]	18.34			22.88			0.03			0.19		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.38											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 2: Amanda Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	32.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Base Volume Input [veh/h]	3	0	7	5	0	2	1	1104	0	9	1042	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	0	0	0	0	26	0	22	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	4	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	0	7	5	0	2	1	1130	0	35	1042	4
Peak Hour Factor	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	2	1	0	1	0	310	0	10	286	1
Total Analysis Volume [veh/h]	30	0	8	5	0	2	1	1239	0	38	1143	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.00	0.02	0.03	0.00	0.00	0.00	0.01	0.00	0.07	0.01	0.00
d_M, Delay for Movement [s/veh]	32.21	32.48	18.26	28.72	30.14	13.49	10.96	0.00	0.00	11.92	0.00	0.00
Movement LOS	D	D	C	D	D	B	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.74	0.74	0.74	0.11	0.11	0.11	0.00	0.00	0.00	0.22	0.00	0.00
95th-Percentile Queue Length [ft/ln]	18.52	18.52	18.52	2.81	2.81	2.81	0.12	0.00	0.00	5.46	0.00	0.00
d_A, Approach Delay [s/veh]	29.27			24.37			0.01			0.38		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	0.71											
Intersection LOS	D											

Intersection Level Of Service Report

Intersection 3: Amanda Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Amanda Ave		Amanda Ave		Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Amanda Ave		Project Dwy	
Base Volume Input [veh/h]	10	0	0	10	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	22	0	16	24
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	8	4	0	3	4
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	47	26	10	19	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	12	7	3	5	7
Total Analysis Volume [veh/h]	11	49	27	11	20	29
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.02	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	7.37	0.00	9.28	8.67
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.05	0.16	0.16
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.28	1.28	3.99	3.99
d_A, Approach Delay [s/veh]	0.00		5.24		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.33					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Amanda Ave (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Base Volume Input [veh/h]	4	6	12	16	27	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	8	9	0	0	30
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	2	1	2	0	0	6
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	15	23	16	27	39
Peak Hour Factor	0.7730	0.7730	0.7730	0.7730	0.7730	0.7730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	5	7	5	9	13
Total Analysis Volume [veh/h]	18	19	30	21	35	50
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.02	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.48	8.75	7.43	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.16	3.16	1.16	1.16	0.00	0.00
d_A, Approach Delay [s/veh]	9.10		4.37		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.24					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Project Dwy (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.106

Intersection Setup

Name	Project Dwy		SR-74		SR-74	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy		SR-74		SR-74	
Base Volume Input [veh/h]	0	0	1116	0	0	1055
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	0	26	0	22
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	7	0	5	0	4
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	46	1116	31	0	1081
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	294	8	0	284
Total Analysis Volume [veh/h]	0	48	1175	33	0	1138
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.11	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	13.90	0.00	0.00	0.00	0.00
Movement LOS		B	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.35	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	8.84	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.90		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.28					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Vista Pl/SR-79 (NS) at SR-74 (EW)

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.964

Intersection Setup

Name	SR-79			Vista Pl			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	76.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	SR-79			Vista Pl			SR-74			SR-74		
Base Volume Input [veh/h]	105	11	408	20	19	10	13	1037	113	355	872	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	4	0	4	27	8	9	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	11	408	20	23	10	17	1064	121	364	894	48
Peak Hour Factor	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	3	105	5	6	3	4	273	31	93	229	12
Total Analysis Volume [veh/h]	108	11	419	21	24	10	17	1092	124	374	918	49
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	22	0	0	22	0	21	25	0	18	22	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	18	18	18	2	21	21	14	33	33
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.03	0.32	0.32	0.21	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.08	0.27	0.02	0.02	0.01	0.31	0.08	0.21	0.26	0.26
s, saturation flow rate [veh/h]	1374	1596	958	1778	1781	3560	1589	1781	1870	1837
c, Capacity [veh/h]	431	442	111	492	52	1157	516	381	953	936
d1, Uniform Delay [s]	20.77	23.27	32.52	17.33	30.96	21.38	16.08	25.45	10.58	10.59
k, delay calibration	0.11	0.15	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	17.51	0.82	0.06	3.65	16.06	1.10	17.71	1.96	2.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.97	0.19	0.07	0.33	0.94	0.24	0.98	0.51	0.51
d, Delay for Lane Group [s/veh]	21.08	40.78	33.34	17.39	34.61	37.44	17.18	43.16	12.54	12.59
Lane Group LOS	C	D	C	B	C	D	B	D	B	B
Critical Lane Group	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.24	7.74	0.35	0.37	0.29	9.21	1.29	6.79	3.85	3.81
50th-Percentile Queue Length [ft/ln]	31.06	193.44	8.72	9.21	7.21	230.18	32.23	169.85	96.33	95.20
95th-Percentile Queue Length [veh/ln]	2.24	12.30	0.63	0.66	0.52	14.18	2.32	11.07	6.94	6.85
95th-Percentile Queue Length [ft/ln]	55.91	307.49	15.69	16.58	12.98	354.58	58.02	276.71	173.39	171.36

Movement, Approach, & Intersection Results

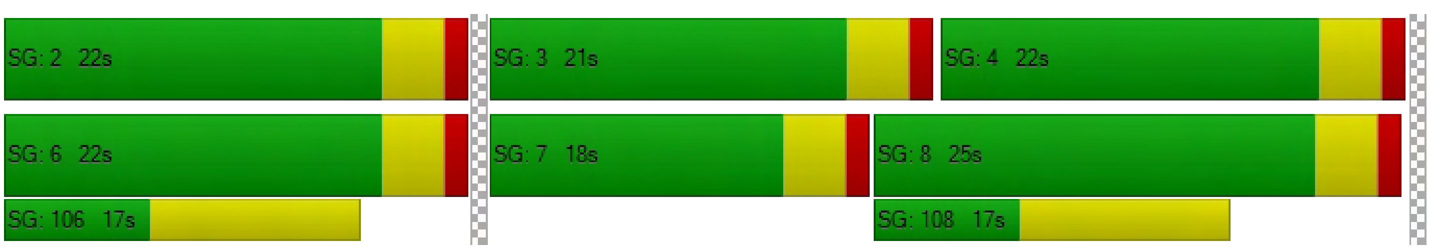
d_M, Delay for Movement [s/veh]	21.08	40.78	40.78	33.34	17.39	17.39	34.61	37.44	17.18	43.16	12.56	12.59
Movement LOS	C	D	D	C	B	B	C	D	B	D	B	B
d_A, Approach Delay [s/veh]	36.83			23.48			35.36			21.10		
Approach LOS	D			C			D			C		
d_I, Intersection Delay [s/veh]	29.37											
Intersection LOS	C											
Intersection V/C	0.964											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.43	0.00	22.43	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.501	0.000	3.203	0.000
Crosswalk LOS	B	F	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	554	646	554
d_b, Bicycle Delay [s]	16.99	16.99	14.89	16.99
I_b,int, Bicycle LOS Score for Intersection	2.447	1.650	2.577	2.666
Bicycle LOS	B	A	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: SR-79 (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	34.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.212

Intersection Setup

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	┐╠			╣┌			╬			╬		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Base Volume Input [veh/h]	31	499	8	0	472	31	19	4	38	32	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	0	0	0	8	13	0	0	8	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	3	0	0	0	1	3	0	0	2	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	499	8	0	481	47	19	4	48	32	1	1
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	129	2	0	124	12	5	1	12	8	0	0
Total Analysis Volume [veh/h]	53	517	8	0	498	49	20	4	50	33	1	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.01	0.00	0.00	0.00	0.00	0.12	0.02	0.09	0.21	0.01	0.00
d_M, Delay for Movement [s/veh]	8.71	0.00	0.00	8.46	0.00	0.00	28.79	26.70	14.38	34.32	31.01	17.70
Movement LOS	A	A	A	A	A	A	D	D	B	D	D	C
95th-Percentile Queue Length [veh/ln]	0.16	0.00	0.00	0.00	0.00	0.00	0.84	0.84	0.84	0.80	0.80	0.80
95th-Percentile Queue Length [ft/ln]	4.10	0.00	0.00	0.00	0.00	0.00	20.99	20.99	20.99	20.02	20.02	20.02
d_A, Approach Delay [s/veh]	0.80			0.00			18.94			33.75		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	2.47											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 8: SR-79 (NS) at Stetson Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	6.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

Intersection Setup

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	160.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Base Volume Input [veh/h]	45	522	1	1	520	24	15	0	23	1	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	13	0	0	12	4	4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	535	1	1	532	28	19	0	23	1	0	3
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	143	0	0	142	7	5	0	6	0	0	1
Total Analysis Volume [veh/h]	48	573	1	1	570	30	20	0	25	1	0	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	37	0	12	38	0	0	21	0	0	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	54	0	50	4	4
g / C, Green / Cycle	0.06	0.77	0.00	0.71	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.03	0.31	0.00	0.32	0.03	0.00
s, saturation flow rate [veh/h]	1781	1869	1781	1854	1626	1701
c, Capacity [veh/h]	111	1430	6	1309	172	166
d1, Uniform Delay [s]	31.67	2.79	34.83	4.47	31.79	31.05
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.63	0.84	10.84	1.16	0.80	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.40	0.16	0.46	0.26	0.02
d, Delay for Lane Group [s/veh]	34.30	3.63	45.66	5.63	32.59	31.11
Lane Group LOS	C	A	D	A	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.81	1.14	0.04	2.30	0.75	0.06
50th-Percentile Queue Length [ft/ln]	20.16	28.54	0.88	57.54	18.76	1.61
95th-Percentile Queue Length [veh/ln]	1.45	2.06	0.06	4.14	1.35	0.12
95th-Percentile Queue Length [ft/ln]	36.28	51.38	1.58	103.57	33.77	2.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.30	3.63	3.63	45.66	5.63	5.63	32.59	32.59	32.59	31.11	31.11	31.11
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]		6.00			5.70			32.59			31.11	
Approach LOS		A			A			C			C	
d_I, Intersection Delay [s/veh]	6.87											
Intersection LOS	A											
Intersection V/C	0.456											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.522	2.583	1.761	1.704
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	943	971	486	486
d_b, Bicycle Delay [s]	9.78	9.26	20.06	20.06
I_b,int, Bicycle LOS Score for Intersection	2.586	2.551	1.634	1.566
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	260.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	4	0	12	14	1	8	21	1386	7	11	1286	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	9	8	19	0	0	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	12	14	1	17	29	1405	7	11	1308	17
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	3	4	0	4	7	359	2	3	334	4
Total Analysis Volume [veh/h]	4	0	12	14	1	17	30	1437	7	11	1337	17
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	Yes		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.00	0.03	0.11	0.01	0.04	0.06	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	177.60	260.84	26.98	36.19	38.75	17.49	12.59	0.00	0.00	12.92	0.00	0.00
Movement LOS	F	F	D	E	E	C	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.73	0.73	0.73	0.56	0.56	0.56	0.19	0.00	0.00	0.07	0.00	0.00
95th-Percentile Queue Length [ft/ln]	18.24	18.24	18.24	13.88	13.88	13.88	4.73	0.00	0.00	1.81	0.00	0.00
d_A, Approach Delay [s/veh]	64.64			26.33			0.26			0.10		
Approach LOS	F			D			A			A		
d_I, Intersection Delay [s/veh]	0.83											
Intersection LOS	F											

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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
9	Truelson Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	SB Right	0.108	14.7	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.108

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	0	0	10	0	0	33	7	1043	3	5	1160	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	9	8	22	0	0	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	10	0	0	42	15	1065	3	5	1182	11
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	3	0	0	11	4	287	1	1	319	3
Total Analysis Volume [veh/h]	0	0	11	0	0	45	16	1149	3	5	1275	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	Yes		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.00	0.11	0.03	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	13.01	0.00	0.00	14.71	11.94	0.00	0.00	11.03	0.00	0.00
Movement LOS			B			B	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.07	0.00	0.00	0.36	0.09	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.83	0.00	0.00	9.03	2.31	0.00	0.00	0.63	0.00	0.00
d_A, Approach Delay [s/veh]	13.01			14.71			0.16			0.04		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.42											
Intersection LOS	B											

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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
9	Truelson Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Right	0.043	15.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.043

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	0	0	16	0	0	23	21	1386	7	11	1286	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	9	8	19	0	0	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	16	0	0	32	29	1405	7	11	1308	17
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	4	0	0	8	7	359	2	3	334	4
Total Analysis Volume [veh/h]	0	0	16	0	0	33	30	1437	7	11	1337	17
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	Yes		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.04	0.00	0.00	0.08	0.06	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	15.19	0.00	0.00	14.94	12.59	0.00	0.00	12.92	0.00	0.00
Movement LOS			C			B	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.14	0.00	0.00	0.27	0.19	0.00	0.00	0.07	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.39	0.00	0.00	6.79	4.73	0.00	0.00	1.81	0.00	0.00
d_A, Approach Delay [s/veh]	15.19			14.94			0.26			0.10		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	0.43											
Intersection LOS	C											

Existing Plus Ambient Growth Plus Project

Plot Plan No. 26240

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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Cortrite Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	21.0	C
2	Amanda Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.004	22.5	C
3	Amanda Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	WB Left	0.024	9.4	A
4	Amanda Ave (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	SB Left	0.023	9.6	A
5	Project Dwy (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Right	0.091	12.0	B
6	Vista Pl/SR-79 (NS) at SR-74 (EW)	Signalized	HCM 6th Edition	EB Left	0.867	21.6	C
7	SR-79 (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	WB Left	0.184	33.2	D
8	SR-79 (NS) at Stetson Ave (EW)	Signalized	HCM 6th Edition	NB Left	0.552	8.8	A
9	Truelson Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	156.1	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Cortrite Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	21.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Base Volume Input [veh/h]	15	0	4	1	1	0	4	843	6	5	825	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.00	1.00	1.04	1.04	1.04	1.00	1.04	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	9	0	0	0	0	17	0	8	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	0	13	1	1	0	4	860	6	13	841	2
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	3	0	0	0	1	226	2	3	221	1
Total Analysis Volume [veh/h]	17	0	14	1	1	0	4	903	6	14	883	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.00	0.03	0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	20.11	20.97	12.55	19.35	20.26	11.51	9.76	0.00	0.00	9.93	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.30	0.30	0.30	0.02	0.02	0.02	0.02	0.00	0.00	0.06	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.50	7.50	7.50	0.62	0.62	0.62	0.40	0.00	0.00	1.44	0.00	0.00
d_A, Approach Delay [s/veh]	16.70			19.81			0.04			0.15		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.40											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 2: Amanda Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	22.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Base Volume Input [veh/h]	4	1	12	2	1	2	1	794	1	7	850	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.04	1.00	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	0	0	0	0	26	0	22	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	4	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	1	12	2	1	2	1	820	1	33	850	2
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	3	1	0	1	0	219	0	9	228	1
Total Analysis Volume [veh/h]	30	1	13	2	1	2	1	878	1	35	910	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.00	0.02	0.01	0.00	0.00	0.00	0.01	0.00	0.05	0.01	0.00
d_M, Delay for Movement [s/veh]	20.85	22.46	13.32	21.07	21.32	11.74	9.85	0.00	0.00	9.94	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.49	0.49	0.49	0.05	0.05	0.05	0.00	0.00	0.00	0.14	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.34	12.34	12.34	1.29	1.29	1.29	0.10	0.00	0.00	3.59	0.00	0.00
d_A, Approach Delay [s/veh]	18.66			17.39			0.01			0.37		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.67											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 3: Amanda Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	Amanda Ave		Amanda Ave		Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Amanda Ave		Project Dwy	
Base Volume Input [veh/h]	17	0	0	12	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	22	0	16	24
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	8	4	0	4	5
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	47	26	12	20	29
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	12	7	3	5	8
Total Analysis Volume [veh/h]	19	49	27	13	21	31
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.02	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	7.39	0.00	9.35	8.72
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.05	0.17	0.17
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.29	1.29	4.30	4.30
d_A, Approach Delay [s/veh]	0.00		4.99		8.98	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.16					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Amanda Ave (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Base Volume Input [veh/h]	4	8	15	23	18	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	8	9	0	0	30
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	2	2	2	0	0	6
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	18	27	24	19	39
Peak Hour Factor	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	6	9	8	6	13
Total Analysis Volume [veh/h]	19	24	36	32	26	53
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.02	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.61	8.74	7.43	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.69	3.69	1.36	1.36	0.00	0.00
d_A, Approach Delay [s/veh]	9.13		3.93		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.47					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Project Dwy (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.091

Intersection Setup

Name	Project Dwy		SR-74		SR-74	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy		SR-74		SR-74	
Base Volume Input [veh/h]	0	0	808	0	0	859
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.04	1.04	1.04	1.00	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	42	0	26	0	22
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	6	0	5	0	4
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	48	840	31	0	919
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	221	8	0	242
Total Analysis Volume [veh/h]	0	51	884	33	0	967
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	12.03	0.00	0.00	0.00	0.00
Movement LOS		B	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.30	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	7.43	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.03		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.32					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Vista Pl/SR-79 (NS) at SR-74 (EW)

Control Type:	Signalized	Delay (sec / veh):	21.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.867

Intersection Setup

Name	SR-79			Vista Pl			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	76.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	SR-79			Vista Pl			SR-74			SR-74		
Base Volume Input [veh/h]	80	7	334	11	21	2	7	704	74	382	762	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	4	0	4	30	8	9	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	7	347	11	26	2	11	762	85	406	814	26
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	2	91	3	7	1	3	199	22	106	213	7
Total Analysis Volume [veh/h]	87	7	363	11	27	2	11	796	89	424	851	27
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	21	0	0	21	0	22	21	0	18	17	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	16	16	16	1	17	17	15	31	31
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.02	0.28	0.28	0.25	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.06	0.23	0.01	0.02	0.01	0.22	0.06	0.24	0.24	0.24
s, saturation flow rate [veh/h]	1381	1594	1012	1847	1781	3560	1589	1781	1870	1850
c, Capacity [veh/h]	420	416	125	482	35	1017	454	451	971	960
d1, Uniform Delay [s]	19.64	21.34	29.94	16.65	29.01	19.72	16.22	21.96	9.08	9.08
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	6.61	0.30	0.05	4.90	6.00	0.96	9.87	1.53	1.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.89	0.09	0.06	0.31	0.78	0.20	0.94	0.45	0.45
d, Delay for Lane Group [s/veh]	19.88	27.95	30.24	16.70	33.91	25.73	17.19	31.83	10.62	10.64
Lane Group LOS	B	C	C	B	C	C	B	C	B	B
Critical Lane Group	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.91	4.98	0.16	0.29	0.19	5.02	0.89	6.04	2.85	2.83
50th-Percentile Queue Length [ft/ln]	22.73	124.56	4.11	7.29	4.67	125.41	22.21	151.07	71.23	70.70
95th-Percentile Queue Length [veh/ln]	1.64	8.64	0.30	0.52	0.34	8.69	1.60	10.07	5.13	5.09
95th-Percentile Queue Length [ft/ln]	40.92	216.08	7.40	13.12	8.41	217.23	39.97	251.85	128.22	127.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.88	27.95	27.95	30.24	16.70	16.70	33.91	25.73	17.19	31.83	10.63	10.64
Movement LOS	B	C	C	C	B	B	C	C	B	C	B	B
d_A, Approach Delay [s/veh]		26.41			20.42			24.98			17.53	
Approach LOS		C			C			C			B	
d_I, Intersection Delay [s/veh]						21.56						
Intersection LOS						C						
Intersection V/C						0.867						

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.01	0.00	20.01	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.473	0.000	3.051	0.000
Crosswalk LOS	B	F	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	567	567	433
d_b, Bicycle Delay [s]	15.41	15.41	15.41	18.41
I_b,int, Bicycle LOS Score for Intersection	2.314	1.626	2.299	2.634
Bicycle LOS	B	A	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 7: SR-79 (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	33.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.184

Intersection Setup

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Base Volume Input [veh/h]	20	443	6	1	457	31	21	2	37	27	3	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	0	0	0	8	13	0	0	8	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	3	0	0	0	1	3	0	0	2	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	461	6	1	484	48	22	2	48	28	3	4
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	121	2	0	127	13	6	1	13	7	1	1
Total Analysis Volume [veh/h]	43	484	6	1	508	50	23	2	50	29	3	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.01	0.00	0.12	0.01	0.09	0.18	0.02	0.01
d_M, Delay for Movement [s/veh]	8.71	0.00	0.00	8.36	0.00	0.00	27.57	25.45	14.42	33.22	28.87	16.52
Movement LOS	A	A	A	A	A	A	D	D	B	D	D	C
95th-Percentile Queue Length [veh/ln]	0.13	0.00	0.00	0.00	0.00	0.00	0.84	0.84	0.84	0.75	0.75	0.75
95th-Percentile Queue Length [ft/ln]	3.32	0.00	0.00	0.07	0.07	0.00	20.98	20.98	20.98	18.74	18.74	18.74
d_A, Approach Delay [s/veh]	0.70			0.01			18.75			31.00		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	2.41											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 8: SR-79 (NS) at Stetson Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.552

Intersection Setup

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	160.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Base Volume Input [veh/h]	33	431	0	0	547	9	17	0	70	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	13	0	0	12	4	4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	461	0	0	581	13	22	0	73	0	0	0
Peak Hour Factor	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	130	0	0	164	4	6	0	21	0	0	0
Total Analysis Volume [veh/h]	38	521	0	0	657	15	25	0	83	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	33	0	11	32	0	0	21	0	0	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	47	0	43	6	6
g / C, Green / Cycle	0.05	0.72	0.00	0.67	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.02	0.28	0.00	0.36	0.07	0.00
s, saturation flow rate [veh/h]	1781	1870	1781	1863	1583	1346
c, Capacity [veh/h]	99	1346	3	1241	217	182
d1, Uniform Delay [s]	29.69	3.54	0.00	5.68	28.64	0.00
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.44	0.84	0.00	1.70	1.77	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.39	0.00	0.54	0.50	0.00
d, Delay for Lane Group [s/veh]	32.13	4.38	0.00	7.37	30.40	0.00
Lane Group LOS	C	A	A	A	C	A
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.59	1.38	0.00	3.15	1.67	0.00
50th-Percentile Queue Length [ft/ln]	14.80	34.41	0.00	78.75	41.75	0.00
95th-Percentile Queue Length [veh/ln]	1.07	2.48	0.00	5.67	3.01	0.00
95th-Percentile Queue Length [ft/ln]	26.64	61.93	0.00	141.75	75.14	0.00

Movement, Approach, & Intersection Results

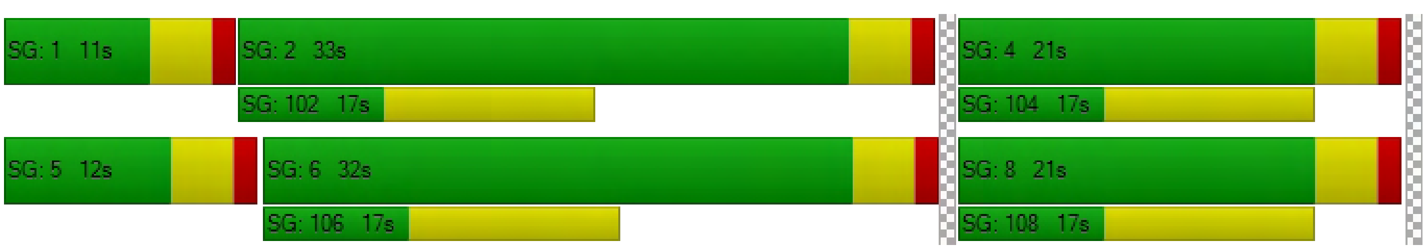
d_M, Delay for Movement [s/veh]	32.13	4.38	4.38	0.00	7.37	7.37	30.40	30.40	30.40	0.00	0.00	0.00
Movement LOS	C	A	A	A	A	A	C	C	C	A	A	A
d_A, Approach Delay [s/veh]	6.27			7.37			30.40			0.00		
Approach LOS	A			A			C			A		
d_I, Intersection Delay [s/veh]	8.77											
Intersection LOS	A											
Intersection V/C	0.552											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.43	22.43	22.43	22.43
I_p,int, Pedestrian LOS Score for Intersection	2.555	2.594	1.775	1.697
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	892	862	523	523
d_b, Bicycle Delay [s]	9.97	10.53	17.72	17.72
I_b,int, Bicycle LOS Score for Intersection	2.482	2.668	1.738	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	156.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	3	0	7	16	0	17	7	1043	3	5	1160	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	9	8	22	0	0	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	7	17	0	27	15	1107	3	5	1228	11
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	2	5	0	7	4	299	1	1	331	3
Total Analysis Volume [veh/h]	3	0	8	18	0	29	16	1194	3	5	1325	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	Yes		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.02	0.13	0.00	0.07	0.03	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	103.51	156.07	16.49	34.03	32.62	17.73	12.26	0.00	0.00	11.27	0.00	0.00
Movement LOS	F	F	C	D	D	C	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.32	0.32	0.32	0.72	0.72	0.72	0.10	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.88	7.88	7.88	18.07	18.07	18.07	2.42	0.00	0.00	0.65	0.00	0.00
d_A, Approach Delay [s/veh]	40.22			23.98			0.16			0.04		
Approach LOS	E			C			A			A		
d_I, Intersection Delay [s/veh]	0.70											
Intersection LOS	F											

Plot Plan No. 26240

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Scenario 3 Existing Plus Ambient Gowth Plus Project

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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Cortrite Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	SB Thru	0.007	29.6	D
2	Amanda Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	32.5	D
3	Amanda Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	WB Left	0.023	9.3	A
4	Amanda Ave (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	SB Left	0.022	9.5	A
5	Project Dwy (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Right	0.110	14.3	B
6	Vista Pl/SR-79 (NS) at SR-74 (EW)	Signalized	HCM 6th Edition	WB Left	1.001	34.0	C
7	SR-79 (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	WB Left	0.218	34.5	D
8	SR-79 (NS) at Stetson Ave (EW)	Signalized	HCM 6th Edition	SB Left	0.474	7.1	A
9	Truelson Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	312.5	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Cortrite Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	29.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Base Volume Input [veh/h]	5	0	7	5	1	4	4	1135	13	9	1035	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.00	1.00	1.04	1.04	1.04	1.00	1.04	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	9	0	0	0	0	17	0	8	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	16	5	1	4	4	1152	14	17	1051	4
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	4	1	0	1	1	318	4	5	290	1
Total Analysis Volume [veh/h]	6	0	18	6	1	4	4	1273	15	19	1161	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.04	0.04	0.01	0.01	0.01	0.01	0.00	0.04	0.01	0.00
d_M, Delay for Movement [s/veh]	29.41	28.71	14.65	27.83	29.61	13.80	11.09	0.00	0.00	11.99	0.00	0.00
Movement LOS	D	D	B	D	D	B	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.26	0.16	0.16	0.16	0.02	0.00	0.00	0.11	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.62	6.62	6.62	4.07	4.07	4.07	0.51	0.00	0.00	2.76	0.00	0.00
d_A, Approach Delay [s/veh]	18.34			22.89			0.03			0.19		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.38											
Intersection LOS	D											

Intersection Level Of Service Report

Intersection 2: Amanda Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	32.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Base Volume Input [veh/h]	3	0	7	5	0	2	1	1104	0	9	1042	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.04	1.00	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	0	0	0	0	26	0	22	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	4	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	0	7	5	0	2	1	1130	0	35	1042	4
Peak Hour Factor	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	2	1	0	1	0	310	0	10	286	1
Total Analysis Volume [veh/h]	30	0	8	5	0	2	1	1239	0	38	1143	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.00	0.02	0.03	0.00	0.00	0.00	0.01	0.00	0.07	0.01	0.00
d_M, Delay for Movement [s/veh]	32.21	32.48	18.26	28.72	30.14	13.49	10.96	0.00	0.00	11.92	0.00	0.00
Movement LOS	D	D	C	D	D	B	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.74	0.74	0.74	0.11	0.11	0.11	0.00	0.00	0.00	0.22	0.00	0.00
95th-Percentile Queue Length [ft/ln]	18.52	18.52	18.52	2.81	2.81	2.81	0.12	0.00	0.00	5.46	0.00	0.00
d_A, Approach Delay [s/veh]	29.27			24.37			0.01			0.38		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	0.71											
Intersection LOS	D											

Intersection Level Of Service Report

Intersection 3: Amanda Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Amanda Ave		Amanda Ave		Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Amanda Ave		Project Dwy	
Base Volume Input [veh/h]	10	0	0	10	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	22	0	16	24
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	8	4	0	3	4
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	47	26	10	19	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	12	7	3	5	7
Total Analysis Volume [veh/h]	11	49	27	11	20	29
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.02	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	7.37	0.00	9.28	8.67
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.05	0.16	0.16
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.28	1.28	3.99	3.99
d_A, Approach Delay [s/veh]	0.00		5.24		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.33					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Amanda Ave (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Base Volume Input [veh/h]	4	6	12	16	27	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	8	9	0	0	30
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	2	1	2	0	0	6
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	15	23	17	28	39
Peak Hour Factor	0.7730	0.7730	0.7730	0.7730	0.7730	0.7730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	5	7	5	9	13
Total Analysis Volume [veh/h]	18	19	30	22	36	50
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.02	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.49	8.75	7.43	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.17	3.17	1.16	1.16	0.00	0.00
d_A, Approach Delay [s/veh]	9.11		4.29		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.20					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Project Dwy (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.110

Intersection Setup

Name	Project Dwy		SR-74		SR-74	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy		SR-74		SR-74	
Base Volume Input [veh/h]	0	0	1116	0	0	1055
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.04	1.04	1.04	1.00	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	0	26	0	22
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	7	0	5	0	4
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	46	1161	31	0	1123
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	306	8	0	296
Total Analysis Volume [veh/h]	0	48	1222	33	0	1182
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.11	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	14.26	0.00	0.00	0.00	0.00
Movement LOS		B	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.37	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	9.19	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.26		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.28					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Vista Pl/SR-79 (NS) at SR-74 (EW)

Control Type:	Signalized	Delay (sec / veh):	34.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.001

Intersection Setup

Name	SR-79			Vista Pl			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	76.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	SR-79			Vista Pl			SR-74			SR-74		
Base Volume Input [veh/h]	105	11	408	20	19	10	13	1037	113	355	872	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	4	0	4	27	8	9	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	109	11	424	21	24	10	18	1105	126	378	929	50
Peak Hour Factor	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	3	109	5	6	3	5	284	32	97	238	13
Total Analysis Volume [veh/h]	112	11	435	22	25	10	18	1134	129	388	954	51
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	22	0	0	22	0	21	25	0	18	22	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	18	18	18	2	21	21	14	33	33
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.03	0.32	0.32	0.21	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.08	0.28	0.02	0.02	0.01	0.32	0.08	0.22	0.27	0.27
s, saturation flow rate [veh/h]	1373	1595	944	1780	1781	3560	1589	1781	1870	1837
c, Capacity [veh/h]	430	442	111	493	54	1157	516	381	950	933
d1, Uniform Delay [s]	20.86	23.51	32.52	17.34	30.88	21.75	16.13	25.57	10.79	10.80
k, delay calibration	0.11	0.16	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	26.66	0.87	0.06	3.53	22.18	1.16	26.47	2.14	2.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	1.01	0.20	0.07	0.33	0.98	0.25	1.02	0.53	0.53
d, Delay for Lane Group [s/veh]	21.18	50.17	33.39	17.40	34.42	43.93	17.29	52.04	12.93	12.99
Lane Group LOS	C	F	C	B	C	D	B	F	B	B
Critical Lane Group	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.29	9.07	0.37	0.38	0.30	10.56	1.35	7.83	4.09	4.05
50th-Percentile Queue Length [ft/ln]	32.35	226.82	9.14	9.49	7.57	264.11	33.69	195.74	102.36	101.29
95th-Percentile Queue Length [veh/ln]	2.33	14.09	0.66	0.68	0.54	15.90	2.43	12.54	7.37	7.29
95th-Percentile Queue Length [ft/ln]	58.23	352.19	16.45	17.08	13.62	397.38	60.63	313.51	184.25	182.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.18	50.17	50.17	33.39	17.40	17.40	34.42	43.93	17.29	52.04	12.96	12.99
Movement LOS	C	D	D	C	B	B	C	D	B	F	B	B
d_A, Approach Delay [s/veh]	44.35			23.57			41.12			23.84		
Approach LOS	D			C			D			C		
d_I, Intersection Delay [s/veh]	34.05											
Intersection LOS	C											
Intersection V/C	1.001											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.43	0.00	22.43	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.515	0.000	3.233	0.000
Crosswalk LOS	B	F	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	554	646	554
d_b, Bicycle Delay [s]	16.99	16.99	14.89	16.99
I_b,int, Bicycle LOS Score for Intersection	2.480	1.654	2.616	2.709
Bicycle LOS	B	A	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: SR-79 (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	34.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.218

Intersection Setup

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	┐├			┤┌			┼			┼		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Base Volume Input [veh/h]	31	499	8	0	472	31	19	4	38	32	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	0	0	0	8	13	0	0	8	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	3	0	0	0	1	3	0	0	2	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	519	8	0	500	48	20	4	50	33	1	1
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	134	2	0	129	12	5	1	13	9	0	0
Total Analysis Volume [veh/h]	54	537	8	0	518	50	21	4	52	34	1	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.01	0.00	0.00	0.01	0.00	0.13	0.01	0.09	0.22	0.01	0.00
d_M, Delay for Movement [s/veh]	8.79	0.00	0.00	8.52	0.00	0.00	30.42	16.96	14.71	34.50	32.49	18.10
Movement LOS	A	A	A	A	A	A	D	C	B	D	D	C
95th-Percentile Queue Length [veh/ln]	0.17	0.00	0.00	0.00	0.00	0.00	0.88	0.88	0.88	0.83	0.83	0.83
95th-Percentile Queue Length [ft/ln]	4.26	0.00	0.00	0.00	0.00	0.00	22.07	22.07	22.07	20.72	20.72	20.72
d_A, Approach Delay [s/veh]	0.79			0.00			19.11			33.99		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	2.48											
Intersection LOS	D											

Intersection Level Of Service Report

Intersection 8: SR-79 (NS) at Stetson Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.474

Intersection Setup

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	┓┣			┓┣			╋			╋		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	160.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Base Volume Input [veh/h]	45	522	1	1	520	24	15	0	23	1	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	13	0	0	12	4	4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	556	1	1	553	29	20	0	24	1	0	3
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	149	0	0	148	8	5	0	6	0	0	1
Total Analysis Volume [veh/h]	50	595	1	1	592	31	21	0	26	1	0	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	37	0	12	38	0	0	21	0	0	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	54	0	49	4	4
g / C, Green / Cycle	0.06	0.77	0.00	0.70	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.03	0.32	0.00	0.34	0.03	0.00
s, saturation flow rate [veh/h]	1781	1869	1781	1854	1622	1698
c, Capacity [veh/h]	114	1427	6	1304	174	169
d1, Uniform Delay [s]	31.61	2.88	34.83	4.65	31.72	30.95
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.65	0.90	10.84	1.26	0.82	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.42	0.16	0.48	0.27	0.02
d, Delay for Lane Group [s/veh]	34.26	3.78	45.66	5.91	32.54	31.00
Lane Group LOS	C	A	D	A	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.84	1.24	0.04	2.50	0.78	0.06
50th-Percentile Queue Length [ft/ln]	20.96	30.93	0.88	62.52	19.57	1.61
95th-Percentile Queue Length [veh/ln]	1.51	2.23	0.06	4.50	1.41	0.12
95th-Percentile Queue Length [ft/ln]	37.72	55.68	1.58	112.53	35.23	2.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.26	3.78	3.78	45.66	5.91	5.91	32.54	32.54	32.54	31.00	31.00	31.00
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]		6.14			5.97			32.54			31.00	
Approach LOS		A			A			C			C	
d_I, Intersection Delay [s/veh]	7.07											
Intersection LOS	A											
Intersection V/C	0.474											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.544	2.602	1.763	1.704
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	943	971	486	486
d_b, Bicycle Delay [s]	9.78	9.26	20.06	20.06
I_b,int, Bicycle LOS Score for Intersection	2.626	2.589	1.637	1.566
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	312.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	4	0	12	14	1	8	21	1386	7	11	1286	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	9	8	19	0	0	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	12	15	1	17	30	1460	7	11	1359	18
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	3	4	0	4	8	373	2	3	347	5
Total Analysis Volume [veh/h]	4	0	12	15	1	17	31	1493	7	11	1390	18
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	Yes		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.00	0.03	0.12	0.01	0.04	0.06	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	209.31	312.46	31.82	39.20	41.93	18.69	13.01	0.00	0.00	13.34	0.00	0.00
Movement LOS	F	F	D	E	E	C	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.85	0.85	0.85	0.63	0.63	0.63	0.21	0.00	0.00	0.08	0.00	0.00
95th-Percentile Queue Length [ft/ln]	21.14	21.14	21.14	15.81	15.81	15.81	5.15	0.00	0.00	1.91	0.00	0.00
d_A, Approach Delay [s/veh]	76.19			28.72			0.26			0.10		
Approach LOS	F			D			A			A		
d_I, Intersection Delay [s/veh]	0.91											
Intersection LOS	F											

Plot Plan No. 26240

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Scenario 3 Existing Plus Ambient Growth Plus Project

3/14/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
9	Truelson Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	SB Right	0.115	15.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.115

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	0	0	10	0	0	33	7	1043	3	5	1160	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	9	8	22	0	0	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	10	0	0	43	15	1107	3	5	1228	11
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	3	0	0	12	4	299	1	1	331	3
Total Analysis Volume [veh/h]	0	0	11	0	0	46	16	1194	3	5	1325	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	Yes		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.00	0.11	0.03	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	13.29	0.00	0.00	15.15	12.26	0.00	0.00	11.27	0.00	0.00
Movement LOS			B			C	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.08	0.00	0.00	0.39	0.10	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.90	0.00	0.00	9.65	2.42	0.00	0.00	0.65	0.00	0.00
d_A, Approach Delay [s/veh]	13.29			15.15			0.16			0.04		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	0.42											
Intersection LOS	C											

Plot Plan No. 26240

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Scenario 3 Existing Plus Ambient Gowth Plus Project

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3/14/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
9	Truelson Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Right	0.048	15.7	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	0	0	16	0	0	23	21	1386	7	11	1286	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	9	8	19	0	0	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	17	0	0	33	30	1460	7	11	1359	18
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	4	0	0	8	8	373	2	3	347	5
Total Analysis Volume [veh/h]	0	0	17	0	0	34	31	1493	7	11	1390	18
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	Yes		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.05	0.00	0.00	0.09	0.06	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	15.69	0.00	0.00	15.42	13.01	0.00	0.00	13.34	0.00	0.00
Movement LOS			C			C	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.15	0.00	0.00	0.29	0.21	0.00	0.00	0.08	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.77	0.00	0.00	7.33	5.15	0.00	0.00	1.91	0.00	0.00
d_A, Approach Delay [s/veh]	15.69			15.42			0.26			0.10		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.45											
Intersection LOS	C											

Existing Plus Ambient Growth Plus Project Plus Cumulative

Plot Plan No. 26240

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Scenario 4 Cumulative Condition
Report File: G:\...\AM EAGPC.pdf
3/14/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Cortrite Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	24.8	C
2	Amanda Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.005	26.0	D
3	Amanda Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	WB Left	0.024	9.4	A
4	Amanda Ave (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	SB Left	0.023	9.6	A
5	Project Dwy (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Right	0.097	12.6	B
6	Vista Pl/SR-79 (NS) at SR-74 (EW)	Signalized	HCM 6th Edition	WB Left	0.950	28.6	C
7	SR-79 (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.019	34.6	D
8	SR-79 (NS) at Stetson Ave (EW)	Signalized	HCM 6th Edition	SB Left	0.646	11.2	B
9	Truelson Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	SB Right	0.097	10,000.0	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Cortrite Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	24.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Base Volume Input [veh/h]	15	0	4	1	1	0	4	843	6	5	825	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.00	1.00	1.04	1.04	1.04	1.00	1.04	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	23	0	0	0	0	78	0	39	145	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	0	27	1	1	0	4	921	6	44	970	2
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	7	0	0	0	1	242	2	12	255	1
Total Analysis Volume [veh/h]	17	0	28	1	1	0	4	967	6	46	1019	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.05	0.01	0.01	0.00	0.01	0.01	0.00	0.07	0.01	0.00
d_M, Delay for Movement [s/veh]	22.66	24.82	13.33	24.67	24.51	12.28	10.36	0.00	0.00	10.47	0.00	0.00
Movement LOS	C	C	B	C	C	B	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.44	0.03	0.03	0.03	0.02	0.00	0.00	0.21	0.00	0.00
95th-Percentile Queue Length [ft/ln]	10.99	10.99	10.99	0.82	0.82	0.82	0.45	0.00	0.00	5.23	0.00	0.00
d_A, Approach Delay [s/veh]	16.85			24.59			0.04			0.45		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.64											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 2: Amanda Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	26.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Base Volume Input [veh/h]	4	1	12	2	1	2	1	794	1	7	850	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.04	1.00	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	0	0	0	0	119	0	22	146	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	4	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	1	12	2	1	2	1	913	1	33	996	2
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	3	1	0	1	0	244	0	9	267	1
Total Analysis Volume [veh/h]	30	1	13	2	1	2	1	978	1	35	1066	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.01	0.02	0.01	0.01	0.00	0.00	0.01	0.00	0.05	0.01	0.00
d_M, Delay for Movement [s/veh]	23.75	25.95	14.49	24.98	24.39	12.64	10.56	0.00	0.00	10.41	0.00	0.00
Movement LOS	C	D	B	C	C	B	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.58	0.58	0.58	0.06	0.06	0.06	0.00	0.00	0.00	0.16	0.00	0.00
95th-Percentile Queue Length [ft/ln]	14.44	14.44	14.44	1.55	1.55	1.55	0.12	0.00	0.00	3.94	0.00	0.00
d_A, Approach Delay [s/veh]	21.06			19.93			0.01			0.33		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.66											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 3: Amanda Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	Amanda Ave		Amanda Ave		Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Amanda Ave		Project Dwy	
Base Volume Input [veh/h]	17	0	0	12	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	22	0	16	24
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	8	4	0	4	5
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	47	26	12	20	29
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	12	7	3	5	8
Total Analysis Volume [veh/h]	19	49	27	13	21	31
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.02	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	7.39	0.00	9.35	8.72
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.05	0.17	0.17
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.29	1.29	4.30	4.30
d_A, Approach Delay [s/veh]	0.00		4.99		8.98	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.16					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 4: Amanda Ave (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Base Volume Input [veh/h]	4	8	15	23	18	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	8	9	0	0	30
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	2	2	2	0	0	6
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	18	27	24	19	39
Peak Hour Factor	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	6	9	8	6	13
Total Analysis Volume [veh/h]	19	24	36	32	26	53
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.02	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.61	8.74	7.43	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.69	3.69	1.36	1.36	0.00	0.00
d_A, Approach Delay [s/veh]	9.13		3.93		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.47					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Project Dwy (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.097

Intersection Setup

Name	Project Dwy		SR-74		SR-74	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy		SR-74		SR-74	
Base Volume Input [veh/h]	0	0	808	0	0	859
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.04	1.04	1.04	1.00	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	42	93	26	0	168
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	6	0	5	0	4
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	48	933	31	0	1065
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	246	8	0	280
Total Analysis Volume [veh/h]	0	51	982	33	0	1121
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.10	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	12.62	0.00	0.00	0.00	0.00
Movement LOS		B	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.32	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	8.06	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.62		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.29					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Vista Pl/SR-79 (NS) at SR-74 (EW)

Control Type:	Signalized	Delay (sec / veh):	28.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.950

Intersection Setup

Name	SR-79			Vista Pl			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	76.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	SR-79			Vista Pl			SR-74			SR-74		
Base Volume Input [veh/h]	80	7	334	11	21	2	7	704	74	382	762	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	106	24	55	3	12	0	4	80	51	38	62	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	189	31	402	14	34	2	11	812	128	435	854	29
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	8	105	4	9	1	3	212	33	114	223	8
Total Analysis Volume [veh/h]	197	32	420	15	36	2	11	848	134	455	892	30
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	23	0	0	23	0	21	21	0	21	21	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	19	19	19	1	17	17	17	33	33
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.02	0.26	0.26	0.26	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.14	0.28	0.02	0.02	0.01	0.24	0.08	0.26	0.25	0.25
s, saturation flow rate [veh/h]	1369	1607	939	1853	1781	3560	1589	1781	1870	1849
c, Capacity [veh/h]	450	470	111	542	36	942	421	461	940	930
d1, Uniform Delay [s]	21.50	22.67	32.54	16.64	31.42	23.10	19.22	24.02	10.69	10.69
k, delay calibration	0.11	0.16	0.11	0.11	0.11	0.50	0.50	0.12	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.67	16.41	0.55	0.05	4.58	13.29	1.99	18.11	1.84	1.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.96	0.14	0.07	0.30	0.90	0.32	0.99	0.49	0.49
d, Delay for Lane Group [s/veh]	22.17	39.09	33.08	16.69	36.00	36.38	21.20	42.13	12.53	12.57
Lane Group LOS	C	D	C	B	D	D	C	D	B	B
Critical Lane Group	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.39	7.94	0.25	0.40	0.20	7.04	1.62	8.17	3.67	3.65
50th-Percentile Queue Length [ft/ln]	59.76	198.50	6.20	10.03	5.01	175.88	40.62	204.27	91.78	91.13
95th-Percentile Queue Length [veh/ln]	4.30	12.56	0.45	0.72	0.36	11.39	2.92	12.86	6.61	6.56
95th-Percentile Queue Length [ft/ln]	107.57	314.03	11.16	18.05	9.01	284.63	73.12	321.46	165.21	164.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.17	39.09	39.09	33.08	16.69	16.69	36.00	36.38	21.20	42.13	12.55	12.57
Movement LOS	C	D	D	C	B	B	D	D	C	D	B	B
d_A, Approach Delay [s/veh]	33.95			21.33			34.33			22.32		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.64											
Intersection LOS	C											
Intersection V/C	0.950											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.43	0.00	22.43	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.579	0.000	3.280	0.000
Crosswalk LOS	B	F	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	585	585	523	523
d_b, Bicycle Delay [s]	16.28	16.28	17.72	17.72
I_b,int, Bicycle LOS Score for Intersection	2.630	1.647	2.379	2.696
Bicycle LOS	B	A	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: SR-79 (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	34.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Base Volume Input [veh/h]	20	443	6	1	457	31	21	2	37	27	3	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	185	19	0	88	13	0	0	8	18	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	3	0	0	0	1	3	0	0	2	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	646	25	1	564	48	22	2	48	46	3	4
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	169	7	0	148	13	6	1	13	12	1	1
Total Analysis Volume [veh/h]	43	678	26	1	592	50	23	2	50	48	3	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.01	0.00	0.00	0.01	0.00	0.13	0.01	0.10	0.25	0.02	0.01
d_M, Delay for Movement [s/veh]	9.00	0.00	0.00	9.03	0.00	0.00	28.87	30.17	15.72	31.06	34.63	20.15
Movement LOS	A	A	A	A	A	A	D	D	C	D	D	C
95th-Percentile Queue Length [veh/ln]	0.14	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.92	1.10	1.10	1.10
95th-Percentile Queue Length [ft/ln]	3.58	0.00	0.00	0.08	0.08	0.00	23.00	23.00	23.00	27.61	27.61	27.61
d_A, Approach Delay [s/veh]	0.52			0.01			20.14			30.46		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	2.36											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 8: SR-79 (NS) at Stetson Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.646

Intersection Setup

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	160.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Base Volume Input [veh/h]	33	431	0	0	547	9	17	0	70	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	65	10	10	110	35	18	0	0	33	0	34
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	513	10	10	679	44	36	0	73	33	0	34
Peak Hour Factor	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840	0.8840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	145	3	3	192	12	10	0	21	9	0	10
Total Analysis Volume [veh/h]	38	580	11	11	768	50	41	0	83	37	0	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	37	0	12	38	0	0	21	0	0	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	50	1	48	6	6
g / C, Green / Cycle	0.05	0.72	0.02	0.68	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.02	0.32	0.01	0.44	0.07	0.05
s, saturation flow rate [veh/h]	1781	1864	1781	1850	1722	1631
c, Capacity [veh/h]	95	1335	36	1264	227	227
d1, Uniform Delay [s]	32.09	4.13	33.84	6.31	31.02	30.20
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.73	1.07	4.71	2.57	2.03	0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.44	0.31	0.65	0.55	0.33
d, Delay for Lane Group [s/veh]	34.82	5.20	38.56	8.88	33.05	31.04
Lane Group LOS	C	A	D	A	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.65	2.07	0.22	4.68	2.10	1.21
50th-Percentile Queue Length [ft/ln]	16.22	51.79	5.47	117.09	52.44	30.35
95th-Percentile Queue Length [veh/ln]	1.17	3.73	0.39	8.23	3.78	2.19
95th-Percentile Queue Length [ft/ln]	29.19	93.21	9.84	205.83	94.39	54.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.82	5.20	5.20	38.56	8.88	8.88	33.05	33.05	33.05	31.04	31.04	31.04
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.99			9.27			33.05			31.04		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	11.17											
Intersection LOS	B											
Intersection V/C	0.646											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.719	2.720	1.804	1.748
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	943	971	486	486
d_b, Bicycle Delay [s]	9.78	9.26	20.06	20.06
I_b,int, Bicycle LOS Score for Intersection	2.597	2.927	1.764	1.683
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.097

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	3	0	7	16	0	17	7	1043	3	5	1160	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	47	0	5	16	21	102	0	16	77	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	16	54	17	5	34	28	1187	3	21	1283	11
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	4	15	5	1	9	8	320	1	6	346	3
Total Analysis Volume [veh/h]	3	17	58	18	5	37	30	1280	3	23	1384	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	Yes		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	1.02	0.14	0.00	0.04	0.10	0.06	0.01	0.00	0.04	0.01	0.00
d_M, Delay for Movement [s/veh]	409.74	480.13	272.46	10000.0	10000.0	10000.0	12.90	0.00	0.00	12.01	0.00	0.00
Movement LOS	F	F	F	F	F	F	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	6.59	6.59	6.59	9.80	9.80	9.80	0.20	0.00	0.00	0.13	0.00	0.00
95th-Percentile Queue Length [ft/ln]	164.66	164.66	164.66	244.92	244.92	244.92	4.92	0.00	0.00	3.35	0.00	0.00
d_A, Approach Delay [s/veh]	323.00			10000.00			0.29			0.19		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	218.07											
Intersection LOS	F											

Plot Plan No. 26240

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Scenario 4 Cumulative Condition
3/14/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Cortrite Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	34.7	D
2	Amanda Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	34.8	D
3	Amanda Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	WB Left	0.023	9.3	A
4	Amanda Ave (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	SB Left	0.022	9.5	A
5	Project Dwy (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	NB Right	0.125	15.7	C
6	Vista Pl/SR-79 (NS) at SR-74 (EW)	Signalized	HCM 6th Edition	WB Left	1.051	48.7	D
7	SR-79 (NS) at Old State Hwy (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.006	34.9	D
8	SR-79 (NS) at Stetson Ave (EW)	Signalized	HCM 6th Edition	SB Left	0.565	10.7	B
9	Truelson Ave (NS) at SR-74 (EW)	Two-way stop	HCM 6th Edition	SB Thru	0.300	10,000.0	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Cortrite Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	34.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Cortrite Ave			Cortrite Ave			SR-74			SR-74		
Base Volume Input [veh/h]	5	0	7	5	1	4	4	1135	13	9	1035	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.00	1.00	1.04	1.04	1.04	1.00	1.04	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	42	0	0	0	0	147	0	28	95	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	49	5	1	4	4	1282	14	37	1130	4
Peak Hour Factor	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050	0.9050
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	14	1	0	1	1	354	4	10	312	1
Total Analysis Volume [veh/h]	6	0	54	6	1	4	4	1417	15	41	1249	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.14	0.03	0.01	0.01	0.01	0.01	0.00	0.09	0.01	0.00
d_M, Delay for Movement [s/veh]	24.94	34.69	16.71	23.10	30.49	14.11	11.58	0.00	0.00	13.38	0.00	0.00
Movement LOS	C	D	C	C	D	B	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.62	0.62	0.62	0.14	0.14	0.14	0.02	0.00	0.00	0.28	0.00	0.00
95th-Percentile Queue Length [ft/ln]	15.42	15.42	15.42	3.54	3.54	3.54	0.55	0.00	0.00	7.12	0.00	0.00
d_A, Approach Delay [s/veh]	17.53			20.50			0.03			0.42		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.67											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 2: Amanda Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	34.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amanda Ave			Amanda Ave			SR-74			SR-74		
Base Volume Input [veh/h]	3	0	7	5	0	2	1	1104	0	9	1042	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.04	1.00	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	0	0	0	0	183	0	22	116	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	4	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	0	7	5	0	2	1	1287	0	35	1158	4
Peak Hour Factor	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	2	1	0	1	0	353	0	10	317	1
Total Analysis Volume [veh/h]	30	0	8	5	0	2	1	1411	0	38	1270	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	Yes	Yes		
Number of Storage Spaces in Median	2	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.00	0.02	0.03	0.00	0.00	0.00	0.01	0.00	0.08	0.01	0.00
d_M, Delay for Movement [s/veh]	27.37	34.83	18.11	24.37	34.55	14.08	11.67	0.00	0.00	13.16	0.00	0.00
Movement LOS	D	D	C	C	D	B	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.63	0.63	0.63	0.10	0.10	0.10	0.01	0.00	0.00	0.26	0.00	0.00
95th-Percentile Queue Length [ft/ln]	15.74	15.74	15.74	2.39	2.39	2.39	0.14	0.00	0.00	6.43	0.00	0.00
d_A, Approach Delay [s/veh]	25.42			21.43			0.01			0.38		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	0.59											
Intersection LOS	D											

Intersection Level Of Service Report

Intersection 3: Amanda Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Amanda Ave		Amanda Ave		Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Amanda Ave		Project Dwy	
Base Volume Input [veh/h]	10	0	0	10	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	22	0	16	24
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	8	4	0	3	4
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	47	26	10	19	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	12	7	3	5	7
Total Analysis Volume [veh/h]	11	49	27	11	20	29
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.02	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	7.37	0.00	9.28	8.67
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.05	0.16	0.16
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.28	1.28	3.99	3.99
d_A, Approach Delay [s/veh]	0.00		5.24		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.33					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 4: Amanda Ave (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amanda Ave		Old State Hwy		Old State Hwy	
Base Volume Input [veh/h]	4	6	12	16	27	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	8	9	0	0	30
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	2	1	2	0	0	6
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	15	23	17	28	39
Peak Hour Factor	0.7730	0.7730	0.7730	0.7730	0.7730	0.7730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	5	7	5	9	13
Total Analysis Volume [veh/h]	18	19	30	22	36	50
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.02	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.49	8.75	7.43	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.17	3.17	1.16	1.16	0.00	0.00
d_A, Approach Delay [s/veh]	9.11		4.29		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.20					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Project Dwy (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.125

Intersection Setup

Name	Project Dwy		SR-74		SR-74	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy		SR-74		SR-74	
Base Volume Input [veh/h]	0	0	1116	0	0	1055
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.04	1.04	1.04	1.00	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	157	26	0	138
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	7	0	5	0	4
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	46	1318	31	0	1239
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	347	8	0	326
Total Analysis Volume [veh/h]	0	48	1387	33	0	1304
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.12	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	15.66	0.00	0.00	0.00	0.00
Movement LOS		C	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.42	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	10.56	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.66		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.27					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 6: Vista Pl/SR-79 (NS) at SR-74 (EW)

Control Type:	Signalized	Delay (sec / veh):	48.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.051

Intersection Setup

Name	SR-79			Vista Pl			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	76.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	SR-79			Vista Pl			SR-74			SR-74		
Base Volume Input [veh/h]	105	11	408	20	19	10	13	1037	113	355	872	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	77	15	41	1	31	0	4	63	129	65	61	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	186	26	465	22	51	10	18	1141	247	434	968	51
Peak Hour Factor	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	7	119	6	13	3	5	293	63	111	248	13
Total Analysis Volume [veh/h]	191	27	477	23	52	10	18	1171	254	446	994	52
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	28	0	0	28	0	26	29	0	23	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24	24	24	2	25	25	19	42	42
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.03	0.31	0.31	0.24	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.14	0.31	0.03	0.03	0.01	0.33	0.16	0.25	0.28	0.28
s, saturation flow rate [veh/h]	1340	1602	895	1818	1781	3560	1589	1781	1870	1838
c, Capacity [veh/h]	426	481	90	545	54	1121	500	419	972	955
d1, Uniform Delay [s]	26.20	28.03	40.04	20.32	38.03	27.44	22.38	30.62	12.85	12.87
k, delay calibration	0.11	0.33	0.11	0.11	0.11	0.50	0.50	0.21	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.74	46.94	1.48	0.09	3.55	39.39	3.65	46.84	2.16	2.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	1.05	0.26	0.11	0.33	1.04	0.51	1.06	0.54	0.54
d, Delay for Lane Group [s/veh]	26.94	74.97	41.52	20.41	41.59	66.83	26.03	77.46	15.01	15.10
Lane Group LOS	C	F	D	C	D	F	C	F	B	B
Critical Lane Group	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.00	14.51	0.49	0.84	0.38	15.51	3.97	12.69	5.61	5.57
50th-Percentile Queue Length [ft/ln]	75.07	362.64	12.18	21.06	9.42	387.65	99.33	317.20	140.37	139.20
95th-Percentile Queue Length [veh/ln]	5.41	21.36	0.88	1.52	0.68	22.58	7.15	19.17	9.50	9.44
95th-Percentile Queue Length [ft/ln]	135.13	534.04	21.92	37.90	16.95	564.45	178.80	479.17	237.52	235.94

Movement, Approach, & Intersection Results

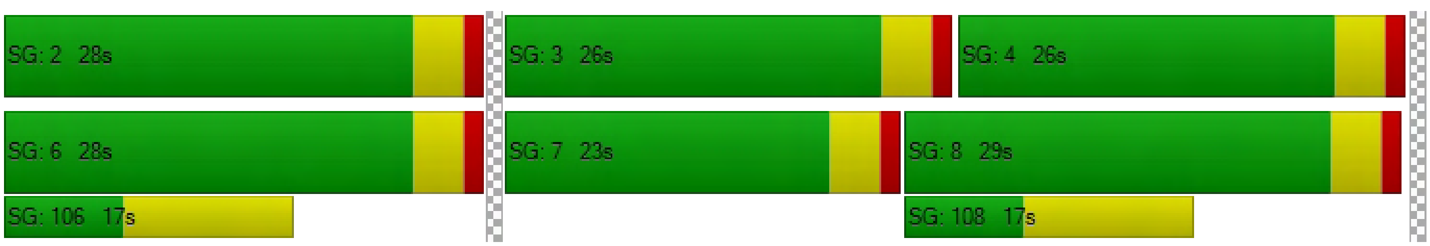
d_M, Delay for Movement [s/veh]	26.94	74.97	74.97	41.52	20.41	20.41	41.59	66.83	26.03	77.46	15.05	15.10
Movement LOS	C	E	E	D	C	C	D	F	C	F	B	B
d_A, Approach Delay [s/veh]	61.77			26.12			59.33			33.71		
Approach LOS	E			C			E			C		
d_I, Intersection Delay [s/veh]	48.74											
Intersection LOS	D											
Intersection V/C	1.051											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	0.00	29.76	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.654	0.000	3.432	0.000
Crosswalk LOS	B	F	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	625	550
d_b, Bicycle Delay [s]	19.60	19.60	18.91	21.03
I_b,int, Bicycle LOS Score for Intersection	2.706	1.700	2.750	2.791
Bicycle LOS	B	A	C	C

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: SR-79 (NS) at Old State Hwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	34.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR-79			SR-79			Old State Hwy			Old State Hwy		
Base Volume Input [veh/h]	31	499	8	0	472	31	19	4	38	32	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	133	8	0	212	13	0	0	8	7	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	3	0	0	0	1	3	0	0	2	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	652	16	0	704	48	20	4	50	40	1	1
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	169	4	0	182	12	5	1	13	10	0	0
Total Analysis Volume [veh/h]	54	675	17	0	729	50	21	4	52	41	1	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.00	0.00	0.01	0.00	0.12	0.02	0.12	0.25	0.01	0.00
d_M, Delay for Movement [s/veh]	9.59	0.00	0.00	8.99	0.00	0.00	29.11	30.60	17.82	34.84	34.91	20.61
Movement LOS	A	A	A	A	A	A	D	D	C	D	D	C
95th-Percentile Queue Length [veh/ln]	0.21	0.00	0.00	0.00	0.00	0.00	1.03	1.03	1.03	1.00	1.00	1.00
95th-Percentile Queue Length [ft/ln]	5.16	0.00	0.00	0.00	0.00	0.00	25.68	25.68	25.68	24.95	24.95	24.95
d_A, Approach Delay [s/veh]	0.69			0.00			21.56			34.51		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	2.23											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 8: SR-79 (NS) at Stetson Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.565

Intersection Setup

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	160.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	SR-79			SR-79			Stetson Ave			Stetson Ave		
Base Volume Input [veh/h]	45	522	1	1	520	24	15	0	23	1	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	112	33	34	75	24	37	0	0	19	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	655	34	35	616	49	53	0	24	20	0	23
Peak Hour Factor	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340	0.9340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	175	9	9	165	13	14	0	6	5	0	6
Total Analysis Volume [veh/h]	50	701	36	37	660	52	57	0	26	21	0	25
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	37	0	12	38	0	0	21	0	0	21	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	49	4	48	6	6
g / C, Green / Cycle	0.06	0.70	0.05	0.68	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.03	0.40	0.02	0.39	0.05	0.03
s, saturation flow rate [veh/h]	1781	1854	1781	1846	1659	1745
c, Capacity [veh/h]	114	1287	95	1261	222	217
d1, Uniform Delay [s]	31.61	5.45	32.10	5.73	31.00	30.39
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.65	1.86	2.62	1.83	1.04	0.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.57	0.39	0.56	0.37	0.21
d, Delay for Lane Group [s/veh]	34.26	7.30	34.72	7.56	32.04	30.87
Lane Group LOS	C	A	C	A	C	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.84	3.55	0.63	3.62	1.37	0.74
50th-Percentile Queue Length [ft/ln]	20.96	88.76	15.78	90.54	34.24	18.46
95th-Percentile Queue Length [veh/ln]	1.51	6.39	1.14	6.52	2.47	1.33
95th-Percentile Queue Length [ft/ln]	37.72	159.76	28.40	162.97	61.63	33.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.26	7.30	7.30	34.72	7.56	7.56	32.04	32.04	32.04	30.87	30.87	30.87
Movement LOS	C	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.02			8.90			32.04			30.87		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	10.71											
Intersection LOS	B											
Intersection V/C	0.565											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.685	2.758	1.791	1.759
Crosswalk LOS	B	C	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	943	971	486	486
d_b, Bicycle Delay [s]	9.78	9.26	20.06	20.06
I_b,int, Bicycle LOS Score for Intersection	2.858	2.795	1.697	1.636
Bicycle LOS	C	C	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.300

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	4	0	12	14	1	8	21	1386	7	11	1286	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	31	0	18	22	16	77	0	53	97	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	10	43	15	19	30	38	1518	7	64	1434	18
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	11	4	5	8	10	388	2	16	367	5
Total Analysis Volume [veh/h]	4	10	44	15	19	31	39	1552	7	65	1466	18
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	Yes		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.48	1.42	0.13	0.00	0.30	0.09	0.09	0.02	0.00	0.15	0.01	0.00
d_M, Delay for Movement [s/veh]	1074.77	1157.75	656.86	10000.0	10000.0	10000.0	13.77	0.00	0.00	15.13	0.00	0.00
Movement LOS	F	F	F	F	F	F	B	A	A	C	A	A
95th-Percentile Queue Length [veh/ln]	6.85	6.85	6.85	10.46	10.46	10.46	0.28	0.00	0.00	0.54	0.00	0.00
95th-Percentile Queue Length [ft/ln]	171.23	171.23	171.23	261.40	261.40	261.40	7.09	0.00	0.00	13.56	0.00	0.00
d_A, Approach Delay [s/veh]	772.04			10000.00			0.34			0.63		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	212.94											
Intersection LOS	F											

Plot Plan No. 26240

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Scenario 4 Cumulative Condition
3/14/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
9	Truelson Ave (NS) at SR-74 (EW)	Signalized	HCM 6th Edition	SB Left	0.474	4.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Signalized	Delay (sec / veh):	4.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.474

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	3	0	7	16	0	17	7	1043	3	5	1160	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	47	0	5	16	21	102	0	16	77	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	16	54	17	5	34	28	1187	3	21	1283	11
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	4	15	5	1	9	8	320	1	6	346	3
Total Analysis Volume [veh/h]	3	17	58	18	5	37	30	1280	3	23	1384	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	16	0	0	16	0	0	54	0	0	54	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	6	6	6	56	56	56	56	56	56
g / C, Green / Cycle	0.08	0.08	0.08	0.08	0.81	0.81	0.81	0.81	0.81	0.81
(v / s)_i Volume / Saturation Flow Rate	0.00	0.05	0.01	0.03	0.08	0.34	0.34	0.05	0.37	0.37
s, saturation flow rate [veh/h]	1364	1645	1324	1618	387	1870	1868	431	1870	1864
c, Capacity [veh/h]	146	131	119	129	354	1507	1506	390	1507	1503
d1, Uniform Delay [s]	32.89	31.06	34.60	30.44	4.63	2.00	2.00	4.13	2.10	2.10
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	3.90	0.58	1.45	0.47	0.88	0.88	0.29	1.03	1.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.02	0.57	0.15	0.33	0.08	0.43	0.43	0.06	0.46	0.46
d, Delay for Lane Group [s/veh]	32.94	34.97	35.17	31.89	5.10	2.88	2.89	4.42	3.13	3.13
Lane Group LOS	C	C	D	C	A	A	A	A	A	A
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.05	1.34	0.32	0.71	0.14	0.37	0.37	0.10	0.43	0.43
50th-Percentile Queue Length [ft/ln]	1.27	33.51	8.03	17.74	3.61	9.23	9.24	2.44	10.76	10.77
95th-Percentile Queue Length [veh/ln]	0.09	2.41	0.58	1.28	0.26	0.66	0.67	0.18	0.77	0.78
95th-Percentile Queue Length [ft/ln]	2.29	60.32	14.46	31.94	6.50	16.62	16.63	4.39	19.36	19.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.94	34.97	34.97	35.17	31.89	31.89	5.10	2.89	2.89	4.42	3.13	3.13
Movement LOS	C	C	C	D	C	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	34.89			32.88			2.94			3.15		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	4.54											
Intersection LOS	A											
Intersection V/C	0.474											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	343	343	1429	1429
d_b, Bicycle Delay [s]	24.03	24.03	2.86	2.86
I_b,int, Bicycle LOS Score for Intersection	1.688	1.659	2.643	2.730
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Plot Plan No. 26240

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Scenario 4 Cumulative Condition
3/14/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
9	Truelson Ave (NS) at SR-74 (EW)	Signalized	HCM 6th Edition	SB Left	0.500	4.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 9: Truelson Ave (NS) at SR-74 (EW)

Control Type:	Signalized	Delay (sec / veh):	4.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.500

Intersection Setup

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	55.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Truelson Ave			Truelson Ave			SR-74			SR-74		
Base Volume Input [veh/h]	4	0	12	14	1	8	21	1386	7	11	1286	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	31	0	18	22	16	77	0	53	97	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	10	43	15	19	30	38	1518	7	64	1434	18
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	11	4	5	8	10	388	2	16	367	5
Total Analysis Volume [veh/h]	4	10	44	15	19	31	39	1552	7	65	1466	18
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	19	0	0	19	0	0	61	0	0	61	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	5	5	5	67	67	67	67	67	67
g / C, Green / Cycle	0.07	0.07	0.07	0.07	0.83	0.83	0.83	0.83	0.83	0.83
(v / s)_i Volume / Saturation Flow Rate	0.00	0.03	0.01	0.03	0.11	0.42	0.42	0.20	0.40	0.40
s, saturation flow rate [veh/h]	1355	1635	1350	1686	355	1870	1867	331	1870	1862
c, Capacity [veh/h]	116	111	111	115	333	1556	1553	313	1556	1549
d1, Uniform Delay [s]	38.58	35.91	39.16	35.78	4.47	1.94	1.94	5.27	1.87	1.88
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	3.25	0.54	2.59	0.71	1.16	1.16	1.50	1.05	1.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.49	0.13	0.44	0.12	0.50	0.50	0.21	0.48	0.48
d, Delay for Lane Group [s/veh]	38.70	39.16	39.70	38.37	5.19	3.10	3.10	6.77	2.93	2.94
Lane Group LOS	D	D	D	D	A	A	A	A	A	A
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.08	1.11	0.31	1.01	0.21	0.50	0.50	0.41	0.46	0.46
50th-Percentile Queue Length [ft/ln]	2.02	27.71	7.70	25.31	5.24	12.50	12.52	10.33	11.38	11.41
95th-Percentile Queue Length [veh/ln]	0.15	1.99	0.55	1.82	0.38	0.90	0.90	0.74	0.82	0.82
95th-Percentile Queue Length [ft/ln]	3.63	49.87	13.87	45.56	9.44	22.50	22.53	18.59	20.48	20.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.70	39.16	39.16	39.70	38.37	38.37	5.19	3.10	3.10	6.77	2.93	2.94
Movement LOS	D	D	D	D	D	D	A	A	A	A	A	A
d_A, Approach Delay [s/veh]		39.12			38.68			3.15			3.09	
Approach LOS		D			D			A			A	
d_I, Intersection Delay [s/veh]						4.47						
Intersection LOS						A						
Intersection V/C						0.500						

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	375	375	1425	1425
d_b, Bicycle Delay [s]	26.41	26.41	3.31	3.31
I_b,int, Bicycle LOS Score for Intersection	1.655	1.667	2.878	2.838
Bicycle LOS	A	A	C	C

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX E

Traffic Signal Warrant Analysis Worksheets

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing + Ambient + Project + Cumulative AM

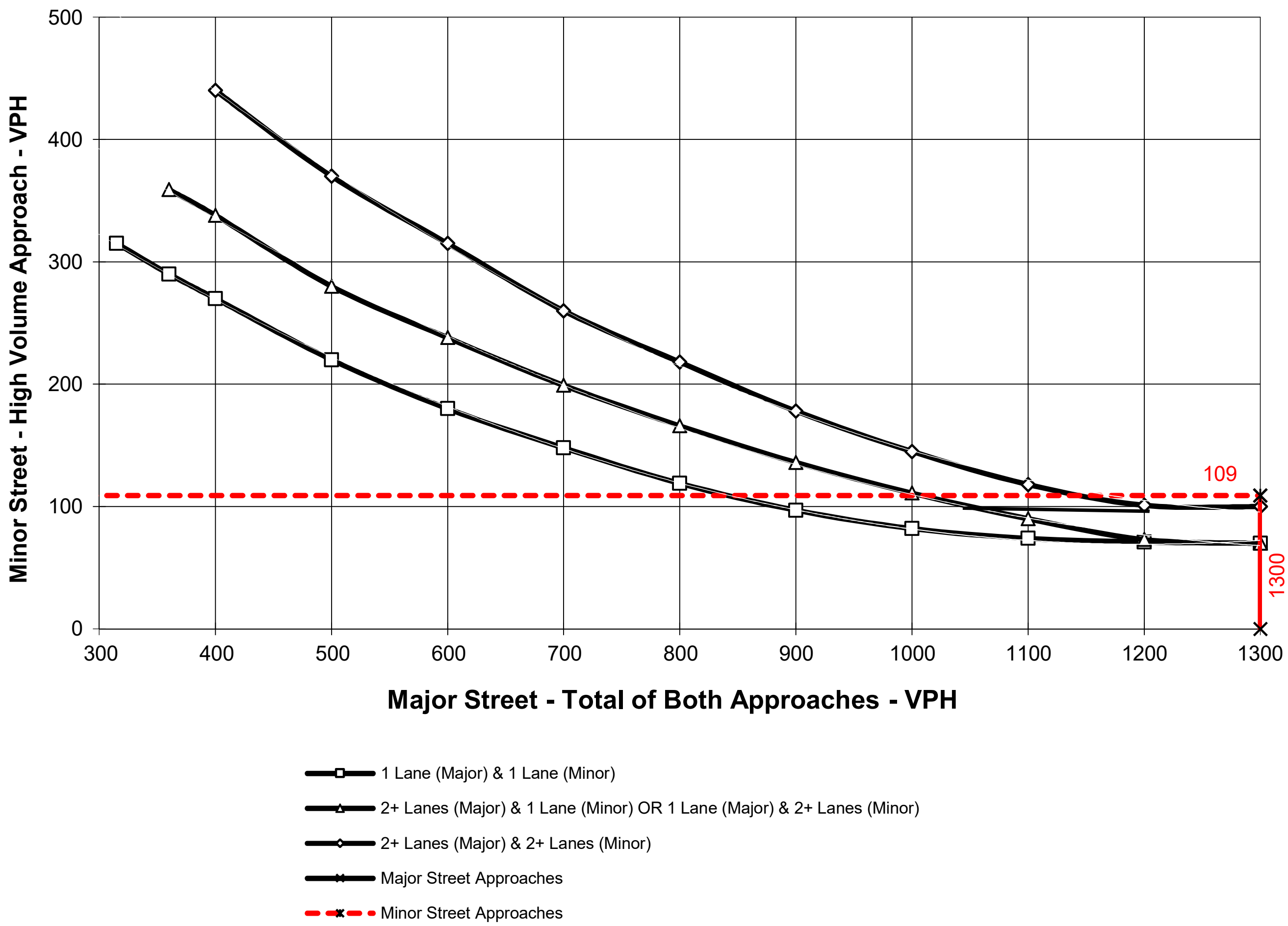
Major Street Name = **State Route 79**

Total of Both Approaches (VPH) = **1872**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Stetson Avenue**

High Volume Approach (VPH) = **109**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing + Ambient + Project + Cumulative PM

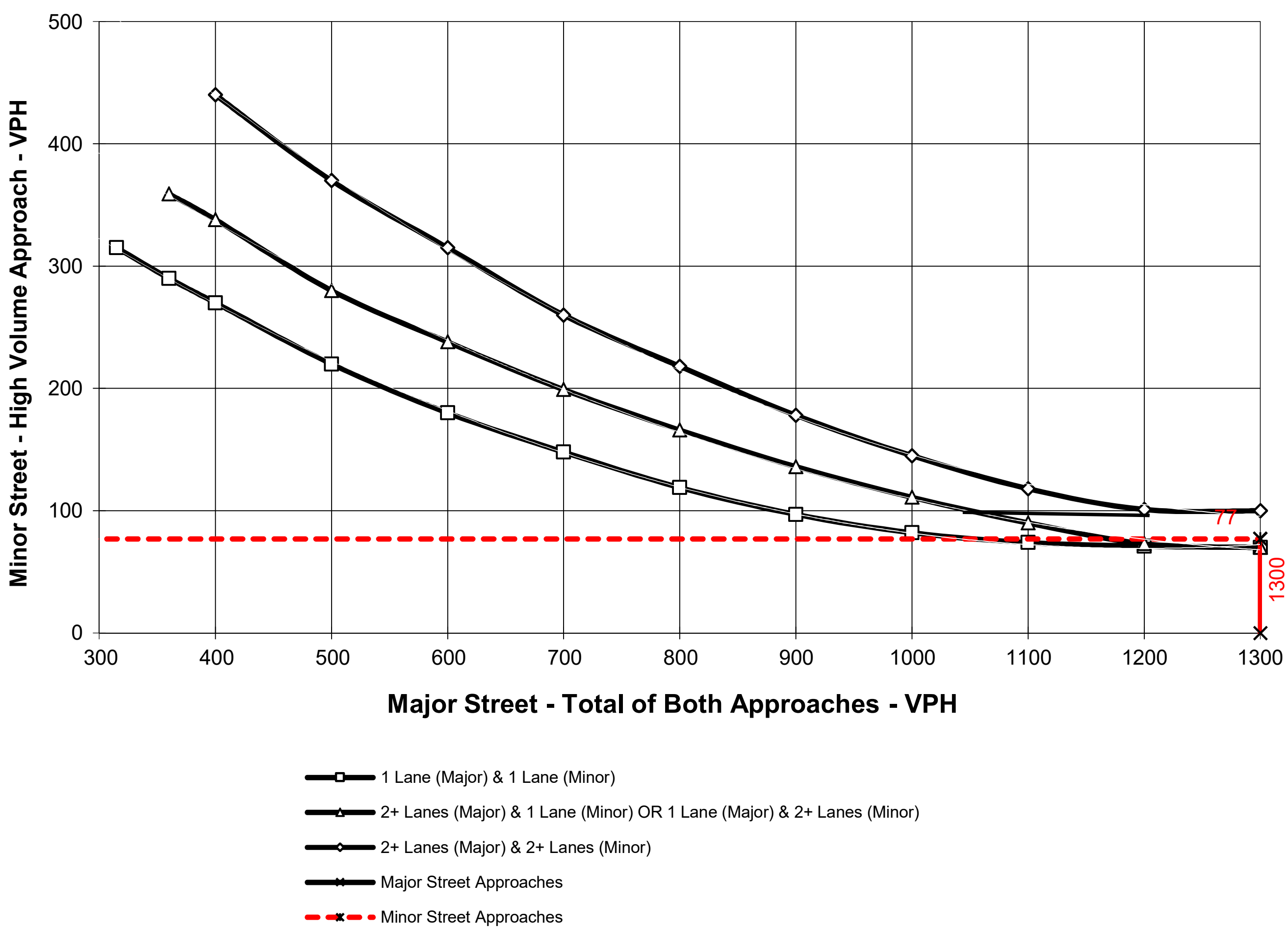
Major Street Name = **State Route 79**

Total of Both Approaches (VPH) = **2240**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Stetson Avenue**

High Volume Approach (VPH) = **77**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing + Ambient + Project + Cumulative AM

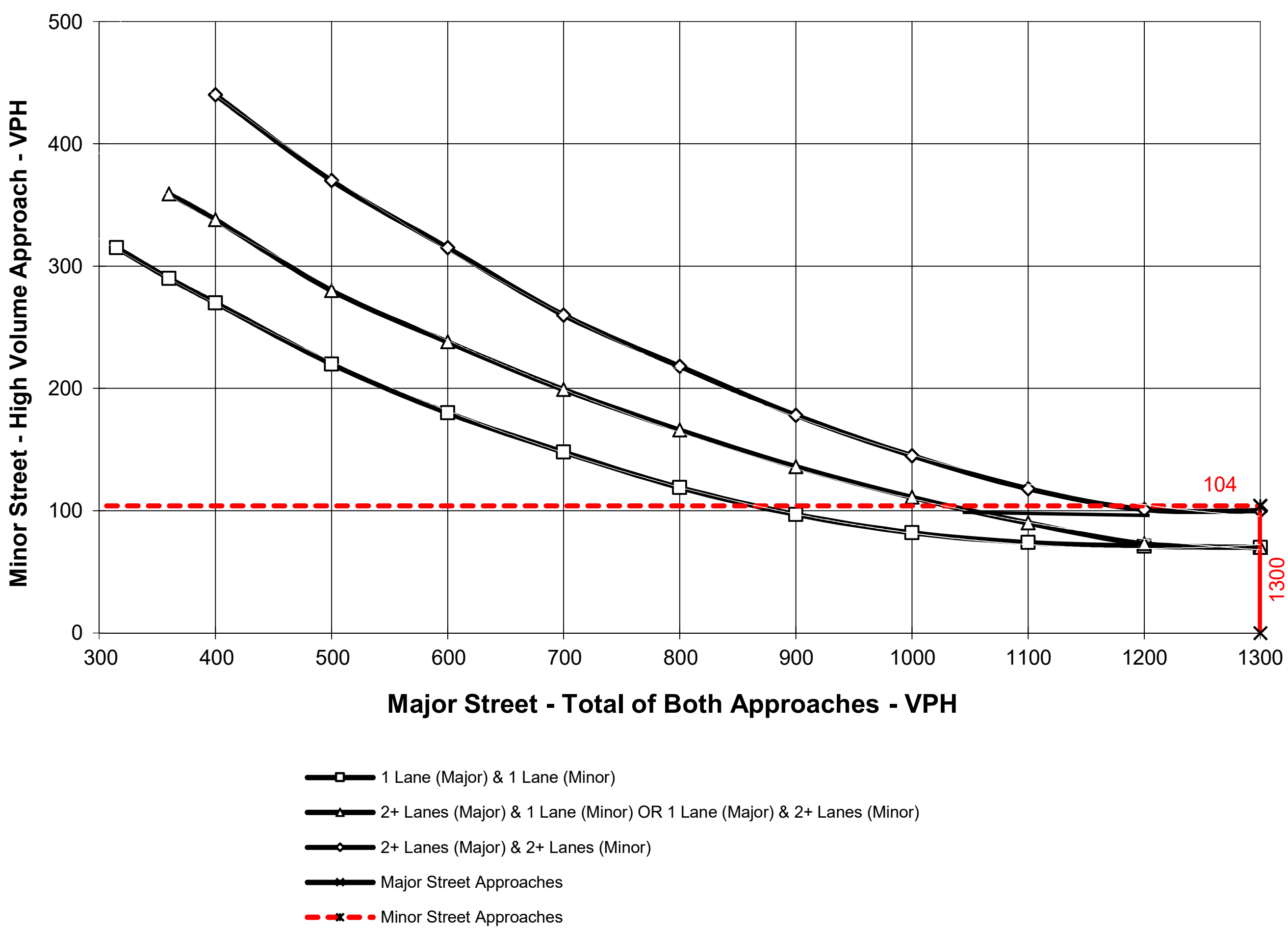
Major Street Name = **Highway 74**

Total of Both Approaches (VPH) = **3060**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Truelson Avenue**

High Volume Approach (VPH) = **104**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing + Ambient + Project + Cumulative PM

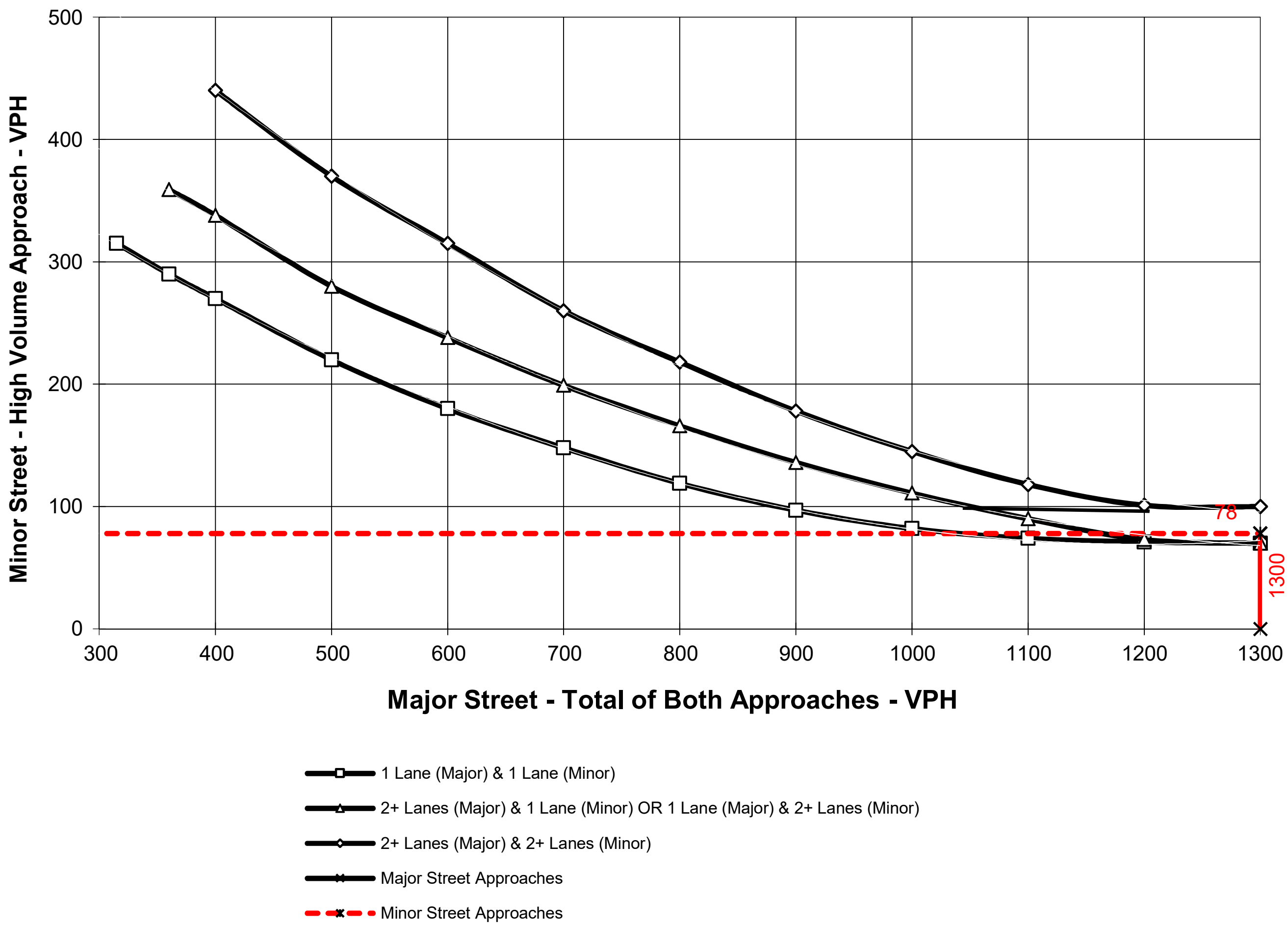
Major Street Name = **Highway 74**

Total of Both Approaches (VPH) = **3927**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Truelson Avenue**

High Volume Approach (VPH) = **78**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

APPENDIX F

Sight Distance Standards

CHAPTER 200
GEOMETRIC DESIGN AND STRUCTURE STANDARDS

Topic 201 - Sight Distance

Index 201.1 - General

Sight distance is the continuous length of highway ahead, visible to the highway user. Four types of sight distance are considered herein: passing, stopping, decision, and corner. Passing sight distance is used where use of an opposing lane can provide passing opportunities (see Index 201.2). Stopping sight distance is the minimum sight distance for a given design speed to be provided on multilane highways and on 2-lane roads when passing sight distance is not economically obtainable. Stopping sight distance also is to be provided for all users, including motorists and bicyclists, at all elements of interchanges and intersections at grade, including private road connections (see Topic 504, Index 405.1, & Figure 405.7). Decision sight distance is used at major decision points (see Indexes 201.7 and 504.2). Corner sight distance is used at intersections (see Index 405.1, Figure 405.7, and Figure 504.3I).

Table 201.1 shows the minimum standards for stopping sight distance related to design speed for motorists. Stopping sight distances given in the table are suitable for Class II and Class III bikeways. The stopping sight distances are also applicable to roundabout design on the approach roadway, within the circulatory roadway, and on the exits prior to the pedestrian crossings. Also shown in Table 201.1 are the values for use in providing passing sight distance.

See Chapter 1000 for Class I bikeway sight distance guidance.

Chapter 3 of "A Policy on Geometric Design of Highways and Streets," AASHTO, contains a thorough discussion of the derivation of stopping sight distance.

201.2 Passing Sight Distance

Passing sight distance is the minimum sight distance required for the driver of one vehicle to pass another vehicle safely and comfortably. Passing must be accomplished assuming an oncoming vehicle comes into view and maintains the design speed, without reduction, after the overtaking maneuver is started.

Table 201.1
Sight Distance Standards

Design Speed(1) (mph)	Stopping(2) (ft)	Passing (ft)
10	50	---
15	100	---
20	125	800
25	150	950
30	200	1,100
35	250	1,300
40	300	1,500
45	360	1,650
50	430	1,800
55	500	1,950
60	580	2,100
65	660	2,300
70	750	2,500
75	840	2,600
80	930	2,700

(1) See Topic 101 for selection of design speed.
(2) For sustained downgrades, refer to advisory standard in Index 201.3

The sight distance available for passing at any place is the longest distance at which a driver whose eyes are 3 ½ feet above the pavement surface can see the top of an object 4 ¼ feet high on the road. See Table 201.1 for the calculated values that are associated with various design speeds.

In general, 2-lane highways should be designed to provide for passing where possible, especially those routes with high volumes of trucks or recreational vehicles. Passing should be done on tangent horizontal alignments with constant grades or a slight sag vertical curve. Not only are drivers reluctant to pass on a long crest vertical curve, but it is impracticable to design crest vertical curves to provide for passing sight distance because of high cost where crest cuts are involved. Passing sight distance for crest vertical curves is 7 to 17 times longer than the stopping sight distance.

Ordinarily, passing sight distance is provided at locations where combinations of alignment and profile do not require the use of crest vertical curves.

Passing sight distance is considered only on 2-lane roads. At critical locations, a stretch of 3- or 4-lane passing section with stopping sight distance is sometimes more economical than two lanes with passing sight distance.

Passing on sag vertical curves can be accomplished both day and night because headlights can be seen through the entire curve.

See Part 3 of the California Manual on Uniform Traffic Control Devices (California MUTCD) for criteria relating to the placement of barrier striping for no-passing zones. Note, that the passing sight distances shown in the California MUTCD are based on traffic operational criteria. Traffic operational criteria are different from the design characteristics used to develop the values provided in Table 201.1 and Chapter 3 of AASHTO, A Policy on Geometric Design of Highways and Streets. The aforementioned table and AASHTO reference are also used to design the vertical profile and horizontal alignment of the highway. Consult the Headquarters (HQ) Traffic Liaison when using the California MUTCD criteria for traffic operating-control needs.

Other means for providing passing opportunities, such as climbing lanes or turnouts, are discussed in Index 204.5. Chapter 3 of AASHTO, A Policy on Geometric Design of Highways and Streets, contains a thorough discussion of the derivation of passing sight distance.

201.3 Stopping Sight Distance

The minimum stopping sight distance is the distance required by the user, traveling at a given speed, to bring the vehicle or bicycle to a stop after an object ½-foot high on the road becomes visible. Stopping sight distance for motorists is measured from the driver's eyes, which are assumed to be 3 ½ feet above the pavement surface, to an object ½-foot high on the road. See Index 1003.1(10) for Class I bikeway stopping sight distance guidance.

The stopping sight distances in Table 201.1 should be increased by 20 percent on sustained downgrades steeper than 3 percent and longer than one mile.

201.4 Stopping Sight Distance at Grade Crests

Figure 201.4 shows graphically the relationships between length of highway crest vertical curve, design speed, and algebraic difference in grades. Any one factor can be determined when the other two are known.

201.5 Stopping Sight Distance at Grade Sags

From the curves in Figure 201.5, the minimum length of vertical curve which provides headlight sight distance in grade sags for a given design speed can be obtained.

If headlight sight distance is not obtainable at grade sags, lighting may be considered. The District approval authority or Project Delivery Coordinator, depending upon the current District Design Delegation Agreement, and the HQ Traffic Liaison shall be contacted to review proposed grade sag lighting to determine if such use is appropriate.

201.6 Stopping Sight Distance on Horizontal Curves

Where an object off the pavement such as a bridge pier, building, cut slope, or natural growth restricts sight distance, the minimum radius of curvature is determined by the stopping sight distance.

Available stopping sight distance on horizontal curves is obtained from Figure 201.6. It is assumed that the driver's eye is 3 ½ feet above the center of the inside lane (inside with respect to curve) and the object is ½-foot high. The line of sight is assumed to intercept the view obstruction at the midpoint of the sight line and 2 feet above the center of the inside lane when the road profile is flat (i.e. no vertical curve). Crest vertical curves can cause additional reductions in sight distance. The clear distance (*m*) is measured from the center of the inside lane to the obstruction.

The design objective is to determine the required clear distance from centerline of inside lane to a retaining wall, bridge pier, abutment, cut slope, or other obstruction for a given design speed. Using radius of curvature and minimum sight distance for that design speed, Figure 201.6 gives the clear distance (*m*) from centerline of inside lane to the obstruction.

See Index 1003.1(12) for bikeway stopping sight distance on horizontal curve guidance.

When the radius of curvature and the clear distance to a fixed obstruction are known, Figure 201.6 also gives the sight distance for these conditions.

See Index 101.1 for technical reductions in design speed caused by partial or momentary horizontal sight distance restrictions. See Index 203.2 for additional comments on glare screens.

Cuts may be widened where vegetation restricting horizontal sight distance is expected to grow on finished slopes. Widening is an economic trade-off that must be evaluated along with other options. See Index 902.2 for sight distance requirements on landscape projects.

201.7 Decision Sight Distance

At certain locations, sight distance greater than stopping sight distance is desirable to allow drivers time for decisions without making last minute erratic maneuvers (see Chapter III of AASHTO, A Policy on Geometric Design of Highways and Streets, for a thorough discussion of the derivation of decision sight distance.)

<u>On freeways and expressways the decision sight distance values in Table 201.7 should be used at lane drops and at off-ramp noses to interchanges, branch connections, roadside rests, vista points, and inspection stations</u>. When determining decision sight distance on horizontal and vertical curves, Figures 201.4, 201.5, and 201.6 can be used. Figure 201.7 is an expanded version of Figure 201.4 and gives the relationship among length of crest vertical curve, design speed, and algebraic difference in grades for much longer vertical curves than Figure 201.4.

Decision sight distance is measured using the 3 ½-foot eye height and ½-foot object height. See Index 504.2 for sight distance at secondary exits on a collector-distributor road.

Table 201.7
Decision Sight Distance

Design Speed (mph)	Decision Sight Distance (ft)
30	450
35	525
40	600
45	675
50	750
55	865
60	990
65	1,050
70	1,105
75	1,180
80	1,260

Topic 202 - Superelevation

202.1 Basic Criteria

When a vehicle moves in a circular path, it undergoes a centripetal acceleration that acts toward the center of curvature. This force is countered by the perceived centrifugal force experienced by the motorist.

On a superelevated highway, this force is resisted by the vehicle weight component parallel to the superelevated surface and by the side friction developed between the tires and pavement. It is impractical to balance centrifugal force by superelevation alone, because for any given curve radius a certain superelevation rate is exactly correct for only one driving speed. At all other speeds there will be a side thrust either outward or inward, relative to the curve center, which must be offset by side friction.

If the vehicle is not skidding, these forces are in equilibrium as represented by the following simplified curve equation, which is used to design a curve for a comfortable operation at a particular speed:

(4) *Trailer Track* – Semitrailer axle width, measured from outside face of tires.

(5) *Lock To Lock Time* - The time in seconds that an average driver would take under normal driving conditions to turn the steering wheel of a vehicle from the lock position on one side to the lock position on the other side. The default in AutoTurn software is 6 seconds.

(6) *Steering Lock Angle* - The maximum angle that the steering wheels can be turned. It is further defined as the average of the maximum angles made by the left and right steering wheels with the longitudinal axis of the vehicle.

(7) *Articulating Angle* - The maximum angle between the tractor and semitrailer.

Topic 405 - Intersection Design Standards

405.1 Sight Distance

(1) *Stopping Sight Distance.* See Index 201.1 for minimum stopping sight distance requirements.

(2) *Corner Sight Distance.*

(a) General--At unsignalized intersections a substantially clear line of sight should be maintained between the driver of a vehicle, bicyclist or pedestrian waiting at the crossroad and the driver of an approaching vehicle. Line of sight for all users should be included in right of way, in order to preserve sight lines.

Adequate time must be provided for the waiting user to either cross all lanes of through traffic, cross the near lanes and turn left, or turn right, without requiring through traffic to radically alter their speed.

The values given in Table 405.1A provide 7-1/2 seconds for the driver on the crossroad to complete the necessary maneuver while the approaching vehicle travels at the assumed design speed of the main highway. The 7-1/2 second criterion is normally applied to all lanes of through traffic in order to cover all possible maneuvers by the vehicle at the crossroad. However, by providing the standard corner sight distance to the lane nearest to and farthest from the waiting vehicle, adequate time should be obtained to make the necessary movement. On multilane highways a 7-1/2 second criterion for the outside lane, in both directions of travel, normally will provide increased sight distance to the inside lanes. Consideration should be given to increasing these values on downgrades steeper than 3 percent and longer than 1 mile (see Index 201.3), where there are high truck volumes on the crossroad, or where the skew of the intersection substantially increases the distance traveled by the crossing vehicle.

In determining corner sight distance, a set back distance for the vehicle waiting at the crossroad must be assumed. **Set back for the driver of the vehicle on the crossroad shall be a minimum of 10 feet plus the shoulder width of the major road but not less than 15 feet.** Line of sight for corner sight distance is to be determined from a 3 and 1/2-foot height at the location of the driver of the vehicle on the minor road to a 4 and 1/4-foot object height in the center of the approaching lane of the major road as illustrated in Figure 504.3I. If the major road has a median barrier, a 2-foot object height should be used to determine the median barrier set back.

In some cases the cost to obtain 7-1/2 seconds of corner sight distances may be excessive. High costs may be attributable to right of way acquisition, building removal, extensive excavation, or immitigable environmental impacts. In such cases a lesser value of corner sight distance, as described under the following headings, may be used.

(b) Public Road Intersections (Refer to Topic 205)--<u>At unsignalized public road intersections (see Index 405.7) corner sight distance values given in Table 405.1A should be provided.</u>

At signalized intersections the values for corner sight distances given in Table 405.1A should also be applied whenever possible. Even though traffic flows are designed to move at separate times, unanticipated conflicts can occur due to violation of signal, right turns on red, malfunction of the signal, or use of flashing red/yellow mode.

Table 405.1A Corner Sight Distance (7-1/2 Second Criteria)

Design Speed (mph)	Corner Sight Distance (ft)
25	275
30	330
35	385
40	440
45	495
50	550
55	605
60	660
65	715
70	770

Where restrictive conditions exist, similar to those listed in Index 405.1(2)(a), the minimum value for corner sight distance at both signalized and unsignalized intersections shall be equal to the stopping sight distance as given in Table 201.1, measured as previously described.

(c) Private Road Intersections (Refer to Index 205.2) and Rural Driveways (Refer to Index 205.4)--**The minimum corner sight distance shall be equal to the stopping sight distance as given in Table 201.1, measured as previously described.**

(d) Urban Driveways (Refer to Index 205.3)--Corner sight distance requirements as described above are not applied to urban driveways.

(3) *Decision Sight Distance.* At intersections where the State route turns or crosses another State route, the decision sight distance values given in Table 201.7 should be used. In computing and measuring decision sight distance, the 3.5-foot eye height and the 0.5-foot object height should be used, the object being located on the side of the intersection nearest the approaching driver.

The application of the various sight distance requirements for the different types of intersections is summarized in Table 405.1B.

Table 405.1B Application of Sight Distance Requirements

Intersection Types	Sight Distance: Stopping	Corner	Decision
Private Roads	X	X[1]	
Public Streets and Roads	X	X	
Signalized Intersections	X	[2]	
State Route Inter-sections & Route Direction Changes, with or without Signals	X	X	X

NOTES:

(1) Per Index 405.1(2)(c), the minimum corner sight distance shall be equal to the stopping sight distance as given in Table 201.1. See Index 405.1(2)(a) for setback requirements.

(2) Apply corner sight distance requirements at signalized intersections whenever possible due to unanticipated violations of the signals or malfunctions of the signals. See Index 405.1(2)(b).

(4) *Acceleration Lanes for Turning Moves onto State Highways.* At rural intersections, with "STOP" control on the local cross road, acceleration lanes for left and right turns onto the State facility should be considered. At a minimum, the following features should be evaluated for both the major highway and the cross road:

- divided versus undivided

- number of lanes
- design speed
- gradient
- lane, shoulder and median width
- traffic volume and composition of highway users, including trucks and transit vehicles
- turning volumes
- horizontal curve radii
- sight distance
- proximity of adjacent intersections
- types of adjacent intersections

For additional information and guidance, refer to AASHTO, A Policy on Geometric Design of Highways and Streets, the Headquarters Traffic Liaison, the District Design Liaison, and the Project Delivery Coordinator.

405.2 Left-turn Channelization

(1) *General.* The purpose of a left-turn lane is to expedite the movement of through traffic by, controlling the movement of turning traffic, increasing the capacity of the intersection, and improving safety characteristics.

The District Traffic Branch normally establishes the need for left-turn lanes.

(2) *Design Elements.*

(a) Lane Width – **The lane width for both single and double left-turn lanes on State highways shall be 12 feet.**

For conventional State highways with posted speeds less than or equal to 40 miles per hour and AADTT (truck volume) less than 250 per lane that are in urban, city or town centers (rural main streets), the minimum lane width shall be 11 feet.

When considering lane width reductions adjacent to curbed medians, refer to Index 303.5 for guidance on effective roadway width, which may vary depending on drivers' lateral positioning and shy distance from raised curbs.

(b) Approach Taper -- On conventional highways without a median, an approach taper provides space for a left-turn lane by moving traffic laterally to the right. The approach taper is unnecessary where a median is available for the full width of the left-turn lane. Length of the approach taper is given by the formula on Figures 405.2A, B and C.

Figure 405.2A shows a standard left-turn channelization design in which all widening is to the right of approaching traffic and the deceleration lane (see below) begins at the end of the approach taper. This design should be used in all situations where space is available, usually in rural and semi-rural areas or in urban areas with high traffic speeds and/or volumes.

Figures 405.2B and 405.2C show alternate designs foreshortened with the deceleration lane beginning at the 2/3 point of the approach taper so that part of the deceleration takes place in the through traffic lane. Figure 405.2C is shortened further by widening half (or other appropriate fraction) on each side. These designs may be used in urban areas where constraints exist, speeds are moderate and traffic volumes are relatively low.

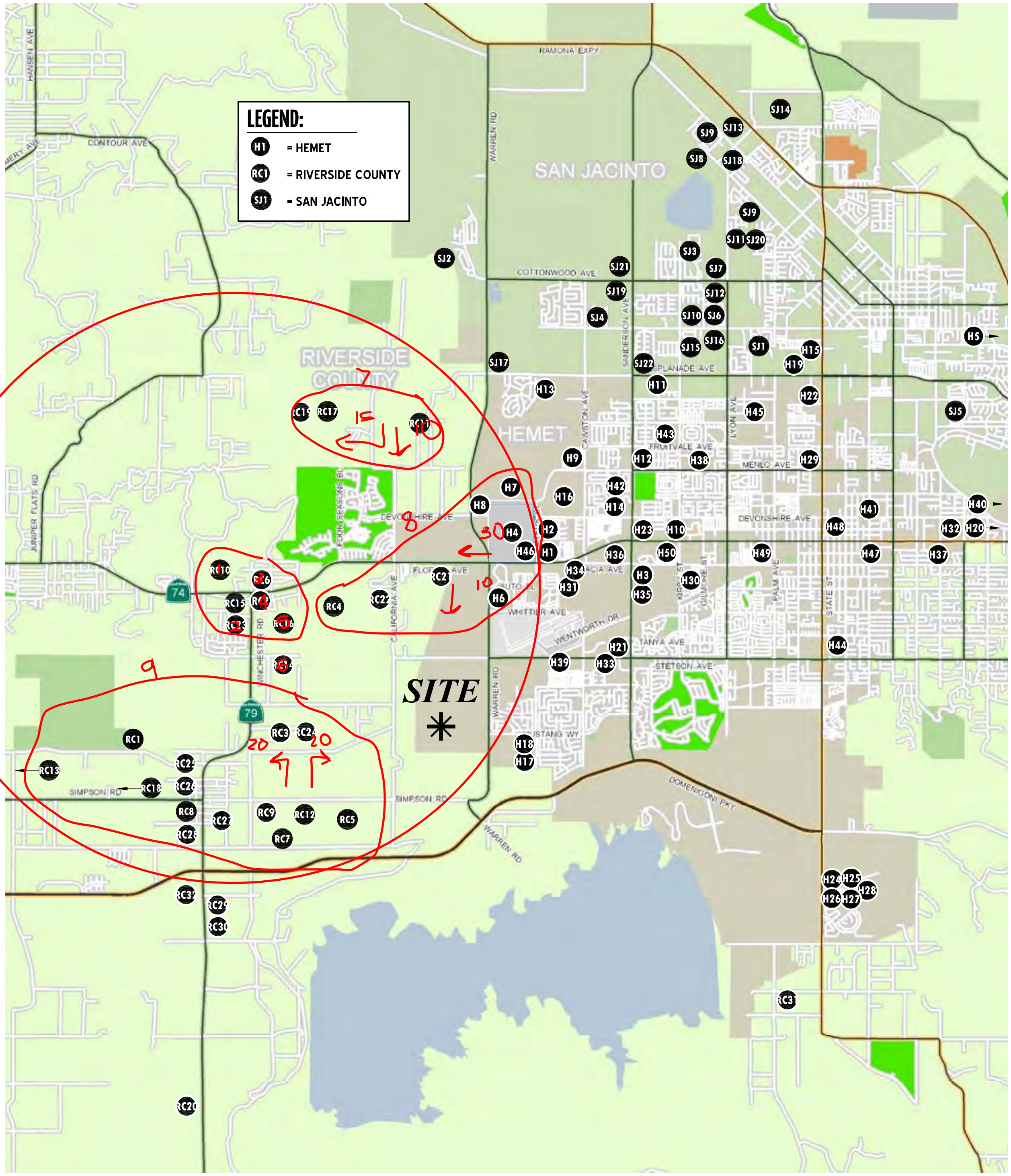
(c) Bay Taper -- A reversing curve along the left edge of the traveled way directs traffic into the left-turn lane. The length of this bay taper should be short to clearly delineate the left-turn move and to discourage through traffic from drifting into the left-turn lane. Table 405.2A gives offset data for design of bay tapers. In urban areas, lengths of 60 feet and 90 feet are normally used. Where space is restricted and speeds are low, a 60-foot bay taper is appropriate. On rural high-speed highways, a 120-foot length is considered appropriate.

(d) Deceleration Lane Length -- Design speed of the roadway approaching the intersection should be the basis for determining deceleration lane length. It is desirable that deceleration take place entirely off the through traffic lanes.

APPENDIX G

Cumulative Project Information

Exhibit 4-11: Cumulative Development Location Map



N

URBAN CROSSROADS

Table 4-2

Cumulative Development Project List

#	Name	Land Use	Quantity	Units[1]
		City of Hemet		
H1	Florida Promenade (SP 06-04)	Commercial	200.00 (100.00 Built)	TSF
H2	Florida Promenade Residential	Senior Residential (attached)	440	DU
		Single Family Residential	145	DU
H3	Sanderson Square (SP 05-03)	Commercial	243.000	TSF
		Office/Industrial	186.700	TSF
H4	Ramona Creek Specific Plan	Single Family Residential	1077	DU
		Mixed-Use	145.645	TSF
		Shopping Center	535.788	TSF
		Open Space Corridor	23.8	AC
		Recreation Spine	12.2	AC
H5	TTM 35990 Corwin Ranch	Single Family Residential	12	DU
H6	Hemet Auto Mall Retail Expansion (CUP 07-21)	Commercial	108.000	TSF
H7	Tres Cerritos West (VTTM 31513)	Single Family Residential	178	DU
H8	Montero (VTTM 31146)	Single Family Residential	86 (70 Built)	DU
		Neighborhood Park	0.76	AC
H9	Peppertree Ranch (SP 01-3 and VTTM 29843)	Senior Residential (detached)	465 (16 Built)	DU
		Parks/Open Space	40.20	AC
H10	The Boardwalk (CUP 06-4)	Commercial	94.00 (20.00 Built)	TSF
H11	TTM 29581 (Covenant)	Single Family Residential	71	DU
H12	Zanderson Plaza (CUP 16-006 + TPM 37196)	Commercial	68.000	TSF
H13	Stoney Mountain Ranch (TTM 29129)	Single Family Residential	395 (303 Built)	DU
H14	TTM 33707 (Devonshire Partners) CUP 03-16A	Single Family Residential	98 (25 Built)	DU
H15	TTM 24147-1 Hideaway	Single Family Residential	71	DU
H16	Tres Cerritos East (SPA 06-1)	Single Family Residential	775	DU
H17	Page Ranch Elementary School	Elementary School	750	STU
H18	Freedom Middle School	Middle School	1500	STU
H19	TM 31976 Hideaway	Single Family Residential	121	DU
H20	St. Deminia Center (CUP 07-16)	Commercial	33.480	TSF
H21	Stetson Crossing (SP 07-4)	Commercial	189.000	TSF
H22	Nelson (SDR 06-28)	Industrial	16.200	TSF
H23	CUP 17-002 Crossroads	Commercial	1.000	TSF
H24	McSweeny TTM 33824 (Map 05-10)	Single Family Residential	238	DU
H25	McSweeny TTM 33825 (Map 05-11)	Single Family Residential	259	DU
H26	McSweeny TTM 34660	Single Family Residential	396	DU
H27	McSweeny TTM 34661	Single Family Residential	427	DU
H28	McSweeny TTM 34662	Single Family Residential	11	DU
H29	Santa Fe Pointe SDR 15-001	Multi-Family Residential	241	DU
H30	Acacia Gardens Expansion (CUP 06-5)	Multi-Family Residential	50	DU
H31	Cawston Plaza (CUP 07-26)	Commercial	21.000	TSF
H32	Scripps West (CUP 08-14)	Commercial	5.300	TSF
H33	Hemet Medical (CUP 07-24)(TPM 35701)	Medical Office	126.00 (50.00 Built)	TSF
H34	Hemet 63 (ZC 05-04)	Commercial	260.000	TSF
H35	JAKS LLC (ZC 04-13)	Commercial	170.000	TSF
H36	Les Schwab Tire Store	Automotive Retail	11.970	TSF
H37	Taco Bell (CUP 16-004)	Fast-Food Restaurant	2.090	TSF
H38	TTM 33858	Single Family Residential	37	DU

URBAN CROSSROADS

Cumulative Development Project List

#	Name	Land Use	Quantity	Units[1]
H39	TTM 34712	Multi-Family Residential	40	DU
H40	7 Days Market (CUP 13-005)	Service Station	6	Pumps
H41	Downtown Hemet Specific Plan	Various	Various	
H42	TM 25225 (Copenhagen)	Multi-Family Residential	40	DU
H43	TTM 36929	Single Family Residential	21	DU
H44	TTM 36924	Single Family Residential	58	DU
H45	TTM 37087	Single Family Residential	20	DU
H46	Circle K (CUP 16-005)	Gas Station w/ Convenience Store & Car Wash	20	Pumps
H47	Clinca de Salud (SDR 16-003)	Medical Office	13.000	TSF
H48	Al For Show (CUP 16-002)	Retail	3.020	TSF
H49	Gas Mart Remodel	Gas Station w/ Convenience Store	6	Pumps
H50	KPC Towne Center (SDR 15-004)	Shopping Center	124.880	TSF
City of San Jacinto				
SJ1	TR22665 (50% Occupied)	Single Family Residential	75	DU
SJ2	TR30034 (SP 1-01)	Single Family Residential	50	DU
	TR30035 (SP 1-01)	Single Family Residential	74	DU
	TR30036 (SP 1-01)	Single Family Residential	104	DU
	TR30084 (SP 1-01)- Under Construction	Single Family Residential	111	DU
	TR30090 (SP 1-01)	Single Family Residential	5	DU
SJ3	TR30481	Single Family Residential	30	DU
SJ4	TR30597	Single Family Residential	116	DU
SJ5	TR30659	Single Family Residential	64	DU
SJ6	TR30878	Single Family Residential	18	DU
SJ7	TR30944	Single Family Residential	14	DU
SJ8	TR31037	Single Family Residential	263	DU
SJ9	TR31154	Single Family Residential	88	DU
SJ10	TR31294	Single Family Residential	37	DU
SJ11	VTR31384	Single Family Residential	91	DU
SJ12	TR33546	Single Family Residential	5	DU
SJ13	TR31886 - Under Construction	Single Family Residential	321	DU
SJ14	TR30598 (SP 1-03)	Single Family Residential	580	DU
SJ15	TR31929	Single Family Residential	78	DU
SJ16	TR32247	Single Family Residential	150	DU
SJ17	TR32955 (SP1-02)	Single Family Residential	613	DU
SJ18	TR32555	Single Family Residential	12	DU
SJ19	TR33420A1	Single Family Residential	108	DU
SJ20	Future Schools (Middle / Elementary)	School	1200	STU
SJ21	PM35626	Shopping Center	195.740	TSF
		Apartments	150	DU
SJ22	PM33196 San Jacinto Retail Center	Drive-In Bank	4.700	TSF
		Fast-Food w/ Drive Thru	3.450	TSF
SJ23	TR32352	Single Family Residential	153	DU

Cumulative Development Project List

Our Project

#	Name	Land Use	Quantity	Units[1]
County of Riverside				
RC1	K-1 Speed Outdoor Kart Track	Outdoor Kart Track	86.882	TSF
RC2	CUP03479	Gas Station	8	VFP
		Fast-Food w/ Drive Thru	1.500	TSF
RC3	PM33564	SFDR	4	DU
RC4	Emerald Acres Specific Plan SP00381	Single Family Residential	432	DU
RC5	TR35017	SFDR	44	DU
RC6	PP22849 (Jack-In-The-Box)	Fast-Food w/ Drive Thru	2.783	TSF
RC7	TR34129	SFDR	197	DU
RC8	TR31537	SFDR	726	DU
RC9	TR32237	SFDR	98	DU
RC10	TR32248	SFDR	86	DU
RC11	TR31076	SFDR	16	DU
RC12	TR34130	SFDR	384	DU
RC13	TR34677	SFDR	422	DU
	TR31100	SFDR	243	DU
	TR32391	SFDR	127	DU
	TR33448	SFDR	31	DU
	TR31101	SFDR	160	DU
	TR31099	SFDR	207	DU
	TR32282	SFDR	625	DU
RC14	TR36478	Condos	150	DU
	TR36480	Condos	138	DU
	PP25219	Apartments	180	DU
RC15	CUP03579	Restaurant	5.606	TSF
		Retail	8.764	TSF
		Gas Station w/ Convenience Store	3.031	TSF
RC16	TR36504	SFDR	562	DU
RC17	CUP01190	Mobile Home Park	60	SPACES
RC18	TR36711	Condos	102	DU
	TR36365	SFDR	224	DU
	TR33450	SFDR	57	DU
	TR33225	SFDR	14	DU
	TR31857	SFDR	140	DU
	TR31858	SFDR	185	DU
	TR36430	SFDR	340	DU
		Elementary School	600	STU
RC19	TR26973	Single Family Residential	43	DU
RC20	Domenigoni - Barton Properties (SP 310)	SFDR	4186	DU
		Golf Course	18	HOLES
		School	12.00	AC
RC21	PP14248	Automotive Retail	8.200	TSF
RC22	TR23551	Single Family Residential	38	DU
RC23	TR30351	Single Family Residential	273	DU
RC24	PP25623	Animal Hospital	--	
RC25	RVP00110 (Revision to PP11686)	Fast-Food w/o Drive Thru	2.475	TSF
RC26	PP15735	Fast-Food w/o Drive Thru	1.200	TSF
RC27	TR31538	Single Family Residential	257	DU
RC28	TR37079	Single Family Residential	53.46	AC
		Commercial		
RC29	BSA Properties (SP 322)	Commercial	202	AC
		Single Family Residential	421	DU
RC30	PP13023	Commercial	7.360	TSF
RC31	PM29141	Single Family Residential	--	
RC32	The Crossroads in Winchester (SP 288 Amendment 2)	Single Family Residential	771	DU
		Condos/Townhomes	154	DU
		Commercial	32.50	AC

[1] DU = Dwelling Units; STU = Students; TSF = Thousand Square Feet; BEDS = Occupied Beds

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PDA 6043
PP26240, CZ07932

Phase I Cultural Resources Study

for the

Plot Plan 26240 Change of Zone No. 07932 Project

Winchester, Riverside County, California

U.S.G.S. *Winchester, CA* quadrangle
Township 5 South, Range 2 West, Section 15

Assessor's Parcel Numbers 458-103-001 and 458-103-002

Prepared on Behalf of:
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March 2018
Fieldwork performed March 7, 2018

Keywords: 2.59 acres; negative survey; Winchester, CA USGS quadrangle

Mattingly, Scott A.

2018 *Phase I Cultural Resources Study for the Plot Plan 26240 Change of Zone No. 07932 Project, Winchester*, *Riverside County, California*. Report on file at the Eastern Information Center, University of California, Riverside.

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Appendices

Executive Summary

Birdseye Planning Group (BPG) was retained by Land Engineering Consultants to conduct a Phase I cultural resources study for the Plot Plan 26240 Change of Zone No. 07932 Project in the community of Winchester, California. Land Engineering Consultants proposes to construct two commercial drive-thru restaurants, parking, and a stormwater detention basin on a 2.59 net acre developed project site at the southeast corner of State Route 74 and Amanda Avenue in the community of Winchester, Riverside County, California. The proposed project is subject to the California Environmental Quality Act (CEQA) with the County of Riverside serving as lead agency.

This study includes a cultural resources records search, Sacred Lands File search, a pedestrian survey of the project site, and preparation of this report according to the Archaeological Resources Management Report (ARMR) guidelines and in compliance with the requirements of CEQA. The cultural resource records search, Native American scoping, and pedestrian survey identified no cultural resources within the current project site. Based on the results of the current study, BPG recommends a finding of ***no impact to historical resources*** under CEQA. The following measures are recommended in the case of the unanticipated discovery of cultural resources during the project related ground disturbing activities.

UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) should be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation may be warranted.

UNANTICIPATED DISCOVERY OF HUMAN REMAINS

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the county coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

1 Introduction

Birdseye Planning Group (BPG) was retained by Land Engineering Consultants to conduct a Phase I cultural resources study for the Plot Plan 26240 Change of Zone No. 07932 Project in the community of Winchester, California (Figures 1 and 2). Land Engineering Consultants proposes to construct two commercial drive-thru restaurants, parking, and a stormwater detention basin on a 2.59 net acre developed project site at the southeast corner of State Route 74 and Amanda Avenue. This cultural resources study includes a cultural resources records search, Native American scoping, pedestrian survey, and the preparation of this report according to the Archaeological Resources Management Report (ARMR) guidelines (California Office of Historic Preservation 1990) compliance with the cultural resources requirements of the California Environmental Quality Act (CEQA) and the County of Riverside's requirements.

1.1 Personnel

BPG Cultural Resources Senior Archaeologist and Principal Investigator Scott A. Mattingly, M.A., Registered Professional Archaeologist (RPA), served as principal investigator for the study, conducted the cultural resources records search, Native American scoping, pedestrian survey, prepared all figures, and was the author of this report. Mr. Mattingly meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology (National Park Service 1983). BPG Archaeologist Kevin Hunt, B.A., reviewed this report for quality control.

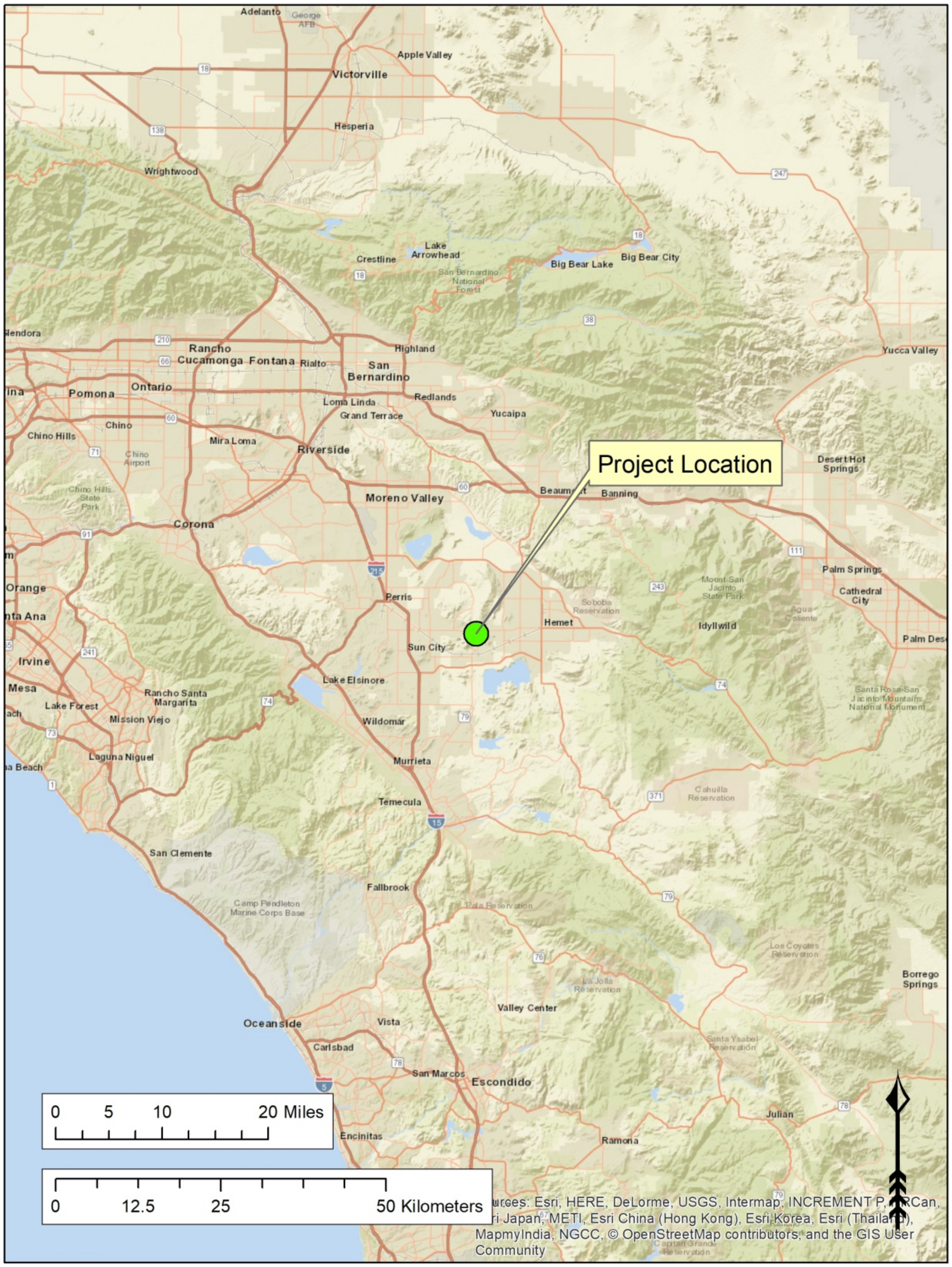

Figure 1. Project Vicinity

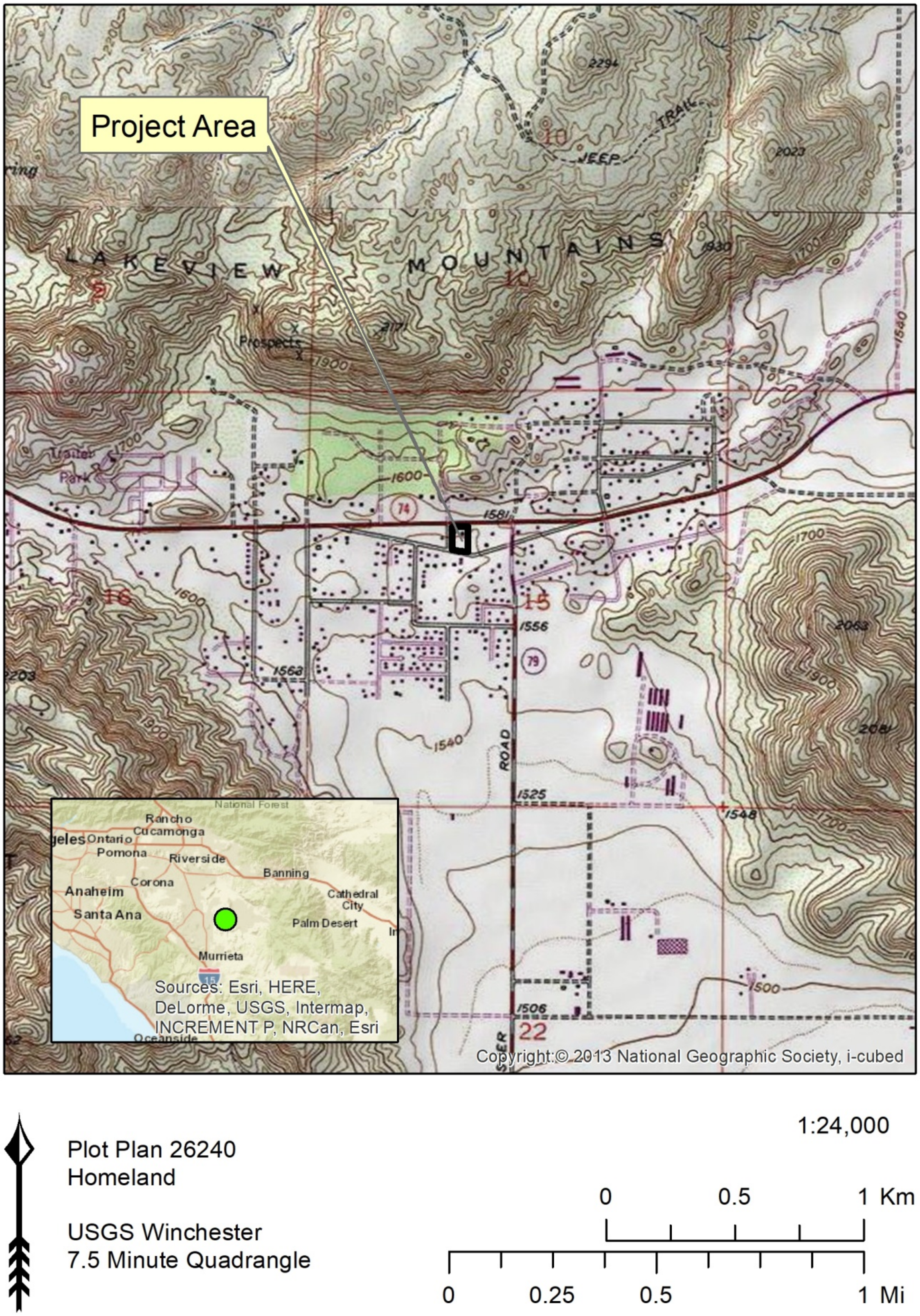

Figure 2. Project Location

2 Setting

2.1 Natural Setting

The project site is located within the Community of Winchester with residential development to the north and south, commercial development to the east, and a vacant, disturbed lot to the west. The project site is bare, with a graded pad and manufactured slopes. The project site is situated at an elevation of 475 meters (1,560 feet) above mean sea level. Vegetation consists solely of very sparse non-native grasses.

2.2 Cultural Setting

For nearly a century, archaeologists have developed chronological sequences to explain prehistoric cultural changes within all or portions of southern California (c.f., Jones and Klar 2007; Moratto 1984). Wallace (1955, 1978) devised a prehistoric chronology for the southern California coastal region based on early studies and focused on data synthesis that included four horizons: Early Man, Milling Stone, Intermediate, and Late Prehistoric. Though initially lacking the chronological precision of absolute dates (Moratto 1984:159), Wallace's (1955) synthesis has been modified and improved using thousands of radiocarbon dates obtained by southern California researchers over recent decades (Byrd and Raab 2007:217; Koerper and Drover 1983; Koerper et al. 2002; Mason and Peterson 1994). The prehistoric chronological sequence for southern California presented below is a composite based on Wallace (1955) and Warren (1968) as well as later studies, including Koerper and Drover (1983).

2.2.1 EARLY MAN HORIZON (CA. 10,000 – 6,000 B.C.)

Numerous pre-8000 B.C. sites have been identified along the mainland coast and Channel Islands of southern California (c.f., Erlandson 1991; Johnson et al. 2002; Jones and Klar 2007; Moratto 1984; Rick et al. 2001:609). The Arlington Springs site on Santa Rosa Island produced human femurs dated to approximately 13,000 years ago (Arnold et al. 2004; Johnson et al. 2002). On nearby San Miguel Island, human occupation at Daisy Cave (SMI-261) has been dated to nearly 13,000 years ago and included basketry greater than 12,000 years old, the earliest on the Pacific Coast (Arnold et al. 2004).

Although few Clovis or Folsom style fluted points have been found in southern California (e.g., Dillon 2002; Erlandson et al. 1987), Early Man Horizon sites are generally associated with a greater emphasis on hunting than later horizons. Recent data indicate that the Early Man economy was a diverse mixture of hunting and gathering, including a significant focus on aquatic resources in coastal areas (e.g., Jones et al. 2002) and on inland Pleistocene lakeshores (Moratto 1984). A warm and dry 3,000-year period called the Altithermal began around 6000 B.C. The conditions of the Altithermal are likely responsible for the change in human subsistence patterns at this time, including a greater emphasis on plant foods and small game.

2.2.2 MILLING STONE HORIZON (6000–3000 B.C.)

Wallace (1955:219) defined the Milling Stone Horizon as “marked by extensive use of milling stones and mullers, a general lack of well-made projectile points, and burials with rock cairns.” The dominance of such artifact types indicate a subsistence strategy oriented around collecting plant foods and small animals. A broad spectrum of food resources were consumed including small and large terrestrial mammals, sea mammals, birds, shellfish and other littoral and estuarine species, near-shore fishes, yucca, agave, and seeds and other plant products (Kowta 1969; Reinman 1964). Variability in artifact collections over time and from the coast to inland sites indicates that Milling Stone Horizon subsistence strategies adapted to environmental conditions (Byrd and Raab 2007:220). Lithic artifacts associated with Milling Stone Horizon sites are dominated by locally available tool stone and in addition to ground stone tools, such as manos and metates, chopping, scraping, and cutting tools, are very common. Kowta (1969) attributes the presence of numerous scraper-plane tools in Milling Stone Horizon collections to the processing of agave or yucca for food or fiber. The mortar and pestle, associated with acorns or other foods processed through pounding, were first used during the Milling Stone Horizon and increased dramatically in later periods (Wallace 1955, 1978; Warren 1968).

Two types of artifacts that are considered diagnostic of the Milling Stone period are the cogged stone and discoidal, most of which have been found within sites dating between 4,000 and 1,000 B.C. (Moratto 1984:149), though possibly as far back as 5,500 B.C. (Couch et al. 2009). The cogged stone is a ground stone object that has gear-like teeth on the perimeter and is produced from a variety of materials. The function of cogged stones is unknown, but many scholars have postulated ritualistic or ceremonial uses (c.f., Dixon 1968:64-65; Eberhart 1961:367). Similar to cogged stones, discoidals are found in the archaeological record subsequent to the introduction of the cogged stone. Cogged stones and discoidals were often purposefully buried, or “cached.” They are most common in sites along the coastal drainages from southern Ventura County southward and are particularly abundant at some Orange County sites, although a few specimens have been found inland at Cajon Pass (Dixon 1968:63; Moratto 1984:149). Discoidals and cogged stones have been found together at some Orange County sites, such as CA-ORA-83/86/144 (Van Bueren et al. 1989:772) and Los Cerritos Ranch (Dixon 1975). Cogged stones have been collected in Riverside County and their distribution appears to center on the Santa Ana River basin (Eberhart 1961).

2.2.3 INTERMEDIATE HORIZON (3,000 B.C. – A.D. 500)

Wallace’s Intermediate Horizon dates from approximately 3,000 B.C.-A.D. 500 and is characterized by a shift toward a hunting and maritime subsistence strategy, as well as greater use of plant foods. During the Intermediate Horizon, a noticeable trend occurred toward greater adaptation to local resources including a broad variety of fish, land mammal, and sea mammal remains along the coast. Tool kits for hunting, fishing, and processing food and materials reflect this increased diversity, with flake scrapers, drills, various projectile points, and shell fishhooks being manufactured.

Mortars and pestles became more common during this transitional period, gradually replacing manos and metates as the dominant milling equipment. Many archaeologists believe this change in milling stones signals a change from the processing and consuming of hard seed resources to the increasing reliance on acorn (e.g., Glassow et al. 1988; True 1993). Mortuary practices during the Intermediate Horizon typically included fully flexed burials oriented toward the north or west (Warren 1968:2-3).

2.2.4 LATE PREHISTORIC HORIZON (A.D. 500–HISTORIC CONTACT)

During Wallace’s (1955, 1978) Late Prehistoric Horizon, the diversity of plant food resources and land and sea mammal hunting increased even further than during the Intermediate Horizon. More classes of artifacts were observed during this period and high quality exotic lithic materials were used for small finely worked projectile points associated with the bow and arrow. Steatite containers were made for cooking and storage and an increased use of asphalt for waterproofing is noted. More artistic artifacts were recovered from Late Prehistoric sites and cremation became a common mortuary custom. Larger, more permanent villages supported an increased population size and social structure (Wallace 1955:223).

Warren (1968) attributes this dramatic change in material culture, burial practices, and subsistence focus to the westward migration of desert people he called the Takic, or Numic, Tradition in Los Angeles, Orange, and western Riverside counties. This Takic Tradition was formerly referred to as the “Shoshonean wedge” (Warren 1968), but this nomenclature is no longer used to avoid confusion with ethnohistoric and modern Shoshonean groups (Heizer 1978:5; Shipley 1978:88, 90). Modern Gabrielino/Tongva in Los Angeles County are generally considered by archaeologists to be descendants of these prehistoric Uto-Aztecan, Takic-speaking populations that settled along the California coast during the Late Prehistoric Horizon.

ETHNOGRAPHIC OVERVIEW

The project site is situated within a region traditionally occupied by the Cahuilla, though close to the boundary with the Juaneño and Luiseño (Bean 1978, Kroeber 1925). The Cahuilla, like their neighbors to west, the Luiseño and Juaneño, and the Cupeño to the south, are speakers of a Cupan language. Cupan languages are part of the Takic linguistic subfamily of the Uto-Aztecan language family. It has been postulated that the Cahuilla migrated to southern California approximately 2,000 to 3,000 years ago, most likely from the southern Sierra Nevada mountain ranges of east-central California with other Takic speaking social groups (Moratto 1984:559).

Cahuilla social organization was hierarchical and contained three primary levels (Bean 1978:580). The highest level was the cultural nationality, encompassing everyone speaking a common language. The next level included the two patrimoieties of the Wildcats (*tuktum*) and the Coyotes (*‘istam*). Every clan of the Cahuilla were in one of these moieties. The lowest level consisted of the numerous political-ritual-corporate units called sibs, or a patrilineal clan (Bean 1978:580).

Cahuilla villages were usually located in canyons or on alluvial fans near a source of accessible water. Each lineage group maintained their own houses (*kish*) and granaries, and constructed ramadas for work and cooking. Sweat houses and song houses (for non-religious music) were also often present. Each community also had a separate house for the lineage or clan leader. A ceremonial house, or *kíš ?ámnawet*, associated with the clan leader was where major religious ceremonies were held. Houses and ancillary structures were often spaced apart, and a “village” could extend over a mile or two. Each lineage had ownership rights to various resource collecting locations, “including food collecting, hunting, and other areas. Individuals also owned specific areas or resources, e.g., plant foods, hunting areas, mineral collecting places, or sacred spots used only by shamans, healers and the like” (Bean 1990:2).

The Cahuilla hunted a variety of game, including mountain sheep, cottontail, jackrabbit, mice, and wood rats, as well as predators such as mountain lion, coyote, wolf, bobcat, and fox. Various birds were also consumed, including quail, duck, and dove, plus various types of reptiles, amphibians, and insects. A wide variety of tools and implements were employed by the Cahuilla to gather and collect food resources. For the hunt, these included the bow and arrow, traps, nets, slings and blinds for hunting land mammals and birds, and nets for fishing. Rabbits and hares were commonly brought down by the throwing stick; however when communal hunts were organized for these animals, the Cahuilla often utilized clubs and very large nets.

Foodstuffs were processed using a variety of tools, including portable stone mortars, bedrock mortars and pestles, basket hopper mortars, manos and metates, bedrock grinding slicks, hammerstones and anvils, and many others. Food was consumed from a number of woven and carved wood vessels and pottery vessels. The ground meal and unprocessed hard seeds were stored in large finely woven baskets, and the unprocessed mesquite beans were stored in large granaries woven of willow branches and raised off the ground on platforms to keep it from vermin. Pottery vessels were made by the Cahuilla, and also traded from the Yuman-speaking groups across the Colorado River and to the south.

The Cahuilla had adopted limited agricultural practices by the time Euro-Americans traveled into their territory. Bean (1978:578) has suggested that their "proto-agricultural techniques and a marginal agriculture" consisting of beans, squash and corn may have been adopted from the Colorado River groups to the east. Certainly by the time of the first Romero Expedition in 1823-24, they were observed growing corn, pumpkins, and beans in small gardens localized around springs in the Thermal area of the Coachella Valley (Bean and Mason 1962:104). The introduction of European plants such as barley and other grain crops suggest an interaction with the missions or local Mexican rancheros. Despite the increasing use and diversity of crops, no evidence indicates that this small-scale agriculture was anything more than a supplement to Cahuilla subsistence, and it apparently did not alter social organization.

By 1819, several Spanish mission outposts, known as *assistencias*, were established near Cahuilla territory at San Bernardino and San Jacinto. Cahuilla interaction with Europeans at this time was not as intense as it was for native groups living along the coast. This was likely due to the local topography and lack of water, which made the area less attractive to colonists. By the 1820s, however, European interaction increased as mission ranchos were established in the region and local Cahuilla were employed to work on them.

The continued influx of immigrants into the region introduced the Cahuilla to European diseases. The single worst recorded event was a smallpox epidemic in 1862-63. By 1891, only 1,160 Cahuilla remained within what was left of their territory, down from an aboriginal population of 6,000–10,000 (Bean 1978:583-584). By 1974, approximately 900 people claimed Cahuilla descent, most of who resided on reservations.

Between 1875 and 1891, the United States established ten reservations for the Cahuilla within their traditional territory. These reservations include: Agua Caliente, Augustine, Cabazon, Cahuilla, Los Coyotes, Morongo, Ramona, Santa Rosa, Soboba, and Torres-Martinez (Bean 1978:585). Four of the reservations are shared with other groups, including the Chemehuevi, Cupeño, Luiseño, and Serrano. The Soboba Reservation, occupied by people of both Cahuilla and Luiseño descent, is closest to the project site.

HISTORIC OVERVIEW

The post-European Contact history of California is generally divided into three periods: the Spanish period (1769-1822), the Mexican period (1822-1848), and the American period (1848-present). Each of these periods is briefly described below.

2.2.1.1 SPANISH PERIOD (1769–1822)

In 1542, Juan Rodriguez Cabrillo led the first European expedition to observe what is now called southern California. For more than 200 years, Cabrillo and other Spanish, Portuguese, British, and Russian explorers sailed the Alta (upper) California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 2003). Gaspar de Portolá and Franciscan Father Junípero Serra established the first Spanish settlement in Alta California at Mission San Diego de Alcalá in 1769. This was the first of 21 missions erected by the Spanish between 1769 and 1823.

Spain deeded ranchos to prominent citizens and soldiers, though few in comparison to what was subsequently granted by the Mexican government. To manage and expand herds of cattle on these large ranchos, colonists enlisted the labor of the surrounding Native American population (Engelhardt 1927a). The missions were responsible for administrating the local people as well as converting the population to Christianity (Engelhardt 1927b). Inevitably, this increased local population density and contact with diseases brought by Europeans greatly reduced the Native American population (McCawley 1996).

2.2.1.2 MEXICAN PERIOD (1822–1848)

The Mexican period commenced when news of the success of the Mexican Revolution (1810-1821) against the Spanish crown reached California in 1822. This period saw extensive interior land grant development as well as exploration west of the Sierra Nevada Mountains by American fur trappers. The California missions declined in power and were ultimately secularized in 1834. The hallmark of the Mexican period was large ranchos deeded to prominent Mexican citizens, frequently soldiers, by the governor. These ranchos became important economic and social centers. There were about 15 land grants (ranchos) located in Riverside County.

2.2.1.3 AMERICAN PERIOD (1848–PRESENT)

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico $15 million for the conquered territory, including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. In 1850, California was admitted to the Union as the 31st state. The discovery of gold in northern California in 1848 led to the California Gold Rush, though the first significant California gold was discovered in Placerita Canyon near the San Fernando Mission in 1842 (Guinn 1977).

continued to move into the state, particularly after completion of the transcontinental railroad in 1869.

After the completion of the transcontinental railroad in 1869, thousands more settlers and immigrants began to migrate to southern California at the urgings of land speculators and developers. The City of Riverside was founded in 1870 and Riverside County was formed in 1893 from portions of San Bernardino and San Diego Counties (Lech 2004). The region played a significant role in the development of California's citrus industry. In 1873 two seedless orange trees were planted by Eliza Tibbets; the oranges, later called the Washington Naval Orange, led to the rapid planting of citrus trees and stimulated interest in real estate.

2.2.1.4 LOCAL HISTORY

The community of Winchester was established in 1886 and named by Horace Winchester after his widow Amy Winchester (Gunther 1984). At that time, Winchester was within San Diego County. The rural community has been predominantly agricultural and ranching oriented since its inception; however, since the early 2000s Winchester and similar nearby communities have experienced tremendous growth in residential development that continues to this day.

3 Research Design

This report is intended to assess the presence or absence of cultural resources within the project site and to make recommendations regarding the potential of the proposed project to significantly impact cultural resources.

3.1 California Environmental Quality Act

CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources, including prehistoric or historic archaeological resources (Public Resources Code [PRC], Section 21084.1). If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC, Section 21083.2[a], [b], and [c]).

PRC, Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

A. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;

B. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or

C. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

A historical resource is a resource listed in, or determined to be eligible for listing, in the CRHR, a resource included in a local register of historical resources or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]). Section 15064.5(a)(3) also states that a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the CRHR.

California Assembly Bill 52 of 2014 (AB 52) added a new category of cultural resource to CEQA called a “tribal cultural resource.” Tribal cultural resources are those sites, places, landscapes, or objects that have demonstrable significant heritage value to a California Native American tribe.

3.2 Research Goals

The goals of this study are to assess whether cultural resources are located within the project site, if any identified resources within the project site are potentially significant, and to recommend mitigation measures that will address potential impacts to identified resources. To satisfy these goals, BPG conducted background research which included the following:

- Thorough review of cultural resource records maintained at the EIC.

- Search of the NAHC Sacred Lands File and contact with appropriate tribal groups and individuals.
- Review of historic maps and aerial photographs of the project area.

Based on the results of the background research the following assumptions were made regarding the potential to encounter cultural resources within the project site:

a) The probability of encountering unidentified prehistoric cultural resources is low, primarily because the site has been previously graded. BPG considers the region highly sensitive for prehistoric cultural resources based on the numerous bedrock milling sites in the vicinity; however, the thoroughly disturbed nature of the project site reduced the project’s sensitivity to very low.

b) The probability of encountering unidentified historic period resources is low, again, because the site appears thoroughly graded. In addition, the primary type of historic period resource in the vicinity is twentieth century paved roads that do not appear CRHR eligible, further supporting the unlikelihood of identifying historic resources within the project site.

The Viejas Band of Kumeyaay Indians (Viejas) responded on March 7, 2018, stating that they were unaware of resources within the project vicinity but recommending other tribes be contacted and that Viejas be contacted if Native American resources are identified at the project site (Appendix C).

The Soboba Band of Luiseño Indians (Soboba) responded on March 21, 2018, and requested that consultation be initiated with the project proponent and lead agency, that Soboba be kept informed regarding the progress of the project, that Soboba continues “to act as a consulting entity,” that a Soboba Native American monitor be present for future archeological or ground disturbing work, and that Soboba’s procedures for the treatment and disposition of Native American cultural items and human remains (Appendix C).

The Agua Caliente Band of Mission Indians responded on March 26, 2018 and requested that further consultation be deferred to Soboba (Appendix C)

As of March 28 2018, BPG has received no additional responses to the letters.

5 Fieldwork

5.1 Survey Methods

BPG archaeologist Scott Mattingly conducted a pedestrian survey of the project site on March 7, 2018. Mr. Mattingly surveyed the project site using transects spaced 5 to 10 meters apart and oriented east-west. The entire project site was surveyed.

Mr. Mattingly examined all exposed ground surface for artifacts (e.g., flaked stone tools and tool-manufacture debris, ground stone tools, ceramic sherds, fire-affected rock), ecofacts (marine shell, bone), soil discoloration that could indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramic sherds, cut bone). Ground disturbances such as burrows and drainages were visually inspected. Photographs documenting the project site and survey are maintained at BPG's Vista, California, office.

5.2 Results

The project site is an undeveloped parcel with near zero vegetation and excellent ground visibility (approximately 90 to 95 percent) throughout the project site (Figures 4-8). The entirety of the project site appears heavily disturbed and appears to have been previously graded with manufactured slopes and subsurface utility installation such as power and sewer. The survey was negative; that is, no cultural (i.e., archaeological, historic built, or tribal cultural) resources were identified within the project site.

Figure 4. View of project site from norhtwest boundary, facing southeast.

Figure 5. View of portion of project site from northwest boundary, facing southeast.

Figure 6. View of portion of project site apparent sewer installation, facing south.

Figure 7. View of portion of project site showing sand and cobble piles, facing southwest.

Figure 8. View of southwestern portion of project site, facing east.

6 Management Recommendations

The cultural resource records search, Native American scoping, and pedestrian survey identified no cultural resources within the project site and the site exhibits tremendous previous disturbance. No further cultural resources work is recommended. Based on the results of the current study, BPG recommends a finding of ***no impact to historical resources*** under CEQA. The following measures are recommended in the case of the unanticipated discovery of cultural resources during project related ground disturbing activities.

UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) must be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation may be warranted.

UNANTICIPATED DISCOVERY OF HUMAN REMAINS

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the county coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendant. The Most Likely Descendant shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

7 Certification

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this archaeological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: 3/28/2018 Signed:

Printed Name: Scott Mattingly

County Registration #: NA

8 References

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1978 Post-Pleistocene Archaeology, 9000 to 2000 B.C. In *California*, edited by R. F. Heizer, pp. 25–36. Handbook of North American Indians, Vol. 8, W. C. Sturtevant, general editor, Smithsonian Institution, Washington D.C.

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Appendix A

Notification to County of Riverside of Consultant to Prepare Archaeological Report

Attachment D

NOTIFICATION TO COUNTY OF RIVERSIDE OF CONSULTANT TO PREPARE ARCHAEOLOGICAL REPORT

Notification to the County of Riverside is hereby made that
Al Husn, LP, project sponsor,
has entered into a contract with Birdseye Planning Group, LLC for the preparation of an archaeological report to be submitted to the County of Riverside in satisfaction of a request made by the County for additional environmental information prior to completion of an environmental assessment for the property and development proposal, if any, described below:

Assessor's Parcel Number(s) (APN) :
458-103-001 and 458-103-002

Development Proposal Case Number(s): Plot Plan 26240 Change of Zone No. 07932

In accordance with the notice of additional environmental information provided by the County, the scope of work for the report will be as follows:

Archaeological Reports (Standardized - Check those that apply):

X Phase 1 ____ Phase 2 ____ Phase 3

Both the Consultant and the project sponsor acknowledge that the consultant may not submit reports to the County for use in completing initial environmental assessments or EIR's for development proposals unless the consultant has been previously qualified by the County to submit such reports and unless the consultant has entered into a Memorandum of Understanding (MOU) with the County governing the preparation and handling of such reports. The project sponsor hereby acknowledges that they have been furnished a copy of the MOU, have read it, and understand the responsibilities of both the county and the consultant as set forth therein.

Project sponsor acknowledges that the report for which notification is hereby made is the:

X 1st, ____ 2nd or ____ (specify number) archaeological report for which contractual arrangements have been made under the direction of the project sponsor for the property described above.

PROJECT SPONSOR AND CONSULTANT are to execute the following:

I hereby affirm that all information provided above, is, to the best of my knowledge, true, correct, and complete.

Project sponsor: ____ Dated: 2/28/2018

Consultant: ____ Dated: 3/2/2018

A Riverside County Planning Department "Date Received" stamp hereon shall acknowledge receipt of this Notice by the County.

Appendix B

Records Search Summary

Appendix C

Native American Scoping

February 10, 2018

Dr. Gayle Totton
Associate Governmental Program Analyst
California Native American Heritage Commission
1550 Harbor Boulevard, Room 100
West Sacramento, California 95691

Request for a Sacred Lands File Search:
Plot Plan 26240 in the Winchester/Homeland Community of Unincorporated Riverside County

Dear Dr. Totton:

Land Engineering Consultants, Inc. proposes to construct two commercial drive-thru restaurants, parking, and a stormwater detention basin on a 2.59 net acre developed project site at the southeast corner of SR 74 and Amanda Avenue in the community of Winchester. The APNs are 458-103-001 and 002.

We respectfully request a search of the Sacred Lands files for this Project. A completed request form and a map showing the project area is attached for reference.

We also respectfully request that you provide us with a list of tribes and individuals that you believe might have cultural resources information regarding the project area.

If you have any questions concerning this request, please contact me.

Sincerely,

Scott Mattingly, RPA
Black Mountain Resource Consultants
32030 Corte Albano
Temecula, CA 92592
(858) 527-2551
scottamattingly@gmail.com

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Plot Plan 26240 Winchester/Homeland Community

County: Riverside

USGS Quadrangle Name: Winchester

Township: 5S **Range:** 2W **Section(s):** 15

Company/Firm/Agency: Black Mountain Resource Consultants

Street Address: 32030 Corte Albano

City: Temecula **Zip:** 92592

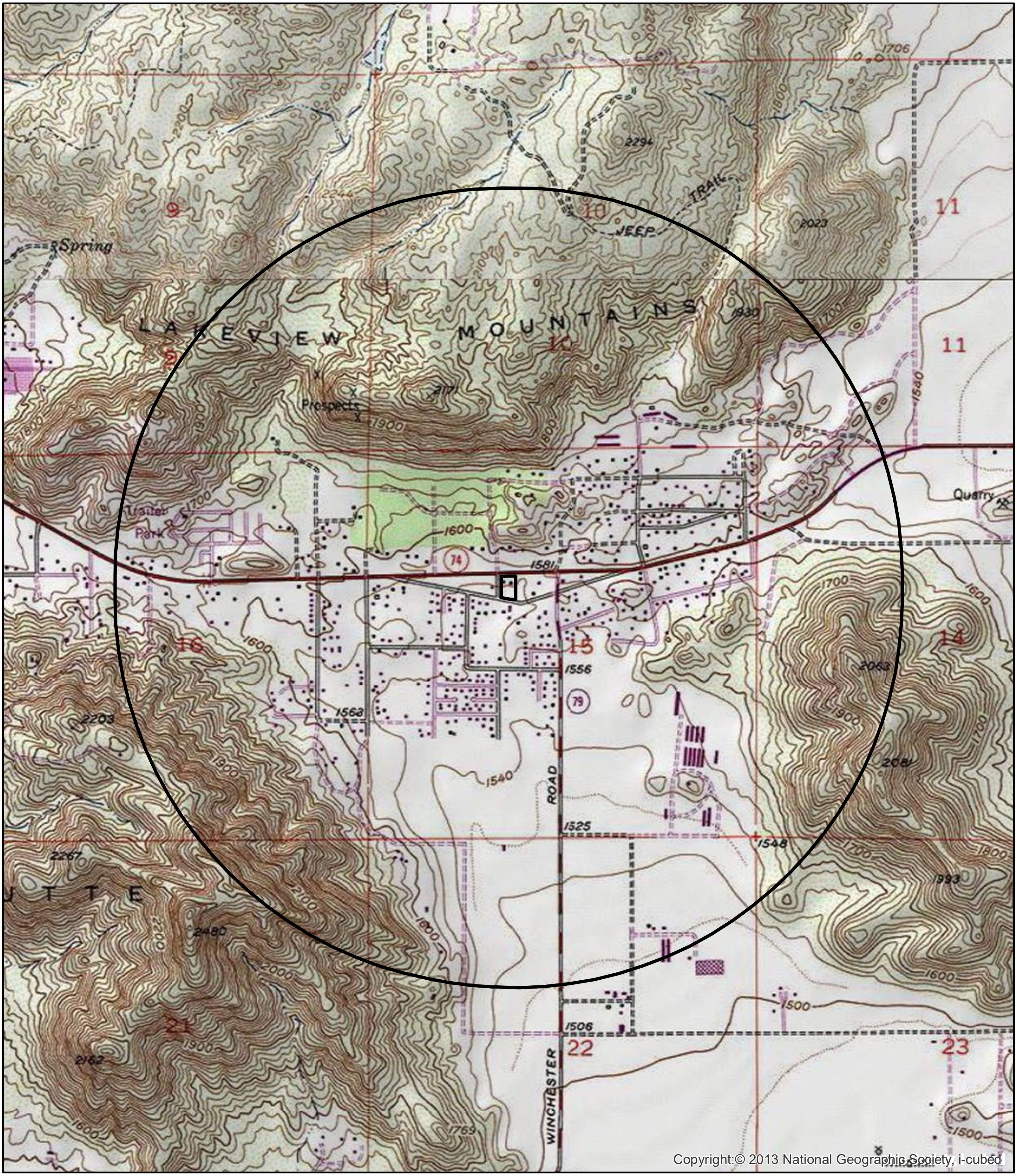
Phone: (858) 527-2551

Fax: NA

Email: scottamattingly@gmail.com

Project Description:

Land Engineering Consultants, Inc. proposes to construct two commercial drive-thru restaurants, parking, and a stormwater detention basin on a 2.59 net acre developed project site at the southeast corner of SR 74 and Amanda Avenue in the community of Winchester. The APNs are 458-103-001 and 002.



N

Plot Plan 26240
Homeland Community

USGS Winchester
1:24,000 Quad

0 500 1,000 2,000 Meters

1:24,000 0 0.25 0.5 1 Miles

STATE OF CALIFORNIA Edmund G. Brown, Jr., *Governor*

NATIVE AMERICAN HERITAGE COMMISSION

Environmental and Cultural Department
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710

February 12, 2018

Scott A. Mattingly
Black Mountain Resource Consultants

Sent by E-mail: scottamattingly@gmail.com

RE: Proposed Plot Plan 26240 Winchester/ Homeland Community Project, Community of Winchester; Winchester USGS Quadrangle, Riverside County, California

Dear Mr. Mattingly:

Attached is a list of tribes that have cultural and traditional affiliation to the areas of potential project effect (APE) referenced above. I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult, as may be required under particular state statutes. If a response has not been received within two weeks of notification, the Native American Heritage Commission (NAHC) requests that you follow-up with a telephone call to ensure that the project information has been received.

THIS INFORMATION IS CONFIDENTIAL! PLEASE DO NOT INCLUDE IN PUBLIC DOCUMENTS. A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* (SLF) was completed for the area of potential project effect (APE) for the above referenced project. Sites have been located within the APE you provided that may be impacted by the project. Please immediately contact the Pechanga Band of Luiseno Indians at (951) 770-6000 or (951) 770-8100 for more information about these sites.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance, we are able to assure that our lists contain current information. If you have any questions, please contact me at my email address: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst
(916) 373-3714

Native American Heritage Commission
Native American Contact List
Riverside County
2/12/2018

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264 — Luiseno
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Agua Caliente Band of Cahuilla Indians
Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264 — Luiseno
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Augustine Band of Cahuilla Mission Indians
Amanda Vance, Chairperson
P.O. Box 846 — Cahuilla
Coachella, CA, 92236
Phone: (760) 398 - 4722
Fax: (760) 369-7161

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs Parkway — Cahuilla
Indio, CA, 92203
Phone: (760) 342 - 2593
Fax: (760) 347-7880

Cahuilla Band of Indians
Daniel Salgado, Chairperson
52701 U.S. Highway 371 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 5549
Fax: (951) 763-2808
Chairman@cahuilla.net

Campo Band of Mission Indians
Ralph Goff, Chairperson
36190 Church Road, Suite 1 — Kumeyaay
Campo, CA, 91906
Phone: (619) 478 - 9046
Fax: (619) 478-5818
rgoff@campo-nsn.gov

Ewiiaapaayp Tribal Office
Robert Pinto, Chairperson
4054 Willows Road — Kumeyaay
Alpine, CA, 91901
Phone: (619) 445 - 6315
Fax: (619) 445-9126

Ewiiaapaayp Tribal Office
Michael Garcia, Vice Chairperson
4054 Willows Road — Kumeyaay
Alpine, CA, 91901
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Fax: (619) 445-9126
michaelg@leaningrock.net

Jamul Indian Village
Erica Pinto, Chairperson
P.O. Box 612 — Kumeyaay
Jamul, CA, 91935
Phone: (619) 669 - 4785
Fax: (619) 669-4817

La Jolla Band of Luiseno Indians
Thomas Rodriguez, Chairperson
22000 Highway 76 — Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 3771

La Posta Band of Mission Indians
Gwendolyn Parada, Chairperson
8 Crestwood Road — Kumeyaay
Boulevard, CA, 91905
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Fax: (619) 478-2125
LP13boots@aol.com

La Posta Band of Mission Indians
Javaughn Miller, Tribal Administrator
8 Crestwood Road — Kumeyaay
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jmiller@LPtribe.net

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Plot Plan 26240 Winchester/ Homeland Community Project, Riverside County.

Los Coyotes Band of Mission Indians
John Perada, Environmental Director
P. O. Box 189 — Cahuilla
Warner Springs, CA, 92086
Phone: (760) 782 - 0712
Fax: (760) 782-2730

Los Coyotes Band of Mission Indians
Shane Chapparosa, Chairperson
P.O. Box 189 — Cahuilla
Warner Springs, CA, 92086-0189
Phone: (760) 782 - 0711
Fax: (760) 782-0712
Chapparosa@msn.com

Manzanita Band of Kumeyaay Nation
Angela Elliott Santos, Chairperson
P.O. Box 1302 — Kumeyaay
Boulevard, CA, 91905
Phone: (619) 766 - 4930
Fax: (619) 766-4957

Morongo Band of Mission Indians
Denisa Torres, Cultural Resources Manager
12700 Pumarra Rroad — Cahuilla, Serrano
Banning, CA, 92220
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Rroad — Cahuilla, Serrano
Banning, CA, 92220
Phone: (951) 849 - 8807
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Pala Band of Mission Indians
Shasta Gaughen, Tribal Historic Preservation Officer
PMB 50, 35008 Pala Temecula Rd. — Cupeno, Luiseno
Pala, CA, 92059
Phone: (760) 891 - 3515
Fax: (760) 742-3189
sgaughen@palatribe.com

Pauma Band of Luiseno Indians - Pauma & Yuima Reservation
Temet Aguilar, Chairperson
P.O. Box 369 — Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 1289
Fax: (760) 742-3422

Pechanga Band of Mission Indians
Mark Macarro, Chairperson
P.O. Box 1477 — Luiseno
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Phone: (951) 770 - 6000
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epreston@pechanga-nsn.gov

Pechanga Band of Mission Indians
Paul Macarro, Cultural Resources Coordinator
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6306
Fax: (951) 506-9491
pmacarro@pechanga-nsn.gov

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairperson
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This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Plot Plan 26240 Winchester/ Homeland Community Project, Riverside County.

Native American Heritage Commission
Native American Contact List
Riverside County
2/12/2018

Ramona Band of Cahuilla Mission Indians
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Scott Cozart, Chairperson
P. O. Box 487 — Cahuilla
San Jacinto, CA, 92583 — Luiseno
Phone: (951) 654 - 2765
Fax: (951) 654-4198

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
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Phone: (951) 663 - 5279
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jontiveros@soboba-nsn.gov

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Carrie Garcia, Cultural Resources Manager
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carrieg@soboba-nsn.gov

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lhaws@sycuan-nsn.gov

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This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Plot Plan 26240 Winchester/ Homeland Community Project, Riverside County.

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Cody J. Martinez, Chairperson
1 Kwaaypaay Court — Kumeyaay
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P.O. Box 1160 — Cahuilla
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Phone: (619) 445 - 3810
Fax: (619) 445-5337
jhagen@viejas-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Plot Plan 26240 Winchester/ Homeland Community Project, Riverside County.

VIEJAS
TRIBAL GOVERNMENT

P.O. Box 908
Alpine, CA 91903
#1 Viejas Grade Road
Alpine, CA 91901

Phone: 619.445.3810
Fax: 619.445.5337
viejas.com

March 7, 2018

Scott Mattingly
Principal Investigator/Senior Archaeologist
Birdseye Planning Group
32030 Corte Albano
Temecula, CA 92592

Re: Plot Plan Number 26240 in the Community of Winchester

Dear Mr. Mattingly,

The Viejas Band of Kumeyaay Indians ("Viejas") has reviewed the proposed project and at this time we have determined that the project site has little cultural significance or ties to Viejas. We further recommend that you contact the tribe(s) closest to the cultural resources. We, however, request to be informed of any new developments such as inadvertent discovery of cultural artifacts, cremation sites, or human remains in order for us to reevaluate our participation in the government-to-government consultation process.

Please do not hesitate to contact me if you have further questions. Please call Ernest Pingleton at 619-659-2314 or me at 619-659-2312, or email, epingleton@viejas-nsn.gov or rteran@viejas-nsn.gov. Thank you.

Sincerely,

Ray Teran, Resource Management
VIEJAS BAND OF KUMEYAAY INDIANS

AUGUSTINE BAND OF CAHUILLA INDIANS

PO Box 846 84-481 Avenue 54 Coachella CA 92236
Telephone: (760) 398-4722
Fax (760) 369-7161
Tribal Chairperson: Amanda Vance
Tribal Vice-Chairperson: William Vance

March 7, 2018

Scott Mattingly
Birdseye Planning Group
32030 Corte Albano, Temecula, CA 92592

RE: Plot Plan Number 26240 in the Community of Winchester

Dear Mr. Mattingly-

Thank you for the opportunity to offer input concerning the development of the above-identified project. We appreciate your sensitivity to the cultural resources that may be impacted by your project, and the importance of these cultural resources to the Native American peoples that have occupied the land surrounding the area of your project for thousands of years. Unfortunately, increased development and lack of sensitivity to cultural resources has resulted in many significant cultural resources being destroyed or substantially altered and impacted. Your invitation to consult on this project is greatly appreciated.

At this time we are unaware of specific cultural resources that may be affected by the proposed project. We encourage you to contact other Native American Tribes and individuals within the immediate vicinity of the project site that may have specific information concerning cultural resources that may be located in the area. We also encourage you to contract with a monitor who is qualified in Native American cultural resources identification and who is able to be present on-site full-time during the pre-construction and construction phase of the project. Please notify us immediately should you discover any cultural resources during the development of this project.

Very truly yours,

Amanda Vance
Tribal Chairperson

SOBOBA BAND OF LUISEÑO INDIANS
EST. JUNE 19, 1883

March 21, 2018

Attn: Scott Mattingly, M.A., RPA
Principal Investigator/Senior Archaeologist
Birdseye Planning Group
32030 Corte Albano
Temecula, CA 92592

RE: Plot Plan Number 26240 – southeast corner of SR 74 and Amanda Avenue (APNs 458-103-001, 458-103-002) – Community of Winchester, Riverside County, CA

The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. The information provided to us on said project has been assessed through our Cultural Resource Department, where it was concluded that although it is outside the existing reservation, the project area does fall within the bounds of our Tribal Traditional Use Areas. This project location is in proximity to known sites, is a shared use area that was used in ongoing trade between the tribes, and is considered to be culturally sensitive by the people of Soboba.

Soboba Band of Luiseño Indians is requesting the following:

1. To initiate a consultation with the project proponents and lead agency.

2. The transfer of information to the Soboba Band of Luiseno Indians regarding the progress of this project should be done as soon as new developments occur.

3. Soboba Band of Luiseño Indians continues to act as a consulting tribal entity for this project.

4. Working in and around traditional use areas intensifies the possibility of encountering cultural resources during the construction/excavation phase. For this reason the Soboba Band of Luiseño Indians requests that Native American Monitor(s) from the Soboba Band of Luiseño Indians Cultural Resource Department to be present during any ground disturbing proceedings. Including surveys and archaeological testing.

5. Request that proper procedures be taken and requests of the tribe be honored (Please see the attachment)

Multiple areas of potential impact were identified during an in-house database search. Specifics to be discussed in consultation with the lead agency.

Sincerely,

Joseph Ontiveros, Tribal Historic Preservation Officer
Soboba Band of Luiseño Indians
P.O. Box 487
San Jacinto, CA 92581
Phone (951) 654-5544 ext. 4137
Cell (951) 663-5279
jontiveros@soboba-nsn.gov

Cultural Items (Artifacts). Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer should agree to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. Where appropriate and agreed upon in advance, Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.

The Developer should waive any and all claims to ownership of Native American ceremonial and cultural artifacts that may be found on the Project site. Upon completion of authorized and mandatory archeological analysis, the Developer should return said artifacts to the Soboba Band within a reasonable time period agreed to by the Parties and not to exceed (30) days from the initial recovery of the items.

Treatment and Disposition of Remains.

A. The Soboba Band shall be allowed, under California Public Resources Code § 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and grave goods shall be treated and disposed of with appropriate dignity.

B. The Soboba Band, as MLD, shall complete its inspection within twenty-four (24) hours of receiving notification from either the Developer or the NAHC, as required by California Public Resources Code § 5097.98 (a). The Parties agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes.

C. Reburial of human remains shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The Soboba Band, as the MLD in consultation with the Developer, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains.

D. All parties are aware that the Soboba Band may wish to rebury the human remains and associated ceremonial and cultural items (artifacts) on or near, the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The Developer should accommodate on-site reburial in a location mutually agreed upon by the Parties.

E. The term "human remains" encompasses more than human bones because the Soboba Band's traditions periodically necessitated the ceremonial burning of human remains. Grave goods are those artifacts associated with any human remains. These items, and other funerary remnants and their ashes are to be treated in the same manner as human bone fragments or bones that remain intact

Coordination with County Coroner's Office. The Lead Agencies and the Developer should immediately contact both the Coroner and the Soboba Band in the event that any human remains are discovered during implementation of the Project. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code § 7050.5 (c).

Non-Disclosure of Location Reburials. It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code § 6254 (r). Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer agrees to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. Where appropriate and agreed upon in advance, Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.

Confidentiality: The entirety of the contents of this letter shall remain confidential between Soboba and Birdseye Planning Group. No part of the contents of this letter may be shared, copied, or utilized in any way with any other individual, entity, municipality, or tribe, whatsoever, without the expressed written permission of the Soboba Band of Luiseño Indians.

03-006-2018-008

March 26, 2018

[VIA EMAIL TO:scottamattingly@gmail.com]
Birdseye Planning Group
Mr. Scott Mattingly
32030 Corte Albano
Temecula, CA 92592

Re: Plot Plan Number 26240 in the Community of Winchester

Dear Mr. Scott Mattingly,

The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the PP 26240 project. The project area is not located within the boundaries of the ACBCI Reservation. However, it is within the Tribe's Traditional Use Area. For this reason, the ACBCI THPO requests the following:

*At this time ACBCI defers to Soboba. This letter shall conclude our consultation efforts.

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760)699-6829. You may also email me at ACBCI-THPO@aguacaliente.net.

Cordially,

Katie Croft

Katie Croft
Cultural Resources Manager
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

Appendix D

Level of Significance Checklist

Attachment F-6

LEVEL OF SIGNIFICANCE CHECKLIST
For Archaeological Resources
(Must be attached to report)

APN:458-103-001, 458-103-002	Project No: Change of Zone 07932		EA Number:
☐ Potentially Significant Impact	☐ Less than Significant With Mitigation Incorporated	☐ Less than Significant Impact	X No Impact

(Check the level of significance that applies)

Historic Resources

Would the project:

a) Alter or destroy a historic site? No

b) Cause a substantial adverse change in the significance of a historical resource as defined in California Code of Regulations §15064.5? No

c) Is the resource listed in, or determined to be eligible by the State Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code §5024.1)? No

Findings of Fact: N/A
Proposed Mitigation: None
Monitoring: None

Archaeological Resources

Would the project:

a) Alter or destroy an archaeological site? No

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations §15064.5? No

c) Disturb and human remains, including those interred outside of formal cemeteries? No

d) Restrict existing religious or sacred uses within the potential impact area? No

Findings of Fact: N/A

Proposed Mitigation: None
Monitoring Proposed: None

Prepared By: Scott Mattingly, RPA ________________ Date: 3/26/2018

County Use Only

Received By:________________________ Date: ________________

PD-A#________________ Related Case#________________