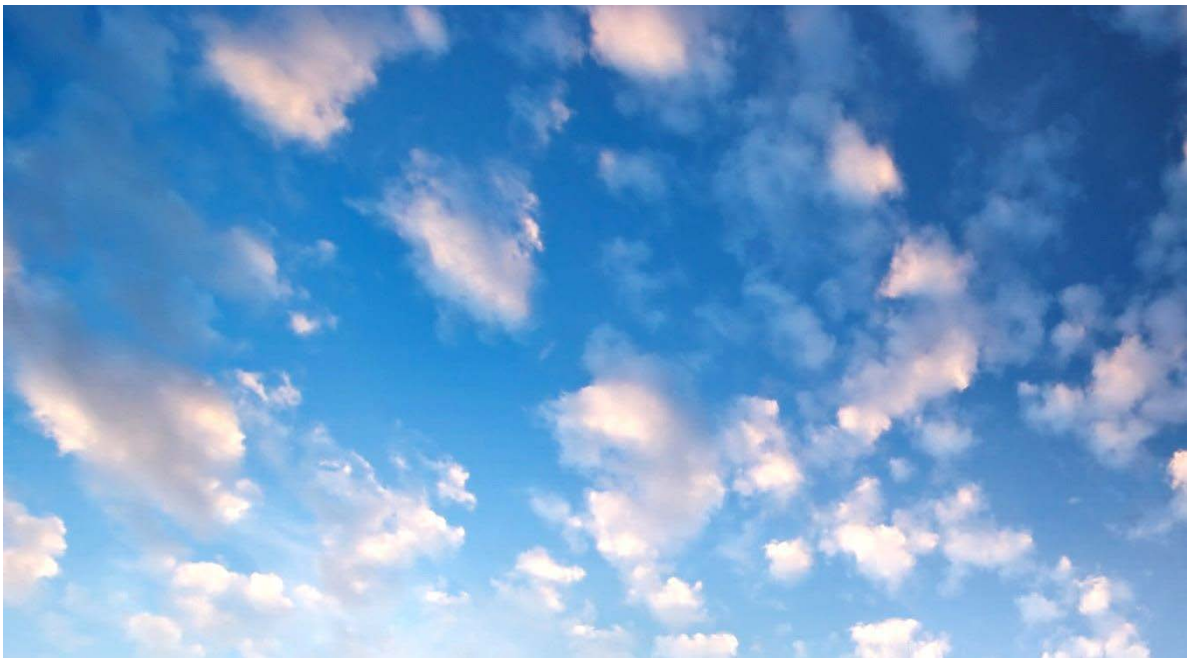

Autumn Care Residential Facility Project

Air Quality and Greenhouse Gas Study

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December 2017
Revised March 2018

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1 Project Description

1.1 Introduction

This study analyzes the potential air quality and greenhouse gas (GHG) impacts of the proposed Autumn Care Senior Residential Facility (project) in Huntington Beach, California. Rincon Consultants, Inc. prepared this study under contract to AMG & Associates, LLC, for use by the City of Huntington Beach, in support of the environmental documentation being prepared pursuant to the California Environmental Quality Act (CEQA). The purpose of this study is to analyze the project's air quality and GHG impacts related to both temporary construction activity and long-term operation of the project. The analysis herein is based partially on the Traffic Impact Assessment (TIA) prepared by LSA Associates, Inc. (2016).

1.2 Project Description

The project site encompasses approximately 0.68 acres, located at 19101 Garfield Avenue in the City of Huntington Beach, California. The site is bordered by commercial development to the north and east, with Garfield Avenue located further north and Brookhurst Street located further east. The project site is bordered by a senior residential living development (Brookfield Manor) to the west and commercial and residential uses to the south. The project would be infill development and the site is currently vacant.

The project would involve the construction of a two-story above ground senior residential care facility with 77 beds in 44 rooms on three parcels (Assessor Parcel Numbers (APN): 153-201-24, 153-201-26, and 153-201-27). The project would also include 38 vehicular parking spaces, most of which would be located in a subterranean parking garage. To complete the subterranean parking garage, approximately 6,672[1] cubic yards (cy) of material would be exported off-site. The first floor building footprint would be approximately 14,298 square feet (sf) and the total building area would be approximately 41,499 sf, including the subterranean parking garage. As part of the project, there would be an activity center, dining and kitchen areas, and medical facility on the first floor with a beauty salon, gym, library/computer room, and a living room on the second floor. The project would also include approximately 15,000 sf of open space and an 867 sf covered patio.

[1] ((11 ft (height of subterranean parking garage) x 16,377 (area of subterranean parking garage))/27 (conversion factor from cubic feet (cf) to cy)) = 6,672.1

2 Air Quality

2.1 Background

Local Climate and Meteorology

The project is located in the South Coast Air Basin (SCAB), which is bound by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The regional climate in the SCAB is semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. Air quality in the SCAB is primarily influenced by meteorology and a wide range of emissions sources, such as dense population centers, substantial vehicular traffic, and industry.

Air pollutant emissions in the SCAB are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

Air Quality Regulation

The federal and state governments have established ambient air quality standards for the protection of public health. The United States Environmental Protection Agency (U.S. EPA) is the federal agency designated to administer air quality regulation, while the California Air Resources Board (ARB) is the state equivalent in the California EPA. County-level Air Pollution Control Districts (APCDs) provide local management of air quality. The ARB has established air quality standards and is responsible for the control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The ARB has established 14 air basins statewide.

The U.S. EPA has set primary national ambient air quality standards (NAAQS) for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$, and lead (Pb). Primary standards are those levels of air quality deemed necessary, with an adequate margin of safety, to protect public health. In addition, the State of California has established health-based ambient air quality standards for these and other pollutants, some of which are more stringent than the federal standards. Table 1 lists the current federal and state standards for regulated pollutants.

The South Coast Air Quality Management District (SCAQMD) is the designated air quality control agency in the SCAB. The SCAB is designated nonattainment for the federal and state one-hour and

eight-hour ozone standards, the federal and state PM_{10} standards, the federal 24-hour $PM_{2.5}$ standard, and the state and federal annual $PM_{2.5}$ standard. The SCAB is in attainment of all other federal and state standards. Characteristics of ozone, CO, NO_2, and suspended particulates are described in Table 1 below.

Table 1 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone	1-Hour	---	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.100 ppm	0.18 ppm
Sulfur Dioxide	Annual	---	---
	24-Hour	---	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM_{10}	Annual	---	20 $\mu g/m^3$
	24-Hour	150 $\mu g/m^3$	50 $\mu g/m^3$
PM_{25}	Annual	12 $\mu g/m^3$	12 $\mu g/m^3$
	24-Hour	35 $\mu g/m^3$	---
Lead	30-Day Average	---	1.5 $\mu g/m^3$
	3-Month Average	0.15 $\mu g/m^3$	---

ppm = parts per million;
$\mu g/m^3$ = micrograms per cubic meter
Source: Ambient Air Quality Standards (ARB 2016).

Ozone

Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_X) and reactive organic gases (ROG).[2] NO_X is formed during the combustion of fuels, while reactive organic gases are formed during combustion and evaporation of organic solvents. Because O_3 requires sunlight to form, it mostly occurs in substantial concentrations 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 O_3 include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

[2] 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). SCAQMD uses the term VOC to denote organic precursors.

Carbon Monoxide

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

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. NO_2 absorbs blue light and causes a reddish brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of ozone/smog and acid rain.

Suspended Particulates

Atmospheric particulate matter is comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. The particulates that are of particular concern are PM_{10} (which measures no more than 10 microns in diameter) and $PM_{2.5}$, (a fine particulate measuring no more than 2.5 microns in diameter). The characteristics, sources, and potential health effects associated with the small particulates (PM_{10} and $PM_{2.5}$) and $PM_{2.5}$ can be different. Major man-made sources of PM_{10} are agricultural operations, industrial processes, combustion of fossil fuels, construction, demolition operations, and entrainment of road dust into the atmosphere. Natural sources include windblown dust, wildfire smoke, and sea spray salt. The finer, $PM_{2.5}$ particulates are generally associated with combustion processes as well as being formed in the atmosphere as a secondary pollutant through chemical reactions. $PM_{2.5}$ is more likely to penetrate deeply into the lungs and poses a serious 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, which can cause permanent lung damage. 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.

Current Air Quality

The SCAQMD operates a network of air quality monitoring stations throughout the SCAB. The purpose of the monitoring stations is to measure ambient concentrations of pollutants and determine whether ambient air quality meets the California and federal standards. The monitoring station located closest to the project is the Costa Mesa-Mesa Verde Drive station, located at 2850 Mesa Verde Drive East, Costa Mesa, approximately two miles southeast of the project site. Table 2 indicates the number of days that each of the standards has been exceeded at the Costa Mesa station. However, this station does not monitor PM emissions; therefore, data for PM emissions were obtained from the Anaheim-Pampas Lane monitoring station located approximately ten miles northeast of the project site at 1630 West Pampas Lane, Anaheim.

Table 2 Ambient Air Quality at the Monitoring Station

Pollutant	2014	2015	2016
8 Hour Ozone (ppm), 8-Hr Maximum	0.079	0.079	0.069
Number of Days of State exceedances (>0.070)	6	2	0
Number of days of Federal exceedances (>0.070)	6	2	0
Ozone (ppm), Worst Hour	0.096	0.099	0.090
Number of days of State exceedances (>0.09 ppm)	1	1	0
Number of days of Federal exceedances (>0.112 ppm)	0	0	0
Nitrogen Dioxide (ppb) - Worst Hour	60.6	52.4	59.8
Number of days of State exceedances (>0.18 ppm)	0	0	0
Number of days of Federal exceedances (0.10 ppm)	0	0	0
Particulate Matter 10 microns, $\mu g/m^3$, Worst 24 Hours[1]	85.0	59.0	74.0
Number of days above Federal standard (>150 $\mu g/m^3$)	0	0	0
Particulate Matter <2.5 microns, $\mu g/m^3$, Worst 24 Hours[1]	45.0	45.8	44.4
Number of days above Federal standard (>35 $\mu g/m^3$)	4	3	1

Source: ARB 2017

Costa Mesa-Mesa Verde Drive Monitoring Station unless otherwise noted.

[1]Anaheim-Pampas Lane monitoring station data

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 nonattainment. Every 3 years, the SCAQMD prepares a new Air Quality Management Plan (AQMP), which updates the previous plan and has a 20-year horizon. The SCAQMD adopted the Final 2016 AQMP on March 7, 2017 and forwarded it to the ARB for review. The 2016 AQMP includes the new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches. The SCAQMD's 2016 AQMP is a comprehensive and integrated plan primarily focused on addressing the ozone standards and were developed through a collaborative regional and multi-agency effort (SCAQMD, ARB, Southern California Association of Governments [SCAG], and U.S. EPA). State and federal planning requirements include developing control strategies, attainment demonstrations, reasonable further progress, and maintenance plans. The 2016 AQMP incorporates the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and updated emission inventory methodologies for various source categories.

Sensitive Receptors

Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with a margin of safety, to protect public health and welfare. They are designed to protect 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 majority of sensitive receptor locations are therefore, schools, hospitals, and residences. The sensitive receptor closest to the project site is the senior residential living development located directly adjacent to the west. Additional residential units are located approximately 150 feet south of the project site and 320 feet north of the project site, across Garfield Avenue.

2.2 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 the project. Project construction would generate diesel emissions and dust. Construction equipment that would generate criteria air pollutants includes excavators, graders, cranes, dump trucks, and loaders. Some of this equipment would be used during grading activities as well as during building construction. It is assumed that all construction equipment used would be diesel-powered. The project's construction emissions were calculated using the California Emissions Estimator Model (CalEEMod) software version 2016.3.1 using model defaults for the types and number of pieces of equipment that would be used onsite during each of the construction phases.

Operational emissions were also estimated using CalEEMod. Operational emissions include mobile source emissions, energy emissions, and area source emissions. Mobile source emissions are generated by the increase in motor vehicle trips to and from the project associated with operation of onsite development. Proposed project traffic generation rates from the TIA prepared by LSA (2016) were used for the traffic analysis in order to provide a conservative estimate of the potential traffic generation emissions. Emissions attributed to energy use include natural gas consumption for space and water heating. Area source emissions are generated by landscape maintenance equipment, consumer products, and architectural coating.

Regional Thresholds

To determine whether a project would have a significant impact to air quality, Appendix G of the CEQA Guidelines questions whether a project would:

1) Conflict with or obstruct implementation of the applicable air quality plan
2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation
3) 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)
4) Expose sensitive receptors to substantial pollutant concentrations
5) Create objectionable odors affecting a substantial number of people

The SCAQMD recommends the following quantitative regional significance thresholds for temporary construction activities and long-term project operation within the SCAB:

Construction Thresholds	Operational Thresholds
75 pounds per day of ROG	55 pounds per day of ROG
100 pounds per day of NO_X	55 pounds per day of NO_X
550 pounds per day of CO	550 pounds per day of CO
150 pounds per day of SO_X	150 pounds per day of SO_X
150 pounds per day of PM_{10}	150 pounds per day of PM_{10}
55 pounds per day of $PM_{2.5}$	55 pounds per day of $PM_{2.5}$

Localized Significance Thresholds

In addition to the above thresholds, the SCAQMD has developed Localized Significance Thresholds (LST) in response to the Governing Board's Environmental Justice Enhancement Initiative (1-4), which was prepared to update the CEQA Air Quality Handbook. 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. 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 (SCAQMD 2008). As such, LSTs for operational emissions do not apply to onsite development, as the majority of emissions would be generated by cars on the roadways.

LSTs have been developed for emissions within construction areas up to five acres in size. The SCAQMD provides lookup tables for project sites that measure up to one, two, or five acres. The project site is approximately 0.68 acres and is located in Source Receptor Area 18 (SRA-18) (SCAQMD 2008). LSTs for construction on a site less than one-acre in SRA-18 are shown in Table 3. LSTs are provided for receptors at a distance of 82 to 1,640 feet (25 to 500 meters) from the project site boundary. As described above, the sensitive receptor closest to the project site is the senior residential living development immediately adjacent to the west of the site. According to the SCAQMD's publication Final Localized Significance Thresholds Methodology, projects with boundaries located closer than 82 feet to the nearest receptor should use the LSTs for receptors located at 82 feet.

Table 3 SCAQMD LSTs for Construction (SRA-18)

Pollutant	Allowable emissions from a 1 -acre site in SRA-18 for a receptor 82 feet away
Gradual conversion of NO_X to NO_2	92
CO	647
PM_{10}	4
$PM_{2.5}$	3

Source: SCAQMD, October 2009, http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2

Regulatory Requirements

Project development would comply with all applicable regulatory standards. In particular, project development would comply with 2016 CALGreen Code, in addition to SCAQMD Rules 403, fugitive dust, and 1113, architectural coating, and all other applicable SCAQMD rules. Rules 403 and 1113 were added as "mitigation" in CalEEMod, as discussed below.

The grading phase involves the greatest amount of heavy equipment and the greatest generation of fugitive dust. For the purposes of construction emissions modeling, it was assumed that the project would comply with SCAQMD Rule 403, which identifies measures to reduce fugitive dust and is required to be implemented at all construction sites located in the SCAB. Therefore, the following conditions, which would be required to reduce fugitive dust in compliance with SCAQMD Rule 403, were included in CalEEMod for the 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 onsite 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 onsite 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.

The architectural coating phase involves the greatest release of ROG. The emissions modeling for the project also includes the use of low-VOC paint (50 grams per liter (g/L) for non-flat coatings) as required by SCAQMD Rule 1113.

Local Regulations

The City of Huntington Beach 2017 General Plan Environmental Resources and Conservation Element contains the following goal and related policies specific to air quality (Huntington Beach, City of 2017a):

> **Goal ERC-4:** Air quality in Huntington Beach continues to improve through local actions and interagency cooperation.

Policy A Continue to cooperate with the South Coast Air Quality Management District and other regional, state, and national agencies to enforce air quality standards and improve air quality.

Policy B Continue to require construction projects to carry out best available air quality mitigation practices, including use of alternative fuel vehicles and equipment as feasible.

Policy C Enforce maximum idling time regulations for off-road equipment.

Policy D Require grading, landscaping, and construction activities to minimize dust while using as little water as possible.

Policy E Continue to explore and implement strategies to minimize vehicle idling, including traffic signal synchronization and roundabouts.

Policy F Minimize exposure of sensitive land uses to toxic air contaminants by locating new pollutant sources away from sensitive uses and disproportionately affected communities and by encouraging existing pollutant sources to reduce emissions when changes to existing operations or permits are proposed.

Construction Impacts

Table 4 summarizes maximum daily emissions of pollutants associated with buildout of the proposed project. Maximum daily estimates account for compliance with SCAQMD requirements, but do not include any additional mitigation. Emissions of CO, PM_{10}, $PM_{2.5}$, NO_X, and ROG would not exceed SCAQMD regional thresholds, assuming adherence to the conditions listed above required by SCAQMD Rule 403 and Rule 1113.

Table 4 Estimated Construction Emissions

	Maximum Emissions[1] (lbs/day)					
Construction Year	**ROG**	**NO_x**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Maximum lbs/day	5.9	47.9	23.9	0.1	3.9	2.1
SCAQMD Thresholds	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No
Maximum Onsite lbs/day	3.5	11.0	7.8	0.1	1.0	0.8
Local Significance Threshold	NA	92	647	NA	4	3
Threshold Exceeded?	No	No	No	No	No	No

Notes: All calculations were made using CalEEMod. See Appendix A for calculations. Demolition, Grading, Paving, Building Construction and Architectural Coating totals include worker trips, soil export hauling trips, construction vehicle emissions and fugitive dust. Emission data is pulled from "mitigated" results that include compliance with regulations and project design features that will be included in the project.

[1] Grading phases incorporate anticipated emissions reductions, which are required by SCAQMD Rule 403 to reduce fugitive dust. The architectural coating phases incorporate anticipated emissions reductions, which are required by Rule 1113.

Long-Term Regional Impacts

AQMP Consistency

A project may be inconsistent with the AQMP if it would generate population, housing, or employment growth exceeding the 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 SCAG 2016 RTP socioeconomic forecast projections of regional population, housing, and employment growth.

The proposed project involves the construction of a senior residential development, which could cause a direct increase in the City's housing, population, and employment. According to data provided by the California Department of Finance (DOF), the estimated population of the City of Huntington Beach is 197,574 and the average persons per household is 2.59 (DOF 2017); however, the average person per household rate would not apply to the project because it has a set number of beds for residents that it can accommodate. Because the project would involve the construction of 44 dwelling units with 77 beds, it could potentially add 77 residents. SCAG forecasts that the population of Huntington Beach will increase by 13,900 new residents between 2012 and 2040, for a total of 207,100 residents in 2040 (SCAG 2016a). The addition of 77 new residents to the City would equal 0.6 percent of the City's total projected population growth through 2040. The level of population growth associated with the project was anticipated in SCAG's long-term population forecasts and would not exceed official regional population projections.

Likewise, based on SCAG estimates, there were approximately 74,900 dwelling units in Huntington Beach in 2012, with a projected increase of approximately 6,300 units through 2040, for a total of 81,200 units. The increase of 44 units associated with the proposed project would represent an increase of approximately 0.7 percent. Because this housing increase would be within SCAG's projected 2040 growth for the City of Huntington Beach, housing growth generated by the project would be consistent with the AQMP.

The employment projection for 2040 is 87,000 and in 2012 there were approximately 75,800 employees based on SCAG forecasts, which represents an increase of 11,200 employees. According to SCAG's Employment Density Study (2001), the employment density factor for "special care facilities" in Orange County is 32.24 employees per acre. Development of a 0.68 acre senior residential care facility would generate approximately 22 new employees (0.68 x 32.24 = 21.9). This would represent an increase of approximately 0.2 percent of the projected 2040 increase. Because this employment increase would be within SCAG's projected 2040 employment growth for the City of Huntington Beach, employment growth generated by the project would be consistent with the AQMP. Therefore, the project would not generate growth beyond AQMP forecasts and the project would be consistent with the AQMP.

Operational Air Pollutant Emissions

Table 5 summarizes estimated emissions associated with operation of the proposed project. The majority of project-related operational emissions would be due to area emissions and vehicle trips to and from the site. Daily trip generation rates from the Traffic Impact Assessment prepared by LSA (2016) were used to calculate the mobile emissions associated with the project. Based on the daily trip generation, the project is estimated to result in 202 trips per day and approximately 690,128 annual vehicle miles traveled. Emissions would not exceed SCAQMD thresholds for any criteria pollutant.

Table 5 Estimated Operational Emissions

	Estimated Emissions (lbs/day)					
Emissions Source	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Area	0.7	0.7	3.9	<0.1	0.1	0.1
Energy	<0.1	0.1	0.1	<0.1	<0.1	<0.1
Mobile	0.4	1.6	5.1	<0.1	1.5	0.4
Project Total	1.1	2.4	9.1	<0.1	1.6	0.5
SCAQMD Thresholds	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

See Appendix A for CalEEMod computer model output. Note: Numbers may not add due to rounding.
Maximum emissions occurred during Winter for NO_X, PM_{10}, and $PM_{2.5}$
Maximum emissions occurred during Summer for ROG, CO, and SO_X

Local Carbon Monoxide Concentration

Areas with high vehicle density, such as congested intersections, have the potential to create high concentrations of CO, known as CO hotspots. A project's localized air quality impact is considered significant if CO emissions create a hotspot where either the California one-hour standard of 20 ppm or the federal and State eight-hour standard of 9.0 ppm is exceeded. This typically occurs at severely congested intersections (level of service [LOS] E or worse). As shown in Table 5, CO emissions that would be generated from buildout of the project would not exceed SCAQMD thresholds. Further, CO levels at the closest air quality monitoring station, the Costa Mesa – Mesa Verde Drive station, have consistently been substantially below the state and federal standards (ARB 2017). Because

background CO concentrations are low and the project would not generate CO emissions above thresholds, the project would not result in the creation of CO hotspots or expose sensitive receptors to substantial pollutant concentrations.

Odors

The *1993 SCAQMD CEQA Air Quality Handbook* identifies land uses associated with odor complaints. These land uses include: agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding facilities. Residential uses are not identified as land uses associated with odor complaints in the 1993 SCAQMD CEQA Air Quality Handbook. Therefore, the proposed project would generate objectionable odors affecting a substantial number of people.

Toxic Air Contaminants (TACs)

The ARB's *Quality and Land Use Handbook: A Community Health Perspective* (2005) recommends against siting sensitive receptors within 500 feet of a freeway, or near other major sources of toxic air contaminants (TACs), such as rail yards, distribution centers, ports, or refineries. The primary concern with respect to freeway adjacency is the long-term effect of diesel exhaust particulates, a TAC, on sensitive receptors. The primary source of diesel exhaust particulates is heavy-duty trucks on freeways and high-volume arterial roadways. The project site is located approximately one mile from Interstate 405, and there are no rail yards, distribution centers, ports, refineries, or other major sources of TACs in the vicinity. Although the project would be a sensitive receptor, the project site is not located near TAC sources that would result in substantial health risks to future residents or employees.

3 Greenhouse Gases

3.1 Background

This section analyzes GHG emissions associated with the project and potential impacts related to climate change.

Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. Per the United Nations Intergovernmental Panel on Climate Change (IPCC 2014), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-20th century (IPCC 2014).

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHG). 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 GHG because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

Both natural processes and human activities emit GHGs. $CO_2$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. Observations of CO_2 concentrations, globally-averaged temperature, and sea level rise are generally well within the range of the extent of the earlier IPCC projections. The recently observed increases in CH_4 and N_2O concentrations are smaller than those assumed in the scenarios in the previous assessments. Each IPCC assessment has used new projections of future climate change that have become more detailed as the models have become more advanced.

Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6 (CalEPA 2006). Different types of GHGs have varying global warming potentials (GWP). 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 GHG 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. CO_2 has a 100-year GWP of one. By contrast, CH_4 has a GWP of 25, meaning its global warming effect is 25 times greater than CO_2 on a molecule per molecule basis (IPCC 2007).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHGs, Earth's surface would be about 34° C cooler (CalEPA 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Greenhouse Gas Emissions Inventory

Worldwide anthropogenic emissions of GHG were approximately 46,000 million metric tons (MMT, or gigatonne) of CO_2e in 2010 (IPCC 2014). CO_2 emissions from fossil fuel combustion and industrial processes contributed about 65 percent of total emissions in 2010. Of anthropogenic GHGs, CO_2 was the most abundant accounting for 76 percent of total 2010 emissions. CH_4 emissions accounted for 16 percent of the 2010 total, while N_2O and fluorinated gases account for 6 and 2 percent respectively (IPCC 2014).

Total U.S. GHG emissions were 6,586.7 million metric tons (MMT or gigatonne) CO_2e in 2015 (U.S. EPA 2017). Total U.S. emissions have increased by 3.5 percent since 1990; emissions decreased by 2.3 percent from 2014 to 2015 (U.S. EPA 2017). The decrease from 2014 to 2015 was a result of multiple factors, including: (1) substitution from coal to natural gas consumption in the electric power sector; (2) warmer winter conditions in 2015 resulting in a decreased demand for heating fuel in the residential and commercial sectors; and (3) a slight decrease in electricity demand (U.S. EPA 2017). Since 1990, U.S. emissions have increased at an average annual rate of 0.2 percent. In 2015, the industrial and transportation end-use sectors accounted for 29 percent and 27 percent of CO_2 emissions (with electricity-related emissions distributed), respectively. Meanwhile, the residential and commercial end-use sectors accounted for 16 percent and 17 percent of CO_2 emissions, respectively (U.S. EPA 2017).

Based upon the California Air Resources Board (ARB) California Greenhouse Gas Inventory for 2000-2015, California produced 440.4 MMT CO2e in 2015 (ARB 2017). The major source of GHG in California is transportation, contributing 39 percent of the state's total GHG emissions. Industrial sources are the second largest source of the state's GHG emissions (ARB 2017). California emissions are due in part to its large 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 will be 509.4 MMT CO2e (ARB 2014). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air, land, and water temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Long-term trends have found that each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the

warmest. The global combined land and ocean temperature data show an increase of about 0.89°C (0.69°C–1.08°C) over the period 1901–2012 and about 0.72°C (0.49°C–0.89°C) over the period 1951–2012 when described by a linear trend. Several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations are in agreement that LSAT, as well as sea surface temperatures, has increased. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014).

According to the CalEPA's 2010 Climate Action Team Biennial Report, potential impacts of climate change in California may include decreased snow pack, sea level rise, and increase in extreme heat days per year, high ground-level O_3 days, large forest fires, and drought (CalEPA 2010). Below is a summary of some of the potential impacts that could be experienced in California as a result of climate change.

Air Quality

Higher temperatures, which are conducive to air pollution formation, could worsen air quality in many areas of California. Climate change may increase the concentration of ground-level O_3, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (CEC 2009).

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future water supplies in California. However, the average early spring snowpack in the Sierra Nevada decreased by about 10 percent during the last century, a loss of 1.5 million acre-feet of snowpack storage. During the same period, sea level rose eight inches along California's coast. California's temperature has risen 1°F, mostly at night and during the winter, with higher elevations experiencing the highest increase. Many Southern California cities have experienced their lowest recorded annual precipitation twice within the past decade. In a span of only two years, Los Angeles experienced both its driest and wettest years on record (DWR 2008; CCCC 2009).

This uncertainty complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The Sierra snowpack provides the majority of California's water supply by accumulating snow during the state's wet winters and releasing it slowly during the state's dry springs and summers. Based upon historical data and modeling DWR projects that the Sierra snowpack will experience a 25 to 40 percent reduction from its historic average by 2050. Climate change is also anticipated to bring warmer storms that result in less snowfall at lower elevations, reducing the total snowpack (DWR 2008).

Hydrology and Sea Level Rise

As discussed above, climate change could potentially affect: the amount of snowfall, rainfall, and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. According to The Impacts of Sea-Level Rise on the California Coast, prepared by the CCCC (CCCC 2009), climate change has the potential to induce substantial sea level rise in the coming century. The rising sea level increases the likelihood and risk of flooding. The rate of increase of global mean sea levels over the 2001-2010 decade, as observed by satellites, ocean buoys and land gauges, was approximately 3.2 mm per year, which is double the observed 20th century trend of 1.6 mm per year (WMO 2013). As a result, sea levels averaged over the last decade were about 8 inches higher than those of 1880 (WMO 2013). Sea levels are rising faster now than in the previous two millennia, and the rise is expected to accelerate, even with robust GHG emission control measures. The most recent IPCC report (2013) predicts a mean sea–level rise of 11-38 inches by 2100. This prediction is more than 50 percent higher than earlier projections of 7-23 inches, when comparing the same emissions scenarios and time periods. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply due to salt water intrusion. In addition, increased CO_2 emissions can cause oceans to acidify due to the carbonic acid it forms. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture

California has a $30 billion annual agricultural industry that produces half of the country's fruits and vegetables. Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater air pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (CCCC 2006).

Ecosystems and Wildlife

Climate change and the potential resulting changes in weather patterns could have ecological effects on the local and global levels. Increasing concentrations of GHGs are likely to accelerate the rate and severity of climate change impacts. Scientists project that the average global surface temperature could rise by 1.0-4.5°F (0.6-2.5°C) in the next 50 years, and 2.2-10°F (1.4-5.8°C) during the next century, with substantial regional variation. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes, such as carbon cycling and storage (Parmesan 2006).

Regulatory Setting

The following regulations address both climate change and GHG emissions.

Federal Regulations

The United States Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al*. ([2007] 549 U.S. 05-1120) held that the U.S. EPA has the authority to regulate tail pipe emissions

from motor-vehicles under the federal Clean Air Act.

The U.S. EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. The first annual reports for these sources were due in March 2011.

On May 13, 2010, the U.S. EPA issued a Final Rule that took effect on January 2, 2011, setting a threshold of 75,000 tons of CO_2e per year for GHG emissions. New and existing industrial facilities that meet or exceed that threshold will require a permit after that date. On November 10, 2010, the U.S. EPA published the "PSD and Title V Permitting Guidance for Greenhouse Gases." The U.S. EPA's guidance document is directed at state agencies responsible for air pollution permits under the Federal Clean Air Act to help them understand how to implement GHG reduction requirements while mitigating costs for industry. It is expected that most states will use the U.S. EPA's new guidelines when processing new air pollution permits for power plants, oil refineries, cement manufacturing, and other large pollution point sources.

On January 2, 2011, the U.S. EPA implemented the first phase of the Tailoring Rule for GHG emissions Title V Permitting. Under the first phase of the Tailoring Rule, all new sources of emissions are subject to GHG Title V permitting if they are otherwise subject to Title V for another air pollutant and they emit at least 75,000 tons of CO_2e per year. Under Phase 1, no sources were required to obtain a Title V permit solely due to GHG emissions. Phase 2 of the Tailoring Rule went into effect July 1, 2011. At that time new sources were subject to GHG Title V permitting if the source emits 100,000 tons of CO_2e per year, or they are otherwise subject to Title V permitting for another pollutant and emit at least 75,000 tons of CO_2e per year.

On July 3, 2012 the U.S. EPA issued the final rule that retains the GHG permitting thresholds that were established in Phases 1 and 2 of the GHG Tailoring Rule. These emission thresholds determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

In 2014, the U.S. Supreme Court in *Utility Air Regulatory Group v. EPA* (134 S. Ct. 2427 [2014]) held that U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also held that PSD permits that are otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of Best Available Control Technology (BACT).

California Regulations

The ARB is responsible for the coordination and oversight of State and local air pollution control programs in California. California has a numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires ARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, U.S. EPA granted the waiver of Clean Air Act preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" will cover 2017 to 2025. Fleet average emission standards would reach 22 percent reduction from 2009 levels by 2012 and 30 percent by 2016. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles (LEV), Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would

provide major reductions in GHG emissions. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (ARB 2011).

In 2005, the governor issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent below 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 identified a recommended list of strategies that the state could pursue to reduce GHG emissions. These are strategies that 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, etc. In April 2015, the governor issued EO B-30-15, calling for a new target of 40 percent below 1990 levels by 2030.

California's major initiative for reducing GHG emissions is outlined in Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006," signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels; the same requirement as under S-3-05), and requires ARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires ARB to adopt regulations to require reporting and verification of statewide GHG emissions.

After completing a comprehensive review and update process, ARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT of CO_2e. The Scoping Plan was approved by ARB on December 11, 2008, and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since approval of the Scoping Plan. Implementation activities are ongoing and ARB is currently the process of updating the Scoping Plan.

In May 2014, ARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan update defines ARB's climate change priorities for the next five years and sets the groundwork to reach post-2020 goals set forth in EO S-3-05. The update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluates how to align the State's longer-term GHG reduction strategies with other State policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use (ARB 2017).

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Resources Agency (Resources Agency) adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

ARB Resolution 07-54 establishes 25,000 MT of GHG emissions as the threshold for identifying the largest stationary emission sources in California for purposes of requiring the annual reporting of emissions. This threshold is just over 0.005 percent of California's total inventory of GHG emissions for 2004.

Senate Bill (SB) 375, signed in August 2008, enhances the state's ability to reach AB 32 goals by directing ARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the state's 18 major Metropolitan Planning Organizations (MPO) to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the RTP. On September 23, 2010, ARB adopted final regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035.

The SCAG was assigned targets of an 8 percent reduction in GHGs from transportation sources by 2020 and a 13 percent reduction in GHGs from transportation sources by 2035. In the SCAG region, SB 375 also provides the option for the coordinated development of subregional plans by the subregional councils of governments and the county transportation commissions to meet SB 375 requirements.

In April 2011, the governor signed SB 2X, requiring California to generate 33 percent of its electricity from renewable energy by 2020.

On September 8, 2016, the governor signed SB 32 into law, requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030. SB 32 is an extension of AB 32. The other provisions of AB 32 remain unchanged. ARB is currently working to update the Scoping Plan to provide a framework for achieving the 2030 target. The updated Scoping Plan is expected to be completed and adopted by the ARB in 2017 (ARB 2017).

For more information on the Senate and Assembly Bills, Executive Orders, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

California Environmental Quality Act

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, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, a variety of air districts have adopted quantitative significance thresholds for GHGs.

Regional Regulations

As discussed above, SB 375 requires MPOs to prepare an RTP/SCS that will achieve regional emission reductions through sustainable transportation and growth strategies. On September 23, 2010, the ARB adopted final regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. SCAG was assigned targets of an 8 percent reduction in GHGs from transportation sources by 2020 and a 13 percent reduction in GHGs from transportation sources by 2035. Most recently, SCAG adopted the 2016-2040 RTP/SCS on April 7, 2016. It includes a number of strategies and objectives to encourage transit-oriented and infill development and use of alternative transportation to minimize vehicle use.

Local Regulations

The City of Huntington Beach has a voluntary Greenhouse Gas Reduction Program (GGRP) which was included as part of the General Plan Update (Appendix G of the General Plan Update). The GGRP serves as the City's comprehensive approach to reduce GHG emissions within the community and establishes Huntington Beach's existing, projected, and target levels of GHG emissions, while identifying how the City can achieve target levels through a set of strategies, emphasizing actions that are voluntary, economically viable, consistent with community character, and advance the priorities of Huntington Beach residents, businesses, and visitors (Huntington Beach, City of 2017b). According to the City of Huntington Beach General Plan, the GGRP meets the requirements of a qualified GHG reduction plan, consistent with State CEQA Guidelines Section 15183.5(b). The GGRP is also supported by numerous policies and implementation actions throughout the General Plan, which help to reduce GHG emissions. Further, Huntington Beach has an Energy Action Plan that outlines the City's history and commitment to eliminating energy waste, preparing for peak oil production, and reducing GHG emissions.

The Huntington Beach General Plan includes the following goals and associated policies that are related to common sources of GHG emissions (Huntington Beach, City of 2017a):

Goal ERC-5: Greenhouse gas emissions from activities occurring in Huntington Beach are reduced to levels consistent with state goals.

Policy A By 2020, reduce community-wide greenhouse gas emissions to 15 percent below 2005 levels. By 2040, reduce greenhouse gas emissions by 53.33 percent below the 2020 target, placing the community on a path to meet the state's 2050 greenhouse gas emissions reduction goals.

Policy B Encourage oil drilling operators to implement cost-effective best practices to reduce greenhouse gas emissions associated with oil extraction.

Policy C Explore strategies to reduce greenhouse gas emissions from off-road construction and landscaping equipment.

Policy D Support efforts by the South Coast Air Quality Management District and the California Air Resources Board to decrease greenhouse gas emissions from large industrial facilities and other stationary sources.

Policy E Pursue funding sources to develop and implement programs and projects identified in the Greenhouse Gas Reduction Program.

Goal ERC-12: New buildings are increasingly energy efficient and ultimately equipped to support zero net energy performance.

Policy A Create incentives for proposed development and reuse projects to exceed the minimum energy efficiency standards established in the California Building Standards Code when constructing new or significantly renovated residential and nonresidential buildings, including achieving zero net energy performance in advance of state-level targets.

Policy B Promote the use of passive solar design techniques and technologies in new buildings to reduce energy use for heating and cooling.

Policy C Construct all new City facilities to be more energy efficient than the minimum energy efficiency standards in the California Building Standards Code, and achieve zero net energy performance for new City facilities when possible.

Goal ERC-13: Increase both distributed generation and utility renewable energy sources within municipal and community-wide practices

Policy A Encourage the use of solar energy systems in homes and commercial businesses as a form of renewable energy, including in support of zero net energy goals

Policy B Encourage renewable energy options that are affordable and benefit all community members.

Policy C Create incentives that promote renewable energy systems as a component of new development or reuse projects.

Policy D Maximize renewable energy capacity on municipal property and renewable energy use in City-sponsored projects and activities

Policy E Support opportunities to increase energy storage capacity in the community

Policy F Support Community Choice Aggregation (CCA) feasibility studies.

Policy G Support public-private partnerships on energy efficiency, energy storage, and microgrid development to achieve cost savings, reduce energy use, and improve energy reliability.

3.2 Impact Analysis

Significance Thresholds

Based on Appendix G of the State CEQA Guidelines, impacts related to GHG emissions from the 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
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be 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 (AEP 2017).

In guidance provided by the SCAQMD's GHG CEQA Significance Threshold Working Group in September 2010, SCAQMD considered a tiered approach to determine the significance of residential and commercial projects. The draft tiered approach is outlined in meeting minutes dated September 29, 2010.

Tier 1. If the project is exempt from further environmental analysis under existing statutory or categorical exemptions, there is a presumption of less than significant impacts with respect to climate change. If not, then the Tier 2 threshold should be considered.

Tier 2. Consists of determining whether or not the project is consistent with a GHG reduction plan that may be part of a local general plan, for example. The concept embodied in this tier is equivalent to the existing concept of consistency in CEQA Guidelines section 15064(h)(3), 15125(d) or 15152(a). Under this Tier, if the proposed project is consistent with the qualifying local GHG reduction plan, it is not significant for GHG emissions. If there is not an adopted plan, then a Tier 3 approach would be appropriate.

Tier 3. Establishes a screening significance threshold level to determine significance. The Working Group has provided a recommendation of 3,000 metric tons (MT) of CO_2e per year for residential/commercial projects.

Tier 4. Establishes a service population efficiency threshold to determine significance. The Working Group has provided a recommendation of 4.1 MT of CO_2e per year for plans based on statewide service population.

The proposed project is not exempt from analysis. Additionally, although the City of Huntington Beach has adopted a qualified GHG reduction plan (the GGPR), the strategies in the plan are voluntary. Therefore, while the project's consistency with relevant strategies from the GGRP are considered, the GHG emissions generated by the project were also quantified and evaluated based on the SCAQMD's recommended Tier 3 significance threshold of 3,000 MT of CO_2e per year for residential/commercial projects.

Study Methodology

This analysis is based on the methodologies recommended by the California Air Pollution Control Officers Association [CAPCOA] (2008) *CEQA and Climate Change* white paper and focuses on CO_2, N_2O, and CH_4 as these are the GHG emissions that onsite development would generate in the largest quantities.

Emissions from CO_2, CH_4, and N_2O were calculated to identify the magnitude and nature of the project's potential GHG emissions and environmental effects. The analysis focuses on CO_2, CH_4, and N_2O because these make up 98.9 percent of all GHG emissions by volume (IPCC 2007) and are the GHG emissions that the project would emit in the largest quantities. Fluorinated gases, such as HFCs, PFCs, and SF_6, were also considered for the analysis, but because the project involves residential development, the quantity of fluorinated gases would not be significant since fluorinated gases are primarily associated with industrial processes. Emissions of all GHGs are converted into their equivalent GWP in MT CO_2e. Small amounts of other GHGs (such as chlorofluorocarbons [CFCs]) would also be emitted; however, these other GHGs would not substantially add to the total GHG emissions. Calculations are based on the methodologies discussed in the CAPCOA *CEQA and Climate Change* white paper (CAPCOA 2008) and included the use of the California Climate Action Registry (CCAR) *General Reporting Protocol* (CCAR 2009). GHG emissions associated with the project were calculated using CalEEMod version 2016.3.1 (Appendix A).

Construction Emissions

Although construction activity is addressed in this analysis, CAPCOA does not discuss whether any of the suggested threshold approaches adequately address impacts from temporary construction

activity. As stated in the *CEQA and Climate Change* white paper, "more study is needed to make this assessment or to develop separate thresholds for construction activity" (CAPCOA 2008). Therefore, in accordance with SCAQMD's recommendation, GHG emissions from construction of the project are amortized over a 30-year period (assumed lifetime of the individual projects) and added to annual operating emissions.

Construction of the project would generate temporary GHG emissions primarily due to the operation of construction equipment and truck trips. Site preparation and grading typically generate the greatest amount of emissions due to the use of grading equipment and soil hauling. CalEEMod provides an estimate of emissions associated with the construction period, based on parameters such as the duration of construction activity, area of disturbance, and anticipated equipment to be utilized during construction. However, the architectural coating phase was extended to last approximately half of the building construction phase to reflect a more accurate construction schedule. Complete results from CalEEMod and assumptions can be viewed in Appendix A.

Operational Emissions

CalEEMod was also used to calculate operational emissions from the project, which include CO_2, N_2O, and CH_4. Energy-related emissions are from electricity and natural gas use. The emissions factors for natural gas combustion are based on EPA's AP-42, (Compilation of Air Pollutant Emissions Factors) and CCAR. Electricity emissions are calculated by multiplying the energy use by the carbon intensity of the utility district per kilowatt hour (SCAQMD 2017).

Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating were calculated in CalEEMod and utilize standard emission rates from ARB, U.S. EPA, and district supplied emission factor values (SCAQMD 2017).

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 (SCAQMD 2017). 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 use 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 Southern California.

For mobile sources, CO_2 and CH_4 emissions from vehicle trips to and from the project site were quantified using CalEEMod. Because CalEEMod does not calculate N_2O emissions from mobile sources, N_2O emissions were quantified using the CCAR *General Reporting Protocol* (2009) direct emissions factors for mobile combustion (see Appendix A for calculations). The estimate of total daily trips associated with the project was based on vehicle trip data provided in the TIA conducted by the LSA. Emission rates for N_2O emissions were based on the vehicle fleet mix output generated by CalEEMod and the emission factors found in the CCAR *General Reporting Protocol*.

Project Impacts

The following summarizes project emissions and compares calculated emissions to the recommended GHG emissions threshold of 3,000 MT of CO_2e per year.

Construction Emissions

As shown in Table 6, construction activity for the project would generate an estimated 131 MT of CO_2e. When amortized over a 30-year period, construction of the project would generate about 4 MT of CO_2e per year.

Table 6 Estimated Construction Emissions of Greenhouse Gases

Construction Year	Annual Emissions (MT CO_2e)
2018	131.2
Amortized over 30 years	4.4

See Appendix A for CalEEMod results.

Combined Construction, Stationary, and Mobile Source Emissions

Table 7 combines the amortized construction (Table 6), operational, and mobile GHG emissions associated with the project. The annual emissions would total approximately 471 MT of CO_2e. These emissions do not exceed the SCAQMD threshold of 3,000 MT of CO_2e per year.

Table 7 Combined Annual Emissions MT CO_2e/year

Emission Source	Project Emissions
Construction	4.4
Operational	
Area	9.8
Energy	115.8
Solid Waste	20.2
Water	22.3
Mobile	
CO_2 and CH_4	284.0
N_2O	14.5
Total	**470.8**
SCAQMD Threshold	3,000
Exceeds Threshold?	No

Source: Calculations were made in CalEEMod, see Appendix A for full model output. Values have been rounded.

Consistency with GHG Reduction Plans and Policies

As discussed under *Regulatory Setting*, a number of plans and policies have been adopted to reduce GHG emissions in the Southern California region and the City of Huntington Beach. Specifically, the City of Huntington Beach has adopted a qualified GHG reduction plan. General Plan goals and policies also address citywide levels of GHG emissions. The goals and policies included in the General Plan that relate to GHG emissions are generally applicable for government agencies, however, and are not explicitly applicable to private developers; therefore, they would not apply to the proposed project. The design and implementation of the proposed project would comply with CALGreen Building Standards, which include measures such as inclusion of water efficient plumbing

fittings and fixtures, to reduce emissions. The proposed project would also comply with SCAQMD Rule 1113 that limits ROGs from building architectural coatings to 50 grams/liter (g/L). Table 8 illustrates the project's consistency with strategies from the GGRP. It is important to note however, that according to the GGRP, all strategies are voluntary.

Table 8 Consistency with Voluntary GGRP Strategies

Reduction Strategy	Project Consistency
Land Use Strategies	
LU-1 – Improved pedestrian network: Improve the safety and convenience of the pedestrian network to support walking as a viable alternative.	**Not Applicable.** This strategy applies to government agencies, not private developers. Nonetheless, the project would be infill, located on a site surrounded by, and within walking distance of, existing commercial development with sidewalks, which would support walking to commercial uses as an alternative to driving.
LU-2 – Inclusionary housing units: Increase the amount of inclusionary housing in major job centers and transit-accessible areas of Huntington Beach.	**Inconsistent/Voluntary.** By definition, inclusionary housing units are generally affordable housing units. The project would not explicitly provide affordable housing units, however, the project would provide senior housing in an area that is accessible by transit. There are four transit stops within 650 feet of the project site (Garfield/Mount Walton, line 172; Garfield-Brookhurst, line 172; Brookhurst-Garfield, line 35; and Brookhurst-Kukui, line 35), with numerous, additional transit stops located within a mile of the project site.
Transportation Strategies	
T-1 – Bike ridership: Increase the scope and capacity of bicycle lanes and bicycle infrastructure in Huntington Beach.	**Consistent/Voluntary**. The project site plans do not include bicycle infrastructure, such as bicycle parking spaces. However, per the CALGreen building code, projects are required to provide short-term, permanently anchored bicycle racks within 200 feet of the visitors' entrance for five percent of the new vehicle parking spaces (because the project would include 38 vehicular parking spaces, two bicycle parking spaces would be required). Likewise, the project would be required to provide two long-term, permanent bicycle parking in the form of covered, lockable enclosures, lockable bicycle rooms with permanently anchored racks, or lockable, permanently anchored bicycle lockers. Additionally, there is currently a bike lane located less than <0.1 mile from the project site, going east and west on Garfield Avenue, which connects to a bike path that runs along the Santa Ana River Trail.
T-2 – Shared parking: Use shared parking strategies to maximize development potential while providing a sufficient supply of parking.	**Inconsistent/Voluntary.** The proposed project would not include shared parking. The project would be required to include 26 vehicular parking spaces for the residents and 10 vehicular parking spaces for the employees. However, the proposed project would include two additional spaces for a total of 38 vehicular parking spaces. The majority of parking spaces (37) would be in the subterranean parking garage while one parking space would be located at grade. Because the majority of parking spaces are located underground, the project maximizes development potential.

Reduction Strategy	Project Consistency
T-3 – Increased transit ridership: Increase transit ridership to minimize congestion, improve air quality, and promote increased mobility	**Consistent/Voluntary.** The project involves infill development and would encourage transit ridership through improved accessibility to four transit stops within 650 feet of the project site (Garfield/Mount Walton, line 172; Garfield-Brookhurst, line 172; Brookhurst-Garfield, line 35; and Brookhurst-Kukui, line 35). Numerous, additional transit stops are also located within a mile of the project site.
T-4 – Carsharing: Attract carshare services to Huntington Beach and promote them as a supplemental transportation service.	**Not Applicable.** This strategy applies to government agencies, not private developers. Nonetheless, residents of the future development may choose to participate in carsharing programs as available. Likewise, residents could utilize ride-sourcing services such as Lyft and Uber, which currently operate in Huntington Beach.
T-5 – Telecommuting and alternative work schedules: Establish telecommuting and alternative work schedules to reduce peak commute traffic.	**Not Applicable.** This strategy is specifically directed towards local employers that have 100 or more full-time employees or equivalent. The proposed project is a senior residential care facility with 77 rooms and approximately 22 employees. It would not be a major employer or large company (SCAG 2001). Nonetheless, future employees may utilize alternative work schedules, depending on the facility needs.
T-6 – Transportation Demand Management: Reduce commute-related trips for major employers.	**Not Applicable.** This strategy is applicable to large companies and institutions that have 100 or more full-time employees or equivalent. The proposed project is a senior residential care facility with 77 rooms and approximately 22 employees. It would not be a major employer or large company (SCAG 2001).
T-7 – Shuttle service: Provide a year-round shuttle service for visitor destinations	**Not Applicable.** This strategy applies to government agencies, not private developers.
T-8 – Traffic calming: Install traffic-calming features on appropriate roadways to better allow for active transportation.	**Not Applicable.** This strategy applies to government agencies, not private developers. Additionally, the project is infill development on an approximately 0.68 acre lot that doesn't include any internal roadways where traffic calming features could be installed.
Alternative Fuel Strategies	
F-1 – Traffic signal synchronization: Continue to synchronize traffic signals along major roadways to reduce traffic idling.	**Not Applicable.** This strategy applies to government agencies, not private developers.
F-2 – Electric vehicles: Increase electric vehicle adoption in Huntington Beach.	**Not Applicable.** This strategy applies to government agencies, not private developers. Nonetheless, the project could include electric vehicle charging stations and residents may own electric vehicles. Specifically, the project would comply with the CALGreen Building Code. Per Cal Green Building Code Standards, new construction with 26-50 vehicular parking spaces would be required to have two electric vehicle charging stations.

Reduction Strategy	Project Consistency
F-3 – Biofuel vehicles: Increase the use of biofuel-powered vehicles in the community.	**Not Applicable.** This strategy applies to government agencies, not private developers. Nonetheless, future residents may own biofuel vehicles.
F-4 – Autonomous vehicles: Enable autonomous vehicle operation in Huntington Beach to improve mobility and increase traffic efficiency.	**Not Applicable.** This strategy applies to government agencies, not private developers. Nonetheless, future residents may utilize autonomous vehicles as they become available.
Renewable Energy Strategies	
RE-1 – Residential solar: Expand the number of solar energy systems on new and existing single-family homes and multifamily developments.	**Inconsistent/Voluntary.** Solar energy systems are not currently proposed as part of the project design. However, the project applicant may decide to include solar energy systems or may pre-wire and pre-plumb for future rooftop solar energy systems
RE-2 – Nonresidential solar: Expand the number of solar energy systems on new and existing nonresidential buildings.	**Not applicable.** This strategy applies to developers of nonresidential projects. Because the proposed project is a residential development, this strategy does not apply.
RE-3 – Community-shared solar: Establish community-shared solar operations in Huntington Beach to support the increased use of renewable energy.	**Not Applicable.** This strategy applies to government agencies, not private developers.
RE-4 – New zero net energy buildings: Transition to zero net energy buildings for all new construction in support of state mandates.	**Inconsistent/Voluntary.** This strategy primarily applies to government agencies, as the City isn't currently requiring that all new construction be zero net energy. Nonetheless, the project would comply with applicable CALGreen Building Standards.
RE-5 – Solar swimming pool heating: Use solar heating technologies for an increased number of new and existing swimming pools.	**Not Applicable.** The project does not include a swimming pool and therefore this strategy does not apply.
RE-6 – Community Choice Aggregation: Explore the feasibility of launching a community choice aggregation program to increase local control of energy sources	**Not Applicable.** This strategy applies to government agencies, not private developers.
Energy Efficiency Strategies	
EE-1 – Residential homeowner retrofits: Reduce the amount of energy used by existing owner-occupied households through comprehensive residential energy retrofits.	**Not applicable.** This specific strategy applies to owners of existing residential developments. Because the proposed project is a new residential senior care facility, this strategy would not apply.
EE-2 – Rental unit retrofits: Improve energy efficiency in residential rental units.	**Not Applicable.** This specific strategy applies to owners of existing residential developments. Because the proposed project is a new residential senior care facility, this strategy would not apply.
EE-3 – Nonresidential retrofits: Reduce energy use in nonresidential buildings.	**Not Applicable.** This specific strategy applies to owners of existing nonresidential developments. Because the proposed project is a new residential senior care facility, this strategy would not apply.
EE-4 – Industrial retrofits: Reduce energy use in major industrial facilities.	**Not Applicable.** This specific strategy applies to existing owners of industrial developments. Because the proposed project is a new residential senior care facility, this strategy would not

Reduction Strategy	Project Consistency
	apply.
EE-5 – Public lighting retrofits: Retrofit publicly and privately owned outdoor lights to reduce energy use.	**Not Applicable.** This strategy applies to government agencies and existing developments, not private developers of new projects. Nonetheless, the project would comply with CALGreen lighting requirements that
EE-6 – Swimming pool efficiencies: Reduce energy use in private swimming pools	**Not Applicable.** The project does not include a swimming pool and therefore this strategy does not apply.
EE-7 – Low-income weatherization: Improve energy efficiency and comfort in low-income housing units through weatherization.	**Not applicable.** This strategy applies to existing residential developments within the City, not new development projects.
EE-8 – Electrification: Replace natural gas with electricity in new and significantly renovated homes.	**Not applicable.** This strategy applies to existing residential developments in the City, not new development projects. Specifically, this measure encourages promoting electrification as an option during plan review, distributing information and case studies about successful electrification efforts, and coordinating with utility companies to ensure a safe and reliable energy supply.
Off-Road Equipment Strategies	
OR-1 – Alternative fuel landscaping equipment: Replace gasoline and diesel landscaping equipment with hybrid and alternative fuel models.	**Undetermined/Voluntary.** Based on review of the project site plans, the project would have minimal landscaping (approximately 3,182 square feet), which would surround the perimeter of the building. The project applicant may choose to use hybrid and alternative fuel-powered landscaping equipment.
OR-2 – Alternative fuel construction equipment: Improve air quality by reducing emissions from construction equipment.	**Undetermined/Voluntary.** The quantity and type of construction equipment to be used during construction activities is yet to be determined by the project applicant. CalEEMod equipment defaults were used to estimate construction emissions. Based on the AQ/GHG analysis completed for the project, construction emissions are expected to be below applicable regional and local thresholds.
Water and Wastewater Strategies	
WW-1 – Indoor water efficiency: Reduce indoor water use in the community.	**Consistent/Voluntary.** The project would comply with the 2016 CALGreen Code, which requires use of water conserving plumbing fixtures and fittings.
WW-2 – Water-efficient landscaping: Reduce the amount of water used for landscaping in Huntington Beach.	**Consistent/Voluntary.** The project would be required to comply with the 2016 CALGreen Code, which requires projects with landscaping greater than 500 square feet to comply with a local water efficiency landscape ordinance or alternatively, the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO).
Resource Management Strategies	
RM-1 – Construction and demolition waste: Increase recycling of construction and demolition waste from new construction and renovation activities beyond the state	**Consistent/Voluntary.** The City of Huntington Beach requires that 65 percent of materials must be recycled from construction projects, per

Reduction Strategy	Project Consistency
minimum.	City Ordinance Section 8.21. The project would be in compliance with the City ordinance upon submission of a Construction and Demolition Debris Waste Reduction and Recycling Plan prior to the issuance of a building permit.
RM-2 – Composting and organic waste: Reduce the amount of organic wastes sent to landfills.	**Not Applicable.** This strategy is directed towards government agencies, not private developers. Specifically, the measure encourages conducting backyard composting workshops; developing a curbside composting service; minimizing potential health, safety, and cleanliness issues associated with curbside collection; exploring effective alternatives; and promoting a food donation program. Nonetheless, the project could utilize future curbside composting services as available and applicable.
RM-3 – Increased recycling: Improve the use of recycling bins to minimize the amount of lost materials.	**Consistent/Voluntary.** The project site plan indicates the placement of a trash enclosure located in the northeast corner of the site, which is sufficient in space for waste and recycling containers.
Community Awareness Strategies	
CA-1 – Energy competition: Conduct recurring energy competitions to encourage energy efficiency and conservation.	**Not Applicable.** This strategy is directed towards government agencies, not private developers.
CA-2 – Green building awareness: Raise community awareness of green building strategies for new and significantly renovated buildings.	**Not Applicable.** This strategy is directed towards government agencies, not private developers.
CA-3 – Buy local: Improve the visibility of locally produced goods in Huntington Beach retail markets.	**Not Applicable.** This strategy is directed towards government agencies, not private developers.
CA-4 – Advanced green technologies: Establish Huntington Beach as a center for green technology research and innovation.	**Not Applicable.** This strategy is directed towards government agencies, not private developers.
CA-5 – Revolving loan program: Create a Green Revolving Loan program to help finance building improvements.	**Not Applicable.** This strategy is directed towards government agencies, not private developers.
CA-6 – Workforce training: Maximize economic opportunities for green jobs in Huntington Beach.	**Not Applicable.** This strategy is directed towards government agencies, not private developers.
CA-7 – Waste minimization: Reduce the amount of solid waste produced in Huntington Beach.	**Not Applicable.** This strategy is directed towards government agencies, not private developers. Nonetheless, the City of Huntington Beach requires that 65 percent of materials must be recycled from construction projects, per City Ordinance Section 8.21. The project would be in compliance with the City ordinance upon submission of a Construction and Demolition Debris Waste Reduction and Recycling Plan prior to the issuance of a building permit.

Source: Huntington Beach, City of 2017b

The proposed project would comply with the California Building Standards Code which require energy efficiency, water efficiency, and material conservation and resource efficiency, SCAQMD rules (e.g., Rules 1113 and 403), and is consistent with regional and local strategies to reduce GHG emissions, as detailed in Table 8. The proposed project is infill development at a site served by public transit in close proximity

to commercial uses that would generate approximately 471 MT of CO_2e per year. Emissions are below the SCAQMD-recommended significance threshold of 3,000 MT of CO_2e per year. The project would not substantially contribute to City, regional, or statewide GHG emissions or obstruct achievement of local targets and state mandates.

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Appendix A

CalEEMod Air Quality and Greenhouse Gas Modeling Results

Autumn Care

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	38.00	Space	0.00	16,377.00	0
Congregate Care (Assisted Living)	44.00	Dwelling Unit	0.32	25,122.00	126

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**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

Autumn Care - Orange County, Annual

Project Characteristics - Source: Site Plan Package

Land Use - Source: Site Plan Package

Construction Phase - updated grading and architectural coating to reflect more accurate construction schedule

Grading - ((16,377 SF (AREA)* 11 FT (HEIGHT))/27 (cf in one cy)) = 6,672.1 CY

Architectural Coating - SCAQMD Rule 1113

Vehicle Trips - Source: LSA 2016

Woodstoves - SCAQMD Rule 445

Energy Use -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	5.00	50.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	PhaseEndDate	8/8/2018	6/8/2018
tblConstructionPhase	PhaseEndDate	5/23/2018	6/1/2018
tblConstructionPhase	PhaseEndDate	1/3/2018	1/15/2018
tblConstructionPhase	PhaseEndDate	5/30/2018	6/7/2018
tblConstructionPhase	PhaseStartDate	5/31/2018	4/2/2018
tblConstructionPhase	PhaseStartDate	1/4/2018	1/15/2018
tblConstructionPhase	PhaseStartDate	5/24/2018	6/1/2018
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	2.20	0.00

tblFleetMix	FleetMixLandUseSubType	Enclosed Parking with Elevator	Congregate Care (Assisted Living)
tblFleetMix	FleetMixLandUseSubType	Congregate Care (Assisted Living)	Enclosed Parking with Elevator
tblGrading	MaterialExported	0.00	6,672.10
tblLandUse	BuildingSpaceSquareFeet	15,200.00	16,377.00
tblLandUse	BuildingSpaceSquareFeet	44,000.00	25,122.00
tblLandUse	LandUseSquareFeet	15,200.00	16,377.00
tblLandUse	LandUseSquareFeet	44,000.00	25,122.00
tblLandUse	LotAcreage	0.34	0.00
tblLandUse	LotAcreage	2.75	0.32
tblProjectCharacteristics	OperationalYear	2018	2019
tblVehicleTrips	ST_TR	2.20	4.59
tblVehicleTrips	SU_TR	2.44	4.59
tblVehicleTrips	WD_TR	2.74	4.59
tblWoodstoves	NumberCatalytic	2.20	0.00
tblWoodstoves	NumberNoncatalytic	2.20	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

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					
2018	0.1659	0.8605	0.6191	1.4000e-003	0.0384	0.0448	0.0832	0.0113	0.0417	0.0530	0.0000	130.5716	130.5716	0.0235	0.0000	131.1591
Maximum	**0.1659**	**0.8605**	**0.6191**	**1.4000e-003**	**0.0384**	**0.0448**	**0.0832**	**0.0113**	**0.0417**	**0.0530**	**0.0000**	**130.5716**	**130.5716**	**0.0235**	**0.0000**	**131.1591**

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					
2018	0.1659	0.8605	0.6191	1.4000e-003	0.0360	0.0448	0.0808	0.0101	0.0417	0.0518	0.0000	130.5715	130.5715	0.0235	0.0000	131.1590
Maximum	**0.1659**	**0.8605**	**0.6191**	**1.4000e-003**	**0.0360**	**0.0448**	**0.0808**	**0.0101**	**0.0417**	**0.0518**	**0.0000**	**130.5715**	**130.5715**	**0.0235**	**0.0000**	**131.1590**

	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**	**6.30**	**0.00**	**2.91**	**10.44**	**0.00**	**2.23**	**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	**1-1-2018**	**3-31-2018**	0.5536	0.5536
2	**4-1-2018**	**6-30-2018**	0.4544	0.4544
		Highest	0.5536	0.5536

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	0.1148	0.0130	0.4598	7.0000e-005		3.1300e-003	3.1300e-003		3.1300e-003	3.1300e-003	0.0000	9.7233	9.7233	9.0000e-004	1.6000e-004	9.7949
Energy	3.3300e-003	0.0285	0.0121	1.8000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003	0.0000	127.4590	127.4590	4.5300e-003	1.4100e-003	127.9930
Mobile	0.0656	0.2970	0.9036	3.0900e-003	0.2617	3.5200e-003	0.2652	0.0701	3.3100e-003	0.0734	0.0000	283.6377	283.6377	0.0126	0.0000	283.9530
Waste						0.0000	0.0000		0.0000	0.0000	8.1501	0.0000	8.1501	0.4817	0.0000	20.1915
Water						0.0000	0.0000		0.0000	0.0000	0.9095	18.2913	19.2008	0.0942	2.3600e-003	22.2589
Total	**0.1837**	**0.3385**	**1.3755**	**3.3400e-003**	**0.2617**	**8.9500e-003**	**0.2707**	**0.0701**	**8.7400e-003**	**0.0788**	**9.0596**	**439.1112**	**448.1708**	**0.5939**	**3.9300e-003**	**464.1912**

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	0.1148	0.0130	0.4598	7.0000e-005		3.1300e-003	3.1300e-003		3.1300e-003	3.1300e-003	0.0000	9.7233	9.7233	9.0000e-004	1.6000e-004	9.7949
Energy	2.7700e-003	0.0236	0.0101	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	115.2914	115.2914	4.1500e-003	1.2500e-003	115.7686
Mobile	0.0656	0.2970	0.9036	3.0900e-003	0.2617	3.5200e-003	0.2652	0.0701	3.3100e-003	0.0734	0.0000	283.6377	283.6377	0.0126	0.0000	283.9530
Waste						0.0000	0.0000		0.0000	0.0000	8.1501	0.0000	8.1501	0.4817	0.0000	20.1915
Water						0.0000	0.0000		0.0000	0.0000	0.9095	18.2913	19.2008	0.0942	2.3600e-003	22.2589
Total	**0.1832**	**0.3337**	**1.3734**	**3.3100e-003**	**0.2617**	**8.5600e-003**	**0.2703**	**0.0701**	**8.3500e-003**	**0.0784**	**9.0596**	**426.9436**	**436.0032**	**0.5935**	**3.7700e-003**	**451.9668**

	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	**0.30**	**1.43**	**0.15**	**0.90**	**0.00**	**4.36**	**0.14**	**0.00**	**4.46**	**0.49**	**0.00**	**2.77**	**2.71**	**0.06**	**4.07**	**2.63**

3.0 Construction Detail

Construction Phase

Autumn Care - Orange County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2018	1/1/2018	5	1	
2	Grading	Grading	1/2/2018	1/15/2018	5	10	
3	Building Construction	Building Construction	1/15/2018	6/1/2018	5	100	
4	Architectural Coating	Architectural Coating	4/2/2018	6/8/2018	5	50	
5	Paving	Paving	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 50,872; Residential Outdoor: 16,957; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 983 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	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
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	834.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	39.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	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

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9000e-004	4.8800e-003	2.1300e-003	0.0000		2.1000e-004	2.1000e-004		1.9000e-004	1.9000e-004	0.0000	0.4458	0.4458	1.4000e-004	0.0000	0.4492
Total	**3.9000e-004**	**4.8800e-003**	**2.1300e-003**	**0.0000**	**2.7000e-004**	**2.1000e-004**	**4.8000e-004**	**3.0000e-005**	**1.9000e-004**	**2.2000e-004**	**0.0000**	**0.4458**	**0.4458**	**1.4000e-004**	**0.0000**	**0.4492**

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	0.0252	0.0252	0.0000	0.0000	0.0252
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**	**0.0252**	**0.0252**	**0.0000**	**0.0000**	**0.0252**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9000e-004	4.8800e-003	2.1300e-003	0.0000		2.1000e-004	2.1000e-004		1.9000e-004	1.9000e-004	0.0000	0.4458	0.4458	1.4000e-004	0.0000	0.4492
Total	**3.9000e-004**	**4.8800e-003**	**2.1300e-003**	**0.0000**	**1.2000e-004**	**2.1000e-004**	**3.3000e-004**	**1.0000e-005**	**1.9000e-004**	**2.0000e-004**	**0.0000**	**0.4458**	**0.4458**	**1.4000e-004**	**0.0000**	**0.4492**

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	0.0252	0.0252	0.0000	0.0000	0.0252
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**	**0.0252**	**0.0252**	**0.0000**	**0.0000**	**0.0252**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.1400e-003	0.0000	4.1400e-003	2.1300e-003	0.0000	2.1300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3200e-003	0.0472	0.0389	6.0000e-005		3.1100e-003	3.1100e-003		2.9700e-003	2.9700e-003	0.0000	5.3041	5.3041	1.0200e-003	0.0000	5.3297
Total	**5.3200e-003**	**0.0472**	**0.0389**	**6.0000e-005**	**4.1400e-003**	**3.1100e-003**	**7.2500e-003**	**2.1300e-003**	**2.9700e-003**	**5.1000e-003**	**0.0000**	**5.3041**	**5.3041**	**1.0200e-003**	**0.0000**	**5.3297**

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	3.6400e-003	0.1346	0.0305	3.3000e-004	7.1500e-003	5.2000e-004	7.6700e-003	1.9600e-003	5.0000e-004	2.4600e-003	0.0000	32.7217	32.7217	3.4800e-003	0.0000	32.8087
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	2.3000e-004	1.7000e-004	1.8700e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5042	0.5042	1.0000e-005	0.0000	0.5045
Total	**3.8700e-003**	**0.1348**	**0.0324**	**3.4000e-004**	**7.7000e-003**	**5.2000e-004**	**8.2200e-003**	**2.1100e-003**	**5.0000e-004**	**2.6100e-003**	**0.0000**	**33.2258**	**33.2258**	**3.4900e-003**	**0.0000**	**33.3132**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.8600e-003	0.0000	1.8600e-003	9.6000e-004	0.0000	9.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3200e-003	0.0472	0.0389	6.0000e-005		3.1100e-003	3.1100e-003		2.9700e-003	2.9700e-003	0.0000	5.3041	5.3041	1.0200e-003	0.0000	5.3296
Total	**5.3200e-003**	**0.0472**	**0.0389**	**6.0000e-005**	**1.8600e-003**	**3.1100e-003**	**4.9700e-003**	**9.6000e-004**	**2.9700e-003**	**3.9300e-003**	**0.0000**	**5.3041**	**5.3041**	**1.0200e-003**	**0.0000**	**5.3296**

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	3.6400e-003	0.1346	0.0305	3.3000e-004	7.1500e-003	5.2000e-004	7.6700e-003	1.9600e-003	5.0000e-004	2.4600e-003	0.0000	32.7217	32.7217	3.4800e-003	0.0000	32.8087
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	2.3000e-004	1.7000e-004	1.8700e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5042	0.5042	1.0000e-005	0.0000	0.5045
Total	**3.8700e-003**	**0.1348**	**0.0324**	**3.4000e-004**	**7.7000e-003**	**5.2000e-004**	**8.2200e-003**	**2.1100e-003**	**5.0000e-004**	**2.6100e-003**	**0.0000**	**33.2258**	**33.2258**	**3.4900e-003**	**0.0000**	**33.3132**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0542	0.5516	0.3876	5.7000e-004		0.0354	0.0354		0.0326	0.0326	0.0000	52.0058	52.0058	0.0162	0.0000	52.4106
Total	**0.0542**	**0.5516**	**0.3876**	**5.7000e-004**		**0.0354**	**0.0354**		**0.0326**	**0.0326**	**0.0000**	**52.0058**	**52.0058**	**0.0162**	**0.0000**	**52.4106**

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	1.4400e-003	0.0426	0.0118	9.0000e-005	2.2000e-003	3.1000e-004	2.5100e-003	6.4000e-004	3.0000e-004	9.3000e-004	0.0000	8.6221	8.6221	7.7000e-004	0.0000	8.6415
Worker	8.8500e-003	6.6900e-003	0.0728	2.2000e-004	0.0214	1.4000e-004	0.0216	5.6800e-003	1.3000e-004	5.8200e-003	0.0000	19.6622	19.6622	5.2000e-004	0.0000	19.6752
Total	**0.0103**	**0.0493**	**0.0846**	**3.1000e-004**	**0.0236**	**4.5000e-004**	**0.0241**	**6.3200e-003**	**4.3000e-004**	**6.7500e-003**	**0.0000**	**28.2843**	**28.2843**	**1.2900e-003**	**0.0000**	**28.3167**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0542	0.5516	0.3876	5.7000e-004		0.0354	0.0354		0.0326	0.0326	0.0000	52.0058	52.0058	0.0162	0.0000	52.4105
Total	**0.0542**	**0.5516**	**0.3876**	**5.7000e-004**		**0.0354**	**0.0354**		**0.0326**	**0.0326**	**0.0000**	**52.0058**	**52.0058**	**0.0162**	**0.0000**	**52.4105**

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	1.4400e-003	0.0426	0.0118	9.0000e-005	2.2000e-003	3.1000e-004	2.5100e-003	6.4000e-004	3.0000e-004	9.3000e-004	0.0000	8.6221	8.6221	7.7000e-004	0.0000	8.6415
Worker	8.8500e-003	6.6900e-003	0.0728	2.2000e-004	0.0214	1.4000e-004	0.0216	5.6800e-003	1.3000e-004	5.8200e-003	0.0000	19.6622	19.6622	5.2000e-004	0.0000	19.6752
Total	**0.0103**	**0.0493**	**0.0846**	**3.1000e-004**	**0.0236**	**4.5000e-004**	**0.0241**	**6.3200e-003**	**4.3000e-004**	**6.7500e-003**	**0.0000**	**28.2843**	**28.2843**	**1.2900e-003**	**0.0000**	**28.3167**

3.5 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0809					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.4700e-003	0.0501	0.0464	7.0000e-005		3.7600e-003	3.7600e-003		3.7600e-003	3.7600e-003	0.0000	6.3832	6.3832	6.1000e-004	0.0000	6.3983
Total	**0.0883**	**0.0501**	**0.0464**	**7.0000e-005**		**3.7600e-003**	**3.7600e-003**		**3.7600e-003**	**3.7600e-003**	**0.0000**	**6.3832**	**6.3832**	**6.1000e-004**	**0.0000**	**6.3983**

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	9.1000e-004	6.9000e-004	7.4700e-003	2.0000e-005	2.2000e-003	1.0000e-005	2.2100e-003	5.8000e-004	1.0000e-005	6.0000e-004	0.0000	2.0166	2.0166	5.0000e-005	0.0000	2.0180
Total	**9.1000e-004**	**6.9000e-004**	**7.4700e-003**	**2.0000e-005**	**2.2000e-003**	**1.0000e-005**	**2.2100e-003**	**5.8000e-004**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**2.0166**	**2.0166**	**5.0000e-005**	**0.0000**	**2.0180**

3.5 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0809					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.4700e-003	0.0501	0.0464	7.0000e-005		3.7600e-003	3.7600e-003		3.7600e-003	3.7600e-003	0.0000	6.3831	6.3831	6.1000e-004	0.0000	6.3983
Total	**0.0883**	**0.0501**	**0.0464**	**7.0000e-005**		**3.7600e-003**	**3.7600e-003**		**3.7600e-003**	**3.7600e-003**	**0.0000**	**6.3831**	**6.3831**	**6.1000e-004**	**0.0000**	**6.3983**

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	9.1000e-004	6.9000e-004	7.4700e-003	2.0000e-005	2.2000e-003	1.0000e-005	2.2100e-003	5.8000e-004	1.0000e-005	6.0000e-004	0.0000	2.0166	2.0166	5.0000e-005	0.0000	2.0180
Total	**9.1000e-004**	**6.9000e-004**	**7.4700e-003**	**2.0000e-005**	**2.2000e-003**	**1.0000e-005**	**2.2100e-003**	**5.8000e-004**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**2.0166**	**2.0166**	**5.0000e-005**	**0.0000**	**2.0180**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.3000e-003	0.0219	0.0181	3.0000e-005		1.2800e-003	1.2800e-003		1.1800e-003	1.1800e-003	0.0000	2.4270	2.4270	6.8000e-004	0.0000	2.4441
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.3000e-003**	**0.0219**	**0.0181**	**3.0000e-005**		**1.2800e-003**	**1.2800e-003**		**1.1800e-003**	**1.1800e-003**	**0.0000**	**2.4270**	**2.4270**	**6.8000e-004**	**0.0000**	**2.4441**

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	2.0000e-004	1.5000e-004	1.6800e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4537	0.4537	1.0000e-005	0.0000	0.4540
Total	**2.0000e-004**	**1.5000e-004**	**1.6800e-003**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4537**	**0.4537**	**1.0000e-005**	**0.0000**	**0.4540**

3.6 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.3000e-003	0.0219	0.0181	3.0000e-005		1.2800e-003	1.2800e-003		1.1800e-003	1.1800e-003	0.0000	2.4270	2.4270	6.8000e-004	0.0000	2.4441
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.3000e-003**	**0.0219**	**0.0181**	**3.0000e-005**		**1.2800e-003**	**1.2800e-003**		**1.1800e-003**	**1.1800e-003**	**0.0000**	**2.4270**	**2.4270**	**6.8000e-004**	**0.0000**	**2.4441**

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	2.0000e-004	1.5000e-004	1.6800e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4537	0.4537	1.0000e-005	0.0000	0.4540
Total	**2.0000e-004**	**1.5000e-004**	**1.6800e-003**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4537**	**0.4537**	**1.0000e-005**	**0.0000**	**0.4540**

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	0.0656	0.2970	0.9036	3.0900e-003	0.2617	3.5200e-003	0.2652	0.0701	3.3100e-003	0.0734	0.0000	283.6377	283.6377	0.0126	0.0000	283.9530
Unmitigated	0.0656	0.2970	0.9036	3.0900e-003	0.2617	3.5200e-003	0.2652	0.0701	3.3100e-003	0.0734	0.0000	283.6377	283.6377	0.0126	0.0000	283.9530

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	201.96	201.96	201.96	690,128	690,128
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	201.96	201.96	201.96	690,128	690,128

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
Congregate Care (Assisted	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.552373	0.044229	0.211123	0.119112	0.017503	0.005797	0.024455	0.015685	0.001637	0.001633	0.004830	0.000583	0.001041
Enclosed Parking with Elevator	0.552373	0.044229	0.211123	0.119112	0.017503	0.005797	0.024455	0.015685	0.001637	0.001633	0.004830	0.000583	0.001041

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	87.9188	87.9188	3.6300e-003	7.5000e-004	88.2334
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	94.4783	94.4783	3.9000e-003	8.1000e-004	94.8163
NaturalGas Mitigated	2.7700e-003	0.0236	0.0101	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	27.3726	27.3726	5.2000e-004	5.0000e-004	27.5352
NaturalGas Unmitigated	3.3300e-003	0.0285	0.0121	1.8000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003	0.0000	32.9807	32.9807	6.3000e-004	6.0000e-004	33.1767

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					
Congregate Care (Assisted Living)	618035	3.3300e-003	0.0285	0.0121	1.8000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003	0.0000	32.9807	32.9807	6.3000e-004	6.0000e-004	33.1767
Enclosed Parking with Elevator	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
Total		**3.3300e-003**	**0.0285**	**0.0121**	**1.8000e-004**		**2.3000e-003**	**2.3000e-003**		**2.3000e-003**	**2.3000e-003**	**0.0000**	**32.9807**	**32.9807**	**6.3000e-004**	**6.0000e-004**	**33.1767**

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					
Congregate Care (Assisted Living)	512942	2.7700e-003	0.0236	0.0101	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	27.3726	27.3726	5.2000e-004	5.0000e-004	27.5352
Enclosed Parking with Elevator	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
Total		**2.7700e-003**	**0.0236**	**0.0101**	**1.5000e-004**		**1.9100e-003**	**1.9100e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**27.3726**	**27.3726**	**5.2000e-004**	**5.0000e-004**	**27.5352**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	186141	59.3086	2.4500e-003	5.1000e-004	59.5207
Enclosed Parking with Elevator	110381	35.1698	1.4500e-003	3.0000e-004	35.2956
Total		**94.4783**	**3.9000e-003**	**8.1000e-004**	**94.8163**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	183530	58.4764	2.4100e-003	5.0000e-004	58.6856
Enclosed Parking with Elevator	92405.6	29.4424	1.2200e-003	2.5000e-004	29.5477
Total		**87.9188**	**3.6300e-003**	**7.5000e-004**	**88.2334**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	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	0.1148	0.0130	0.4598	7.0000e-005		3.1300e-003	3.1300e-003		3.1300e-003	3.1300e-003	0.0000	9.7233	9.7233	9.0000e-004	1.6000e-004	9.7949
Unmitigated	0.1148	0.0130	0.4598	7.0000e-005		3.1300e-003	3.1300e-003		3.1300e-003	3.1300e-003	0.0000	9.7233	9.7233	9.0000e-004	1.6000e-004	9.7949

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	8.0900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0918					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	9.1000e-004	7.7500e-003	3.3000e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	8.9811	8.9811	1.7000e-004	1.6000e-004	9.0345
Landscaping	0.0140	5.2900e-003	0.4565	2.0000e-005		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003	0.0000	0.7422	0.7422	7.3000e-004	0.0000	0.7604
Total	**0.1149**	**0.0130**	**0.4598**	**7.0000e-005**		**3.1300e-003**	**3.1300e-003**		**3.1300e-003**	**3.1300e-003**	**0.0000**	**9.7233**	**9.7233**	**9.0000e-004**	**1.6000e-004**	**9.7949**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.0900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0918					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	9.1000e-004	7.7500e-003	3.3000e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	8.9811	8.9811	1.7000e-004	1.6000e-004	9.0345
Landscaping	0.0140	5.2900e-003	0.4565	2.0000e-005		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003	0.0000	0.7422	0.7422	7.3000e-004	0.0000	0.7604
Total	**0.1149**	**0.0130**	**0.4598**	**7.0000e-005**		**3.1300e-003**	**3.1300e-003**		**3.1300e-003**	**3.1300e-003**	**0.0000**	**9.7233**	**9.7233**	**9.0000e-004**	**1.6000e-004**	**9.7949**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	19.2008	0.0942	2.3600e-003	22.2589
Unmitigated	19.2008	0.0942	2.3600e-003	22.2589

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	2.86678 / 1.80732	19.2008	0.0942	2.3600e-003	22.2589
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**19.2008**	**0.0942**	**2.3600e-003**	**22.2589**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	2.86678 / 1.80732	19.2008	0.0942	2.3600e-003	22.2589
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**19.2008**	**0.0942**	**2.3600e-003**	**22.2589**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	8.1501	0.4817	0.0000	20.1915
Unmitigated	8.1501	0.4817	0.0000	20.1915

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	40.15	8.1501	0.4817	0.0000	20.1915
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**8.1501**	**0.4817**	**0.0000**	**20.1915**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	40.15	8.1501	0.4817	0.0000	20.1915
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**8.1501**	**0.4817**	**0.0000**	**20.1915**

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

Autumn Care

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	38.00	Space	0.00	16,377.00	0
Congregate Care (Assisted Living)	44.00	Dwelling Unit	0.32	25,122.00	126

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**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

Autumn Care - Orange County, Summer

Project Characteristics - Source: Site Plan Package

Land Use - Source: Site Plan Package

Construction Phase - updated grading and architectural coating to reflect more accurate construction schedule

Grading - ((16,377 SF (AREA)* 11 FT (HEIGHT))/27 (cf in one cy)) = 6,672.1 CY

Architectural Coating - SCAQMD Rule 1113

Vehicle Trips - Source: LSA 2016

Woodstoves - SCAQMD Rule 445

Energy Use -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	5.00	50.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	PhaseEndDate	8/8/2018	6/8/2018
tblConstructionPhase	PhaseEndDate	5/23/2018	6/1/2018
tblConstructionPhase	PhaseEndDate	1/3/2018	1/15/2018
tblConstructionPhase	PhaseEndDate	5/30/2018	6/7/2018
tblConstructionPhase	PhaseStartDate	5/31/2018	4/2/2018
tblConstructionPhase	PhaseStartDate	1/4/2018	1/15/2018
tblConstructionPhase	PhaseStartDate	5/24/2018	6/1/2018
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	2.20	0.00

tblFleetMix	FleetMixLandUseSubType	Enclosed Parking with Elevator	Congregate Care (Assisted Living)
tblFleetMix	FleetMixLandUseSubType	Congregate Care (Assisted Living)	Enclosed Parking with Elevator
tblGrading	MaterialExported	0.00	6,672.10
tblLandUse	BuildingSpaceSquareFeet	15,200.00	16,377.00
tblLandUse	BuildingSpaceSquareFeet	44,000.00	25,122.00
tblLandUse	LandUseSquareFeet	15,200.00	16,377.00
tblLandUse	LandUseSquareFeet	44,000.00	25,122.00
tblLandUse	LotAcreage	0.34	0.00
tblLandUse	LotAcreage	2.75	0.32
tblProjectCharacteristics	OperationalYear	2018	2019
tblVehicleTrips	ST_TR	2.20	4.59
tblVehicleTrips	SU_TR	2.44	4.59
tblVehicleTrips	WD_TR	2.74	4.59
tblWoodstoves	NumberCatalytic	2.20	0.00
tblWoodstoves	NumberNoncatalytic	2.20	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.8580	47.4997	23.6048	0.0963	2.8730	1.4448	4.3178	0.9809	1.3546	2.3355	0.0000	10,333.3752	10,333.3752	1.3723	0.0000	10,367.6837
Maximum	**5.8580**	**47.4997**	**23.6048**	**0.0963**	**2.8730**	**1.4448**	**4.3178**	**0.9809**	**1.3546**	**2.3355**	**0.0000**	**10,333.3752**	**10,333.3752**	**1.3723**	**0.0000**	**10,367.6837**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.8580	47.4997	23.6048	0.0963	2.4175	1.4448	3.8623	0.7471	1.3546	2.1016	0.0000	10,333.3752	10,333.3752	1.3723	0.0000	10,367.6837
Maximum	**5.8580**	**47.4997**	**23.6048**	**0.0963**	**2.4175**	**1.4448**	**3.8623**	**0.7471**	**1.3546**	**2.1016**	**0.0000**	**10,333.3752**	**10,333.3752**	**1.3723**	**0.0000**	**10,367.6837**

	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**	**15.85**	**0.00**	**10.55**	**23.84**	**0.00**	**10.01**	**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	0.7322	0.6627	3.9160	4.1500e-003		0.0702	0.0702		0.0702	0.0702	0.0000	798.5446	798.5446	0.0216	0.0145	803.4120
Energy	0.0183	0.1560	0.0664	1.0000e-003		0.0126	0.0126		0.0126	0.0126		199.2055	199.2055	3.8200e-003	3.6500e-003	200.3893
Mobile	0.3758	1.5510	5.1185	0.0175	1.4637	0.0193	1.4831	0.3914	0.0182	0.4096		1,776.8661	1,776.8661	0.0770		1,778.7906
Total	**1.1262**	**2.3697**	**9.1009**	**0.0227**	**1.4637**	**0.1021**	**1.5658**	**0.3914**	**0.1010**	**0.4924**	**0.0000**	**2,774.6162**	**2,774.6162**	**0.1024**	**0.0182**	**2,782.5919**

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	0.7322	0.6627	3.9160	4.1500e-003		0.0702	0.0702		0.0702	0.0702	0.0000	798.5446	798.5446	0.0216	0.0145	803.4120
Energy	0.0152	0.1295	0.0551	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.3319	165.3319	3.1700e-003	3.0300e-003	166.3144
Mobile	0.3758	1.5510	5.1185	0.0175	1.4637	0.0193	1.4831	0.3914	0.0182	0.4096		1,776.8661	1,776.8661	0.0770		1,778.7906
Total	**1.1231**	**2.3432**	**9.0896**	**0.0225**	**1.4637**	**0.0999**	**1.5637**	**0.3914**	**0.0988**	**0.4902**	**0.0000**	**2,740.7426**	**2,740.7426**	**0.1018**	**0.0176**	**2,748.5171**

	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	**0.28**	**1.12**	**0.12**	**0.75**	**0.00**	**2.11**	**0.14**	**0.00**	**2.13**	**0.44**	**0.00**	**1.22**	**1.22**	**0.63**	**3.41**	**1.22**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2018	1/1/2018	5	1	
2	Grading	Grading	1/2/2018	1/15/2018	5	10	
3	Building Construction	Building Construction	1/15/2018	6/1/2018	5	100	
4	Architectural Coating	Architectural Coating	4/2/2018	6/8/2018	5	50	
5	Paving	Paving	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 50,872; Residential Outdoor: 16,957; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 983 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	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
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	834.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	39.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	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

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.7858	9.7572	4.2514	9.7600e-003		0.4180	0.4180		0.3846	0.3846		982.7113	982.7113	0.3059		990.3596
Total	**0.7858**	**9.7572**	**4.2514**	**9.7600e-003**	**0.5303**	**0.4180**	**0.9483**	**0.0573**	**0.3846**	**0.4418**		**982.7113**	**982.7113**	**0.3059**		**990.3596**

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	0.0224	0.0152	0.1964	5.8000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		57.8338	57.8338	1.5300e-003		57.8721
Total	**0.0224**	**0.0152**	**0.1964**	**5.8000e-004**	**0.0559**	**3.7000e-004**	**0.0563**	**0.0148**	**3.4000e-004**	**0.0152**		**57.8338**	**57.8338**	**1.5300e-003**		**57.8721**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.7858	9.7572	4.2514	9.7600e-003		0.4180	0.4180		0.3846	0.3846	0.0000	982.7113	982.7113	0.3059		990.3596
Total	**0.7858**	**9.7572**	**4.2514**	**9.7600e-003**	**0.2386**	**0.4180**	**0.6566**	**0.0258**	**0.3846**	**0.4103**	**0.0000**	**982.7113**	**982.7113**	**0.3059**		**990.3596**

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	0.0224	0.0152	0.1964	5.8000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		57.8338	57.8338	1.5300e-003		57.8721
Total	**0.0224**	**0.0152**	**0.1964**	**5.8000e-004**	**0.0559**	**3.7000e-004**	**0.0563**	**0.0148**	**3.4000e-004**	**0.0152**		**57.8338**	**57.8338**	**1.5300e-003**		**57.8721**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8282	0.0000	0.8282	0.4252	0.0000	0.4252			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943		1,169.3502	1,169.3502	0.2254		1,174.9857
Total	**1.0643**	**9.4295**	**7.7762**	**0.0120**	**0.8282**	**0.6228**	**1.4510**	**0.4252**	**0.5943**	**1.0195**		**1,169.3502**	**1,169.3502**	**0.2254**		**1,174.9857**

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	0.7195	26.0543	5.9286	0.0655	1.4524	0.1035	1.5559	0.3976	0.0991	0.4967		7,258.6918	7,258.6918	0.7583		7,277.6497
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	0.0448	0.0304	0.3928	1.1600e-003	0.1118	7.4000e-004	0.1125	0.0296	6.8000e-004	0.0303		115.6676	115.6676	3.0600e-003		115.7441
Total	**0.7643**	**26.0848**	**6.3214**	**0.0666**	**1.5642**	**0.1043**	**1.6684**	**0.4273**	**0.0997**	**0.5270**		**7,374.3594**	**7,374.3594**	**0.7614**		**7,393.3939**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3727	0.0000	0.3727	0.1913	0.0000	0.1913			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943	0.0000	1,169.3502	1,169.3502	0.2254		1,174.9857
Total	**1.0643**	**9.4295**	**7.7762**	**0.0120**	**0.3727**	**0.6228**	**0.9955**	**0.1913**	**0.5943**	**0.7856**	**0.0000**	**1,169.3502**	**1,169.3502**	**0.2254**		**1,174.9857**

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	0.7195	26.0543	5.9286	0.0655	1.4524	0.1035	1.5559	0.3976	0.0991	0.4967		7,258.6918	7,258.6918	0.7583		7,277.6497
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	0.0448	0.0304	0.3928	1.1600e-003	0.1118	7.4000e-004	0.1125	0.0296	6.8000e-004	0.0303		115.6676	115.6676	3.0600e-003		115.7441
Total	**0.7643**	**26.0848**	**6.3214**	**0.0666**	**1.5642**	**0.1043**	**1.6684**	**0.4273**	**0.0997**	**0.5270**		**7,374.3594**	**7,374.3594**	**0.7614**		**7,393.3939**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520		1,146.5323	1,146.5323	0.3569		1,155.4555
Total	**1.0848**	**11.0316**	**7.7512**	**0.0114**		**0.7087**	**0.7087**		**0.6520**	**0.6520**		**1,146.5323**	**1,146.5323**	**0.3569**		**1,155.4555**

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	0.0284	0.8351	0.2240	1.7700e-003	0.0447	6.1800e-003	0.0509	0.0129	5.9100e-003	0.0188		192.0298	192.0298	0.0167		192.4464
Worker	0.1746	0.1187	1.5319	4.5300e-003	0.4359	2.8800e-003	0.4388	0.1156	2.6500e-003	0.1183		451.1035	451.1035	0.0120		451.4021
Total	**0.2030**	**0.9538**	**1.7560**	**6.3000e-003**	**0.4807**	**9.0600e-003**	**0.4897**	**0.1285**	**8.5600e-003**	**0.1370**		**643.1333**	**643.1333**	**0.0286**		**643.8486**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520	0.0000	1,146.5323	1,146.5323	0.3569		1,155.4555
Total	**1.0848**	**11.0316**	**7.7512**	**0.0114**		**0.7087**	**0.7087**		**0.6520**	**0.6520**	**0.0000**	**1,146.5323**	**1,146.5323**	**0.3569**		**1,155.4555**

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	0.0284	0.8351	0.2240	1.7700e-003	0.0447	6.1800e-003	0.0509	0.0129	5.9100e-003	0.0188		192.0298	192.0298	0.0167		192.4464
Worker	0.1746	0.1187	1.5319	4.5300e-003	0.4359	2.8800e-003	0.4388	0.1156	2.6500e-003	0.1183		451.1035	451.1035	0.0120		451.4021
Total	**0.2030**	**0.9538**	**1.7560**	**6.3000e-003**	**0.4807**	**9.0600e-003**	**0.4897**	**0.1285**	**8.5600e-003**	**0.1370**		**643.1333**	**643.1333**	**0.0286**		**643.8486**

3.5 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**3.5336**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

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	0.0358	0.0244	0.3142	9.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		92.5341	92.5341	2.4500e-003		92.5953
Total	**0.0358**	**0.0244**	**0.3142**	**9.3000e-004**	**0.0894**	**5.9000e-004**	**0.0900**	**0.0237**	**5.4000e-004**	**0.0243**		**92.5341**	**92.5341**	**2.4500e-003**		**92.5953**

3.5 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**3.5336**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

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	0.0358	0.0244	0.3142	9.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		92.5341	92.5341	2.4500e-003		92.5953
Total	**0.0358**	**0.0244**	**0.3142**	**9.3000e-004**	**0.0894**	**5.9000e-004**	**0.0900**	**0.0237**	**5.4000e-004**	**0.0243**		**92.5341**	**92.5341**	**2.4500e-003**		**92.5953**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9202	8.7447	7.2240	0.0113		0.5109	0.5109		0.4735	0.4735		1,070.1372	1,070.1372	0.3017		1,077.6798
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9202**	**8.7447**	**7.2240**	**0.0113**		**0.5109**	**0.5109**		**0.4735**	**0.4735**		**1,070.1372**	**1,070.1372**	**0.3017**		**1,077.6798**

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	0.0806	0.0548	0.7071	2.0900e-003	0.2012	1.3300e-003	0.2025	0.0534	1.2200e-003	0.0546		208.2016	208.2016	5.5100e-003		208.3395
Total	**0.0806**	**0.0548**	**0.7071**	**2.0900e-003**	**0.2012**	**1.3300e-003**	**0.2025**	**0.0534**	**1.2200e-003**	**0.0546**		**208.2016**	**208.2016**	**5.5100e-003**		**208.3395**

3.6 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9202	8.7447	7.2240	0.0113		0.5109	0.5109		0.4735	0.4735	0.0000	1,070.1372	1,070.1372	0.3017		1,077.6798
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9202**	**8.7447**	**7.2240**	**0.0113**		**0.5109**	**0.5109**		**0.4735**	**0.4735**	**0.0000**	**1,070.1372**	**1,070.1372**	**0.3017**		**1,077.6798**

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	0.0806	0.0548	0.7071	2.0900e-003	0.2012	1.3300e-003	0.2025	0.0534	1.2200e-003	0.0546		208.2016	208.2016	5.5100e-003		208.3395
Total	**0.0806**	**0.0548**	**0.7071**	**2.0900e-003**	**0.2012**	**1.3300e-003**	**0.2025**	**0.0534**	**1.2200e-003**	**0.0546**		**208.2016**	**208.2016**	**5.5100e-003**		**208.3395**

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	0.3758	1.5510	5.1185	0.0175	1.4637	0.0193	1.4831	0.3914	0.0182	0.4096		1,776.8661	1,776.8661	0.0770		1,778.7906
Unmitigated	0.3758	1.5510	5.1185	0.0175	1.4637	0.0193	1.4831	0.3914	0.0182	0.4096		1,776.8661	1,776.8661	0.0770		1,778.7906

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	201.96	201.96	201.96	690,128	690,128
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	201.96	201.96	201.96	690,128	690,128

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
Congregate Care (Assisted	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.552373	0.044229	0.211123	0.119112	0.017503	0.005797	0.024455	0.015685	0.001637	0.001633	0.004830	0.000583	0.001041
Enclosed Parking with Elevator	0.552373	0.044229	0.211123	0.119112	0.017503	0.005797	0.024455	0.015685	0.001637	0.001633	0.004830	0.000583	0.001041

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	0.0152	0.1295	0.0551	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.3319	165.3319	3.1700e-003	3.0300e-003	166.3144
NaturalGas Unmitigated	0.0183	0.1560	0.0664	1.0000e-003		0.0126	0.0126		0.0126	0.0126		199.2055	199.2055	3.8200e-003	3.6500e-003	200.3893

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					
Congregate Care (Assisted Living)	1693.25	0.0183	0.1560	0.0664	1.0000e-003		0.0126	0.0126		0.0126	0.0126		199.2055	199.2055	3.8200e-003	3.6500e-003	200.3893
Enclosed Parking with Elevator	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
Total		**0.0183**	**0.1560**	**0.0664**	**1.0000e-003**		**0.0126**	**0.0126**		**0.0126**	**0.0126**		**199.2055**	**199.2055**	**3.8200e-003**	**3.6500e-003**	**200.3893**

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					
Congregate Care (Assisted Living)	1.40532	0.0152	0.1295	0.0551	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.3319	165.3319	3.1700e-003	3.0300e-003	166.3144
Enclosed Parking with Elevator	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
Total		**0.0152**	**0.1295**	**0.0551**	**8.3000e-004**		**0.0105**	**0.0105**		**0.0105**	**0.0105**		**165.3319**	**165.3319**	**3.1700e-003**	**3.0300e-003**	**166.3144**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	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	0.7322	0.6627	3.9160	4.1500e-003		0.0702	0.0702		0.0702	0.0702	0.0000	798.5446	798.5446	0.0216	0.0145	803.4120
Unmitigated	0.7322	0.6627	3.9160	4.1500e-003		0.0702	0.0702		0.0702	0.0702	0.0000	798.5446	798.5446	0.0216	0.0145	803.4120

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	0.0443					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5032					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0726	0.6204	0.2640	3.9600e-003		0.0502	0.0502		0.0502	0.0502	0.0000	792.0000	792.0000	0.0152	0.0145	796.7065
Landscaping	0.1120	0.0423	3.6520	1.9000e-004		0.0200	0.0200		0.0200	0.0200		6.5446	6.5446	6.4400e-003		6.7056
Total	**0.7322**	**0.6627**	**3.9160**	**4.1500e-003**		**0.0702**	**0.0702**		**0.0702**	**0.0702**	**0.0000**	**798.5446**	**798.5446**	**0.0216**	**0.0145**	**803.4120**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0443					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5032					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0726	0.6204	0.2640	3.9600e-003		0.0502	0.0502		0.0502	0.0502	0.0000	792.0000	792.0000	0.0152	0.0145	796.7065
Landscaping	0.1120	0.0423	3.6520	1.9000e-004		0.0200	0.0200		0.0200	0.0200		6.5446	6.5446	6.4400e-003		6.7056
Total	**0.7322**	**0.6627**	**3.9160**	**4.1500e-003**		**0.0702**	**0.0702**		**0.0702**	**0.0702**	**0.0000**	**798.5446**	**798.5446**	**0.0216**	**0.0145**	**803.4120**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 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

Autumn Care

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	38.00	Space	0.00	16,377.00	0
Congregate Care (Assisted Living)	44.00	Dwelling Unit	0.32	25,122.00	126

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**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

Autumn Care - Orange County, Winter

Project Characteristics - Source: Site Plan Package

Land Use - Source: Site Plan Package

Construction Phase - updated grading and architectural coating to reflect more accurate construction schedule

Grading - ((16,377 SF (AREA)* 11 FT (HEIGHT))/27 (cf in one cy)) = 6,672.1 CY

Architectural Coating - SCAQMD Rule 1113

Vehicle Trips - Source: LSA 2016

Woodstoves - SCAQMD Rule 445

Energy Use -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	5.00	50.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	PhaseEndDate	8/8/2018	6/8/2018
tblConstructionPhase	PhaseEndDate	5/23/2018	6/1/2018
tblConstructionPhase	PhaseEndDate	1/3/2018	1/15/2018
tblConstructionPhase	PhaseEndDate	5/30/2018	6/7/2018
tblConstructionPhase	PhaseStartDate	5/31/2018	4/2/2018
tblConstructionPhase	PhaseStartDate	1/4/2018	1/15/2018
tblConstructionPhase	PhaseStartDate	5/24/2018	6/1/2018
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	2.20	0.00

tblFleetMix	FleetMixLandUseSubType	Enclosed Parking with Elevator	Congregate Care (Assisted Living)
tblFleetMix	FleetMixLandUseSubType	Congregate Care (Assisted Living)	Enclosed Parking with Elevator
tblGrading	MaterialExported	0.00	6,672.10
tblLandUse	BuildingSpaceSquareFeet	15,200.00	16,377.00
tblLandUse	BuildingSpaceSquareFeet	44,000.00	25,122.00
tblLandUse	LandUseSquareFeet	15,200.00	16,377.00
tblLandUse	LandUseSquareFeet	44,000.00	25,122.00
tblLandUse	LotAcreage	0.34	0.00
tblLandUse	LotAcreage	2.75	0.32
tblProjectCharacteristics	OperationalYear	2018	2019
tblVehicleTrips	ST_TR	2.20	4.59
tblVehicleTrips	SU_TR	2.44	4.59
tblVehicleTrips	WD_TR	2.74	4.59
tblWoodstoves	NumberCatalytic	2.20	0.00
tblWoodstoves	NumberNoncatalytic	2.20	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.8961	47.8649	23.8613	0.0950	2.8730	1.4473	4.3203	0.9809	1.3570	2.3379	0.0000	10,191.7647	10,191.7647	1.3930	0.0000	10,226.5899
Maximum	**5.8961**	**47.8649**	**23.8613**	**0.0950**	**2.8730**	**1.4473**	**4.3203**	**0.9809**	**1.3570**	**2.3379**	**0.0000**	**10,191.7647**	**10,191.7647**	**1.3930**	**0.0000**	**10,226.5899**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.8961	47.8649	23.8613	0.0950	2.4175	1.4473	3.8648	0.7471	1.3570	2.1040	0.0000	10,191.7647	10,191.7647	1.3930	0.0000	10,226.5899
Maximum	**5.8961**	**47.8649**	**23.8613**	**0.0950**	**2.4175**	**1.4473**	**3.8648**	**0.7471**	**1.3570**	**2.1040**	**0.0000**	**10,191.7647**	**10,191.7647**	**1.3930**	**0.0000**	**10,226.5899**

	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**	**15.85**	**0.00**	**10.54**	**23.84**	**0.00**	**10.00**	**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	0.7322	0.6627	3.9160	4.1500e-003		0.0702	0.0702		0.0702	0.0702	0.0000	798.5446	798.5446	0.0216	0.0145	803.4120
Energy	0.0183	0.1560	0.0664	1.0000e-003		0.0126	0.0126		0.0126	0.0126		199.2055	199.2055	3.8200e-003	3.6500e-003	200.3893
Mobile	0.3709	1.6032	4.8990	0.0168	1.4637	0.0194	1.4831	0.3914	0.0183	0.4097		1,697.0974	1,697.0974	0.0765		1,699.0104
Total	**1.1213**	**2.4219**	**8.8813**	**0.0219**	**1.4637**	**0.1022**	**1.5659**	**0.3914**	**0.1010**	**0.4925**	**0.0000**	**2,694.8475**	**2,694.8475**	**0.1020**	**0.0182**	**2,702.8117**

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	0.7322	0.6627	3.9160	4.1500e-003		0.0702	0.0702		0.0702	0.0702	0.0000	798.5446	798.5446	0.0216	0.0145	803.4120
Energy	0.0152	0.1295	0.0551	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.3319	165.3319	3.1700e-003	3.0300e-003	166.3144
Mobile	0.3709	1.6032	4.8990	0.0168	1.4637	0.0194	1.4831	0.3914	0.0183	0.4097		1,697.0974	1,697.0974	0.0765		1,699.0104
Total	**1.1182**	**2.3954**	**8.8700**	**0.0217**	**1.4637**	**0.1000**	**1.5638**	**0.3914**	**0.0989**	**0.4903**	**0.0000**	**2,660.9739**	**2,660.9739**	**0.1013**	**0.0176**	**2,668.7369**

	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	**0.28**	**1.10**	**0.13**	**0.78**	**0.00**	**2.10**	**0.14**	**0.00**	**2.13**	**0.44**	**0.00**	**1.26**	**1.26**	**0.64**	**3.41**	**1.26**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2018	1/1/2018	5	1	
2	Grading	Grading	1/2/2018	1/15/2018	5	10	
3	Building Construction	Building Construction	1/15/2018	6/1/2018	5	100	
4	Architectural Coating	Architectural Coating	4/2/2018	6/8/2018	5	50	
5	Paving	Paving	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 50,872; Residential Outdoor: 16,957; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 983 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	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
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	834.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	39.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	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

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.7858	9.7572	4.2514	9.7600e-003		0.4180	0.4180		0.3846	0.3846		982.7113	982.7113	0.3059		990.3596
Total	**0.7858**	**9.7572**	**4.2514**	**9.7600e-003**	**0.5303**	**0.4180**	**0.9483**	**0.0573**	**0.3846**	**0.4418**		**982.7113**	**982.7113**	**0.3059**		**990.3596**

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	0.0252	0.0167	0.1824	5.5000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		54.7399	54.7399	1.4600e-003		54.7763
Total	**0.0252**	**0.0167**	**0.1824**	**5.5000e-004**	**0.0559**	**3.7000e-004**	**0.0563**	**0.0148**	**3.4000e-004**	**0.0152**		**54.7399**	**54.7399**	**1.4600e-003**		**54.7763**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.7858	9.7572	4.2514	9.7600e-003		0.4180	0.4180		0.3846	0.3846	0.0000	982.7113	982.7113	0.3059		990.3596
Total	**0.7858**	**9.7572**	**4.2514**	**9.7600e-003**	**0.2386**	**0.4180**	**0.6566**	**0.0258**	**0.3846**	**0.4103**	**0.0000**	**982.7113**	**982.7113**	**0.3059**		**990.3596**

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	0.0252	0.0167	0.1824	5.5000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		54.7399	54.7399	1.4600e-003		54.7763
Total	**0.0252**	**0.0167**	**0.1824**	**5.5000e-004**	**0.0559**	**3.7000e-004**	**0.0563**	**0.0148**	**3.4000e-004**	**0.0152**		**54.7399**	**54.7399**	**1.4600e-003**		**54.7763**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8282	0.0000	0.8282	0.4252	0.0000	0.4252			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943		1,169.3502	1,169.3502	0.2254		1,174.9857
Total	**1.0643**	**9.4295**	**7.7762**	**0.0120**	**0.8282**	**0.6228**	**1.4510**	**0.4252**	**0.5943**	**1.0195**		**1,169.3502**	**1,169.3502**	**0.2254**		**1,174.9857**

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	0.7393	26.4034	6.3008	0.0645	1.4524	0.1059	1.5583	0.3976	0.1013	0.4989		7,152.0312	7,152.0312	0.7788		7,171.5020
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	0.0504	0.0335	0.3647	1.1000e-003	0.1118	7.4000e-004	0.1125	0.0296	6.8000e-004	0.0303		109.4797	109.4797	2.9100e-003		109.5525
Total	**0.7898**	**26.4369**	**6.6655**	**0.0656**	**1.5642**	**0.1067**	**1.6708**	**0.4273**	**0.1020**	**0.5293**		**7,261.5109**	**7,261.5109**	**0.7817**		**7,281.0545**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3727	0.0000	0.3727	0.1913	0.0000	0.1913			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943	0.0000	1,169.3502	1,169.3502	0.2254		1,174.9857
Total	**1.0643**	**9.4295**	**7.7762**	**0.0120**	**0.3727**	**0.6228**	**0.9955**	**0.1913**	**0.5943**	**0.7856**	**0.0000**	**1,169.3502**	**1,169.3502**	**0.2254**		**1,174.9857**

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	0.7393	26.4034	6.3008	0.0645	1.4524	0.1059	1.5583	0.3976	0.1013	0.4989		7,152.0312	7,152.0312	0.7788		7,171.5020
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	0.0504	0.0335	0.3647	1.1000e-003	0.1118	7.4000e-004	0.1125	0.0296	6.8000e-004	0.0303		109.4797	109.4797	2.9100e-003		109.5525
Total	**0.7898**	**26.4369**	**6.6655**	**0.0656**	**1.5642**	**0.1067**	**1.6708**	**0.4273**	**0.1020**	**0.5293**		**7,261.5109**	**7,261.5109**	**0.7817**		**7,281.0545**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520		1,146.5323	1,146.5323	0.3569		1,155.4555
Total	**1.0848**	**11.0316**	**7.7512**	**0.0114**		**0.7087**	**0.7087**		**0.6520**	**0.6520**		**1,146.5323**	**1,146.5323**	**0.3569**		**1,155.4555**

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	0.0296	0.8364	0.2459	1.7300e-003	0.0447	6.2900e-003	0.0510	0.0129	6.0200e-003	0.0189		187.4003	187.4003	0.0176		187.8395
Worker	0.1967	0.1305	1.4224	4.2800e-003	0.4359	2.8800e-003	0.4388	0.1156	2.6500e-003	0.1183		426.9710	426.9710	0.0114		427.2548
Total	**0.2263**	**0.9669**	**1.6683**	**6.0100e-003**	**0.4807**	**9.1700e-003**	**0.4898**	**0.1285**	**8.6700e-003**	**0.1372**		**614.3713**	**614.3713**	**0.0289**		**615.0942**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520	0.0000	1,146.5323	1,146.5323	0.3569		1,155.4555
Total	**1.0848**	**11.0316**	**7.7512**	**0.0114**		**0.7087**	**0.7087**		**0.6520**	**0.6520**	**0.0000**	**1,146.5323**	**1,146.5323**	**0.3569**		**1,155.4555**

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	0.0296	0.8364	0.2459	1.7300e-003	0.0447	6.2900e-003	0.0510	0.0129	6.0200e-003	0.0189		187.4003	187.4003	0.0176		187.8395
Worker	0.1967	0.1305	1.4224	4.2800e-003	0.4359	2.8800e-003	0.4388	0.1156	2.6500e-003	0.1183		426.9710	426.9710	0.0114		427.2548
Total	**0.2263**	**0.9669**	**1.6683**	**6.0100e-003**	**0.4807**	**9.1700e-003**	**0.4898**	**0.1285**	**8.6700e-003**	**0.1372**		**614.3713**	**614.3713**	**0.0289**		**615.0942**

3.5 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**3.5336**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

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	0.0404	0.0268	0.2918	8.8000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.5838	87.5838	2.3300e-003		87.6420
Total	**0.0404**	**0.0268**	**0.2918**	**8.8000e-004**	**0.0894**	**5.9000e-004**	**0.0900**	**0.0237**	**5.4000e-004**	**0.0243**		**87.5838**	**87.5838**	**2.3300e-003**		**87.6420**

3.5 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**3.5336**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

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	0.0404	0.0268	0.2918	8.8000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.5838	87.5838	2.3300e-003		87.6420
Total	**0.0404**	**0.0268**	**0.2918**	**8.8000e-004**	**0.0894**	**5.9000e-004**	**0.0900**	**0.0237**	**5.4000e-004**	**0.0243**		**87.5838**	**87.5838**	**2.3300e-003**		**87.6420**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9202	8.7447	7.2240	0.0113		0.5109	0.5109		0.4735	0.4735		1,070.1372	1,070.1372	0.3017		1,077.6798
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9202**	**8.7447**	**7.2240**	**0.0113**		**0.5109**	**0.5109**		**0.4735**	**0.4735**		**1,070.1372**	**1,070.1372**	**0.3017**		**1,077.6798**

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	0.0908	0.0602	0.6565	1.9800e-003	0.2012	1.3300e-003	0.2025	0.0534	1.2200e-003	0.0546		197.0635	197.0635	5.2400e-003		197.1945
Total	**0.0908**	**0.0602**	**0.6565**	**1.9800e-003**	**0.2012**	**1.3300e-003**	**0.2025**	**0.0534**	**1.2200e-003**	**0.0546**		**197.0635**	**197.0635**	**5.2400e-003**		**197.1945**

3.6 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9202	8.7447	7.2240	0.0113		0.5109	0.5109		0.4735	0.4735	0.0000	1,070.1372	1,070.1372	0.3017		1,077.6798
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9202**	**8.7447**	**7.2240**	**0.0113**		**0.5109**	**0.5109**		**0.4735**	**0.4735**	**0.0000**	**1,070.1372**	**1,070.1372**	**0.3017**		**1,077.6798**

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	0.0908	0.0602	0.6565	1.9800e-003	0.2012	1.3300e-003	0.2025	0.0534	1.2200e-003	0.0546		197.0635	197.0635	5.2400e-003		197.1945
Total	**0.0908**	**0.0602**	**0.6565**	**1.9800e-003**	**0.2012**	**1.3300e-003**	**0.2025**	**0.0534**	**1.2200e-003**	**0.0546**		**197.0635**	**197.0635**	**5.2400e-003**		**197.1945**

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	0.3709	1.6032	4.8990	0.0168	1.4637	0.0194	1.4831	0.3914	0.0183	0.4097		1,697.0974	1,697.0974	0.0765		1,699.0104
Unmitigated	0.3709	1.6032	4.8990	0.0168	1.4637	0.0194	1.4831	0.3914	0.0183	0.4097		1,697.0974	1,697.0974	0.0765		1,699.0104

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	201.96	201.96	201.96	690,128	690,128
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	201.96	201.96	201.96	690,128	690,128

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
Congregate Care (Assisted	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.552373	0.044229	0.211123	0.119112	0.017503	0.005797	0.024455	0.015685	0.001637	0.001633	0.004830	0.000583	0.001041
Enclosed Parking with Elevator	0.552373	0.044229	0.211123	0.119112	0.017503	0.005797	0.024455	0.015685	0.001637	0.001633	0.004830	0.000583	0.001041

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	0.0152	0.1295	0.0551	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.3319	165.3319	3.1700e-003	3.0300e-003	166.3144
NaturalGas Unmitigated	0.0183	0.1560	0.0664	1.0000e-003		0.0126	0.0126		0.0126	0.0126		199.2055	199.2055	3.8200e-003	3.6500e-003	200.3893

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					
Congregate Care (Assisted Living)	1693.25	0.0183	0.1560	0.0664	1.0000e-003		0.0126	0.0126		0.0126	0.0126		199.2055	199.2055	3.8200e-003	3.6500e-003	200.3893
Enclosed Parking with Elevator	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
Total		**0.0183**	**0.1560**	**0.0664**	**1.0000e-003**		**0.0126**	**0.0126**		**0.0126**	**0.0126**		**199.2055**	**199.2055**	**3.8200e-003**	**3.6500e-003**	**200.3893**

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					
Congregate Care (Assisted Living)	1.40532	0.0152	0.1295	0.0551	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.3319	165.3319	3.1700e-003	3.0300e-003	166.3144
Enclosed Parking with Elevator	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
Total		**0.0152**	**0.1295**	**0.0551**	**8.3000e-004**		**0.0105**	**0.0105**		**0.0105**	**0.0105**		**165.3319**	**165.3319**	**3.1700e-003**	**3.0300e-003**	**166.3144**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	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	0.7322	0.6627	3.9160	4.1500e-003		0.0702	0.0702		0.0702	0.0702	0.0000	798.5446	798.5446	0.0216	0.0145	803.4120
Unmitigated	0.7322	0.6627	3.9160	4.1500e-003		0.0702	0.0702		0.0702	0.0702	0.0000	798.5446	798.5446	0.0216	0.0145	803.4120

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	0.0443					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5032					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0726	0.6204	0.2640	3.9600e-003		0.0502	0.0502		0.0502	0.0502	0.0000	792.0000	792.0000	0.0152	0.0145	796.7065
Landscaping	0.1120	0.0423	3.6520	1.9000e-004		0.0200	0.0200		0.0200	0.0200		6.5446	6.5446	6.4400e-003		6.7056
Total	**0.7322**	**0.6627**	**3.9160**	**4.1500e-003**		**0.0702**	**0.0702**		**0.0702**	**0.0702**	**0.0000**	**798.5446**	**798.5446**	**0.0216**	**0.0145**	**803.4120**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0443					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5032					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0726	0.6204	0.2640	3.9600e-003		0.0502	0.0502		0.0502	0.0502	0.0000	792.0000	792.0000	0.0152	0.0145	796.7065
Landscaping	0.1120	0.0423	3.6520	1.9000e-004		0.0200	0.0200		0.0200	0.0200		6.5446	6.5446	6.4400e-003		6.7056
Total	**0.7322**	**0.6627**	**3.9160**	**4.1500e-003**		**0.0702**	**0.0702**		**0.0702**	**0.0702**	**0.0000**	**798.5446**	**798.5446**	**0.0216**	**0.0145**	**803.4120**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 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

Greenhouse Gas Emission Worksheet
N20 Mobile Emissions

From CalEEMod Vehicle Fleet Mix Output:

Annual VMT: 690,128

Vehicle Type	Percent Type	CH4 Emission Factor (g/mile)*	CH4 Emission (g/mile)**	N2O Emission Factor (g/mile)*	N2O Emission (g/mile)**
Light Auto	55.2%	0.04	0.0220949	0.04	0.022095
Light Truck < 3750 lbs	4.4%	0.05	0.0022115	0.06	0.002654
Light Truck 3751-5750 lbs	21.1%	0.05	0.0105562	0.06	0.012667
Med Truck 5751-8500 lbs	11.9%	0.12	0.0142934	0.2	0.023822
Lite-Heavy Truck 8501-10,000 lbs	1.8%	0.12	0.0021004	0.2	0.003501
Lite-Heavy Truck 10,001-14,000 lbs	0.6%	0.09	0.0005217	0.125	0.000725
Med-Heavy Truck 14,001-33,000 lbs	2.4%	0.06	0.0014673	0.05	0.001223
Heavy-Heavy Truck 33,001-60,000 lbs	1.6%	0.06	0.0009411	0.05	0.000784
Other Bus	0.2%	0.06	9.822E-05	0.05	8.19E-05
Urban Bus	0.2%	0.06	9.798E-05	0.05	8.17E-05
Motorcycle	0.5%	0.09	0.0004347	0.01	4.83E-05
School Bus	0.1%	0.06	3.498E-05	0.05	2.92E-05
Motor Home	0.1%	0.09	9.369E-05	0.125	0.00013
Total	**100.0%**		**0.054946**		**0.067842**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4	21	GWP
N2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
N20 Emissions:	0.0468	metric tons N2O	**14.51**	metric tons CO2e
		Project Total:	***14.51***	***metric tons CO2e***

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.

** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.

Appendix B

Traffic Impact Assessment

TRAFFIC IMPACT ASSESSMENT

AUTUMN CARE RESIDENTIAL CARE FACILITY

HUNTINGTON BEACH, CALIFORNIA

This Traffic Impact Analysis has been prepared under the supervision of
Donson Liu, T.E.

Signed _____

LICENSED PROFESSIONAL ENGINEER
DONSON H. LIU
TR 2743
EXP. 3/31/17
TRAFFIC
STATE OF CALIFORNIA

LSA

November 2016

TRAFFIC IMPACT ASSESSMENT

AUTUMN CARE RESIDENTIAL CARE FACILITY

HUNTINGTON BEACH, CALIFORNIA

Submitted to:

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LSA Project No. AMG1601

LSA

November 2016

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AUTUMN CARE RESIDENTIAL CARE FACILITY TRAFFIC IMPACT ASSESSMENT

LSA has prepared the following assessment to identify the short-term and long-range traffic impacts resulting from the development of a 44-unit, 76-bed assisted living facility (project) at 19101 Garfield Avenue in the City of Huntington Beach (City). The project site is located on the southwest corner of Brookhurst Street/Garfield Avenue. LSA has prepared this analysis consistent with the approved scope of work dated February 29, 2016 (a copy of which is provided in Appendix A). This Traffic Impact Assessment (TIA) was prepared in accordance with the applicable sections of the City's TIA Guidelines, revised November 1996.

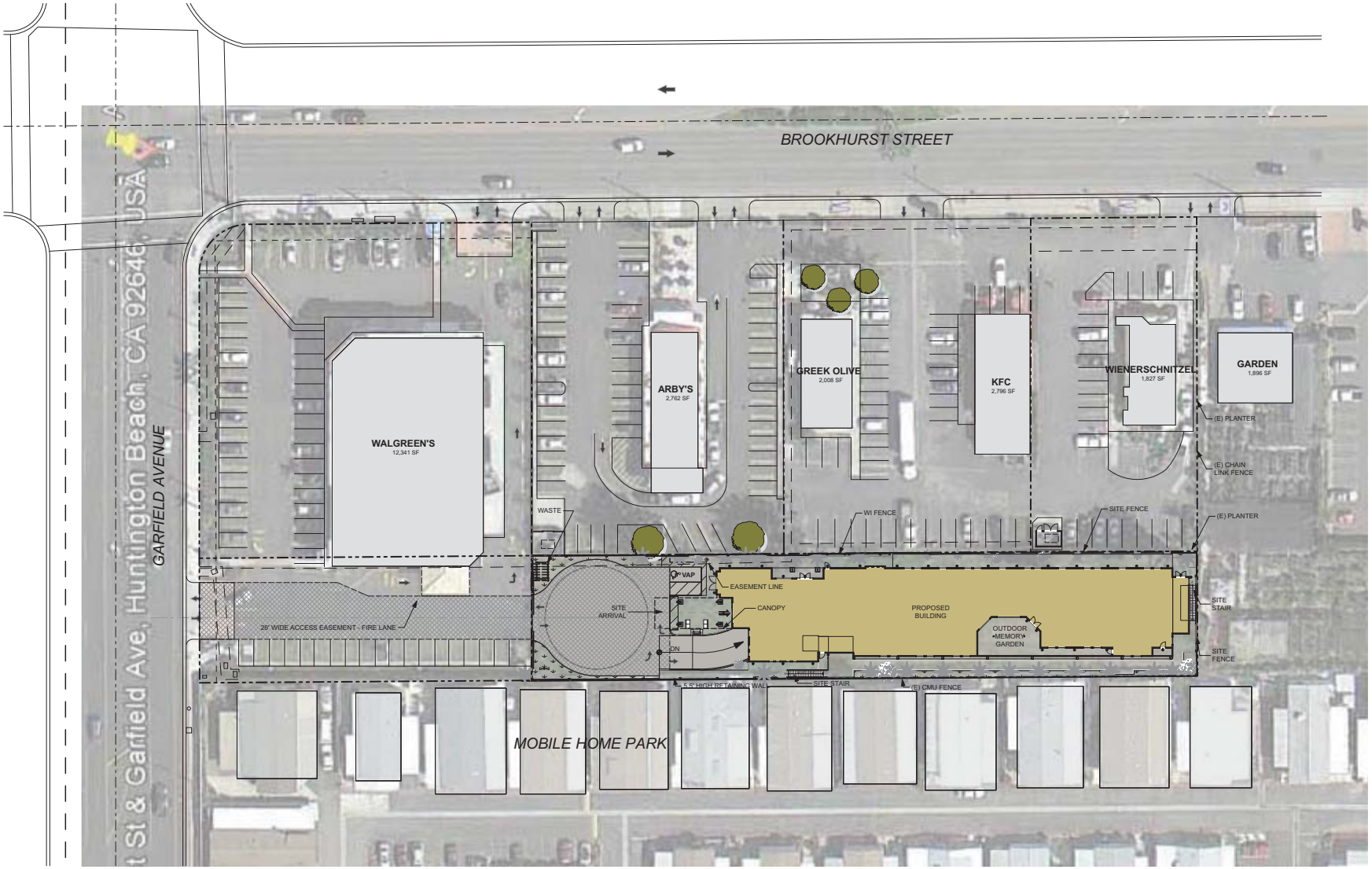
EXECUTIVE SUMMARY

The purpose of this analysis is to determine the potential impacts associated with the proposed construction of a 44-unit, 76-bed assisted living facility at 19101 Garfield Avenue in the City. The project is anticipated to be constructed and operational in the year 2018. The existing site is currently undeveloped and zoned Commercial Neighborhood F1 (CN-F1). The project proposes a General Plan Amendment to increase the floor area ratio (FAR) of the site from a currently designated 0.35 to 1.0. The project site is illustrated on Figure 1.

The preparation of this TIA is a requirement of the City due to the project's proposed General Plan Amendment. At the direction of City staff, an analysis of a theoretical commercial use on the same site as the project has been included in this TIA due to the proposed amendment to increase the site FAR. This analysis has been performed to provide information regarding the potential situation in which the increased FAR is approved, the proposed project is not built, and a more traffic-intense commercial project is proposed at a future time. This theoretical situation may result in traffic impacts created by this site that exceed the impacts, if any, identified in this TIA that may result from the development of the currently proposed project.

This study focuses on the a.m. peak-hour and p.m. peak-hour levels of service (LOS) at three intersections, one of which is the existing unsignalized driveway on Garfield Avenue that will serve as the project's access point. Project impacts were determined based on analysis of the following scenarios:

1. Existing
2. Existing Plus Project
3. Opening Year (2018)
4. Opening Year (2018) Plus Project
5. Future Year (2030)
6. Future Year (2030) Plus Project



LSA

FIGURE 1

N

0 45 90
FEET

Autumn Care Residential Care Facility

Site Plan

I:\AMG1601\G\Site Plan.cdr (2/29/16)

Based on the results of this TIA, the proposed project can be implemented without impacting the design or operation of the surrounding roadway system. Evaluation of intersection LOS shows that the addition of project traffic to Existing, Opening Year (2018), and Future Year (2030) traffic volumes would not significantly impact the study area intersections according to the City's performance criteria.

It should be noted that this alternative analysis is provided for informational purposes only of a future theoretical situation and is not intended or sufficient to determine the traffic impacts of an actual future alternative development, if one is proposed.

INTRODUCTION

Project Site

The project site is located at the southwest corner of Brookhurst Street/Garfield Avenue in the City of Huntington Beach, as shown on Figure 1. The site is currently undeveloped and zoned for CN-F1, which corresponds to an FAR of 0.35. The proposed project consists of the construction of a 44-unit, 76-bed assisted living facility. This includes a General Plan Amendment to increase the FAR from 0.35 to 1.0. Access to the site will be provided via the existing full-access, unsignalized driveway on Garfield Avenue.

Alternative Commercial Use Analysis

An additional analysis of a theoretical commercial use on the same site as the project has been included in this TIA due to the proposed amendment to increase the site FAR. This analysis has been performed to provide information regarding the potential situation in which the increased FAR is approved, the proposed project is not built, and a more traffic-intense commercial project is proposed at a future time. As an actual alternative commercial use for this site has not been contemplated, the same access point utilized for the project will be applied for this alternative commercial use.

Study Area Boundary

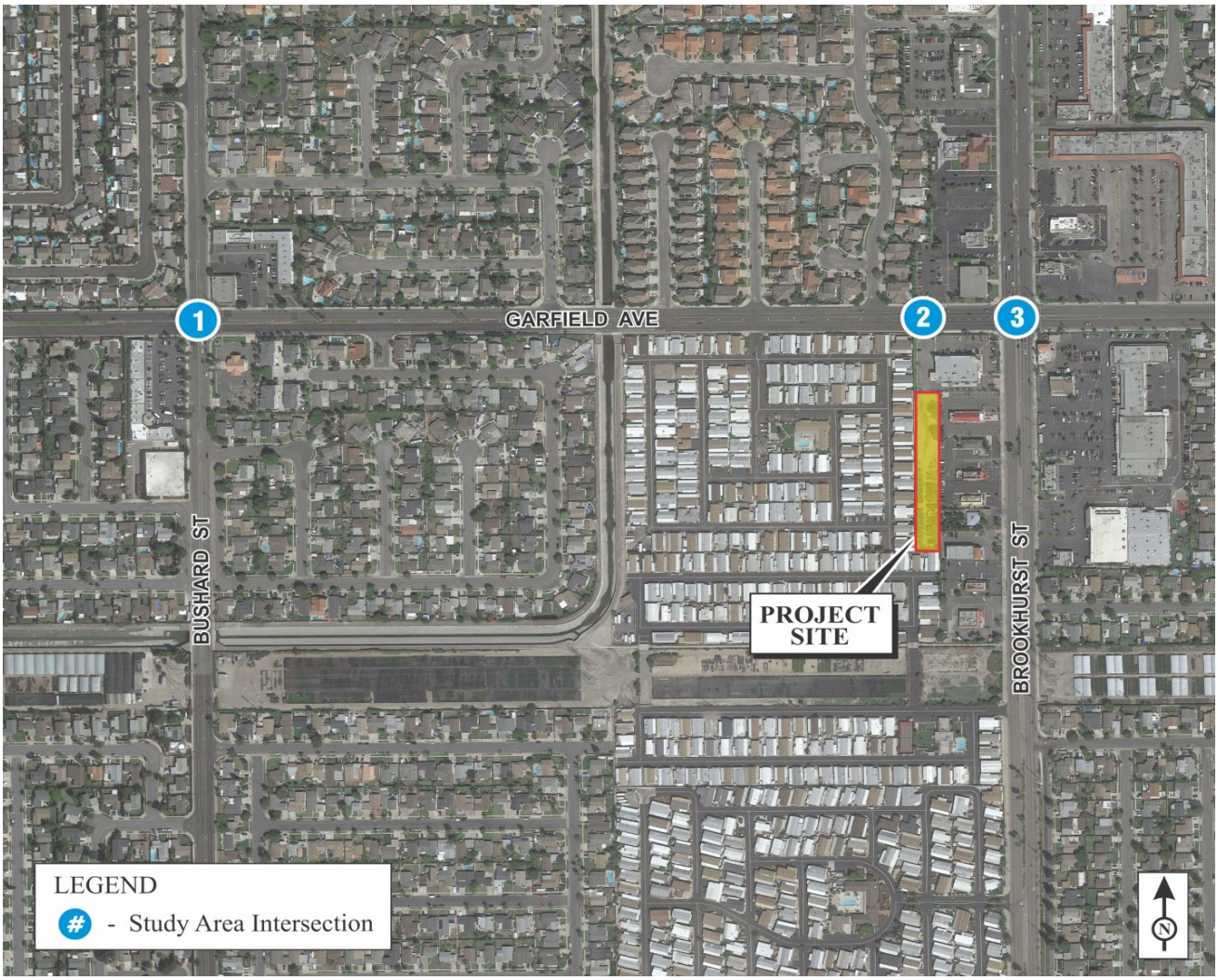
As illustrated on Figure 2, the study area includes the following intersections:

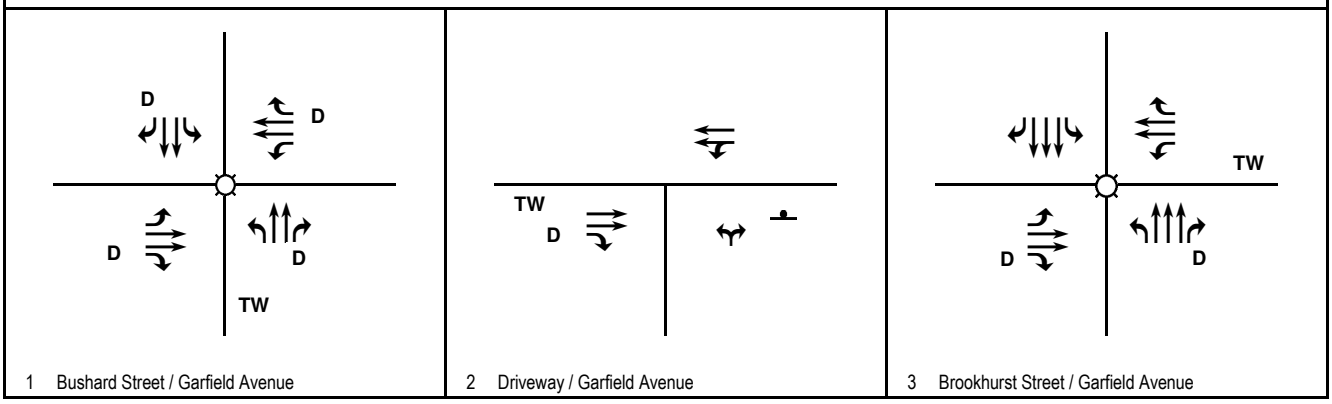
1. Bushard Street/Garfield Avenue
2. Driveway/Garfield Avenue
3. Brookhurst Street/Garfield Avenue

In addition to showing the analysis locations, Figure 2 illustrates the existing intersection geometrics and controls of each of these locations.

Existing and Proposed Uses in the Vicinity of the Study Area

The project site is adjacent to a Walgreens pharmacy and several restaurants, such as Arby's, KFC, Wienerschnitzel, and Mr. Pete's Grill. The existing neighborhood is primarily residential, with





LSA

FIGURE 2

Legend

Signal

Stop Sign

TW Two-Way Left-Turn Lane

D Defacto Right-Turn Lane

Autumn Care Residential Care Facility

Existing Geometrics and Traffic Control

commercial uses concentrated around major intersections along Brookhurst Street. A review of the City's Planning Division website revealed one development in the vicinity of the study area that may add additional traffic to a study area facility. Specifically, 80 detached single-family residential units are proposed to be constructed on the Fairwind-Former Lamb School Site at 10251 Yorktown Avenue. This site is located north of Yorktown Avenue, approximately 0.2 mile east of Brookhurst Street. Traffic generated by these 80 units has been taken into consideration in the Opening Year (2018) assessment conditions.

TRIP GENERATION

Anticipated project, cumulative development, and alternative commercial use traffic generation is discussed in this section.

Proposed Project

The generation of vehicular trips associated with the proposed project site is calculated based on rates contained in the Institute of Transportation Engineers' (ITE) *Trip Generation* (Ninth Edition), which is a standard reference used by jurisdictions throughout the country for estimating the trip generation potential of new developments. The project is classified as an Assisted Living Facility (ITE Land Use 254). The project's potential trip generation was calculated using the average rates (per bed).

As indicated in Table A, the proposed project is anticipated to generate 202 average daily trips (ADT), 11 weekday a.m. peak-hour (7 inbound and 4 outbound) trips, and 17 p.m. peak-hour (8 inbound and 9 outbound) trips.

Table A: Project Trip Generation

				AM Peak Hour			PM Peak Hour		
	Size	**Unit**	**ADT**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trip Rates[1]									
Assisted Living		Beds	2.66	0.09	0.05	0.14	0.10	0.12	0.22
Trip Generation									
Assisted Living	76	Beds	202	7	4	11	7	9	17

[1] Trip rates are from the Institute of Transportation Engineers' *Trip Generation*, Ninth Edition (2012), Land Use 254.
ADT = average daily trips

Cumulative Development

Traffic from the nearby proposed 80 detached single-family residential unit development at 10251 Yorktown Avenue has been calculated using the *Trip Generation* manual. As indicated in Table B, this cumulative development is anticipated to generate 762 ADT, 60 weekday a.m. peak-hour (15 inbound and 45 outbound) trips, and 80 p.m. peak-hour (50 inbound and 30 outbound) trips.

Table B: Cumulative Development Trip Generation

	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
Single-Family Detached Housing		DU	9.52	0.19	0.56	0.75	0.63	0.37	1.00
Trip Generation									
Single-Family Detached Housing	80	DU	762	15	45	60	50	30	80

[1] Trip rates are from the Institute of Transportation Engineers' *Trip Generation*, Ninth Edition (2012), Land Use 210.
ADT = average daily trips
DU = dwelling units

Alternative Commercial Use

The intent of this analysis is to provide an indication of potential traffic impacts that may result from a vehicular traffic-intensive commercial use that could fit under the category of a 1.0 FAR Neighborhood Commercial land use. Through coordination with City staff, trip generation rates for the ITE Shopping Center land use (ITE Land Use 820) by square footage were selected (see Table C below).

Table C: Alternative Commercial Use Trip Generation

	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
Shopping Center		TSF	103.5	0.60	0.36	0.96	4.28	4.64	8.91
Trip Generation									
Shopping Center	30,000[2]	TSF	3,105	18	11	29	128	139	267
Pass-By Trips (34% PM Peak Hour)[3]			--	--	--	--	*-44*	*-44*	*-88*
Alternative Commercial Use Total			3,105	18	11	29	84	95	179

[1] Trip rates are from the ITE *Trip Generation*, Ninth Edition (2012), Land Use 820. The regression equation rates for both ADT and p.m. peak hour were utilized.
[2] 30.000 TSF obtained from the total area of the site (0.68 acre) multiplied by 1.0 FAR.
[3] Pass-By Trips obtained from the ITE *Trip Generation Handbook*, Second Edition (2003).
ADT = average daily trips
FAR = floor-to-area ratio
ITE = Institute of Transportation Engineers'
TSF = total square feet

TRIP DISTRIBUTION AND ASSIGNMENT

Anticipated project, cumulative development, and alternative commercial use traffic distribution and assignment are discussed below.

Proposed Project

The project trips were distributed at the three study area intersections using existing peak-hour travel patterns at the study area intersections. These patterns were ascertained from peak-hour count data collected by an independent count company (National Data & Surveying Services [NDS]) on

Tuesday, February 9, 2016. Specifically, peak-hour counts were conducted for the weekday a.m. peak hour (7:00 a.m.–9:00 a.m.) and p.m. peak hour (4:00 p.m.–6:00 p.m.). Traffic count data are included in Appendix B.

The peak-hour trip distribution patterns for both the a.m. and p.m. peak hours are shown on Figure 3. The resulting a.m. and p.m. peak-hour project trip assignments are shown on Figure 4.

Cumulative Development

Cumulative development trips were distributed through the study area based on the location of the project in relation to major roadway facilities and surrounding land uses. This approach to distribution was chosen to represent this development due to the difference in use between the proposed project and this development.

Alternative Commercial Use

Due to the uncertainty of what the alternative commercial use would specifically contain, trips were distributed through the study area based on the same approach utilized to determine the project's trip distribution pattern. The resulting a.m. and p.m. peak-hour alternative commercial use trip assignments are shown on Figure 5. The illustrated trip assignments include "pass-by" trips at the project driveway during the p.m. peak hour. This represents trips to the alternative commercial use by vehicles that are already on Garfield Avenue, such as commuters traveling home from work.

EXISTING AND FORECASTED TRAFFIC VOLUMES

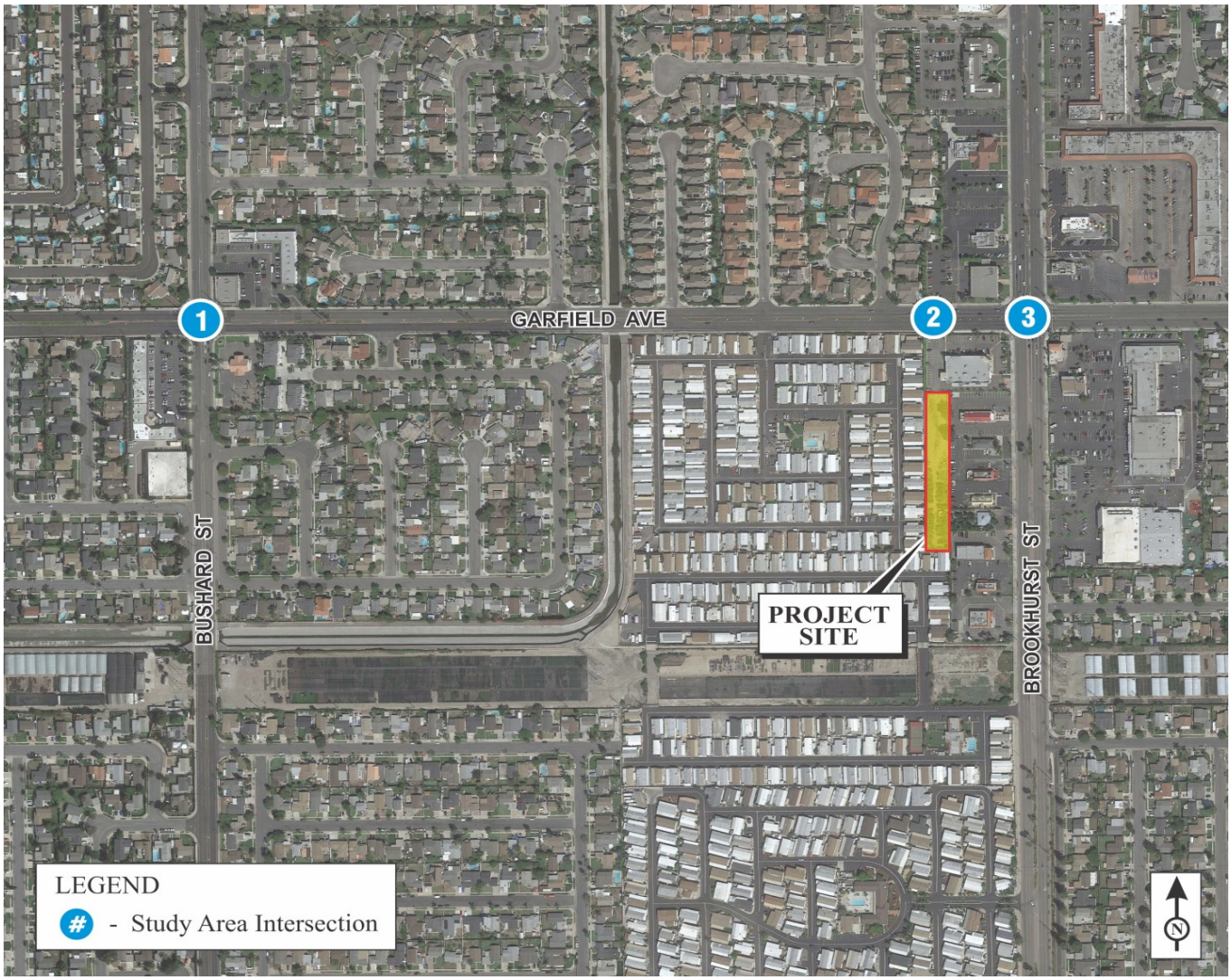
Existing, Opening Year (2018), and Future Year (2030) vehicular traffic conditions are discussed below.

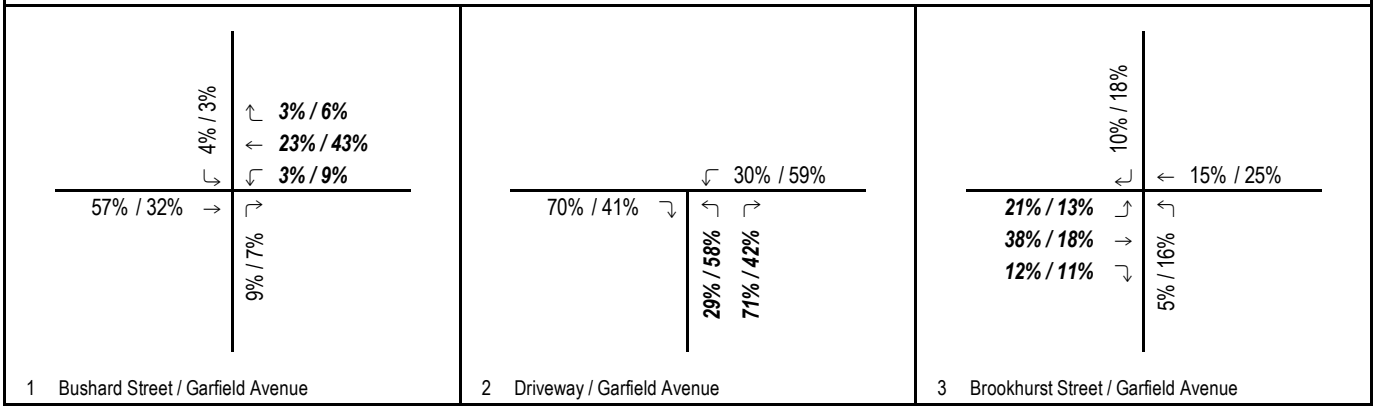
Existing Conditions

Existing traffic conditions are based on the previously described peak-hour count data. Peak-hour intersection turning movement volumes for Existing conditions are shown on Figure 6.

Existing Plus Project Conditions

Existing Plus Project traffic conditions are intended to identify any significant impacts the project may have on adjacent intersections in the theoretical scenario where the project exists today. Existing plus project traffic conditions introduce anticipated project peak-hour traffic to Existing traffic volumes. Peak-hour intersection turning movement volumes for Existing Plus Project conditions are shown on Figure 7.





LSA

FIGURE 3

Legend

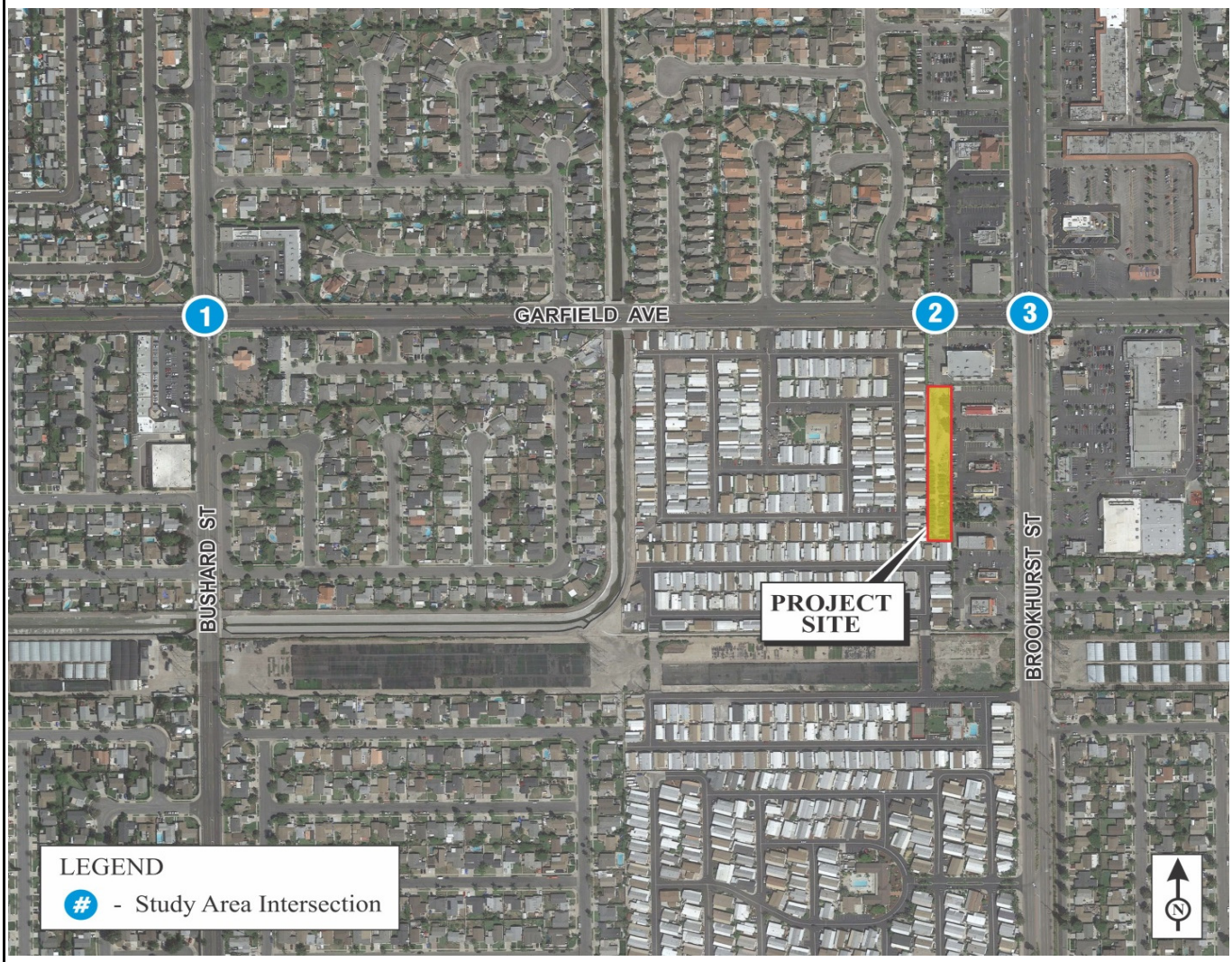
123% / 456% AM% / PM% Inbound Distribution

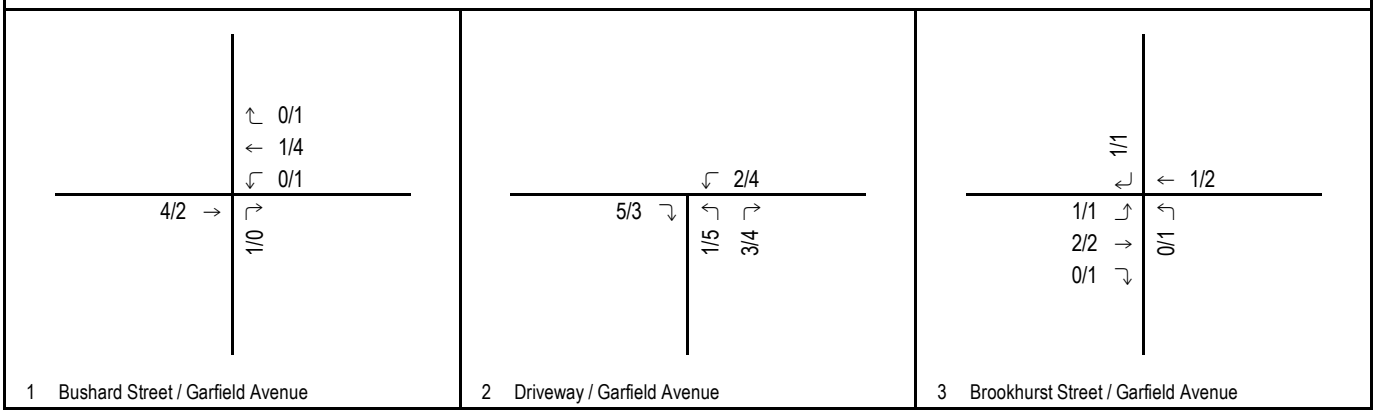
123% / 456% AM% / PM% Outbound Distribution

Autumn Care Residential Care Facility

Project Peak Hour Traffic Distribution Percentage

P:\AMG1601\figures\Figure 3 - Project Hour Trip Distribution.xls (3/3/2016)





LSA

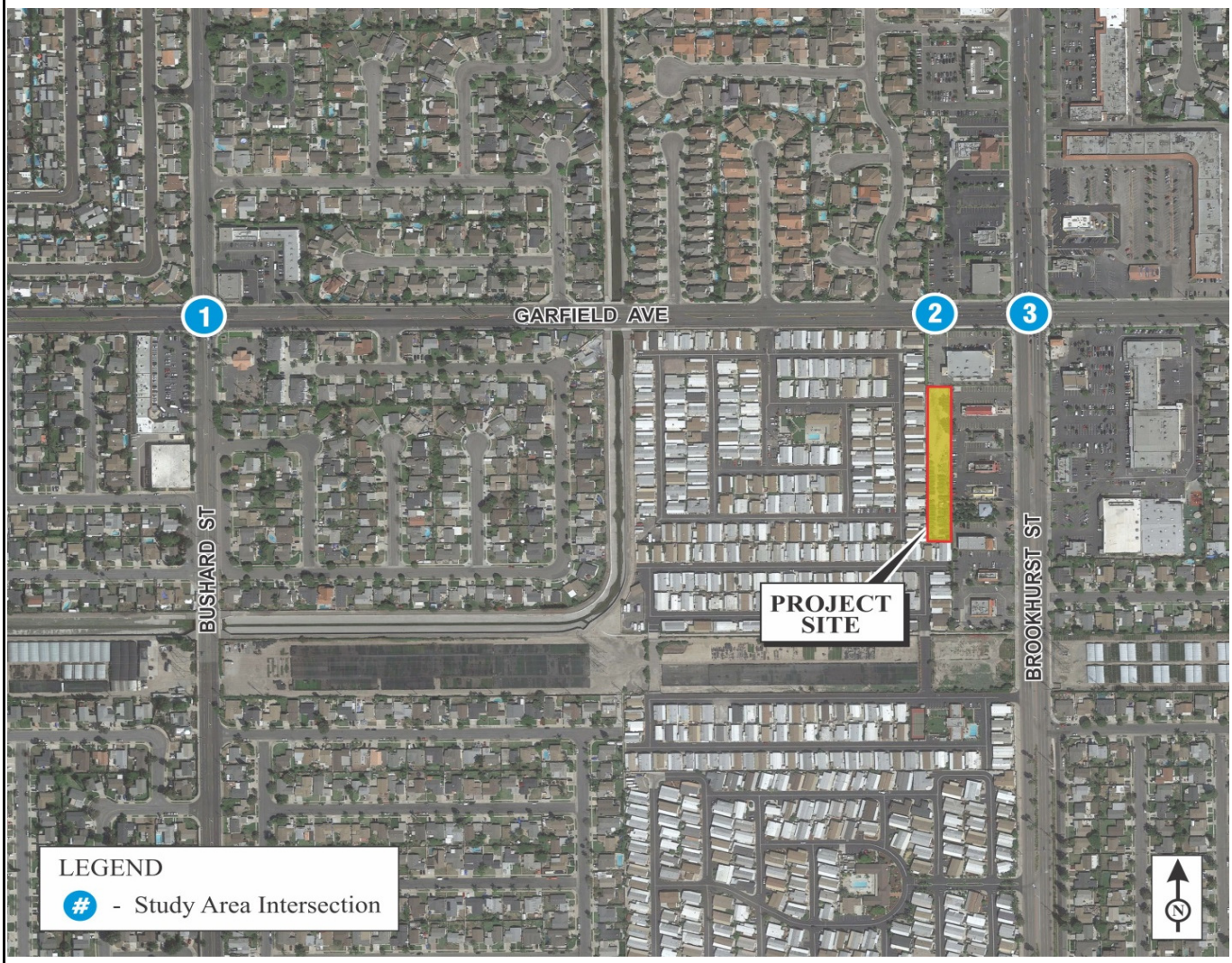
FIGURE 4

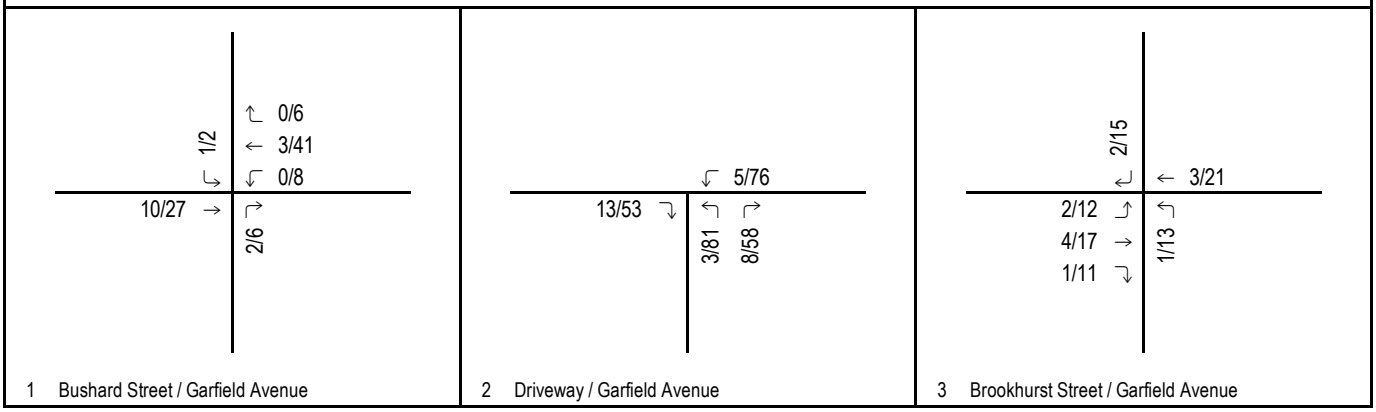
Legend

123/456 AM/PM Volumes

Autumn Care Residential Care Facility

Project Only Peak Hour Traffic Volumes





LSA

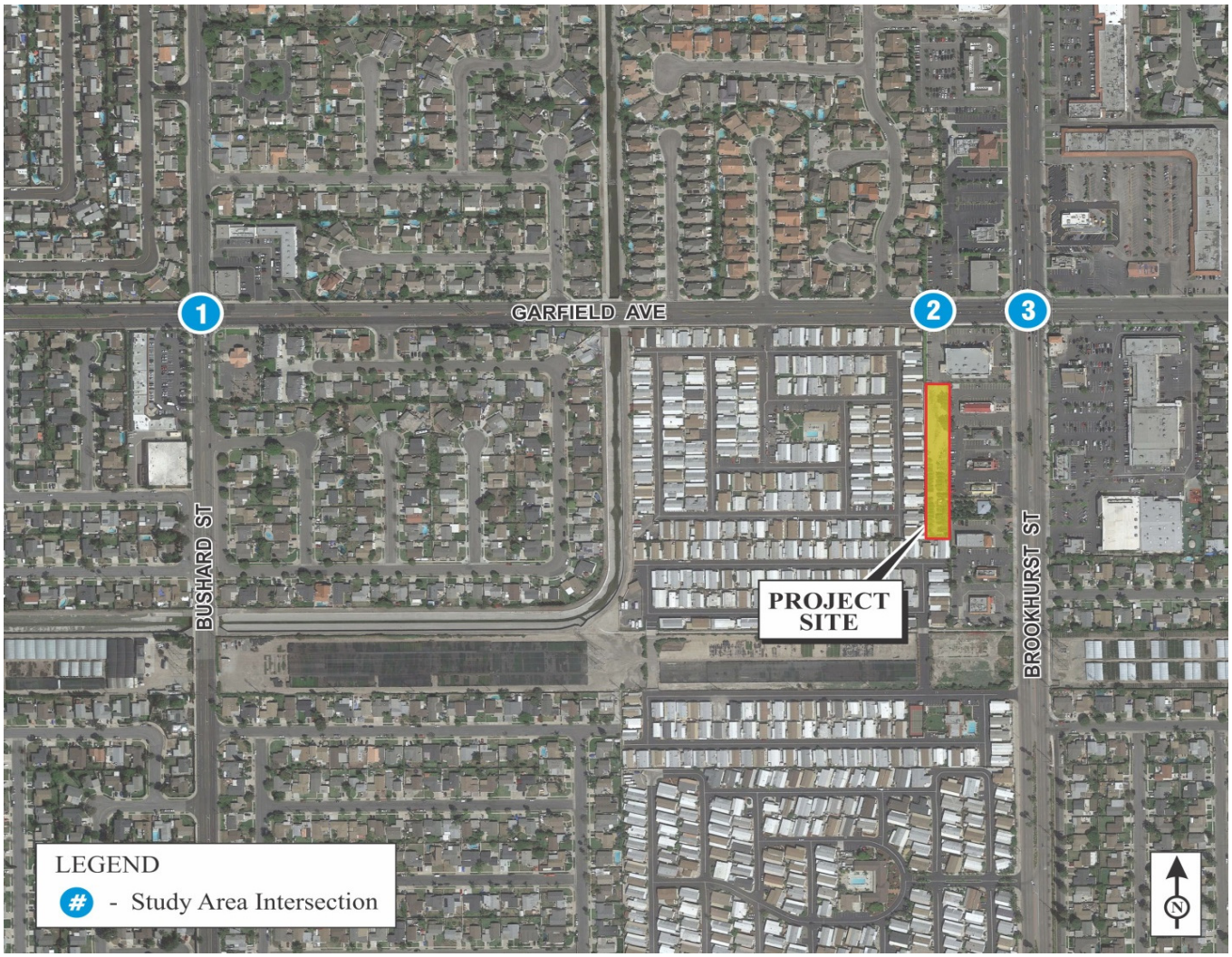
FIGURE 5

Legend

123/456 AM/PM Volumes

Autumn Care Residential Care Facility

Alternative Commercial Use Only Peak Hour Traffic Volumes



1 Bushard Street / Garfield Avenue

80/71 ↲	397/408 ↓	54/34 ↳
122/99 ↰	823/429 →	102/77 ↲
81/125 ↰	440/589 ↑	134/92 ↱
40/86 ↰	360/578 ←	52/115 ↰

2 Driveway / Garfield Avenue

1115/534 →	18/31 ↲	
2/16 ↰	10/28 ↱	
411/794 ←	0/11 ↰	

3 Brookhurst Street / Garfield Avenue

149/242 ↲	823/1214 ↓	34/112 ↳
335/168 ↰	605/244 →	185/153 ↲
72/215 ↰	1082/1497 ↑	65/66 ↱
81/79 ↰	211/343 ←	113/180 ↰

LSA

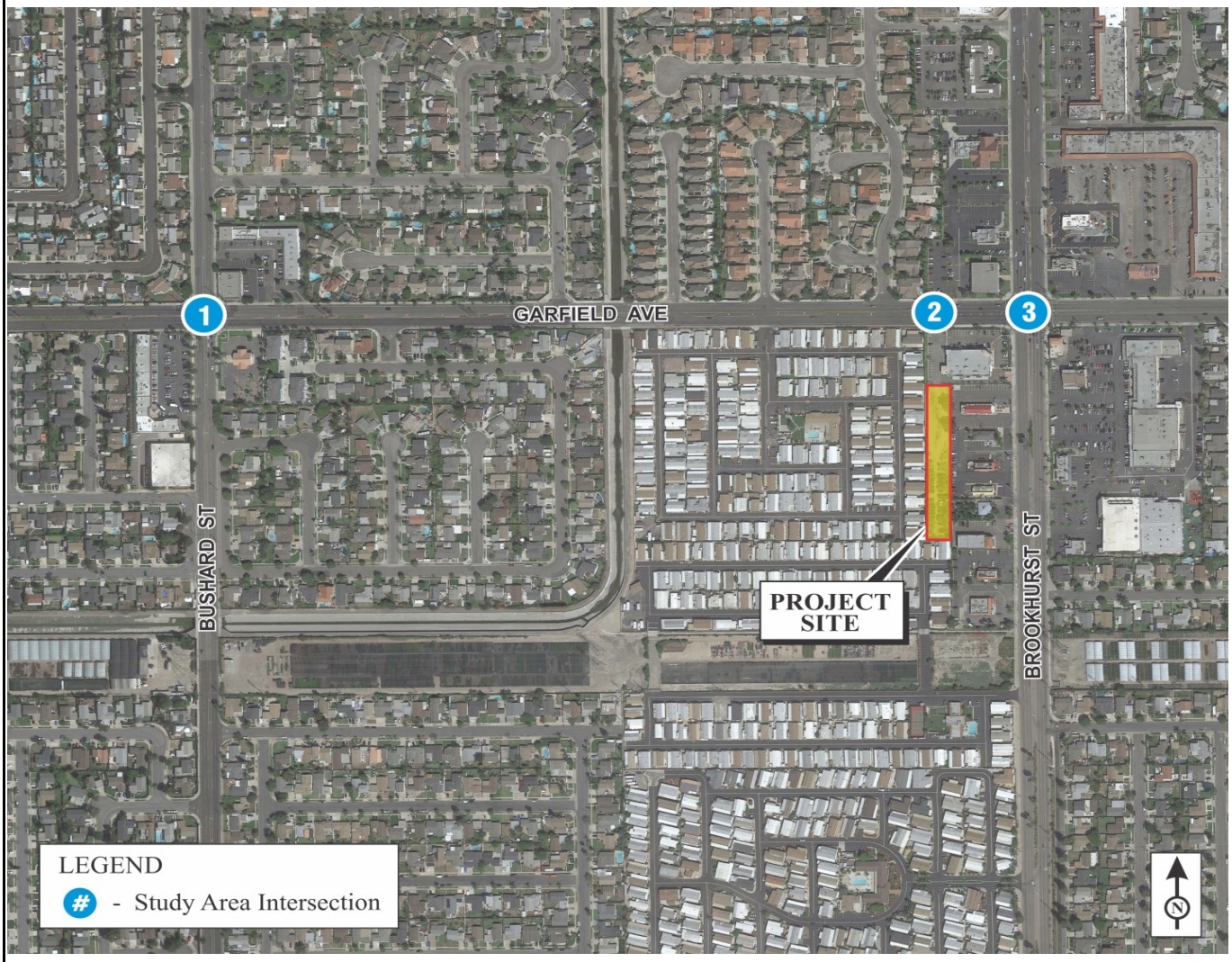
FIGURE 6

Legend

123/456 AM/PM Volumes

Autumn Care Residential Care Facility

Existing Peak Hour Volume



1 Bushard Street / Garfield Avenue

122/99 ↰	81/125 ↰	40/87 ↱
827/431 →	440/589 ↑	361/582 ←
102/77 ↳	135/92 ↱	52/116 ↲
80/71 ↲	397/408 ↓	54/34 ↳

2 Driveway / Garfield Avenue

1115/534 →	3/21 ↰	411/794 ←
23/34 ↳	13/32 ↱	2/15 ↲

3 Brookhurst Street / Garfield Avenue

336/169 ↰	72/216 ↰	81/79 ↱
607/246 →	1082/1497 ↑	212/345 ←
185/154 ↳	65/66 ↱	113/180 ↲
150/243 ↲	823/1214 ↓	34/112 ↳

LSA

FIGURE 7

Legend

123/456 AM/PM Volumes

Autumn Care Residential Care Facility

Existing Plus Project Peak Hour Volume

Opening Year (2018) Conditions

Opening Year (2018) traffic conditions are intended to represent traffic conditions at the time the project is anticipated to be completed and occupied. This was done by adding 2 percent growth on top of Existing traffic conditions at a rate of 1 percent of growth per year as specified by City staff.

Anticipated traffic from the cumulative development at 10251 Yorktown Avenue has also been included in the event that it is constructed and occupied by Opening Year (2018). Specifically, vehicular trips from 10251 Yorktown Avenue have been added to the intersection of Brookhurst Street/Garfield Avenue. It is anticipated that future residents of 10251 Yorktown Avenue will travel to and from Interstate 405 primarily via Brookhurst Street. Peak-hour intersection turning movement volumes for Opening Year (2018) conditions are shown on Figure 8.

Opening Year (2018) Plus Project Conditions

Opening Year (2018) Plus Project traffic conditions are intended to identify any significant impacts the project may have on adjacent intersections at the time it is anticipated to be completed and occupied. Opening Year (2018) Plus Project traffic conditions introduce anticipated project peak-hour traffic to Opening Year (2018) conditions. Peak-hour intersection turning movement volumes for Opening Year (2018) Plus Project conditions are shown on Figure 9.

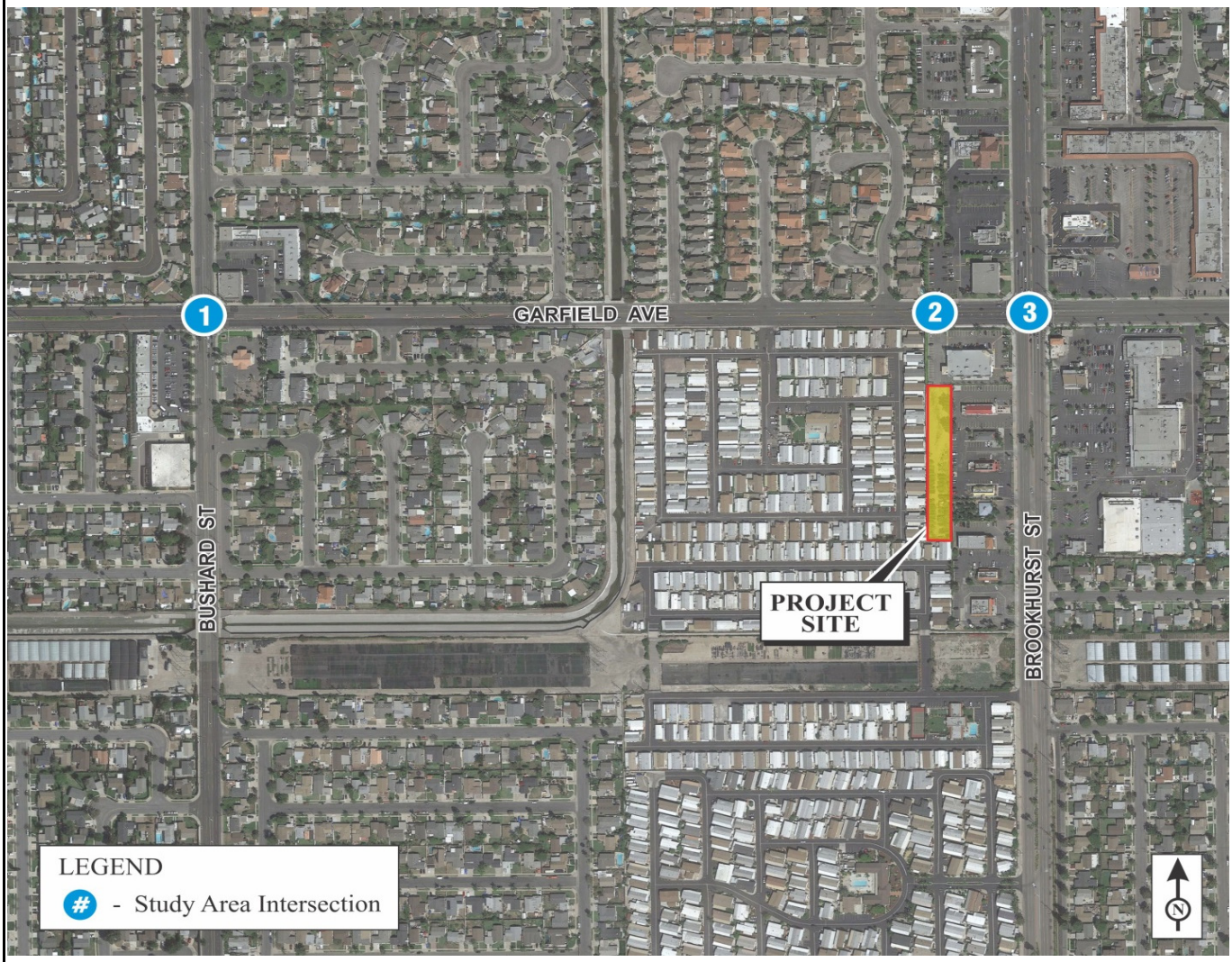
Future Year (2030) Conditions

Future Year (2030) traffic conditions are intended to represent traffic conditions in the long-range analysis year of 2030. Future Year (2030) volumes are based on year 2030 traffic forecasts found in the City's *General Plan Circulation Element Update: Traffic Study* (Austin-Foust Associates, Inc., June 2012). These year 2030 forecasts were developed from a subarea model (the Huntington Beach Traffic Model [HBTM]) of the Orange County Transportation Analysis Model (OCTAM). Land use data utilized in the HBTM are based on the City's General Plan Land Use Element.

It should be noted that the General Plan Traffic Study assessed three different year 2030 scenarios in order to account for traffic conditions under the Current Highway Plan with Committed Intersection Improvements (improvements that are currently funded and therefore can be expected to be completed by the year 2030), the Proposed Highway Plan with Committed Intersection Improvements, and the Proposed Highway Plan with Recommended Intersection Improvements. In an effort to present the most conservative, worst-case analysis of traffic conditions near the project site, intersection turning movement volumes from the 2030 Current Highway Plan with Committed Intersection Improvements scenario were utilized in this study, as this scenario was identified to have the highest a.m. and p.m. peak-hour volumes at the two signalized study area locations out of the three 2030 scenarios. Peak-hour intersection turning movement volumes for Future Year (2030) conditions are shown on Figure 10.

Future Year (2030) Plus Project Conditions

Future Year (2030) Plus Project traffic conditions are intended to identify any significant impacts the project may have on adjacent intersections in the General Plan analysis year of 2030. Future Year



1 Bushard Street / Garfield Avenue

82/72 ↲	405/416 ↓	55/35 ↳
124/101 ↰	83/128 ↰	41/88 ↱
839/438 →	449/601 ←	367/590 ↱
104/79 ↳	137/94 ↱	53/117 ↰

2 Driveway / Garfield Avenue

		419/810 ←
		0/11 ↰
1137/545 →	2/16 ↰	10/29 ↱
18/32 ↳		

3 Brookhurst Street / Garfield Avenue

152/247 ↲	848/1268 ↓	35/114 ↳
342/171 ↰	73/219 ↰	83/81 ↱
617/249 →	1131/1545 ←	215/350 ↱
189/156 ↳	66/67 ↱	115/184 ↰

LSA

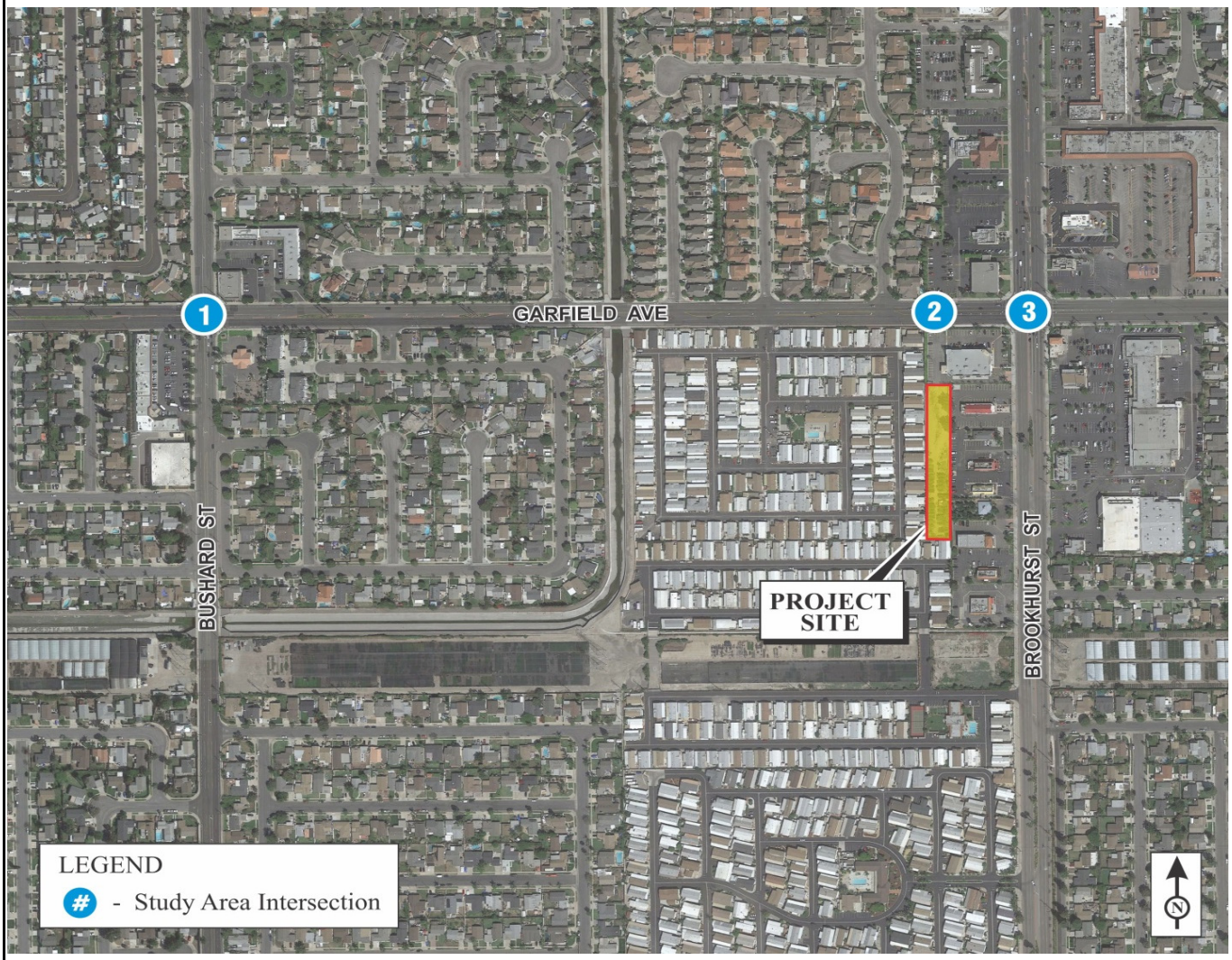
FIGURE 8

Legend

123/456 AM/PM Volumes

Autumn Care Residential Care Facility

Opening Year (2018) Peak Hour Volume



82/72	405/416	55/35	41/89	368/594	53/118
124/101	843/440	104/79	83/128	449/601	138/94

1 Bushard Street / Garfield Avenue

419/810	2/15		
1137/545	23/35	3/21	13/33

2 Driveway / Garfield Avenue

153/248	848/1268	35/114	83/81	216/352	115/184
343/172	619/251	189/157	73/220	1131/1545	66/67

3 Brookhurst Street / Garfield Avenue

LSA

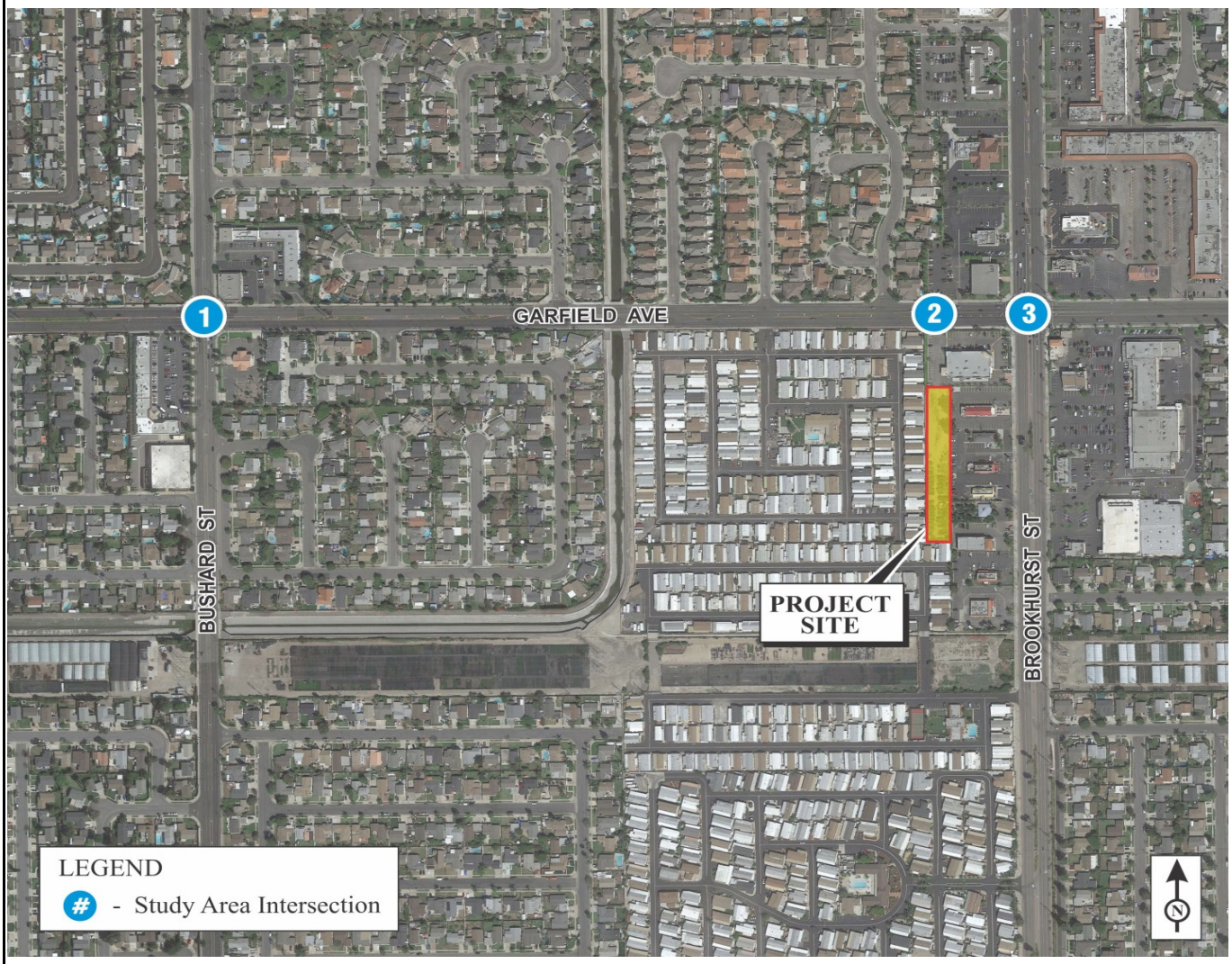
FIGURE 9

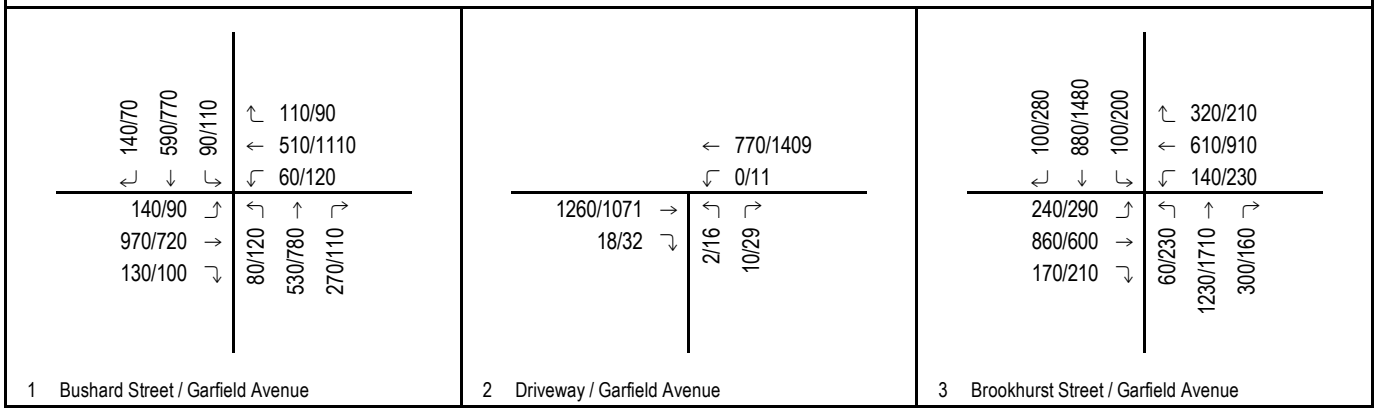
Legend

123/456 AM/PM Volumes

Autumn Care Residential Care Facility

Opening Year (2018) Plus Project Peak Hour Volume





LSA

FIGURE 10

Legend

123/456 AM/PM Volumes

Autumn Care Residential Care Facility

Future Year (2030) Peak Hour Volume

(2030) Plus Project traffic condition introduces anticipated project peak-hour traffic to Future Year (2030) conditions. Peak-hour intersection turning movement volumes for Future Year (2030) Plus Project conditions are shown on Figure 11.

Alternative Commercial Use Conditions

Analysis of traffic conditions with the addition of the alternative commercial use was based on traffic volumes similar to how Existing, Opening Year (2018), and Future Year (2030) plus project traffic volume forecasts were developed.

Existing, Opening Year (2018), and Future Year (2030) plus alternative commercial use peak-hour intersection turning movement volumes are shown on Figures 12, 13, and 14, respectively.

CAPACITY ANALYSIS

Intersection capacity analysis for Existing, Opening Year (2018), and Future Year (2030) vehicular traffic conditions is discussed below.

Analysis Methodology and Performance Criteria

Consistent with City guidelines, signalized intersection analysis has been performed according to peak-hour intersection capacity utilization (ICU) methodology with the following assumptions:

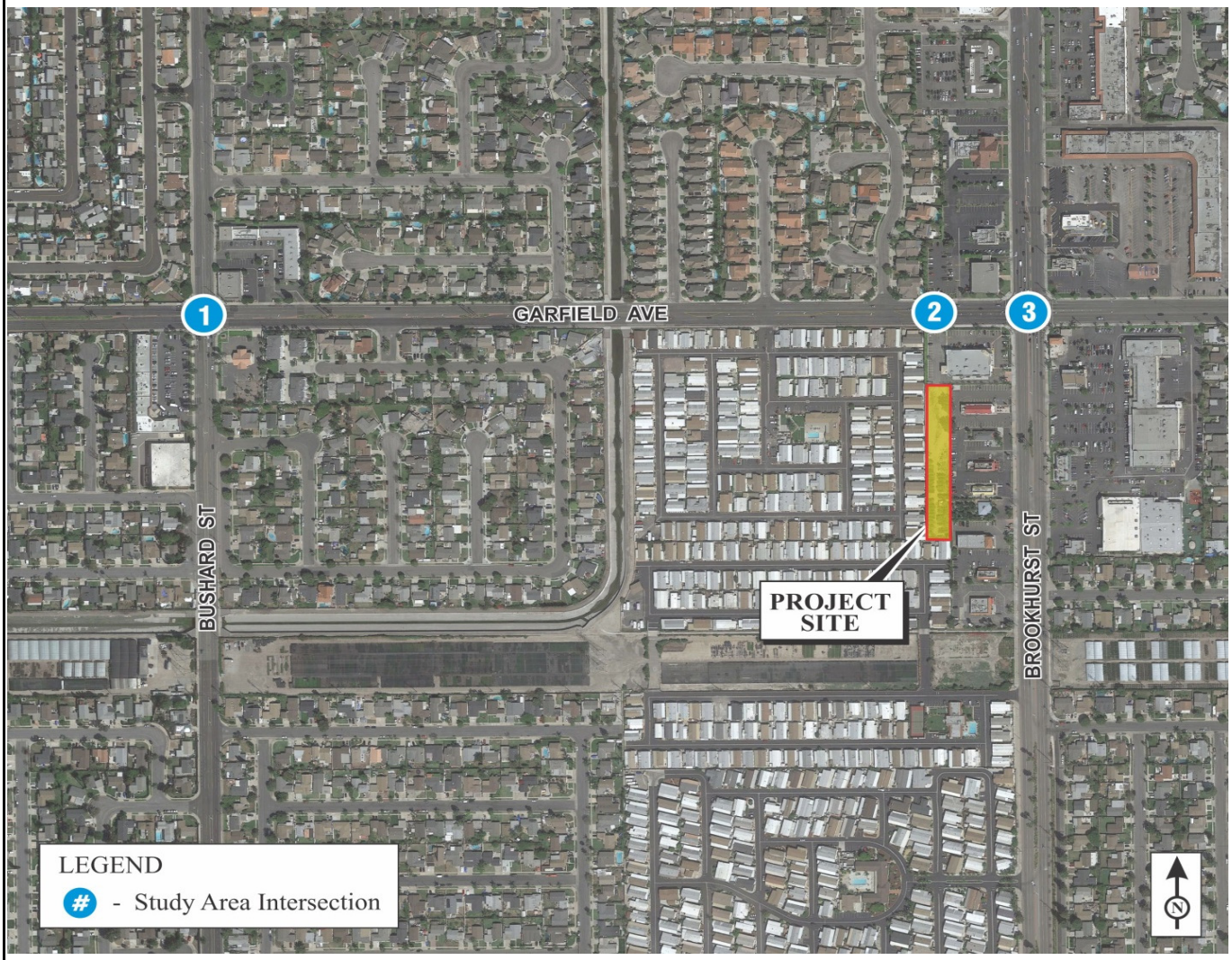
- **Saturation Flow Rate:** 1,700 vehicles/hour/lane
- **Clearance Interval:** 0.05
- **Right-Turn-on-Red Factor:** 0.50

The ICU methodology compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The resulting ICU is expressed in terms of LOS, where LOS A represents free-flow activity and LOS F represents overcapacity operation.

Consistent with City guidelines, signalized intersections are considered to be operating at unsatisfactory levels when the ICU exceeds 0.90 (LOS D). The relationship of ICU to LOS is demonstrated in Table D.

Table D: Intersection Capacity Utilization Level of Service Thresholds

Level of Service	Intersection Capacity Utilization
A	0.00–0.60
B	0.61–0.70
C	0.71–0.80
D	0.81–0.90
E	0.91–1.00
F	> 1.00



1 Bushard Street / Garfield Avenue

140/90 ↱	↰ 80/120	↑ 530/780	↱ 271/110
974/722 →		
130/100 ↳		
↲ 140/70	↓ 590/770	↳ 90/110
↰ 110/91		
← 511/1114		
↶ 60/121		

2 Driveway / Garfield Avenue

1260/1071 →	↰ 3/21	↱ 13/33
23/35 ↳		
← 770/1409		
↶ 2/15		

3 Brookhurst Street / Garfield Avenue

241/291 ↱	↰ 60/231	↑ 1230/1710	↱ 300/160
862/602 →		
170/211 ↳		
↲ 101/281	↓ 880/1480	↳ 100/200
↰ 320/210		
← 611/912		
↶ 140/230		

LSA

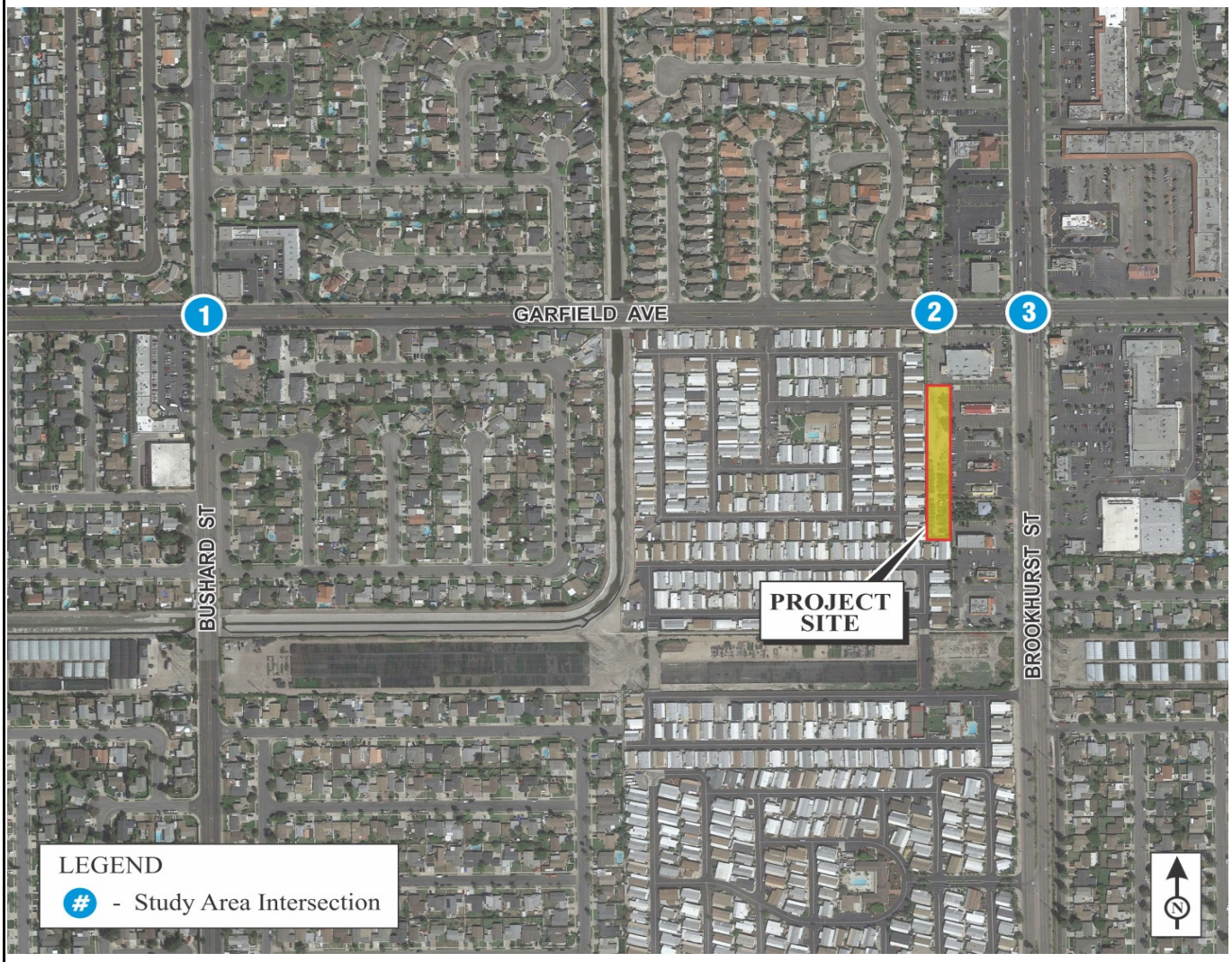
FIGURE 11

Legend

123/456 AM/PM Volumes

Autumn Care Residential Care Facility

Future Year (2030) Plus Project Peak Hour Volume



1 Bushard Street / Garfield Avenue

122/99 ↰	↰ 81/125	↑ 440/589	↱ 136/98
833/456 →		
102/77 ↳		
↲ 80/71	↓ 397/408	↳ 55/36
	↱ 40/92	
	← 363/619	
	↰ 52/123	

2 Driveway / Garfield Avenue

1115/534 →	↰ 5/97	↱ 18/86
31/84 ↳		
	← 411/794	
	↰ 5/87	

3 Brookhurst Street / Garfield Avenue

337/180 ↰	↰ 73/228	↑ 1082/1497	↱ 65/66
609/261 →		
186/164 ↳		
↲ 151/257	↓ 823/1214	↳ 34/112
	↱ 81/79	
	← 214/364	
	↰ 113/180	

LSA

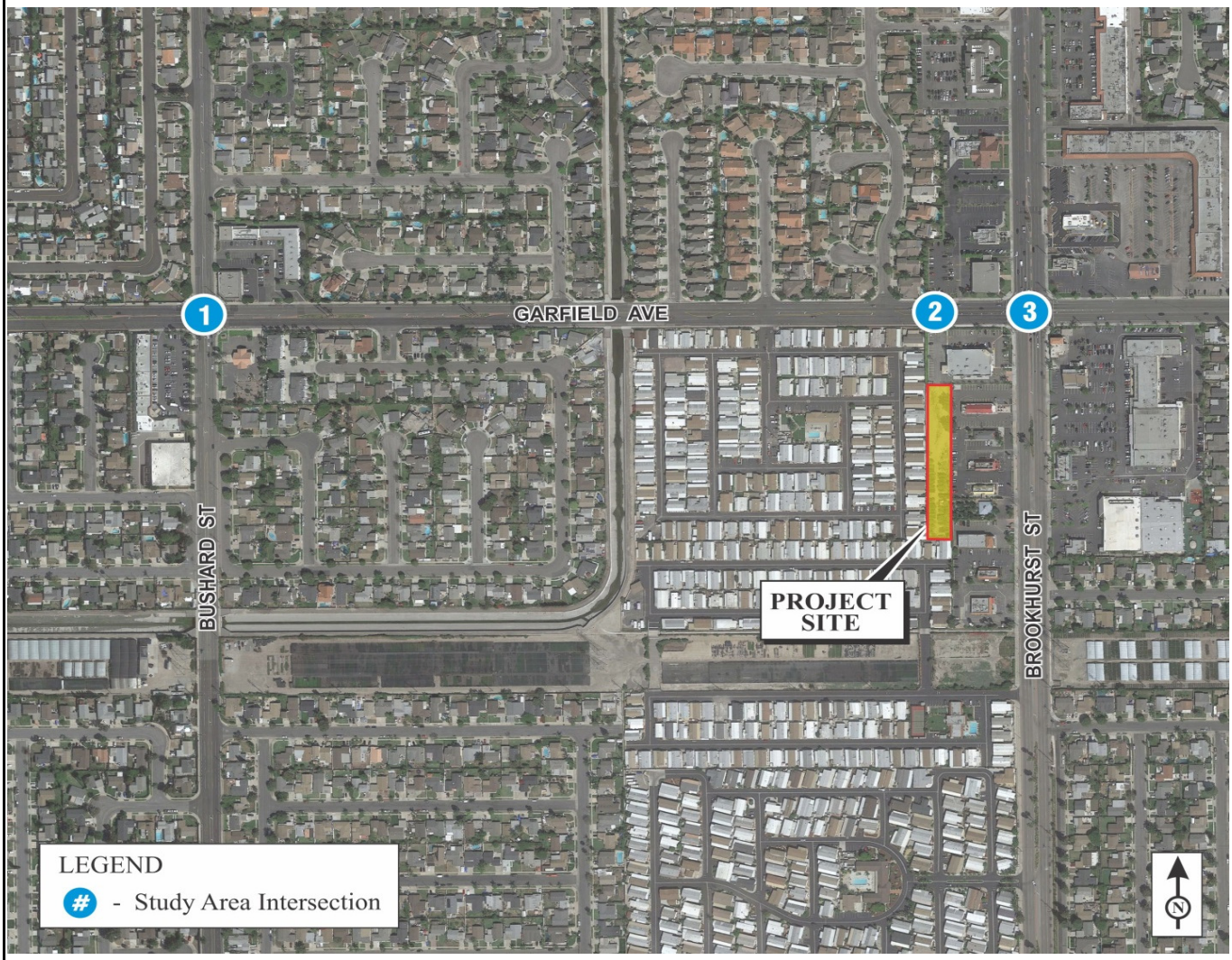
FIGURE 12

Legend

123/456 AM/PM Volumes

Autumn Care Residential Care Facility

Existing Plus Alternative Commercial Use Peak Hour Volume



1 Bushard Street / Garfield Avenue

82/72	405/416	56/37
124/101	849/465	104/79
83/128	449/601	139/100
41/94	370/631	53/125

2 Driveway / Garfield Avenue

1137/545	31/85
5/97	18/87
419/810	5/87

3 Brookhurst Street / Garfield Avenue

154/262	848/1268	35/114
344/183	621/266	190/167
74/232	1131/1545	66/67
83/81	218/371	115/184

LSA

FIGURE 13

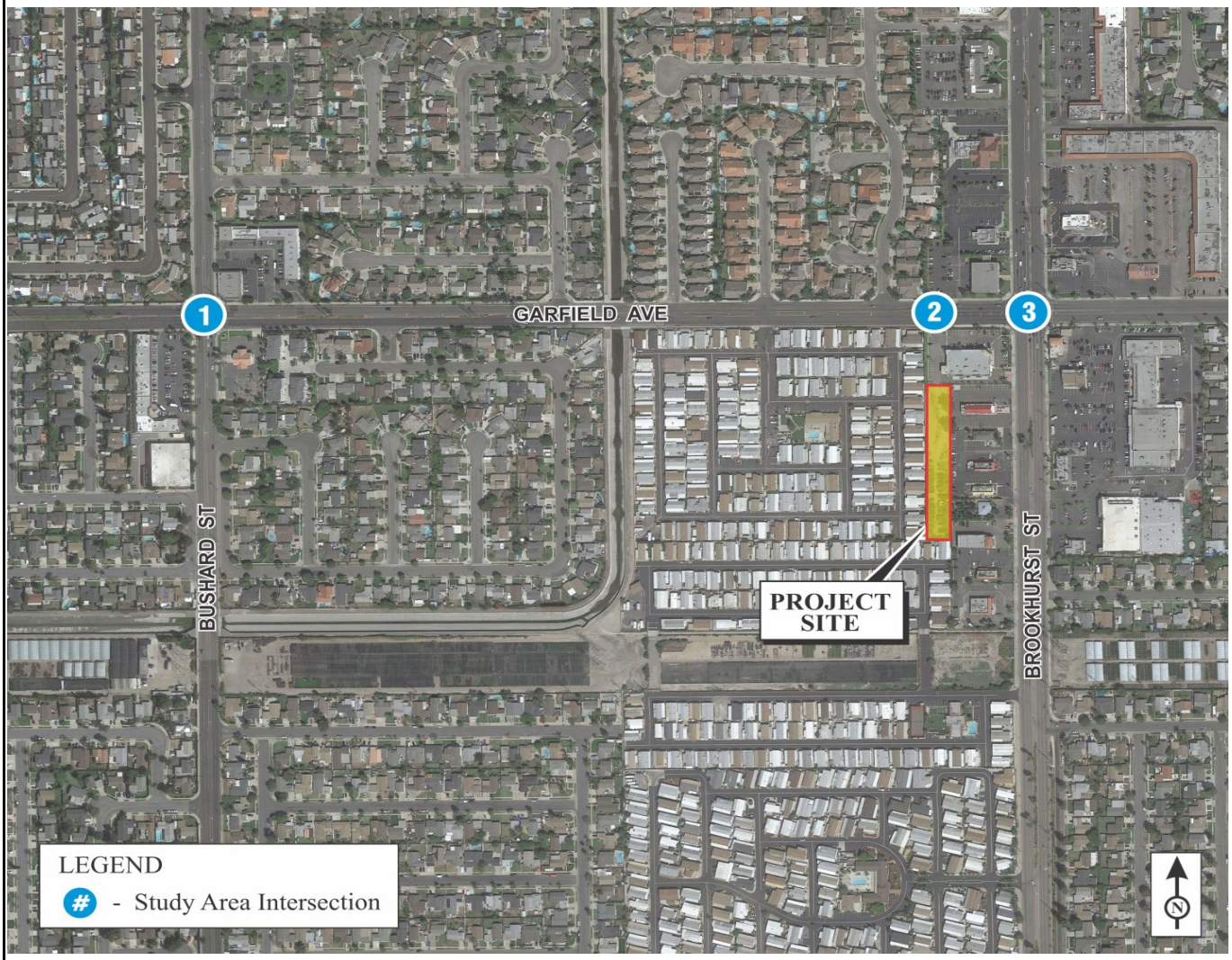
Legend

123/456 AM/PM Volumes

Autumn Care Residential Care Facility

Opening Year (2018) Plus Alternative Commercial Use Peak Hour Volume

P:\AMG1601\figures\Figure 13 - Alt Analysis OYWP Peak Hour Traffic Volume.xls (9/20/2016)



1 Bushard Street / Garfield Avenue

140/90 ↱	↰ 80/120	↑ 530/780	↱ 272/116
980/747 →		
130/100 ↳		
↲ 140/70	↓ 590/770	↳ 91/112
↰ 110/96	← 513/1151	↶ 60/128

2 Driveway / Garfield Avenue

1260/1071 →	↰ 5/97	↱ 18/87
31/85 ↳		
← 770/1409	↶ 5/87	

3 Brookhurst Street / Garfield Avenue

242/302 ↱	↰ 61/243	↑ 1230/1710	↱ 300/160
864/617 →		
171/221 ↳		
↲ 102/295	↓ 880/1480	↳ 100/200
↰ 320/210	← 613/931	↶ 140/230

LSA

FIGURE 14

Legend

123/456 AM/PM Volumes

Autumn Care Residential Care Facility

Future Year (2030) Plus Alternative Commercial Use Peak Hour Volume

As City guidelines do not provide guidance on methodology for unsignalized intersection analysis, the methodology for two-way stop-controlled peak-hour intersection analysis from the 2010 Highway Capacity Manual (HCM 2010) has been utilized. The HCM 2010 two-way stop-controlled intersection methodology presents LOS in terms of the worst movement delay of either the major or minor streets (in seconds per vehicle). The resulting delay is expressed in terms of LOS, similar to the ICU methodology. The relationship of delay to LOS is demonstrated in Table E.

Table E: Highway Capacity Manual Level of Service Thresholds

Level of Service	Unsignalized Intersection Delay (seconds)
A	≤10.0
B	>10.0 and ≤15.0
C	>15.0 and ≤25.0
D	>25.0 and ≤35.0
E	>35.0 and ≤50.0
F	>50.0

Significance Criteria

The project is deemed to have a significant impact if it would result in deterioration of the intersection LOS to an unacceptable level or in an increase in the ICU value of 0.01 or greater at an intersection that operates at LOS “E” or “F” without the project.

PROJECT IMPACT ANALYSIS

Analysis of the project’s impact on intersection capacity for Existing, Opening Year (2018), and Future Year (2030) vehicular traffic conditions is discussed below.

Existing Conditions

Existing and Existing Plus Project peak-hour intersection operations are shown in Table F. As shown in Table F, the two signalized intersections adjacent to the project site and the project driveway are anticipated to operate at an acceptable LOS C or better.

Table F: Existing Intersection LOS Summary

	Existing				Existing Plus Project			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS
Bushard Street/Garfield Avenue	0.49	A	0.47	A	0.49	A	0.47	A
Driveway/Garfield Avenue *HCM*	*15.5*	C	*11.7*	B	*15.8*	C	*12.0*	B
Brookhurst Street/Garfield Avenue	0.54	A	0.61	B	0.54	A	0.61	B

Note: Delay is reported in seconds per vehicle using the HCM 2010 methodology.
HCM = Highway Capacity Manual LOS = level of service
ICU = Intersection Capacity Utilization

Because all study area intersections are anticipated to operate at acceptable LOS, the project is not anticipated to create a significant impact under Existing conditions. All intersection analysis worksheets are included in Appendix C.

Opening Year (2018) Conditions

Opening Year (2018) and Opening Year (2018) Plus Project peak-hour intersection operations are shown in Table G. As shown in Table G, the two signalized intersections adjacent to the project site and the project driveway are anticipated to operate at an acceptable LOS C or better.

Table G: Opening Year (2018) Intersection LOS Summary

	Opening Year (2018)				Opening Year (2018) Plus Project			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS
Bushard Street/Garfield Avenue	0.50	A	0.48	A	0.50	A	0.48	A
Driveway/Garfield Avenue *HCM*	*15.7*	C	*11.7*	B	*16.1*	C	*12.0*	B
Brookhurst Street/Garfield Avenue	0.56	A	0.63	B	0.56	A	0.63	B

Note: Delay is reported in seconds per vehicle using the HCM 2010 methodology.
HCM = Highway Capacity Manual LOS = level of service
ICU = Intersection Capacity Utilization

Because all study area intersections are anticipated to operate at acceptable LOS, the project is not anticipated to create a significant impact under Opening Year (2018) conditions.

Future Year (2030) Conditions

Future Year (2030) and Future Year (2030) Plus Project peak-hour intersection operations are shown in Table H. As shown in Table H, the intersection of Brookhurst Street/Garfield Avenue is anticipated to operate at an unacceptable LOS E during the Future Year (2030) p.m. peak hour regardless of project traffic. The intersection of Bushard Street/Garfield Avenue and the project driveway are anticipated to continue acceptable peak-hour operations under Future Year (2030) and Future Year (2030) Plus Project conditions.

Table H: Future Year (2030) Intersection LOS Summary

	Future Year (2030)				Future Year (2030) Plus Project			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS
Bushard Street/Garfield Avenue	0.59	A	0.73	C	0.59	A	0.73	C
Driveway/Garfield Avenue *HCM*	*16.4*	C	*17.3*	C	*16.8*	C	*18.4*	C
Brookhurst Street/Garfield Avenue	0.68	B	0.94	E	0.68	B	0.94	E

Note: Delay is reported in seconds per vehicle using the HCM 2010 methodology.
HCM = Highway Capacity Manual
ICU = Intersection Capacity Utilization
LOS = level of service

Because the addition of project traffic to the intersection of Brookhurst Street/Garfield Avenue does not result in an increase in ICU greater than 0.01, and because the intersection of Bushard Street/ Garfield Avenue and the project driveway will continue to operate acceptably, the development of the project is not anticipated to result in any significant impacts under Future Year (2030) traffic conditions.

ALTERNATIVE COMMERCIAL USE IMPACT ANALYSIS

The analysis of the alternative commercial use's impact on intersection capacity for Existing, Opening Year (2018), and Future Year (2030) vehicular traffic conditions was conducted in a similar manner as the analysis conducted for the proposed project. It should be emphasized that this alternative analysis is provided for informational purposes only at the request of the City's Planning Department. A summary of the analysis is shown on Table I.

Table I: Alternative Commercial Use Intersection LOS Summary

Intersection	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS
	Existing				**Existing Plus Alternative Commercial Use**			
Bushard Street/Garfield Avenue	0.49	A	0.47	A	0.49	A	0.48	A
Driveway/Garfield Avenue *HCM*	*15.5*	C	*11.7*	B	*16.4*	C	*18.0*	C
Brookhurst Street/Garfield Avenue	0.54	A	0.61	B	0.54	A	0.64	B
	Opening Year (2018)				**Opening Year (2018) Plus Plus Alternative Commercial Use**			
Bushard Street/Garfield Avenue	0.50	A	0.48	A	0.50	A	0.49	A
Driveway/Garfield Avenue *HCM*	*15.7*	C	*11.7*	B	16.6	C	18.3	C
Brookhurst Street/Garfield Avenue	0.56	A	0.63	B	0.56	A	0.65	B
	Future Year (2030)				**Future Year (2030) Plus Alternative Commercial Use**			
Bushard Street/Garfield Avenue	0.59	A	0.73	C	0.59	A	0.74	C
Driveway/Garfield Avenue *HCM*	*16.4*	C	*17.3*	C	17.4	C	281.5	F
Brookhurst Street/Garfield Avenue	0.68	B	0.94	E	0.68	B	0.95	E

Note: Delay is reported in seconds per vehicle using the HCM 2010 methodology.
HCM = Highway Capacity Manual LOS = level of service
ICU = Intersection Capacity Utilization
= Significant Impact

As shown in Table I, the addition of the theoretical alternative commercial use would not result in traffic impacts to the three study area intersections under Existing and Opening Year (2018) conditions but would change the driveway LOS from B to C in the p.m. peak hour. However, the addition of the alternative commercial use could result in a significant impact at the intersections of Driveway/Garfield Avenue and Brookhurst Street/Garfield Avenue under Future Year (2030) conditions. The alternative commercial uses' contribution of traffic to the intersection of Brookhurst Street/Garfield Avenue exceeds the City's threshold of 0.01 at a deficient location.

Although the City does not specifically prescribe a significance threshold for unsignalized intersections, the alternative commercial uses' contribution to Driveway/Garfield Avenue results in deficient operations under Future Year (2030) conditions.

All intersection analysis worksheets for Existing, Opening Year (2018), and Future Year (2030) Plus Alternative Commercial Use conditions are included in Appendix D.

ALTERNATIVE COMMERCIAL USE MITIGATION MEASURE

According to the City's Circulation Element Traffic Study, the same intersection of Brookhurst Street/Garfield Avenue is anticipated to operate at acceptable LOS C (0.72) and LOS D (0.85) during the a.m. and p.m. peak hours under the 2030 Proposed Highway Plan with Committed Intersection Improvements scenario. Under this scenario, no geometric or operational improvements were envisioned for this location. Rather, the improved operations are due to differing travel patterns resulting from committed improvements elsewhere in the City's roadway network. The addition of alternative commercial use traffic to the same intersection under the same scenario results in acceptable operations of LOS C (0.73) and LOS D (0.88) and would not result in a significant impact under the City's 2030 Proposed Highway Plan with Committed Intersection Improvements scenario.

The intersection of Driveway/Garfield Avenue will continue to operate at deficient levels under the 2030 Proposed Highway Plan with Committed Intersection Improvements scenario. Specifically, this location will operate at deficient LOS E (45.8 seconds) during the p.m. peak hour. In the event that an alternative commercial use is constructed, it is recommended that the future operator of the site explore and design for the use of additional access points on Brookhurst Street. The distribution of alternative commercial use traffic from one access point to multiple access points may alleviate the deficient driveway operations anticipated under Future Year (2030) conditions.

As such, the alternative commercial use's vehicular traffic contribution would be partially mitigated through the contribution towards citywide roadway improvements. This may take the form of payment into the City's Traffic Impact Fee (TIF) Program and fair share payments, if necessary, into future planned improvements at this location. Future TIF payments would vary depending on the prevailing TIF Program fee schedule and the proposed alternative use at that future time. Similarly, fair share payments would depend on the identification and cost of any future improvements that may increase vehicular capacity. The fair share percentage of future improvements to be paid by the alternative commercial use should be identified in a future analysis of future volumes.

CONCLUSIONS

Based on the results of this analysis, the development of the project will not create any significant adverse impacts under Existing, Opening Year (2018), and Future Year (2030) traffic conditions.

Additionally, an analysis of an alternative commercial use at this location would also not create any significant adverse impacts with the alternative commercial use's TIF and fair share, if necessary, contribution towards the City's 2030 Proposed Highway Plan with Committed Intersection Improvements.

APPENDIX A

APPROVED SCOPE OF WORK

Donson Liu

From: Sam, Darren <Darren.Sam@surfcity-hb.org>
Sent: Monday, February 29, 2016 7:40 AM
To: Donson Liu
Subject: RE: Autumn Care TIA Scope

Donson,
Presuming the project description does not change the scope is acceptable. I checked our CIPs and no nearby projects to account for in the study.
Darren

From: Donson Liu [mailto:Donson.Liu@lsa-assoc.com]
Sent: Monday, February 22, 2016 3:57 PM
To: Sam, Darren
Cc: Ken Wilhelm; Nicholas Park
Subject: Autumn Care TIA Scope

Hi Mr. Sam,

We spoke on the phone last month regarding assumptions for a Traffic Impact Assessment for the proposed Autumn Care assisted living facility (project) on the southwest corner of Brookhurst Street / Garfield Avenue. The project consists of a 44 unit, 76 bed assisted living facility that will take access at Garfield Avenue via the existing full-access Walgreens driveway. The project would require a General Plan Amendment as it proposes to increase the FAR density from 0.35 to 1.00.

I wanted to confirm our TIA assumptions in writing with you before we proceed with our traffic study:

Study Area Intersections:

Bushard Street / Garfield Avenue
Walgreens Driveway / Garfield Avenue
Brookhurst Street / Garfield Avenue

Analysis Scenarios:

Weekday a.m. and p.m. peak-hour intersection operations will be analyzed for the following scenarios:

Existing (2016)
Existing plus Project
Opening Year
Opening Year Plus Project
Future (2030)
Future (2030) Plus Project

Future forecasts:

Opening Year – 1% of growth per year + applicable cumulative projects from the City website
Future (2030) – 2030 Current Roadway Plan (Com. Lanes) volumes from the 2012 General Plan Update Traffic Study

Project Volumes:

Trip Generation: ITE Land Use Code 254 – Assisted Living Facility
Trip Distribution: Based on Existing peak-hour counts at Bushard Street/Garfield Avenue and Brookhurst Street/Garfield Avenue

Based on our previous call, I believe the above assumptions were considered acceptable due to the proposed trip generation (202 ADT, 11 a.m. trips, 17 p.m. trips). I have also checked the City's Capital Improvement Program for Fiscal Years 2012/13 through 2016/17, and noticed that there did not appear to be any transportation projects in the vicinity of the study area. Are there any CIP projects that I should include in my analysis?

If you could confirm these assumptions in an email reply, I would greatly appreciate it. If you have any questions or comments, please do not hesitate to contact me.

Thank you,

Donson Liu, TE
Transportation Engineer
LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614
P: 949-553-0666 ext. 280
F:949-553-8076

Please consider the environment before printing this email.

APPENDIX B

COUNT DATA

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Bushard St and Garfield Ave , Huntington Beach

Date: 2/9/2016

Day: Tuesday

Project #: 16-1028-001

City: Huntington Beach

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Bushard St)

Lanes	0	2	1		
AM	80	397	54	602	AM
NOON	0	0	0	0	NOON
PM	71	408	34	774	PM

Eastbound Approach (Garfield Ave)

Lanes	AM	NOON	PM
	521	0	774
1	122	0	99
2	823	0	429
0	102	0	77

Westbound Approach

Lanes	AM	NOON	PM
0	40	0	86
2	360	0	578
1	52	0	115
	1011	0	555

Northbound Approach

Lanes	1	2	0	
AM	551	81	440	134	AM
NOON	0	0	0	0	NOON
PM	600	125	589	92	PM

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	AM	NOON	PM
North Leg	531	0	513
	602	0	774
West Leg	521	0	774
	1047	0	605
East Leg	452	0	779
	1011	0	555
South Leg	551	0	600
	655	0	806

Total Volume Per Leg

	AM	NOON	PM
North Leg	1133	0	1287
West Leg	1568	0	1379
East Leg	1463	0	1334
South Leg	1206	0	1406

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Walgreens Dwy and Garfield Ave , Huntington Beach

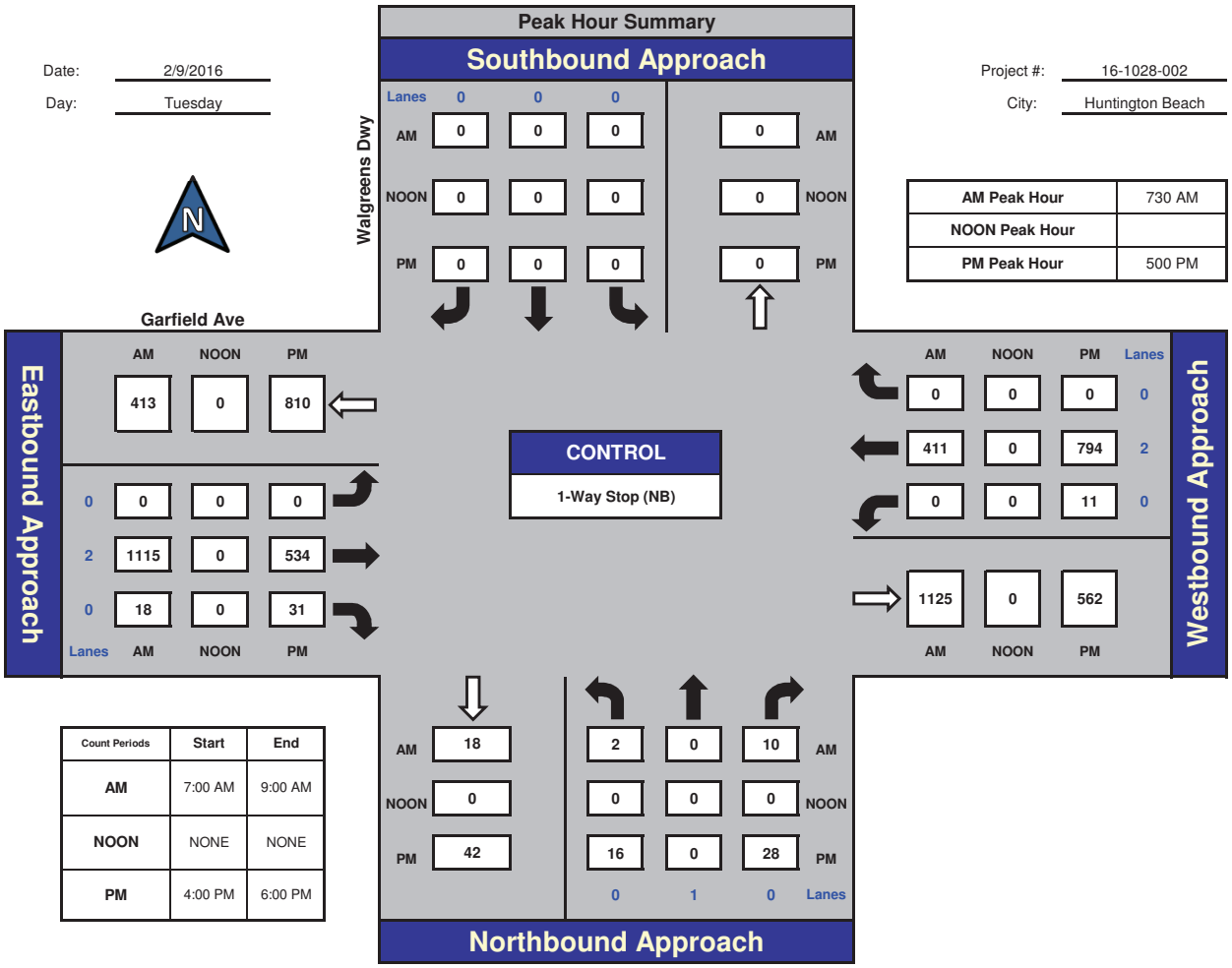
Date: 2/9/2016

Day: Tuesday

Project #: 16-1028-002

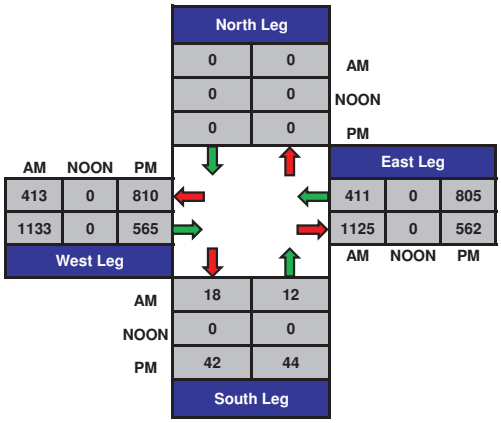
City: Huntington Beach

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

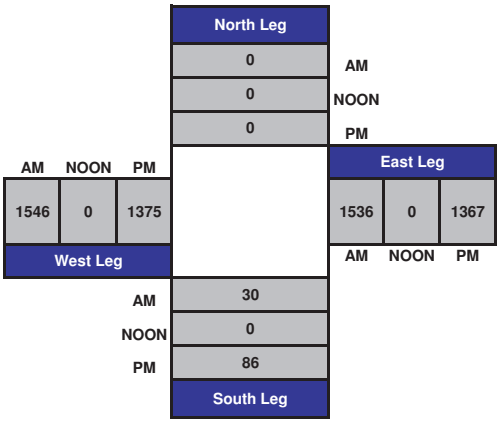


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Brookhurst St and Garfield Ave , Huntington Beach

Date: 2/9/2016

Day: Tuesday

Project #: 16-1028-003

City: Huntington Beach

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Brookhurst St)

Lanes	1	3	1		
AM	149	823	34	1498	AM
NOON	0	0	0	0	NOON
PM	242	1214	112	1744	PM

Eastbound Approach (Garfield Ave)

Lanes	AM	NOON	PM
	432	0	800
1	335	0	168
2	605	0	244
0	185	0	153

Westbound Approach

AM	NOON	PM	Lanes
81	0	79	1
211	0	343	2
113	0	180	1
704	0	422	

Northbound Approach

AM	1121	72	1082	65	AM
NOON	0	0	0	0	NOON
PM	1547	215	1497	66	PM
Lanes		1	3	0	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	1006	1498	AM
	0	0	NOON
	1568	1744	PM

West Leg	AM	NOON	PM
	432	0	800
	1125	0	565

East Leg	AM	NOON	PM
	405	0	602
	704	0	422

	South Leg	
AM	1121	1219
NOON	0	0
PM	1547	1778

Total Volume Per Leg

North Leg	
2504	AM
0	NOON
3312	PM

West Leg	AM	NOON	PM
	1557	0	1365

East Leg	AM	NOON	PM
	1109	0	1024

	South Leg
AM	2340
NOON	0
PM	3325

APPENDIX C

INTERSECTION ANALYSIS WORKSHEETS

```
ExAM                        Tue Feb 23, 2016 10:12:55                 Page 2-1
--------------------------------------------------------------------------------
                            Autumn Care TIA (AMG1601)
                               Existing Conditions
                                  AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
********************************************************************************
Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):          0.487
Loss Time (sec):       5                Average Delay (sec/veh):       xxxxxx
Optimal Cycle:        23                Level Of Service:                    A
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      81  440   134    54  397    80   122  823   102    52  360    40
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   81  440   134    54  397    80   122  823   102    52  360    40
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    81  440   134    54  397    80   122  823   102    52  360    40
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   81  440   134    54  397    80   122  823   102    52  360    40
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   81  440   134    54  397    80   122  823   102    52  360    40
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700  1700  1700 1700  1700  1700 1700  1700  1700 1700  1700
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1700 3400  1700  1700 3400  1700  1700 3400  1700  1700 3400  1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.13  0.08  0.03 0.12  0.05  0.07 0.24  0.06  0.03 0.11  0.02
Crit Moves:  ****                 ****              ****        ****
********************************************************************************
```

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LSA ASSOC. IRVINE, CA

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1115	18	0	411	2	10
Future Vol, veh/h	1115	18	0	411	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1282	21	0	472	2	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1282	0	1518	641
Stage 1	-	-	-	-	1282	-
Stage 2	-	-	-	-	236	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	537	-	110	417
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	781	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	537	-	110	417
Mov Cap-2 Maneuver	-	-	-	-	210	-
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	358	-	-	537	-
HCM Lane V/C Ratio	0.039	-	-	-	-
HCM Control Delay (s)	15.5	-	-	0	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Autumn Care TIA (AMG1601)
Existing Conditions
AM Peak Hour

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

Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.541
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	3	0 1	1	0	3	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	72	1082	65		34	823	149		335	605	185		113	211	81	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	72	1082	65		34	823	149		335	605	185		113	211	81	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	72	1082	65		34	823	149		335	605	185		113	211	81	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	72	1082	65		34	823	149		335	605	185		113	211	81	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	72	1082	65		34	823	149		335	605	185		113	211	81	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	5100	1700		1700	5100	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.21	0.04		0.02	0.16	0.09		0.20	0.18	0.11		0.07	0.06	0.05	
Crit Moves:		****			****				****					****		

Autumn Care TIA (AMG1601)
Existing Conditions
PM Peak Hour

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

Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.472
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 22 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	125	589	92		34	408	71		99	429	77		115	578	86	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	125	589	92		34	408	71		99	429	77		115	578	86	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	125	589	92		34	408	71		99	429	77		115	578	86	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	125	589	92		34	408	71		99	429	77		115	578	86	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	125	589	92		34	408	71		99	429	77		115	578	86	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.07	0.17	0.05		0.02	0.12	0.04		0.06	0.13	0.05		0.07	0.17	0.05	
Crit Moves:	****					****			****					****		

HCM 2010 TWSC
2: Walgreens Driveway & Garfield Avenue

10/31/2016

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	534	31	11	794	16	28
Future Vol, veh/h	534	31	11	794	16	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	551	32	11	819	16	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	551	0	983	275
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	432	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1015	-	246	722
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	622	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1015	-	241	722
Mov Cap-2 Maneuver	-	-	-	-	437	-
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	610	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	584	-	-	1015	-
HCM Lane V/C Ratio	0.078	-	-	0.011	-
HCM Control Delay (s)	11.7	-	-	8.6	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-


```
ExPM                        Tue Feb 23, 2016 10:13:44                Page 3-1
--------------------------------------------------------------------------------
                            Autumn Care TIA (AMG1601)
                               Existing Conditions
                                  PM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.610
Loss Time (sec):       5                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        30                Level Of Service:                   B
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  3  0  1    1  0  3  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     215 1497    66   112 1214   242   168  244   153   180  343    79
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  215 1497    66   112 1214   242   168  244   153   180  343    79
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   215 1497    66   112 1214   242   168  244   153   180  343    79
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  215 1497    66   112 1214   242   168  244   153   180  343    79
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  215 1497    66   112 1214   242   168  244   153   180  343    79
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700  1700  1700 1700  1700  1700 1700  1700  1700 1700  1700
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 3.00  1.00  1.00 3.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1700 5100  1700  1700 5100  1700  1700 3400  1700  1700 3400  1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.29  0.04  0.07 0.24  0.14  0.10 0.07  0.09  0.11 0.10  0.05
Crit Moves:  ****                 ****                    ****  ****
********************************************************************************

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E+P AM                      Tue Feb 23, 2016 10:14:07                 Page 2-1
--------------------------------------------------------------------------------
                            Autumn Care TIA (AMG1601)
                       Existing plus Project Conditions
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
********************************************************************************
Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)
********************************************************************************
Cycle (sec):          100                Critical Vol./Cap.(X):          0.488
Loss Time (sec):        5                Average Delay (sec/veh):       xxxxxx
Optimal Cycle:         23                Level Of Service:                    A
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:          Permitted        Permitted        Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      81  440   135    54  397    80   122  827   102    52  361    40
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   81  440   135    54  397    80   122  827   102    52  361    40
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    81  440   135    54  397    80   122  827   102    52  361    40
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   81  440   135    54  397    80   122  827   102    52  361    40
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   81  440   135    54  397    80   122  827   102    52  361    40
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700  1700  1700 1700  1700  1700 1700  1700  1700 1700  1700
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1700 3400  1700  1700 3400  1700  1700 3400  1700  1700 3400  1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.13  0.08  0.03 0.12  0.05  0.07 0.24  0.06  0.03 0.11  0.02
Crit Moves:  ****                 ****              ****        ****
********************************************************************************
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Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1115	23	2	411	3	13
Future Vol, veh/h	1115	23	2	411	3	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1282	26	2	472	3	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1282	0	1523	641
Stage 1	-	-	-	-	1282	-
Stage 2	-	-	-	-	241	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	537	-	109	417
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	776	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	537	-	108	417
Mov Cap-2 Maneuver	-	-	-	-	210	-
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	772	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	15.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	352	-	-	537	-
HCM Lane V/C Ratio	0.052	-	-	0.004	-
HCM Control Delay (s)	15.8	-	-	11.7	0
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Autumn Care TIA (AMG1601)
Existing plus Project Conditions
AM Peak Hour

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

Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.542
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	3	0 1	1	0	3	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	72	1082	65		34	823	150		336	607	185		113	212	81	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	72	1082	65		34	823	150		336	607	185		113	212	81	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	72	1082	65		34	823	150		336	607	185		113	212	81	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	72	1082	65		34	823	150		336	607	185		113	212	81	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	72	1082	65		34	823	150		336	607	185		113	212	81	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	5100	1700		1700	5100	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.21	0.04		0.02	0.16	0.09		0.20	0.18	0.11		0.07	0.06	0.05	
Crit Moves:		****			****				****					****		

Autumn Care TIA (AMG1601)
Existing plus Project Conditions
PM Peak Hour

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

Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.473
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	125	589	92		34	408	71		99	431	77		116	582	87	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	125	589	92		34	408	71		99	431	77		116	582	87	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	125	589	92		34	408	71		99	431	77		116	582	87	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	125	589	92		34	408	71		99	431	77		116	582	87	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	125	589	92		34	408	71		99	431	77		116	582	87	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.07	0.17	0.05		0.02	0.12	0.04		0.06	0.13	0.05		0.07	0.17	0.05	
Crit Moves:	****					****			****					****		

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	534	34	15	794	21	32
Future Vol, veh/h	534	34	15	794	21	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	551	35	15	819	22	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	551	0	991	275
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	440	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1015	-	243	722
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	616	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1015	-	236	722
Mov Cap-2 Maneuver	-	-	-	-	433	-
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	599	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	571	-	-	1015	-
HCM Lane V/C Ratio	0.096	-	-	0.015	-
HCM Control Delay (s)	12	-	-	8.6	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-


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--------------------------------------------------------------------------------
                          Autumn Care TIA (AMG1601)
                     Existing plus Project Conditions
                              PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.612
Loss Time (sec):       5                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        30                Level Of Service:                   B
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  3  0  1    1  0  3  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     216 1497    66   112 1214   243   169  246   154   180  345    79
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  216 1497    66   112 1214   243   169  246   154   180  345    79
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   216 1497    66   112 1214   243   169  246   154   180  345    79
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  216 1497    66   112 1214   243   169  246   154   180  345    79
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  216 1497    66   112 1214   243   169  246   154   180  345    79
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700  1700  1700 1700  1700  1700 1700  1700  1700 1700  1700
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 3.00  1.00  1.00 3.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1700 5100  1700  1700 5100  1700  1700 3400  1700  1700 3400  1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.29  0.04  0.07 0.24  0.14  0.10 0.07  0.09  0.11 0.10  0.05
Crit Moves:  ****                 ****                    ****  ****
********************************************************************************

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OY NP AM                    Tue Feb 23, 2016 10:14:53                 Page 2-1
--------------------------------------------------------------------------------
                           Autumn Care TIA (AMG1601)
                     Opening Year without Project Conditions
                                  AM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
********************************************************************************
Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.496
Loss Time (sec):       5                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        23                Level Of Service:                  A
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      83  449   137    55  405    82   124  839   104    53  367    41
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   83  449   137    55  405    82   124  839   104    53  367    41
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    83  449   137    55  405    82   124  839   104    53  367    41
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   83  449   137    55  405    82   124  839   104    53  367    41
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   83  449   137    55  405    82   124  839   104    53  367    41
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700  1700  1700 1700  1700  1700 1700  1700  1700 1700  1700
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1700 3400  1700  1700 3400  1700  1700 3400  1700  1700 3400  1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.13  0.08  0.03 0.12  0.05  0.07 0.25  0.06  0.03 0.11  0.02
Crit Moves:  ****                 ****              ****        ****
********************************************************************************
```

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Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1137	18	0	419	2	10
Future Vol, veh/h	1137	18	0	419	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1307	21	0	482	2	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1307	0	1548	653
Stage 1	-	-	-	-	1307	-
Stage 2	-	-	-	-	241	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	525	-	105	410
Stage 1	-	-	-	-	217	-
Stage 2	-	-	-	-	776	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	525	-	105	410
Mov Cap-2 Maneuver	-	-	-	-	203	-
Stage 1	-	-	-	-	217	-
Stage 2	-	-	-	-	776	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	350	-	-	525	-
HCM Lane V/C Ratio	0.039	-	-	-	-
HCM Control Delay (s)	15.7	-	-	0	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Autumn Care TIA (AMG1601)
Opening Year without Project Conditions
AM Peak Hour

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

Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.557
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	3	0 1	1	0	3	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	73	1131	66		35	848	152		342	617	189		115	215	83	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	73	1131	66		35	848	152		342	617	189		115	215	83	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	73	1131	66		35	848	152		342	617	189		115	215	83	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	73	1131	66		35	848	152		342	617	189		115	215	83	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	73	1131	66		35	848	152		342	617	189		115	215	83	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	5100	1700		1700	5100	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.22	0.04		0.02	0.17	0.09		0.20	0.18	0.11		0.07	0.06	0.05	
Crit Moves:		****			****				****					****		

Autumn Care TIA (AMG1601)
Opening Year without Project Conditions
PM Peak Hour

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

Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.481
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	128	601	94		35	416	72		101	438	79		117	590	88	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	128	601	94		35	416	72		101	438	79		117	590	88	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	128	601	94		35	416	72		101	438	79		117	590	88	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	128	601	94		35	416	72		101	438	79		117	590	88	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	128	601	94		35	416	72		101	438	79		117	590	88	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.18	0.06		0.02	0.12	0.04		0.06	0.13	0.05		0.07	0.17	0.05	
Crit Moves:	****					****			****					****		

HCM 2010 TWSC
2: Walgreens Driveway & Garfield Avenue

10/31/2016

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	545	32	11	810	16	29
Future Vol, veh/h	545	32	11	810	16	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	562	33	11	835	16	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	562	0	1002	281
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	440	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1005	-	239	716
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	616	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1005	-	234	716
Mov Cap-2 Maneuver	-	-	-	-	431	-
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	604	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	580	-	-	1005	-
HCM Lane V/C Ratio	0.08	-	-	0.011	-
HCM Control Delay (s)	11.7	-	-	8.6	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-


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OY NP PM                    Tue Feb 23, 2016 10:15:23                 Page 3-1
--------------------------------------------------------------------------------
                            Autumn Care TIA (AMG1601)
                     Opening Year without Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                        Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)
********************************************************************************
Cycle (sec):         100                 Critical Vol./Cap.(X):          0.627
Loss Time (sec):       5                 Average Delay (sec/veh):       xxxxxx
Optimal Cycle:        31                 Level Of Service:                    B
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
Lanes:        1  0  3  0  1    1  0  3  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     219 1545   67  114 1268  247  171  249  156  184  350   81
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  219 1545   67  114 1268  247  171  249  156  184  350   81
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   219 1545   67  114 1268  247  171  249  156  184  350   81
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  219 1545   67  114 1268  247  171  249  156  184  350   81
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  219 1545   67  114 1268  247  171  249  156  184  350   81
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       1.00 3.00 1.00 1.00 3.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1700 5100 1700 1700 5100 1700 1700 3400 1700 1700 3400 1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.30  0.04  0.07 0.25  0.15  0.10 0.07  0.09  0.11 0.10  0.05
Crit Moves:  ****                 ****                    ****  ****
********************************************************************************
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OY WP AM                    Tue Feb 23, 2016 10:15:41                    Page 2-1
--------------------------------------------------------------------------------
                            Autumn Care TIA (AMG1601)
                       Opening Year with Project Conditions
                                   AM Peak Hour
--------------------------------------------------------------------------------
                        Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
********************************************************************************
Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)
********************************************************************************
Cycle (sec):          100                Critical Vol./Cap.(X):          0.497
Loss Time (sec):        5                Average Delay (sec/veh):       xxxxxx
Optimal Cycle:         24                Level Of Service:                    A
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:          Permitted        Permitted        Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      83  449   138    55  405    82   124  843   104    53  368    41
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   83  449   138    55  405    82   124  843   104    53  368    41
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    83  449   138    55  405    82   124  843   104    53  368    41
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   83  449   138    55  405    82   124  843   104    53  368    41
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   83  449   138    55  405    82   124  843   104    53  368    41
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700  1700  1700 1700  1700  1700 1700  1700  1700 1700  1700
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1700 3400  1700  1700 3400  1700  1700 3400  1700  1700 3400  1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.13  0.08  0.03 0.12  0.05  0.07 0.25  0.06  0.03 0.11  0.02
Crit Moves:  ****                 ****              ****        ****
********************************************************************************
```

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LSA ASSOC. IRVINE, CA

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1137	23	2	419	3	13
Future Vol, veh/h	1137	23	2	419	3	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1307	26	2	482	3	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1307	0	1552	653
Stage 1	-	-	-	-	1307	-
Stage 2	-	-	-	-	245	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	525	-	104	410
Stage 1	-	-	-	-	217	-
Stage 2	-	-	-	-	773	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	525	-	103	410
Mov Cap-2 Maneuver	-	-	-	-	203	-
Stage 1	-	-	-	-	217	-
Stage 2	-	-	-	-	769	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	344	-	-	525	-
HCM Lane V/C Ratio	0.053	-	-	0.004	-
HCM Control Delay (s)	16.1	-	-	11.9	0
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Autumn Care TIA (AMG1601)
Opening Year with Project Conditions
AM Peak Hour

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

Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.558
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	3	0 1	1	0	3	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	73	1131	66		35	848	153		343	619	189		115	216	83	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	73	1131	66		35	848	153		343	619	189		115	216	83	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	73	1131	66		35	848	153		343	619	189		115	216	83	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	73	1131	66		35	848	153		343	619	189		115	216	83	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	73	1131	66		35	848	153		343	619	189		115	216	83	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	5100	1700		1700	5100	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.22	0.04		0.02	0.17	0.09		0.20	0.18	0.11		0.07	0.06	0.05	
Crit Moves:		****			****				****					****		

Autumn Care TIA (AMG1601)
Opening Year with Project Conditions
PM Peak Hour

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

Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.482
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	128	601	94		35	416	72		101	440	79		118	594	89	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	128	601	94		35	416	72		101	440	79		118	594	89	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	128	601	94		35	416	72		101	440	79		118	594	89	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	128	601	94		35	416	72		101	440	79		118	594	89	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	128	601	94		35	416	72		101	440	79		118	594	89	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.18	0.06		0.02	0.12	0.04		0.06	0.13	0.05		0.07	0.17	0.05	
Crit Moves:	****					****			****					****		

HCM 2010 TWSC
2: Walgreens Driveway & Garfield Avenue

10/31/2016

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	545	35	15	810	21	33
Future Vol, veh/h	545	35	15	810	21	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	562	36	15	835	22	34

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	562	0	1010	281
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	448	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1005	-	236	716
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	611	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1005	-	229	716
Mov Cap-2 Maneuver	-	-	-	-	427	-
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	594	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	567	-	-	1005	-
HCM Lane V/C Ratio	0.098	-	-	0.015	-
HCM Control Delay (s)	12	-	-	8.6	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-


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--------------------------------------------------------------------------------
                            Autumn Care TIA (AMG1601)
                      Opening Year with Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                        Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)
********************************************************************************
Cycle (sec):          100                 Critical Vol./Cap.(X):          0.629
Loss Time (sec):        5                 Average Delay (sec/veh):       xxxxxx
Optimal Cycle:         31                 Level Of Service:                    B
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
Lanes:        1  0  3  0  1    1  0  3  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     220 1545   67  114 1268  248  172  251  157  184  352   81
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  220 1545   67  114 1268  248  172  251  157  184  352   81
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   220 1545   67  114 1268  248  172  251  157  184  352   81
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  220 1545   67  114 1268  248  172  251  157  184  352   81
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  220 1545   67  114 1268  248  172  251  157  184  352   81
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       1.00 3.00 1.00 1.00 3.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1700 5100 1700 1700 5100 1700 1700 3400 1700 1700 3400 1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.30 0.04 0.07 0.25 0.15 0.10 0.07 0.09 0.11 0.10 0.05
Crit Moves:  ****                ****                ****  ****
********************************************************************************
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Autumn Care TIA (AMG1601)
Future (2030) without Project Conditions
AM Peak Hour

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

Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 | Critical Vol./Cap.(X): 0.591
Loss Time (sec): 5 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 28 | Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	80	530	270		90	590	140		140	970	130		60	510	110	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	80	530	270		90	590	140		140	970	130		60	510	110	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	80	530	270		90	590	140		140	970	130		60	510	110	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	80	530	270		90	590	140		140	970	130		60	510	110	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	80	530	270		90	590	140		140	970	130		60	510	110	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.05	0.16	0.16		0.05	0.17	0.08		0.08	0.29	0.08		0.04	0.15	0.06	
Crit Moves:	****					****				****			****			

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Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1260	18	0	770	2	10
Future Vol, veh/h	1260	18	0	770	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1370	20	0	837	2	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1370	0	1788	685
Stage 1	-	-	-	-	1370	-
Stage 2	-	-	-	-	418	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	497	-	72	391
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	632	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	497	-	72	391
Mov Cap-2 Maneuver	-	-	-	-	186	-
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	632	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	330	-	-	497	-
HCM Lane V/C Ratio	0.04	-	-	-	-
HCM Control Delay (s)	16.4	-	-	0	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Autumn Care TIA (AMG1601)
Future (2030) without Project Conditions
AM Peak Hour

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

Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 | Critical Vol./Cap.(X): 0.679
Loss Time (sec): 5 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 | Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	3	0 1	1	0	3	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	60	1230	300		100	880	100		240	860	170		140	610	320	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	60	1230	300		100	880	100		240	860	170		140	610	320	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	60	1230	300		100	880	100		240	860	170		140	610	320	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	60	1230	300		100	880	100		240	860	170		140	610	320	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	60	1230	300		100	880	100		240	860	170		140	610	320	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	5100	1700		1700	5100	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.24	0.18		0.06	0.17	0.06		0.14	0.25	0.10		0.08	0.18	0.19	
Crit Moves:		****			****				****						****	

Autumn Care TIA (AMG1601)
Future (2030) without Project Conditions
PM Peak Hour

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

Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 | Critical Vol./Cap.(X): 0.726
Loss Time (sec): 5 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 40 | Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	120	780	110		110	770	70		90	720	100		120	1110	90	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	120	780	110		110	770	70		90	720	100		120	1110	90	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	120	780	110		110	770	70		90	720	100		120	1110	90	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	120	780	110		110	770	70		90	720	100		120	1110	90	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	120	780	110		110	770	70		90	720	100		120	1110	90	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.07	0.23	0.06		0.06	0.23	0.04		0.05	0.21	0.06		0.07	0.33	0.05	
Crit Moves:	****					****			****					****		

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1071	32	11	1409	16	29
Future Vol, veh/h	1071	32	11	1409	16	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1104	33	11	1453	16	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1104	0	1853	552
Stage 1	-	-	-	-	1104	-
Stage 2	-	-	-	-	749	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	628	-	66	477
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	428	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	628	-	60	477
Mov Cap-2 Maneuver	-	-	-	-	221	-
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	389	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	17.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	338	-	-	628	-
HCM Lane V/C Ratio	0.137	-	-	0.018	-
HCM Control Delay (s)	17.3	-	-	10.8	0.5
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-


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------------------------------------------------------------------------------
                          Autumn Care TIA (AMG1601)
                   Future (2030) without Project Conditions
                                PM Peak Hour
------------------------------------------------------------------------------
                       Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
******************************************************************************
Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)
******************************************************************************
Cycle (sec):         100                 Critical Vol./Cap.(X):         0.941
Loss Time (sec):       5                 Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       119                 Level Of Service:                   E
******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
Lanes:        1  0  3  0  1    1  0  3  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     230 1710  160  200 1480  280  290  600  210  230  910  210
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  230 1710  160  200 1480  280  290  600  210  230  910  210
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   230 1710  160  200 1480  280  290  600  210  230  910  210
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  230 1710  160  200 1480  280  290  600  210  230  910  210
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  230 1710  160  200 1480  280  290  600  210  230  910  210
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       1.00 3.00 1.00 1.00 3.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1700 5100 1700 1700 5100 1700 1700 3400 1700 1700 3400 1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.14 0.34 0.09 0.12 0.29 0.16 0.17 0.18 0.12 0.14 0.27 0.12
Crit Moves:        ****        ****             ****                 ****
******************************************************************************
```

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```
Future (2030) WP AM        Tue Feb 23, 2016 10:18:21                Page 2-1
--------------------------------------------------------------------------------
                          Autumn Care TIA (AMG1601)
                     Future (2030) with Project Conditions
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
********************************************************************************
Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.592
Loss Time (sec):       5                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        28                Level Of Service:                  A
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      80  530  271    90  590  140   140  974  130    60  511  110
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   80  530  271    90  590  140   140  974  130    60  511  110
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:    80  530  271    90  590  140   140  974  130    60  511  110
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   80  530  271    90  590  140   140  974  130    60  511  110
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:   80  530  271    90  590  140   140  974  130    60  511  110
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700 1700  1700 1700 1700  1700 1700 1700  1700 1700 1700
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       1.00 2.00 1.00  1.00 2.00 1.00  1.00 2.00 1.00  1.00 2.00 1.00
Final Sat.:  1700 3400 1700  1700 3400 1700  1700 3400 1700  1700 3400 1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.16 0.16  0.05 0.17 0.08  0.08 0.29 0.08  0.04 0.15 0.06
Crit Moves:  ****                ****              ****        ****
********************************************************************************
```

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Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1260	23	2	770	3	13
Future Vol, veh/h	1260	23	2	770	3	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1370	25	2	837	3	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1370	0	1793	685
Stage 1	-	-	-	-	1370	-
Stage 2	-	-	-	-	423	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	497	-	72	391
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	629	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	497	-	71	391
Mov Cap-2 Maneuver	-	-	-	-	185	-
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	624	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	323	-	-	497	-
HCM Lane V/C Ratio	0.054	-	-	0.004	-
HCM Control Delay (s)	16.8	-	-	12.3	0
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Autumn Care TIA (AMG1601)
Future (2030) with Project Conditions
AM Peak Hour

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

Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.680
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	3	0 1	1	0	3	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	60	1230	300		100	880	101		241	862	170		140	611	320	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	60	1230	300		100	880	101		241	862	170		140	611	320	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	60	1230	300		100	880	101		241	862	170		140	611	320	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	60	1230	300		100	880	101		241	862	170		140	611	320	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	60	1230	300		100	880	101		241	862	170		140	611	320	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	5100	1700		1700	5100	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.24	0.18		0.06	0.17	0.06		0.14	0.25	0.10		0.08	0.18	0.19	
Crit Moves:		****				****				****					****	

Autumn Care TIA (AMG1601)
Future (2030) with Project Conditions
PM Peak Hour

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

Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.728
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	120	780	110		110	770	70		90	722	100		121	1114	91	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	120	780	110		110	770	70		90	722	100		121	1114	91	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	120	780	110		110	770	70		90	722	100		121	1114	91	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	120	780	110		110	770	70		90	722	100		121	1114	91	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	120	780	110		110	770	70		90	722	100		121	1114	91	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.07	0.23	0.06		0.06	0.23	0.04		0.05	0.21	0.06		0.07	0.33	0.05	
Crit Moves:	****					****			****					****		

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1071	35	15	1409	21	33
Future Vol, veh/h	1071	35	15	1409	21	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1104	36	15	1453	22	34

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1104	0	1861	552
Stage 1	-	-	-	-	1104	-
Stage 2	-	-	-	-	757	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	628	-	65	477
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	424	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	628	-	57	477
Mov Cap-2 Maneuver	-	-	-	-	217	-
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	371	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	18.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	325	-	-	628	-
HCM Lane V/C Ratio	0.171	-	-	0.025	-
HCM Control Delay (s)	18.4	-	-	10.9	0.7
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-


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Future (2030) WP PM        Tue Feb 23, 2016 10:18:48                Page 3-1
--------------------------------------------------------------------------------
                          Autumn Care TIA (AMG1601)
                     Future (2030) with Project Conditions
                                PM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)
********************************************************************************
Cycle (sec):         100                 Critical Vol./Cap.(X):         0.942
Loss Time (sec):       5                 Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       121                 Level Of Service:                   E
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
Lanes:        1  0  3  0  1    1  0  3  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     231 1710  160  200 1480  281  291  602  211  230  912  210
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  231 1710  160  200 1480  281  291  602  211  230  912  210
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   231 1710  160  200 1480  281  291  602  211  230  912  210
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  231 1710  160  200 1480  281  291  602  211  230  912  210
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  231 1710  160  200 1480  281  291  602  211  230  912  210
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       1.00 3.00 1.00 1.00 3.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1700 5100 1700 1700 5100 1700 1700 3400 1700 1700 3400 1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.14 0.34 0.09 0.12 0.29 0.17 0.17 0.18 0.12 0.14 0.27 0.12
Crit Moves:        ****        ****             ****                  ****
********************************************************************************
```

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APPENDIX D

ALTERNATIVE COMMERCIAL USE INTERSECTION ANALYSIS WORKSHEETS

```
E+P AM                      Thu Sep 15, 2016 14:05:50                 Page 2-1
--------------------------------------------------------------------------------
                          Autumn Care TIA (AMG1601)
           Existing plus Project Conditions - Max 1.0 FAR Comm. Alt.
                                AM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
********************************************************************************
Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)
********************************************************************************
Cycle (sec):          100                Critical Vol./Cap.(X):          0.490
Loss Time (sec):        5                Average Delay (sec/veh):       xxxxxx
Optimal Cycle:         23                Level Of Service:                    A
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:          Permitted        Permitted        Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Y+R:          4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      81  440   136    55  397    80   122  833   102    52  363    40
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   81  440   136    55  397    80   122  833   102    52  363    40
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    81  440   136    55  397    80   122  833   102    52  363    40
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   81  440   136    55  397    80   122  833   102    52  363    40
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   81  440   136    55  397    80   122  833   102    52  363    40
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700  1700  1700 1700  1700  1700 1700  1700  1700 1700  1700
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1700 3400  1700  1700 3400  1700  1700 3400  1700  1700 3400  1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.13  0.08  0.03 0.12  0.05  0.07 0.25  0.06  0.03 0.11  0.02
Crit Moves:  ****                 ****              ****        ****
********************************************************************************
```

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LSA ASSOC. IRVINE, CA

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1115	31	5	411	5	18
Future Vol, veh/h	1115	31	5	411	5	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1282	36	6	472	6	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1282	0	1530	641
Stage 1	-	-	-	-	1282	-
Stage 2	-	-	-	-	248	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	537	-	108	417
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	770	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	537	-	106	417
Mov Cap-2 Maneuver	-	-	-	-	210	-
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	758	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	16.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	343	-	-	537	-
HCM Lane V/C Ratio	0.077	-	-	0.011	-
HCM Control Delay (s)	16.4	-	-	11.8	0.1
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Autumn Care TIA (AMG1601)
Existing plus Project Conditions - Max 1.0 FAR Comm. Alt.
AM Peak Hour

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

Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.543
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	3	0 1	1	0	3	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	73	1082	65		34	823	151		337	609	186		113	214	81	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	73	1082	65		34	823	151		337	609	186		113	214	81	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	73	1082	65		34	823	151		337	609	186		113	214	81	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	73	1082	65		34	823	151		337	609	186		113	214	81	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	73	1082	65		34	823	151		337	609	186		113	214	81	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	5100	1700		1700	5100	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.21	0.04		0.02	0.16	0.09		0.20	0.18	0.11		0.07	0.06	0.05	
Crit Moves:		****			****				****					****		

Autumn Care TIA (AMG1601)
Existing plus Project Conditions - Max 1.0 FAR Comm. Alt.
PM Peak Hour

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

Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.484
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	125	589	98		36	408	71		99	456	77		123	619	92	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	125	589	98		36	408	71		99	456	77		123	619	92	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	125	589	98		36	408	71		99	456	77		123	619	92	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	125	589	98		36	408	71		99	456	77		123	619	92	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	125	589	98		36	408	71		99	456	77		123	619	92	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.07	0.17	0.06		0.02	0.12	0.04		0.06	0.13	0.05		0.07	0.18	0.05	
Crit Moves:	****					****			****					****		

HCM 2010 TWSC
2: Walgreens Driveway & Garfield Avenue

10/31/2016

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	534	84	87	794	97	86
Future Vol, veh/h	534	84	87	794	97	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	551	87	90	819	100	89

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	551	0	1140	275
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	589	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1015	-	194	722
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	517	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1015	-	162	722
Mov Cap-2 Maneuver	-	-	-	-	352	-
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	433	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	18
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	464	-	-	1015	-
HCM Lane V/C Ratio	0.407	-	-	0.088	-
HCM Control Delay (s)	18	-	-	8.9	0.6
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.3	-


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E+P PM                    Thu Sep 15, 2016 14:06:24                Page 3-1
-------------------------------------------------------------------------------
                         Autumn Care TIA (AMG1601)
          Existing plus Project Conditions - Max 1.0 FAR Comm. Alt.
                              PM Peak Hour
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
*******************************************************************************
Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)
*******************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.635
Loss Time (sec):       5                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        31                Level Of Service:                   B
*******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
Lanes:        1  0  3  0  1    1  0  3  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     228 1497   66  112 1214  257  180  261  164  180  364   79
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  228 1497   66  112 1214  257  180  261  164  180  364   79
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   228 1497   66  112 1214  257  180  261  164  180  364   79
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  228 1497   66  112 1214  257  180  261  164  180  364   79
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  228 1497   66  112 1214  257  180  261  164  180  364   79
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       1.00 3.00 1.00 1.00 3.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1700 5100 1700 1700 5100 1700 1700 3400 1700 1700 3400 1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.29 0.04 0.07 0.24 0.15 0.11 0.08 0.10 0.11 0.11 0.05
Crit Moves:  ****                ****        ****                 ****
*******************************************************************************
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OY WP AM                    Thu Sep 15, 2016 14:06:51                    Page 2-1
--------------------------------------------------------------------------------
                          Autumn Care TIA (AMG1601)
          Opening Year with Project Conditions - Max 1.0 FAR Comm. Alt.
                                  AM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
********************************************************************************
Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)
********************************************************************************
Cycle (sec):          100                Critical Vol./Cap.(X):          0.499
Loss Time (sec):        5                Average Delay (sec/veh):       xxxxxx
Optimal Cycle:         24                Level Of Service:                    A
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:          Permitted        Permitted        Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      83  449   139    56  405    82   124  849   104    53  370    41
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   83  449   139    56  405    82   124  849   104    53  370    41
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    83  449   139    56  405    82   124  849   104    53  370    41
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   83  449   139    56  405    82   124  849   104    53  370    41
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   83  449   139    56  405    82   124  849   104    53  370    41
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700  1700  1700 1700  1700  1700 1700  1700  1700 1700  1700
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1700 3400  1700  1700 3400  1700  1700 3400  1700  1700 3400  1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.13  0.08  0.03 0.12  0.05  0.07 0.25  0.06  0.03 0.11  0.02
Crit Moves:  ****                 ****              ****        ****
********************************************************************************
```

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LSA ASSOC. IRVINE, CA

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1137	31	5	419	5	18
Future Vol, veh/h	1137	31	5	419	5	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1307	36	6	482	6	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1307	0	1559	653
Stage 1	-	-	-	-	1307	-
Stage 2	-	-	-	-	252	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	525	-	103	410
Stage 1	-	-	-	-	217	-
Stage 2	-	-	-	-	767	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	525	-	101	410
Mov Cap-2 Maneuver	-	-	-	-	203	-
Stage 1	-	-	-	-	217	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	336	-	-	525	-
HCM Lane V/C Ratio	0.079	-	-	0.011	-
HCM Control Delay (s)	16.6	-	-	11.9	0.1
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Autumn Care TIA (AMG1601)
Opening Year with Project Conditions - Max 1.0 FAR Comm. Alt.
AM Peak Hour

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

Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.559
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	3	0 1	1	0	3	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	74	1131	66		35	848	154		344	621	190		115	218	83	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	74	1131	66		35	848	154		344	621	190		115	218	83	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	74	1131	66		35	848	154		344	621	190		115	218	83	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	74	1131	66		35	848	154		344	621	190		115	218	83	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	74	1131	66		35	848	154		344	621	190		115	218	83	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	5100	1700		1700	5100	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.22	0.04		0.02	0.17	0.09		0.20	0.18	0.11		0.07	0.06	0.05	
Crit Moves:		****			****				****					****		

Autumn Care TIA (AMG1601)
Opening Year with Project Conditions - Max 1.0 FAR Comm. Alt.
PM Peak Hour

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

Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.493
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	128	601	100		37	416	72		101	465	79		125	631	94	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	128	601	100		37	416	72		101	465	79		125	631	94	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	128	601	100		37	416	72		101	465	79		125	631	94	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	128	601	100		37	416	72		101	465	79		125	631	94	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	128	601	100		37	416	72		101	465	79		125	631	94	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.18	0.06		0.02	0.12	0.04		0.06	0.14	0.05		0.07	0.19	0.06	
Crit Moves:	****					****			****					****		

HCM 2010 TWSC
2: Walgreens Driveway & Garfield Avenue

10/31/2016

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	545	85	87	810	97	87
Future Vol, veh/h	545	85	87	810	97	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	562	88	90	835	100	90

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	562	0	1159	281
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	597	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1005	-	189	716
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	513	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1005	-	157	716
Mov Cap-2 Maneuver	-	-	-	-	346	-
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	427	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	18.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	458	-	-	1005	-
HCM Lane V/C Ratio	0.414	-	-	0.089	-
HCM Control Delay (s)	18.3	-	-	8.9	0.6
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2	-	-	0.3	-


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---------------------------------------------------------------------------------
                          Autumn Care TIA (AMG1601)
        Opening Year with Project Conditions - Max 1.0 FAR Comm. Alt.
                                PM Peak Hour
---------------------------------------------------------------------------------
                       Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
*********************************************************************************
Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)
*********************************************************************************
Cycle (sec):          100                Critical Vol./Cap.(X):          0.652
Loss Time (sec):        5                Average Delay (sec/veh):       xxxxxx
Optimal Cycle:         33                Level Of Service:                    B
*********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Y+R:          4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0
Lanes:        1  0  3  0  1    1  0  3  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     232 1545   67  114 1268  262  183  266  167  184  371   81
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  232 1545   67  114 1268  262  183  266  167  184  371   81
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:   232 1545   67  114 1268  262  183  266  167  184  371   81
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  232 1545   67  114 1268  262  183  266  167  184  371   81
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  232 1545   67  114 1268  262  183  266  167  184  371   81
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700 1700
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       1.00 3.00 1.00 1.00 3.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00
Final Sat.:  1700 5100 1700 1700 5100 1700 1700 3400 1700 1700 3400 1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.14 0.30 0.04 0.07 0.25 0.15 0.11 0.08 0.10 0.11 0.11 0.05
Crit Moves:  ****                ****        ****                ****
*********************************************************************************
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Future (2030) WP AM        Thu Sep 15, 2016 14:07:27                Page 2-1
--------------------------------------------------------------------------------
                         Autumn Care TIA (AMG1601)
        Future (2030) with Project Conditions - Max 1.0 FAR Comm. Alt.
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
********************************************************************************
Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.594
Loss Time (sec):       5                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        29                Level Of Service:                   A
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted       Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      80  530   272    91  590   140   140  980   130    60  513   110
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   80  530   272    91  590   140   140  980   130    60  513   110
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    80  530   272    91  590   140   140  980   130    60  513   110
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   80  530   272    91  590   140   140  980   130    60  513   110
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   80  530   272    91  590   140   140  980   130    60  513   110
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700  1700  1700 1700  1700  1700 1700  1700  1700 1700  1700
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1700 3400  1700  1700 3400  1700  1700 3400  1700  1700 3400  1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.16  0.16  0.05 0.17  0.08  0.08 0.29  0.08  0.04 0.15  0.06
Crit Moves:  ****                 ****              ****        ****
********************************************************************************
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Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LSA ASSOC. IRVINE, CA

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1260	31	5	770	5	18
Future Vol, veh/h	1260	31	5	770	5	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1370	34	5	837	5	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1370	0	1799	685
Stage 1	-	-	-	-	1370	-
Stage 2	-	-	-	-	429	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	497	-	71	391
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	624	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	497	-	70	391
Mov Cap-2 Maneuver	-	-	-	-	185	-
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	612	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	17.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	315	-	-	497	-
HCM Lane V/C Ratio	0.079	-	-	0.011	-
HCM Control Delay (s)	17.4	-	-	12.3	0.1
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Autumn Care TIA (AMG1601)
Future (2030) with Project Conditions - Max 1.0 FAR Comm. Alt.
AM Peak Hour

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

Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.681
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	3	0 1	1	0	3	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	61	1230	300		100	880	102		242	864	171		140	613	320	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	61	1230	300		100	880	102		242	864	171		140	613	320	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	61	1230	300		100	880	102		242	864	171		140	613	320	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	61	1230	300		100	880	102		242	864	171		140	613	320	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	61	1230	300		100	880	102		242	864	171		140	613	320	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	5100	1700		1700	5100	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.24	0.18		0.06	0.17	0.06		0.14	0.25	0.10		0.08	0.18	0.19	
Crit Moves:		****			****				****						****	

Autumn Care TIA (AMG1601)
Future (2030) with Project Conditions - Max 1.0 FAR Comm. Alt.
PM Peak Hour

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

Intersection #1 Bushard Street (NS) / Garfield Avenue (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.739
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 42 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	120	780	116		112	770	70		90	747	100		128	1151	96	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	120	780	116		112	770	70		90	747	100		128	1151	96	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	120	780	116		112	770	70		90	747	100		128	1151	96	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	120	780	116		112	770	70		90	747	100		128	1151	96	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	120	780	116		112	770	70		90	747	100		128	1151	96	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.07	0.23	0.07		0.07	0.23	0.04		0.05	0.22	0.06		0.08	0.34	0.06	
Crit Moves:	****					****			****					****		

HCM 2010 TWSC
2: Walgreens Driveway & Garfield Avenue

10/31/2016

Intersection	
Int Delay, s/veh	20.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1071	85	87	1409	97	87
Future Vol, veh/h	1071	85	87	1409	97	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1104	88	90	1453	100	90

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1104	0	2010	552
Stage 1	-	-	-	-	1104	-
Stage 2	-	-	-	-	906	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	628	-	~ 51	477
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	355	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	628	-	~ 13	477
Mov Cap-2 Maneuver	-	-	-	-	~ 82	-
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	~ 91	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.4	281.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	135	-	-	628	-
HCM Lane V/C Ratio	1.405	-	-	0.143	-
HCM Control Delay (s)	281.5	-	-	11.7	3.9
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	12.5	-	-	0.5	-

Notes

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


```
------------------------------------------------------------------------------
                         Autumn Care TIA (AMG1601)
        Future (2030) with Project Conditions - Max 1.0 FAR Comm. Alt.
                              PM Peak Hour
------------------------------------------------------------------------------
                      Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
******************************************************************************
Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)
******************************************************************************
Cycle (sec):         100                 Critical Vol./Cap.(X):         0.954
Loss Time (sec):       5                 Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       136                 Level Of Service:                   E
******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  3  0  1    1  0  3  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     243 1710   160   200 1480   295   302  617   221   230  931   210
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  243 1710   160   200 1480   295   302  617   221   230  931   210
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   243 1710   160   200 1480   295   302  617   221   230  931   210
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  243 1710   160   200 1480   295   302  617   221   230  931   210
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  243 1710   160   200 1480   295   302  617   221   230  931   210
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700  1700  1700 1700  1700  1700 1700  1700  1700 1700  1700
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 3.00  1.00  1.00 3.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1700 5100  1700  1700 5100  1700  1700 3400  1700  1700 3400  1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.14 0.34  0.09  0.12 0.29  0.17  0.18 0.18  0.13  0.14 0.27  0.12
Crit Moves:        ****        ****             ****                   ****
******************************************************************************
```


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------------------------------------------------------------------------------
------------------------------------------------------------------------------
                     Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
******************************************************************************
Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)
******************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.728
Loss Time (sec):       5                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        40                Level Of Service:                  C
******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Prot+Permit      Prot+Permit
Rights:           Include          Include           Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        1  0  3  0  1    1  0  3  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     101 1300   220    50 1000   122   512  504   161   130  313   120
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  101 1300   220    50 1000   122   512  504   161   130  313   120
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   101 1300   220    50 1000   122   512  504   161   130  313   120
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  101 1300   220    50 1000   122   512  504   161   130  313   120
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  101 1300   220    50 1000   122   512  504   161   130  313   120
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700  1700  1700 1700  1700  1700 1700  1700  1700 1700  1700
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 3.00  1.00  1.00 3.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1700 5100  1700  1700 5100  1700  1700 3400  1700  1700 3400  1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.25  0.13  0.03 0.20  0.07  0.30 0.15  0.09  0.08 0.09  0.07
Crit Moves:       ****        ****        ****                    ****
******************************************************************************
```

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HCM 2010 TWSC
2: Walgreens Driveway & Garfield Avenue

11/1/2016

Intersection	
Int Delay, s/veh	4.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	951	85	87	1199	97	87
Future Vol, veh/h	951	85	87	1199	97	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	980	88	90	1236	100	90

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	980	0	1777	490
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	797	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	700	-	~ 74	524
Stage 1	-	-	-	-	324	-
Stage 2	-	-	-	-	404	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	700	-	~ 44	524
Mov Cap-2 Maneuver	-	-	-	-	185	-
Stage 1	-	-	-	-	324	-
Stage 2	-	-	-	-	238	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	45.8
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	267	-	-	700	-
HCM Lane V/C Ratio	0.71	-	-	0.128	-
HCM Control Delay (s)	45.8	-	-	10.9	2
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	4.9	-	-	0.4	-

Notes

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

```
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
                     Level Of Service Computation Report
        ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)
*******************************************************************************
Intersection #3 Brookhurst Street (NS) / Garfield Avenue (EW)
*******************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.884
Loss Time (sec):       5                Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        78                Level Of Service:                  D
*******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
Lanes:        1  0  3  0  1    1  0  3  0  1    1  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     273 1840    90    80 1550   515   392  407   221   200  471   130
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  273 1840    90    80 1550   515   392  407   221   200  471   130
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   273 1840    90    80 1550   515   392  407   221   200  471   130
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  273 1840    90    80 1550   515   392  407   221   200  471   130
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  273 1840    90    80 1550   515   392  407   221   200  471   130
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1700 1700  1700  1700 1700  1700  1700 1700  1700  1700 1700  1700
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 3.00  1.00  1.00 3.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1700 5100  1700  1700 5100  1700  1700 3400  1700  1700 3400  1700
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.36  0.05  0.05 0.30  0.30  0.23 0.12  0.13  0.12 0.14  0.08
Crit Moves:  ****                ****     ****                   ****
*******************************************************************************
```