

APPENDICES

Appendix A	Tree Inventory
Appendix B	Transportation Assessment and LADOT Approval Letter
Appendix C	Noise Impact Assessment
Appendix D	Air Quality, Greenhouse Gas, and Energy Impact Assessment

APPENDIX A: TREE INVENTORY



Horticulturists and
Registered Consulting
ARBORISTS

**CITY OF LOS ANGELES TREE REPORT
THE CRESCENT APARTMENTS
4260 N. ARCH DRIVE
LOS ANGELES, CALIFORNIA 91604**

SUBMITTED TO:

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JULY 21, 2023

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TREE INVENTORY AND REPORT – 4260 N. ARCH DRIVE, LOS ANGELES, CA

TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	1
ASSIGNMENT AND PURPOSE OF THE TREE REPORT.....	2
PROJECT OVERVIEW	3
TABLE 1 – PROJECT INFORMATION	3
EXHIBIT A – PROJECT LOCATION MAP	4
EXHIBIT B – AERIAL IMAGE OF THE PROJECT SITE	5
TREE ASSESSMENT METHODOLOGY AND DATA PRESENTATION.....	6
OBSERVATIONS.....	7
TABLE 2 – SUMMARY OF INVENTORIED PROJECT SITE AND IMMEDIATE OFFSITE TREES	7
TABLE 3 – SUMMARY OF OFFSITE TREES	8
TABLE 4 – SUMMARY OF PRIVATE PROPERTY TREES	9
EXHIBIT C - REDUCED COPY OF THE TREE LOCATION EXHIBIT (11" x 17" pages)	13
DISCUSSION OF PROJECT IMPACTS.....	15
TABLE 5 – OFF-SITE TREES TO BE PRESERVED	17
TABLE 6 – NON-PROTECTED TREES TO BE REMOVED	18
TABLE 7 – NON-PROTECTED TREES TO BE PRESERVED	19
EXHIBIT D – TREE IMPACT EXHIBIT AND PROTECTION PLAN (11' X 17").....	23
CONCLUSION AND RECOMMENDATIONS	24
 ADDITIONAL EXHIBITS / APPENDICES / ATTACHMENTS	
CERTIFICATION OF PERFORMANCE.....	26
ARBORIST DISCLOSURE STATEMENT	27



LIST OF CONTIBUTORS AND RESUMES OF KEY STAFF	28
EXHIBIT E – DEFINITION OF HEALTH AND STRUCTURE GRADES	32
EXHIBIT F - GLOSSARY OF ARBORICULTURAL & DENDROLOGICAL TERMS	34
EXHIBIT G – LIST OF ACRONYMS	37
EXHIBIT H – TREE INVENTORY FIELD DATA (TABLE 8)	38
EXHIBIT I – TREE PHOTOGRAPHS	44
EXHIBIT J – TREE LEAF PHOTOGRAPHS	51
EXHIBIT K - BIBLIOGRAPHY OF GENERAL REFERENCES USED TO PREPARE THE DOCUMENT	61
<u>IN-PROCESS EXHIBITS / APPENDICES / ATTACHMENTS</u>	
TREE DISCLOSURE STATEMENT (CP-4067)	63



July 21, 2023

Madison Baker
Development Manager
Goldrich Kest
5150 Overland Avenue
Culver City, California 90230

**Re: The Crescent Apartments, 4260 N. Arch Drive, Los Angeles, California 91604
City of Los Angeles Tree Report**

Dear Ms. Baker,

This report is submitted in response to your request for arboricultural consulting services for the properties located at 4260 North Arch Drive in the Studio City area of Los Angeles, California.

EXECUTIVE SUMMARY

The future site of The Crescent Apartments (Project) encompasses approximately 1 acre (43,560 sq. ft.) and is located at 4260 N. Arch Drive in the City of Los Angeles. Commercial buildings and surface parking were recently demolished and the site has been graded and is vacant of any structures or hardscape. The property is bounded by existing retail structures to the west, Arch Drive to the east, the Los Angeles River to the north, and Ventura Boulevard to the south.

Carlberg prepared a Tree Inventory Report on August 30, 2017 and inventoried 36 non-protected private property trees and 10 non-protected offsite trees. Since then, nine non-protected private property trees (nos. 1-5, 13-14, and 26-27) were removed in accordance with a City Planning Demolition Permit. Tree no. 15, although approved for removal, is still standing as of June 2023. Sometime in 2022, the property owner to the west of the subject property cut down seven non-protected eucalyptus trees (tree nos. 6-12) at the southwest edge of the subject property; six of the tree stumps are sprouting new growth and one stump is no longer present.

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The Project proposes 13 additional non-protected tree removals. Remaining are 28 non-protected private property trees and ten offsite trees.

Carlberg Associates (Carlberg) was retained to conduct a tree inventory and to prepare a Tree Report in accordance with guidelines set forth by the City of Los Angeles's Tree Protection Ordinance and Tree Report Template. We prepared a Tree Inventory Report on August 30, 2017 and updated the inventory and report to be in accordance with the City's Template requirements in July 2023.

Carlberg arborists conducted the tree inventory on June 29, 2023. The one-acre property was walked in order to capture all trees, regardless of species or size, in the inventory. The inventory included offsite trees whose canopies or protected zones overhang the project site boundaries.

Carlberg inventoried a total of 51 private property trees. Ten of the private property trees are off-site trees whose canopies overhang the project site. No Ordinance-protected trees (of size) were encountered.

ASSIGNMENT AND PURPOSE OF THE TREE REPORT

Carlberg was retained to conduct a tree inventory and to prepare a Tree Report in accordance with guidelines set forth by the City of Los Angeles's Tree Protection Ordinance and Tree Report Template.

City of Los Angeles's Tree Protection Ordinance No. 186,873 (Ordinance)

Protected trees and shrubs as set forth in the Ordinance comprise the following species that measure four inches or greater in "cumulative"¹ trunk diameter (measured at 4.5 feet above natural grade):

- coast live oak (*Quercus agrifolia*)
- valley oak (*Quercus lobata*)
- any other southern California indigenous oak trees but excluding scrub oak (*Quercus berberidifolia*)
- western sycamore (*Platanus racemosa*)
- Southern California black walnut (*Juglans californica*)
- California bay laurel (*Umbellularia californica*)
- Mexican elderberry (*Sambucus mexicana*)
- toyon (*Heteromeles californica*)

Public rights-of-way, parkway, median, and street trees are protected regardless of species or size and must be included in the tree inventory and report.

Los Angeles City Planning CP-4068 [07.07.2022] Tree Report Template (Template)

The Template (dated September 7, 2022) requires the collection and reporting on additional data beyond that required by the Ordinance, both on- and offsite. Some key requirements of the Template include inventory and assessment of all onsite trees regardless of species or size, inventory of offsite trees whose protected zones (15-feet from the edge of their canopy) may be impacted by the project, inventory of all adjacent street trees, photographs of each tree along with a photograph of a leaf from each tree type, mapping of all trees' locations and their canopies (driplines) plus protected zones, and the tree expert's opinion as to whether the tree occurs naturally or was planted. The Template also requires an analysis of impacts to Ordinance-

¹ For purposes of value assessments and other analyses, trunk diameters of multi-stemmed trees will be converted to a single trunk diameter using the methodology set forth in the *Guide for Plant Appraisal*, 10th Edition.



protected trees that occur within 200 feet of the property boundaries. These impacts may be estimated if access is restricted. *There are no additional trees of concern existing within 200 feet of the property boundaries.*

This Tree Report will be used during the entitlement and environmental approval process to aid decision-makers and the public in understanding the existing tree resources present on and immediately adjacent to the project site, the potential impacts of the project on the existing tree resources, and the proposed recommendations for tree protection, monitoring, and required mitigation during implementation of the Project.

PROJECT OVERVIEW

Project Location

Table 1 includes basic project information for the Project.

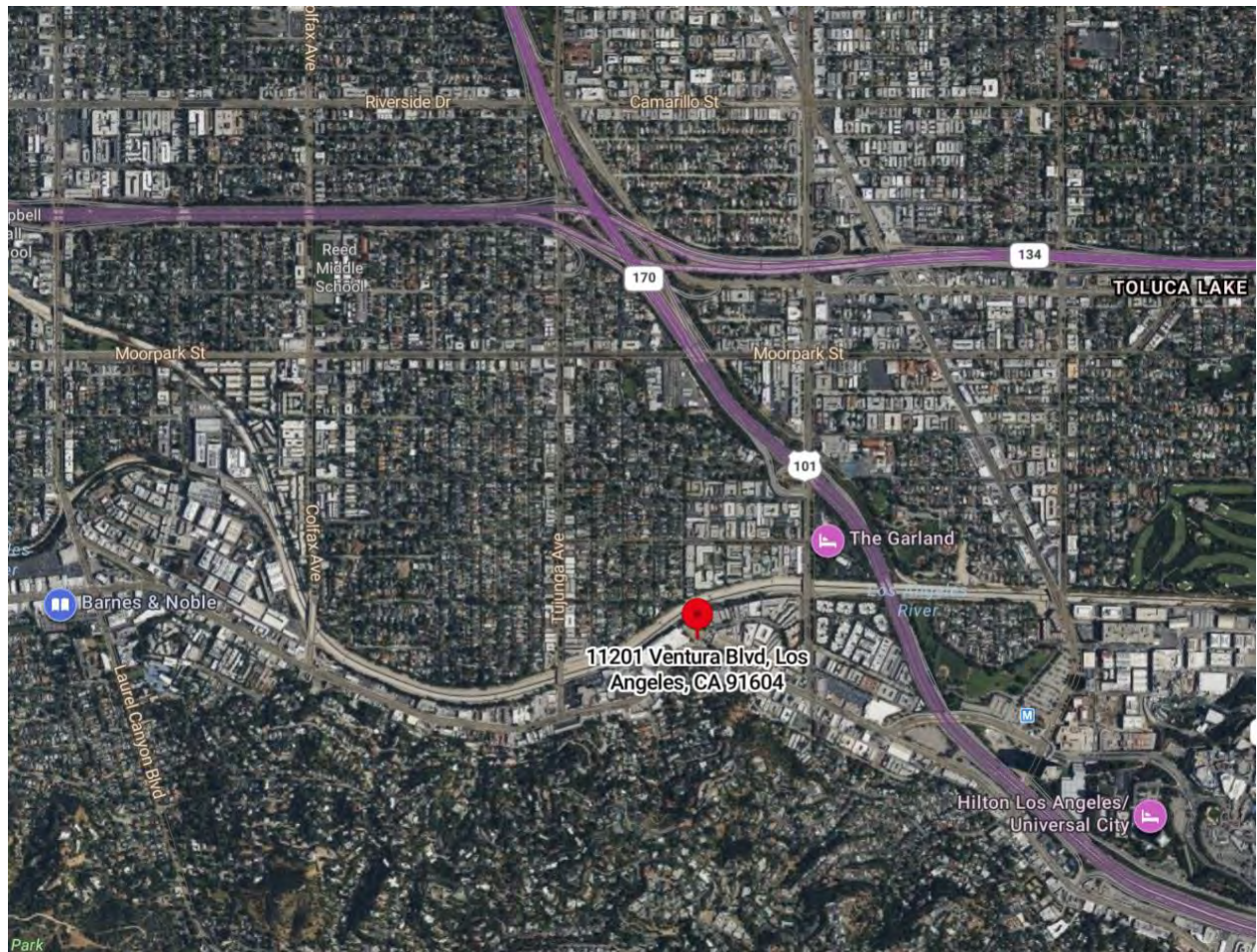
TABLE 1 – PROJECT INFORMATION

Project Name	The Crescent Apartments
Project Address	4260 N. Arch Drive, Los Angeles, CA 91604
Project APN	
Project Site Area	Approximately one acre
Entitlement Case No.	TBD
Environmental Case No.	TBD
Owner / Applicant	Goldrich Kest
Owner Representative	Madison Baker Development Manager Goldrich Kest 5150 Overland Avenue Culver City, California 90230

Exhibits A and B on the following pages illustrate the general project location and an aerial image of the site.



EXHIBIT A – PROJECT LOCATION MAP



Source – Bing Maps
No Scale

4260 N. Arch Drive, Los Angeles, CA 91604



EXHIBIT B – AERIAL IMAGE OF THE PROJECT SITE



Source – Bing Maps
No Scale

4260 N. Arch Drive, Los Angeles, CA 91604



Project Description

The future site of The Crescent Apartments (Project) encompasses approximately 1 acre (43,560 sq. ft.) and is located at 4260 N. Arch Drive in the City of Los Angeles. Commercial buildings and surface parking were recently demolished and the site has been graded and is vacant of any structures or hardscape. The property is bounded by existing retail structures to the west, Arch Drive to the east, the Los Angeles River to the north, and Ventura Boulevard to the south.

A 2020 Demolition Permit allowed the removal of 10 non-protected private property trees, and as stated above, the property owner to the west removed 7 non-protected private property trees on the southwest edge of the site immediately adjacent to their building. No Ordinance-protected trees were encountered on or directly adjacent to the property.

TREE ASSESSMENT METHODOLOGY AND DATA PRESENTATION

Project Trees

Carlberg arborists and field technicians conducted the tree inventory on June 29, 2023. Weather conditions were mostly sunny throughout the duration of the inventory.

The tree inventory was conducted on foot. We walked the entire project site to inventory and assess all onsite trees and all offsite trees whose canopies or protected zones² extended into the project site.

The trees were identified, their health and structural condition evaluated³, trunk diameters measured, heights and canopy spreads approximated, and trunk locations plotted on the topographic survey map provided to us by the project team. More specifically, the inventory included the following assessment factors for protected and non-protected, onsite, immediately offsite, and street trees:

- **Tree Number** (unique tree number engraved on an aluminum tag affixed to each tree, as access allowed)
- **Botanical and Common Name**
- **Trunk Diameter** (diameter at standard height (DSH) / diameter at breast height (DBH) is measured at 4.5 feet above natural grade, or as indicated in the spreadsheet if deviated)
- **Indication** if the tree is a sapling or has a diameter of less than 4 inches
- **Height and Canopy Spread** (approximated)
- **Physiological Condition (health)**
- **Structural Condition**
- **Presence of infectious tree diseases and / or pests**
- **Treatments** (if pests or diseases are outwardly apparent, treatment is generally recommended, but no specific treatment will be called out since only a licensed pest control advisor may opine on specific treatments)
- **Expert opinion** if the tree appears to be naturally occurring or intentionally planted
- **Photographs of All Trees** (or groups of trees where applicable)
- **Leaf photographs** close-up of the individual leaf

² 'Protected zone' equals 15 feet from the dripline of a tree or 15 feet from the trunk of an unbalanced or young tree, whichever is greater.

³ Each tree is assigned two letter grades, one for overall health and one for structure. Definitions for the letter grades are included in the appendices of this report.



Field data was collected on tablets, tree trunk locations were generally mapped on a 50-scale, 36" x 48" topographic sheet map, and photographs were recorded with digital cameras. Tree identification numbers, trunk locations, and tree canopies with protection zones are graphically represented on the Tree Location Exhibit prepared by Carlberg in AutoCAD. Protected and non-protected trees are color-coded as required by the Template and the Ordinance.

A Tree Photograph Exhibit provides captioned photographs of the trees and provides an idea of site context, tree densities, conformation, and vigor. Photographs of a leaf or leaves, as appropriate, for each of the different inventoried tree species are included in the Tree Leaf Photographic Exhibit.

OBSERVATIONS

PROJECT SITE TREES

We inventoried and assessed 51 trees of 10 species on and immediately adjacent to the one-acre property: ten of the inventoried trees are off-site, overhanging trees.

Of the 51 trees, none are Ordinance-Protected trees (of size). **Table 2** summarizes the 10 types of trees found, their onsite, offsite, or street tree status, and how many of each type are included in the inventory.

**TABLE 2 – SUMMARY OF INVENTORIED PROJECT SITE, IMMEDIATE OFFSITE
AND IMMEDIATELY ADJACENT STREET TREES**

COMMON NAME	BOTANICAL NAME	TOTAL NO. ONSITE	TOTAL NO. OFFSITE PRIVATE	TOTAL NO. STREET TREE	TOTAL NO. TREE SPECIES
Chinese elm	<i>Ulmus parvifolia</i>	1			1
coast live oak	<i>Quercus agrifolia</i>	1			1
glossy privet	<i>Ligustrum lucidum</i>	5			5
holly oak	<i>Quercus ilex</i>	1			1
Indian laurel fig	<i>Ficus microcarpa</i>	13			13
lemon-scented gum	<i>Corymbia citriodora</i>	1			1
shamel ash	<i>Fraxinus uhdei</i>	2			2
silk oak	<i>Grevillea robusta</i>	9	10		19
silver dollar gum	<i>Eucalyptus polyanthemos</i>	7			7
Southern California black walnut	<i>Juglans californica</i>	1			1
		41	10	0	51



Exhibit C – Reduced Copy of the Tree Location Exhibit on page 13 provides an illustrative presentation of the existing trees

Exhibit H of the appendices includes **Table 8 - Tree Inventory Field Data**, which comprises the complete field data spreadsheets for all trees. The Tree Photograph Exhibit, included as **Exhibit I**, provides captioned photographs of the trees, and provides an idea of site context, tree densities, conformation, and vigor. Photographs of leaves for each of the different inventoried tree species are included in **Exhibit J – Tree Leaf Photographs**.

The following **Tables 3-5** summarize the offsite trees and private property trees. Complete field data information on all other inventoried trees can be found in **Exhibit H** as mentioned above.

TABLE 3 – SUMMARY OF OFFSITE TREES

OFF SITE (OS)	TREE ID NO.	COMMON NAME	BOTANICAL NAME	DSH /DBH (IN.) 2017	DSH /DBH (IN.) 2023	DSH < 4" OR SAPLING	HEIGHT (FT.)	CANOPY N (FT.)	CANOPY E (FT.)	CANOPY S (FT.)	CANOPY W (FT.)	HEALTH GRADE	STRUCTURE GRADE
OS	37	silk oak	<i>Grevillea robusta</i>	10.5	11.1		35	4	1	15	8	A-	B
OS	38	silk oak	<i>Grevillea robusta</i>	20	21.2		40	18	15	15	15	A	B+
OS	39	silk oak	<i>Grevillea robusta</i>	16	16.9		40	14	9	12	13	A	B
OS	40	silk oak	<i>Grevillea robusta</i>	12.5	12.8		35	15	11	16	10	A	B
OS	41	silk oak	<i>Grevillea robusta</i>	20	21.8		40	9	11	13	10	A	A-
OS	42	silk oak	<i>Grevillea robusta</i>	9.5	10.3		30	15	4	5	14	B	B
OS	43	silk oak	<i>Grevillea robusta</i>	20.5	21.7		40	7	5	25	14	A	C
OS	44	silk oak	<i>Grevillea robusta</i>	14	15		40	15	10	12	15	A-	B
OS	45	silk oak	<i>Grevillea robusta</i>	18	19.5		35	10	4	12	12	A	B
OS	46	silk oak	<i>Grevillea robusta</i>	32.5	33.1		40	30	20	18	22	A	C



TABLE 4 – SUMMARY OF PRIVATE PROPERTY TREES

OFFSITE (OS)	TREE ID NO.	COMMON NAME	BOTANICAL NAME	DSH /DBH (IN.) 2017	DSH /DBH (IN.) 2023	DSH < 4" OR SAPLING	HEIGHT (FT.)	CANOPY N (FT.)	CANOPY E (FT.)	CANOPY S (FT.)	CANOPY W (FT.)	HEALTH GRADE	STRUCTURE GRADE
	1	fern pine	<i>Afrocarpus falcatus</i>	14		Tree removed per 2020 Demolition Permit							
	2	fern pine	<i>Afrocarpus falcatus</i>	14.5		Tree removed per 2020 Demolition Permit							
	3	queen palm	<i>Syagrus romanzoffiana</i>	18' BT		Tree removed per 2020 Demolition Permit							
	4	queen palm	<i>Syagrus romanzoffiana</i>	18' BT		Tree removed per 2020 Demolition Permit							
	5	fern pine	<i>Afrocarpus falcatus</i>	8.5		Tree removed per 2020 Demolition Permit							
	6	silver dollar gum	<i>Eucalyptus polyanthemos</i>	23	Stump sprout		8	6	6	4	4	B	B
	7	silver dollar gum	<i>Eucalyptus polyanthemos</i>	21.5	Stump sprout		8	6	6	4	4	B	B
	8	silver dollar gum	<i>Eucalyptus polyanthemos</i>	15	Stump sprout		8	6	6	3	3	B	B
	9	silver dollar gum	<i>Eucalyptus polyanthemos</i>	16	Stump sprout		8	7	7	7	7	B	B
	10	lemon-scented gum	<i>Corymbia citriodora</i>	20.5	No stump remaining								
	11	silver dollar gum	<i>Eucalyptus polyanthemos</i>	31.5	Stump sprout		7	5	4	2	2	B	B
	12	silver dollar gum	<i>Eucalyptus polyanthemos</i>	20	Stump sprout		10	5	5	2	2	B	B
	13	silver dollar gum	<i>Eucalyptus polyanthemos</i>	9, 12, 19	Stump sprout		7	9	11	4	4	B	B



TABLE 4 – SUMMARY OF PRIVATE PROPERTY TREES

OFFSITE (OS)	TREE ID NO.	COMMON NAME	BOTANICAL NAME	DSH /DBH (IN.) 2017	DSH /DBH (IN.) 2023	DSH < 4" OR SAPLING	HEIGHT (FT.)	CANOPY N (FT.)	CANOPY E (FT.)	CANOPY S (FT.)	CANOPY W (FT.)	HEALTH GRADE	STRUCTURE GRADE
	14	lemon-scented gum	<i>Corymbia citriodora</i>	18.5	Stump sprout		14	5	2	2	0	B	B
	15	silk oak	<i>Grevillea robusta</i>	13	13.7		40	10	10	15	13	A-	C
	16	Indian laurel fig	<i>Ficus microcarpa</i>	14	15.6		45	5	13	15	6	A	A
	17	Indian laurel fig	<i>Ficus microcarpa</i>	12.5	14.4		45	4	13	7	3	A	A
	18	Indian laurel fig	<i>Ficus microcarpa</i>	15.5	17.9		45	2	10	25	21	A	A
	19	Indian laurel fig	<i>Ficus microcarpa</i>	11	12.3		45	2	10	4	10	A	A
	20	Indian laurel fig	<i>Ficus microcarpa</i>	11	11.3		45	4	15	3	3	A	A
	21	Indian laurel fig	<i>Ficus microcarpa</i>	13.5	15.3		45	6	7	10	25	A	A
	22	Indian laurel fig	<i>Ficus microcarpa</i>	9.5	9.5		40	3	15	4	0	A	A
	23	Indian laurel fig	<i>Ficus microcarpa</i>	9.5	10.6		40	5	5	7	5	A	A
	24	Indian laurel fig	<i>Ficus microcarpa</i>	9.5	10.5		40	4	4	6	6	A	A
	25	Indian laurel fig	<i>Ficus microcarpa</i>	9	10.3		40	3	4	4	15	A	A
	26	Indian laurel fig	<i>Ficus microcarpa</i>	12	N/A		Tree removed per 2020 Demolition Permit						
	27	Indian laurel fig	<i>Ficus microcarpa</i>	9	N/A		Tree removed per 2020 Demolition Permit						



TABLE 4 – SUMMARY OF PRIVATE PROPERTY TREES

OFFSITE (OS)	TREE ID NO.	COMMON NAME	BOTANICAL NAME	DSH /DBH (IN.) 2017	DSH /DBH (IN.) 2023	DSH < 4" OR SAPLING	HEIGHT (FT.)	CANOPY N (FT.)	CANOPY E (FT.)	CANOPY S (FT.)	CANOPY W (FT.)	HEALTH GRADE	STRUCTURE GRADE
	28	Indian laurel fig	<i>Ficus microcarpa</i>	11	13.8, 4.8		40	7	3	7	15	A	A
	29	holly oak	<i>Quercus ilex</i>	3, 5.5	4.1, 6.4		20	12	4	0	8	A	B
	30	silk oak	<i>Grevillea robusta</i>	18	18.6		40	8	15	20	10	A	B
	31	silk oak	<i>Grevillea robusta</i>	15	16.4		40	15	10	14	9	A-	B-
	32	silk oak	<i>Grevillea robusta</i>	9	10		30	12	10	10	0	B	B-
	33	silk oak	<i>Grevillea robusta</i>	13	14.2		40	16	8	14	12	B	B
	34	silk oak	<i>Grevillea robusta</i>	12	12.9		40	13	10	15	8	A	B
	35	silk oak	<i>Grevillea robusta</i>	16	17.3		35	10	10	11	10	A	B+
	36	silk oak	<i>Grevillea robusta</i>	13	13.7		35	14	11	15	15	A	B
	47	Indian laurel fig	<i>Ficus microcarpa</i>	Not of size	10, 7, 5		30	12	14	12	12	A	B
	48	Chinese elm	<i>Ulmus parvifolia</i>	Not of size	1.3		12	6	7	7	7	A	A-
	49	glossy privet	<i>Ligustrum lucidum</i>	Not of size	1.4		14	5	5	3	3	A	A-
	50	glossy privet	<i>Ligustrum lucidum</i>	Not of size	1		14	5	5	3	3	A	A-
	51	glossy privet	<i>Ligustrum lucidum</i>	Not of size	1, 1		10	4	4	3	3	A	A-



TABLE 4 – SUMMARY OF PRIVATE PROPERTY TREES

OFFSITE (OS)	TREE ID NO.	COMMON NAME	BOTANICAL NAME	DSH /DBH (IN.) 2017	DSH /DBH (IN.) 2023	DSH < 4" OR SAPLING	HEIGHT (FT.)	CANOPY N (FT.)	CANOPY E (FT.)	CANOPY S (FT.)	CANOPY W (FT.)	HEALTH GRADE	STRUCTURE GRADE
	52	glossy privet	<i>Ligustrum lucidum</i>	Not of size	1.2		12	5	5	3	3	A	A-
	53	glossy privet	<i>Ligustrum lucidum</i>	Not of size	1.2		10	4	4	3	3	A	A-
	54	Southern California black walnut	<i>Juglans californica</i>	Not of size	1		8	7	6	4	4	A	A-
	55	coast live oak	<i>Quercus agrifolia</i>	Not of size	3.6		14	10	5	5	9	A	B+
	56	Indian laurel fig	<i>Ficus microcarpa</i>	N/A	10.6, 4.6		25	10	10	8	9	A	B
	57	shamel ash	<i>Fraxinus uhdei</i>	Not of size	3.9		20	4	10	7	7	A-	B-
	58	shamel ash	<i>Fraxinus uhdei</i>	Not of size	2.9		20	4	12	6	4	A-	B-
	59	silk oak	<i>Grevillea robusta</i>	Not of size	3.4		22	8	7	7	8	A	B

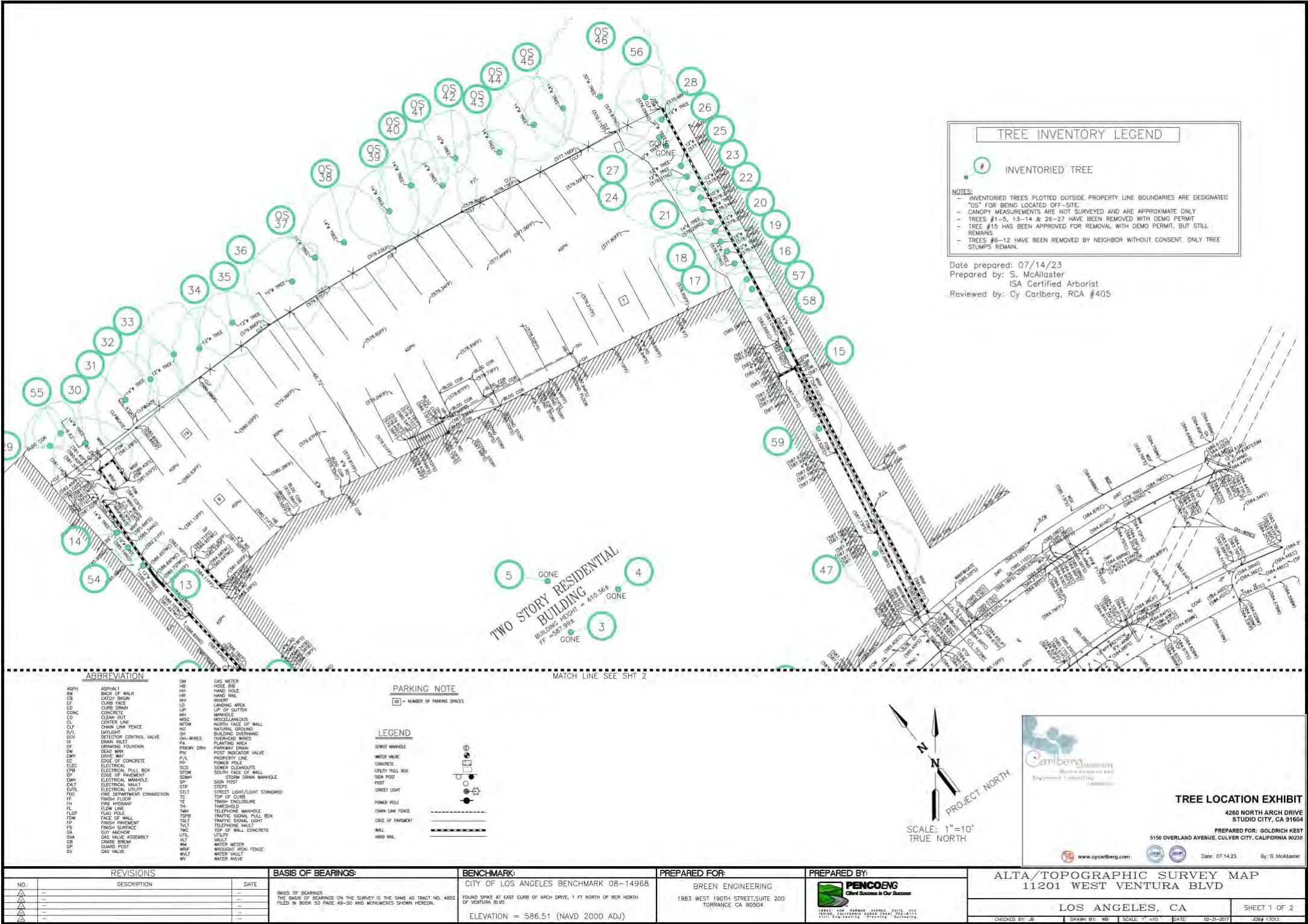
In our opinion, it is obvious that the private property and street trees associated with this project have been planted into the landscape.

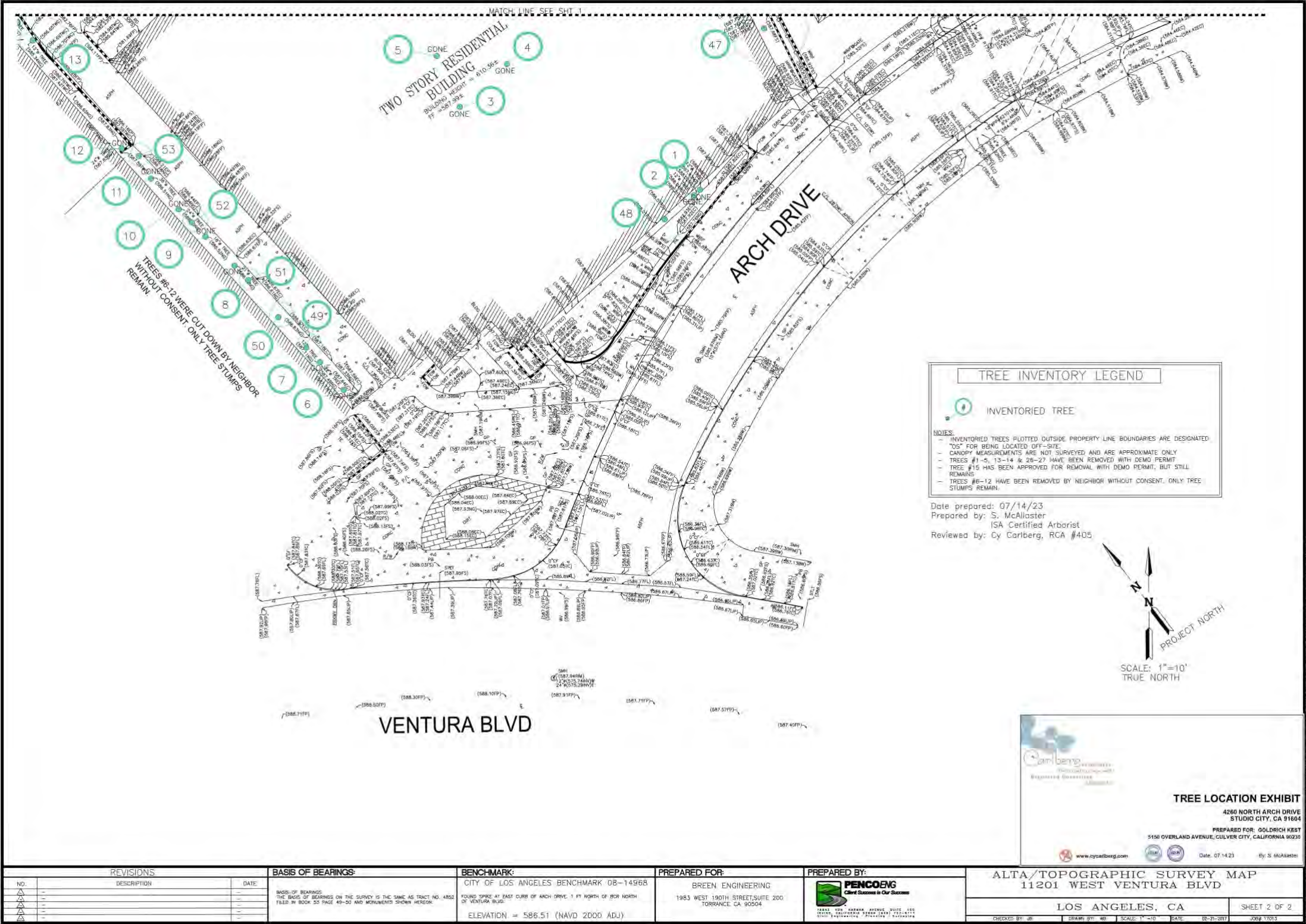
Dbh: diameter at breast height – a forestry term used to describe a tree trunk’s diameter measured at 4.5 feet above grade; typically used as a representation of tree size. Also known as Diameter at Shoulder Height.

BT – Brown Trunk. Because palms do not generally increase in trunk diameter as they mature, they are measured in their brown trunk height, the distance between natural grade and the newest emerging spear.



EXHIBIT C – REDUCED COPY OF THE TREE LOCATION EXHIBIT (NOT TO SCALE)





DISCUSSION OF PROJECT IMPACTS

There are numerous potential consequences related to residential construction that may affect trees during and after a typical construction process. They are as follows:

- EXCAVATION - ROOT SEVERANCE
- SOIL COMPACTION (DURING AND POST-CONSTRUCTION)
- ALTERATION OF THE WATER TABLE/SITE DRAINAGE
- CHANGES IN GRADE – CUT OR FILL
- SUBSTANTIAL TRIMMING OF CANOPY OR ROOTS

A. Excavation/Trenching—Root Severance

Trenching can include excavation for irrigation, utility, or drainage lines. Trenching and excavation can also be required for foundations of structures and free-standing walls. Trenching and excavation removes soil and tree roots. When performed in the critical root zone (approximately 5x the trunk diameter of any tree) or within the dripline (outer edge of the natural canopy), there is the potential to remove large areas of root mass, and to shatter and tear roots that will remain connected to the tree(s). Torn and shattered roots cannot callous over or generate new roots in the manner of cleanly-cut roots. Torn and shattered roots are potentially unstable, are entry points for disease and decay organisms, and eventually die. Significant root loss and/or severance can be critical to the health and structure of trees to remain in a landscape.

B. Soil Compaction

Soil compaction is a complex set of physical, chemical, and biological constraints on tree growth. Principal components leading to limited growth are the loss of aeration and pore space, poor gas exchange with the atmosphere, lack of available water, and mechanical hindrance of root growth. Soil compaction is considered the largest single factor responsible for the decline of trees on construction sites.

C. Changes in Grade

Changes in grade, by the addition or removal of soil (filling or cutting), can be injurious. Lowering the grade around trees can have immediate and long-term effects on trees. The addition of soil and compaction for common engineering practices also results in long-term effects on trees. Typically, the vast majority of the root mass exists within the top three feet of soil, and most of the fine roots active in water and nutrient absorption are in the top 12 inches.

D. Alteration of the Water Table/Site Drainage

The water table is the upper surface of the zone in which soil macropores are saturated with water; water tables may vary seasonally. Rather than a flat, static surface, the water moves down a gradient. Its depth varies, depending on the structure of the soil and rocks through which it flows. A perched water table may form in soils that have impermeable strata. Swamps are created where the water table intersects level ground.

Structures such as footings, basements, subterranean buildings, and retaining walls may intercept impermeable layers in the soil on which water perches. If adequate drainage is not provided, the water table uphill may gradually rise and interfere with tree roots. This type of damage usually takes a period of time to be recognized and diagnosed.⁴

⁴ Nelda Matheny and James R. Clark, Trees and Development: A Technical Guide to Preservation of Trees During Land Development, (Champaign, Illinois: International Society of Arboriculture, 1998), pp. 88-89.



Numerous trees are particularly susceptible to root infections, such as *Armillaria* and *Phytophthora*. Both of these fungal diseases can progressively weaken a root system, resulting in dead branches in the canopy of the tree, loss of stability of the entire tree because of decaying roots, and premature death of the tree. Trees form roots in accordance with existing soil composition and water availability. Minor drainage changes in the winter and spring months are significant to the health of the trees.

E. Canopy and Root Pruning

Leaves perform vital functions for trees. Through photosynthesis, they manufacture sugars that feed the tree and are used to create the building blocks of wood. Leaves help to move water and nutrients up from the roots and around the tree through their vascular system and cool the tree down through transpiration.

Leaves moderate temperatures beneath the tree, lessen the drying action of winds, and intercept rainfall, which reduces erosion. On the ground, they moderate soil temperatures, retain moisture, and as they decompose, return their nutrients back to the soil to be recycled and reused by the tree. A healthy canopy of leaves is essential to ensure an adequate food supply for the roots to perform their important functions.

Typically, root systems extend outward past the dripline, two to four times the diameter of the average tree's crown. Main root functions include water and mineral conduction, food and water storage, and anchorage of the tree to the soil. Root systems consist of short-lived, fine-textured, feeder roots and larger, woody, perennial roots. Feeder roots, while averaging only 1/16 inch in diameter, constitute the major portion of the root system's surface area. Feeder roots act like sponges, growing predominantly outward and upward from the large roots near the soil surface where minerals, water, and oxygen are usually abundant. Larger, woody roots and their subordinates tend to annually increase in diameter and grow horizontally. Predominantly located in the top 6 to 24 inches of the soil, these structural and storage roots usually do not grow deeper than three to seven feet. Root growth is generally inhibited by soil compaction and temperature. As the depth increases, soil compaction increases, and the availability of water, minerals, oxygen, and soil temperature all decrease.

Removal of significant amounts of the canopy and/or root system can lead to both immediate and long-term detrimental effects on trees. Effects can be physiological, structural, or both.

Trees to be preserved or removed, along with the proposed location of recommended protective fencing, are illustrated on the reduced and full-sized copies of the Tree Impact Exhibit and Protection Plan. The reduced copies are included as **Exhibit D** on page 23.

Tables 5-7 on the following pages provide details of the trees proposed for preservation and removal. As summarized in the tables:

- **0 street trees will be removed**
- **0 street trees will be preserved**
- **25 non-protected tree will be removed**
- **16 non-protected trees will be preserved**
- **0 offsite trees will be removed**
- **10 offsite trees will be preserved**



TABLE 5 – OFF-SITE TREES TO BE PRESERVED

Street or Parkway (ST)	Tree ID No.	Common Name	Botanical Name	DSH / DBH (in.)	Brown Trunk (palms – Ft.)	Height (Ft.)	Canopy N (Ft.)	Canopy E (Ft.)	Canopy S (Ft.)	Canopy W (Ft.)	Health Grade	Structure Grade	Naturally Occurring (N) or Planted (P)	Reason for Removal	Replacement Ratio
OS	37	silk oak	<i>Grevillea robusta</i>	11.1		35	4	1	15	8	A-	B	P		
OS	38	silk oak	<i>Grevillea robusta</i>	21.2		40	18	15	15	15	A	B+	P		
OS	39	silk oak	<i>Grevillea robusta</i>	16.9		40	14	9	12	13	A	B	P		
OS	40	silk oak	<i>Grevillea robusta</i>	12.8		35	15	11	16	10	A	B	P		
OS	41	silk oak	<i>Grevillea robusta</i>	21.8		40	9	11	13	10	A	A-	P		
OS	42	silk oak	<i>Grevillea robusta</i>	10.3		30	15	4	5	14	B	B	P		
OS	43	silk oak	<i>Grevillea robusta</i>	21.7		40	7	5	25	14	A	C	P		
OS	44	silk oak	<i>Grevillea robusta</i>	15		40	15	10	12	15	A-	B	P		
OS	45	silk oak	<i>Grevillea robusta</i>	19.5		35	10	4	12	12	A	B	P		



OS	46	silk oak	<i>Grevillea robusta</i>	33.1		40	30	20	18	22	A	C	P		
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TABLE 6 – NON-PROTECTED TREES TO BE REMOVED

Off-Site (OS)	Tree ID No.	Common Name	Botanical Name	DSH / DBH (in.)	Brown Trunk (palms – Ft.)	Height (Ft.)	Canopy N (Ft.)	Canopy E (Ft.)	Canopy S (Ft.)	Canopy W (Ft.)	Health Grade	Structure Grade	Naturally Occurring (N) or Planted (P)	Reason for Removal	Replacement Ratio
	6	silver dollar gum	<i>Eucalyptus polyanthemos</i>	20 x <1		8	6	6	4	4	A-	C	P	Development	
	7	silver dollar gum	<i>Eucalyptus polyanthemos</i>	20 x <1		8	6	6	4	4	A-	C	P	Development	
	8	silver dollar gum	<i>Eucalyptus polyanthemos</i>	15 x <1		28	6	6	3	3	A-	C	P	Development	
	9	silver dollar gum	<i>Eucalyptus polyanthemos</i>	15 x <1		50	7	7	7	7	A-	C	P	Development	
	11	silver dollar gum	<i>Eucalyptus polyanthemos</i>	12 x <1		7	5	4	2	2	B+	C	P	Development	
	12	silver dollar gum	<i>Eucalyptus polyanthemos</i>	15 x <1		10	5	5	2	2	B	C	P	Development	
	13	silver dollar gum	<i>Eucalyptus polyanthemos</i>	10 x <1		16	9	11	4	4	B+	B-	P	Removal Permit	



14	lemon-scented gum	<i>Corymbia citriodora</i>	1	5	5	2	2	0	A-	B-	P	Removal Permit
15	silk oak	<i>Grevillea robusta</i>	13.9	40	10	10	15	13	A-	C	P	Demolition Permit
16	Indian laurel fig	<i>Ficus microcarpa</i>	15.6	45	5	13	15	6	A	A	P	Development
30	silk oak	<i>Grevillea robusta</i>	18.6	40	8	15	20	10	A	B	P	Development
31	silk oak	<i>Grevillea robusta</i>	16.4	40	15	10	14	9	A-	B-	P	Development
32	silk oak	<i>Grevillea robusta</i>	10	30	12	10	10	0	B	B-	P	Development
34	silk oak	<i>Grevillea robusta</i>	12.9	40	13	10	15	8	A	B	P	Development
35	silk oak	<i>Grevillea robusta</i>	17.3	35	10	10	11	10	A	B+	P	Development
36	silk oak	<i>Grevillea robusta</i>	13.7	35	14	11	15	15	A	B	P	Development
47	Indian laurel fig	<i>Ficus microcarpa</i>	10, 7, 5	30	12	14	12	12	A	B	P	Development
48	Chinese elm	<i>Ulmus parvifolia</i>	1.3	12	6	7	7	7	A	A-	N	Development

49	glossy privet	<i>Ligustrum lucidum</i>	1.4	14	5	5	3	3	A	A-	P	Development
51	glossy privet	<i>Ligustrum lucidum</i>	1, 1	10	4	4	3	3	A	A-	P	Development
53	glossy privet	<i>Ligustrum lucidum</i>	1.2	10	4	4	3	3	A	A-	P	Development
54	Southern California black walnut	<i>Juglans californica</i>	1	8	7	6	4	4	A	A-	N	Development
56	Indian laurel fig	<i>Ficus microcarpa</i>	10.6, 4.6	25	10	10	8	9	A	B	P	Development
57	shamel ash	<i>Fraxinus uhdei</i>	3.9	20	4	10	7	7	A-	B-	N	Development
58	shamel ash	<i>Fraxinus uhdei</i>	2.9	20	4	12	6	4	A-	B-	N	Development

TABLE 7 – NON-PROTECTED TREES TO BE PRESERVED

Street or Parkway (ST)	Tree ID No.	Common Name	Botanical Name	DSH / DBH (in.)	Brown Trunk (palms – Ft.)	Height (Ft.)	Canopy N (Ft.)	Canopy E (Ft.)	Canopy S (Ft.)	Canopy W (Ft.)	Health Grade	Structure Grade	Naturally Occurring (N) or Planted (P)	Reason for Removal	Replacement Ratio
	17	Indian laurel fig	<i>Ficus microcarpa</i>	14.4		45	4	13	7	3	A	A	P		
	18	Indian laurel fig	<i>Ficus microcarpa</i>	17.9		45	2	10	25	21	A	A	P		



19	Indian laurel fig	<i>Ficus microcarpa</i>	12.3	45	2	10	4	10	A	A	P
20	Indian laurel fig	<i>Ficus microcarpa</i>	11.3	45	4	15	3	3	A	A	P
21	Indian laurel fig	<i>Ficus microcarpa</i>	15.3	45	6	7	10	25	A	A	P
22	Indian laurel fig	<i>Ficus microcarpa</i>	9.5	40	3	15	4	0	A	A	P
23	Indian laurel fig	<i>Ficus microcarpa</i>	10.6	40	5	5	7	5	A	A	P
24	Indian laurel fig	<i>Ficus microcarpa</i>	10.5	40	4	4	6	6	A	A	P
25	Indian laurel fig	<i>Ficus microcarpa</i>	10.3	40	3	4	4	15	A	A	P
28	Indian laurel fig	<i>Ficus microcarpa</i>	13.8, 4.8	40	7	3	7	15	A	A	P
29	holly oak	<i>Quercus ilex</i>	4.1, 6.4	20	12	4	0	8	A	B	P
33	silk oak	<i>Grevillea robusta</i>	14.2	40	16	8	14	12	B	B	P
50	glossy privet	<i>Ligustrum lucidum</i>	1	14	5	5	3	3	A	A-	P



52	glossy privet	<i>Ligustrum lucidum</i>	1.2	12	5	5	3	3	A	A-	P
55	coast live oak	<i>Quercus agrifolia</i>	3.6	14	10	5	5	9	A	B+	N
59	silk oak	<i>Grevillea robusta</i>	3.4	22	8	7	7	8	A	B	N

No Ordinance-Protected or off-site trees are proposed for removal, therefore there are no tables for removals of Ordinance-protected or off-site trees.



EXHIBIT D – TREE IMPACT EXHIBIT AND PROTECTION PLAN



CONCLUSION AND RECOMMENDATIONS

Implementation of the Project, including demolition, grading, construction of improvements, and installation of streets and utilities for the proposed new parking, roads (driveways), new entry, buildings and utility changes will likely result in the following:

Total Offsite Ordinance- Protected trees = 0

Removals = 0

Preserve = 0

Total Onsite Ordinance- Protected trees = 0

Removals = 0

Preserve = 0

Total Street trees = 0

Removals = 0

Preserve = 0

Total Offsite Non-Protected trees = 10

Removals = 0

Preserve = 10

Total Non-Protected trees = 41

Removals = 25

Preserve = 16



In my professional opinion, the following Best Management Practices (BMPs), recommendations, and conditions should be implementation:

General Recommendations and Best Management Practices:

1. Any demolition, digging, excavating, or trenching within the protected zone of any tree to remain shall be monitored by the project arborist.
2. Exposed roots to remain should be covered with burlap, carpet remnants or other material that may be kept moist until soil can be replaced.
3. This report shall be part of the set of plans given to the contractors. Contractors should be familiar with the specific instructions and responsibilities pertaining to protected trees. It is recommended that a professional arborist be retained and meet with the contractor and his personnel prior to commencement of the project.
4. If canopy pruning is found to be necessary for trees to remain, it should only be performed by a qualified ISA Certified Arborist or ISA Certified Tree Worker. Climbing "gafts" shall not be used by any tree climber except in an emergency to reach an injured climber or when removing a tree.
5. Pruning or Removals shall occur outside of the nesting bird season as defined by the California Department of Fish and Wildlife and other jurisdictional agencies. If removals must occur in nesting bird season, biological monitoring should be required.
6. If required, a maintenance and monitoring program for mitigation trees will be included in the monitoring and reporting program that will be developed by the project arborist. This program will be developed in coordination with the project landscape architect. At least three (3) years of monitoring for mitigation trees is recommended. The Urban Forestry Division will dictate the actual monitoring period for mitigation trees.
7. Equipment, materials, and vehicles shall not be stored, parked, or operated within the protected zones of trees to remain.
8. Equipment with overhead exhaust shall not be placed in such a manner as to scorch overhanging branches or foliage. Smaller equipment shall be used in such areas as deemed necessary by the monitoring arborist.
9. Five (5) foot high chain link fencing shall be installed as illustrated on the Tree Protection Plan prior to submission of this report to the Urban Forestry Division of the City of Los Angeles (reports may not be deemed complete by the Division if fencing is not in place). Photographs of the fencing should be submitted with the report. When performing their inspection, Urban Forestry requires that the protective fencing be in place.

Please feel welcome to contact me at our Santa Monica office if you have any immediate questions or concerns.

Respectfully submitted,



Cy Carlberg, Registered Consulting Arborist
Principal, Carlberg Associates



This report comprises a total of 64 pages. Reduced copies of graphics are within the report; full-size graphic files have been submitted electronically. Unauthorized separation or removal of any portion of this report deems it invalid as a whole.

Conditions represented in this report are limited to the inventory dates and times. Formal risk assessments were not performed for the purposes of this report. Ratings for health, aesthetics, and structure do not constitute a health or structural guarantee beyond that date and time.

CERTIFICATION OF PERFORMANCE

I, Cy Carlberg, certify:

- That I have personally inspected the tree(s) and/or the property referred to in this report and have stated my findings accurately. The extent of the evaluation and appraisal is stated in the attached report and the Terms of Assignment.
- That I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.
- That the analysis, opinions, and conclusions stated herein are my own.
- That my analysis, opinions, and conclusions were developed, and this report has been prepared according to commonly accepted arboricultural practices.
- That no one provided significant professional assistance to the consultant, except as indicated within the report.
- That my compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party.

I further certify that I am a Registered Consulting Arborist and member of the American Society of Consulting Arborists, and that I acknowledge, accept, and adhere to the ASCA Standards of Professional Practice. I am an International Society of Arboriculture Certified Arborist and Qualified Tree Risk Assessor and have been involved in the practice of arboriculture and the study of trees for over twenty-five years.

Signed:



Date: July 14, 2023

Cy Carlberg
ASCA Registered Consulting Arborist #405
ISA Certified Arborist, WE-0575A
Qualified Tree Risk Assessor
CAUFC Certified Urban Forester #013



ARBORIST DISCLOSURE STATEMENT

Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees contribute greatly to our enjoyment and appreciation of life. Nonetheless, they are subject to the laws of gravity and physiological decline. Therefore, neither arborists nor tree owners can be reasonably expected to warrant unflinching predictability or elimination of risk.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.



LIST OF CONTRIBUTORS AND RESUMES OF KEY STAFF

Ms. Cy Carlberg, Principal
Ms. Christy Cuba, Senior Arborist
Mr. Scott McAllaster, Staff Arborist and AutoCAD Master
Mr. Daniel Cowell, Staff Arborist, Biologist



**CY CARLBERG
CARLBERG ASSOCIATES**

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<u>Education</u>	B.S., Landscape Architecture, California State Polytechnic University, Pomona, 1985 Graduate, Arboricultural Consulting Academy, American Society of Consulting Arborists, Chicago, Illinois, February 2002 Graduate, Municipal Forestry Institute, Lied, Nebraska, 2012
<u>Experience</u>	Consulting Arborist, Carlberg Associates, 1998-present Manager of Grounds Services, California Institute of Technology, Pasadena, 1992-1998 Director of Grounds, Scripps College, Claremont, 1988-1992
<u>Certificates</u>	Certified Arborist (#WE-0575A), International Society of Arboriculture, 1990 Registered Consulting Arborist (#405), American Society of Consulting Arborists, 2002 Certified Urban Forester (#013), California Urban Forests Council, 2004 Qualified Tree Risk Assessor, International Society of Arboriculture, 2011

AREAS OF EXPERTISE

Ms. Carlberg is experienced in the following areas of tree management and preservation:

- Tree health and risk assessment
- Master Planning
- Historic landscape assessments, preservation plans, reports
- Tree inventories and reports to satisfy jurisdictional requirements
- Expert Testimony
- Post-fire assessment, valuation, and mitigation for trees and native plant communities
- Value assessments for native and non-native trees
- Pest and disease identification
- Guidelines for oak preservation
- Selection of appropriate tree species
- Planting, pruning, and maintenance specifications
- Tree and landscape resource mapping – GPS, GIS, and AutoCAD
- Planning Commission, City Council, and community meetings representation

PREVIOUS CONSULTING EXPERIENCE

Ms. Carlberg has overseen residential and commercial construction projects to prevent damage to protected and specimen trees. She has thirty-five years of experience in arboriculture and horticulture and has performed tree health evaluation, value and risk assessment, and expert testimony for private clients, government agencies, cities, school districts, and colleges. Representative clients include:

The Huntington Library and Botanical Gardens	The City of Claremont
The Los Angeles Zoo and Botanical Gardens	The City of Beverly Hills
The Rose Bowl and Brookside Golf Course, Pasadena	The City of Pasadena
Walt Disney Concert Hall and Gardens	The City of Los Angeles
The Art Center College of Design, Pasadena	The City of Santa Monica
Pepperdine University	Santa Monica/Malibu Unified School District
Loyola Marymount University	San Diego Gas & Electric
The Claremont Colleges (Pomona, Scripps, CMC, Harvey Mudd,	Los Angeles Department of Water and Power
Claremont Graduate University, Pitzer, Claremont University Center)	Rancho Santa Ana Botanic Garden, Claremont
Quinn, Emanuel, Urquhart and Sullivan (attorneys at law)	Latham & Watkins, LLP (attorneys at law)
Getty Trust – Eames House	Architectural Resources Group
Historic Resources Group	AHBE Landscape Architects
Mia Lehrer + Associates	Moule and Polyzoides, Architects and Urbanists

AFFILIATIONS

Ms. Carlberg serves with the following national, state, and community professional organizations:

- California Urban Forests Council, Board Member, 1995-2006
- Street Tree Seminar, Past President, 2000-present
- American Society of Consulting Arborists Academy, Faculty Member, 2003-2005; 2014
- American Society of Consulting Arborists, Board of Directors, 2013-2015
- Member, Los Angeles Oak Woodland Habitat Conservation Strategic Alliance, 2010-present



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Education

B.A., Environmental Analysis & Design, Cum Laude, University of California, Irvine, 1993
Graduate, International Society of Arboriculture Certification Study Program, April 1998
Graduate, Consulting Academy, American Society of Consulting Arborists, February 2008

Experience

Senior Arborist/Associate, Carlberg Associates, 2011 - Present
Director of Environmental Services & Senior Arborist, Land Design Consultants, Pasadena, 1994 – 2011
Park Specialist/Naturalist, City of Monrovia, 1988-1996

Certificates

Certified Arborist, WE-1982A, International Society of Arboriculture, 1998
Registered Consulting Arborist, #502, American Society of Consulting Arborists, 2011
Qualified Tree Risk Assessor, International Society of Arboriculture, 2013

AREAS OF EXPERTISE

Ms. Cuba is experienced in the following areas of tree management and preservation:

- Tree health & risk assessments
- Inventories & reports for native and non-native trees
- Master planning
- Evaluation of trees for preservation, encroachment, relocation, restoration, and hazards
- Value assessments (appraisals) for native and non-native trees
- Post-fire inventories, assessments, and valuations for native and non-native trees
- Guidelines for tree preservation, planting, pruning and maintenance specifications
- Pest and disease identification
- Tree and landscape resource mapping – GPS, GIS, and AutoCAD
- Planning Commission, City Council, and community meetings representation
- Review of landscape plans for mitigation compliance & fire fuel modification planning
- Preparation of native habitat and woodland management plans
- Performance of long-term mitigation compliance monitoring & reporting
- Expert testimony

PREVIOUS CONSULTING EXPERIENCE

Ms. Cuba has performed hundreds of tree inventories, health evaluations, impact analyses, hazard, and value assessments for counties, cities, sanitation districts, and water districts, as well as private developers, architects, engineers, and homeowners. She has over 23 of experience in arboriculture and is trained in environmental planning, state and federal regulatory permitting, preparation of CEQA analyses, and habitat mitigation planning and implementation. Representative clients include:

City of Pasadena	San Diego Gas & Electric
City of Monrovia	Quinn, Emanuel, Urquhart and Sullivan (attorneys at law)
City of Santa Clarita	The New Home Company
City of Glendora	City of South Gate
Los Angeles County Fire Department	City of Sierra Madre
California Institute of Technology	Belzberg Architects
Mia Lehrer + Associates	Occidental College
Pulte/Centex Homes	Rose Bowl Stadium
Newhall Land and Farming	Las Encinas Hospital/Aurora Health Services
KOVAC Design Studio	The Claremont Colleges (Pomona College, Claremont University Consortium,
EPT Design	Claremont Graduate University)
Pamela Burton & Company	Gensler Architects
Chandler School	Mesivta of Greater Los Angeles

AFFILIATIONS

Ms. Cuba serves with the following national and regional professional organizations:

- Member, American Society of Consulting Arborists
- Member, International Society of Arboriculture, Western Chapter
- Member, Los Angeles Oak Woodland Habitat Conservation Strategic Alliance
- Past President (2015), Street Tree Seminar, Inc.



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Education B.A., Environmental Studies, University of California, Santa Barbara, 2000

Experience Project Planner & Senior Arborist, Land Design Consultants, Inc.
Pasadena, 1999 – 2014

Certificates Certified Arborist, WE-7011A, International Society of Arboriculture, 2004
Qualified Tree Risk Assessor, International Society of Arboriculture, 2015

AREAS OF EXPERTISE

Mr. McAllaster is experienced in the following areas of tree management and preservation:

- Tree health & risk assessments
- Inventories & reports for native and non-native trees
- Master planning
- Evaluation of trees for preservation, encroachment, relocation, restoration, and hazards
- Construction monitoring and reporting
- Value assessments (appraisals) for native and non-native trees
- Post-fire inventories, assessments, and valuations for native and non-native trees
- Guidelines for tree preservation, planting, pruning and maintenance specifications
- Tree and landscape resource mapping – GPS, GIS, and AutoCAD
- Planning Commission, City Council, and community meetings representation
- Review of landscape plans for mitigation compliance & fire fuel modification planning
- Performance of long-term mitigation compliance monitoring & reporting

PREVIOUS CONSULTING EXPERIENCE

Mr. McAllaster has performed hundreds of tree inventories, health evaluations, impact analyses, hazard, and value assessments for counties, cities, sanitation districts, and water districts, as well as private developers, architects, engineers, and homeowners. He has over 17 years of experience in arboriculture and is trained in environmental planning, state and federal regulatory permitting, preparation of CEQA analyses, and habitat mitigation planning and implementation. Representative clients include:

City of Pasadena	San Diego Gas & Electric
City of Santa Clarita	Corky McMillin Companies
City of Glendora	City of South Gate
Los Angeles County Fire Department	City of Arcadia
Los Angeles County Sanitation Districts	D2 Development
Newhall County Water District	Burrtec, Inc.
Pulte/Centex Homes	The Claremont Colleges
Newhall Land and Farming	The New Home Company
E & S Ring, Inc.	William Carey University
Hollywood Forever Cemetery	Claremont Golf Course
Archdiocese of Los Angeles	Universal Hilton
St. John's Hospital, Santa Monica	Gensler Architects
Kovac Architects	Marmol Radziner, Architects
Tim Barber, Ltd., Architects	NAC Architecture
Ojai Valley Community Hospital	Aurora/Signature Health Services
The Kibo Group	Monte Vista Grove Homes
El Monte Garden Senior Center	Highpointe Communities
IMT Capital, LLC	Claremont University Center

AFFILIATIONS

Mr. McAllaster serves with the following national and regional professional organizations:

- Member, International Society of Arboriculture, Western Chapter
- Member, Street Tree Seminar, Inc.



EXHIBIT E – DEFINITION OF HEALTH AND STRUCTURE GRADES

Health and structure ratings of the trees are based on the archetype tree of the same species through a subjective evaluation of its physiological health, aesthetic quality, and structural integrity.

Overall physiological condition (health) and structural condition were rated A-F:

Health

- A) Outstanding – Exceptional trees of good growth form and vigor for their age class; exhibiting very good to excellent health as evidenced by normal to exceptional shoot growth during current season, good bud development and leaf color, lack of leaf, twig or branch dieback throughout the crown, and the absence of decay, bleeding, or cankers. Common leaf and/or twig pests may be noted at very minor levels.
- B) Above average – Good to very good trees that exhibit minor necrotic or physiological symptoms of stress and/or disease; shoot growth is less than reasonably expected, leaf color is less than optimal in some areas, the crown may be thinning, minor levels of leaf, twig, and branch dieback may be present, and minor areas of decay, bleeding, or cankers may be manifesting. Minor amounts of epicormic growth may be present. Minor amounts of fire damage or mechanical damage may be present. Still healthy, but with moderately diminished vigor and vitality. No significant decline noted.
- C) Average – Average, moderately good trees whose growth habit and physiological or fire-induced symptoms indicate an equal chance to either decline or continue with good health into the near future. Most of these trees exhibit moderate to significant small deadwood in outer crown areas, decreased shoot growth and diminished leaf color and mass. Some stem and branch dieback are usually present and epicormic growth may be moderate to extensive. Cavities, pockets of decay, relatively significant fire damage, bark exfoliation, or cracks may be present. Moderate to significant amounts of insect or disease symptoms may be present; the tree may be shaded or crowded in such a way that it is expected to negatively impact the lifespan of the tree. Tree may be in early decline.
- D) Below Average/Poor - trees whose growth habit and physiological or fire-induced symptoms indicate significant, irreversible decline. Most of these trees exhibit significant dieback of wood in the crown, possibly accompanied by significant epicormic sprouting. Shoot growth and leaf color and mass is either significantly diminished or nonexistent throughout the crown. Cavities, pockets of decay, significant fire damage, bark exfoliation, and/or cracks may be present. Significant amounts of insect or disease symptoms may be present; the tree may be shaded or crowded in such a way that it has negatively impacted the lifespan of the tree. Tree appears to be in irreversible decline.
- F) Dead or in spiral of decline – this tree exhibits very little to no signs of life.

STRUCTURE

- A) Outstanding – Trees with outstanding structure for their species exhibit trunk and branch arrangement and orientation that result in a sturdy form or architecture that resists failure under normal circumstances. The spacing, orientation, and size of the branches relative to the trunk are quintessential for the species and free from defects. No outward sign of decay or pathological disease is present. Some trees exhibit naturally inherent branching defects, like multiple, narrow



- points of attachment from one point on the trunk, which would preclude them from achieving an “A” grade.
- B) Above average - Trees with good to very good structure for their species. They exhibit trunk and branch arrangement and orientation that result in a relatively sturdy form or architecture that resists failure under normal circumstances, but may have some mechanical damage, over-pruning, or other minor structural defects. The spacing, orientation, and size of the branches relative to the trunk are still in the normal range for the species, but they exhibit a minor degree of defects. Minor, sub-critical levels of decay or pathological disease may be present, but the degree of damage is not yet structurally significant. Trees that exhibit naturally inherent branching defects, like multiple, narrow points of attachment from one point on the trunk, would generally fall in to this category. A small percentage of the canopy may be shaded or crowded, but not in such a way that it is expected to negatively impact the structural integrity or lifespan of the tree.
- C) Average - Trees with moderately good structure for their species, but with obvious defects. They exhibit trunk and branch arrangement and orientation that result in a less than sturdy form or architecture, which reduces their resistance to failure under normal circumstances. Moderate levels of mechanical damage, over-pruning, or other structural defects may be present. The spacing, orientation, and size of some of the branches relative to the trunk are not in the normal range for the species. Moderate to significant levels of decay or pathological disease may be present that increase the likelihood of structural instability. Influences such as an excessive trunk lean, slope erosion, root pruning, or other growth-inhibiting factors may be present. A moderate to significant percentage of the canopy may be shaded or crowded in such a way that it is expected to negatively impact the structural integrity or lifespan of the tree. Risk of full or partial failure in the near future appears to be moderately elevated.
- D) Well Below Average/Poor - Trees poor structure for their species and with obvious defects. They exhibit trunk and branch arrangement and orientation that result in a significantly less than sturdy form or architecture, significantly reducing their resistance to failure under normal circumstances. Significant levels of mechanical damage, over-pruning, or other structural defects may be present. The spacing, orientation, and size of many of the branches relative to the trunk are not in the normal range for the species. Significant levels of decay or pathological disease may be present that increase the likelihood of structural instability. Influences such as an excessive trunk lean, slope erosion, root pruning, or other growth-inhibiting factors may be present. A significant percentage of the canopy may be shaded or crowded in such a way that it is expected to negatively impact the structural integrity or lifespan of the tree. Risk of full or partial failure in the near future appears to be advanced.
- F) Severely Compromised – trees with very poor structure and numerous or severe defects due to growing conditions, historical or recent pruning, mechanical damage, history of limb or trunk failures, advanced decay, disease, or severe fire damage. Risk of full or partial failure in the near future appears to be severe.



EXHIBIT F - GLOSSARY OF ARBORICULTURAL & DENDROLOGICAL TERMS

Abiotic: Non-living agents including environmental, physiological, & other nonbiological factors (i.e., aeration or water deficit, mechanical injury, or gas line leak).

Arboriculture: Management of individual trees or groups of trees primarily for their amenity value.

Basal wound: A cut or puncture at the base of the trunk of a tree, particularly bad in younger (developing) specimens. Often these wounds are caused by mowers and other gardening equipment and can be prevented by protective staking and the creation of dirt (no turf) surrounding areas - adjacent to the trunk.

Bleeding (from wood): Flow of sap, typically from pruning wounds.

Branch collar: The swelling at the base of a branch, to be left intact in any pruning.

Callus / wound wood: Lignified, partially differentiated tissue which develops from the callus associated with wounds.

Cambium / cambial: Meristematic tissue that gives rise to phloem & xylem.

Canker: An area of dead or malformed bark caused by a pathogen.

Canopy: A term used for the crown or spread of a tree's branches to emphasize its size and enclosing character. Parts of the tree above the trunk, including scaffold limbs, lateral branches, twigs, and leaves. The canopy spread is often measured in feet.

Cavity: A void in a tree trunk, branch or root that may or may not be open to the exterior, generally created by decay. Over many years the wound may become entirely grown over (occluded) while the decay progresses within.

Co-dominant stems: Branches and stems that are nearly equal in size and relative importance

Compartmentalization: A form of defense in woody plants, in which barriers resistant to invasion by pathogens or wood decay fungi are laid down while the wood is living (sapwood), and which continue to act passively once the wood is incorporated into heartwood.

Conifer: A botanical definition embracing trees with cones (ie. seeds not formed within ovaries), mostly with needle-like or scale-like leaves and mostly evergreen. Sometimes conifers are called 'softwoods'.

Crotch: Where two branches of a tree intersect. A narrow crotch arise at an acute (narrow) angle, as when both branches are close to the vertical. The union is relatively weak if there is included bark.

Crown: The branches, twigs and foliage of a tree, considered collectively.

Crown thinning, crown reduction and crown raising: Crown thinning removes branches from the crown without reducing the extent of the crown. Crown reduction decreases the extent of the crown without decreasing its density. Crown raising increases the headroom to the base of the canopy by removing lower branches.

Crown cleaning: The removal of dead, dying, damaged or diseased wood from the crown of a tree.

Deadwood: In the growth and development of a tree, branches compete with each other and weaker branches are eventually suppressed and die. The deadwood is then liable to fall (sometimes called 'natural pruning'). Deadwood develops naturally, largely in the inner and lower crown, of all trees that are mature and unmanaged.

Decay: The progressive degradation of woody tissues caused by specialized fungi & bacteria through decomposition of cellulose & lignin. The pathogen typically enters through wounds in the roots (root rots), main stem or branches (butt and stem rots) and can then extend internally, over a timescale of years or decades, longitudinally or horizontally.

Deciduous: Leaves are lost in winter, as opposed to evergreen.

Diameter at breast height (dbh): The diameter of a tree measured at height 4.5 feet above natural grade. Typically used as a representation of tree size.



Dieback: Death of shoots or roots starting at the extremities.

Dripline: The outermost edge of the tree's canopy. When depicted on a map, the dripline will appear as an irregular shape that follows the contour of the tree's branches as seen from overhead.

Epicormic shoots: Shoots arising from the base of a tree, its trunk or main framework branches, from buds dormant more than one season. May be stimulated by pruning (which increases the light reaching the lower part of the tree), or indicative of damage or decline in the upper crown.

Evergreen: Foliated throughout the year (although there is a gradual turnover of leaves).

Flush cut: A pruning cut that removes the branch collar and/or part of the branch ridge, slowing the occlusion of the wound or damaging its compartmentalization.

Framework: Typically, the main branches (sometimes also called scaffold branches), each of which supports a significant portion of the crown. They largely determine the shape of the tree's crown depending on their height of origin, orientation etc. There is no precise distinction between framework branches and other lesser branches.

Gall: Abnormal growth of leaves, buds, stems etc. in reaction to the presence of an intrusive parasite, often an insect or mite.

Girdle/girdling: Damage that kills the bark all the way round the stem; such as caused by wires or ties that were never removed when the tree was young. That which circles & constricts the stem or roots causing death of phloem &/or cambial tissue.

Habit (growth habit): Giving a tree its characteristic form, for example owing to the stoutness and orientation (fastigiated, ascending, spreading, pendulous, weeping etc.) of a tree's branches.

Hanger: Dead branch fallen from the crown but caught by, and resting on, branches lower down, which be liable to fall.

Heart rot: Decay in the center of the tree (heartwood).

Included bark: Areas of bark on adjacent parts of a tree, typically on the inner faces of a narrow fork, which becomes grown over to occupy part of the internal joint. The bark-to-bark contact is weaker than the more usual woody union.

Lateral branch / limb: The next order of branch that rises from the scaffold limbs.

Leader: The topmost vertical shoot of a tree, present if the tree has strong apical dominance, characteristic of young trees and conifers. Trees with a rounded crown have no leader.

Mulch: a material (such as decaying leaves, bark, or compost) spread around or over a plant to enrich or insulate the soil.

Parasite: An organism that exploits another, e.g., for food, to the prejudice of the host. Parasites may kill their hosts, be pathogenic or have little significant effect.

Pathogen: A kind of parasite that causes disease.

Phloem: A transport tissue characterized by sieve tubes and companion cells, found the vascular bundles of higher plants. Functions in the transport of dissolved organic substances by translocation.

Photosynthesis: The chemical process by which chlorophyll-containing plants use light to convert carbon dioxide and water into carbohydrates, releasing oxygen as a by-product.

Pruning: The cutting off or cutting back of shoots or branches from a tree, whether to direct growth (formative pruning), make safe, to remove an obstructing or diseased part, to increase longevity (veteran trees), to maintain productivity (fruit trees) etc.

Root crown /collar / Root flare: The outwardly curving base of a tree where it joins the roots, often distinguishable as individual root buttresses.



Root crown inspection: Extensive examination of the junction of root & stem, including the area immediately below, aimed at determining stability, presence of disease, decay, etc.

Root plate: The area needed by a tree's root system to keep the tree stable; broadly, that part of the root system displaced when a tree is uprooted.

Root zone: The area of ground around the base of a tree that supports root growth; often extends far beyond the dripline of a tree.

Scaffold branch / limb: The first order of limbs or branches that arise from the trunk of a tree.

Soil: A mixture of mineral particles, often of various sizes due to weathering, roots and other living things, soil organic matter and the associated voids (pores) filled with air and/or water.

Soil aeration: The movement of gases in soil, primarily by diffusion through the soil pores. For example, oxygen diffuses from the atmosphere to the vicinity of the plant root while carbon dioxide diffuses in the opposite direction. The rate of diffusion is related to the proportion of the soil volume that contains air

Soil compaction: An increase in bulk density due to the pressure exerted by animals, vehicles, (locally) by root growth etc. Pore space is reduced, which may also restrict soil aeration, water infiltration and drainage.

Soil structure: The aggregation of soil particles into clumps (peds) of various shapes and the associated spaces between them, affecting many properties of soil including its porosity to air and water, and its fertility.

Soil texture: The size of the mineral particles in the soil, classified (from fine to coarse) as clay, silt, sand, gravel or stones, or some mixture of these to give a characteristic particle size distribution. Sandy soils give a light texture, clayey soils give a heavy texture.

Stub: That part of a pruned branch protruding beyond the branch collar. It is not good practice to leave stubs since they impede occlusion and are prone to decay.

Suckers: Shoots arising from the roots of a tree, which can arise surprisingly far from the parent.

Target: A target is the subject of injury or damage within range of a tree hazard

Topping: A kind of pruning in which the branches of a tree are all decapitated to reduce the tree to a specific height. An indiscriminate form of pruning not regarded as good practice, to which some trees, such most conifers, are intolerant.

Training: To change the shape of a tree by means other than (formative) pruning, typically by tying young branches into a particular position.

Transpiration: Loss of water vapor from the surface of leaves & other aboveground parts of the plant.

Vigor / vigorous: Overall health; the capacity to grow & resist physiological stress.



EXHIBIT G – LIST OF ACRONYMS

ANTH – Anthracnose disease

BT – brown trunk – commonly used to measure palm tree trunk heights instead of diameters; it excludes the palm head, or canopy

CANK – canker – an area of dead tissue; can be caused by sunburn or disease

CLPD – common leaf pests and diseases (usually subcritical and non-lethal to tree)

COD – codominant stems or trunks – similar diameter trunks or stems arising from the same point of origin – can be a defect depending on the angle of attachment

Compass directions – N=north, E=east, S=south, W=west

DBH – Diameter at breast height (4 ft. 6 in. from grade) – a standard forestry term / protocol used for measuring tree trunk diameter

DSH – Diameter Standard Height – same as DBH but politically correct without the reference to breasts

DN – drippy nut (acorn) disease (common and non-lethal bacterial infection of acorns)

DW – dead wood

EG – epicormic growth – usually stress-induced growth that originates from previously dormant buds located on trunks or branches

GR – girdling root – can cause structural instability

HOB – history of breakage – usually refers to branches, not twiggy growth

HR – heart rot – decay of the heartwood

H2O – water or irrigation

IB – included bark – can cause structurally weak attachments

LCR – live crown ratio – a ratio of canopy foliage to bare trunk – informs structural grade, as low LCR can increase likelihood of failures

Lerp psyllid / Tipu psyllid – sap sucking insects

Lg - large

MBA – multiple branch attachments – can be a structural defect

Mech. Dam or MD – mechanical damage

MPE – multiple pruning events – can lead to reduced structural integrity based on secondary growth characteristics

P/D – pest/disease

PP – poor pruning – usually refers to stub cuts, flush cuts, excessive thinning, topping, etc.

Prune/DPR-QA - prune out dead/infested/diseased portion(s) & consult a licensed Department of Pesticide Regulation Qualified Applicator for potential chemical pest/disease treatments

RRD – root rot disease

SB – sycamore borer – a clear-winged moth that lays eggs on the bark of trees (mostly sycamore and oak species) – larvae burrow and feed in bark layer, usually non-damaging to tree

SS – stump sprouts – epicormic growth that arises from cut trunks – can originate from the remaining trunk tissue or the root crown

T – trunk

TG – Twig girdler – a stem girdling insect (this condition may also be noted under the umbrella of 'CLPD')

Topping cuts – refers to the substandard practice of arbitrarily pruning with no regard to lateral branch points; can include excessive and disfiguring pruning

WW – wound wood – callus tissue growing over a wound

Xylella = suspected bacterial infection with Xylella fastidiosa



EXHIBIT H – TREE INVENTORY FIELD DATA

THE FOLLOWING SHEETS ARE 11" X 17"



TABLE 8 – TREE FIELD DATA AND PROPOSED DISPOSITIONS
(THIS TABLE IS 11" X 17")

Street Tree / Off Site (ST, OS)	Tree ID No.	Common Name	Botanical Name	DSH / DBH (in.)	BT Ht. (palms/palm-like) (Ft.)	DSH < 4" or Sapling	Height (Ft.)	Canopy N (Ft.)	Canopy E (Ft.)	Canopy S (Ft.)	Canopy W (Ft.)	Health Grade	Structure Grade	Infectious Disease	Suggested Treatments	Naturally Occurring (N) or Planted (P)	Comments	Disposition (Preserve, Remove)	Reason for Removal	Replacement Ratio
	1	fern pine	<i>Afrocarpus falcatus</i>	14			35	6	20	0	0	B	B-			P	tree has been removed	Removed	Demolition Permit	
	2	fern pine	<i>Afrocarpus falcatus</i>	14.5			35	3	18	13	5	A-	B-			P	tree has been removed	Removed	Demolition Permit	
	3	queen palm	<i>Syagrus romanzoffiana</i>		18' BT		28	10	10	10	10	A-	A			P	tree has been removed	Removed	Demolition Permit	
	4	queen palm	<i>Syagrus romanzoffiana</i>		18' BT		28	12	12	12	12	A-	A			P	tree has been removed	Removed	Demolition Permit	
	5	fern pine	<i>Afrocarpus falcatus</i>	8.5			30	1	4	4	4	A-	B-			P	tree has been removed	Removed	Demolition Permit	
	6	silver dollar gum	<i>Eucalyptus polyanthemos</i>	20 sprouts under 1"		X	8	6	6	4	4	B	B			P	tree removed by neighbor, now only SS	Remove	Development	
	7	silver dollar gum	<i>Eucalyptus polyanthemos</i>	20 sprouts under 1"		X	8	6	6	4	4	B	B			P	tree removed by neighbor, now only SS	Remove	Development	
	8	silver dollar gum	<i>Eucalyptus polyanthemos</i>	15 sprouts under 1"		X	8	6	6	3	3	B	B			P	tree removed by neighbor, now only SS	Remove	Development	
	9	silver dollar gum	<i>Eucalyptus polyanthemos</i>	15 sprouts under 1"		X	8	7	7	7	7	B	B			P	tree removed by neighbor, now only SS	Remove	Development	
	10	lemon-scented gum	<i>Corymbia citriodora</i>	N/A												P	tree has been removed – no stump sprouts existing – neighbor removed	Removed	Development	
	11	silver dollar gum	<i>Eucalyptus polyanthemos</i>	12 sprouts under 1"		X	7	5	4	2	2	B	B			P	tree removed by neighbor, now only SS	Remove	Development	
	12	silver dollar gum	<i>Eucalyptus polyanthemos</i>	15 sprouts under 1"		X	10	5	5	2	2	B	B			P	tree removed by neighbor, now only SS	Remove	Development	



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(THIS TABLE IS 11" X 17")

Street Tree / Off Site (ST, OS)	Tree ID No.	Common Name	Botanical Name	DSH / DBH (in.)	BT Ht. (palms/palm-like) (Ft.)	DSH < 4" or Sapling	Height (Ft.)	Canopy N (Ft.)	Canopy E (Ft.)	Canopy S (Ft.)	Canopy W (Ft.)	Health Grade	Structure Grade	Infectious Disease	Suggested Treatments	Naturally Occurring (N) or Planted (P)	Comments	Disposition (Preserve, Remove)	Reason for Removal	Replacement Ratio
	13	silver dollar gum	<i>Eucalyptus polyanthemos</i>	10 sprouts under 1"		X	8	9	11	4	4	B	B			P	tree removed, now only SS	Remove	Demolition Permit	
	14	lemon-scented gum	<i>Corymbia citriodora</i>	1		X	14	5	2	2	0	B	B			P	tree removed, now only SS	Remove	Demolition Permit	
	15	silk oak	<i>Grevillea robusta</i>	13.9			40	10	10	15	13	A-	C			P	tree behind temporary fencing	Remove	Demolition Permit	
	16	Indian laurel fig	<i>Ficus microcarpa</i>	15.6			45	5	13	15	6	A	A			P	~2-3 feet from PL in planter; raised but otherwise not heavily pruned	Remove	Development	
	17	Indian laurel fig	<i>Ficus microcarpa</i>	14.4			45	4	13	7	3	A	A			P	~2-3 feet from PL in planter; raised but otherwise not heavily pruned	Preserve		
	18	Indian laurel fig	<i>Ficus microcarpa</i>	17.9			45	2	10	25	21	A	A			P	~2-3 feet from PL in planter; raised but otherwise not heavily pruned	Preserve		
	19	Indian laurel fig	<i>Ficus microcarpa</i>	12.3			45	2	10	4	10	A	A			P	~2-3 feet from PL in planter; raised but otherwise not heavily pruned	Preserve		
	20	Indian laurel fig	<i>Ficus microcarpa</i>	11.3			45	4	15	3	3	A	A			P	~2-3 feet from PL in planter; raised but otherwise not heavily pruned	Preserve		
	21	Indian laurel fig	<i>Ficus microcarpa</i>	15.3			45	6	7	10	25	A	A			P	~2-3 feet from PL in planter; raised but otherwise not heavily pruned	Preserve		
	22	Indian laurel fig	<i>Ficus microcarpa</i>	9.5			40	3	15	4	0	A	A			P	~2-3 feet from PL in planter; raised but otherwise not heavily pruned	Preserve		
	23	Indian laurel fig	<i>Ficus microcarpa</i>	10.6			40	5	5	7	5	A	A			P	~2-3 feet from PL in planter; raised but otherwise not heavily pruned	Preserve		
	24	Indian laurel fig	<i>Ficus microcarpa</i>	10.5			40	4	4	6	6	A	A			P	~2-3 feet from PL in planter; raised but otherwise not heavily pruned	Preserve		



TABLE 8 – TREE FIELD DATA AND PROPOSED DISPOSITIONS
(THIS TABLE IS 11" X 17")

Street Tree / Off Site (ST, OS)	Tree ID No.	Common Name	Botanical Name	DSH / DBH (in.)	BT Ht. (palms/palm- like) (Ft.)	DSH < 4" or Sapling	Height (Ft.)	Canopy N (Ft.)	Canopy E (Ft.)	Canopy S (Ft.)	Canopy W (Ft.)	Health Grade	Structure Grade	Infectious Disease	Suggested Treatments	Naturally Occurring (N) or Planted (P)	Comments	Disposition (Preserve, Remove)	Reason for Removal	Replacement Ratio
	25	Indian laurel fig	<i>Ficus microcarpa</i>	10.3			40	3	4	4	15	A	A			P	~2-3 feet from PL in planter; raised but otherwise not heavily pruned	Preserve		
	26	Indian laurel fig	<i>Ficus microcarpa</i>	N/A												P	tree has been removed	Removed	Demolition Permit	
	27	Indian laurel fig	<i>Ficus microcarpa</i>	N/A												P	tree has been removed	Removed	Demolition Permit	
	28	Indian laurel fig	<i>Ficus microcarpa</i>	13.8, 4.8			40	7	3	7	15	A	A			P	~2-3 feet from PL in planter; raised but otherwise not heavily pruned	Preserve	Demolition Permit	
	29	holly oak	<i>Quercus ilex</i>	4.1, 6.4			20	12	4	0	8	A	B			P	~10 feet from neighboring bldg., downslope from trash enclosure; codominant stems	Preserve		
	30	silk oak	<i>Grevillea robusta</i>	18.6			40	8	15	20	10	A	B			P	codominant stems; first in row of trees in the NW corner of the property	Remove	Development	
	31	silk oak	<i>Grevillea robusta</i>	16.4			40	15	10	14	9	A-	B-			P	codominant stems; history of breakage; minor deadwood	Remove	Development	
	32	silk oak	<i>Grevillea robusta</i>	10			30	12	10	10	0	B	B-			P	history of breakage; unbalanced crown	Remove	Development	
	33	silk oak	<i>Grevillea robusta</i>	14.2			40	16	8	14	12	B	B			P	codominant stems	Preserve		
	34	silk oak	<i>Grevillea robusta</i>	12.9			40	13	10	15	8	A	B			P	history of breakage; codominant stems	Remove	Development	
	35	silk oak	<i>Grevillea robusta</i>	17.3			35	10	10	11	10	A	B+			P	codominant stems at top	Remove	Development	
	36	silk oak	<i>Grevillea robusta</i>	13.7			35	14	11	15	15	A	B			P	history of breakage; codominant stems	Remove	Development	



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OS	37	silk oak	<i>Grevillea robusta</i>	11.1			35	4	1	15	8	A-	B			P	multiple branch attachments; codominants; low live crown ratio	Preserve		
OS	38	silk oak	<i>Grevillea robusta</i>	21.2			40	18	15	15	15	A	B+			P	history of breakage; pruned; stub cuts on lower trunk	Preserve		
OS	39	silk oak	<i>Grevillea robusta</i>	16.9			40	14	9	12	13	A	B			P	codominants with included bark; history of breakage	Preserve		
OS	40	silk oak	<i>Grevillea robusta</i>	12.8			35	15	11	16	10	A	B			P		Preserve		
OS	41	silk oak	<i>Grevillea robusta</i>	21.8			40	9	11	13	10	A	A-			P	small twig breakage	Preserve		
OS	42	silk oak	<i>Grevillea robusta</i>	10.3			30	15	4	5	14	B	B			P		Preserve		
OS	43	silk oak	<i>Grevillea robusta</i>	21.7			40	7	5	25	14	A	C			P	large codominant branch break; multiple branch attachments	Preserve		
OS	44	silk oak	<i>Grevillea robusta</i>	15			40	15	10	12	15	A-	B			P	shaded-out	Preserve		
OS	45	silk oak	<i>Grevillea robusta</i>	19.5			35	10	4	12	12	A	B			P	shaded-out	Preserve		
OS	46	silk oak	<i>Grevillea robusta</i>	33.1			40	30	20	18	22	A	C			P	large codominant scaffold; history of breakage; last in row of trees in NE corner of property	Preserve		
	47	Indian laurel fig	<i>Ficus microcarpa</i>	10, 7, 5			30	12	14	12	12	A	B			P	trump growing against fence on the property, multiple additional SS at base along fenceline	Remove	Development	
	48	Chinese elm	<i>Ulmus parvifolia</i>	1.3		X	12	6	7	7	7	A	A-			N	SS volunteer along fenceline on the property, additional trunks under one inch	Remove	Development	

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Street Tree / Off Site (ST, OS)	Tree ID No.	Common Name	Botanical Name	DSH / DBH (in.)	BT Ht. (palms/palm- like) (Ft.)	DSH < 4" or Sapling	Height (Ft.)	Canopy N (Ft.)	Canopy E (Ft.)	Canopy S (Ft.)	Canopy W (Ft.)	Health Grade	Structure Grade	Infectious Disease	Suggested Treatments	Naturally Occurring (N) or Planted (P)	Comments	Disposition (Preserve, Remove)	Reason for Removal	Replacement Ratio
	49	glossy privet	<i>Ligustrum lucidum</i>	1.4		X	14	5	5	3	3	A	A-			P	adjacent to existing structure on E side	Remove	Development	
	50	glossy privet	<i>Ligustrum lucidum</i>	1		X	14	5	5	3	3	A	A-			P	adjacent to existing structure on E side	Preserve		
	51	glossy privet	<i>Ligustrum lucidum</i>	1, 1		X	10	4	4	3	3	A	A-			P	adjacent to existing structure on E side	Remove	Development	
	52	glossy privet	<i>Ligustrum lucidum</i>	1.2		X	12	5	5	3	3	A	A-			P	adjacent to existing structure on E side	Preserve		
	53	glossy privet	<i>Ligustrum lucidum</i>	1.2		X	10	4	4	3	3	A	A-			P	adjacent to existing structure on E side	Remove	Development	
	54	Southern California black walnut	<i>Juglans californica</i>	1		X	8	7	6	4	4	A	A-			N	adjacent to existing structure on E side	Remove	Development	
	55	coast live oak	<i>Quercus agrifolia</i>	3.6		X	14	10	5	5	9	A	B+			N	shaded out, on slope	Preserve		
	56	Indian laurel fig	<i>Ficus microcarpa</i>	10.6, 4.6			25	10	10	8	9	A	B			P	in between temporary fencing and PL	Remove	Development	
	57	shamel ash	<i>Fraxinus uhdei</i>	3.9		X	20	4	10	7	7	A-	B-			N	on fenceline	Remove	Development	
	58	shamel ash	<i>Fraxinus uhdei</i>	2.9		X	20	4	12	6	4	A-	B-			N	on fenceline	Remove	Development	
	59	silk oak	<i>Grevillea robusta</i>	3.4		X	22	8	7	7	8	A	B			N	volunteer on fenceline	Preserve		

EXHIBIT I – TREE PHOTOGRAPHS

Note: Tree nos. 1-5, 13-15, & 26-7 have been removed in accordance with a City Planning Demolition Permit



Tree 6 – *Eucalyptus polyanthemos*
facing southwest



Tree 7 – *Eucalyptus polyanthemos*
facing west



Tree 8 – *Eucalyptus polyanthemos*
facing west



Tree 9 – *Eucalyptus polyanthemos*
facing west



Facing southwest, showing the sprouts from the trees that were removed by the building's owner (nos. 6-12)



Note: There is no stump or other remnants remaining for Tree no. 10 (*Corymbia citriodora*, lemon-scented gum)



Tree 11 – *Eucalyptus polyanthemos*
facing west



Tree 12 – *Eucalyptus polyanthemos*
facing west



Tree 13 – *Eucalyptus polyanthemos*
facing west



Tree 14 – *Corymbia citriodora* facing
south





Tree 15 – *Grevillea robusta* facing northeast



Trees 16-25 (right to left) – *Ficus microcarpa* facing north



Tree 28 – *Ficus microcarpa* facing north

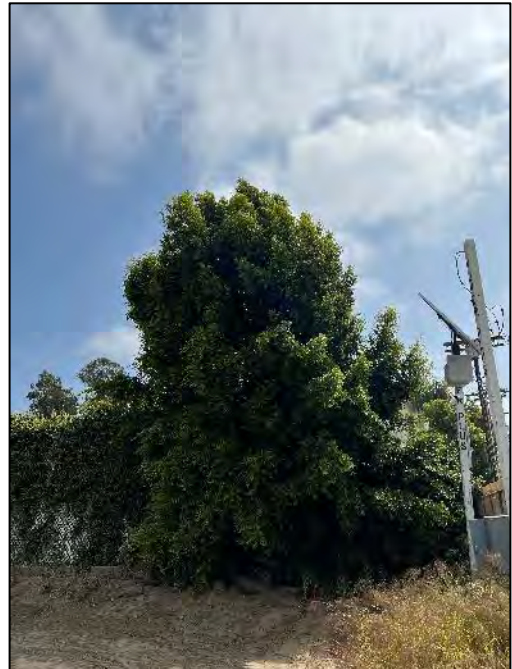


Trees 29-36 (right to left) – *Grevillea robusta* facing northeast





Trees OS37-OS46 (right to left) –
Grevillea robusta facing northeast



Tree 47 – *Ficus microcarpa* facing
north



Tree 48 – *Ulmus parvifolia* facing east



Tree 49 – *Ligustrum lucidum* facing
east





Tree 50 – *Ligustrum lucidum* facing east



Tree 51 – *Ligustrum lucidum* facing east



Tree 52 – *Ligustrum lucidum* facing east



Tree 53 – *Ligustrum lucidum* facing east





Tree 54 – *Juglans californica* facing east



Tree 55 – *Quercus agrifolia* facing northeast



Tree 56 – *Ficus microcarpa* facing northeast

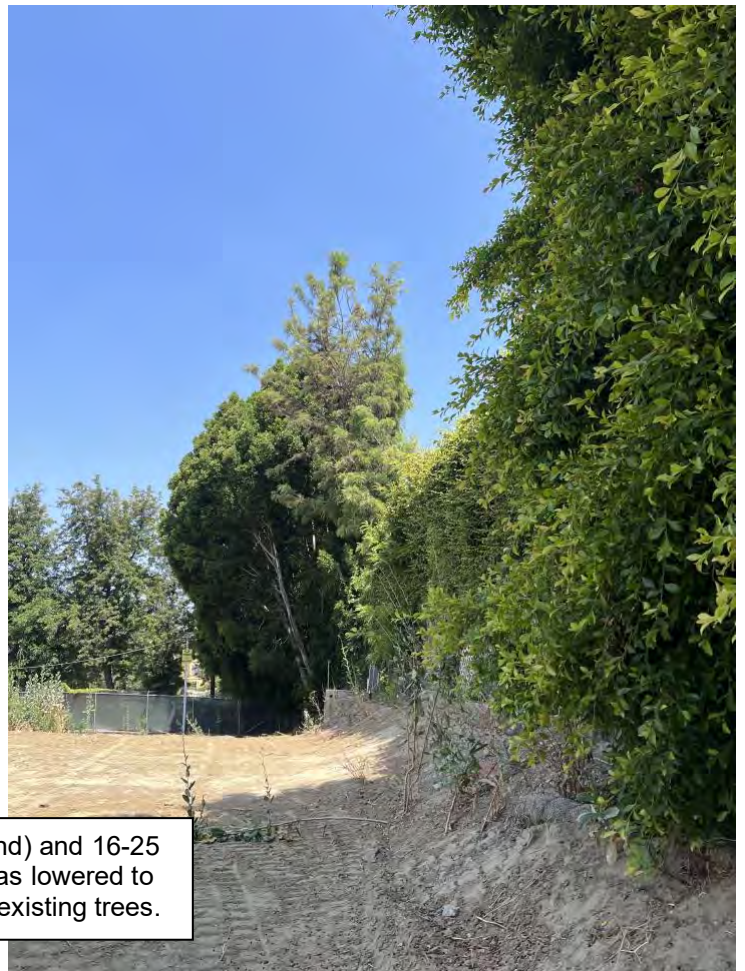


Tree 57-58 (left to right) – *Fraxinus uhdei* facing north





Tree 59 – *Grevillea robusta* facing northwest



Facing north/northwest, showing tree nos. 47 (foreground) and 16-25 in the background. The grade will be raised where it was lowered to provide additional planting area and soil volume for the existing trees.



EXHIBIT J – TREE LEAF PHOTOGRAPHS



Chinese elm (*Ulmus parvifolia*)





coast live oak (*Quercus agrifolia*)





glossy privet (*Ligustrum lucidum*)





holly oak (*Quercus ilex*)





Indian laurel fig (*Ficus microcarpa* 'Nitida')





lemon-scented gum (*Corymbia citriodora*)





shamel ash (*Fraxinus uhdei*)





silk oak (*Grevillea robusta*)





silver dollar gum (*Eucalyptus polyanthemos*)





Southern California black walnut (*Juglans californica*)



EXHIBIT K – BIBLIOGRAPHY OF GENERAL REFERENCES USED TO PREPARE THE DOCUMENT

Rev. 2023

Sunset Western Garden Book. 5th ed. By the Editors of Sunset Books and Sunset Magazine. Menlo Park, CA: Sunset Publishing Corporation, 1988.

Abeyta, Dorothy, ASCA. *Guide to Report Writing for Consulting Arborist*. Champaign, IL: International Society of Arboriculture, 1995.

Costello, Laurence R., Pamela M. Geisel, J. Michael Henry, Edward J. Perry, and Nelda P. Matheny. *Abiotic Disorders of Landscape Plants, A Diagnostic Guide*. Oakland: University of California Agriculture and Natural Resources, 2003

Ewing, Reid. *Best Development Practices*. Chicago: American Planning Association, 1996.

Johnson, Warren T., and Howard H. Lyon. *Insects that Feed on Trees and Shrubs*. 2nd ed. Ithaca and London: Comstock Publishing Associates, a division of Cornell University Press, 1991

Mattheck, Claus, and Helge Breloer. *The Body Language of Trees*. London: The Stationary Office, 2001.

Matheny, Nelda P., and James R. Clark. *A Photographic Guide to Evaluation of Hazard Trees in Urban Areas*. 2nd ed. Champaign, IL: International Society of Arboriculture, 1994.

Matheny, Nelda, and James R. Clark. *Trees and Development – a technical guide to preservation of trees during land development*. Champaign, IL: International Society of Arboriculture, 1998.

Meerow, Alan W. *Betrock's Landscape Palms*. Hollywood, FL: Betrock Information Systems, Inc., 2006.

Pavlik, Bruce M., Pamela C. Muick, Sharon G. Johnson, and Marjorie Popper. *Oaks of California*. Los Olivos, CA: Cachuma Press, 1991.

Pirone, P.P., J.R. Hartman, T.P. Pirone, and M.A. Sall. *Tree Maintenance*. 6th ed. New York: Oxford University Press, 1988.

Shigo, Alex L. *Modern Arboriculture*. Durham, NH: Shigo and Trees, Associates, 1991.

Sinclair, Wayne A., Howard H. Lyon, and Warren T. Johnson. *Diseases of Trees and Shrubs*. Ithaca and London: Comstock Publishing Associates, a division of Cornell University Press, 1987.

Watson, Gary W., and E.B. Himelick. *Principals and Practice of Planting Trees and Shrubs*. Champaign, IL: International Society of Arboriculture, 1997.

Watson, Gary W., and Dr. Dan Neely. *Trees and Building Sites*. Champaign, IL: International Society of Arboriculture, 1995.

Costello, L. R. , and K.S. Jones. *Reducing Infrastructure Damage by Tree Roots: A Compendium of Strategies*. Porterville, CA: Western Chapter International Society of Arboriculture, 2003.

Council of Tree & Landscape Appraisers. *Guide for Plant Appraisal, 9th Edition*. Champaign, IL: International Society of Arboriculture, 2000.



Gilman, Edward F. *An Illustrated Guide to Pruning, 3rd Edition*. Clifton Park, NY: Delmar, Cengage Learning, 2012.

Hatch, Charles R. *Trees of the California Landscape*. Berkeley and Los Angeles, California. University of California Press, 2007

Mattheck, Claus and Weber, Karlheinz. *Manual of Wood Decays in Trees*. Cheltenham, Gloucestershire, UK. Arboricultural Association, 2003

Schwarze, Francis W.M.R., Engles, Julia, and Mattheck, Claus. *Fungal Strategies of Wood Decay in Trees*. Springer -Verlag, Berlin, Heidelberg, New York, 2000

Hickman, Gary W. and Perry, Ed. *Ten Common Wood Decay Fungi on California Landscape Trees – Identification Handbook*. The Western Chapter of the International Society of Arboriculture. Sacramento, CA. 1997

Swiecki, Tedmund J. and Bernhardt, Elizabeth A. *A Field Guide to Insects and Diseases of California Oaks*. Gen. Tech Rep. PSW-GTR-197. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. 2006



APPLICATIONS

TREE DISCLOSURE STATEMENT



Los Angeles Municipal Code (LAMC) Section 46.00 requires disclosure and protection of certain trees located on private and public property, and that they be shown on submitted and approved site plans. Any discretionary application that includes changes to the building footprint, including demolition or grading permit applications, shall provide a Tree Disclosure Statement completed and signed by the Property Owner.

If there are any protected trees or protected shrubs on the project site and/or any trees within the adjacent public right-of-way that may be impacted or removed as a result of the project, a Tree Report will be required, and the field visit must be conducted by a qualified Tree Expert.

Property Address: 4260 N. Arch Drive, Los Angeles, CA 91604
Date Of Field Visit: June 29, 2023

Does the property contain any of the following protected trees or shrubs?

- ☐ **Yes** (Mark any that apply below)
- ☐ Oak, including Valley Oak (*Quercus lobota*) and California Live Oak (*Quercus agrifolia*) or any other tree of the oak genus indigenous to California, but excluding the Scrub Oak
 - ☐ Southern California Black Walnut (*Juglans californica*)
 - ☐ Western Sycamore (*Platanus racemosa*)
 - ☐ California Bay (*Umbellularia californica*)
 - ☐ Mexican Elderberry (*Sambucus mexicana*)
 - ☐ Toyon (*Heteromeles arbutifolia*)
- ☒ **No** Note: There is one undersize coast live oak and one undersize southern California black walnut

Does the property contain any street trees in the adjacent public right-of-way?

- ☐ **Yes** ☒ **No**

Does the project occur within the Mt. Washington/Glassell Park Specific Plan Area and contain any trees 12 inches or more diameter at 4.5 feet above average natural grade at base of tree and/or is more than 35 feet in height?

- ☐ **Yes** ☒ **No**



Does the project occur within the Coastal Zone and contain any of the following trees?

☐ Yes (Mark any that apply below)

- ☐ Blue Gum Eucalyptus (*Eucalyptus globulus*)
- ☐ Red River Gum Eucalyptus (*Eucalyptus camaldulensis*)
- ☐ Other Eucalyptus species

☒ No

Tree Expert Credentials (if applicable)

Name of Tree Expert: Cy Carlberg, ISA Certified Arborist and ASCA Registered Consulting Arborist

Mark which of the following qualifications apply:

- ☐ Certified arborist with the International Society of Arboriculture who holds a license as an agricultural pest control advisor
- ☐ Certified arborist with the International Society of Arboriculture who is a licensed landscape architect
- ☒ Registered consulting arborist with the American Society of Consulting Arborists

Certification/License No.: ISA Certified Arborist # 0575A; Registered Consulting Arborist #405

Owner's Declaration

I acknowledge and understand that knowingly or negligently providing false or misleading information in response to this disclosure requirement constitutes a violation of the Los Angeles Municipal Code Section 46.00, which can lead to criminal and/or civil legal action. I certify that the information provided on this form relating to the project site and any of the above biological resources is accurate to the best of my knowledge.

Name of the Owner (Print) _____

Owner Signature _____

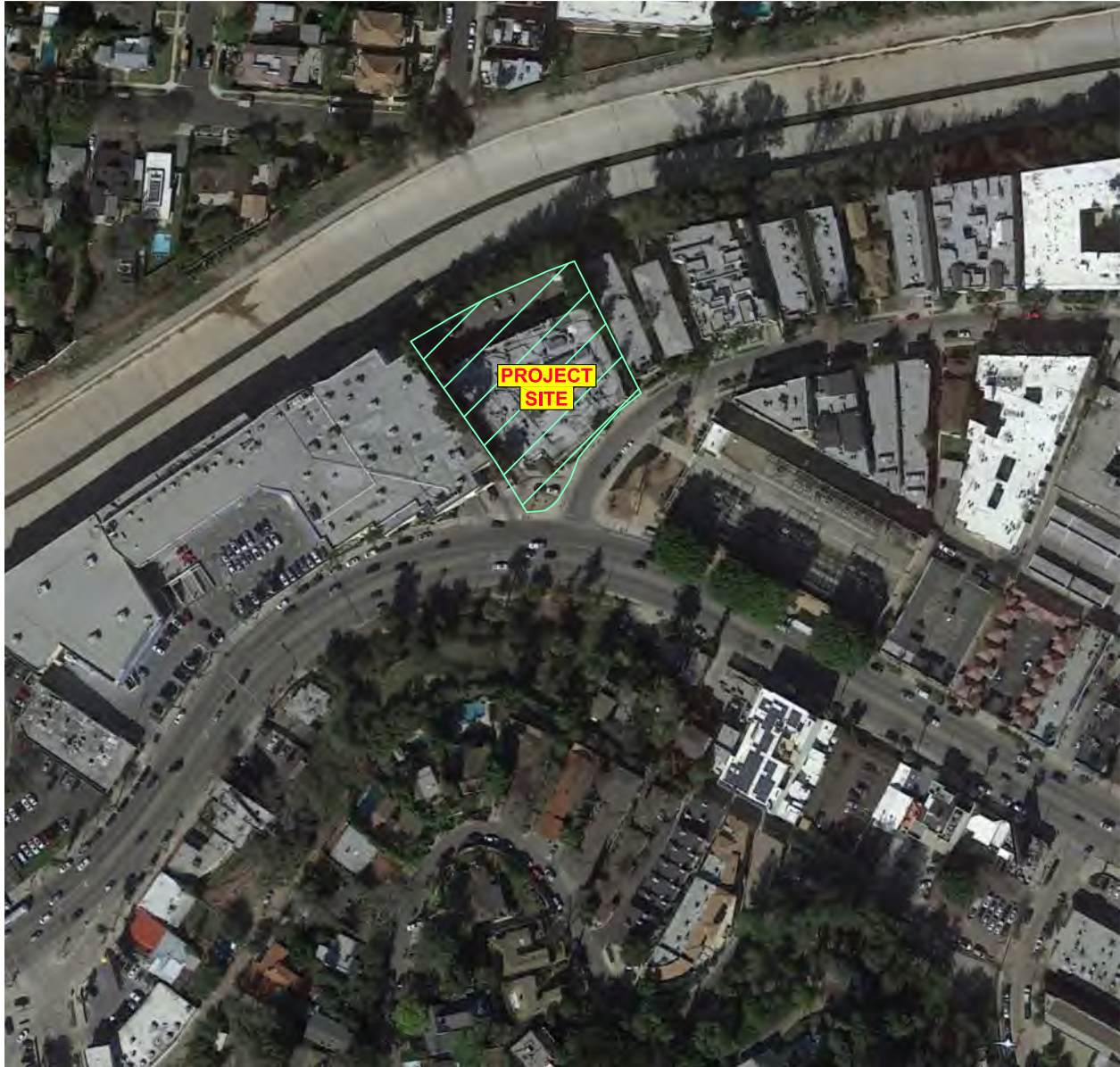
Date _____



**APPENDIX B: TRANSPORTATION
ASSESSMENT AND LADOT
APPROVAL LETTER**

UPDATED TRANSPORTATION ASSESSMENT FOR MULTI-FAMILY RESIDENTIAL DEVELOPMENT

Located at Ventura Boulevard and Arch Drive
in the City of Los Angeles



Prepared by:
Overland Traffic Consultants, Inc.
24325 Main Street, #202
Santa Clarita, California 91321
(661) 799 - 8423

UPDATED TRANSPORTATION ASSESSMENT
FOR MULTI-FAMILY RESIDENTIAL DEVELOPMENT

Located at 4260 N. Arch Drive / 11201 W. Ventura Boulevard
in the Studio City Community Plan Area
of the City of Los Angeles

(LADOT VEN 20-109071, DOT Project ID No. 49258,
CPC-2021-10345-DB-SPP-SPR-VHCA)

Prepared by:

Overland Traffic Consultants, Inc.
952 Manhattan Beach Bl., Suite 100
Manhattan Beach, California 90266
(310) 930 -3303

April 2022



EXECUTIVE SUMMARY

Introduction

Overland Traffic Consultants has prepared this updated assessment of the potential CEQA transportation impacts for a proposed residential development at 4260 N. Arch Drive / 11201 W. Ventura Boulevard in the City of Los Angeles, see Project's location on Figure 1.

Background

The Los Angeles Department of Transportation (LADOT) previously reviewed and approved a mixed – use Project for this site (January 2019, DOT Case No. VEN18-107613 and updated for VMT analysis in February 2020, DOT Case No. VEN 20 – 109071). The approved Project consisted of removing the assisted living residential use and constructing 106 apartments (94 market rate apartments plus 12 affordable units) with 1,201 square feet of commercial. No significant traffic impacts were identified in the review of this prior Project (LADOT approval letter Attachment A).

The purpose of this document is to evaluate the Project's change to 129 apartments (112 market rate apartments plus 17 affordable units) with no commercial use.

Project Description

The Project Site is in the Sherman Oaks - Studio City – Toluca Lake – Cahuenga Pass Community Plan area at 4260 N. Arch Drive / 11201 W. Ventura Boulevard (Project Site).

The proposed residential project (The Crescent Apartments) consists of 129 apartments of which 17 units will be designated for very low-income households (Project). The site is approximately 1 acre (44,866.8 square feet) previously occupied with an assisted living facility (The Inn on the Blvd Retirement Living) which consisted of 76 single rooms within a 41,697 square foot building. The Project includes demolition of the existing structure which has been vacant since approximately 2018.

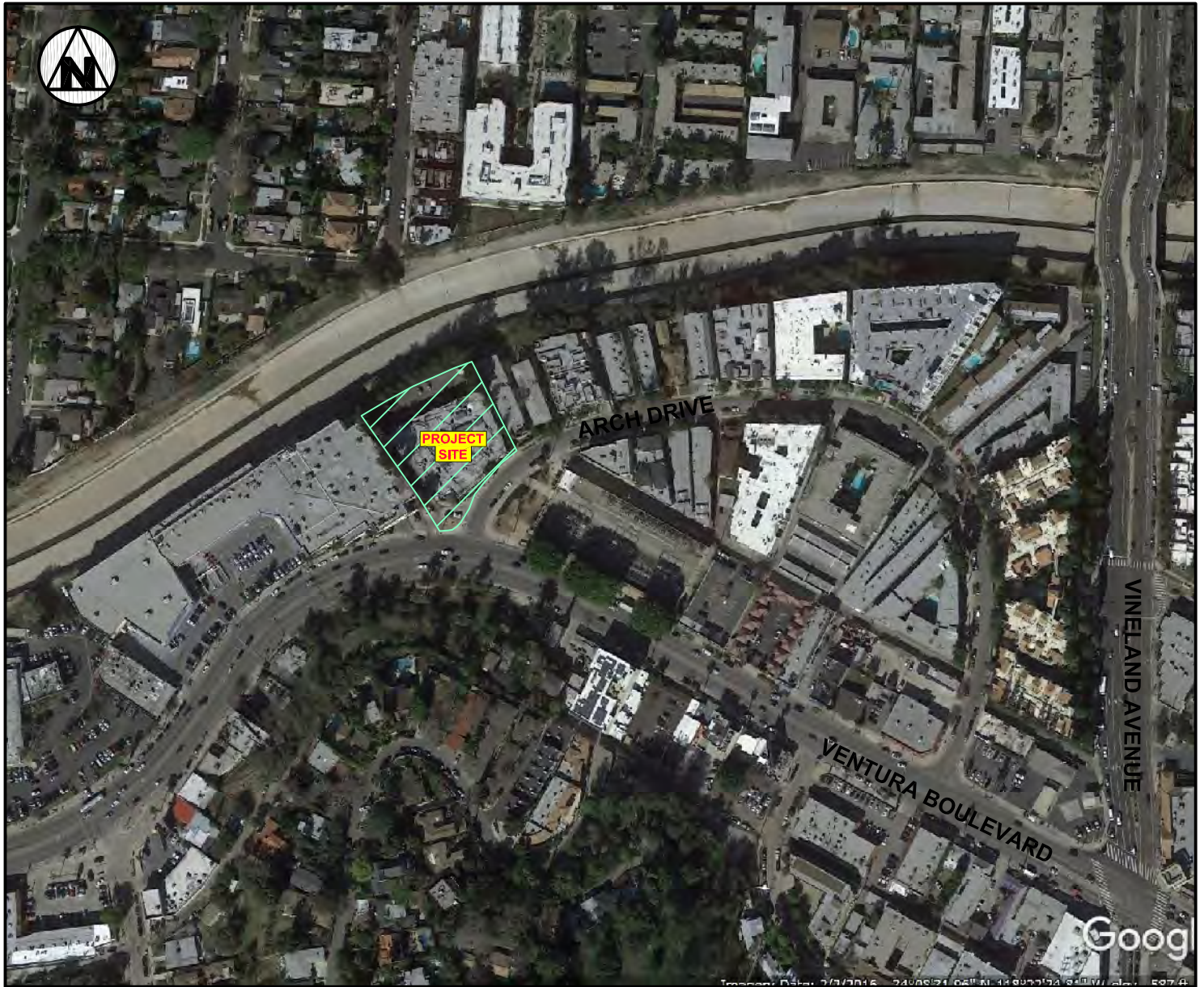


FIGURE 1

11/2021

PROJECT SETTING



Overland Traffic Consultants, Inc.

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Project Parking and Access

Parking - The City parking code for density bonus affordable housing incentives (LAMC 12.22.A.25.d.1) requires 162 parking spaces adjusted to 145 required spaces with the bike parking replacement formula (LAMC 12.03). The Project will provide 146 automotive parking spaces (65 spaces on Level P1 and 81 parking spaces on Level P2). The Project is providing 116 bicycle parking spaces on-site (105 long-term spaces and 11 short-term spaces).

Access – One new driveway on Arch Drive will provide access to the Project's two subterranean parking levels.

Transportation Assessment CEQA and NON – CEQA Review

On July 30, 2019, the City of Los Angeles adopted the vehicle miles traveled (VMT) metric as its criterion for determining transportation impacts under the California Environmental Quality Act (CEQA). These changes are mandated by requirements of the State of California Senate Bill 743 (SB 743) and the State's CEQA Guidelines.

These new CEQA guidelines for evaluating transportation impacts no longer focus on measuring automobile delay and level of service (LOS). Instead, SB 743 directed lead agencies to revise transportation assessment guidelines to include a transportation performance metric that promotes: the reduction of greenhouse gas emissions, the development of multimodal networks, and access to diverse land uses.

The July 2020 LADOT TAG (with August 26, 2021, update) is the City of Los Angeles' document providing guidance for conducting CEQA transportation analyses for land development projects. The TAG identifies three CEQA thresholds for identifying significant transportation impacts in accordance with SB 743 that are applicable to the Project.

- Threshold T-1: Conflicting with Plans, Programs, Ordinances, or Policies
- Threshold T-2.1: Causing Substantial Vehicle Miles Traveled (VMT)
- Threshold T-3: Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use

The City's adopted process also requires additional non-CEQA analysis and review for land development projects. The purpose of this review is to evaluate how projects affect vehicular access, circulation, and safety for all users of the transportation system.

Findings

Based on the evaluation discussed in Chapters 2 and 3, no significant CEQA VMT transportation impacts or significant circulation, access, and safety deficiencies (non-CEQA) were identified by the development of the Project. No transportation mitigation measures are required of the Project.

Cumulative VMT impacts have been evaluated through a consistency check with the Southern California Association of Governments' (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) plan. The RTP/SCS is the regional plan that demonstrates compliance with air quality conformity requirements and greenhouse gas (GHG) reduction targets.

Per the LADOT TAG, projects that are consistent with the RTP/SCS plan in terms of development location and density are part of the regional solution for meeting air pollution and GHG goals. Projects that have less than a significant VMT impact are deemed to be consistent with the SCAG's 2016-2040 RTP/SCS and would have a less-than-significant cumulative impact on VMT. The Project is consistent with the RTP/SCS plan.

No cumulative development project impacts have been identified that would preclude the City's ability to provide transportation mobility in the area. As such, the Project will not create any cumulative operational impacts, emergency access impacts, and/or hazardous geometric design features.



TABLE OF CONTENTS

Chapter 1 - Project Description	1
Chapter 2 - CEQA Transportation Assessment	6
Conflicts Evaluation with Plans, Programs, Ordinances, or Policies.....	6
Screening Criteria for Policy Analysis.....	6
Cumulative Consistency Check.....	10
Causing Substantial Vehicle Miles Traveled (VMT)	11
Transportation Demand Management	11
Cumulative VMT Consistency Check	12
Substantially Increasing Hazards Due to Geometric Design Feature or Incompatible Use	13
Chapter 3 - Non-CEQA Transportation Assessment	14
Environmental Setting.....	14
Land Use	14
Transportation Facilities	15
Transit Information	17
Complete Streets Mobility Networks.....	18
Project Traffic Generation.....	21
Traffic Distribution and Trip Assignment.....	22
Pedestrian, Bicycle and Transit Access Assessment	22
Removal or Degradation of Facilities	22
Project Intensification of Use.....	22
High Injury Network	28
Project Access, Safety and Circulation Evaluation	28
Operational Evaluation.....	28
Safety Evaluation	40
Passenger Loading Evaluation	40
Guidance for Freeway Safety Analysis	40
Construction Overview	41



APPENDIX

- Appendix A – LADOT Prior Approval Feb 18, 2020
- Appendix B – Community Plan Land Use Map
- Appendix C – Street Standards, Circulation & High Injury Network Map
- Appendix D – Transit Routes
- Appendix E – Mobility Network Maps
- Appendix F – VMT Report
- Appendix G – Related Project Information
- Appendix H– Traffic Volume Data and Level of Service Worksheets

LIST OF FIGURES

Figure 1 - Project Setting	ii
Figure 2 - Project Location and Study Locations.....	2
Figure 3A - Site Plan (Ground Floor).....	3
Figure 3B - Site Plan (Parking Level P1).....	4
Figure 3C - Site Plan (Parking Level P2).....	5
Figure 4 - Project Traffic Distribution.....	23
Figure 5 - Study Intersections and Project Assignment	24
Figure 6 - Project Peak Hour Traffic Volume Assignment.....	25
Figure 7 - Existing AM Peak Hour Traffic Volume	30
Figure 8 - Existing PM Peak Hour Traffic Volume	31
Figure 9 - Existing + Project AM Peak Hour Traffic Volume	33
Figure 10 - Existing + Project PM Peak Hour Traffic Volume	34
Figure 11 - Related Project Map	35
Figure 12 - Future Without Project AM Peak Hour Traffic Volume	36
Figure 13- Future Without Project PM Peak Hour Traffic Volume	37
Figure 14 - Future With Project AM Peak Hour Traffic Volume	38
Figure 15 - Future With Project PM Peak Hour Traffic Volume	39



LIST OF TABLES

Table 1	Consistency Check with Plans, Programs, Ordinances or Policies	8 - 9
Table 2	Project Trip Generation Rates	21
Table 3	Estimated Project Traffic Generation	21
Table 4	Signalized Intersection Level of Service Definitions	29
Table 5	Traffic Conditions - Without and With Project.....	32



CHAPTER 1

PROJECT DESCRIPTION

The Project Site is in the Sherman Oaks - Studio City – Toluca Lake – Cahuenga Pass Community Plan area at 4260 N. Arch Drive / 11201 W. Ventura Boulevard (Project Site). Figure 2 illustrates the map location of the Project Site.

Project Description

The proposed residential project (The Crescent Apartments) consists of 129 apartments of which 17 units will be designated for very low-income households (Project). The site is approximately 1 acre (44,866.8 square feet) previously occupied with an assisted living facility (The Inn on the Blvd Retirement Living) which consisted of 76 single rooms within a 41,697 square foot building. The Project includes demolition of the existing structure which has been vacant since approximately 2018.

Project Parking and Access

Parking - The City parking code for density bonus affordable housing incentives (LAMC 12.22.A.25.d.1) requires 162 parking spaces adjusted to 145 required spaces with the bike parking replacement formula (LAMC 12.03). The Project will provide 146 automotive parking spaces (65 spaces on Level P1 and 81 parking spaces on Level P2). The Project is providing 116 bicycle parking spaces on-site (105 long-term spaces and 11 short-term spaces). Access to the Project parking is via one driveway on Arch Drive.

Figures 3A, B and C illustrate the site plan, access, and parking levels.

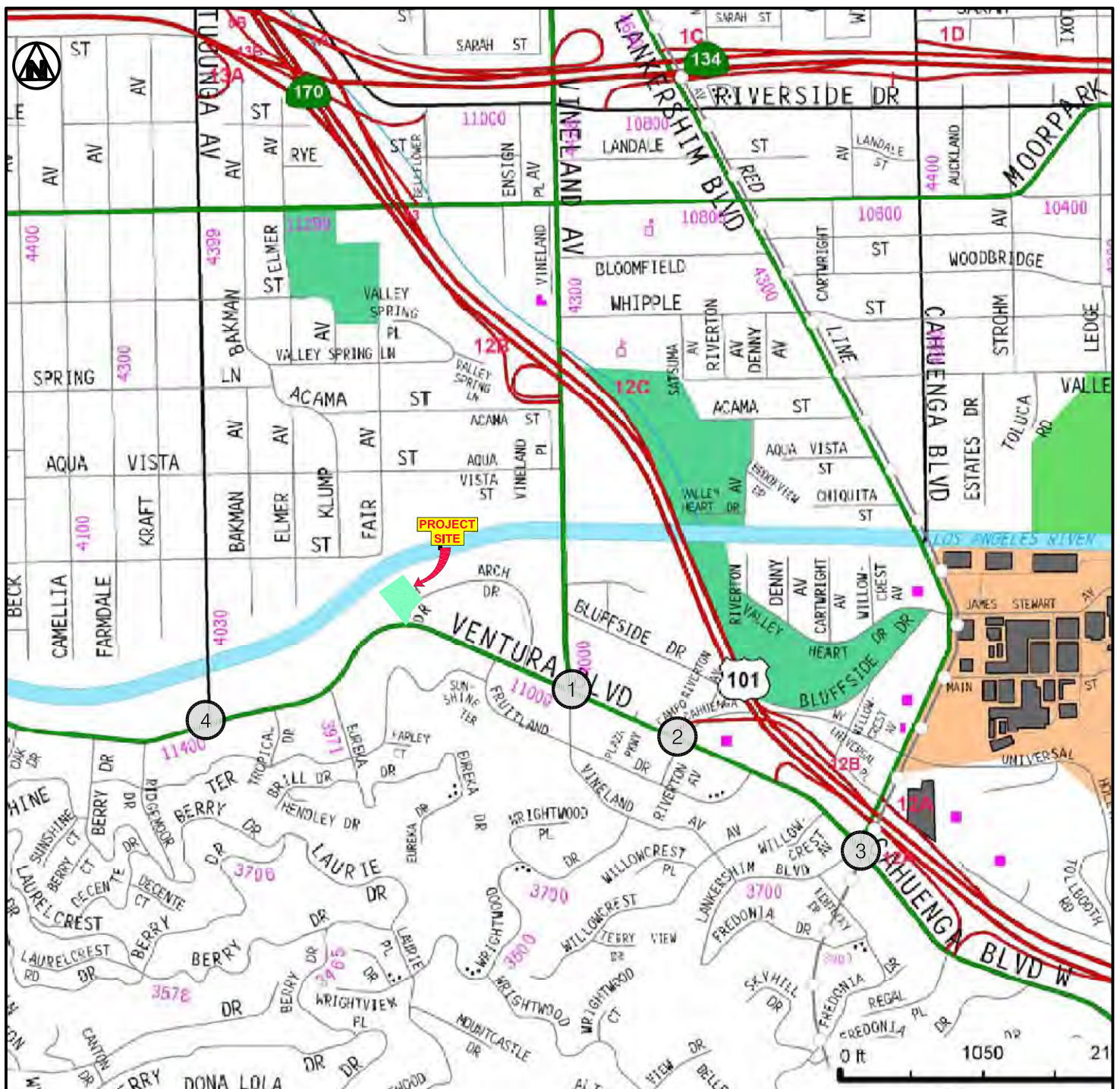


FIGURE 2

11/2021

PROJECT LOCATION AND STUDY AREA



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FIGURE 3A

4/2022

SITE PLAN GROUND FLOOR



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FIGURE 3B

4/2022

**SITE PLAN
LEVEL 1 PARKING**



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FIGURE 3C

4/2022

**SITE PLAN
LEVEL 2 PARKING**



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CHAPTER 2

CEQA TRANSPORTATION ASSESSMENT

The TAG is the City document that establishes procedures and methods for conducting CEQA transportation analyses for land development projects. The TAG identifies three CEQA thresholds for identifying significant transportation impacts in accordance with SB 743 that are applicable to the Project.

- Threshold T-1: Conflicting with Plans, Programs, Ordinances, or Policies
- Threshold T-2.1: Causing Substantial Vehicle Miles Traveled (VMT)
- Threshold T-3: Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use

I. Conflicts with Plans, Programs, Ordinances or Policies (Threshold T-1)

To guide the City's Mobility Plan 2035 (Transportation Element of the General Plan), the City adopted programs, plans, ordinances, and policies that establish the transportation planning framework for all travel modes, including vehicular, transit, bicycle, and pedestrian facilities. Land development projects shall be evaluated for conformance with these City adopted transportation plans, programs, and policies.

The Threshold T-1 impact criteria applies if a project conflicts with a program, plan, ordinance(s), or policy addressing the circulation system. However, a project would not be shown to result in an impact merely based on whether a project would not implement a program, policy, or plan. Rather, it is the intention of this threshold test to ensure that proposed development does not conflict with nor preclude the City from implementing adopted programs, plans, and policies.

Screening Criteria for Policy Analysis

If the development project requires a discretionary action, and the answer is yes to any of the following screening threshold questions, further analysis may be required to assess whether the proposed project would conflict with plans, programs, ordinances, or policies.

1. Does the project require a discretionary action that requires the decision maker to find that the decision substantially conforms to the purpose, intent, and provisions of the General Plan?

Yes, the Project requires a discretionary action.

2. Is the Project known to directly conflict with a transportation plan, policy or program adopted to support multi-modal transportation options or public safety?

No, the Project would not conflict with these key City planning documents, and potential impacts would be less than significant, see Table 1, Consistency Check.

3. Is the Project proposing to, or required to, make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb lines, etc.)?

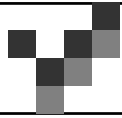
YES, Pursuant to the following Mobility Element Street Standards for the Project's adjacent street standards, the Project has dedication or street widening requirements, see below for current and Mobility Street Standards.

1. Ventura Boulevard is designated a Boulevard II which calls for an 80 - foot roadway (40 - foot half) on 110 feet of right - of - way (55 - foot half).

Ventura Boulevard is currently developed to a 40 - foot half roadway and a 50 - foot half right - of - way adjacent to the Project Site. According to the Mobility Element standards for Ventura Boulevard, no roadway widening would be required but a 5-foot dedication would be required for any Ventura Boulevard frontage adjacent to the Project Site.

2. Arch Drive is designated a local street north of Ventura Boulevard which calls for a 36 - foot roadway (18 - foot half) on 60 feet of right - of - way (30 - foot half).

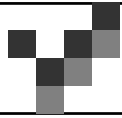
Arch Drive is currently developed to a 15 - foot half roadway and a 25 - foot half right - of - way adjacent to the Project Site. According to the Mobility Element standards for Arch Drive, a 3 - foot street widening, and a 5 - foot dedication would be required adjacent to the Project Site.



The TAG provides a list of key City plans, policies, programs, and ordinances for consistency review as shown in Table 1. Projects that generally conform with and do not conflict with the City's development policies and standards addressing the circulation system, will generally be considered consistent.

Table 1
Consistency Check with Key City Plans, Programs, Ordinances or Policies

TAG Table 2.1-1: City Documents that Establish the Regulatory Framework				
	Plan or Policy	Consistent?	Notes	Preclude City Implementation?
1.	LA Mobility Plan 2035	Yes	The Project will comply with the LA Mobility Plan 2035 street standards for Ventura Boulevard and Arch Drive as required by the Bureau of Engineering.	No
2.	Plan for Healthy LA	Yes	The Project would support Policy 5.7, Land Use Planning for Public Health and Greenhouse Gas (GHG) Emission Reduction by reducing single-occupant vehicle trips by its proximity to high quality and high frequency transit service. The Project would include both electric charging stations and pre-wiring spaces for potential future electric vehicle charging (Ord. 186485). The Project provides pedestrian access separate from the vehicular access. The Project would not conflict with policies in the Plan for Healthy LA.	No
3.	Land Use Element of the General Plan (35 Community Plans)	Yes	The Project is in the Sherman Oaks – Studio City – Toluca Lake – Cahuenga Pass Community Plan area. The Project would be in substantial conformance with the purposes, intent, and provisions of the General Plan and the Community Plan. Note the Community Plan is currently being updated by the Department of City Planning.	No
4.	Specific Plans	Yes	The Project is in a Specific Plan area (Ventura / Cahuenga Boulevard Corridor Specific Plan area which is also being updated). The Project is requesting height and lot coverage limitation exemptions.	N/A
5.	LAMC Section 12.21A.16 (Bicycle Parking)	Yes	The Project complies with the ratio of short and long-term bicycle parking pursuant to LAMC Section 12.21. A.16.	No
6.	LAMC Section 12.26J (TDM Ordinance)	Yes	LAMC Section 12.26J for Transportation Demand Management and Trip Reduction Measures applies only to the construction of new non-residential floor area greater than 25,000 s.f. The Project is all residential. The Project will comply with the existing and future TDM Ordinances, as required.	No
7.	LAMC Section 12.37 (Waivers of Dedications and Improvement)	Yes	The Project is not requesting a Waiver of Dedication and Improvements.	No



	Plan or Policy	Consistent?	Notes	Preclude City Implementation?
8.	Vision Zero Action Plan	Yes	The Project would not preclude or conflict with the implementation of future Vision Zero projects in the public right-of-way, such as shown on the safety improvement maps. https://adotlivablestreets.org/programs/vision-zero/maps	No
9.	Vision Zero Corridor Plan	Yes	No Vision Zero street projects are nearby or in the study area. The Project would not preclude or conflict with the implementation of this Vision Zero projects in the public right-of-way.	No
10.	Citywide Design guidelines	Yes		No
	Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all	Yes	The Project will create a continuous and straight sidewalk clear of obstructions for pedestrian travel. The Project will provide adequate sidewalk width and right-of-way that accommodates pedestrian flow and activity. Pedestrian access will be provided at street level with direct access to the surrounding neighborhood and amenities.	No
	Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.	Yes	The Project complies with the Citywide Design Guidelines incorporating vehicle access locations that do not discourage and/or inhibit the pedestrian experience. Vehicular access is provided from Arch Drive (a lower volume local street) and not Ventura Boulevard.	No
	Guideline 3: Design projects to actively engage with streets and public space and maintain human scale.	Yes	The building design uses attractive architectural elements. The Project would not preclude or conflict with the implementation of future streetscape projects in the public right-of-way.	No



Cumulative Consistency Check

Pursuant to the TAG, each of the plans, programs, ordinances, and policies to assess potential conflicts with proposed projects should be reviewed to assess cumulative impacts that may result from the Project in combination with other nearby development projects. In accordance with the TAG, the cumulative analysis must include Related Projects within 0.5 miles of the Project Site. A listing of the Related Projects considered in this analysis is provided in Appendix G.

A cumulative impact could occur if the Project, with other future development projects located on the same block were to cumulatively preclude the City's ability to serve transportation user needs as defined by the City's transportation policy framework. No other development projects were identified on the same block. Note that Related Projects would be individually responsible for complying with the City's transportation plans, programs ordinances and policies.

The Project does not have a significant transportation impact under CEQA Threshold T-1 (Conflicting with Plans, Programs, Ordinances, or Policies).

Criteria for Transportation Projects - Would the Transportation Project include the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle (HOV) lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges (except managed lanes, transit lanes, and auxiliary lanes of less than one mile in length designed to improve roadway safety)?

Not Applicable - This analysis for Transportation Projects is not applicable to land development projects and the Project is not a transportation project because the Project is a land development project. Therefore, the Transportation Project analysis is not part of the Project's CEQA review.

II. Causing Substantial Vehicle Miles Traveled (Threshold T - 2.1)

The intent of this threshold question is to assess whether a land development project causes a substantial VMT impact. CEQA Guidelines Section 15064.3(b) relates to use of VMT as the methodology for analyzing transportation impacts.

To address this question, LADOT's TAG identified significant VMT impact thresholds for each of seven Area Planning Commission (APC) sub-areas in the City of Los Angeles. A project's VMT is compared against the City's APC threshold goals for household VMT per capita and work VMT per employee to evaluate the significance of the project's VMT.

A development project will have a potential impact if the development project would generate VMT exceeding 15% below the existing average VMT for the Area Planning Commission (APC) area in which the project is located per TAG's Table 2.2-1.

The Project is in the South Valley APC sub - area which limits daily household VMT per capita to a threshold value of 9.4 and a daily work VMT per employee to a threshold value of 11.6 (15% below the existing VMT for the South Valley APC).

The Project's household VMT per capita is estimated at 8.2 which is below the VMT threshold for the South Valley APC. The work VMT per employee is not applicable because commercial space is not part of the Project. Results of the Project's VMT calculation (as shown in Appendix F).

No VMT Project impacts are created by the development of the Project for the South Valley APC.

Transportation Demand Management (TDM)

The Project's design features include TDM measures that reduce trips and VMT through TDM strategies selected in the VMT calculator. Specifically, the Project's TDM program includes bike parking which is a regulatory measure and part of the Project, as described below by LADOT'S TAG:

- Parking Strategy – Reduced Parking Supply – This strategy changes the on-site parking supply to provide less than the amount of vehicle parking required by direct application of

the Los Angeles Municipal Code (LAMC) without consideration of parking reduction mechanisms permitted in the code. Permitted reductions in parking supply could utilize parking reduction mechanisms such as TOC, Density Bonus, Bike Parking ordinance, or locating in an Enterprise Zone or Specific Plan area.

- **Bike Parking** - This strategy involves implementation of short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations under existing LAMC regulations applicable to the Project (LAMC Section 12.21.A.16). The Project is providing 116 bicycle parking spaces on-site (105 long-term spaces and 11 short-term spaces).

The effectiveness of the TDM strategies included in the VMT Calculator is based primarily on research documented in the 2010 California Air Pollution Control Officers Association (CAPCOA) publication, Quantifying Greenhouse Gas Mitigation Measures (CAPCOA, 2010).

Cumulative VMT Consistency Check

Cumulative VMT impacts are evaluated through a consistency check with the Southern California Association of Governments' (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) plan. The RTP/SCS is the regional plan that demonstrates compliance with air quality conformity requirements and greenhouse gas (GHG) reduction targets.

Per the City's TAG, projects that are consistent with the RTP/SCS plan in terms of development location and density are part of the regional solution for meeting air pollution and GHG goals. Projects that have less than a significant VMT impact are deemed to be consistent with the SCAG's 2016-2040 RTP/SCS and would have a less-than-significant cumulative impact on VMT.

As shown, the Project VMT impact would not exceed the City's South Valley APC VMT impact thresholds and as such, the Project's contribution to the cumulative VMT impact is adequate to demonstrate there is no cumulative VMT impact that would preclude the City's ability to provide transportation mobility in the area.

III. Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use (Threshold T- 3.1)

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from the project site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a project site.

No deficiencies are apparent in the site access plans which would be considered significant. This determination considers the following factors:

1. Vehicle access to the parking will be from Arch Drive, the adjacent local street.
2. The Project's access is consistent with LADOT driveway width and placement per LADOT Manual of Policies and Procedures, Section 321, Driveway Design.

A review of the Project Site plan does not present any hazardous geometric design features that would result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle safety hazards. Therefore, the Project does not have a significant transportation impact under CEQA Threshold T-3.1 (Substantially Increasing Hazards Due to a Geometric Design Feature).



CHAPTER 3

NON-CEQA TRANSPORTATION ASSESSMENT

In addition to conducting a CEQA review of development projects pursuant to SB743, LAMC Section 16.05 (Site Plan Review) authorizes a non-CEQA transportation analysis of development projects to identify deficiencies that may occur in the area due to the Project. LADOT retains the ability to review and impose development conditions to improve operational safety and access around a project site and to better assess how proposed projects may affect the City's transportation system under the non-CEQA assessment.

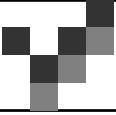
To assist in the Project's non-CEQA evaluation, the following information summarizes the environmental conditions in which the Project Site is located.

ENVIRONMENTAL SETTING

Land Use

The project is in the Sherman Oaks - Studio City - Toluca Lake - Cahuenga Pass Community Plan area located approximately 9 miles northwest of downtown Los Angeles. This community plan is generally bounded by the Ventura Freeway on the north, the San Diego Freeway on the west, Clybourn Avenue/Barham Boulevard (city boundary) on the east and Mulholland Drive on the south. The City of Los Angeles is currently updating the three Community Plans encompassing the Southeast San Fernando Valley including this community plan area.

The Community Plan area contains 8,656 acres consisting of 5,182 acres (59.9 %) for single - family residential use, 653 acres (7.6 %) for multi - family use, 483 acres (5.6 %) for commercial use, 39 acres (0.4 %) for industrial use, 866 acres (10.0 %) for open space/public facilities and 1,432 acres (16.5 %) for streets. The project also lies within the Ventura / Cahuenga Boulevard Corridor Specific Plan Area. Appendix B contains the community land use and Specific Plan maps.



Transportation Facilities

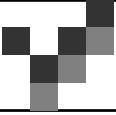
The City of Los Angeles has adopted the Mobility Plan 2035 as an update to the City's General Plan Transportation Element to incorporate the complete streets principles for integrating multi-mode transportation networks. The Mobility Plan 2035 dictates the street standards and designations for all users. Appendix C provides the community plan circulation map of the area roadway designations and roadway design standards.

Pursuant to the City of Los Angeles Mobility Element, arterial roadways are designated Boulevards and Avenues. Boulevards represent the City's widest streets that typically provide regional access to major destinations; the roadway standard for a Boulevard II roadway is a right - of - way width of 110 feet and a roadway width of 80 feet. Avenues may vary in their land use context, with some streets passing through both residential and commercial areas; the roadway standard for an Avenue II roadway is a right - of - way width of 86 feet and a roadway width of 56 feet.

Non - arterial roadways connect arterial roadways to local residential neighborhoods or industrial areas. Non - arterial roadways are designated Collector or Local streets. The standard for a Collector Street is a right - of - way width of 66 feet and a roadway width of 40 feet. The standard for a Local Street is a right - of - way width of 60 feet and a roadway width of 36 feet.

Regional access to project area is provided by the Ventura Freeway approximately $\frac{3}{4}$ mile to the north and the Hollywood Freeway less than a $\frac{1}{2}$ mile to the east of the project site.

The Ventura Freeway is regionally a north - south freeway but operates in the east - west direction in the San Fernando Valley. The Ventura Freeway in the southeastern San Fernando Valley is signed as U.S. Route 101. East of the Hollywood Freeway interchange, it is signed as State Route 134. The Ventura Freeway access is available from on / off ramps at Tujunga Avenue, Vineland Avenue and Lankershim Boulevard. The Ventura Freeway carries approximately 274,000 vehicles per day (VPD) near Laurel Canyon Boulevard Avenue and 190,000 VPD near Lankershim Boulevard.



The Hollywood Freeway runs from the four level interchange in downtown Los Angeles to the Golden State Freeway in the San Fernando Valley. North of its junction with the Ventura Freeway, the Hollywood Freeway is signed as State Route 170 and US -101 south of the Ventura Freeway. The Hollywood Freeway is accessible from on / off ramps at Vineland Avenue, Campo de Cahuenga and Cahuenga Boulevard. The Hollywood Freeway carries approximately 210,000 VPD near Riverside Drive and 255,000 VPD near Vineland Avenue.

There are no interchanges from Ventura Freeway west to the Hollywood Freeway south and from Hollywood Freeway north to Ventura Freeway east.

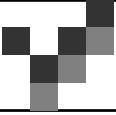
Major roadways in the San Fernando Valley generally follow a grid pattern. Key east - west streets providing access to the project area include Ventura Boulevard, Cahuenga Boulevard, Moorpark Street and Riverside Drive. Key north - south streets serving the study area include Tujunga Avenue, Vineland Avenue and Lankershim Boulevard.

Ventura Boulevard is an east - west roadway designated a Boulevard II, Scenic Highway, part of the Pedestrian Enhanced Network, Tier 1 and 3 Bike Networks and Transit Enhanced Network in the Mobility Plan 2035. Ventura Boulevard is also identified on the High Injury Network. Two lanes in each direction with left - turn lanes and on - street parking is provided in Studio City.

Moorpark Street is an east - west roadway designated Avenue II Street east of Van Nuys Boulevard to Moorpark Way (east of Cahuenga Boulevard) and provides one lane in each direction. Bike lanes are provided between Van Nuys Boulevard and Mammoth Avenue. East of Moorpark Way and west of Van Nuys Boulevard, Moorpark Street is designated a Collector Street with two lanes in each direction between east of Vineland Avenue and Laurel Canyon Boulevard.

Riverside Drive is an east - west roadway designated an Avenue I street. Riverside Drive provides two lanes in each direction in the study area. Riverside Drive extends from Van Nuys Boulevard through the City of Burbank and into the City of Glendale.

Tujunga Avenue is a north - south oriented roadway designated an Avenue II with westbound on and eastbound off ramps to the Ventura Freeway. Tujunga Avenue is a



residential street with a pocket of commercial at its intersection with Moorpark Street. Tujunga Avenue provides one lane in each direction, left - turn channelization, bike lanes and on - street parking.

Vineland Avenue is a north - south roadway designated a Boulevard II Street north of Ventura Boulevard and a local street south of Ventura Boulevard. Two lanes in each direction are provided north of Ventura Boulevard. Access to both the Hollywood Freeway and the Ventura Freeway is provide from Vineland Avenue.

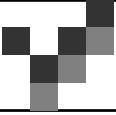
Lankershim Boulevard is a north - south roadway designated a Boulevard II Street north of Ventura Boulevard and a local street south of Ventura Boulevard. Three lanes in each direction are provided between Ventura Boulevard and Cahuenga Boulevard. North of Cahuenga Boulevard provides 2 lanes in each direction. Lankershim Boulevard is identified in the following mobility street networks: Transit Moderate Plus Network, Tier 1 Bike Network and Pedestrian Network.

Transit Information

Public transportation in the study area is provided by the Metropolitan Transportation Authority (Metro). The transit service described below are illustrated in Appendix D.

Regional rail service is provided from the Metro Red Line which is a heavy rail subway line running between Downtown Los Angeles and North Hollywood via the districts of Hollywood and Mid - Wilshire. In North Hollywood it connects with the Orange Line Bus rapid transit line to Warner Center in Woodland Hills and Chatsworth in the northwest San Fernando Valley. A Red Line station is located at Lankershim Boulevard and Campo de Cahuenga, approximately $\frac{3}{4}$ mile from the site.

Metro local transit service is provided along Ventura Boulevard adjacent to the project site as described below. Bus stops are located at the intersections of Ventura Boulevard and Arch Drive and at Ventura Boulevard and Eureka Drive.



- Route 240 provides service between Canoga Park, Warner Center, Studio City and Universal / Studio City rail station. Key stops include Westfield Topanga, Warner Center Transit Hub, Pierce College, Sherman Oaks Galleria and CSUN.
- Route 155 which provides service from Sherman Oaks and Studio City to Tujunga Avenue and Ventura Boulevard where the route travels to Universal City, Toluca Lake and the City of Burbank.

Metro is implementing The NextGen Bus Plan which was approved by the Metro Board of Directors. The approved Bus Plan is a reimagined bus system that focuses on providing fast, frequent, reliable, and accessible service to meet the needs of today's riders.

Complete Streets Mobility Networks (Vehicle, Bicycle, Transit and Neighborhood)

The Mobility Plan Element establishes a layered network of street standards that are designed to emphasize mobility modes within the larger system. This approach maintains the primary function of the streets that exist but identifies streets for potential alternative transportation modes providing a range of options available when selecting the appropriate design elements. Street may be listed in several networks with the goal of selecting a variety of mobility enhancements.

Network layers have been created for the Complete Street Network that prioritizes a certain mode within each layer with the goal of providing better connectivity. The network layers are Vehicle Enhanced network, Transit Enhanced network, Bicycle Enhanced network, Neighborhood Enhanced network, and Pedestrian Enhanced District. Definitions of these networks per the Complete Street Design Guidelines are provide below.

Vehicle Enhanced Network (VEN) - The VEN includes a select number of arterials that carry high volume of traffic for long distance travel on corridors with freeway access. Moderate enhancements typically include technology upgrades and peak-hour restrictions for parking and turning movements. Comprehensive enhancements can include improvements to access management, all-day lane conversions of parking, and all-day turning movement restrictions or permanent access control.

- No study area streets are identified in the VEN.

Transit Enhanced Network (TEN) - The TEN is comprised of streets that prioritize travel for transit riders.

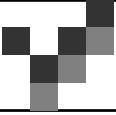
- Ventura Boulevard is designated a Moderate Transit Enhanced street - typically include bus stop enhancements and increased service, with transit vehicles continuing to operate in mixed traffic.
- Lankershim Boulevard is designated a Moderate Plus Transit Enhanced street - An upgraded enhancement would include an exclusive bus lane during the peak travel period only.

Bicycle Enhanced Network (BEN) – The BEN is comprised of a network of low – stressed protected bike lanes (Tier 1) and bike paths prioritize bicycle travel by providing specific bicycle facilities and improvements. The BEN proposes bike facilities on arterial roadways with a striped separation. Tier 1 corresponding to protected bicycle lanes, and Tier 2 and Tier 3 bicycle lanes on arterial roads with a striped separation that are differentiated only by their potential implementation phasing - The difference between Tier 2 and Tier 3 implies probability that some lanes are not expected to be implemented by 2035.

The City of Los Angeles adopted a 2010 Bicycle Master Plan to encourage alternative modes of transportation throughout the City of Los Angeles. The Master Plan was developed to provide a network system that is safe and efficient to use in coordination with the vehicle and pedestrian traffic on the city street systems. The Master Plan has mapped out the existing, funded, and potential future Bicycle Paths, Bicycle Lanes, and Bicycle Routes. A brief definition of the bicycle facilities is provided below:

Bicycle Path – A bicycle path is a facility that is separated from the vehicular traffic for the exclusive use of the cyclist (although sometimes combined with a pedestrian lane). The designated path can be completely separated from vehicular traffic or cross the vehicular traffic with right-of-way assigned through signals or stop signs.

- LA River is identified as a bike path.



Bicycle Lane – A bicycle lane is typically provided on street with a designated lane striped on the street for the exclusive use of the cyclist. The bicycle lanes are occasionally curbside, outside the parking lane, or along a right turn lane at intersections.

- Vineland Avenue, Ventura Boulevard Lankershim Boulevard loop are listed on the Bicycle Lane Network map as Tier 1 bicycle lane streets.
- Tujunga Avenue north of Ventura Boulevard to Moorpark Street is listed on the Bicycle Lane Network map as Tier 2 bicycle lane street.
- Ventura Boulevard west of Vineland Avenue is listed on the Bicycle Lane Network map as Tier 3 bicycle lane street.

Bicycle Route – A bicycle route is a designated route in a cycling system where the cyclist shares the lane with the vehicle. Cyclist would follow the route and share the right-of-way with the vehicle.

- No streets in the vicinity of the Project Site are designated bike routes per the network maps.

Neighborhood Enhanced Network (NEN) - NEN is comprised of local streets intended to benefit from pedestrian and bicycle related safety enhancements for more localized travel of slower means of travel while preserving the connectivity of local streets to other enhanced networks. These enhancements encourage lower vehicle speeds, providing added safety for pedestrians and bicyclists.

- No study area streets have been identified as part of the City's NEN.

Pedestrian Enhanced District (PEDs) - In addition to these street networks, many arterial streets that could benefit from additional pedestrian features to provide better walking connections are identified as Pedestrian Enhanced Districts.

Several streets within the study area have been identified in the pedestrian enhanced district maps with the goal of providing a more attractive environment to promote walking for shorter trips. Adding pedestrian design features and street trees encourages people to take trips on foot instead of by car.



The Pedestrian Enhanced Districts (PEDs) provided call out Ventura Boulevard between east of Lankershim Boulevard to west of Vineland Avenue, and Lankershim Boulevard north of Ventura Boulevard to Cahuenga Boulevard where pedestrian improvements could be prioritized to provide better walking connections to and from the major destinations.

Mobility Plan Element Maps and the 2010 Bicycle Plan maps are included in Appendix E.

PROJECT TRAFFIC GENERATION

As part of the non-CEQA assessment, an operational analysis of the peak hour traffic flow with the Project has been prepared. This traffic flow evaluation is based on level of service (LOS) which determines vehicle delay using current traffic volume data, traffic signal and street characteristics.

Project traffic has been estimated using traffic generation studies published by the Institute of Transportation Engineers (ITE Trip Generation, 11th Edition Handbook) and LADOT. LADOT has adopted traffic rates for affordable apartments based on local traffic surveys. Using these traffic rates, the Project traffic has been estimated at 593 net daily trips (LADOT VMT Calculator Tool) with 46 morning and 46 afternoon peak hour trips, as shown in Tables 2 and 3.

Table 2
Project Trip Generation Rates

ITE Code	Description	ITE 11th Edition	ITE 11TH Edition AM Peak Hour			ITE 11TH Edition PM Peak Hour		
		Daily Traffic	In	Out	Total	In	Out	Total
221	Apartments (mid-rise per unit)	4.54	23%	77%	0.37	61%	39%	0.39
LADOT	Affordable (outside TPA per unit)	4.15	40%	60%	0.55	55%	45%	0.43

Table 3
Estimated Project Traffic Generation

ITE Code	Description	Size	VMT Daily Traffic	10th Edition Daily Traffic	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
	<u>Proposed Project</u>									
221	Apartments (mid-rise)	112 units		508	9	32	41	27	17	44
	Transit/Walk Adjustment	10%		<u>-51</u>	<u>-1</u>	<u>-3</u>	<u>-4</u>	<u>-3</u>	<u>-2</u>	<u>-4</u>
	Subtotal			457	8	29	37	24	15	39
LADOT	Affordable (outside TPA per unit)	17 units		<u>71</u>	<u>4</u>	<u>5</u>	<u>9</u>	<u>4</u>	<u>3</u>	<u>7</u>
	Total Proposed		593	528	12	34	46	28	18	46

Traffic Distribution and Trip Assignment

Past projects and historic traffic flow data has been reviewed to develop the Project's traffic assignment. Figure 4 illustrates the Project's traffic distribution used in this analysis. The Project's traffic assignment at the study intersections and intersection lane characteristics are shown in Figure 5. Figure 6 illustrates the Project peak hour traffic volume added to each study intersection. This estimated assignment of the Project's peak hour traffic provides the information necessary to analyze the potential impact of the Project's traffic flow.

PEDESTRIAN, BICYCLE AND TRANSIT ACCESS ASSESSMENT

Purpose - The pedestrian, bicycle and transit assessments are intended to determine a project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the Project Site. Any deficiencies could be physical (through removal, modification, or degradation of facilities) or demand-based (by adding pedestrian or bicycle demand to inadequate facilities).

Removal or Degradation of Facilities

The Project will not remove, modify, or degrade any pedestrian, bicycle, and transit facility in the vicinity of the Project Site. In fact, any damaged or off grade sidewalk, curb and gutter along the property frontage(s) will be repaired under Section 12.37 of the Los Angeles Municipal Code (LAMC).

Project Intensification of Use

Governor's Office of Planning and Research (OPR) December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA, identifies projects and areas presumed to have a less than significant transportation impact. Generally, projects that contribute to efficient land use patterns enabling higher levels of walking, cycling, and transit as well as lower than average trip length are considered to have a less than significant impact on transportation.

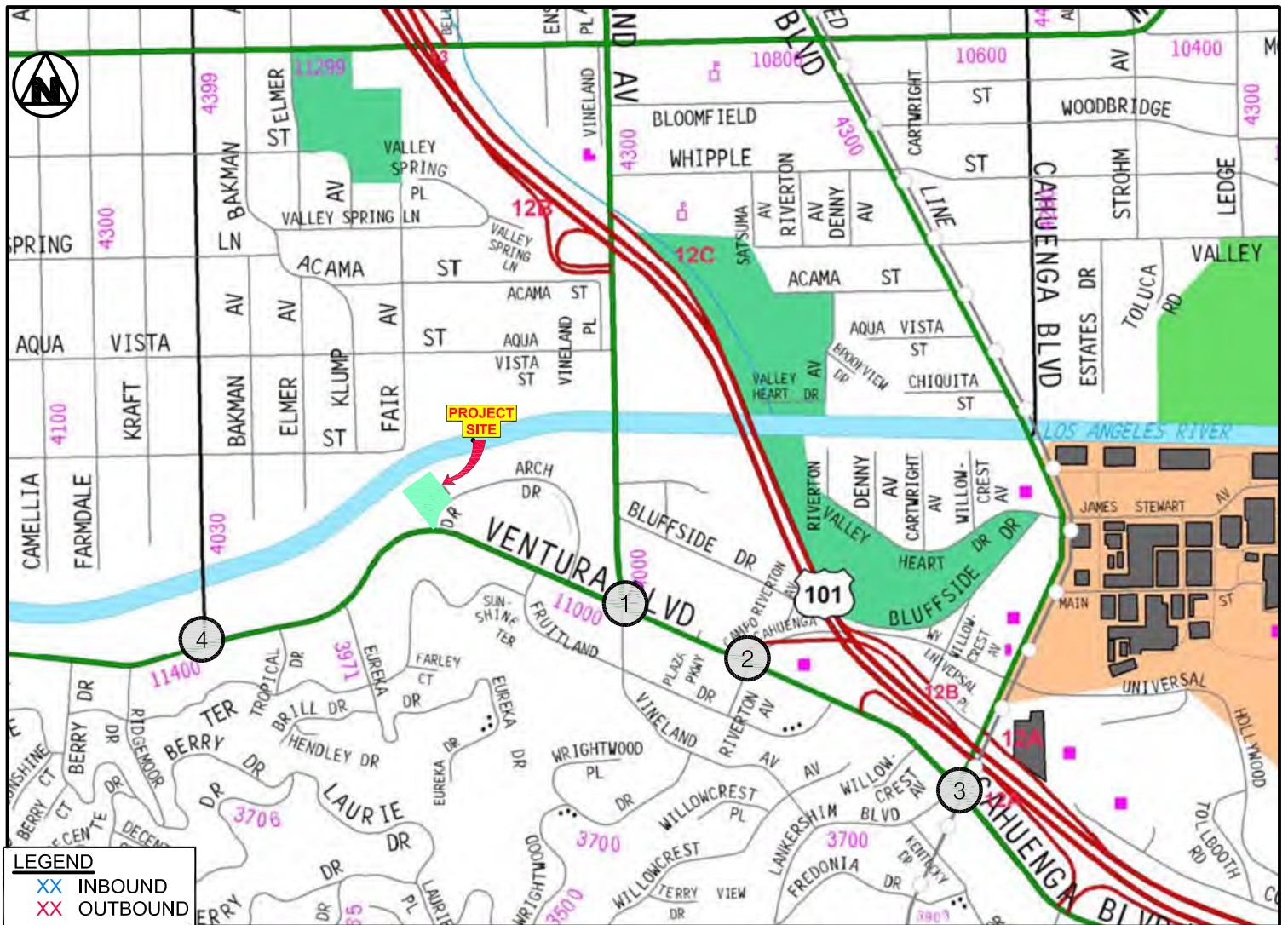
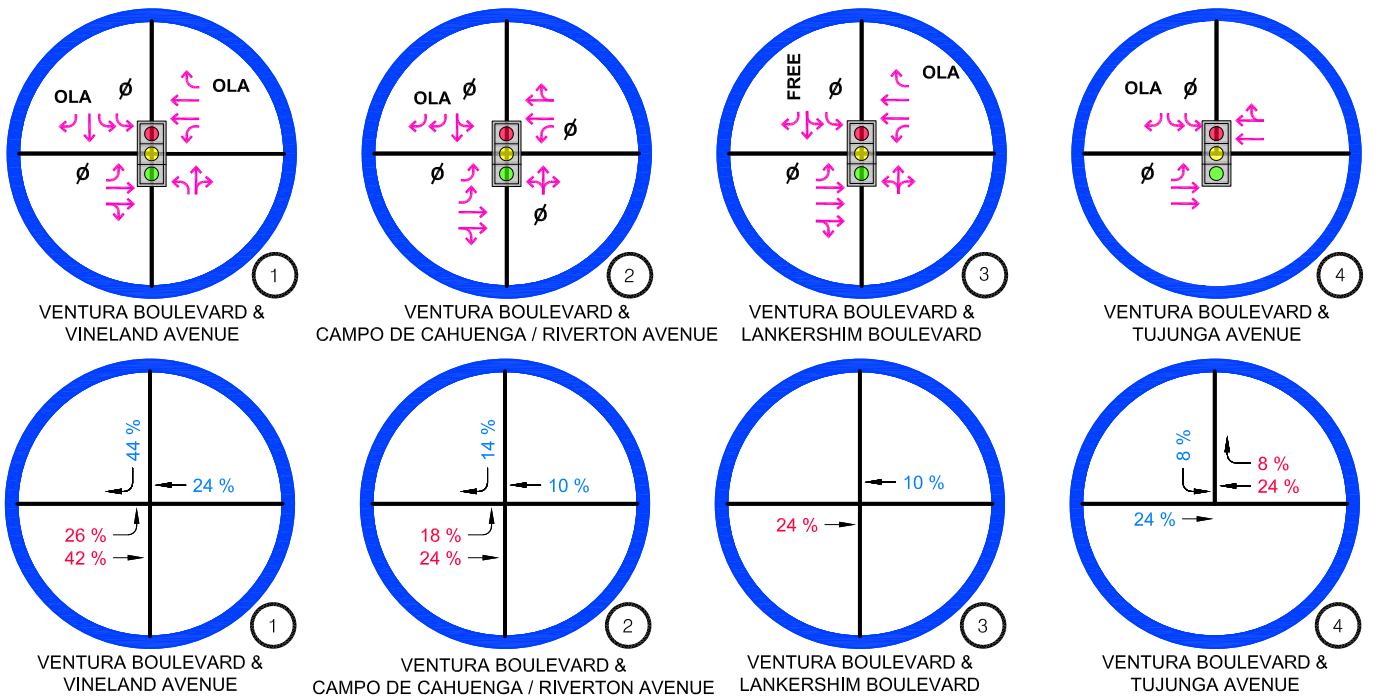


FIGURE 5

4/2022

STUDY INTERSECTION CHARACTERISTICS AND PROJECT TRAFFIC VOLUME ASSIGNMENT PERCENTAGES

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799 - 8423, OTC@overlandtraffic.com

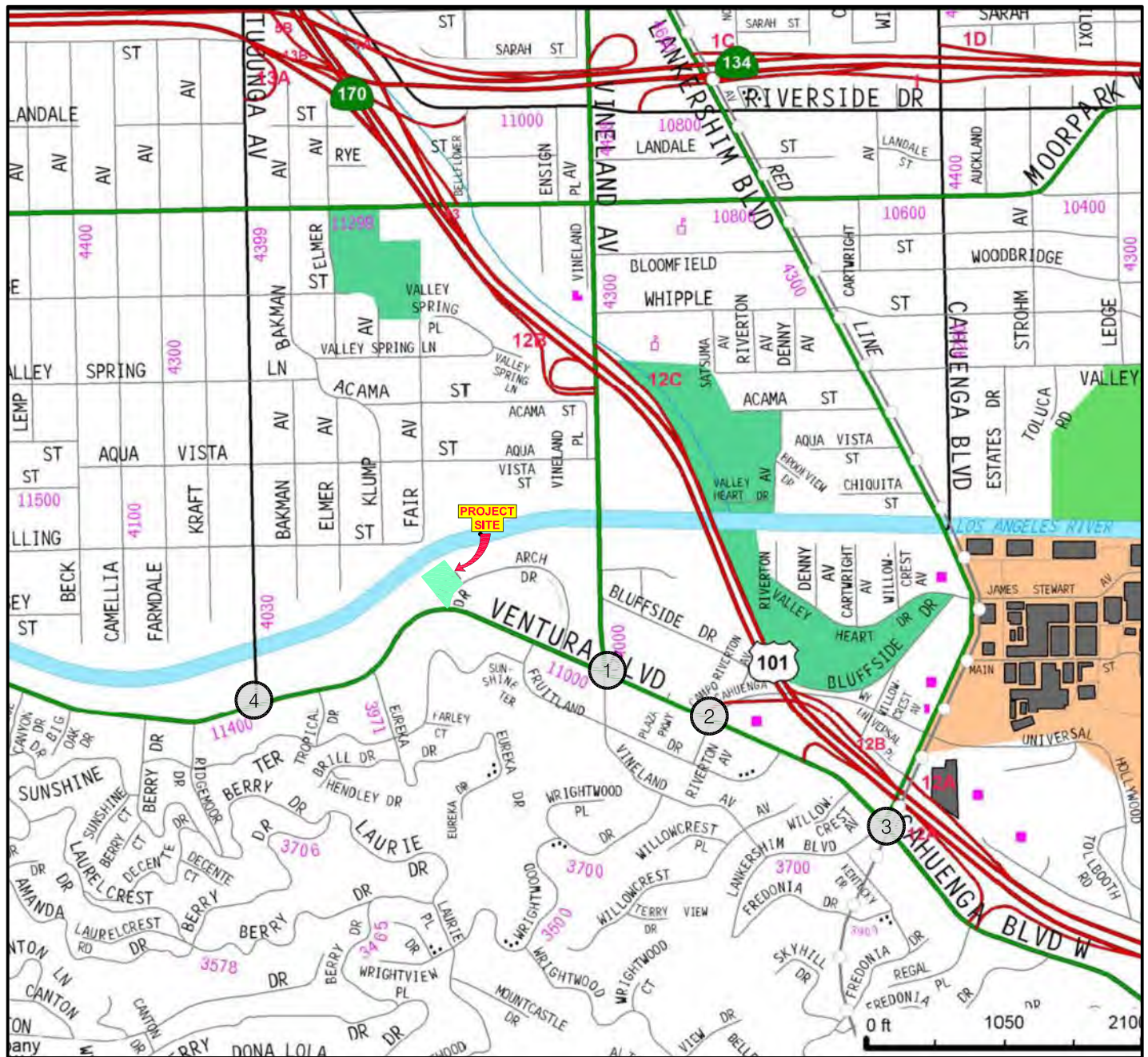
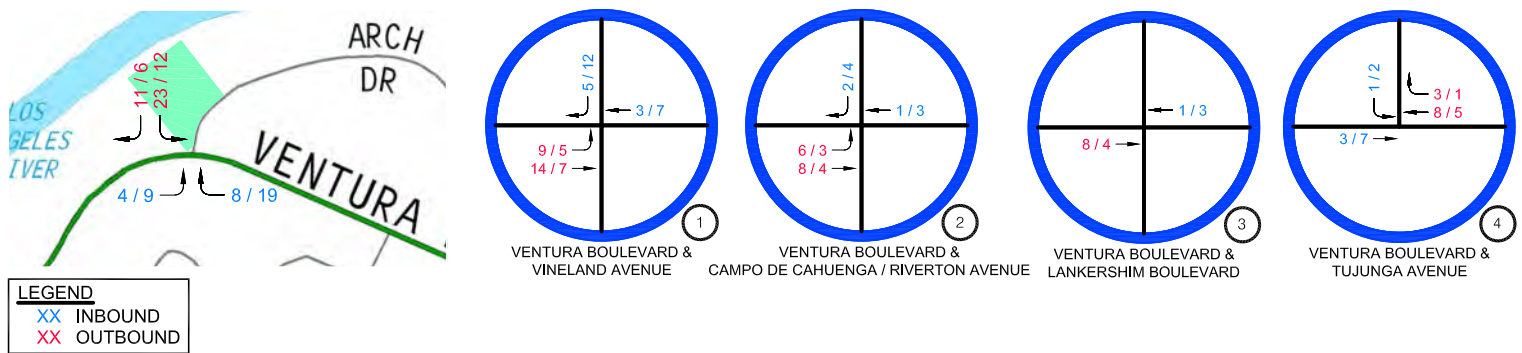


FIGURE 6

4/2022

**PROJECT TRAFFIC VOLUME
 AM/ PM PEAK HOUR**

Overland Traffic Consultants, Inc.
 24325 Main Street #202, Santa Clarita, CA 91321
 (661) 799 - 8423, OTC@overlandtraffic.com

Using the OPR guidelines listed below, the Project would have less than a significant impact on transportation.

➤ A high-quality transit corridor is defined as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours (Pub. Resources 215 Code, § 21155). Below is the new service for Route 240 which has a stop at Ventura Boulevard and Arch Drive. The proposed headway frequency for The NextGen route 240 is less than 15-minutes during the peak and midday periods with approximately 20-minute service on weekends.

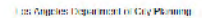


The Complete Streets guide acknowledges that adding pedestrian design features and street trees encourages people to take trips on foot instead of by car. Thereby helping to reduce the volume of cars on the road and emissions, increases economic vitality, and make the City of Los Angeles feel like a more vibrant place.

A Walk Score measures the walkability of any address based on the distance to nearby places and pedestrian friendliness. An evaluation of the Project Site's Walk Score

<https://www.walkscore.com/score/11201-ventura-blvd-los-angeles-ca-91604>

WALKABILITY INDEX





High Injury Network

Vision Zero Los Angeles identified a strategic plan to reduce traffic deaths to zero by focusing on engineering, enforcement, education, and evaluation. The priority identified in the report is safety with a goal to make the streets of the City of Los Angeles the safest in the nation. As part of an effort to achieve this goal, LADOT identified a High Injury Network (HIN) of city streets. The HIN identifies streets with a high number of traffic-related severe injuries and deaths across all modes of travel with emphasis on those involving pedestrians and cyclists. Ventura Boulevard is included in the High Injury Network, as indicated on the HIN map in Appendix C. Preventive measures by the Project include providing Project vehicle access from the Arch Drive, a local street which will improve the safety of pedestrians and passing motorists along Ventura Boulevard.

PROJECT ACCESS, SAFETY AND CIRCULATION EVALUATION

Purpose – Project access and circulation is evaluated for safety, operational, and capacity constraints to identify circulation and access deficiencies that may require specific operational improvements. It should be noted that this analysis is not intended to be interpreted as a threshold of significance for the purposes of CEQA review and does not affect the CEQA VMT Impact analysis.

Operational Evaluation

An operational analysis of the Project's peak hour traffic flow has been prepared. This evaluation is based on the Synchro methodology which calculates the amount of delay per vehicle based upon the intersection traffic volumes, lane configurations, and signal timing.

Once the vehicle delay value has been calculated, operating characteristics are assigned a level of service grade (A through F) to estimate the level of congestion and stability of the traffic flow. The term "Level of Service" (LOS) is used by traffic engineers to describe the quality of traffic flow. Definitions of the intersection LOS grades in terms of vehicle delay are shown in Table 4.

Table 4
Signalized Intersection Level of Service Definitions

<u>LOS</u>	<u>HCM (delay in seconds)</u>	<u>Operating Conditions</u>
A	Less than 10	No loaded cycles and few are even close. No approach phase is fully utilized with no delay.
B	>10 to 20	A stable flow of traffic.
C	>20 to 35	Stable operation continues. Loading is intermittent. Occasionally drivers may have to wait more on red signal and backups may develop behind turning vehicles.
D	>35-55	Approaching instability. Delays may be lengthy during short time periods within the peak hour. Vehicles may be required to wait through more than one signal cycle.
E	>55 to 80	At or near capacity with possible long queues for left-turning vehicles. Full utilization of every signal cycle is seldom attained.
F	> 80	Gridlock conditions with stoppages of long duration.

Analysis of Existing and Future Traffic Conditions

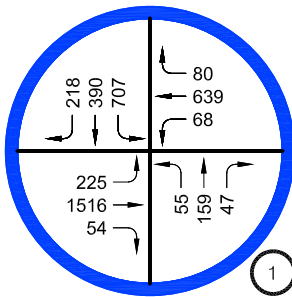
Traffic counts have been increased by 1 percent per year to reflect existing and future year 2025 which also includes other related development projects located within the study area either planned or recently constructed.

The intersections analyzed include:

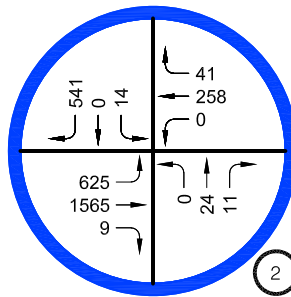
1. Ventura Boulevard and Vineland Avenue;
2. Ventura Boulevard and Campo De Cahuenga / Riverton Avenue;
3. Ventura Boulevard and Lankershim Boulevard; and
4. Ventura Boulevard and Tujunga Avenue

Future traffic volume projections have been developed to analyze the cumulative traffic conditions after completion of other planned land developments including the proposed project. Pursuant to the City of Los Angeles traffic impact guidelines, the following steps have been taken to develop the future cumulative traffic volume estimates:

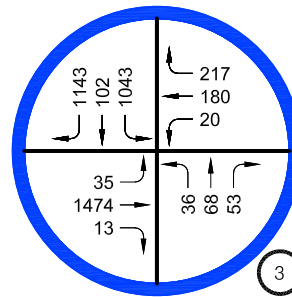
- (a) Existing traffic + ambient traffic growth (1% per year)
- (b) Traffic in (a) + related project traffic (without project scenario);
- (c) Traffic in (b) with the proposed project traffic (with project scenario);
- (d) Traffic in (c) + any proposed traffic mitigation, if necessary.



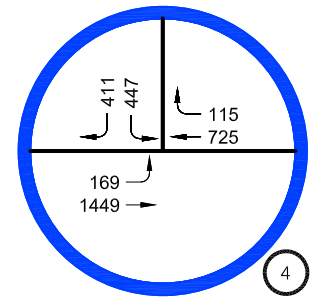
VENTURA BOULEVARD &
VINELAND AVENUE



VENTURA BOULEVARD &
CAMPO DE CAHUENGA / RIVERTON AVENUE



VENTURA BOULEVARD &
LANKERSHIM BOULEVARD



VENTURA BOULEVARD &
TUJUNGA AVENUE

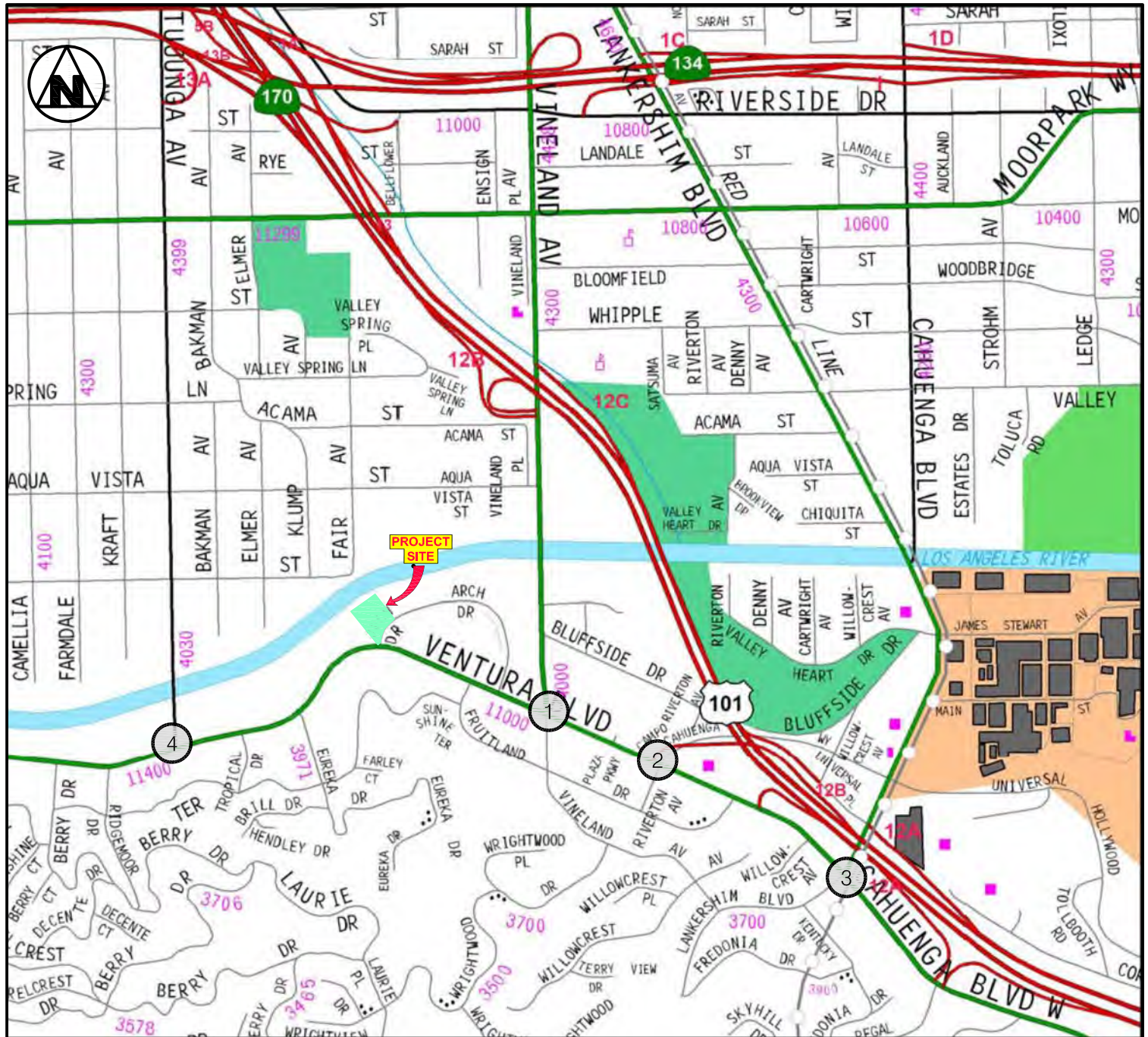


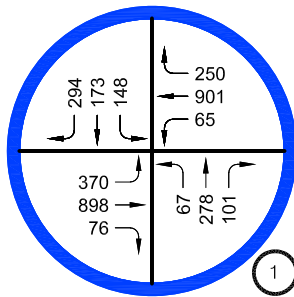
FIGURE 7

EXISTING TRAFFIC VOLUMES
AM PEAK HOUR

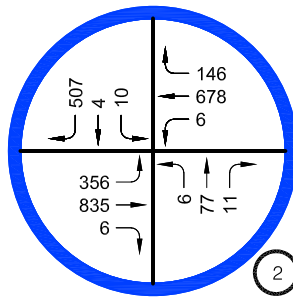


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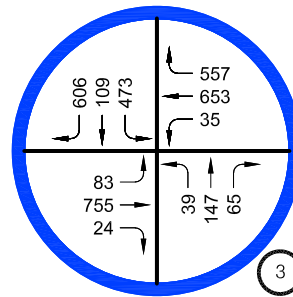
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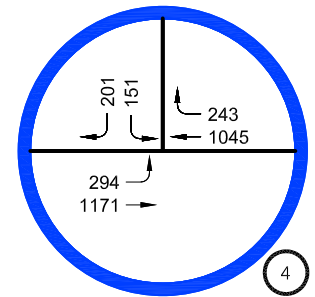
VENTURA BOULEVARD & VINELAND AVENUE



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VENTURA BOULEVARD & LANKERSHIM BOULEVARD



VENTURA BOULEVARD & TUJUNGA AVENUE

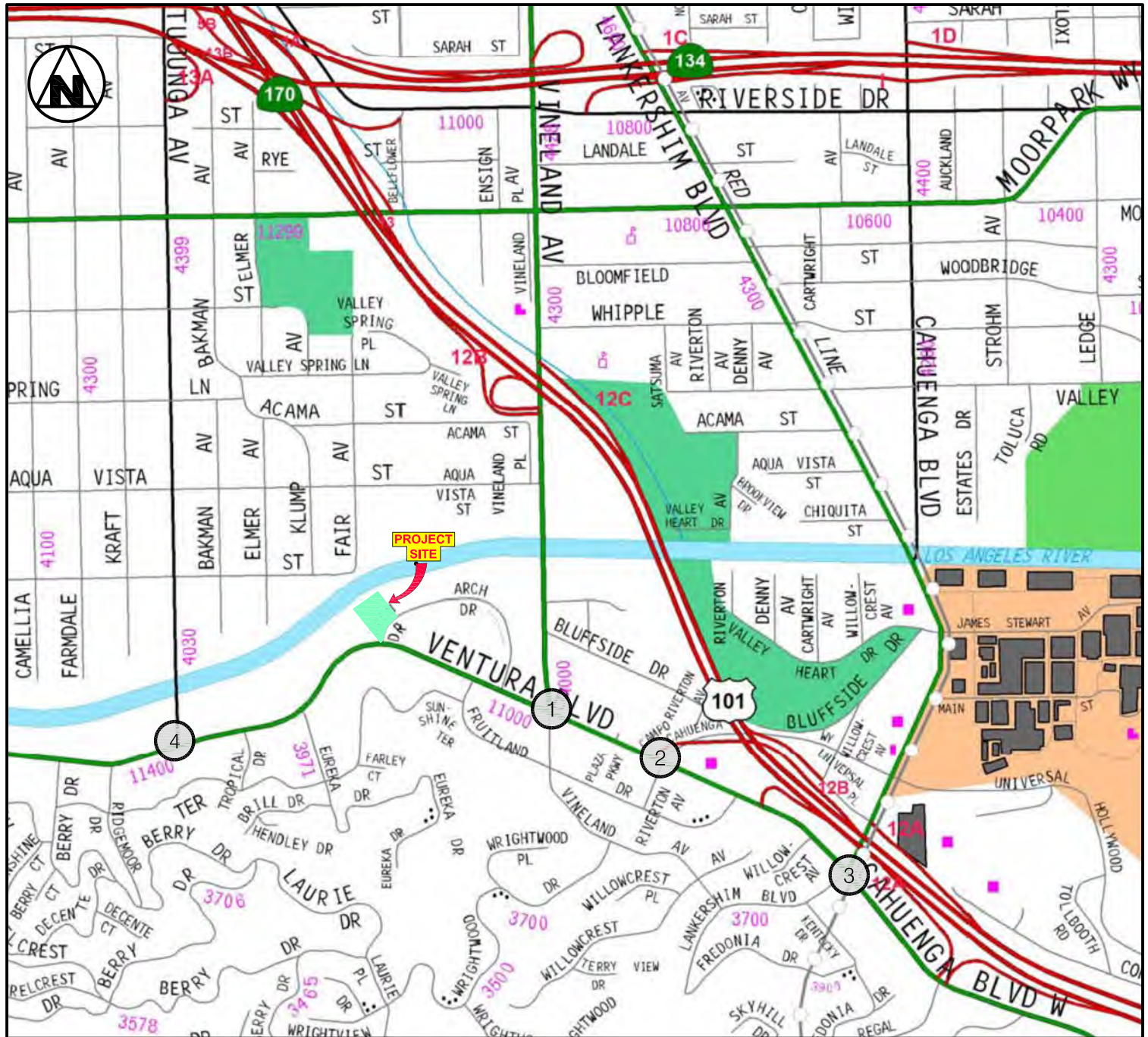


FIGURE 8

4/2022

EXISTING TRAFFIC VOLUMES
PM PEAK HOUR



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Existing peak hour traffic volumes at the study intersections are illustrated in Figure 7 for the morning peak hour and Figure 8 for the afternoon peak hour. Existing plus project peak hour traffic volumes are illustrated in Figure 9 for the morning peak hour and Figure 10 for the afternoon peak hour, respectively.

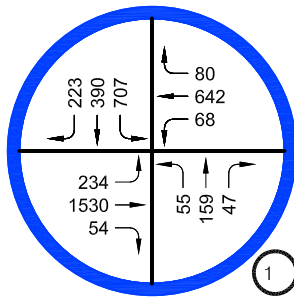
Future traffic volumes without the Project's traffic volumes are shown in Figures 9 and 10 for the am and pm peak hour, respectively. The locations of the fourteen (14) related projects used in this study are shown in Figure 11. Figures 12 thru 15 illustrate the future with the Project. Appendix G contains the related project traffic data.

Table 5 provides the results of the intersection LOS analyses for Existing (2022) and Future (2025) traffic conditions without and with the Project's traffic volume. Synchro worksheets are provided in Appendix H.

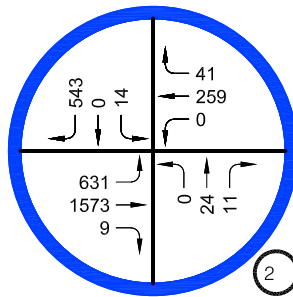
Table 5
Traffic Conditions Without and With Project

No.	Intersection	Peak Hour	Existing (2022)		Existing + Project		Future (2025) Without Project		Future (2025) With Project	
			Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1	Ventura Boulevard & Vineland Avenue	AM	68.9	E	70.7	E	84.3	F	89.0	F
		PM	45.5	D	46.6	D	64.4	E	66.0	E
2	Ventura Boulevard & Campo De Cahuenga / Riverton Avenue	AM	54.2	D	55.3	E	54.5	D	53.4	D
		PM	23.6	C	23.5	C	26.9	C	26.2	C
3	Ventura Boulevard & Lankershim Boulevard	AM	39.8	D	38.7	D	47.0	D	47.1	D
		PM	23.0	C	23.0	C	25.6	C	25.3	C
4	Ventura Boulevard & Tujunga Avenue	AM	18.2	B	18.4	B	22.5	C	23.1	C
		PM	19.3	B	19.3	B	21.0	C	20.8	C

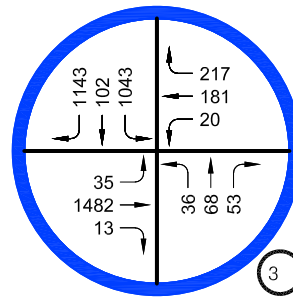
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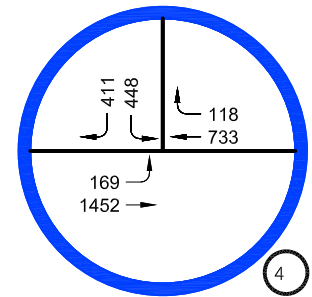
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VENTURA BOULEVARD & LANKERSHIM BOULEVARD



VENTURA BOULEVARD & TUJUNGA AVENUE

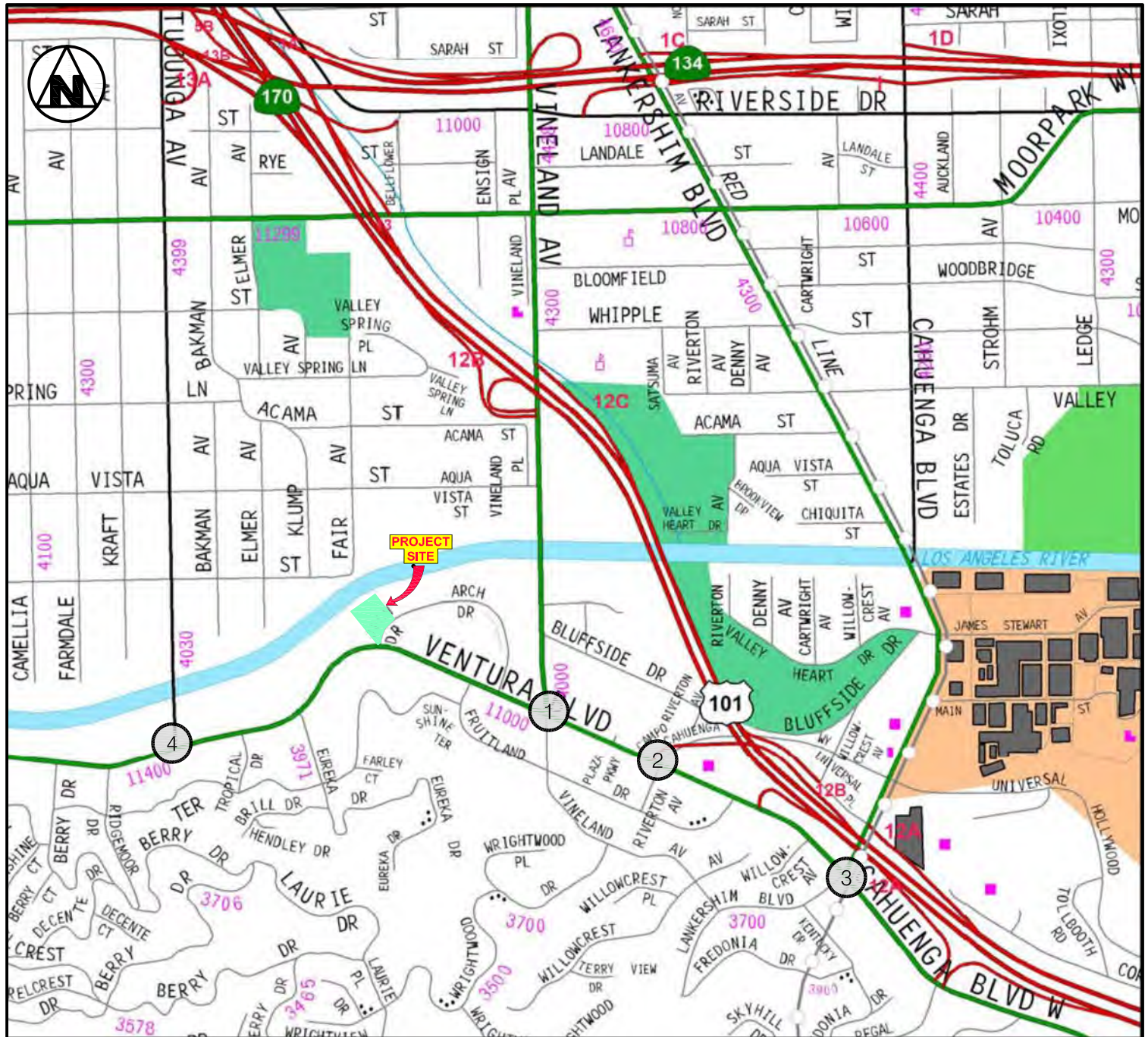


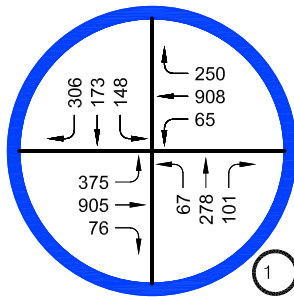
FIGURE 9

EXISTING + PROJECT TRAFFIC VOLUMES
AM PEAK HOUR

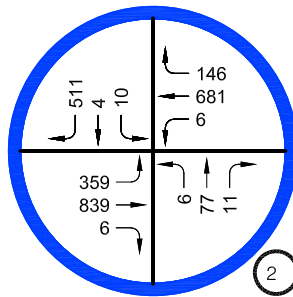


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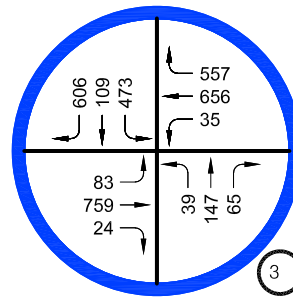
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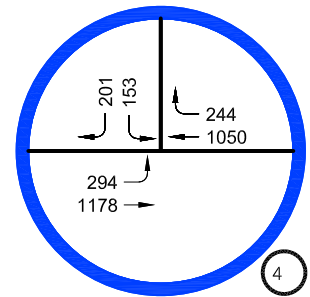
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VENTURA BOULEVARD & TUJUNGA AVENUE

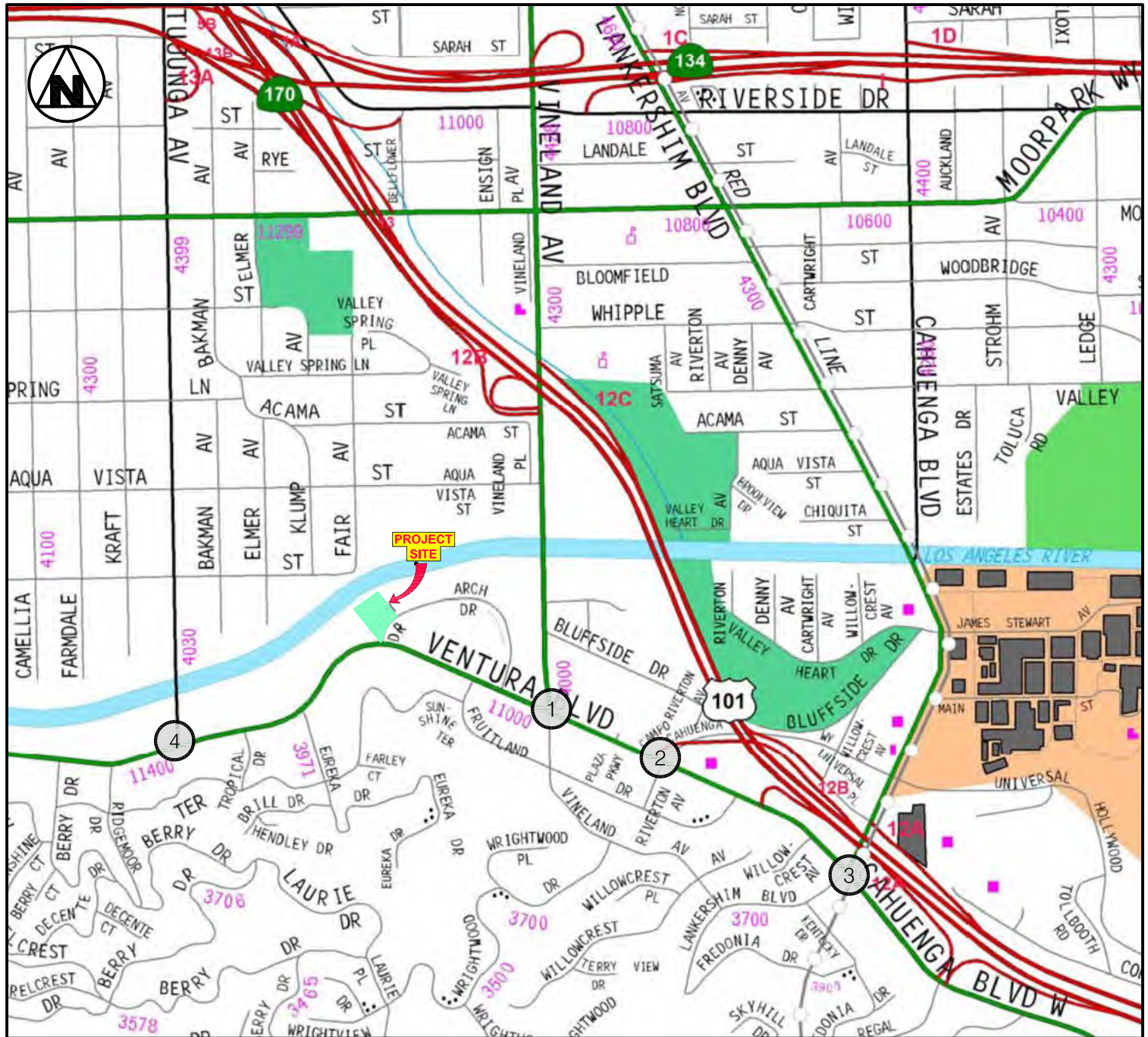


FIGURE 10

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EXISTING + PROJECT TRAFFIC VOLUMES
PM PEAK HOUR



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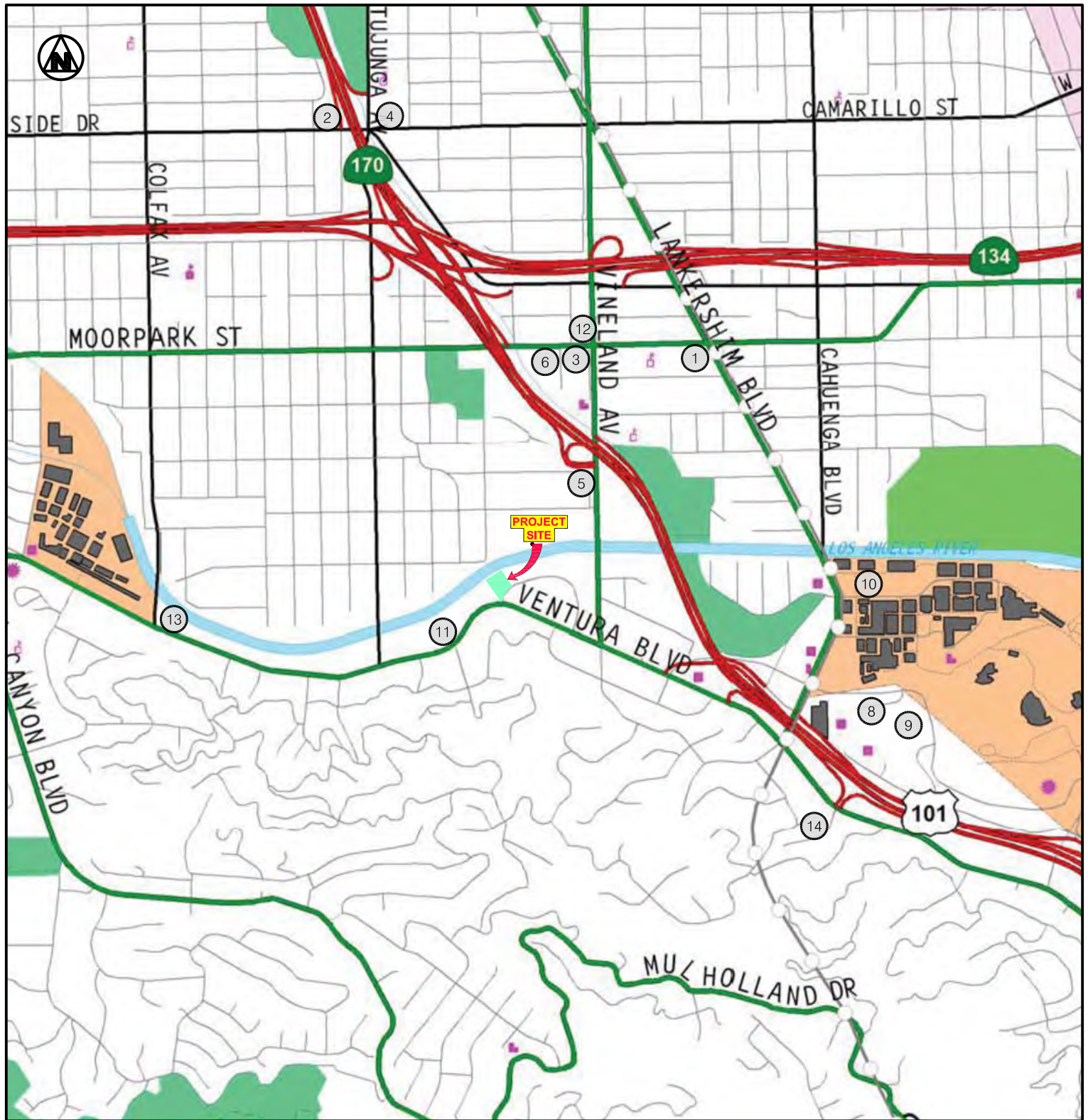


FIGURE 11

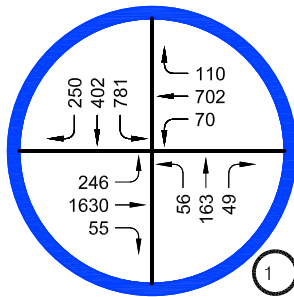
4/2022

RELATED PROJECTS LOCATIONS

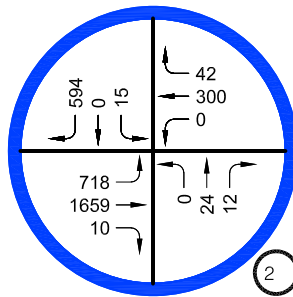


Overland Traffic Consultants, Inc.

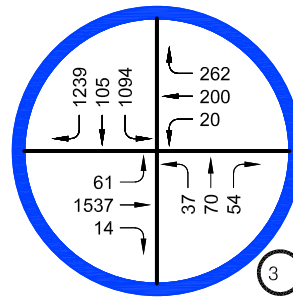
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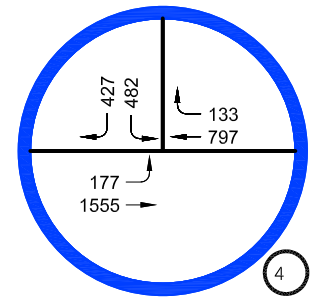
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VENTURA BOULEVARD & TUJUNGA AVENUE

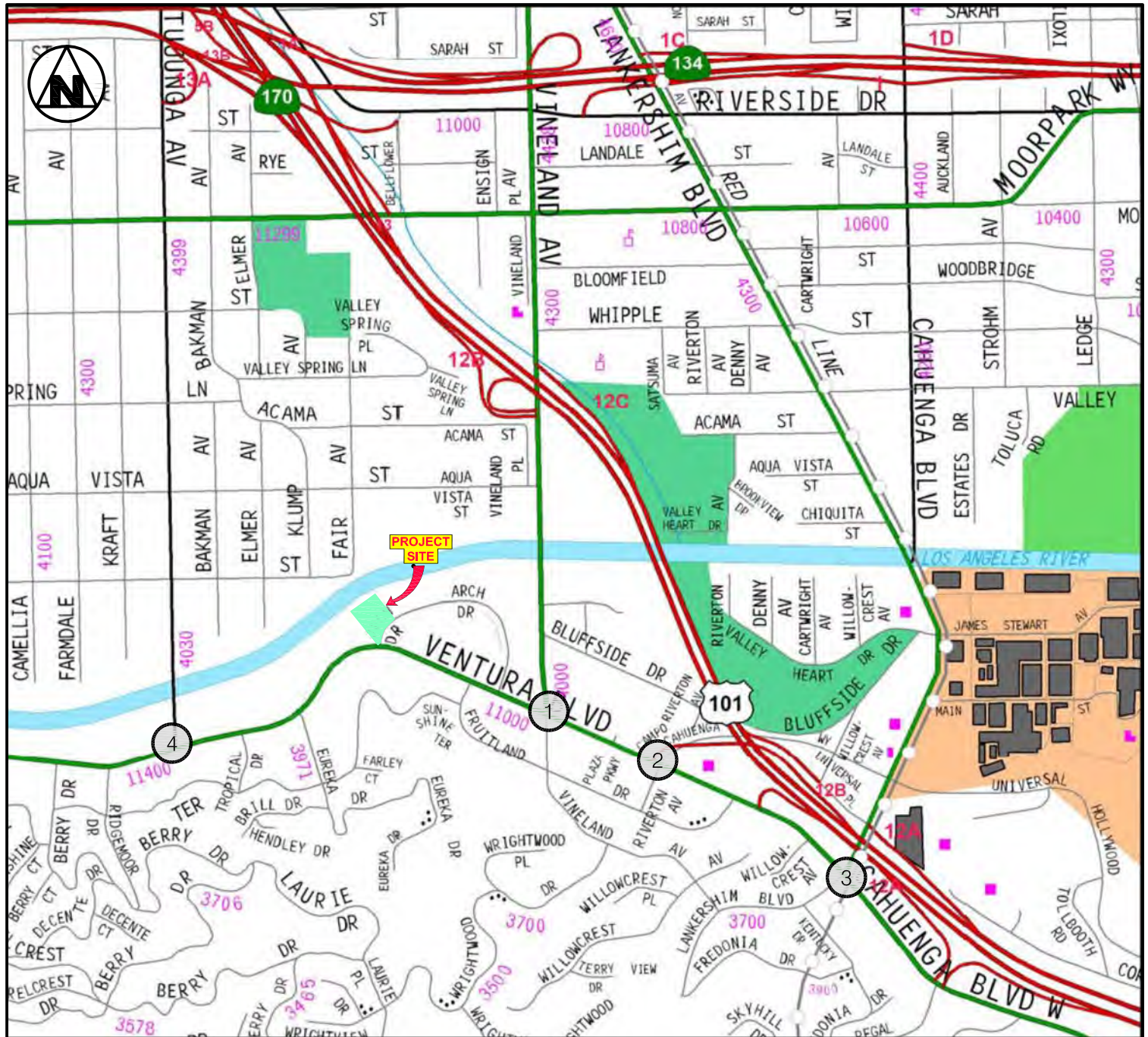
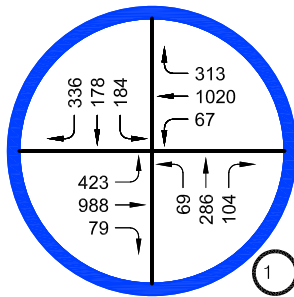


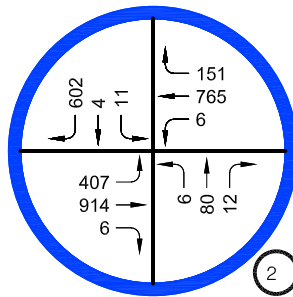
FIGURE 12

FUTURE WITHOUT PROJECT TRAFFIC VOLUMES
AM PEAK HOUR

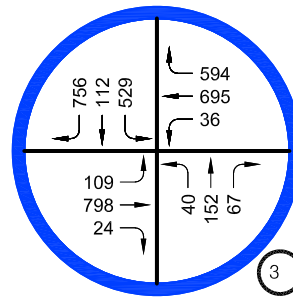
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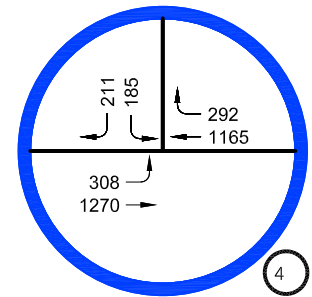
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VENTURA BOULEVARD & TUJUNGA AVENUE

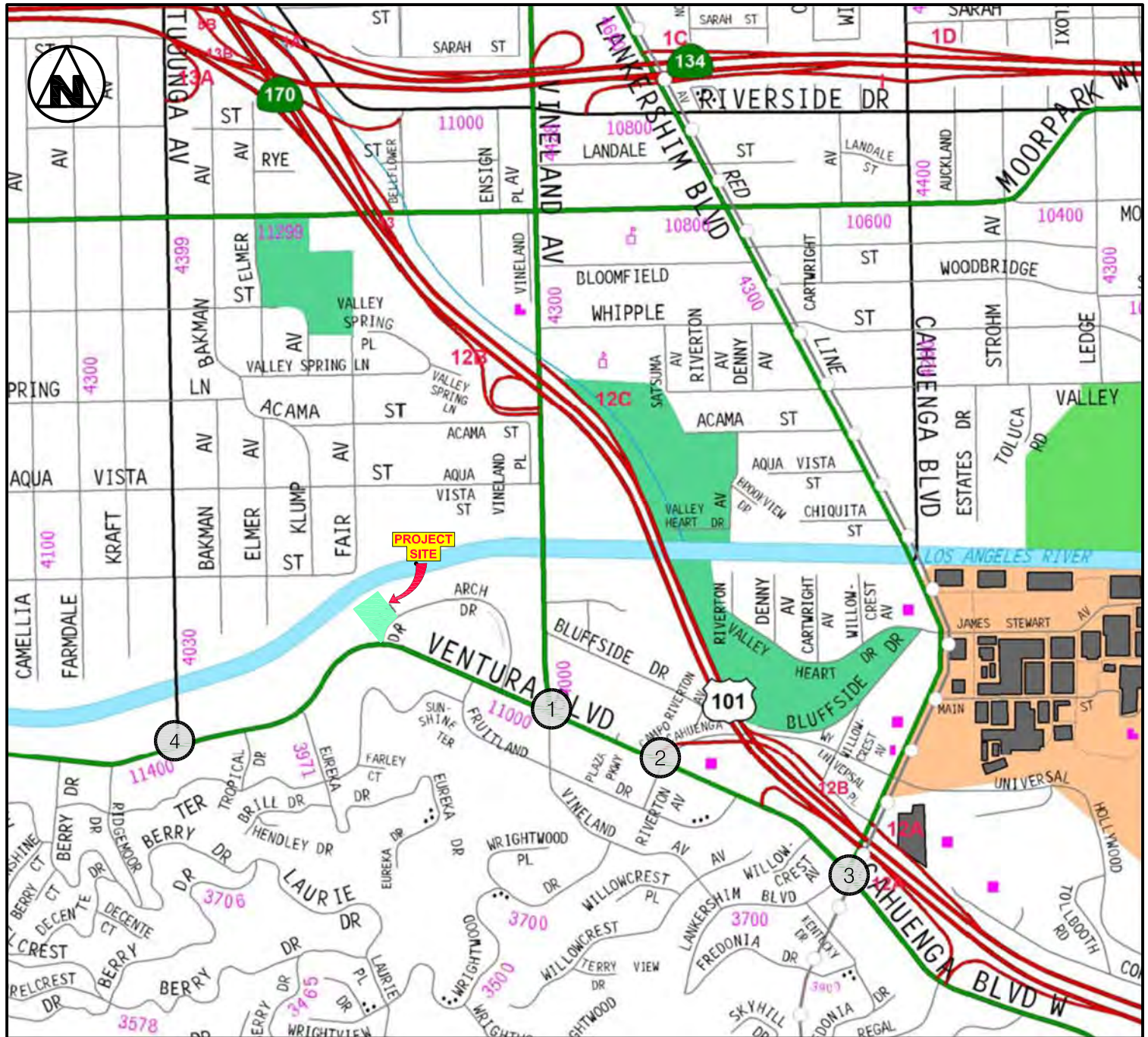


FIGURE 13

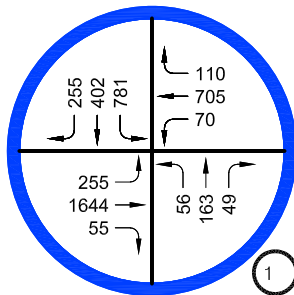
4/2022

**FUTURE WITHOUT PROJECT TRAFFIC VOLUMES
PM PEAK HOUR**

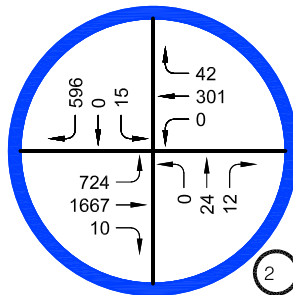


Overland Traffic Consultants, Inc.

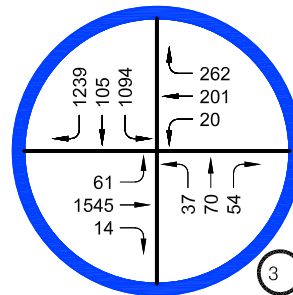
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(661) 799 - 8423, OTC@overlandtraffic.com



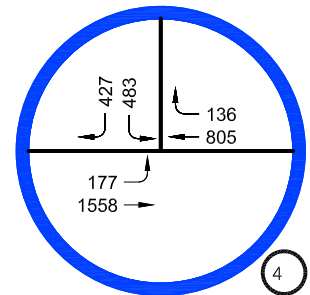
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VENTURA BOULEVARD & LANKERSHIM BOULEVARD



VENTURA BOULEVARD & TUJUNGA AVENUE

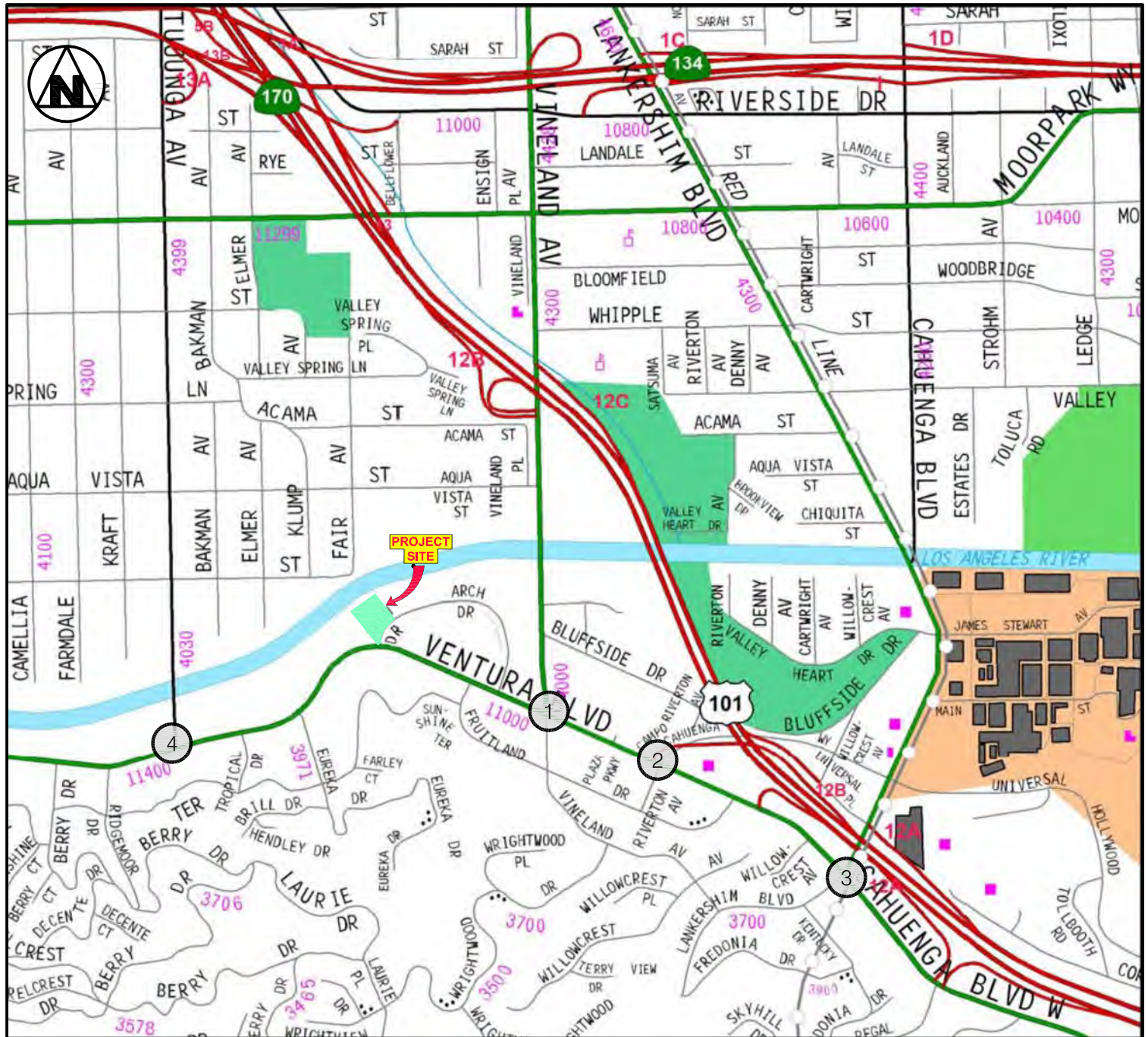
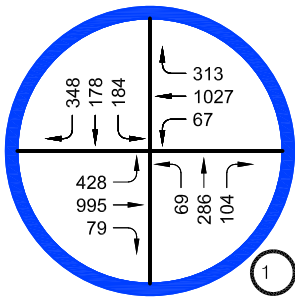


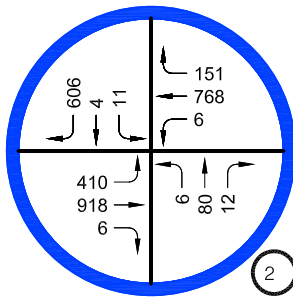
FIGURE 14

**FUTURE WITH PROJECT TRAFFIC VOLUMES
AM PEAK HOUR**

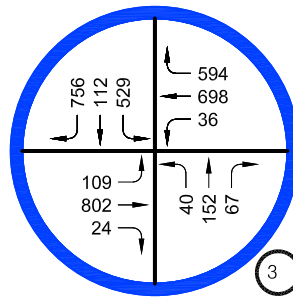
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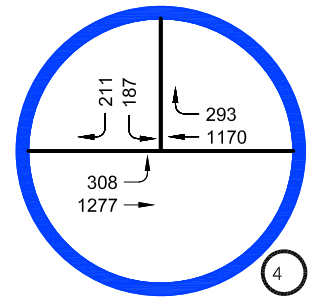
VENTURA BOULEVARD & VINELAND AVENUE



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VENTURA BOULEVARD & LANKERSHIM BOULEVARD



VENTURA BOULEVARD & TUJUNGA AVENUE

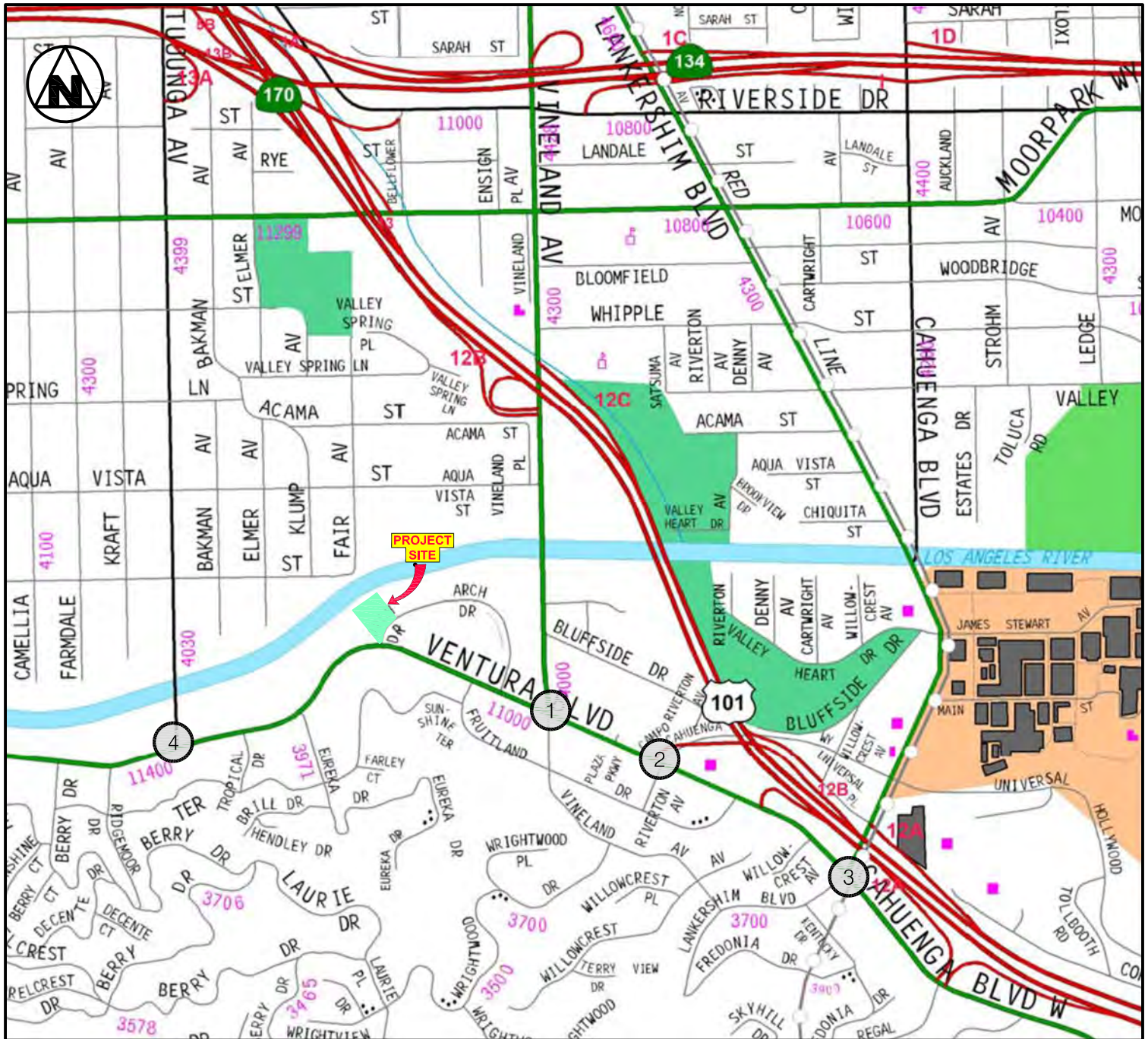


FIGURE 15

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**FUTURE WITH PROJECT TRAFFIC VOLUMES
PM PEAK HOUR**



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Safety Evaluation

No deficiencies are apparent in the site access plans which would be considered significant. All emergency ingress/egress associated with the Project would be designed and constructed in conformance to all applicable City Building and Safety Department, LADOT, and LAFD standards and requirements for design and construction. This would also ensure pedestrian safety.

Passenger Loading Evaluation

All required parking is located on – site in a parking garage. It is anticipated that all loadings will occur from within the parking garage or from the adjacent Arch Drive parking lane.

Guidance for Freeway Safety Analysis

On May 1, 2020, LADOT issued an Interim Guidance for Freeway Safety Analysis memorandum. The purpose of this memorandum is to provide interim guidance on the preparation of freeway safety analysis for land use proposals that are required by LADOT to prepare Transportation Assessments. The guidance was further updated in an LADOT Memo dated August 26, 2021. The following evaluation is consistent with the LADOT guidance.

Caltrans District 7 requested that environmental analyses for new land use development projects include freeway off-ramp safety considerations. Specifically, it was requested that a development project study the effects on vehicle queuing on freeway off-ramps

In response, LADOT has developed the following criteria for a project freeway safety analysis to be included in Transportation Assessments for land development projects.

The initial step is to identify the number of Project trips expected to be added to nearby freeway off-ramps serving the Project Site. If the Project adds 25 or more trips to any off ramp in either the morning or afternoon peak hour, then that ramp should be studied for potential queuing impacts. If the Project is not expected to generate more

than 25 or more peak hour trips at any freeway off-ramps, then a freeway ramp analysis is not required.

The Project generates 46 am and 46 pm peak hour trips total. The Project will not add 25 peak hour trips to any freeway off ramp during any peak hour, as shown by the Project traffic volume assignment graphic in Figure 6. No further freeway safety analysis is necessary for the Project analysis using this guidance criteria.

Construction Overview

Project construction is evaluated to determine if activities substantially interfere with pedestrian, bicycle, transit, or vehicle mobility. Factors to be considered are the location of the Project Site, the functional classification of the adjacent street affected, temporary loss of bus stops or rerouting of transit lines, and the loss of vehicle, bicycle, or pedestrian access. LADOT's TAG considers three areas to be considered when evaluating project construction activities. The Project applicant may be required to submit formal Work Area Traffic Control Plans for review and approval by the City prior to the issuance of any construction permits.

1. Temporary Transportation Constraints

As part of the Project's construction, the City of Los Angeles may require a Construction Traffic Management Plan (Plan) to be implemented during the construction phase to minimize potential conflicts with vehicles, pedestrians, bicycle, and transit facilities associated with the Project's construction. The Plan should include a construction schedule, the location of any traffic lane or sidewalk closures, any traffic detours, haul routes, hours of operation, access plans to abutting properties, and contact information.

Construction workers are typically expected to arrive at the Project Site before 7:00 AM and depart before or after the weekday peak hours of 4:00 to 6:00 PM. Deliveries of construction materials will be coordinated to non-peak travel periods, to the extent possible and occur on-site, from the parking lane along Arch Drive.

For off-site activities, Worksite Traffic Control Plans would be prepared for any temporary traffic lane or sidewalk closures in accordance with City guidelines. These worksite plans will require a formal review and approval by the City prior to the issuance of any construction permits. In addition, the City of Los Angeles will require a Truck Haul Route plan including permitted hauling hours and a haul route to and from the landfill.

No detours around the construction site are expected; however, flaggers would be used to control traffic movement during the ingress and egress of construction trucks.

Since Project construction would not substantially interfere with pedestrian, bicycle or vehicle mobility, the construction impacts would be less than significant.

2. Temporary Loss of Access

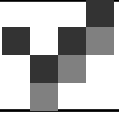
Vehicular access to the adjacent properties will be maintained. Safe pedestrian circulation paths adjacent to or around the work areas will be provided by covered pedestrian walkways if necessary and will be maintained as required by City-approved Work Area Traffic Control Plans.

Since Project construction would not result in complete loss of vehicular or pedestrian access, the construction impacts on loss of access would be less than significant.

3. Temporary Loss of Bus Stops or Rerouting of Bus Lines

No bus stops are located within the work zone adjacent to the Project Site that would need to be temporarily relocated. There will be no loss of pedestrian access to transit stops and no rerouting of bus lines are necessary.

Since Project construction would not require relocation of bus stops or bus lines, the construction impacts on transit operations would be less than significant.



Overland Traffic Consultants, Inc.

APPENDIX A

**LADOT Prior Approval
(11201 Ventura Boulevard, DOT Case No VEN-20-109071, Project ID 49258)**

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

11201 W Ventura Boulevard
DOT Case No. VEN 20-109071
DOT Project ID No. 49258

Date: February 18, 2020

To: Sarah Hounsell, City Planner
Department of City Planning


From: Vicente Cordero, Transportation Engineer
Department of Transportation

Subject: **CEQA TRANSPORTATION ASSESSMENT FOR THE PROPOSED MIXED-USE PROJECT AT 11201 WEST VENTURA BOULEVARD (ENV-2017-3760-CE/CPC-2017-3759-DB-SPP-SPR)**

The Department of Transportation (DOT) has completed the CEQA transportation assessment review for the proposed mixed-use project at 11201 West Ventura Boulevard within the Studio City Community Plan Area of the City of Los Angeles. This traffic analysis is based on a CEQA transportation assessment report prepared by Overland Traffic Consultants, Inc., dated January 6, 2020. DOT previously issued a revised traffic assessment letter dated January 29, 2019 to the Department of City Planning (DCP) stating that no significant traffic impacts were identified as a result of the proposed project.

Subsequent to the release of the initial report, on July 30, 2019, pursuant to Senate Bill (SB) 743 and the recent changes to Section 15064.3 of the State's California Environmental Quality Act (CEQA) Guidelines, the City of Los Angeles adopted vehicle miles traveled (VMT) as the criteria by which to determine transportation impacts under CEQA. The purpose of this document is to evaluate the increase in VMT per the new CEQA criteria.

DISCUSSION AND FINDINGS

A. Project Description

The project proposes to demolish an existing 76-room assisted living facility and construct 94 unit apartments, 12 unit affordable apartments, and 1,201 square-feet of retail space. The project is expected to be completed by 2021.

B. CEQA Screening Thresholds

Prior to accounting for trip reductions resulting from the application of Transportation Demand Management (TDM) strategies, a trip generation analysis was conducted to determine if the project would exceed 250 daily vehicle trips screening threshold. Using the City of Los Angeles VMT Calculator tool, which draws upon trip rate

estimates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition as well as applying trip generation adjustments when applicable, based on sociodemographic data and the built environment factors of the project's surroundings. A copy of the VMT calculator screening pages is provided as **Attachment A** to this report. Additionally, the traffic analysis included further discussion of the following transportation impact thresholds:

- Threshold T-1: Conflicting with City's plans, programs, ordinances, or policies.

The transportation assessment evaluated the proposed project for conformance with the adopted City's transportation plans and policies for all travel modes. It was determined by the applicant that the proposed project does not obstruct or conflict with the City development policies and standards for the transportation system.

- Threshold T-2.1: Causing a substantial vehicle mile traveled (VMT).

Using the VMT calculator, it was determined that the project would generate a net increase of 402 daily vehicle trips and a net increase of 3,032 net daily VMT. Therefore, a VMT analysis was required. However, after reviewing the VMT analysis, it was concluded that the implementation of the project (without any TDM mitigation strategies) would not result in a significant Household VMT per capita as discussed below under Section C, CEQA Transportation Analysis.

- Threshold T-3: Substantially increasing hazards due to a geometric design feature or incompatible use.

The project does not involve any design features that are unusual for the area or any incompatible use. The proposed dedication along Ventura Boulevard and Arch Drive will increase the width of the sidewalk for pedestrian safety. The proposed project will remove the existing driveway at the intersection of Arch Drive and Ventura Boulevard. The new driveway will be located further from the intersection of Arch Drive and Ventura Boulevard.

C. CEQA Transportation Analysis

On July 30, 2019, pursuant to Senate Bill (SB) 743 and the recent changes to Section 15064.3 of the State's California Environmental Quality Act (CEQA) Guidelines, the City of Los Angeles adopted vehicle miles traveled (VMT) as a criterion in determining transportation impacts under CEQA. The new LADOT Transportation Assessment Guidelines (TAG) provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds. The DOT VMT Calculator tool measures project impact in terms of Household VMT per capita, and Work VMT per employee. DOT identified distinct thresholds for significant VMT impacts for each of the seven Area Planning Commission (APC) areas in the City. For the South Valley APC area, in which the project is located, the following threshold has been established:

- Household VMT per Capita: 9.4

As cited in the VMT analysis report prepared by Overland Traffic Consultants, Inc., the VMT generated by the modified project (9.4 Household VMT per Capita) is below the VMT thresholds for the South Valley APC. Therefore, it is concluded that the implementation of the modified proposed project will not result in a significant VMT impact. As part of the project, the applicant has proposed two TDM measures to further reduce the project VMT by providing bicycle parking spaces in accordance with LAMC Section 12.21.A.16, as well as unbundle parking.

PROJECT REQUIREMENTS

A. Construction Activities Review

DOT recommends that a construction worksite traffic control plan be submitted to DOT's Citywide Temporary Traffic Control Section or Permit Plan Review Section for review and approval prior to the start of any construction work. Refer to <http://ladot.lacity.org/what-we-do/plan-review> to determine which section to coordinate review of the worksite traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. DOT also recommends that all construction-related truck traffic be restricted to off-peak hours.

B. Highway Dedication and Improvements

Pursuant to Section 10 of the Specific Plan, the applicant shall make certain street and highway dedications, improvements, and requirements are completed to the satisfaction of DOT and the Department of Public Works, Bureau of Engineering. The dedications and improvements, as indicated below, are required of this project. **Ventura Boulevard** is a designated Boulevard II in the Mobility Element of the General Plan. The north side of Ventura Boulevard currently consists of a 50-foot half-width right-of-way with a 40-foot half-width roadway and a 10-foot sidewalk. The standard cross-section for a Boulevard II is a 55-foot half-width right-of-way with a 40-foot half-width roadway and a 15-foot sidewalk. The applicant shall dedicate 5 feet of land along the entire proposed project frontage on Ventura Boulevard to bring the right-of-way up to the standard required by the Mobility Plan. **Arch Drive** is a designated Local Street that would require an 18-foot half-width roadway within a 30-foot half-width right-of-way.

Additional street improvements may be required. The applicant should contact the Bureau of Engineering, Department of Public Works, to determine any other requirements. Street dedication shall be completed through Quyen Phan in the Department of Public Works, Bureau of Engineering, Land Development Group, (818) 808-8604, before the issuance of any building permit for this project. Since the dedication procedure may be lengthy, the process should be initiated as soon as possible.

C. Project Impact Assessment (PIA) Fee

Pursuant to Section 11 of the Ventura/Cahuenga Specific Plan, the applicant shall pay or guarantee to pay a PIA Fee to DOT before the issuance of any building permit. The gross PIA Fee for this project is calculated below and can be paid in either a single payment or through a deferred payment plan. The PIA Fee shall be indexed annually; therefore, the PIA Fee may change depending on the actual date when payment is made.

Proposed Land Use (PIA Fee in Studio City)

Apartments Floor Area	=	89,047 square-feet
PIA Fee Rate (Category A)	=	\$1.46 per square-foot of floor area
	=	89,047 x \$1.46
	=	\$130,008.62
Retail Floor Area	=	1,201 square-feet
PIA Fee Rate (Category C)	=	\$4.99 per square-foot of floor area
	=	1,201 x \$4.99
	=	\$5,992.99
PIA Fee (pre-credit)	=	\$136,001.61

Existing Land Use (PIA Fee in Studio City)

Assisted Living Floor Area	=	41,697 square-feet
PIA Fee Rate (Category A)	=	\$1.46 per square-foot of floor area
	=	41,697 x \$1.46
Credit PIA Fee	=	\$60,877.62
	=	\$136,001.61-60,877.62
Net PIA Fee	=	<u>\$75,123.99</u>

D. Project Access and Circulation

The review of this study does not constitute approval of the driveway dimensions, access, and circulation scheme. Final DOT approval shall be obtained prior to the issuance of any building permits. This should be accomplished by submitting detailed site and driveway plans with a minimum scale of 1"= 40', to DOT's Valley Development Review Section at 6262 Van Nuys Boulevard, Suite 320, Van Nuys, California, 91401. In order to minimize and prevent last-minute building design changes, the applicant should contact DOT for driveway width and internal design requirements.

If you have any questions, please contact Albert Isagulian of my staff at (818) 374-4699.

c: Karo Torossian, Council District 2
Marianne King, City Planning
Steve Rostam, DOT East Valley District
B. J. Soni, DOT Accounting
Ali Nahass, Bureau of Engineering
Quyen Phan, Bureau of Engineering
Jerry Overland, Overland Traffic Consultants, Inc.

Attachment A
Mixed-Use at 11201 Ventura Boulevard

CITY OF LOS ANGELES VMT CALCULATOR Version 1.2

Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: The Crescent Apartments

Scenario: VMT Evaluation

Address: 11201 W VENTURA BLVD 91604

Existing Land Use

Land Use Type	Value	Unit
Housing Affordable Housing - Senior	89	DU
(custom) Affordable Housing - Senior	89	Person
(custom) Affordable Housing - Senior	25	Person
(custom) Affordable Housing - Senior	25	Trips
(custom) Affordable Housing - Senior	151	Percent
(custom) Affordable Housing - Senior	10	Percent
(custom) Affordable Housing - Senior	25	Percent
(custom) Affordable Housing - Senior	10	Percent
(custom) Affordable Housing - Senior	25	Percent
(custom) Affordable Housing - Senior	15	Percent

Proposed Project Land Use

Land Use Type	Value	Unit
Retail General Retail	94	DU
Housing Multi-Family	1,201	kcf
Retail General Retail	12	DU
Housing Affordable Housing - Family		

If the project is replacing an existing number of residential units with a smaller number of residential units, is the proposed project located within one-half mile of a fixed-rail or fixed-guideway transit station?

• Yes
• No

Project Screening Summary

Existing Land Use	Proposed Project
116 Daily Vehicle Trips	518 Daily Vehicle Trips
863 Daily VMT	3,895 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips

The net increase in daily VMT ≤ 0

The proposed project consists of only retail land uses ≤ 50,000 square feet total.

The proposed project is required to perform VMT analysis.

CITY OF LOS ANGELES VMT CALCULATOR Version 1.2

Project Information

Project: **The Crescent Apartments**

Scenario: **VMT Evaluation**

Address: **11201 W VENTURA BLVD, 91604**



Proposed Project Land Use Type	Value	Unit
Housing Multi-Family	94	DU
Retail General Retail	11,201	Ksf
Housing Affordable Housing - Family	12	DU

TDM Strategies

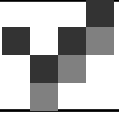
Select each section to show individual strategies. Use **2** to denote if the TDM strategy is part of the proposed project or a mitigation strategy.

Max Home Based TDM Achieved?	Proposed Project	With Mitigation
Max Work Based TDM Achieved?	No	No
1 Parking		
2 Transit		
3 Education & Encouragement		
4 Commute Trip Reductions		
5 Shared Mobility		
6 Bicycle Infrastructure		
7 Implement/Improve On-street Bicycle Facility		
8 Proposed By Mitigation		
9 Include Bike Parking Per LAFC		
10 Proposed By Mitigation		
11 Include Secure Bike Parking and Showers		
12 Proposed By Mitigation		
13 Neighborhood Enhancement		

Analysis Results

Proposed Project	With Mitigation
426	426
Daily Vehicle Trips	Daily Vehicle Trips
3,175	3,175
Daily VMT	Daily VMT
9.4	9.4
Household VMT per Capita	Household VMT per Capita
N/A	N/A
Work VMT per Employee	Work VMT per Employee
Significant VMT Impact?	
Household: No	Household: No
Threshold = 9.4	Threshold = 9.4
15% Below APC	15% Below APC
Work: N/A	Work: N/A
Threshold = 11.6	Threshold = 11.6
15% Below APC	15% Below APC

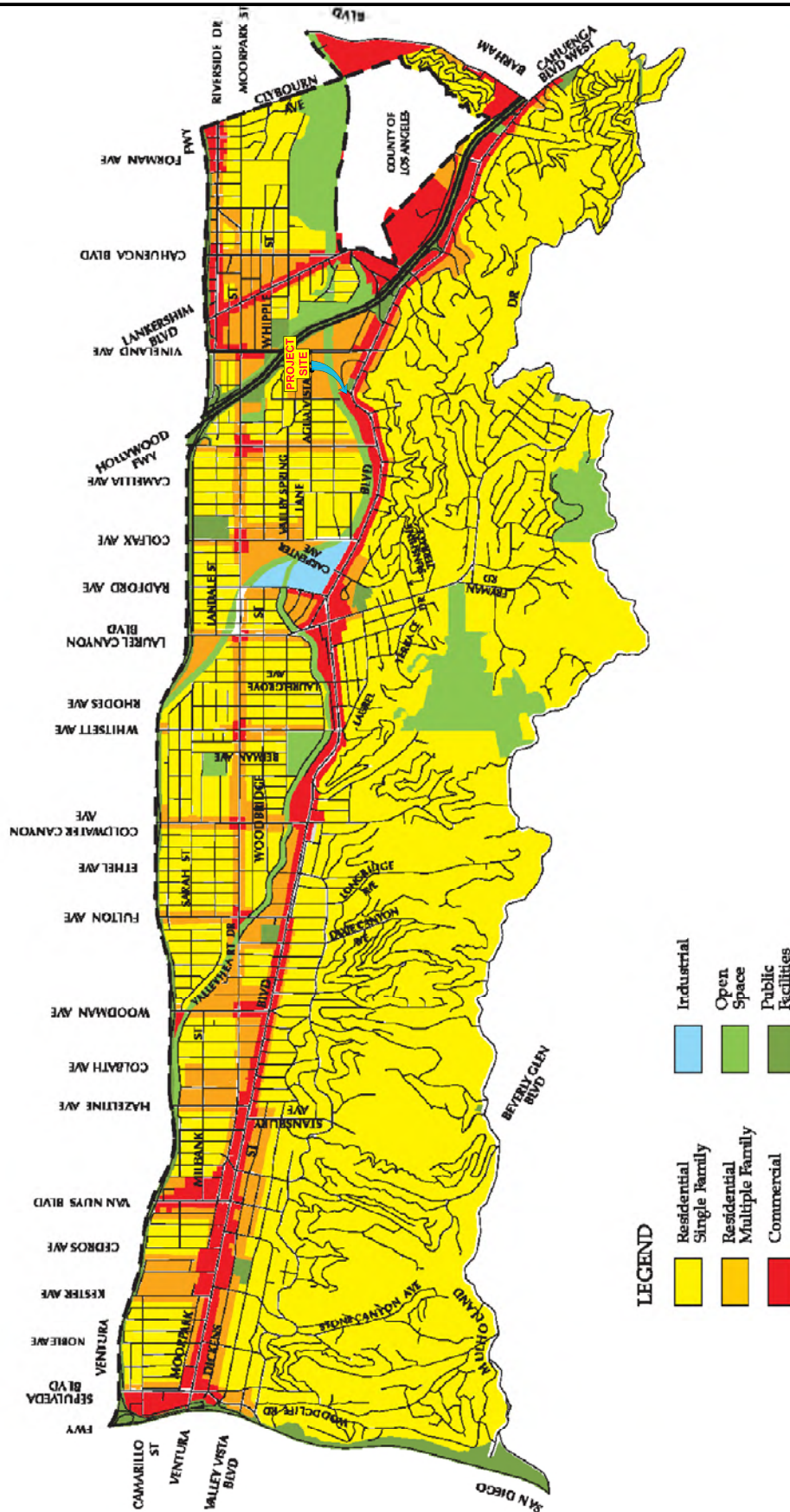




Overland Traffic Consultants, Inc.

APPENDIX B

Community Plan Land Use Map



GENERALIZED LAND USE SHERMAN OAKS - STUDIO CITY - TOLUCA LAKE - CAHUENAGA PASS



12/2018

COMMUNITY PLAN LAND USE MAP



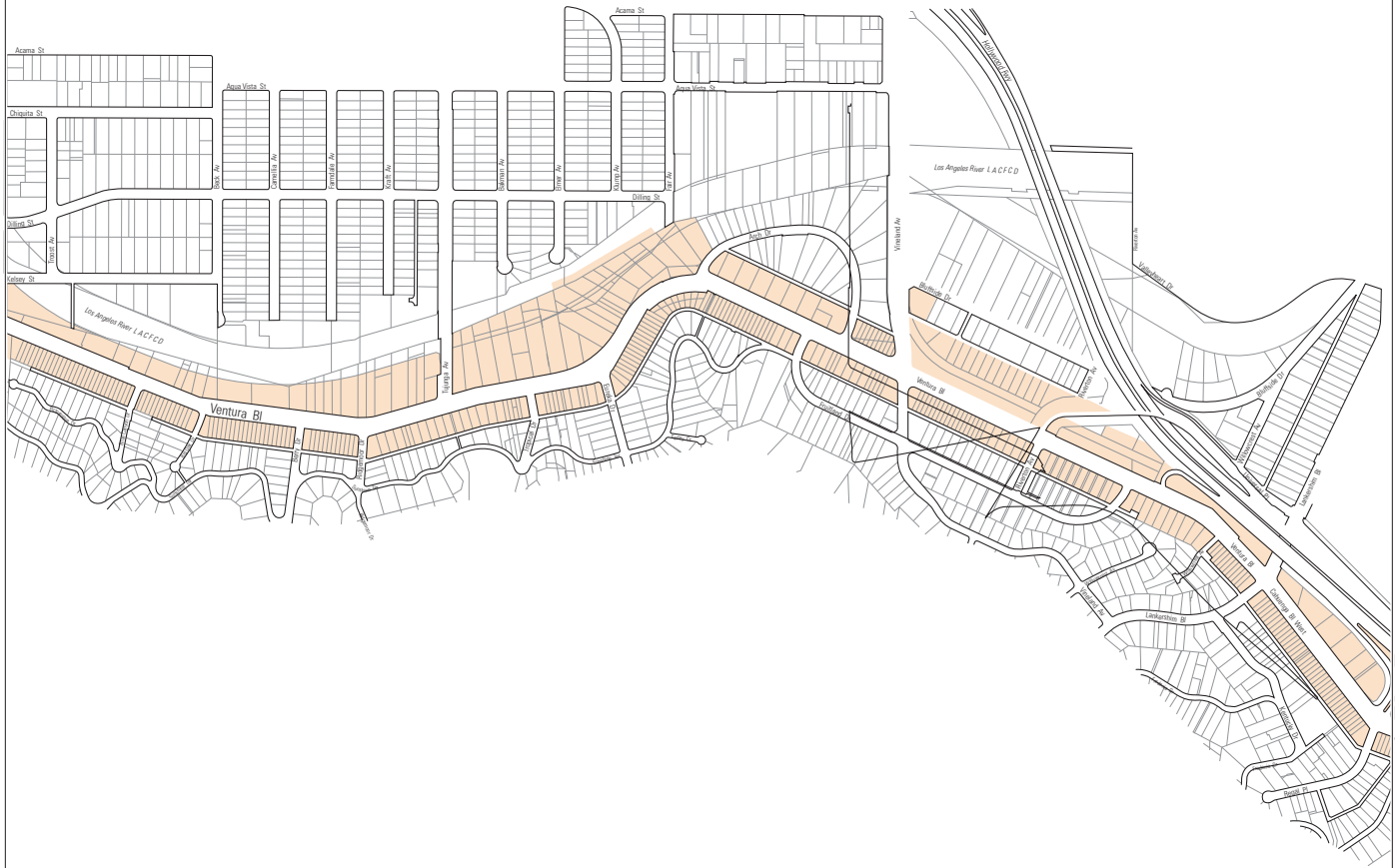
Overland Traffic Consultants, Inc.

24325 Main Street #202, Santa Clarita, CA 91321
(661) 799 - 8423, OTC@overlandtraffic.com




SUMMARY OF LAND USE

CATEGORY	LAND USE	CORRESPONDING ZONES	NET ACRES	% AREA	TOTAL NET ACRES	TOTAL % AREA
RESIDENTIAL						
Single Family					5,182	59.9
	Minimum	OS, A1, A2, RE40	1,213	14.0		
	Very Low	RE20, RA, RE15, RE11	1,758	20.3		
	Low	RE9, RS, R1, RU, RD6, RD5	2,211	25.6		
Multiple					653	7.6
	Low Medium I	R2, RD3, RD4, RZ3, RZ4, RU, RW1	175	2.0		
	Low Medium II	RD1.5, RD2, RW2, RZ2.5	3	0.1		
	Medium	R3	439	5.1		
	High Medium	R4	36	0.4		
COMMERCIAL					483	5.6
	Neighborhood	C1, C1.5, C2, C4	47	0.5		
	Limited	C1, P	22	0.3		
	General	C1.5, C2, C4	208	2.4		
	Community	CR, C2, C4	113	1.3		
	Regional	CR, C1.5, C2, C4, R3, R4, R5	93	1.1		
INDUSTRIAL					39	0.4
	Light	MR2, M2	39	0.4		
PARKING					1	0.0
	Parking	P, PB	1	0.0		
OPEN SPACE/PUBLIC FACILITIES					866	10.0
	Open Space	OS, A1	536	6.2		
	Public Facilities	PF	330	3.8		
STREETS					1,432	16.5
	Private Streets	-	0	0.0		
	Public Streets	-	1,432	16.5		
TOTAL					8,656	100.0

Ventura/Cahuenga Boulevard Corridor Specific Plan

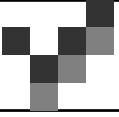


CPC 85-381

-  Regional Commercial
-  Community Commercial
-  Neighborhood & Office Commercial

Map 13 — Studio City/Cahuenga Pass Section
Plan Designations



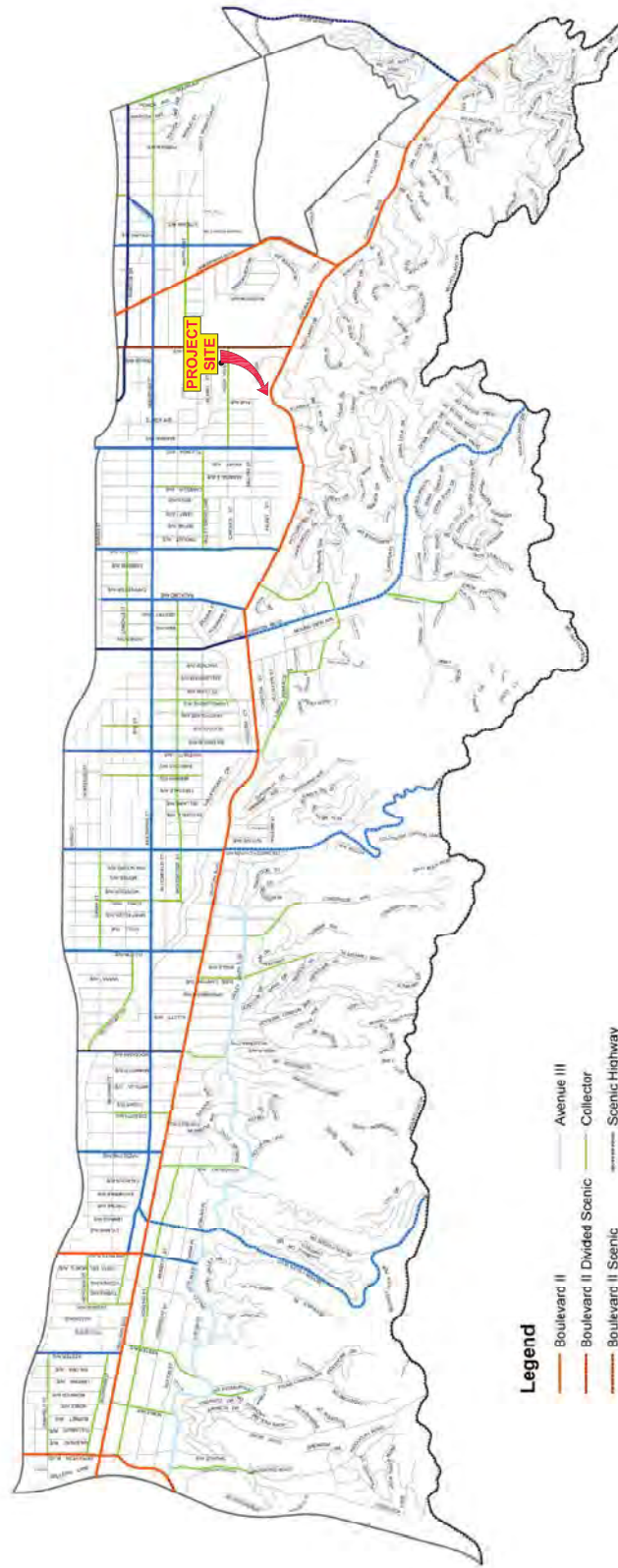


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APPENDIX C

Street Standards, Circulation & High Injury Network Map

SHERMAN OAKS - STUDIO CITY - TOLUCA LAKE - CAHUENGA PASS CIRCULATION



- Legend**
- Boulevard II
 - Boulevard II Divided Scenic
 - Boulevard II Scenic
 - Avenue I
 - Avenue I Scenic
 - Avenue II
 - Avenue II Scenic
 - Avenue III
 - Collector
 - Scenic Highway
 - Limited Local
 - Local
 - Private Street
 - Community Plan Area Boundary

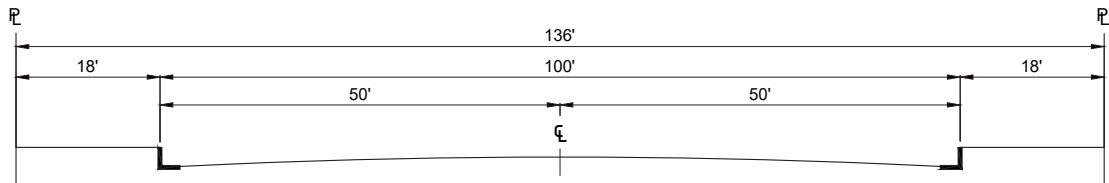


Date: 2/15/2017
DEPARTMENT OF CITY PLANNING
INFORMATION TECHNOLOGIES DIVISION

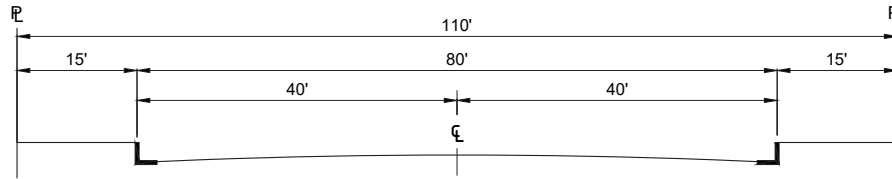
Disclaimer: This map is provided for informational purposes only. It is not intended to be used as a legal document. The City of Los Angeles is not responsible for any errors or omissions in this map. The City of Los Angeles is not responsible for any damages or losses resulting from the use of this map. The City of Los Angeles is not responsible for any claims or liabilities resulting from the use of this map. The City of Los Angeles is not responsible for any claims or liabilities resulting from the use of this map.



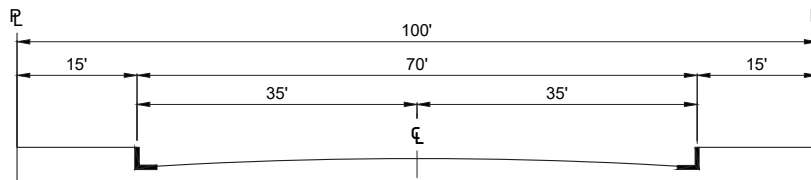
ARTERIAL STREETS



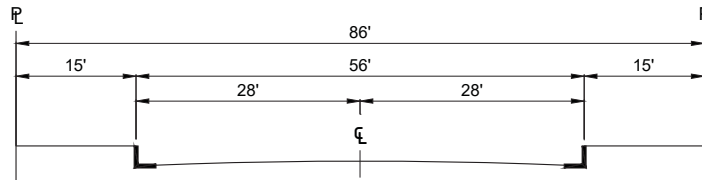
BOULEVARD I (MAJOR HIGHWAY CLASS I)



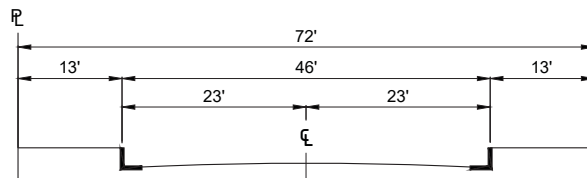
BOULEVARD II (MAJOR HIGHWAY CLASS II)



AVENUE I (SECONDARY HIGHWAY)



AVENUE II (SECONDARY HIGHWAY)

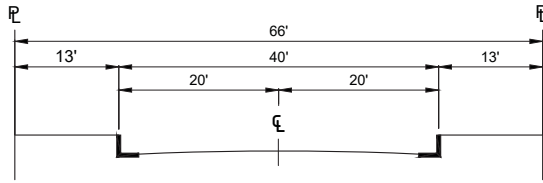


AVENUE III (SECONDARY HIGHWAY)

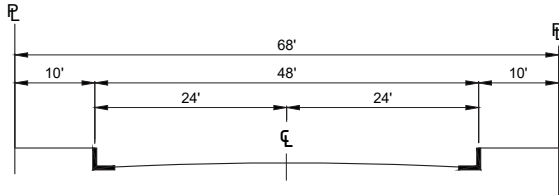
THIS STANDARD PLAN BECOMES EFFECTIVE CONCURRENT WITH THE ADOPTION OF THE MOBILITY PLAN 2035.

BUREAU OF ENGINEERING		DEPARTMENT OF PUBLIC WORKS		CITY OF LOS ANGELES		
--- DRAFT --- STANDARD STREET DIMENSIONS				STANDARD PLAN S-470-1		
PREPARED HAMID MADANI, P.E. BUREAU OF ENGINEERING CHECKED RAFFI MASSABKI, P.E. BUREAU OF ENGINEERING	SUBMITTED SAMARA ALI-AHMAD, P.E. DATE ENGINEER OF DESIGN BUREAU OF ENGINEERING KENNETH REDD, P.E. DATE DEPUTY CITY ENGINEER	APPROVED GARY LEE MOORE, P.E., ENV. SP. DATE CITY ENGINEER DEPARTMENT OF TRANSPORTATION DATE GENERAL MANAGER DIRECTOR OF PLANNING DATE		SUPERSEDES D-22549 S-470-0	REFERENCES 	
				VAULT INDEX NUMBER:		
				SHEET 1 OF 4 SHEETS		

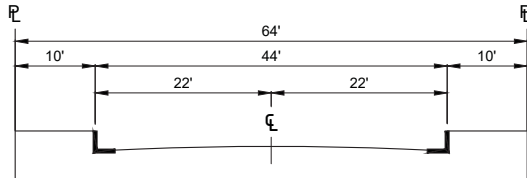
NON-ARTERIAL STREETS



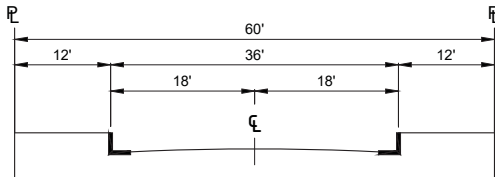
COLLECTOR STREET



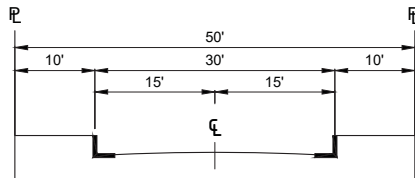
INDUSTRIAL COLLECTOR STREET



INDUSTRIAL LOCAL STREET

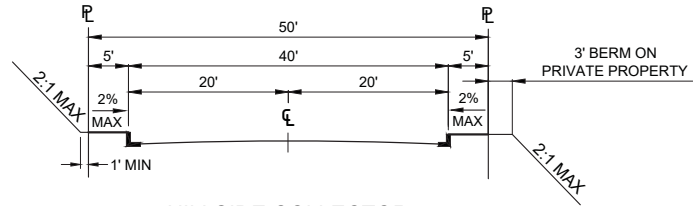


LOCAL STREET - STANDARD

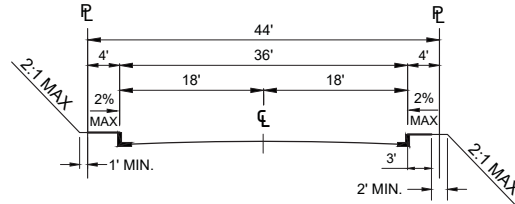


LOCAL STREET - LIMITED

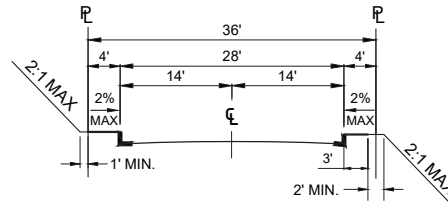
HILLSIDE STREETS



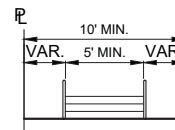
HILLSIDE COLLECTOR



HILLSIDE LOCAL



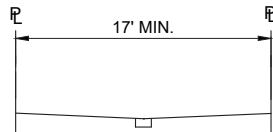
HILLSIDE LIMITED STANDARD



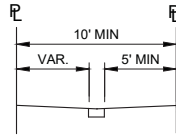
PUBLIC STAIRWAY

CONSTRUCTED IN ACCORDANCE WITH
BUREAU OF ENGINEERING STANDARD PLANS

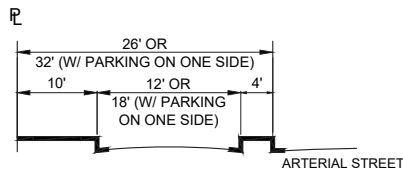
OTHER PUBLIC RIGHTS-OF-WAY



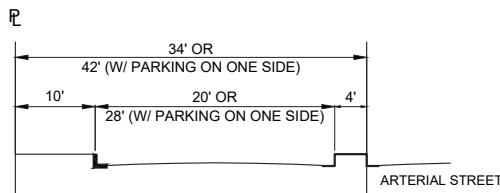
SHARED STREET



PEDESTRIAN WALKWAY

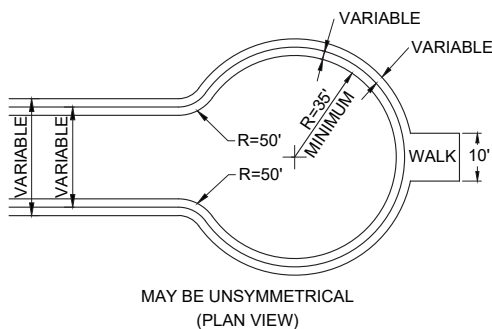


ONE-WAY SERVICE ROAD



BI-DIRECTIONAL SERVICE ROAD

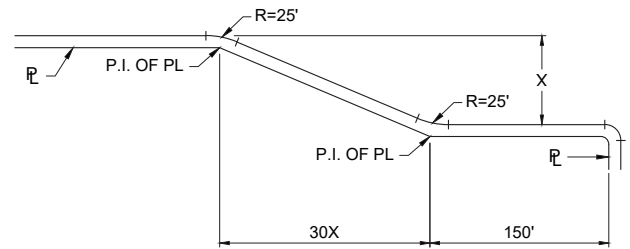
CUL-DE-SAC



MAY BE UNSYMMETRICAL
(PLAN VIEW)

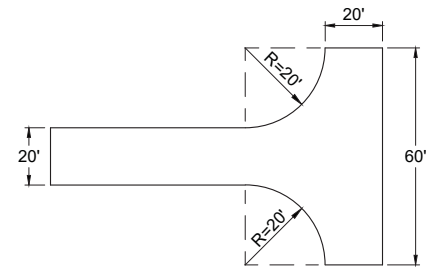
NOTE: FOR FIRE TRUCK CLEARANCE, NO OBSTRUCTION TALLER THAN 6" SHALL BE PERMITTED WITHIN 3FT. OF THE CURB. ON-STREET PARKING SHALL BE PROHIBITED.

TRANSITIONAL EXTENSIONS

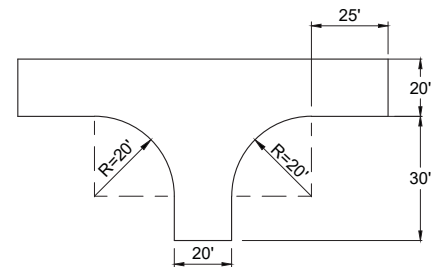


STANDARD FLARE SECTION
(PLAN VIEW)

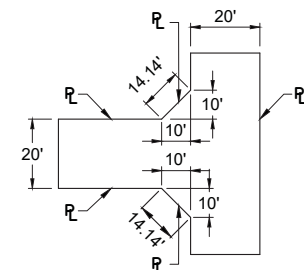
ALLEYS



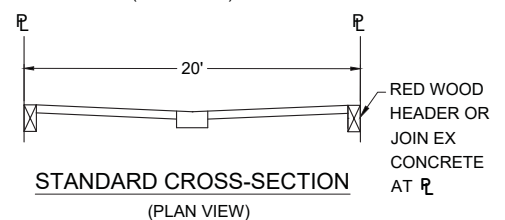
STANDARD TURNING AREA
(PLAN VIEW)



MINIMUM TURNING AREA
(PLAN VIEW)



STANDARD CUT CORNERS
FOR 90° INTERSECTION
(PLAN VIEW)



STANDARD CROSS-SECTION
(PLAN VIEW)

RED WOOD
HEADER OR
JOIN EX
CONCRETE
AT P.L.

VENTURA BOULEVARD AND VINELAND AVENUE



This map is a user generated static output from an Internet mapping site and is for reference only. Data layers not appearing on this map may or may not be accurate, current, or otherwise reliable.



1 : 2,174



VENTURA BOULEVARD AND CAMPO DE CAHUENGA



150 0 75 Feet

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1 : 2,174

VENTURA BOULEVARD AND LANKERSHIM BOULEVARD



150 0 150 Feet

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1 : 2,174

VENTURA BOULEVARD AND TUJUNGA AVENUE



150 75 0 Feet
1 : 2,174

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VENTURA BOULEVARD AND ARCH DRIVE

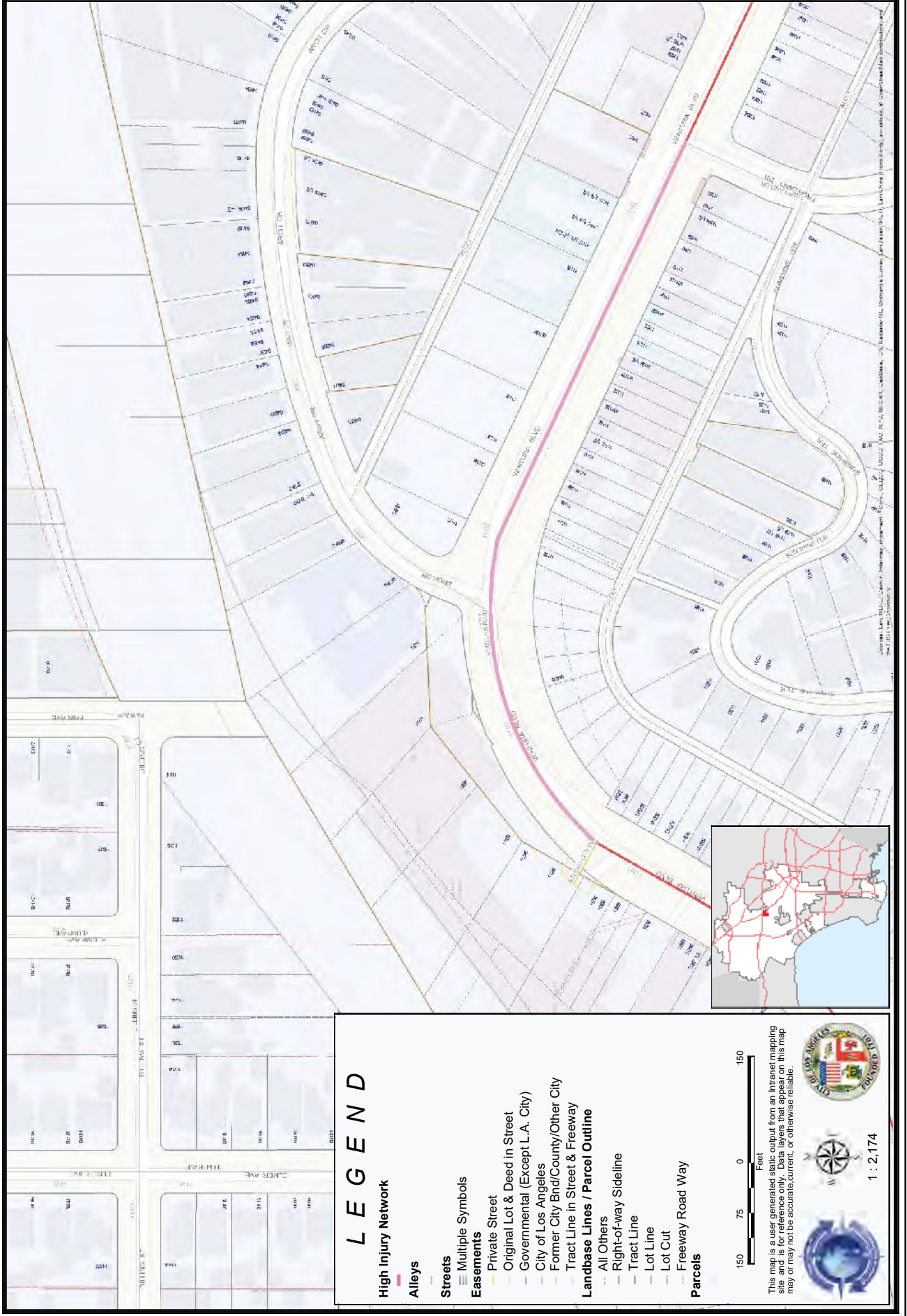


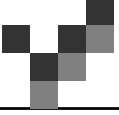
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1 : 2,174

High Injury Network

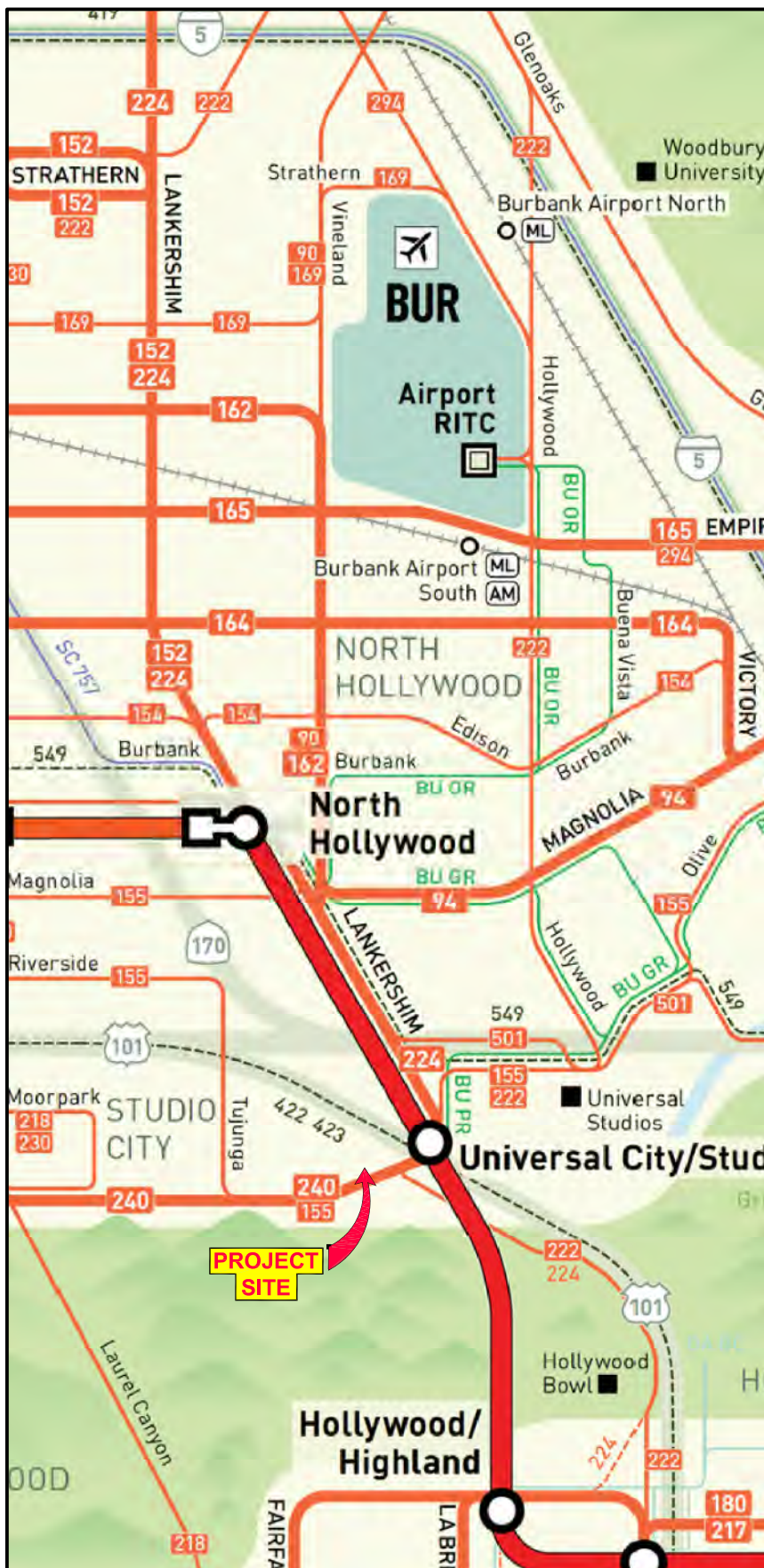




Overland Traffic Consultants, Inc.

APPENDIX D

Transit Routes



PROJECT LOCATION
AND METRO TRANSIT SYTEM MAP

Transit Service Guide

The table shows approximate frequency in minutes for all Metro services and major municipal bus lines on this map. Information reflects the main part of the line. Consult schedules for details.

Metro Rail & Busway

LINE	PEAK	WEEKDAY		SATURDAY		SUNDAY	
		DAY	EVE	DAY	EVE	DAY	EVE
B Line	10	12	10-20	12	15-20	12	15-20
G Line	6-8	10	10-20	10	12-20	10	12-20

Metro Bus

LINE	PEAK	WEEKDAY		SATURDAY		SUNDAY	
		DAY	EVE	DAY	EVE	DAY	EVE
2	10	10	20-30	15	20-30	15	20-30
90	20	20	30-60	30	30-60	30	30-60
92	20	20	30-60	30	45-60	30	45-60
94	15	15	30-60	30	30-60	30	30-60
9A	45	45	-	60	-	60	-
150	20	20	30-60	30	30-60	30	30-60
152	15	15	15-60	20	20-60	20	20-60
154	60	60	60	60	60	60	60
155	60	60	60	60	60	60	60
158	20-60	60	-	60	-	60	-
161	30-60	60	-	60	-	60	-
162	15	15	15-60	20	25-60	30	30-60
164	15	15	15-60	30	45-60	30	45-60
165	15	15	15-60	30	40-60	30	40-60
166	15	15	20-45	30	30-45	30	30-45
167	40-45	45-60	60	50-55	60	50-55	60
169	60	60	60	60	60	60	60
180	10	10	10-30	10-12	15-30	10-12	15-30
182	30	30	30-50	30	35-50	30	35-50
204	10	10	10-30	12	20-30	12	20-30
206	15	15	15-60	20	20-60	20	20-60
207	6-7.5	7.5	7.5-25	10	10-25	10	10-25
210	10	10	15-55	10	15-60	10	15-60
212	10	10	12-35	15	20-35	15	20-35
217	10	10	15-30	15	15-30	15	15-30
218	55	55	55-60	55	55-60	55	55-60
222	30/60	30/60	30-60	60	60	60	60
224	15	15	15-60	20	20-60	20	20-60
230	30	30	30-60	35	35-60	35	35-60
233	10	10	10-60	12	20-60	12	20-60
234	10	10	10-60	15	20-60	15	20-60
235	60	60	-	-	-	-	-
236	60	60	60	60	60	60	60
237	60	60	60	60	60	60	60
240	10	10	10-30	15	15-30	15	15-30
242	40	40	40	40	40	40	40
243	40	40	40	40	40	40	40
244	30	30	30	30	30	30	30
294	30	30	30-60	30	30-60	30	30-60
501	20	20	20	20	20	20	20
601	20	20	20	20	20	20	20
603	12	12	15-30	12	15-30	15	20-30
690	30	30	30	30	30	30	30
764	10	10	20-30	12-15	30	12-15	30
761	15	15	15-30	30	30	30	30

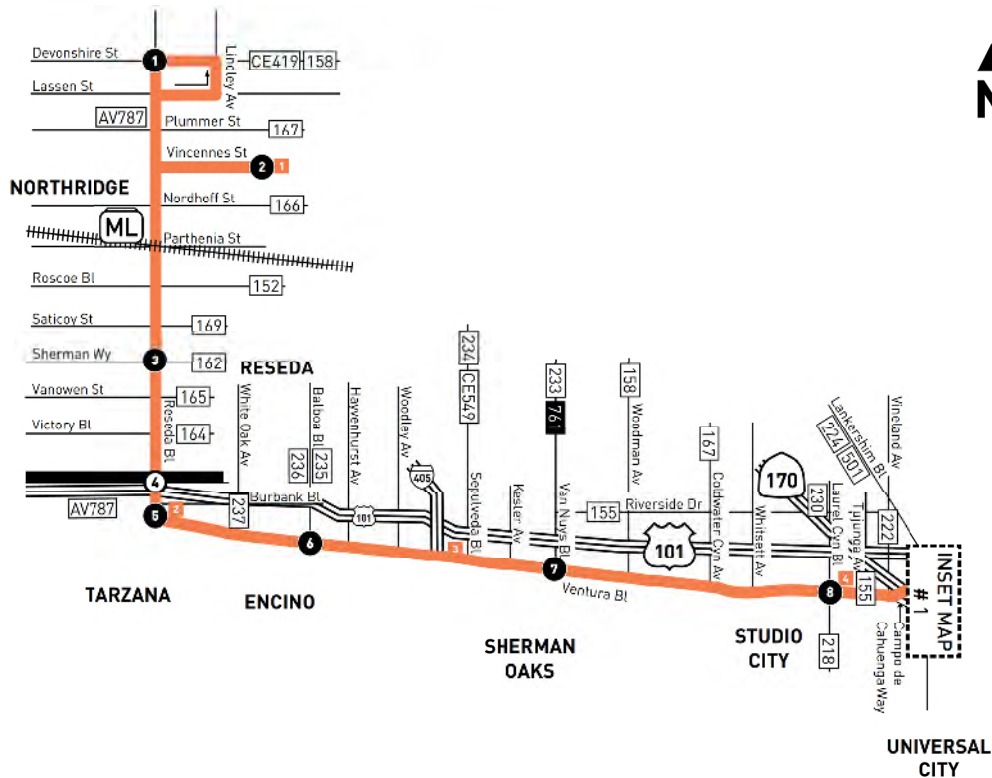
LADOT Commuter Express

LINE	PEAK	WEEKDAY		SATURDAY		SUNDAY	
		DAY	EVE	DAY	EVE	DAY	EVE
409	15-40	-	-	-	-	-	-
419	15-75	-	-	-	-	-	-
422	10-35	-	-	-	-	-	-
423	5-65	-	-	-	-	-	-
549	20-40	-	-	-	-	-	-
573	10-45	-	-	-	-	-	-
574	25-60	-	-	-	-	-	-

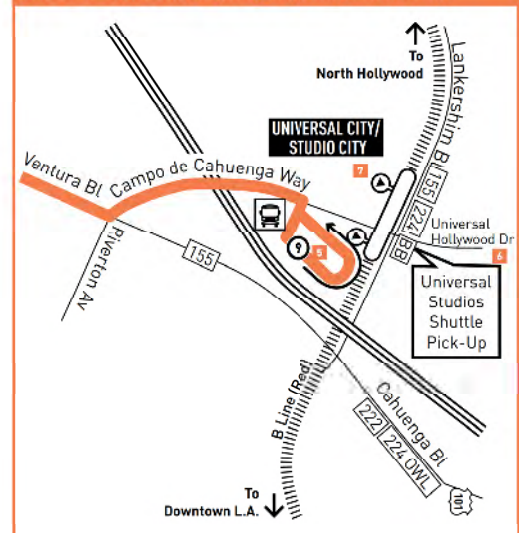
LADOT DASH

LINE	PEAK	WEEKDAY		SATURDAY		SUNDAY	
		DAY	EVE	DAY	EVE	DAY	EVE
CLASH	25	25	-	25	-	25	-
CLASH	15-20	20	-	20	-	20	-
CLASH	15-20	15-20	15-20	15	15	15	15
CLASH	20	20	-	20	-	20	-
CLASH	15	15	15	30	-	30	-
CLASH	30	-	-	30	-	30	-





INSET 1 - UNIVERSAL CITY/STUDIO CITY STATION



MAP NOTES

- 1 California State University, Northridge**
- 2 Providence Tarzana Medical Center**
- 3 Sherman Oaks Galleria**
- 4 CBS Studio Center**
- 5 Universal/Studio City Station**
Metro Bus Lines 155, 224, 240; Metro B Line (Red); Burbank Bus Pink Route; Universal Studios Shuttle
- 6 Universal Studios CityWalk**
- 7 Campo de Cahuenga**

LEGEND

- Route of Line 240
- Metro G Line (Orange)
- Metro B Line (Red)
- # Local Stop Timepoint
- # Local Stop Timepoint - Single Direction Only
- P Metro Busway/Rail Station & Timepoint
- O Metro Busway/Rail Station
- T Transit Center
- ML Metrolink Station
- AV Antelope Valley Transit Authority
- CE LADOT Commuter Express



Existing Line 240 Reseda Blvd – Ventura Blvd

How often will my bus run?

		Frequency*			
		Peak	Midday	Evening	Owl
NextGen Line 240	Weekday	10 min	10 min	15-30 min	60 min
	Saturday	15 min	15 min	15-30 min	60 min
	Sunday	15 min	15 min	15-30 min	60 min
Existing Line 240	Weekday	16 min	21 min	21 min	60 min
	Saturday	18 min	16 min	21 min	60 min
	Sunday	19 min	19 min	21 min	60 min

*Peak: 6-9am/3-7pm, Midday: 9am-3pm, Evening: 7pm-12am, Owl: 12-4am

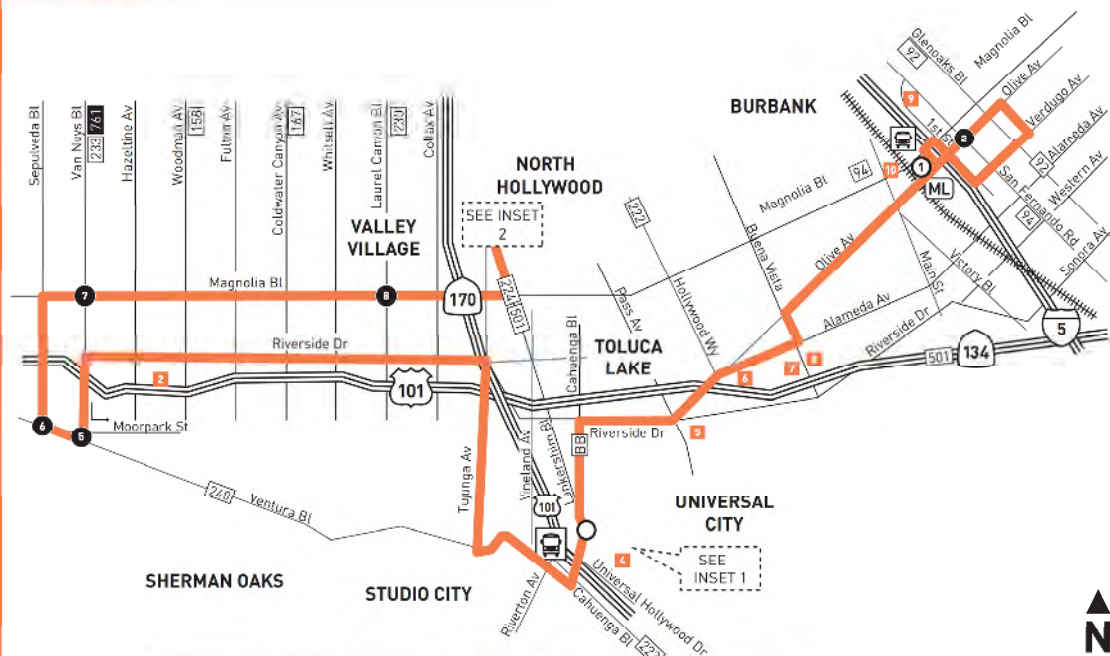
How is my bus changing?

More Frequency Simpler Network

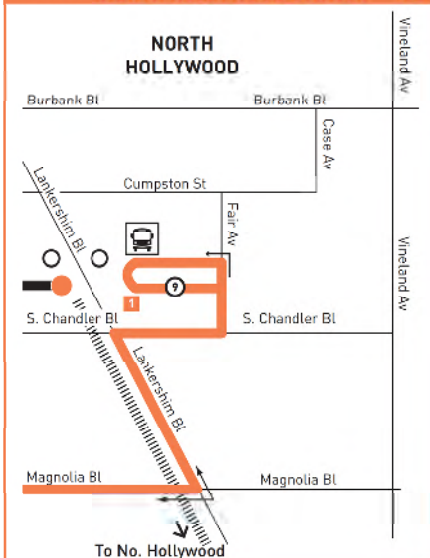
New Lines 150 and 240: Merge Lines 150, 240 and 750:

- New Line 150 would operate frequent service from Ventura/Reseda west to Chatsworth Station along Ventura Bl and Topanga Canyon Bl (replacing Line 245 segment)
- New Line 240 would operate frequent service on the existing alignment between Northridge and Universal City/Studio City Station on Ventura Bl and Reseda Bl
- More frequent service at all new Line 150 and 240 bus stops
- Underutilized bus stops would be consolidated on new Line 150 and 240 to balance speed, reliability, and accessibility.





INSET 2 - NORTH HOLLYWOOD STATION



INSET 1 - UNIVERSAL CITY/STUDIO CITY STATION



MAP NOTES

- 1 North Hollywood B, G Lines (Red, Orange) Stations**
Metro 90, 94, 152, 154, 155, 162, 224, 237, 501; Metro B Line (Red), Metro G Line (Orange); BB Media District, BB Noho/Airport; CE549; SC757
- 2 Westfield Fashion Square**
- 3 Universal City/Studio City Station**
Metro 155, 222, 224, 240; B Line (Red); Burbank Bus Pink Route; Universal Studios Shuttle
- 4 Universal City Walk**
- 5 Warner Bros. Studios**
- 6 The Burbank Studios**
- 7 Providence St. Joseph Medical Center**
- 8 Disney Studios**
- 9 Burbank Town Center**
- 10 Burbank Downtown Station**
Metro 92, 96, 154, 155, 164, 165, 294; SC794; BB Media District, Airport/Empire; Megabus; Metrolink Antelope Valley Line, Ventura County Line. Transfers in Downtown Burbank to Metro 94

LEGEND

- Route of Line 155
- Southbound Only
- Metro B Line (Red)
- # Local Stop Timepoint
- # Local Stop Timepoint - Single Direction Only
- Metro B Line (Red) Station
- ML Metrolink Station
- T Transit Center
- BB Burbank Bus
- CE LADOT Commuter Express
- SC Santa Clarita Transit



How often will my bus run?

		Frequency*			
		Peak	Midday	Evening	Owl
NextGen Line 155	Weekday	40 min	40 min	40-60 min	--
	Saturday	60 min	60 min	60 min	--
	Sunday	60 min	60 min	60 min	--
Existing Line 155	Weekday	47 min	45 min	55 min	--
	Saturday	52 min	50 min	50 min	--
	Sunday	66 min	65 min	65 min	--

*Peak: 6-9am/3-7pm, Midday: 9am-3pm, Evening: 7-12am, Owl: 12-4am

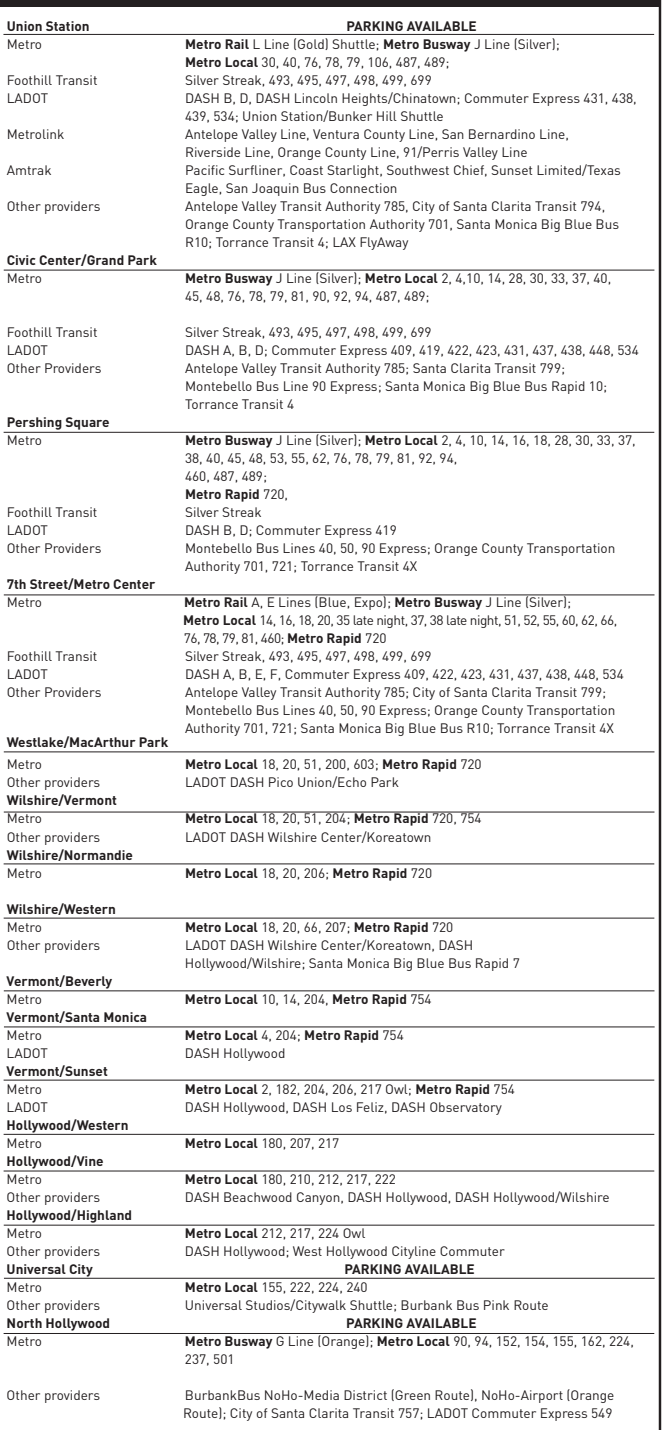
How is my bus changing?

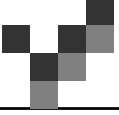
More Frequency Simpler Network

New Line 155 will merge existing Line 155 with a segment of Line 183:

- New Line 155 would operate via Riverside Dr, Sepulveda Bl, and Magnolia Bl between the B Line (Red) North Hollywood Station and B Line (Red) Universal City/Studio City Station
- Segment of Line 155 east of Universal City/Studio City Station via Olive Av would continue to be served by Burbank Bus newly improved Pink Route
- New Line 155 will operate more frequent weekday service



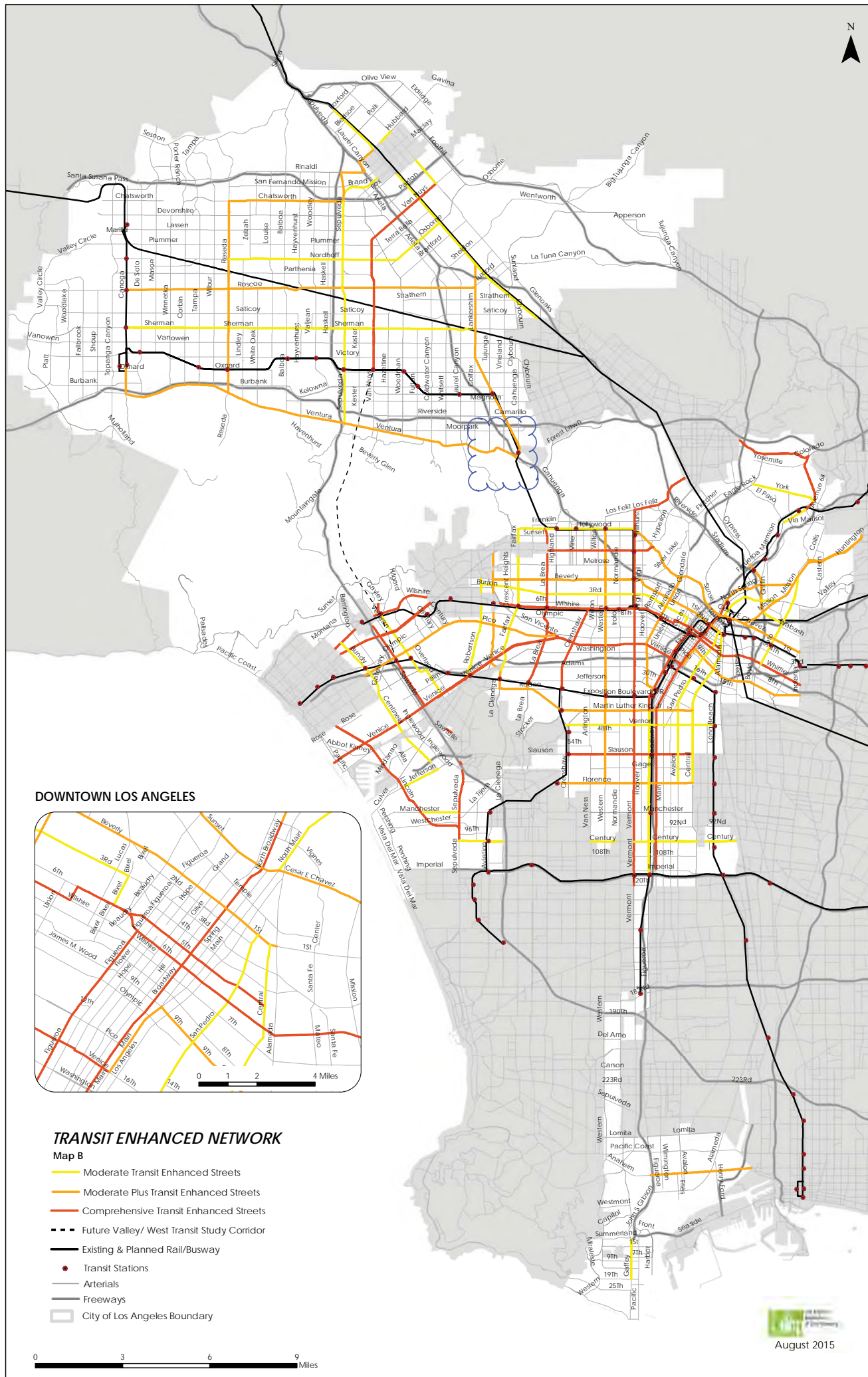




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APPENDIX E

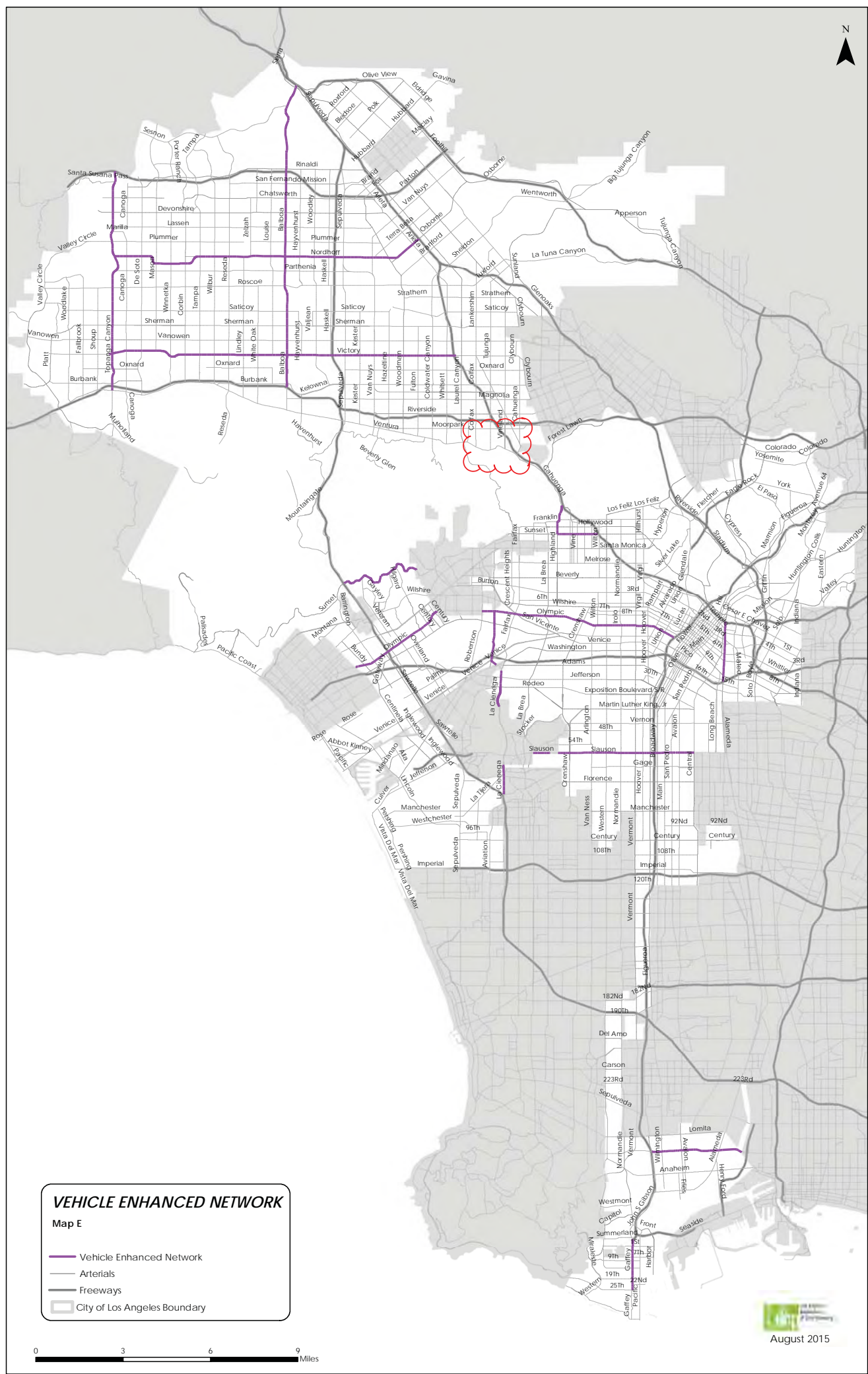
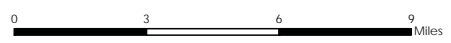
Mobility Network Maps

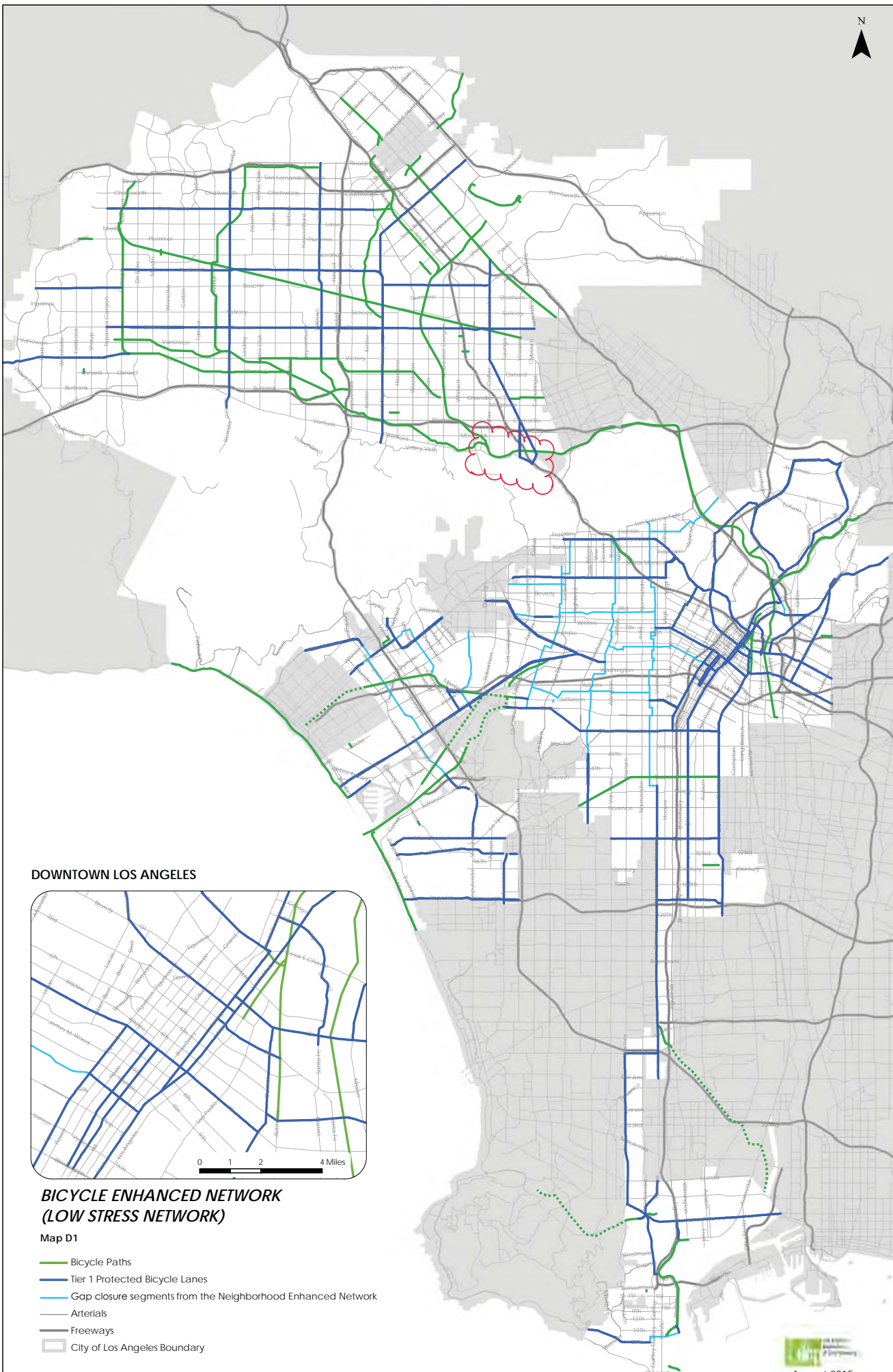




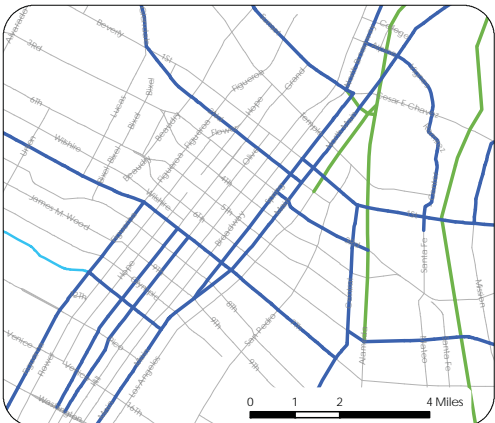
VEHICLE ENHANCED NETWORK
Map E

- Vehicle Enhanced Network
- Arterials
- Freeways
- City of Los Angeles Boundary





DOWNTOWN LOS ANGELES

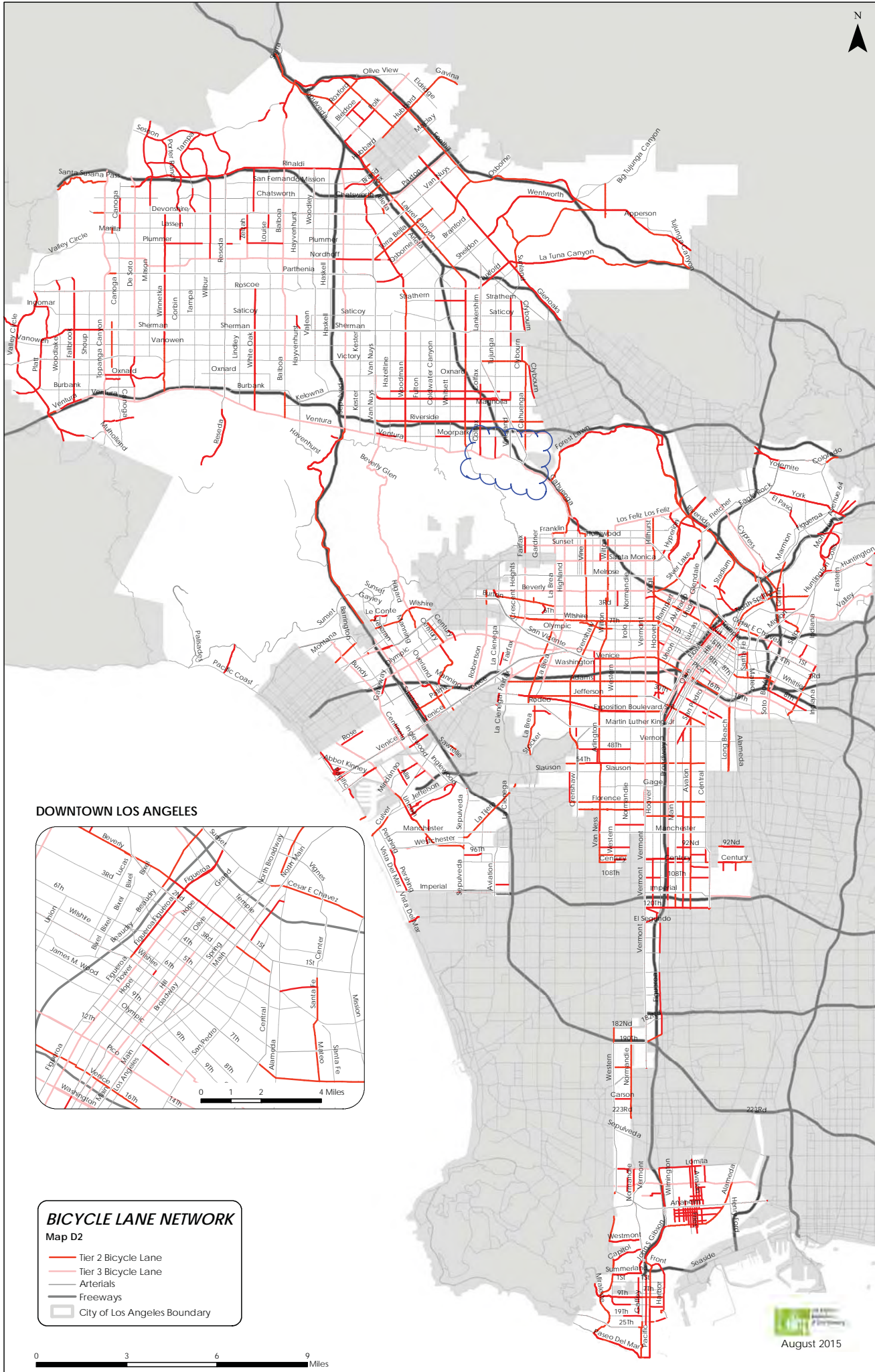


**BICYCLE ENHANCED NETWORK
(LOW STRESS NETWORK)**

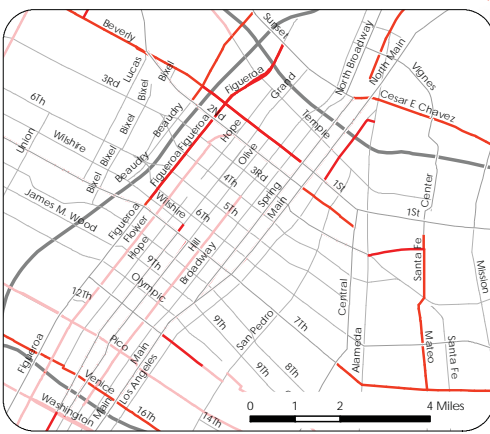
Map D1

- Bicycle Paths
- Tier 1 Protected Bicycle Lanes
- Gap closure segments from the Neighborhood Enhanced Network
- Arterials
- Freeways
- City of Los Angeles Boundary

0 3 6 9 Miles

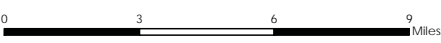


DOWNTOWN LOS ANGELES



BICYCLE LANE NETWORK
Map D2

- Tier 2 Bicycle Lane
- Tier 3 Bicycle Lane
- Arterials
- Freeways
- City of Los Angeles Boundary

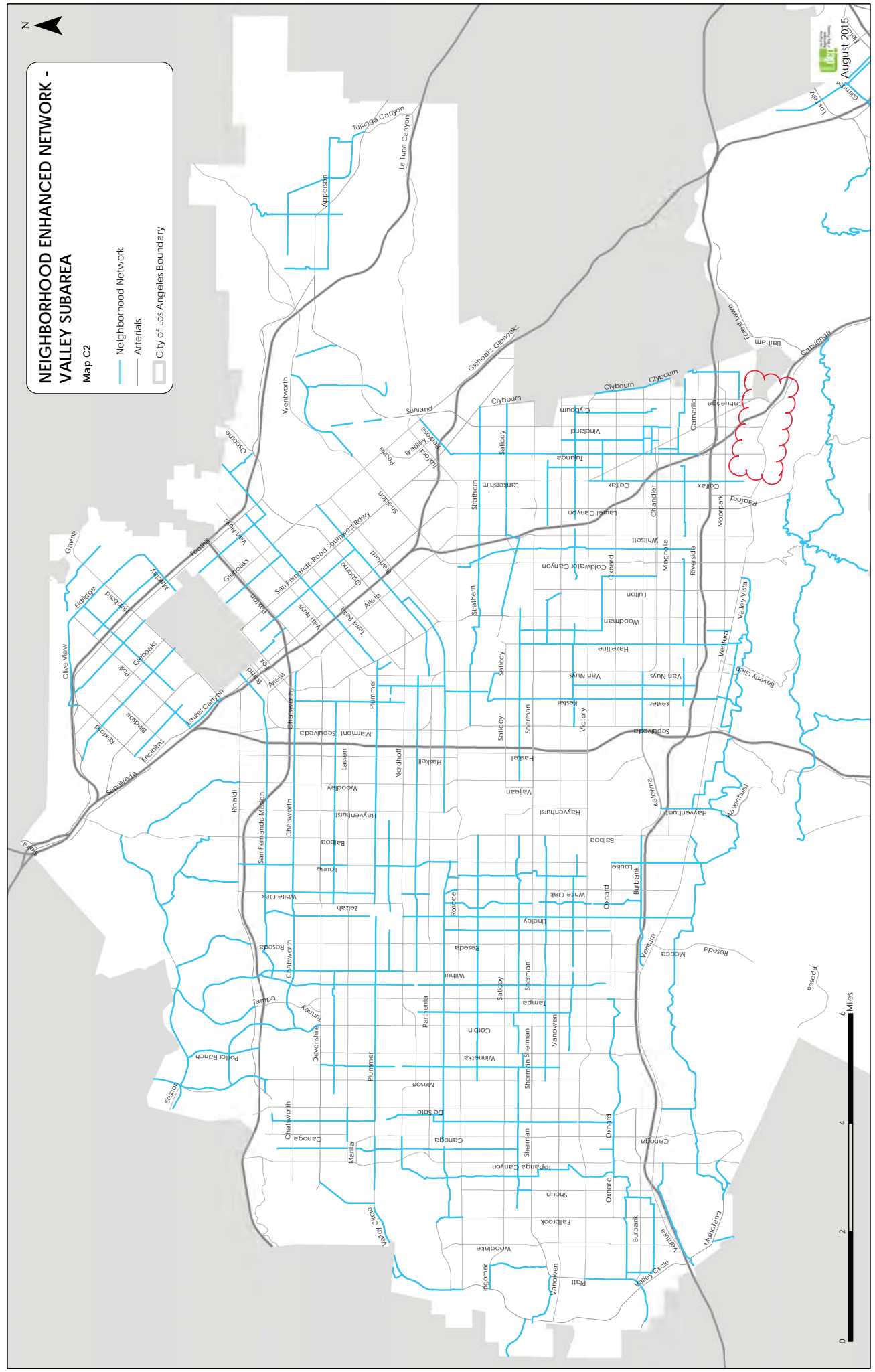




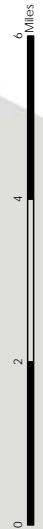
NEIGHBORHOOD ENHANCED NETWORK - VALLEY SUBAREA

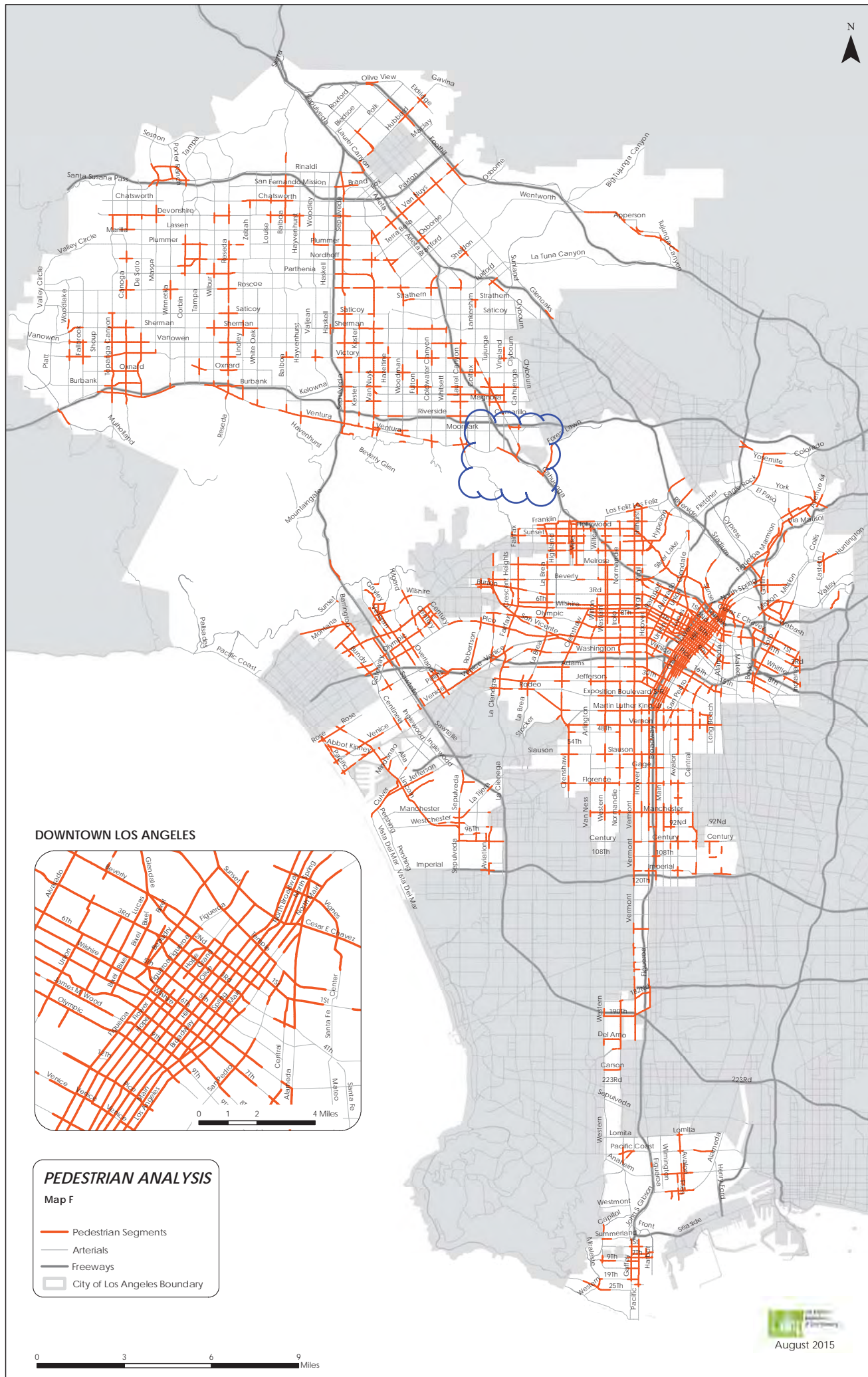
Map C2

- Neighborhood Network
- Arterials
- City of Los Angeles Boundary



August 2015





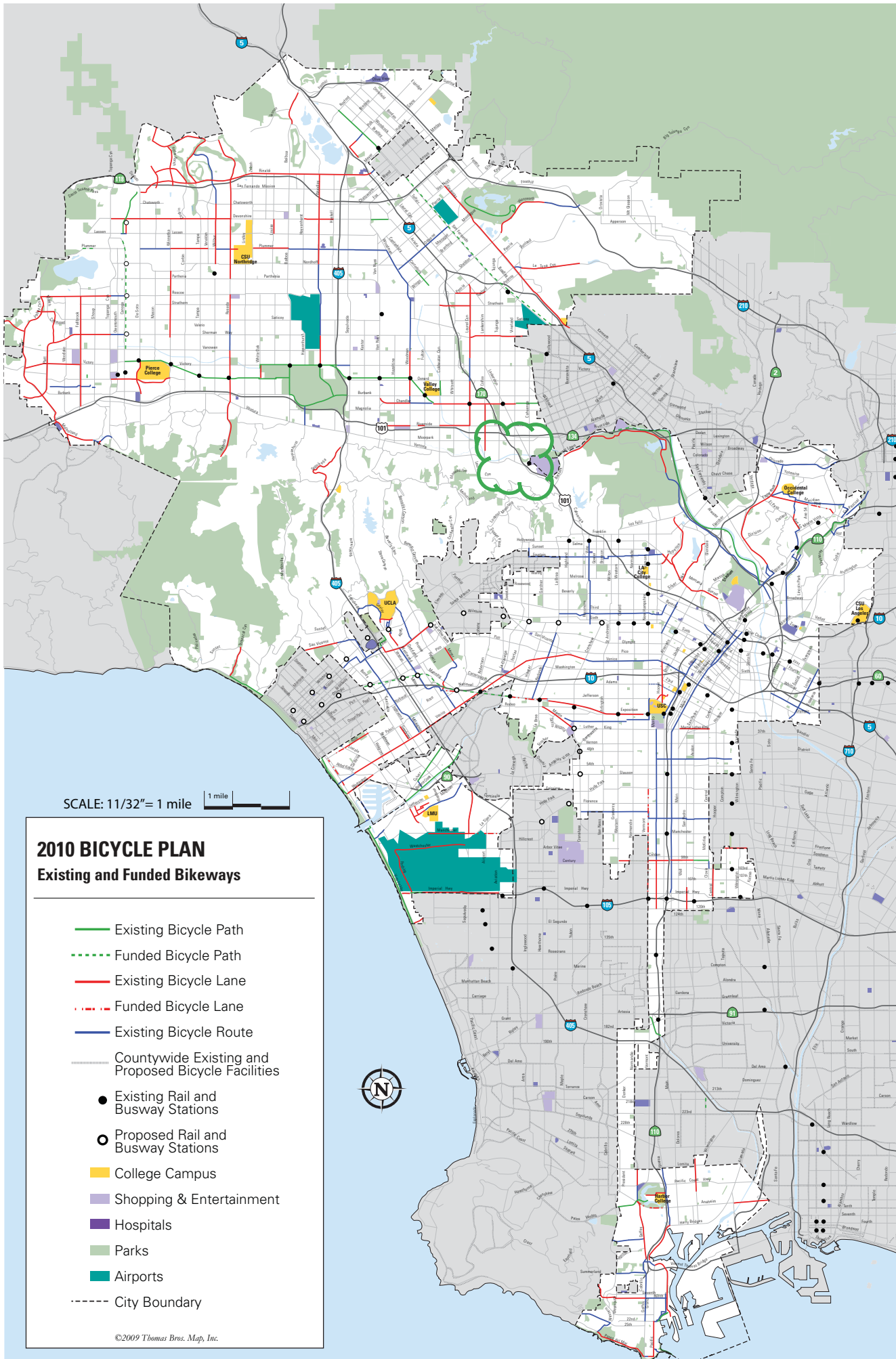
DOWNTOWN LOS ANGELES



PEDESTRIAN ANALYSIS

Map F

- Pedestrian Segments
- Arterials
- Freeways
- City of Los Angeles Boundary



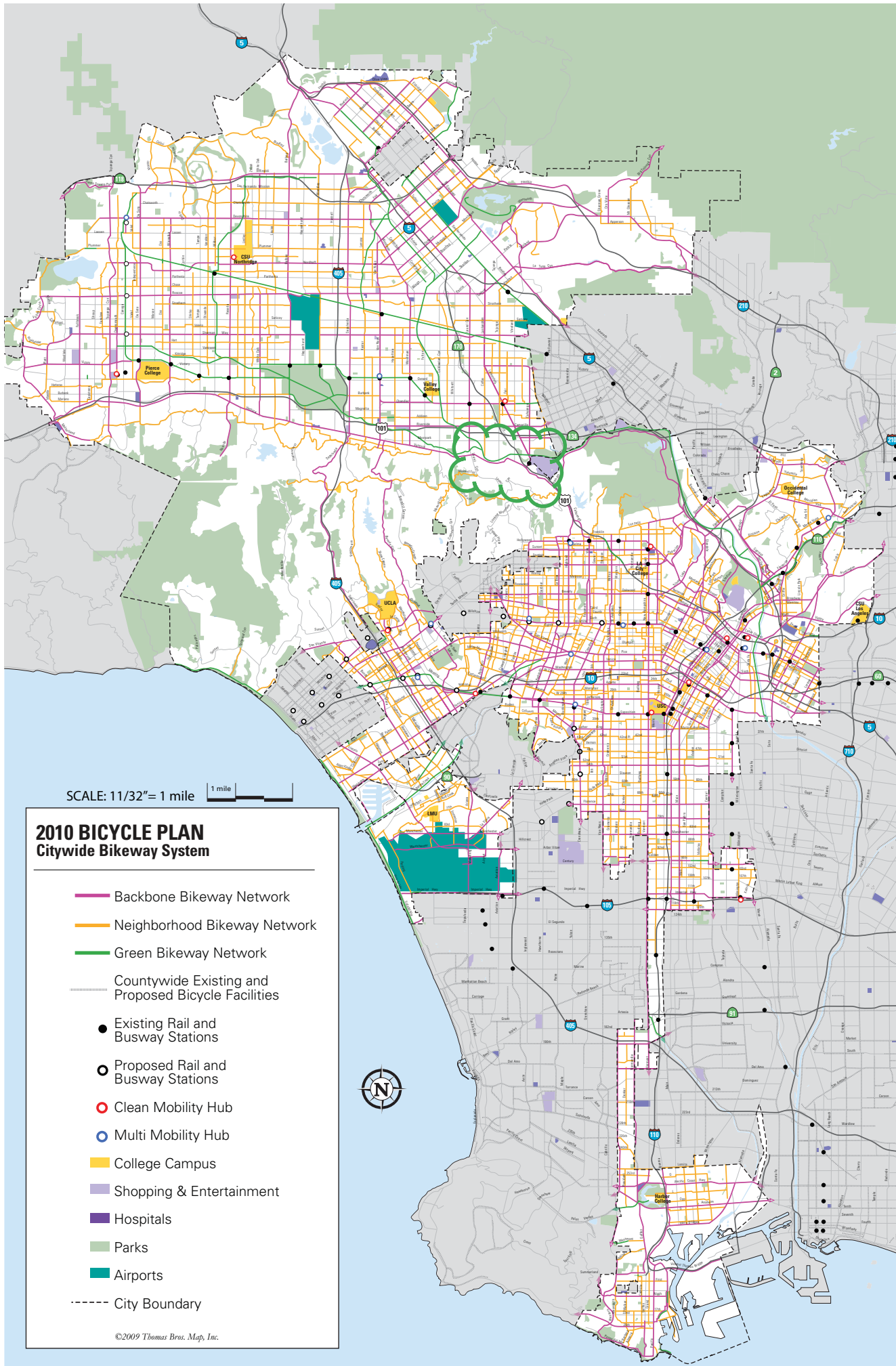
SCALE: 11/32" = 1 mile

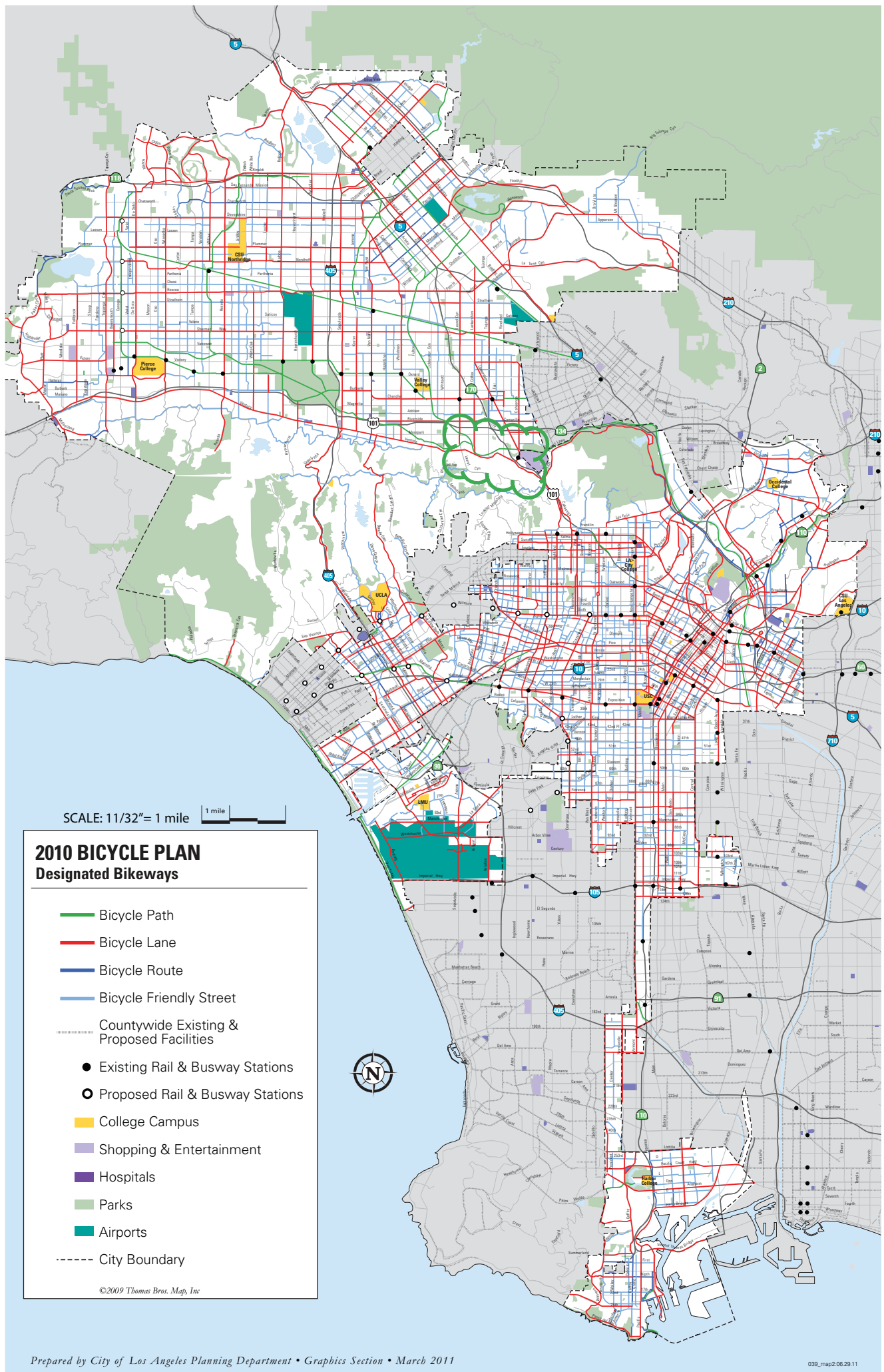
2010 BICYCLE PLAN

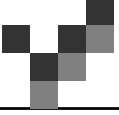
Existing and Funded Bikeways

- Existing Bicycle Path
- - - Funded Bicycle Path
- Existing Bicycle Lane
- - - Funded Bicycle Lane
- Existing Bicycle Route
- Countywide Existing and Proposed Bicycle Facilities
- Existing Rail and Busway Stations
- Proposed Rail and Busway Stations
- College Campus
- Shopping & Entertainment
- Hospitals
- Parks
- Airports
- - - City Boundary

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APPENDIX F

VMT Report

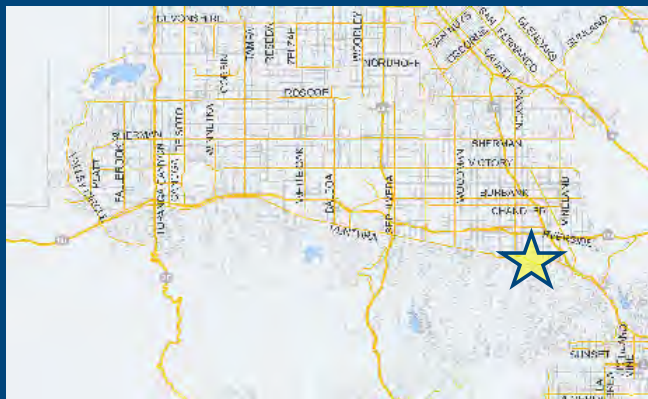
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3



Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project:
 Scenario:
 Address:



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit station?

☒ Yes ☐ No

Existing Land Use

Land Use Type: Value: Unit: +

☐ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type: Value: Unit: +
 Housing | Affordable Housing - Family: DU
 Housing | Multi-Family: DU

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed Project
0 Daily Vehicle Trips	627 Daily Vehicle Trips
0 Daily VMT	4,921 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips ☐ 627
Net Daily Trips

The net increase in daily VMT ≤ 0 ☐ 4,921
Net Daily VMT

The proposed project consists of only retail land uses ≤ 50,000 square feet total. ☐ 0.000
ksf

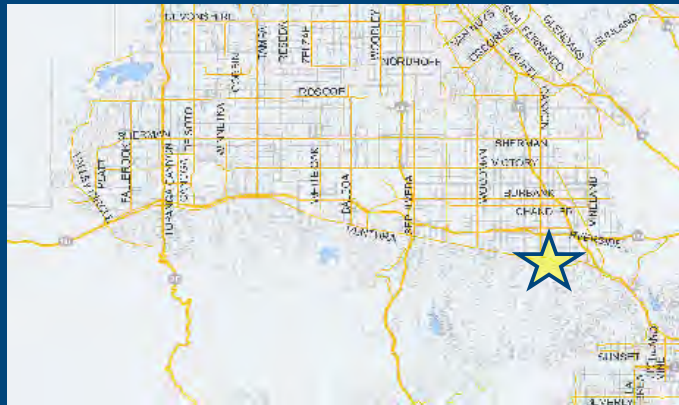
The proposed project is required to perform VMT analysis.

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Project Information

Project: Crescent Apartments
 Scenario:
 Address: 11201 W VENTURA BLVD, 91604



Proposed Project Land Use Type	Value	Unit
Housing Affordable Housing - Family	17	DU
Housing Multi-Family	112	DU

TDM Strategies

Select each section to show individual strategies
 Use ☒ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

Max Home Based TDM Achieved?
 Max Work Based TDM Achieved?

Proposed Project No
 With Mitigation No

A **Parking**

Reduce Parking Supply city code parking provision for the project site
☒ Proposed Prj ☐ Mitigation actual parking provision for the project site

Unbundle Parking monthly parking cost (dollar) for the project site
☐ Proposed Prj ☐ Mitigation

Parking Cash-Out percent of employees eligible
☐ Proposed Prj ☐ Mitigation

Price Workplace Parking daily parking charge (dollar)
 percent of employees subject to priced parking
☐ Proposed Prj ☐ Mitigation

Residential Area Parking Permits cost (dollar) of annual permit
☐ Proposed Prj ☐ Mitigation

- B** Transit
- C** Education & Encouragement
- D** Commute Trip Reductions
- E** Shared Mobility
- F** Bicycle Infrastructure
- G** Neighborhood Enhancement

Analysis Results

Proposed Project	With Mitigation
593 Daily Vehicle Trips	593 Daily Vehicle Trips
4,649 Daily VMT	4,649 Daily VMT
8.2 Household VMT per Capita	8.2 Household VMT per Capita
N/A Work VMT per Employee	N/A Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 9.4 15% Below APC	Household: No Threshold = 9.4 15% Below APC
Work: N/A Threshold = 11.6 15% Below APC	Work: N/A Threshold = 11.6 15% Below APC

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: April 21, 2022

Project Name: Crescent Apartments

Project Scenario:

Project Address: 11201 W VENTURA BLVD, 91604



Version 1.3

Project Information			
Land Use Type		Value	Units
Housing	Single Family	0	DU
	Multi Family	112	DU
	Townhouse	0	DU
	Hotel	0	Rooms
	Motel	0	Rooms
Affordable Housing	Family	17	DU
	Senior	0	DU
	Special Needs	0	DU
	Permanent Supportive	0	DU
Retail	General Retail	0.000	ksf
	Furniture Store	0.000	ksf
	Pharmacy/Drugstore	0.000	ksf
	Supermarket	0.000	ksf
	Bank	0.000	ksf
	Health Club	0.000	ksf
	High-Turnover Sit-Down Restaurant	0.000	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	0.000	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
Office	General Office	0.000	ksf
	Medical Office	0.000	ksf
Industrial	Light Industrial	0.000	ksf
	Manufacturing	0.000	ksf
	Warehousing/Self-Storage	0.000	ksf
School	University	0	Students
	High School	0	Students
	Middle School	0	Students
	Elementary	0	Students
	Private School (K-12)	0	Students

Project and Analysis Overview

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: April 21, 2022

Project Name: Crescent Apartments

Project Scenario:

Project Address: 11201 W VENTURA BLVD, 91604



Version 1.3

Other	0	Trips
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CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: April 21, 2022

Project Name: Crescent Apartments

Project Scenario:

Project Address: 11201 W VENTURA BLVD, 91604



Version 1.3

Analysis Results			
Total Employees: 0			
Total Population: 306			
Proposed Project		With Mitigation	
593	Daily Vehicle Trips	593	Daily Vehicle Trips
4,649	Daily VMT	4,649	Daily VMT
8.2	Household VMT per Capita	8.2	Household VMT per Capita
N/A	Work VMT per Employee	N/A	Work VMT per Employee
Significant VMT Impact?			
APC: South Valley			
Impact Threshold: 15% Below APC Average			
Household = 9.4			
Work = 11.6			
Proposed Project		With Mitigation	
VMT Threshold	Impact	VMT Threshold	Impact
Household > 9.4	No	Household > 9.4	No
Work > 11.6	N/A	Work > 11.6	N/A

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: April 21, 2022

Project Name: Crescent Apartments

Project Scenario:

Project Address: 11201 W VENTURA BLVD, 91604



Version 1.3

TDM Strategy Inputs				
Strategy Type		Description	Proposed Project	Mitigations
Parking	Reduce parking supply	City code parking provision (spaces)	162	162
		Actual parking provision (spaces)	146	146
	Unbundle parking	Monthly cost for parking (\$)	\$0	\$0
	Parking cash-out	Employees eligible (%)	0%	0%
	Price workplace parking	Daily parking charge (\$)	\$0.00	\$0.00
		Employees subject to priced parking (%)	0%	0%
	Residential area parking permits	Cost of annual permit (\$)	\$0	\$0
(cont. on following page)				

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: April 21, 2022

Project Name: Crescent Apartments

Project Scenario:

Project Address: 11201 W VENTURA BLVD, 91604



Version 1.3

TDM Strategy Inputs, Cont.				
Strategy Type		Description	Proposed Project	Mitigations
Transit	Reduce transit headways	Reduction in headways (increase in frequency) (%)	0%	0%
		Existing transit mode share (as a percent of total daily trips) (%)	0%	0%
		Lines within project site improved (<50%, >=50%)	0	0
	Implement neighborhood shuttle	Degree of implementation (low, medium, high)	0	0
		Employees and residents eligible (%)	0%	0%
	Transit subsidies	Employees and residents eligible (%)	0%	0%
		Amount of transit subsidy per passenger (daily equivalent) (\$)	\$0.00	\$0.00
Education & Encouragement	Voluntary travel behavior change program	Employees and residents participating (%)	0%	0%
	Promotions and marketing	Employees and residents participating (%)	0%	0%
(cont. on following page)				

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: April 21, 2022

Project Name: Crescent Apartments

Project Scenario:

Project Address: 11201 W VENTURA BLVD, 91604



Version 1.3

TDM Strategy Inputs, Cont.				
Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	Required commute trip reduction program	Employees participating (%)	0%	0%
	Alternative Work Schedules and Telecommute	Employees participating (%)	0%	0%
		Type of program	0	0
		Degree of implementation (low, medium, high)	0	0
	Employer sponsored vanpool or shuttle	Employees eligible (%)	0%	0%
		Employer size (small, medium, large)	0	0
	Ride-share program	Employees eligible (%)	0%	0%
Shared Mobility	Car share	Car share project setting (Urban, Suburban, All Other)	0	0
	Bike share	Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)	0	0
	School carpool program	Level of implementation (Low, Medium, High)	0	0
(cont. on following page)				

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: April 21, 2022

Project Name: Crescent Apartments

Project Scenario:

Project Address: 11201 W VENTURA BLVD, 91604



Version 1.3

TDM Strategy Inputs, Cont.				
Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	<i>Implement/Improve on-street bicycle facility</i>	<i>Provide bicycle facility along site (Yes/No)</i>	0	0
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	<i>Include secure bike parking and showers</i>	<i>Includes indoor bike parking/lockers, showers, & repair station (Yes/No)</i>	0	0
Neighborhood Enhancement	<i>Traffic calming improvements</i>	<i>Streets with traffic calming improvements (%)</i>	0%	0%
		<i>Intersections with traffic calming improvements (%)</i>	0%	0%
	<i>Pedestrian network improvements</i>	<i>Included (within project and connecting off-site/within project only)</i>	0	0

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: April 21, 2022
 Project Name: Crescent Apartments
 Project Scenario:
 Project Address: 11201 W VENTURA BLVD, 91604



TDM Adjustments by Trip Purpose & Strategy														
Place type: Compact Infill														
		Home Based Work Production		Home Based Work Attraction		Home Based Other Production		Home Based Other Attraction		Non-Home Based Other Production		Non-Home Based Other Attraction		Source
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Commute Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: April 21, 2022
 Project Name: Crescent Apartments
 Project Scenario:
 Project Address: 11201 W VENTURA BLVD, 91604



TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Compact Infill

		<i>Home Based Work Production</i>		<i>Home Based Work Attraction</i>		<i>Home Based Other Production</i>		<i>Home Based Other Attraction</i>		<i>Non-Home Based Other Production</i>		<i>Non-Home Based Other Attraction</i>		Source
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Neighborhood Enhancement	Traffic calming improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Final Combined & Maximum TDM Effect

		<i>Home Based Work Production</i>		<i>Home Based Work Attraction</i>		<i>Home Based Other Production</i>		<i>Home Based Other Attraction</i>		<i>Non-Home Based Other Production</i>		<i>Non-Home Based Other Attraction</i>	
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL		6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
MAX. TDM EFFECT		6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%

$$= \text{Minimum } (X\%, 1 - [(1-A) * (1-B) \dots])$$

where X%=

PLACE	urban	75%
TYPE	compact infill	40%
MAX:	suburban center	20%
	suburban	15%

Note: $(1 - [(1-A) * (1-B) \dots])$ reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,...). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G*) for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: April 21, 2022

Project Name: Crescent Apartments

Project Scenario:

Project Address: 11201 W VENTURA BLVD, 91604



Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	115	-14.8%	98	10.0	1,150	980
Home Based Other Production	318	-26.4%	234	7.1	2,258	1,661
Non-Home Based Other Production	148	-1.4%	146	8.8	1,302	1,285
Home-Based Work Attraction	0	0.0%	0	8.3	0	0
Home-Based Other Attraction	151	-24.5%	114	6.7	1,012	764
Non-Home Based Other Attraction	36	-2.8%	35	6.6	238	231

MXD Methodology with TDM Measures

	<i>Proposed Project</i>			<i>Project with Mitigation Measures</i>		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-5.5%	93	926	-5.5%	93	926
Home Based Other Production	-5.5%	221	1,569	-5.5%	221	1,569
Non-Home Based Other Production	-5.5%	138	1,214	-5.5%	138	1,214
Home-Based Work Attraction	-5.5%	0	0	-5.5%	0	0
Home-Based Other Attraction	-5.5%	108	722	-5.5%	108	722
Non-Home Based Other Attraction	-5.5%	33	218	-5.5%	33	218

MXD VMT Methodology Per Capita & Per Employee

Total Population: 306

Total Employees: 0

APC: South Valley

	<i>Proposed Project</i>	<i>Project with Mitigation Measures</i>
<i>Total Home Based Production VMT</i>	2,495	2,495
<i>Total Home Based Work Attraction VMT</i>	0	0
<i>Total Home Based VMT Per Capita</i>	8.2	8.2
<i>Total Work Based VMT Per Employee</i>	N/A	N/A

VMT Calculator User Agreement

The Los Angeles Department of Transportation (LADOT), in partnership with the Department of City Planning and Fehr & Peers, has developed the City of Los Angeles Vehicle Miles Traveled (VMT) Calculator to estimate project-specific daily household VMT per capita and daily work VMT per employee for land use development projects. This application, the VMT Calculator, has been provided to You, the User, to assess vehicle miles traveled (VMT) outcomes of land use projects within the City of Los Angeles. The term “City” as used below shall refer to the City of Los Angeles. The terms “City” and “Fehr & Peers” as used below shall include their respective affiliates, subconsultants, employees, and representatives.

The City is pleased to be able to provide this information to the public. The City believes that the public is most effectively served when they are provided access to the technical tools that inform the public review process of private and public land use investments. However, in using the VMT Calculator, You agree to be bound by this VMT Calculator User Agreement (this Agreement).

VMT Calculator Application for the City of Los Angeles. The City’s consultant calibrated the VMT Calculator’s parameters in 2018 to estimate travel patterns of locations in the City, and validated those outcomes against empirical data. However, this calibration process is limited to locations within the City, and practitioners applying the VMT Calculator outside of the City boundaries should not apply these estimates without further calibration and validation of travel patterns to verify the VMT Calculator’s accuracy in estimating VMT in such other locations.

Limited License to Use. This Agreement gives You a limited, non-transferrable, non-assignable, and non-exclusive license to use and execute a copy of the VMT Calculator on a computer system owned, leased or otherwise controlled by You in Your own facilities, as set out below, provided You do not use the VMT Calculator in an unauthorized manner, and that You do not republish, copy, distribute, reverse-engineer, modify, decompile, disassemble, transfer, or sell any part of the VMT Calculator, and provided that You know and follow the terms of this Agreement. Your failure to follow the terms of this Agreement shall automatically terminate this license and Your right to use the VMT Calculator.

Ownership. You understand and acknowledge that the City owns the VMT Calculator, and shall continue to own it through Your use of it, and that no transfer of ownership of any kind is intended in allowing You to use the VMT Calculator.

Warranty Disclaimer. In spite of the efforts of the City and Fehr & Peers, some information on the VMT Calculator may not be accurate. The VMT Calculator, OUTPUTS AND ASSOCIATED DATA ARE PROVIDED “as is” WITHOUT WARRANTY OF ANY KIND, whether expressed, implied, statutory, or otherwise including but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Limitation of Liability. It is understood that the VMT Calculator is provided without charge. Neither the City nor Fehr & Peers can be responsible or liable for any information derived from its use, or for any delays, inaccuracies, incompleteness, errors or omissions arising out of your use of the VMT Calculator or with respect to the material contained in the VMT Calculator. You understand and agree that Your sole remedy against the City or Fehr & Peers for loss or damage caused by any defect or failure of the

VMT Calculator, regardless of the form of action, whether in contract, tort, including negligence, strict liability or otherwise, shall be the repair or replacement of the VMT Calculator to the extent feasible as determined solely by the City. In no event shall the City or Fehr & Peers be responsible to You or anyone else for, or have liability for any special, indirect, incidental or consequential damages (including, without limitation, damages for loss of business profits or changes to businesses costs) or lost data or downtime, however caused, and on any theory of liability from the use of, or the inability to use, the VMT Calculator, whether the data, and/or formulas contained in the VMT Calculator are provided by the City or Fehr & Peers, or another third party, even if the City or Fehr & Peers have been advised of the possibility of such damages.

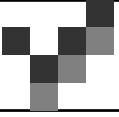
This Agreement and License shall be governed by the laws of the State of California without regard to their conflicts of law provisions, and shall be effective as of the date set forth below and, unless terminated in accordance with the above or extended by written amendment to this Agreement, shall terminate on the earlier of the date that You are not making use of the VMT Calculator or one year after the beginning of Your use of the VMT Calculator.

By using the VMT Calculator, You hereby waive and release all claims, responsibilities, liabilities, actions, damages, costs, and losses, known and unknown, against the City and Fehr & Peers for Your use of the VMT Calculator.

Before making decisions using the information provided in this application, contact City LADOT staff to confirm the validity of the data provided.

Print and sign below, and submit to LADOT along with the transportation assessment Memorandum of Understanding (MOU).

You, the User	
By:	<u><i>Jerry Overland</i></u>
Print Name:	<u>Jerry Overland</u>
Title:	<u>Traffic Engineer</u>
Company:	<u>Overland Traffic Consultants, Inc.</u>
Address:	<u>24325 Main Street #202 Santa Clarita CA 91321</u>
Phone:	<u>(661) 799 - 8423</u>
Email Address:	<u>otc@overlandtraffic.com</u>
Date:	<u>4-25-2022</u>



Overland Traffic Consultants, Inc.

APPENDIX G

Related Project Information

RELATED PROJECT LIST

<u>No.</u>	<u>Project</u>	<u>Size</u>	<u>Location</u>	<u>Daily Traffic</u>	<u>AM Peak Hour</u>			<u>PM Peak Hours</u>		
					<u>In</u>	<u>Out</u>	<u>Total</u>	<u>In</u>	<u>Out</u>	<u>Total</u>
1	Apartments	179 units	10850 Riverside Drive	1,122	23	56	79	61	46	107
	Retail	5,684 sf								
2	Apartments	29 units	11443 Riverside Drive	132	2	9	11	7	4	11
3	Convenience Store	1,602 units	4377 Vineland Avenue	591	27	27	54	21	21	42
4	Apartments	60 units	11311 Camarillo Street	435	9	20	29	24	19	43
	Retail	3,000 sf								
5	Condominiums	85 units	4215 Vineland Avenue	386	7	24	31	20	13	33
6	Apartments	96 units	11036 Moorpark Street	436	8	28	36	22	15	37
7	Apartments	45 units	3077 Cahuenga Boulevard	204	4	13	17	11	7	18
8	Hotel	551 rooms	333 Universal Hollywood Drive	4,402	141	112	253	166	159	325
9	Hotel	365 rooms	555 Universal Hollywood Drive	2,916	94	74	168	109	106	215
10	NBC Evolution Plan		Universal City							
	Phases 1 and 2 (40% of Alternative 10 approval)			7,656	508	196	704	123	556	679
11	Market	37,079 sf	11263 Ventura Boulevard	2,044	25	19	44	79	79	158
	Retail	1,581 sf								
	less commercial	27,964 sf								
12	Condominiums	85 units	11003 Morpark Street	386	7	24	31	20	13	33
13	Elder Care	129 units	11611 Ventura Boulevard	319	12	7	19	10	15	25
14	Apartments	28 units	3649-3657 Regal Place	127	2	8	10	7	15	25



APPENDIX H

Traffic Volume Data and Level of Service Worksheets



Traffic Volume Data

APPENDIX F

TRAFFIC VOLUME DATA

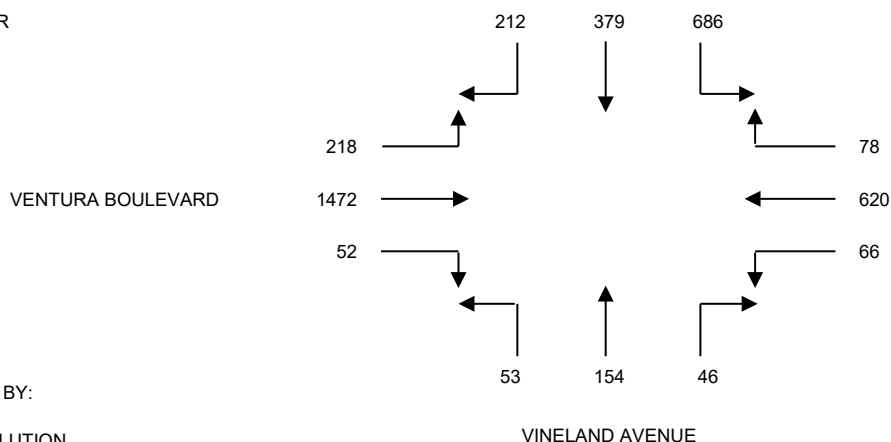
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 07:00 AM TO 10:00 AM
 INTERSECTION: N/S VINELAND AVENUE
 E/W VENTURA BOULEVARD
 FILE NUMBER: 1-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	48	76	86	17	109	5	9	10	5	14	200	20
0715-0730	57	81	101	22	120	12	8	12	6	13	264	29
0730-0745	43	86	108	15	130	13	11	18	10	17	345	36
0745-0800	55	88	117	17	150	10	15	23	10	12	375	51
0800-0815	39	98	130	18	174	12	10	33	9	17	396	47
0815-0830	53	103	129	15	135	9	10	30	13	10	433	54
0830-0845	53	88	158	19	143	11	14	39	16	13	424	66
0845-0900	55	90	166	21	163	15	11	39	10	8	389	41
0900-0915	42	101	192	22	162	19	10	40	13	13	322	47
0915-0930	62	100	170	16	152	21	11	36	14	18	337	64
0930-0945	51	87	169	18	147	16	7	37	17	19	283	48
0945-1000	71	79	159	19	140	8	9	22	7	20	327	56

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
0700-0800	203	331	412	71	509	40	43	63	31	56	1184	136	3079
0715-0815	194	353	456	72	574	47	44	86	35	59	1380	163	3463
0730-0830	190	375	484	65	589	44	46	104	42	56	1549	188	3732
0745-0845	200	377	534	69	602	42	49	125	48	52	1628	218	3944
0800-0900	200	379	583	73	615	47	45	141	48	48	1642	208	4029
0815-0915	203	382	645	77	603	54	45	148	52	44	1568	208	4029
0830-0930	212	379	686	78	620	66	46	154	53	52	1472	218	4036
0845-0945	210	378	697	77	624	71	39	152	54	58	1331	200	3891
0900-1000	226	367	690	75	601	64	37	135	51	70	1269	215	3800

A.M. PEAK HOUR
0830-0930



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91005
 PH: 626-446-7978
 FAX: 626-446-2877

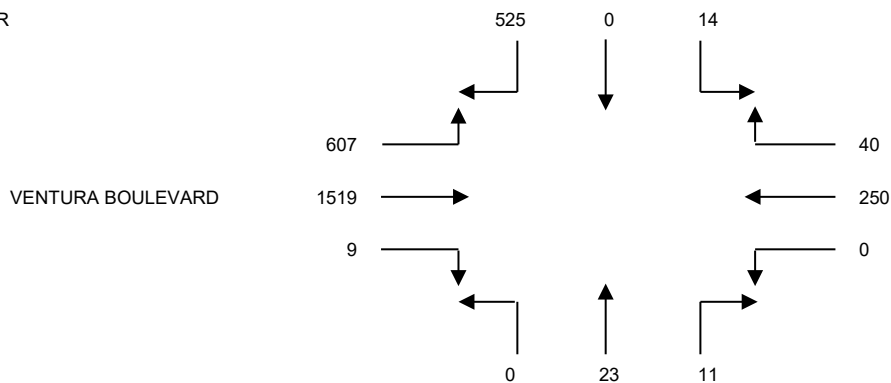
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 07:00 AM TO 10:00 AM
 INTERSECTION: N/S CAMPO DE CAHUENGA / RIVERTON AVENUE
 E/W VENTURA BOULEVARD
 FILE NUMBER: 2-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	75	2	1	11	45	0	3	3	0	0	245	59
0715-0730	100	0	3	9	47	0	1	3	1	1	271	73
0730-0745	125	1	1	8	50	0	1	5	2	1	335	92
0745-0800	133	1	1	7	60	0	2	6	1	0	387	126
0800-0815	137	0	3	7	62	0	1	3	0	2	422	130
0815-0830	132	0	2	8	52	0	1	2	0	3	371	135
0830-0845	130	0	3	10	61	0	2	5	0	2	393	142
0845-0900	132	0	5	7	64	0	5	8	0	2	369	153
0900-0915	129	0	4	8	60	0	2	5	0	3	385	162
0915-0930	134	0	2	15	65	0	2	5	0	2	372	150
0930-0945	148	1	1	15	54	0	5	3	0	4	365	138
0945-1000	121	0	1	16	53	0	5	3	0	4	344	122

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	433	4	6	35	202	0	7	17	4	2	1238	350	2298
0715-0815	495	2	8	31	219	0	5	17	4	4	1415	421	2621
0730-0830	527	2	7	30	224	0	5	16	3	6	1515	483	2818
0745-0845	532	1	9	32	235	0	6	16	1	7	1573	533	2945
0800-0900	531	0	13	32	239	0	9	18	0	9	1555	560	2966
0815-0915	523	0	14	33	237	0	10	20	0	10	1518	592	2957
0830-0930	525	0	14	40	250	0	11	23	0	9	1519	607	2998
0845-0945	543	1	12	45	243	0	14	21	0	11	1491	603	2984
0900-1000	532	1	8	54	232	0	14	16	0	13	1466	572	2908

A.M. PEAK HOUR
 0830-0930



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91005
 PH: 626-446-7978
 FAX: 626-446-2877

CAMPO DE CAHUENGA / RIVERTON AVENUE

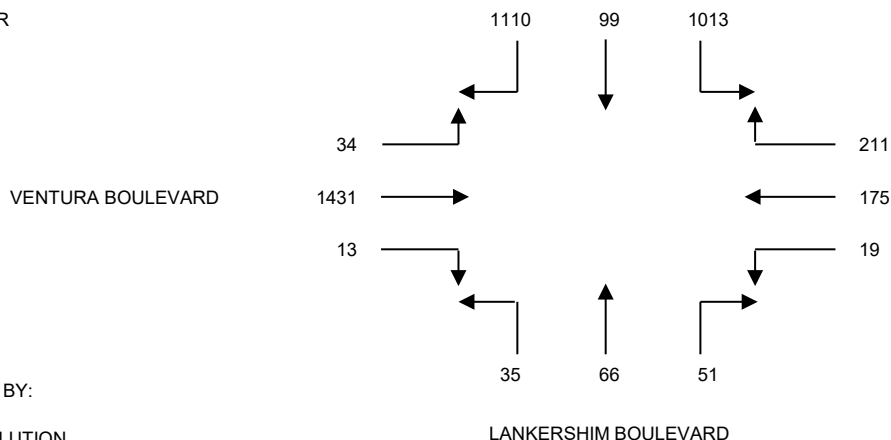
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 07:00 AM TO 10:00 AM
 INTERSECTION: N/S LANKERSHIM BOULEVARD
 E/W VENTURA BOULEVARD
 FILE NUMBER: 3-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	207	31	152	38	29	3	12	5	6	2	220	7
0715-0730	290	23	195	53	40	1	11	11	5	5	257	12
0730-0745	311	24	217	47	30	2	17	12	5	4	333	9
0745-0800	267	25	291	61	35	3	12	16	7	4	351	8
0800-0815	242	24	236	44	51	7	12	21	11	2	381	8
0815-0830	290	26	269	59	59	7	10	17	12	3	366	9
0830-0845	243	20	209	59	48	6	13	18	9	3	357	14
0845-0900	233	19	221	75	44	3	18	20	11	5	358	14
0900-0915	207	24	181	78	68	4	24	28	14	3	360	10
0915-0930	220	24	195	66	54	2	34	33	11	4	366	16
0930-0945	200	25	166	75	65	7	21	32	10	3	354	21
0945-1000	210	19	181	72	51	6	16	35	12	4	348	15

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
0700-0800	1075	103	855	199	134	9	52	44	23	15	1161	36	3706
0715-0815	1110	96	939	205	156	13	52	60	28	15	1322	37	4033
0730-0830	1110	99	1013	211	175	19	51	66	35	13	1431	34	4257
0745-0845	1042	95	1005	223	193	23	47	72	39	12	1455	39	4245
0800-0900	1008	89	935	237	202	23	53	76	43	13	1462	45	4186
0815-0915	973	89	880	271	219	20	65	83	46	14	1441	47	4148
0830-0930	903	87	806	278	214	15	89	99	45	15	1441	54	4046
0845-0945	860	92	763	294	231	16	97	113	46	15	1438	61	4026
0900-1000	837	92	723	291	238	19	95	128	47	14	1428	62	3974

A.M. PEAK HOUR
0730-0830



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91005
 PH: 626-446-7978
 FAX: 626-446-2877

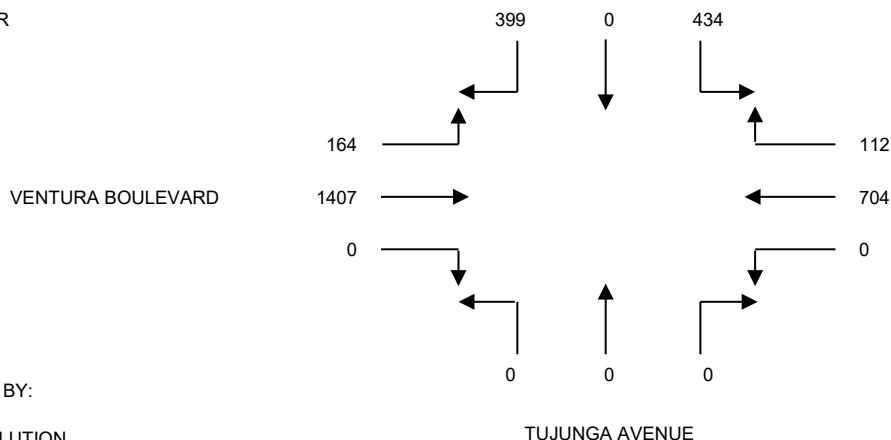
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 07:00 AM TO 10:00 AM
 INTERSECTION: N/S TUJUNGA AVENUE
 E/W VENTURA BOULEVARD
 FILE NUMBER: 4-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	67	0	101	14	133	0	0	0	0	0	150	21
0715-0730	76	0	109	26	161	0	0	0	0	0	191	25
0730-0745	77	0	112	25	154	0	0	0	0	0	233	30
0745-0800	87	0	105	28	170	0	0	0	0	0	309	41
0800-0815	90	0	110	27	179	0	0	0	0	0	367	51
0815-0830	98	0	108	30	170	0	0	0	0	0	398	48
0830-0845	103	0	106	27	180	0	0	0	0	0	340	38
0845-0900	108	0	110	28	175	0	0	0	0	0	302	27
0900-0915	95	0	103	27	187	0	0	0	0	0	303	30
0915-0930	87	0	98	26	191	0	0	0	0	0	329	32
0930-0945	82	0	88	20	176	0	0	0	0	0	306	30
0945-1000	76	0	87	17	188	0	0	0	0	0	302	27

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
0700-0800	307	0	427	93	618	0	0	0	0	0	883	117	2445
0715-0815	330	0	436	106	664	0	0	0	0	0	1100	147	2783
0730-0830	352	0	435	110	673	0	0	0	0	0	1307	170	3047
0745-0845	378	0	429	112	699	0	0	0	0	0	1414	178	3210
0800-0900	399	0	434	112	704	0	0	0	0	0	1407	164	3220
0815-0915	404	0	427	112	712	0	0	0	0	0	1343	143	3141
0830-0930	393	0	417	108	733	0	0	0	0	0	1274	127	3052
0845-0945	372	0	399	101	729	0	0	0	0	0	1240	119	2960
0900-1000	340	0	376	90	742	0	0	0	0	0	1240	119	2907

A.M. PEAK HOUR
0800-0900



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91005
 PH: 626-446-7978
 FAX: 626-446-2877

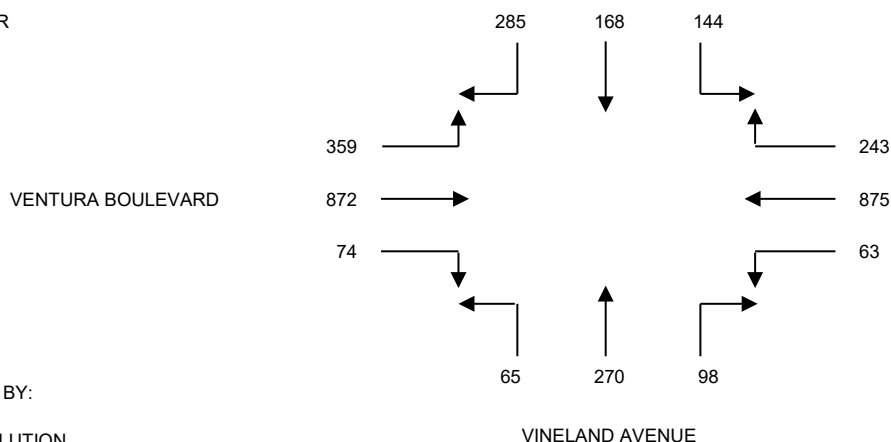
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 03:00 PM TO 06:00 PM
 INTERSECTION: N/S VINELAND AVENUE
 E/W VENTURA BOULEVARD
 FILE NUMBER: 1-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	91	31	37	40	198	10	27	43	16	15	220	90
0315-0330	79	30	33	51	221	15	21	56	10	19	208	87
0330-0345	80	44	42	51	193	18	22	64	17	19	183	98
0345-0400	73	46	33	39	181	12	27	57	10	14	209	90
0400-0415	97	37	39	30	185	8	20	49	14	17	188	95
0415-0430	80	32	30	51	196	111	18	73	13	22	204	97
0430-0445	75	32	38	54	205	19	20	64	18	18	208	90
0445-0500	79	52	54	58	207	18	26	67	19	15	218	97
0500-0515	56	35	30	55	204	13	25	69	19	21	227	83
0515-0530	77	43	27	56	208	15	28	58	12	18	221	98
0530-0545	73	38	33	74	256	17	19	76	15	20	206	81
0545-0600	80	52	45	55	206	11	13	83	16	22	222	94

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
0300-0400	323	151	145	181	793	55	97	220	53	67	820	365	3270
0315-0415	329	157	147	171	780	53	90	226	51	69	788	370	3231
0330-0430	330	159	144	171	755	149	87	243	54	72	784	380	3328
0345-0445	325	147	140	174	767	150	85	243	55	71	809	372	3338
0400-0500	331	153	161	193	793	156	84	253	64	72	818	379	3457
0415-0515	290	151	152	218	812	161	89	273	69	76	857	367	3515
0430-0530	287	162	149	223	824	65	99	258	68	72	874	368	3449
0445-0545	285	168	144	243	875	63	98	270	65	74	872	359	3516
0500-0600	286	168	135	240	874	56	85	286	62	81	876	356	3505

P.M. PEAK HOUR
 0445-0545



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91005
 PH: 626-446-7978
 FAX: 626-446-2877

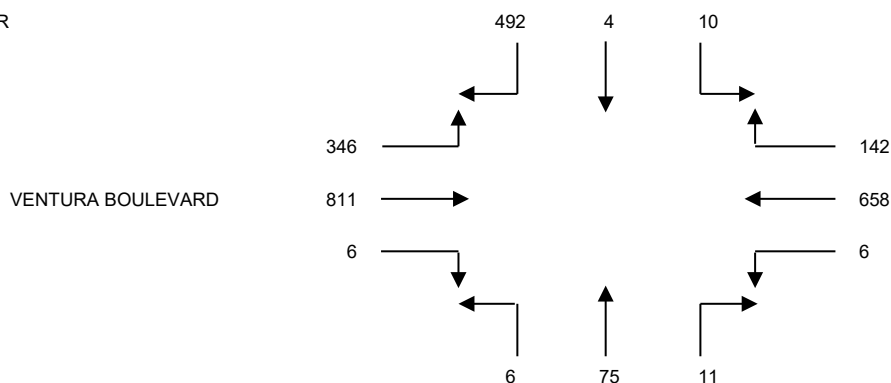
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 03:00 PM TO 06:00 PM
 INTERSECTION: N/S CAMPO DE CAHUENGA / RIVERTON AVENUE
 E/W VENTURA BOULEVARD
 FILE NUMBER: 2-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	108	0	4	17	120	1	5	7	1	3	155	77
0315-0330	117	1	4	17	135	1	3	9	1	1	178	80
0330-0345	120	0	2	20	142	1	2	8	1	1	186	79
0345-0400	133	1	2	26	127	2	1	10	2	3	181	72
0400-0415	128	1	2	28	136	2	1	16	5	3	150	68
0415-0430	145	1	1	30	150	2	2	15	2	3	171	71
0430-0445	142	1	1	35	153	2	3	17	2	1	193	79
0445-0500	124	1	1	32	168	1	4	19	1	1	197	90
0500-0515	116	1	3	39	170	2	3	19	2	1	200	95
0515-0530	110	1	5	36	167	1	1	20	1	3	221	82
0530-0545	115	1	3	38	171	1	1	17	1	2	216	61
0545-0600	96	1	2	37	181	1	1	15	1	2	198	55

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
0300-0400	478	2	12	80	524	5	11	34	5	8	700	308	2167
0315-0415	498	3	10	91	540	6	7	43	9	8	695	299	2209
0330-0430	526	3	7	104	555	7	6	49	10	10	688	290	2255
0345-0445	548	4	6	119	566	8	7	58	11	10	695	290	2322
0400-0500	539	4	5	125	607	7	10	67	10	8	711	308	2401
0415-0515	527	4	6	136	641	7	12	70	7	6	761	335	2512
0430-0530	492	4	10	142	658	6	11	75	6	6	811	346	2567
0445-0545	465	4	12	145	676	5	9	75	5	7	834	328	2565
0500-0600	437	4	13	150	689	5	6	71	5	8	835	293	2516

P.M. PEAK HOUR
 0430-0530



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91005
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CAMPO DE CAHUENGA / RIVERTON AVENUE

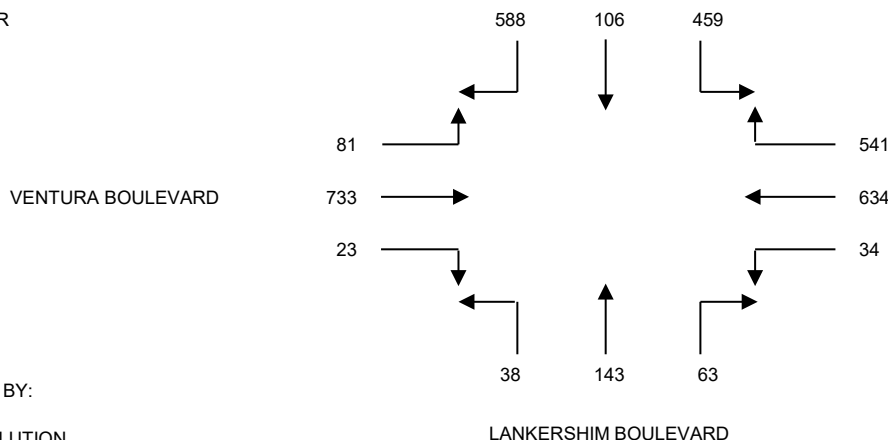
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 03:00 PM TO 06:00 PM
 INTERSECTION: N/S LANKERSHIM BOULEVARD
 E/W VENTURA BOULEVARD
 FILE NUMBER: 3-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	110	17	83	110	96	9	14	31	6	5	142	28
0315-0330	123	23	91	105	102	7	15	38	8	5	150	23
0330-0345	135	20	70	115	117	11	12	30	11	7	163	18
0345-0400	126	19	75	114	106	7	11	28	15	4	169	22
0400-0415	168	17	93	122	129	8	18	32	22	4	151	21
0415-0430	141	23	73	125	144	5	11	27	15	3	162	23
0430-0445	143	20	91	100	146	8	12	34	18	6	160	24
0445-0500	160	22	94	140	134	4	19	35	10	5	174	21
0500-0515	134	20	84	143	127	5	12	34	8	4	190	23
0515-0530	158	24	122	139	166	6	19	36	10	4	181	22
0530-0545	166	32	117	120	170	10	14	35	11	6	185	18
0545-0600	130	30	136	139	171	13	18	38	9	9	177	18

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
0300-0400	494	79	319	444	421	34	52	127	40	21	624	91	2746
0315-0415	552	79	329	456	454	33	56	128	56	20	633	84	2880
0330-0430	570	79	311	476	496	31	52	117	63	18	645	84	2942
0345-0445	578	79	332	461	525	28	52	121	70	17	642	90	2995
0400-0500	612	82	351	487	553	25	60	128	65	18	647	89	3117
0415-0515	578	85	342	508	551	22	54	130	51	18	686	91	3116
0430-0530	595	86	391	522	573	23	62	139	46	19	705	90	3251
0445-0545	618	98	417	542	597	25	64	140	39	19	730	84	3373
0500-0600	588	106	459	541	634	34	63	143	38	23	733	81	3443

P.M. PEAK HOUR
0500-0600



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91005
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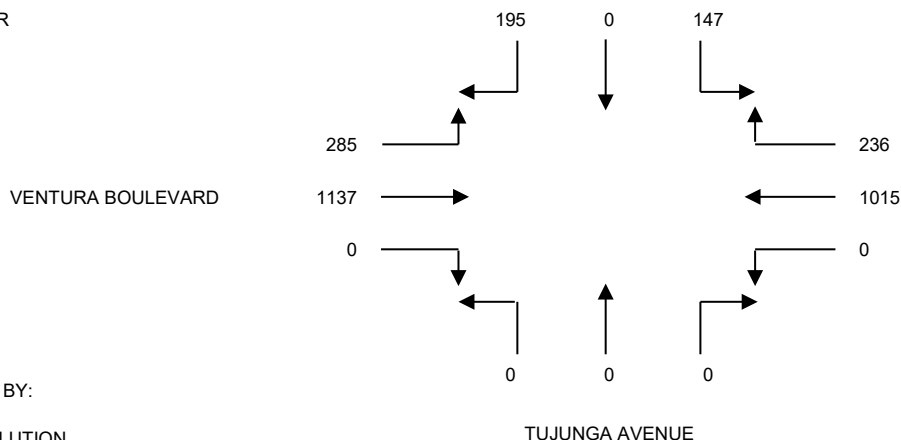
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 03:00 PM TO 06:00 PM
 INTERSECTION: N/S TUJUNGA AVENUE
 E/W VENTURA BOULEVARD
 FILE NUMBER: 4-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	63	0	33	50	242	0	0	0	0	0	280	82
0315-0330	57	0	32	49	264	0	0	0	0	0	263	68
0330-0345	35	0	30	55	240	0	0	0	0	0	255	75
0345-0400	50	0	42	57	242	0	0	0	0	0	273	82
0400-0415	45	0	50	61	232	0	0	0	0	0	251	84
0415-0430	51	0	43	63	231	0	0	0	0	0	256	79
0430-0445	54	0	48	64	250	0	0	0	0	0	253	75
0445-0500	59	0	43	55	263	0	0	0	0	0	271	70
0500-0515	50	0	39	61	229	0	0	0	0	0	294	72
0515-0530	46	0	35	63	239	0	0	0	0	0	279	73
0530-0545	40	0	30	57	284	0	0	0	0	0	293	70
0545-0600	35	0	25	58	271	0	0	0	0	0	288	62

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
0300-0400	205	0	137	211	988	0	0	0	0	0	1071	307	2919
0315-0415	187	0	154	222	978	0	0	0	0	0	1042	309	2892
0330-0430	181	0	165	236	945	0	0	0	0	0	1035	320	2882
0345-0445	200	0	183	245	955	0	0	0	0	0	1033	320	2936
0400-0500	209	0	184	243	976	0	0	0	0	0	1031	308	2951
0415-0515	214	0	173	243	973	0	0	0	0	0	1074	296	2973
0430-0530	209	0	165	243	981	0	0	0	0	0	1097	290	2985
0445-0545	195	0	147	236	1015	0	0	0	0	0	1137	285	3015
0500-0600	171	0	129	239	1023	0	0	0	0	0	1154	277	2993

P.M. PEAK HOUR
 0445-0545



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91005
 PH: 626-446-7978
 FAX: 626-446-2877

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 07:00 AM TO 10:00 AM
 INTERSECTION: VINELAND AVENUE / VENTURA BOULEVARD

FILE: 1AMPED-BIKE

15-MINUTE PERIOD	PEDESTRIAN MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0700-0715	3	2	1	2
0715-0730	7	2	1	1
0730-0745	4	1	0	1
0745-0800	9	3	3	1
0800-0815	4	5	1	1
0815-0830	7	4	0	0
0830-0845	6	5	0	2
0845-0900	10	3	0	1
0900-0915	13	6	8	2
0915-0930	15	7	5	5
0930-0945	6	10	5	3
0945-1000	19	15	8	9

15-MINUTE PERIOD	BICYCLIST MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0700-0715	1	1	0	0
0715-0730	1	0	1	0
0730-0745	2	0	0	0
0745-0800	2	0	0	0
0800-0815	1	0	1	1
0815-0830	2	0	0	0
0830-0845	0	0	1	0
0845-0900	0	0	0	0
0900-0915	0	2	1	0
0915-0930	1	0	2	2
0930-0945	2	1	1	0
0945-1000	0	0	0	0

1-HOUR PERIOD	PEDESTRIAN MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0700-0800	23	8	5	5	41
0715-0815	24	11	5	4	44
0730-0830	24	13	4	3	44
0745-0845	26	17	4	4	51
0800-0900	27	17	1	4	49
0815-0915	36	18	8	5	67
0830-0930	44	21	13	10	88
0845-0945	44	26	18	11	99
0900-1000	53	38	26	19	136

1-HOUR PERIOD	BICYCLIST MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0700-0800	6	1	1	0	8
0715-0815	6	0	2	1	9
0730-0830	7	0	1	1	9
0745-0845	5	0	2	1	8
0800-0900	3	0	2	1	6
0815-0915	2	2	2	0	6
0830-0930	1	2	4	2	9
0845-0945	3	3	4	2	12
0900-1000	3	3	4	2	12

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 03:00 PM TO 06:00 PM
 INTERSECTION: VINELAND AVENUE / VENTURA BOULEVARD

FILE: 1PMPED-BIKE

15-MINUTE PERIOD	PEDESTRIAN MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0300-0315	19	12	9	8
0315-0330	13	9	5	7
0330-0345	20	15	11	10
0345-0400	23	8	7	5
0400-0415	16	19	19	4
0415-0430	9	9	8	5
0430-0445	17	10	9	4
0445-0500	10	11	11	0
0500-0515	32	17	18	7
0515-0530	26	12	12	3
0530-0545	11	18	9	5
0545-0600	15	8	9	5

15-MINUTE PERIOD	BICYCLIST MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0300-0315	2	0	3	0
0315-0330	1	1	1	0
0330-0345	4	0	0	1
0345-0400	2	2	3	0
0400-0415	1	1	1	0
0415-0430	1	3	1	0
0430-0445	1	1	0	0
0445-0500	2	0	0	0
0500-0515	2	3	0	0
0515-0530	1	0	1	1
0530-0545	2	0	0	0
0545-0600	3	2	1	0

1-HOUR PERIOD	PEDESTRIAN MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0300-0400	75	44	32	30	181
0315-0415	72	51	42	26	191
0330-0430	68	51	45	24	188
0345-0445	65	46	43	18	172
0400-0500	52	49	47	13	161
0415-0515	68	47	46	16	177
0430-0530	85	50	50	14	199
0445-0545	79	58	50	15	202
0500-0600	84	55	48	20	207

1-HOUR PERIOD	BICYCLIST MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0300-0400	9	3	7	1	20
0315-0415	8	4	5	1	18
0330-0430	8	6	5	1	20
0345-0445	5	7	5	0	17
0400-0500	5	5	2	0	12
0415-0515	6	7	1	0	14
0430-0530	6	4	1	1	12
0445-0545	7	3	1	1	12
0500-0600	8	5	2	1	16

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 07:00 AM TO 10:00 AM
 INTERSECTION: CAMPO DE CAHUENGA - RIVERTON AVENUE / VENTURA BOULEVARD

FILE: 2AMPED-BIKE

15-MINUTE PERIOD	PEDESTRIAN MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0700-0715	3	1	0	0
0715-0730	1	1	1	0
0730-0745	4	1	1	0
0745-0800	3	2	2	0
0800-0815	3	2	3	0
0815-0830	4	3	3	0
0830-0845	5	2	2	0
0845-0900	5	3	2	0
0900-0915	6	3	1	0
0915-0930	6	2	2	0
0930-0945	2	2	3	0
0945-1000	2	3	4	0

15-MINUTE PERIOD	BICYCLIST MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0700-0715	0	1	1	0
0715-0730	1	0	0	0
0730-0745	1	1	1	0
0745-0800	1	0	1	
0800-0815	2	0	2	0
0815-0830	1	1	1	0
0830-0845	1	0	1	0
0845-0900	1	1	2	0
0900-0915	2	0	1	0
0915-0930	1	0	1	0
0930-0945	1	0	2	0
0945-1000	0	0	0	0

1-HOUR PERIOD	PEDESTRIAN MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0700-0800	11	5	4	0	20
0715-0815	11	6	7	0	24
0730-0830	14	8	9	0	31
0745-0845	15	9	10	0	34
0800-0900	17	10	10	0	37
0815-0915	20	11	8	0	39
0830-0930	22	10	7	0	39
0845-0945	19	10	8	0	37
0900-1000	16	10	10	0	36

1-HOUR PERIOD	BICYCLIST MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0700-0800	3	2	3	0	8
0715-0815	5	1	4	0	10
0730-0830	5	2	5	0	12
0745-0845	5	1	5	0	11
0800-0900	5	2	6	0	13
0815-0915	5	2	5	0	12
0830-0930	5	1	5	0	11
0845-0945	5	1	6	0	12
0900-1000	4	0	4	0	8

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 03:00 PM TO 06:00 PM
 INTERSECTION: CAMPO DE CAHUENGA - RIVERTON AVENUE / VENTURA BOULEVARD

FILE: 2PMPED-BIKE

15-MINUTE PERIOD	PEDESTRIAN MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0300-0315	4	3	3	0
0315-0330	4	2	7	0
0330-0345	2	1	4	0
0345-0400	2	1	6	0
0400-0415	3	3	5	0
0415-0430	2	4	3	0
0430-0445	2	5	4	0
0445-0500	1	5	3	0
0500-0515	3	4	2	0
0515-0530	2	7	3	0
0530-0545	1	5	2	0
0545-0600	1	2	2	0

15-MINUTE PERIOD	BICYCLIST MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0300-0315	1	0	0	0
0315-0330	0	1	0	0
0330-0345	0	1	0	0
0345-0400	1	0	0	0
0400-0415	1	0	1	0
0415-0430	1	0	0	0
0430-0445	1	0	0	0
0445-0500	0	1	1	0
0500-0515	1	0	1	0
0515-0530	1	0	1	0
0530-0545	0	0	1	0
0545-0600	0	0	0	0

1-HOUR PERIOD	PEDESTRIAN MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0300-0400	12	7	20	0	39
0315-0415	11	7	22	0	40
0330-0430	9	9	18	0	36
0345-0445	9	13	18	0	40
0400-0500	8	17	15	0	40
0415-0515	8	18	12	0	38
0430-0530	8	21	12	0	41
0445-0545	7	21	10	0	38
0500-0600	7	18	9	0	34

1-HOUR PERIOD	BICYCLIST MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0300-0400	2	2	0	0	4
0315-0415	2	2	1	0	5
0330-0430	3	1	1	0	5
0345-0445	4	0	1	0	5
0400-0500	3	1	2	0	6
0415-0515	3	1	2	0	6
0430-0530	3	1	3	0	7
0445-0545	2	1	4	0	7
0500-0600	2	0	3	0	5

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 07:00 AM TO 10:00 AM
 INTERSECTION: LANKESHIM BOULEVARD / VENTURA BOULEVARD

FILE: 3AMPED-BIKE

15-MINUTE PERIOD	PEDESTRIAN MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0700-0715	0	0	1	1
0715-0730	4	0	2	4
0730-0745	2	0	1	4
0745-0800	4	0	0	7
0800-0815	5	0	3	6
0815-0830	5	0	4	2
0830-0845	6	0	6	6
0845-0900	2	0	5	3
0900-0915	2	0	4	9
0915-0930	3	0	9	8
0930-0945	7	0	7	12
0945-1000	6	0	9	11

15-MINUTE PERIOD	BICYCLIST MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0700-0715	0	0	1	0
0715-0730	0	0	1	0
0730-0745	0	0	0	0
0745-0800	1	0	0	0
0800-0815	1	0	0	0
0815-0830	0	0	0	0
0830-0845	0	0	0	0
0845-0900	0	0	0	0
0900-0915	0	0	1	0
0915-0930	0	0	1	1
0930-0945	0	0	0	0
0945-1000	0	0	0	0

1-HOUR PERIOD	PEDESTRIAN MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0700-0800	10	0	4	16	30
0715-0815	15	0	6	21	42
0730-0830	16	0	8	19	43
0745-0845	20	0	13	21	54
0800-0900	18	0	18	17	53
0815-0915	15	0	19	20	54
0830-0930	13	0	24	26	63
0845-0945	14	0	25	32	71
0900-1000	18	0	29	40	87

1-HOUR PERIOD	BICYCLIST MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0700-0800	1	0	2	0	3
0715-0815	2	0	1	0	3
0730-0830	2	0	0	0	2
0745-0845	2	0	0	0	2
0800-0900	1	0	0	0	1
0815-0915	0	0	1	0	1
0830-0930	0	0	2	1	3
0845-0945	0	0	2	1	3
0900-1000	0	0	2	1	3

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 03:00 PM TO 06:00 PM
 INTERSECTION: LANKESHIM BOULEVARD / VENTURA BOULEVARD

FILE: 3PMPED-BIKE

15-MINUTE PERIOD	PEDESTRIAN MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0300-0315	9	0	10	18
0315-0330	8	0	14	10
0330-0345	2	0	8	9
0345-0400	3	0	6	4
0400-0415	5	0	8	11
0415-0430	6	0	10	16
0430-0445	6	0	5	5
0445-0500	8	0	8	8
0500-0515	11	0	19	20
0515-0530	10	0	20	23
0530-0545	12	0	12	13
0545-0600	7	0	9	9

15-MINUTE PERIOD	BICYCLIST MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0300-0315	2	0	1	0
0315-0330	1	0	0	1
0330-0345	0	0	2	1
0345-0400	1	0	1	0
0400-0415	1	0	0	1
0415-0430	3	0	1	2
0430-0445	0	0	0	0
0445-0500	0	0	0	0
0500-0515	2	0	1	1
0515-0530	0	0	0	0
0530-0545	0	0	0	0
0545-0600	1	0	0	0

1-HOUR PERIOD	PEDESTRIAN MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0300-0400	22	0	38	41	101
0315-0415	18	0	36	34	88
0330-0430	16	0	32	40	88
0345-0445	20	0	29	36	85
0400-0500	25	0	31	40	96
0415-0515	31	0	42	49	122
0430-0530	35	0	52	56	143
0445-0545	41	0	59	64	164
0500-0600	40	0	60	65	165

1-HOUR PERIOD	BICYCLIST MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0300-0400	4	0	4	2	10
0315-0415	3	0	3	3	9
0330-0430	5	0	4	4	13
0345-0445	5	0	2	3	10
0400-0500	4	0	1	3	8
0415-0515	5	0	2	3	10
0430-0530	2	0	1	1	4
0445-0545	2	0	1	1	4
0500-0600	3	0	1	1	5

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 07:00 AM TO 10:00 AM
 INTERSECTION: TUJUNGA AVENUE / VENTURA BOULEVARD

FILE: 4AMPED-BIKE

15-MINUTE PERIOD	PEDESTRIAN MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0700-0715	2	0	0	7
0715-0730	2	0	0	3
0730-0745	6	0	0	7
0745-0800	7	0	0	4
0800-0815	5	0	0	3
0815-0830	6	0	0	3
0830-0845	6	0	0	3
0845-0900	4	0	0	2
0900-0915	3	0	0	2
0915-0930	3	0	0	1
0930-0945	4	0	0	2
0945-1000	2	0	0	3

15-MINUTE PERIOD	BICYCLIST MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0700-0715	1	0	0	2
0715-0730	1	0	0	1
0730-0745	0	0	0	1
0745-0800	1	0	0	1
0800-0815	1	0	0	1
0815-0830	1	0	0	1
0830-0845	0	0	0	0
0845-0900	2	0	0	0
0900-0915	1	0	0	1
0915-0930	1	0	0	0
0930-0945	1	0	0	1
0945-1000	1	0	0	1

1-HOUR PERIOD	PEDESTRIAN MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0700-0800	17	0	0	21	38
0715-0815	20	0	0	17	37
0730-0830	24	0	0	17	41
0745-0845	24	0	0	13	37
0800-0900	21	0	0	11	32
0815-0915	19	0	0	10	29
0830-0930	16	0	0	8	24
0845-0945	14	0	0	7	21
0900-1000	12	0	0	8	20

1-HOUR PERIOD	BICYCLIST MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0700-0800	3	0	0	5	8
0715-0815	3	0	0	4	7
0730-0830	3	0	0	4	7
0745-0845	3	0	0	3	6
0800-0900	4	0	0	2	6
0815-0915	4	0	0	2	6
0830-0930	4	0	0	1	5
0845-0945	5	0	0	2	7
0900-1000	4	0	0	3	7

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: OVERLAND TRAFFIC CONSULTANTS
 PROJECT: 11201 VENTURA BOULEVARD - UNIVERSAL CITY
 DATE: WEDNESDAY, NOVEMBER 14, 2018
 PERIOD: 03:00 PM TO 06:00 PM
 INTERSECTION: TUJUNGA AVENUE / VENTURA BOULEVARD

FILE: 4PMPED-BIKE

15-MINUTE PERIOD	PEDESTRIAN MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0300-0315	8	0	0	18
0315-0330	6	0	0	10
0330-0345	4	0	0	7
0345-0400	4	0	0	10
0400-0415	5	0	0	12
0415-0430	3	0	0	8
0430-0445	5	0	0	13
0445-0500	5	0	0	19
0500-0515	4	0	0	13
0515-0530	3	0	0	7
0530-0545	3	0	0	5
0545-0600	2	0	0	3

15-MINUTE PERIOD	BICYCLIST MOVEMENTS			
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
	A	B	C	D
0300-0315	1	0	0	1
0315-0330	1	0	0	0
0330-0345	3	0	0	0
0345-0400	2	0	0	0
0400-0415	1	0	0	1
0415-0430	1	0	0	0
0430-0445	1	0	0	0
0445-0500	1	0	0	0
0500-0515	1	0	0	0
0515-0530	2	0	0	2
0530-0545	1	0	0	0
0545-0600	0	0	0	0

1-HOUR PERIOD	PEDESTRIAN MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0300-0400	22	0	0	45	67
0315-0415	19	0	0	39	58
0330-0430	16	0	0	37	53
0345-0445	17	0	0	43	60
0400-0500	18	0	0	52	70
0415-0515	17	0	0	53	70
0430-0530	17	0	0	52	69
0445-0545	15	0	0	44	59
0500-0600	12	0	0	28	40

1-HOUR PERIOD	BICYCLIST MOVEMENTS				TOTALS
	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	
	A	B	C	D	
0300-0400	7	0	0	1	8
0315-0415	7	0	0	1	8
0330-0430	7	0	0	1	8
0345-0445	5	0	0	1	6
0400-0500	4	0	0	1	5
0415-0515	4	0	0	0	4
0430-0530	5	0	0	2	7
0445-0545	5	0	0	2	7
0500-0600	4	0	0	2	6

























Existing and Existing + Project

HCM Signalized Intersection Capacity Analysis

1: Ventura & Vineland





















04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	1516	54	68	639	80	55	159	47	707	390	218
Future Volume (vph)	225	1516	54	68	639	80	55	159	47	707	390	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1486	2958		1486	2973	1425	1486	1511		2884	1565	1425
Flt Permitted	0.95	1.00		0.13	1.00	1.00	0.53	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1486	2958		205	2973	1425	831	1511		2884	1565	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	225	1516	54	68	639	80	55	159	47	707	390	218
RTOR Reduction (vph)	0	2	0	0	0	41	0	10	0	0	0	20
Lane Group Flow (vph)	225	1568	0	68	639	39	55	196	0	707	390	198
Turn Type	Prot	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	pm+ov
Protected Phases	7				8		1		2		1	
Permitted Phases		4		8		8	2				6	
Actuated Green, G (s)	17.9	53.0		30.6	30.6	54.1	20.0	20.0		23.5	48.0	65.9
Effective Green, g (s)	17.9	53.0		30.6	30.6	54.1	20.0	20.0		23.5	48.0	65.9
Actuated g/C Ratio	0.16	0.48		0.28	0.28	0.49	0.18	0.18		0.21	0.44	0.60
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	241	1425		57	827	759	151	274		616	682	912
v/s Ratio Prot	0.15				0.21	0.01		c0.13		c0.25	0.25	0.04
v/s Ratio Perm		c0.53		c0.33		0.02	0.07					0.10
v/c Ratio	0.93	1.10		1.19	0.77	0.05	0.36	0.72		1.15	0.57	0.22
Uniform Delay, d1	45.5	28.5		39.7	36.5	14.6	39.4	42.3		43.2	23.3	10.2
Progression Factor	1.03	0.80		0.63	0.62	0.04	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	33.4	53.9		176.0	4.2	0.0	6.7	14.8		84.4	3.5	0.1
Delay (s)	80.2	76.7		200.9	26.8	0.7	46.1	57.2		127.6	26.7	10.3
Level of Service	F	E		F	C	A	D	E		F	C	B
Approach Delay (s)		77.1			39.2			54.8			78.2	
Approach LOS		E			D			D			E	
Intersection Summary												
HCM 2000 Control Delay			68.9									HCM 2000 Level of Service E
HCM 2000 Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			110.0									Sum of lost time (s) 18.0
Intersection Capacity Utilization			102.5%									ICU Level of Service G
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Riverton & Ventura



























04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	625	1565	9	0	258	41	0	24	11	14	0	541
Future Volume (vph)	625	1565	9	0	258	41	0	24	11	14	0	541
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00			0.91	0.91
Frt	1.00	1.00			1.00	0.85		0.96			0.86	0.85
Flt Protected	0.95	1.00			1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)	2884	2970			2973	1425		1498			1222	2594
Flt Permitted	0.95	1.00			1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)	2884	2970			2973	1425		1498			1222	2594
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	625	1565	9	0	258	41	0	24	11	14	0	541
RTOR Reduction (vph)	0	1	0	0	0	35	0	7	0	0	164	240
Lane Group Flow (vph)	625	1573	0	0	258	6	0	28	0	0	23	128
Turn Type	Prot	NA		Prot	NA	custom		NA		Split	NA	pt+ov
Protected Phases	3	8		7			2	2		6	6	6 3
Permitted Phases					4	4						
Actuated Green, G (s)	32.7	52.1			14.9	14.9		38.9			5.5	38.2
Effective Green, g (s)	32.7	52.1			14.9	14.9		38.9			5.5	38.2
Actuated g/C Ratio	0.30	0.47			0.14	0.14		0.35			0.05	0.35
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	857	1406			402	193		529			61	900
v/s Ratio Prot	0.22	c0.53						c0.02			c0.02	0.05
v/s Ratio Perm					0.09	0.00						
v/c Ratio	0.73	1.12			0.64	0.03		0.05			0.37	0.14
Uniform Delay, d1	34.7	28.9			45.0	41.3		23.4			50.6	24.6
Progression Factor	0.73	0.67			1.07	1.00		1.00			1.00	1.00
Incremental Delay, d2	0.3	54.7			2.4	0.0		0.2			3.8	0.1
Delay (s)	25.7	74.0			50.6	41.3		23.6			54.4	24.7
Level of Service	C	E			D	D		C			D	C
Approach Delay (s)		60.2			49.3			23.6			34.7	
Approach LOS		E			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			54.2				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			78.8%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Ventura & Lankershim

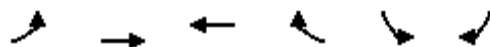
04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Traffic Volume (vph)	35	1474	13	20	180	217	36	68	53	1043	102	1143
Future Volume (vph)	35	1474	13	20	180	217	36	68	53	1043	102	1143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	1486	4266		1486	2973	1425		1476		1412	1428	1425
Flt Permitted	0.55	1.00		0.14	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (perm)	866	4266		214	2973	1425		1476		1412	1428	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	1474	13	20	180	217	36	68	53	1043	102	1143
RTOR Reduction (vph)	0	1	0	0	0	77	0	13	0	0	0	0
Lane Group Flow (vph)	35	1486	0	20	180	140	0	144	0	574	571	1143
Turn Type	pm+pt	NA		Perm	NA	pt+ov	Split	NA		Split	NA	Free
Protected Phases	7	4			8	8	6	2	2	6	6	
Permitted Phases	4			8								Free
Actuated Green, G (s)	36.8	36.8		29.3	29.3	71.2		17.8		41.9	41.9	110.0
Effective Green, g (s)	36.8	36.8		29.3	29.3	71.2		17.8		41.9	41.9	110.0
Actuated g/C Ratio	0.33	0.33		0.27	0.27	0.65		0.16		0.38	0.38	1.00
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	306	1427		57	791	922		238		537	543	1425
v/s Ratio Prot	0.00	c0.35			0.06	0.10		0.10		c0.41	0.40	
v/s Ratio Perm	0.04			0.09								c0.80
v/c Ratio	0.11	1.04		0.35	0.23	0.15		0.60		1.07	1.05	0.80
Uniform Delay, d1	25.0	36.6		32.7	31.5	7.6		42.8		34.0	34.0	0.0
Progression Factor	0.37	0.33		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	21.2		3.7	0.1	0.1		10.8		58.5	52.9	4.9
Delay (s)	9.3	33.3		36.4	31.7	7.7		53.7		92.6	86.9	4.9
Level of Service	A	C		D	C	A		D		F	F	A
Approach Delay (s)		32.7			19.4			53.7			47.3	
Approach LOS		C			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			39.8				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			1.11									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			88.4%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Ventura & Tunjuga

04/25/2022

























Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	169	1449	725	115	447	411
Future Volume (vph)	169	1449	725	115	447	411
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	12	10	12
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1486	3185	2912		2884	1425
Flt Permitted	0.21	1.00	1.00		0.95	1.00
Satd. Flow (perm)	321	3185	2912		2884	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	169	1449	725	115	447	411
RTOR Reduction (vph)	0	0	11	0	0	53
Lane Group Flow (vph)	169	1449	829	0	447	358
Turn Type	pm+pt	NA	NA		Prot	pm+ov
Protected Phases	3	8	4		6	3
Permitted Phases	8					6
Actuated Green, G (s)	65.0	65.0	47.7		36.0	48.8
Effective Green, g (s)	65.0	65.0	47.7		36.0	48.8
Actuated g/C Ratio	0.59	0.59	0.43		0.33	0.44
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	325	1882	1262		943	690
v/s Ratio Prot	0.06	c0.45	0.28		0.16	c0.06
v/s Ratio Perm	0.25					0.19
v/c Ratio	0.52	0.77	0.66		0.47	0.52
Uniform Delay, d1	13.1	16.9	24.7		29.5	22.1
Progression Factor	1.00	1.00	0.31		1.00	1.00
Incremental Delay, d2	1.5	2.0	1.0		1.7	0.7
Delay (s)	14.6	18.8	8.7		31.2	22.8
Level of Service	B	B	A		C	C
Approach Delay (s)		18.4	8.7		27.1	
Approach LOS		B	A		C	
Intersection Summary						
HCM 2000 Control Delay			18.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.72			
Actuated Cycle Length (s)			110.0		Sum of lost time (s)	13.5
Intersection Capacity Utilization			66.2%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

1: Ventura & Vineland





















04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	1530	54	68	642	80	55	159	47	707	390	223
Future Volume (vph)	234	1530	54	68	642	80	55	159	47	707	390	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1486	2958		1486	2973	1425	1486	1511		2884	1565	1425
Flt Permitted	0.95	1.00		0.13	1.00	1.00	0.53	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1486	2958		205	2973	1425	831	1511		2884	1565	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	234	1530	54	68	642	80	55	159	47	707	390	223
RTOR Reduction (vph)	0	2	0	0	0	41	0	10	0	0	0	20
Lane Group Flow (vph)	234	1582	0	68	642	39	55	196	0	707	390	203
Turn Type	Prot	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	pm+ov
Protected Phases	7				8	1		2		1	6	7
Permitted Phases		4		8		8	2					6
Actuated Green, G (s)	18.0	53.0		30.5	30.5	54.0	20.0	20.0		23.5	48.0	66.0
Effective Green, g (s)	18.0	53.0		30.5	30.5	54.0	20.0	20.0		23.5	48.0	66.0
Actuated g/C Ratio	0.16	0.48		0.28	0.28	0.49	0.18	0.18		0.21	0.44	0.60
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	243	1425		56	824	757	151	274		616	682	913
v/s Ratio Prot	0.16				0.22	0.01		c0.13		c0.25	0.25	0.04
v/s Ratio Perm		c0.53		0.33		0.02	0.07					0.11
v/c Ratio	0.96	1.11		1.21	0.78	0.05	0.36	0.72		1.15	0.57	0.22
Uniform Delay, d1	45.7	28.5		39.8	36.6	14.6	39.4	42.3		43.2	23.3	10.2
Progression Factor	1.06	0.77		0.64	0.62	0.04	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	40.1	57.8		184.5	4.4	0.0	6.7	14.8		84.4	3.5	0.1
Delay (s)	88.6	79.8		209.8	27.2	0.6	46.1	57.2		127.6	26.7	10.3
Level of Service	F	E		F	C	A	D	E		F	C	B
Approach Delay (s)		80.9			40.2			54.8			78.0	
Approach LOS		F			D			D			E	
Intersection Summary												
HCM 2000 Control Delay			70.7		HCM 2000 Level of Service					E		
HCM 2000 Volume to Capacity ratio			1.09									
Actuated Cycle Length (s)			110.0		Sum of lost time (s)					18.0		
Intersection Capacity Utilization			103.0%		ICU Level of Service					G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Riverton & Ventura



























04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	631	1573	9	0	259	41	0	24	11	14	0	543
Future Volume (vph)	631	1573	9	0	259	41	0	24	11	14	0	543
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00			0.91	0.91
Frt	1.00	1.00			1.00	0.85		0.96			0.86	0.85
Flt Protected	0.95	1.00			1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)	2884	2970			2973	1425		1498			1222	2594
Flt Permitted	0.95	1.00			1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)	2884	2970			2973	1425		1498			1222	2594
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	631	1573	9	0	259	41	0	24	11	14	0	543
RTOR Reduction (vph)	0	1	0	0	0	35	0	7	0	0	165	241
Lane Group Flow (vph)	631	1581	0	0	259	6	0	28	0	0	23	128
Turn Type	Prot	NA		Prot	NA	custom		NA		Split	NA	pt+ov
Protected Phases	3	8		7			2	2		6	6	6
Permitted Phases					4	4						
Actuated Green, G (s)	32.8	52.2			14.9	14.9		38.8			5.5	38.3
Effective Green, g (s)	32.8	52.2			14.9	14.9		38.8			5.5	38.3
Actuated g/C Ratio	0.30	0.47			0.14	0.14		0.35			0.05	0.35
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	859	1409			402	193		528			61	903
v/s Ratio Prot	0.22	c0.53						c0.02			c0.02	0.05
v/s Ratio Perm					0.09	0.00						
v/c Ratio	0.73	1.12			0.64	0.03		0.05			0.37	0.14
Uniform Delay, d1	34.7	28.9			45.0	41.3		23.5			50.6	24.6
Progression Factor	0.74	0.68			1.07	1.00		1.00			1.00	1.00
Incremental Delay, d2	0.3	56.1			2.4	0.0		0.2			3.8	0.1
Delay (s)	26.1	75.9			50.7	41.3		23.7			54.4	24.7
Level of Service	C	E			D	D		C			D	C
Approach Delay (s)		61.7			49.5			23.7			34.7	
Approach LOS		E			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			55.3				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			79.0%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Ventura & Lankershim

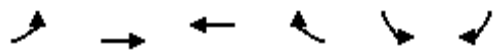
04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Traffic Volume (vph)	35	1482	13	20	181	217	36	68	53	1043	102	1143
Future Volume (vph)	35	1482	13	20	181	217	36	68	53	1043	102	1143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	1486	4266		1486	2973	1425		1476		1412	1428	1425
Flt Permitted	0.55	1.00		0.13	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (perm)	867	4266		210	2973	1425		1476		1412	1428	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	1482	13	20	181	217	36	68	53	1043	102	1143
RTOR Reduction (vph)	0	1	0	0	0	76	0	13	0	0	0	0
Lane Group Flow (vph)	35	1494	0	20	181	141	0	144	0	574	571	1143
Turn Type	pm+pt	NA		Perm	NA	pt+ov	Split	NA		Split	NA	Free
Protected Phases	7	4			8	8 6	2	2		6	6	
Permitted Phases	4			8								Free
Actuated Green, G (s)	37.3	37.3		29.8	29.8	71.7		17.3		41.9	41.9	110.0
Effective Green, g (s)	37.3	37.3		29.8	29.8	71.7		17.3		41.9	41.9	110.0
Actuated g/C Ratio	0.34	0.34		0.27	0.27	0.65		0.16		0.38	0.38	1.00
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	310	1446		56	805	928		232		537	543	1425
v/s Ratio Prot	0.00	c0.35			0.06	0.10		0.10		c0.41	0.40	
v/s Ratio Perm	0.04			0.10								c0.80
v/c Ratio	0.11	1.03		0.36	0.22	0.15		0.62		1.07	1.05	0.80
Uniform Delay, d1	24.7	36.4		32.4	31.1	7.4		43.3		34.0	34.0	0.0
Progression Factor	0.37	0.33		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	17.9		3.9	0.1	0.1		11.8		58.5	52.9	4.9
Delay (s)	9.2	29.8		36.2	31.3	7.5		55.0		92.6	86.9	4.9
Level of Service	A	C		D	C	A		E		F	F	A
Approach Delay (s)		29.3			19.2			55.0			47.3	
Approach LOS		C			B			E			D	
Intersection Summary												
HCM 2000 Control Delay			38.7				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			88.4%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Ventura & Tunjuga

04/25/2022

























Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	169	1452	733	118	448	411
Future Volume (vph)	169	1452	733	118	448	411
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	12	10	12
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1486	3185	2911		2884	1425
Flt Permitted	0.20	1.00	1.00		0.95	1.00
Satd. Flow (perm)	313	3185	2911		2884	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	169	1452	733	118	448	411
RTOR Reduction (vph)	0	0	11	0	0	52
Lane Group Flow (vph)	169	1452	840	0	448	359
Turn Type	pm+pt	NA	NA		Prot	pm+ov
Protected Phases	3	8	4		6	3
Permitted Phases	8					6
Actuated Green, G (s)	64.7	64.7	47.5		36.3	49.0
Effective Green, g (s)	64.7	64.7	47.5		36.3	49.0
Actuated g/C Ratio	0.59	0.59	0.43		0.33	0.45
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	319	1873	1257		951	693
v/s Ratio Prot	0.06	c0.46	0.29		0.16	c0.06
v/s Ratio Perm	0.25					0.19
v/c Ratio	0.53	0.78	0.67		0.47	0.52
Uniform Delay, d1	13.4	17.1	25.0		29.2	22.0
Progression Factor	1.00	1.00	0.32		1.00	1.00
Incremental Delay, d2	1.6	2.1	1.1		1.7	0.7
Delay (s)	15.0	19.2	9.0		30.9	22.7
Level of Service	B	B	A		C	C
Approach Delay (s)		18.8	9.0		27.0	
Approach LOS		B	A		C	
Intersection Summary						
HCM 2000 Control Delay			18.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.73			
Actuated Cycle Length (s)			110.0		Sum of lost time (s)	13.5
Intersection Capacity Utilization			66.3%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

1: Ventura & Vineland





















04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	898	76	65	901	250	67	278	101	148	173	294
Future Volume (vph)	370	898	76	65	901	250	67	278	101	148	173	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1486	2938		1486	2973	1425	1486	1502		2884	1565	1425
Flt Permitted	0.95	1.00		0.29	1.00	1.00	0.65	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1486	2938		460	2973	1425	1014	1502		2884	1565	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	370	898	76	65	901	250	67	278	101	148	173	294
RTOR Reduction (vph)	0	6	0	0	0	125	0	13	0	0	0	7
Lane Group Flow (vph)	370	968	0	65	901	125	67	366	0	148	173	287
Turn Type	Prot	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	pm+ov
Protected Phases	7				8	1		2		1	6	7
Permitted Phases		4		8		8	2					6
Actuated Green, G (s)	23.5	56.5		28.5	28.5	34.4	24.1	24.1		5.9	34.5	58.0
Effective Green, g (s)	23.5	56.5		28.5	28.5	34.4	24.1	24.1		5.9	34.5	58.0
Actuated g/C Ratio	0.24	0.56		0.28	0.28	0.34	0.24	0.24		0.06	0.34	0.58
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	349	1659		131	847	554	244	361		170	539	890
v/s Ratio Prot	c0.25				c0.30	0.01		c0.24		c0.05	0.11	0.08
v/s Ratio Perm		0.33		0.14		0.07	0.07					0.13
v/c Ratio	1.06	0.58		0.50	1.06	0.23	0.27	1.01		0.87	0.32	0.32
Uniform Delay, d1	38.2	14.1		29.8	35.8	23.3	30.8	38.0		46.7	24.1	10.9
Progression Factor	0.86	0.68		0.68	0.59	0.14	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	62.3	0.5		2.5	47.0	0.2	2.8	51.0		35.2	1.6	0.2
Delay (s)	95.3	10.1		22.8	68.2	3.5	33.6	88.9		81.8	25.7	11.1
Level of Service	F	B		C	E	A	C	F		F	C	B
Approach Delay (s)		33.5			52.5			80.6			32.2	
Approach LOS		C			D			F			C	
Intersection Summary												
HCM 2000 Control Delay			45.5		HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)					18.0		
Intersection Capacity Utilization			93.2%		ICU Level of Service					F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Riverton & Ventura



























04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	356	835	6	6	678	146	6	77	11	10	4	507
Future Volume (vph)	356	835	6	6	678	146	6	77	11	10	4	507
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		1.00			0.91	0.91
Frt	1.00	1.00		1.00	1.00	0.85		0.98			0.86	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)	2884	2970		1486	2973	1425		1535			1224	2594
Flt Permitted	0.95	1.00		0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)	2884	2970		1486	2973	1425		1535			1224	2594
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	356	835	6	6	678	146	6	77	11	10	4	507
RTOR Reduction (vph)	0	1	0	0	0	98	0	4	0	0	149	247
Lane Group Flow (vph)	356	840	0	6	678	48	0	90	0	0	27	98
Turn Type	Prot	NA		Prot	NA	custom	Split	NA		Split	NA	pt+ov
Protected Phases	3	8		7			2	2		6	6	6 3
Permitted Phases					4	4						
Actuated Green, G (s)	15.7	45.0		3.6	32.9	32.9		25.1			8.3	28.5
Effective Green, g (s)	15.7	45.0		3.6	32.9	32.9		25.1			8.3	28.5
Actuated g/C Ratio	0.16	0.45		0.04	0.33	0.33		0.25			0.08	0.28
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	452	1336		53	978	468		385			101	739
v/s Ratio Prot	c0.12	0.28		0.00				c0.06			c0.02	0.04
v/s Ratio Perm					c0.23	0.03						
v/c Ratio	0.79	0.63		0.11	0.69	0.10		0.23			0.27	0.13
Uniform Delay, d1	40.5	21.1		46.7	29.2	23.3		29.8			43.0	26.6
Progression Factor	1.08	0.65		0.67	0.54	0.00		1.00			1.00	1.00
Incremental Delay, d2	6.9	0.7		0.7	1.7	0.1		1.4			1.5	0.1
Delay (s)	50.8	14.4		31.9	17.5	0.1		31.2			44.5	26.7
Level of Service	D	B		C	B	A		C			D	C
Approach Delay (s)		25.2			14.6			31.2			32.7	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			23.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			54.3%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Ventura & Lankershim

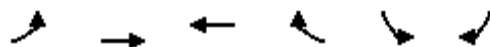
04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Traffic Volume (vph)	83	755	24	35	653	557	39	147	65	473	109	606
Future Volume (vph)	83	755	24	35	653	557	39	147	65	473	109	606
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.97	1.00
Satd. Flow (prot)	1486	4252		1486	2973	1425		1498		1412	1441	1425
Flt Permitted	0.23	1.00		0.24	1.00	1.00		0.99		0.95	0.97	1.00
Satd. Flow (perm)	359	4252		375	2973	1425		1498		1412	1441	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	83	755	24	35	653	557	39	147	65	473	109	606
RTOR Reduction (vph)	0	3	0	0	0	210	0	12	0	0	0	0
Lane Group Flow (vph)	83	776	0	35	653	347	0	239	0	289	293	606
Turn Type	pm+pt	NA		Perm	NA	pt+ov	Split	NA		Split	NA	Free
Protected Phases	7	4			8	8 6	2	2		6	6	
Permitted Phases	4			8								Free
Actuated Green, G (s)	34.6	34.6		25.7	25.7	56.7		25.4		26.5	26.5	100.0
Effective Green, g (s)	34.6	34.6		25.7	25.7	56.7		25.4		26.5	26.5	100.0
Actuated g/C Ratio	0.35	0.35		0.26	0.26	0.57		0.25		0.26	0.26	1.00
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	173	1471		96	764	807		380		374	381	1425
v/s Ratio Prot	0.02	0.18			c0.22	0.24		c0.16		c0.20	0.20	
v/s Ratio Perm	0.14			0.09								c0.43
v/c Ratio	0.48	0.53		0.36	0.85	0.43		0.63		0.77	0.77	0.43
Uniform Delay, d1	35.4	26.2		30.5	35.4	12.4		33.1		34.0	33.9	0.0
Progression Factor	0.27	0.21		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.6	0.3		2.3	9.2	0.4		7.7		14.4	13.9	0.9
Delay (s)	11.1	5.9		32.8	44.6	12.8		40.8		48.3	47.8	0.9
Level of Service	B	A		C	D	B		D		D	D	A
Approach Delay (s)		6.4			30.0			40.8			24.0	
Approach LOS		A			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			23.0				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			73.3%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Ventura & Tunjuga

04/25/2022

























Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	294	1171	1045	243	151	201
Future Volume (vph)	294	1171	1045	243	151	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	12	10	12
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1486	3185	2889		2884	1425
Flt Permitted	0.08	1.00	1.00		0.95	1.00
Satd. Flow (perm)	123	3185	2889		2884	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	294	1171	1045	243	151	201
RTOR Reduction (vph)	0	0	20	0	0	32
Lane Group Flow (vph)	294	1171	1268	0	151	169
Turn Type	pm+pt	NA	NA		Prot	pm+ov
Protected Phases	3	8	4		6	3
Permitted Phases	8					6
Actuated Green, G (s)	68.9	68.9	46.4		22.1	40.1
Effective Green, g (s)	68.9	68.9	46.4		22.1	40.1
Actuated g/C Ratio	0.69	0.69	0.46		0.22	0.40
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	330	2194	1340		637	635
v/s Ratio Prot	c0.16	0.37	c0.44		0.05	c0.05
v/s Ratio Perm	0.45					0.07
v/c Ratio	0.89	0.53	0.95		0.24	0.27
Uniform Delay, d1	29.6	7.6	25.6		32.0	20.1
Progression Factor	1.00	1.00	0.45		1.00	1.00
Incremental Delay, d2	24.5	0.3	8.3		0.9	0.2
Delay (s)	54.1	7.9	19.9		32.9	20.3
Level of Service	D	A	B		C	C
Approach Delay (s)		17.2	19.9		25.7	
Approach LOS		B	B		C	
Intersection Summary						
HCM 2000 Control Delay			19.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.77			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	13.5
Intersection Capacity Utilization			74.8%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

1: Ventura & Vineland





















04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	905	76	65	908	250	67	278	101	148	173	306
Future Volume (vph)	375	905	76	65	908	250	67	278	101	148	173	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1486	2938		1486	2973	1425	1486	1502		2884	1565	1425
Flt Permitted	0.95	1.00		0.29	1.00	1.00	0.65	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1486	2938		457	2973	1425	1014	1502		2884	1565	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	375	905	76	65	908	250	67	278	101	148	173	306
RTOR Reduction (vph)	0	6	0	0	0	123	0	13	0	0	0	7
Lane Group Flow (vph)	375	975	0	65	908	127	67	366	0	148	173	299
Turn Type	Prot	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	pm+ov
Protected Phases	7				8	1		2		1	6	7
Permitted Phases		4		8		8	2					6
Actuated Green, G (s)	23.7	56.7		28.5	28.5	34.4	23.9	23.9		5.9	34.3	58.0
Effective Green, g (s)	23.7	56.7		28.5	28.5	34.4	23.9	23.9		5.9	34.3	58.0
Actuated g/C Ratio	0.24	0.57		0.28	0.28	0.34	0.24	0.24		0.06	0.34	0.58
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	352	1665		130	847	554	242	358		170	536	890
v/s Ratio Prot	c0.25				c0.31	0.01		c0.24		c0.05	0.11	0.08
v/s Ratio Perm		0.33		0.14		0.08	0.07					0.13
v/c Ratio	1.07	0.59		0.50	1.07	0.23	0.28	1.02		0.87	0.32	0.34
Uniform Delay, d1	38.1	14.0		29.8	35.8	23.4	31.0	38.0		46.7	24.3	11.0
Progression Factor	0.84	0.69		0.72	0.62	0.14	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	63.7	0.5		2.5	49.7	0.2	2.8	53.4		35.2	1.6	0.2
Delay (s)	95.7	10.1		23.9	71.8	3.4	33.8	91.5		81.8	25.9	11.2
Level of Service	F	B		C	E	A	C	F		F	C	B
Approach Delay (s)		33.8			55.3			82.8			31.9	
Approach LOS		C			E			F			C	
Intersection Summary												
HCM 2000 Control Delay			46.6									D
HCM 2000 Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			100.0							18.0		
Intersection Capacity Utilization			93.8%									F
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Riverton & Ventura



























04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	359	839	6	6	681	146	6	77	11	10	4	511
Future Volume (vph)	359	839	6	6	681	146	6	77	11	10	4	511
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		1.00			0.91	0.91
Frt	1.00	1.00		1.00	1.00	0.85		0.98			0.86	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)	2884	2970		1486	2973	1425		1535			1224	2594
Flt Permitted	0.95	1.00		0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)	2884	2970		1486	2973	1425		1535			1224	2594
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	359	839	6	6	681	146	6	77	11	10	4	511
RTOR Reduction (vph)	0	1	0	0	0	98	0	5	0	0	150	246
Lane Group Flow (vph)	359	844	0	6	681	48	0	89	0	0	28	101
Turn Type	Prot	NA		Prot	NA	custom	Split	NA		Split	NA	pt+ov
Protected Phases	3	8		7			2	2		6	6	6 3
Permitted Phases					4	4						
Actuated Green, G (s)	16.3	45.4		3.6	32.7	32.7		24.7			8.3	29.1
Effective Green, g (s)	16.3	45.4		3.6	32.7	32.7		24.7			8.3	29.1
Actuated g/C Ratio	0.16	0.45		0.04	0.33	0.33		0.25			0.08	0.29
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	470	1348		53	972	465		379			101	754
v/s Ratio Prot	c0.12	0.28		0.00				c0.06			c0.02	0.04
v/s Ratio Perm					c0.23	0.03						
v/c Ratio	0.76	0.63		0.11	0.70	0.10		0.24			0.27	0.13
Uniform Delay, d1	40.0	20.8		46.7	29.4	23.4		30.1			43.0	26.2
Progression Factor	1.08	0.65		0.67	0.57	0.02		1.00			1.00	1.00
Incremental Delay, d2	5.7	0.7		0.7	1.8	0.1		1.5			1.5	0.1
Delay (s)	49.0	14.1		32.0	18.5	0.6		31.6			44.5	26.2
Level of Service	D	B		C	B	A		C			D	C
Approach Delay (s)		24.5			15.4			31.6			32.4	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			23.5				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			54.6%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Ventura & Lankershim

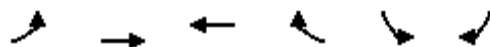
04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Traffic Volume (vph)	83	760	24	35	656	557	39	147	65	473	109	606
Future Volume (vph)	83	760	24	35	656	557	39	147	65	473	109	606
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.97	1.00
Satd. Flow (prot)	1486	4252		1486	2973	1425		1498		1412	1441	1425
Flt Permitted	0.23	1.00		0.24	1.00	1.00		0.99		0.95	0.97	1.00
Satd. Flow (perm)	357	4252		373	2973	1425		1498		1412	1441	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	83	760	24	35	656	557	39	147	65	473	109	606
RTOR Reduction (vph)	0	3	0	0	0	210	0	12	0	0	0	0
Lane Group Flow (vph)	83	781	0	35	656	347	0	239	0	289	293	606
Turn Type	pm+pt	NA		Perm	NA	pt+ov	Split	NA		Split	NA	Free
Protected Phases	7	4			8	8 6	2	2		6	6	
Permitted Phases	4			8								Free
Actuated Green, G (s)	34.7	34.7		25.8	25.8	56.8		25.3		26.5	26.5	100.0
Effective Green, g (s)	34.7	34.7		25.8	25.8	56.8		25.3		26.5	26.5	100.0
Actuated g/C Ratio	0.35	0.35		0.26	0.26	0.57		0.25		0.26	0.26	1.00
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	173	1475		96	767	809		378		374	381	1425
v/s Ratio Prot	0.02	0.18			c0.22	0.24		c0.16		c0.20	0.20	
v/s Ratio Perm	0.14			0.09								c0.43
v/c Ratio	0.48	0.53		0.36	0.86	0.43		0.63		0.77	0.77	0.43
Uniform Delay, d1	35.4	26.1		30.4	35.3	12.3		33.2		34.0	33.9	0.0
Progression Factor	0.25	0.21		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.7	0.3		2.3	9.2	0.4		7.8		14.4	13.9	0.9
Delay (s)	10.4	5.9		32.7	44.6	12.7		41.0		48.3	47.8	0.9
Level of Service	B	A		C	D	B		D		D	D	A
Approach Delay (s)		6.3			30.0			41.0			24.0	
Approach LOS		A			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			23.0				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			73.4%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Ventura & Tunjuga

04/25/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	294	1178	1050	244	153	201
Future Volume (vph)	294	1178	1050	244	153	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	12	10	12
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1486	3185	2889		2884	1425
Flt Permitted	0.08	1.00	1.00		0.95	1.00
Satd. Flow (perm)	123	3185	2889		2884	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	294	1178	1050	244	153	201
RTOR Reduction (vph)	0	0	20	0	0	32
Lane Group Flow (vph)	294	1178	1274	0	153	169
Turn Type	pm+pt	NA	NA		Prot	pm+ov
Protected Phases	3	8	4		6	3
Permitted Phases	8					6
Actuated Green, G (s)	69.1	69.1	46.5		21.9	40.0
Effective Green, g (s)	69.1	69.1	46.5		21.9	40.0
Actuated g/C Ratio	0.69	0.69	0.46		0.22	0.40
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	331	2200	1343		631	634
v/s Ratio Prot	c0.16	0.37	c0.44		0.05	c0.05
v/s Ratio Perm	0.45					0.07
v/c Ratio	0.89	0.54	0.95		0.24	0.27
Uniform Delay, d1	29.5	7.6	25.6		32.2	20.2
Progression Factor	1.00	1.00	0.46		1.00	1.00
Incremental Delay, d2	23.7	0.3	8.2		0.9	0.2
Delay (s)	53.3	7.8	20.1		33.1	20.4
Level of Service	D	A	C		C	C
Approach Delay (s)		16.9	20.1		25.9	
Approach LOS		B	C		C	
Intersection Summary						
HCM 2000 Control Delay			19.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.77			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	13.5
Intersection Capacity Utilization			75.1%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						
























Future and Future + Project

HCM Signalized Intersection Capacity Analysis

1: Ventura & Vineland





















04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	246	1630	55	70	702	110	56	163	49	781	402	250
Future Volume (vph)	246	1630	55	70	702	110	56	163	49	781	402	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1486	2958		1486	2973	1425	1486	1510		2884	1565	1425
Flt Permitted	0.95	1.00		0.10	1.00	1.00	0.53	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1486	2958		158	2973	1425	822	1510		2884	1565	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	246	1630	55	70	702	110	56	163	49	781	402	250
RTOR Reduction (vph)	0	2	0	0	0	51	0	9	0	0	0	28
Lane Group Flow (vph)	246	1683	0	70	702	59	56	203	0	781	402	222
Turn Type	Prot	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	pm+ov
Protected Phases	7				8	1		2		1	6	7
Permitted Phases		4		8		8	2					6
Actuated Green, G (s)	18.5	62.5		39.5	39.5	64.0	19.5	19.5		24.5	48.5	67.0
Effective Green, g (s)	18.5	62.5		39.5	39.5	64.0	19.5	19.5		24.5	48.5	67.0
Actuated g/C Ratio	0.15	0.52		0.33	0.33	0.53	0.16	0.16		0.20	0.40	0.56
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	229	1540		52	978	760	133	245		588	632	849
v/s Ratio Prot	0.17				0.24	0.02		c0.13		c0.27	0.26	0.04
v/s Ratio Perm		c0.57		c0.44		0.03	0.07					0.12
v/c Ratio	1.07	1.09		1.35	0.72	0.08	0.42	0.83		1.33	0.64	0.26
Uniform Delay, d1	50.8	28.8		40.2	35.4	13.6	45.2	48.6		47.8	28.7	13.7
Progression Factor	0.90	0.83		0.60	0.59	0.18	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	64.4	48.1		237.0	2.3	0.0	9.5	26.3		159.2	4.8	0.2
Delay (s)	110.3	71.8		261.2	23.4	2.5	54.7	75.0		206.9	33.5	13.9
Level of Service	F	E		F	C	A	D	E		F	C	B
Approach Delay (s)		76.7			39.6			70.7			124.6	
Approach LOS		E			D			E			F	
Intersection Summary												
HCM 2000 Control Delay	84.3			HCM 2000 Level of Service			F					
HCM 2000 Volume to Capacity ratio	1.22											
Actuated Cycle Length (s)	120.0			Sum of lost time (s)			18.0					
Intersection Capacity Utilization	108.9%			ICU Level of Service			G					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Riverton & Ventura



























04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	718	1659	10	0	300	42	0	24	12	15	0	594
Future Volume (vph)	718	1659	10	0	300	42	0	24	12	15	0	594
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00			0.91	0.91
Frt	1.00	1.00			1.00	0.85		0.95			0.86	0.85
Flt Protected	0.95	1.00			1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)	2884	2970			2973	1425		1494			1221	2594
Flt Permitted	0.95	1.00			1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)	2884	2970			2973	1425		1494			1221	2594
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	718	1659	10	0	300	42	0	24	12	15	0	594
RTOR Reduction (vph)	0	0	0	0	0	36	0	8	0	0	178	247
Lane Group Flow (vph)	718	1669	0	0	300	6	0	28	0	0	27	157
Turn Type	Prot	NA		Prot	NA	custom		NA		Split	NA	pt+ov
Protected Phases	3	8		7			2	2		6	6	6 3
Permitted Phases					4	4						
Actuated Green, G (s)	39.2	61.3			17.6	17.6		37.8			7.4	46.6
Effective Green, g (s)	39.2	61.3			17.6	17.6		37.8			7.4	46.6
Actuated g/C Ratio	0.33	0.51			0.15	0.15		0.31			0.06	0.39
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	942	1517			436	209		470			75	1007
v/s Ratio Prot	0.25	c0.56						c0.02			c0.02	0.06
v/s Ratio Perm					0.10	0.00						
v/c Ratio	0.76	1.10			0.69	0.03		0.06			0.36	0.16
Uniform Delay, d1	36.2	29.4			48.6	43.9		28.7			54.0	23.9
Progression Factor	0.90	0.87			1.07	1.00		1.00			1.00	1.00
Incremental Delay, d2	0.3	46.1			2.7	0.0		0.2			2.9	0.1
Delay (s)	32.9	71.7			54.9	43.9		28.9			56.9	24.0
Level of Service	C	E			D	D		C			E	C
Approach Delay (s)		60.0			53.5			28.9			35.1	
Approach LOS		E			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			54.5				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			82.5%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Ventura & Lankershim

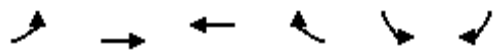
04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Traffic Volume (vph)	61	1537	14	20	200	262	37	70	54	1094	105	1239
Future Volume (vph)	61	1537	14	20	200	262	37	70	54	1094	105	1239
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	1486	4266		1486	2973	1425		1477		1412	1428	1425
Flt Permitted	0.53	1.00		0.13	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (perm)	832	4266		197	2973	1425		1477		1412	1428	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	61	1537	14	20	200	262	37	70	54	1094	105	1239
RTOR Reduction (vph)	0	1	0	0	0	88	0	14	0	0	0	0
Lane Group Flow (vph)	61	1550	0	20	200	174	0	147	0	602	597	1239
Turn Type	pm+pt	NA		Perm	NA	pt+ov	Split	NA		Split	NA	Free
Protected Phases	7	4			8	8 6	2	2		6	6	
Permitted Phases	4			8								Free
Actuated Green, G (s)	40.4	40.4		31.8	31.8	79.5		18.4		47.7	47.7	120.0
Effective Green, g (s)	40.4	40.4		31.8	31.8	79.5		18.4		47.7	47.7	120.0
Actuated g/C Ratio	0.34	0.34		0.27	0.27	0.66		0.15		0.40	0.40	1.00
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	302	1436		52	787	944		226		561	567	1425
v/s Ratio Prot	0.01	c0.36			0.07	0.12		0.10		c0.43	0.42	
v/s Ratio Perm	0.06			0.10								c0.87
v/c Ratio	0.20	1.08		0.38	0.25	0.18		0.65		1.07	1.05	0.87
Uniform Delay, d1	27.7	39.8		36.1	34.8	7.8		47.8		36.1	36.1	0.0
Progression Factor	0.39	0.37		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	37.3		4.7	0.2	0.1		13.7		59.1	52.5	7.5
Delay (s)	10.7	51.9		40.8	34.9	7.9		61.5		95.3	88.6	7.5
Level of Service	B	D		D	C	A		E		F	F	A
Approach Delay (s)		50.4			20.5			61.5			49.0	
Approach LOS		D			C			E			D	
Intersection Summary												
HCM 2000 Control Delay			47.0				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			1.13									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			99.3%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Ventura & Tunjuga

04/25/2022

























Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	177	1555	797	133	482	427
Future Volume (vph)	177	1555	797	133	482	427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	12	10	12
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1486	3185	2909		2884	1425
Flt Permitted	0.16	1.00	1.00		0.95	1.00
Satd. Flow (perm)	250	3185	2909		2884	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	177	1555	797	133	482	427
RTOR Reduction (vph)	0	0	22	0	0	27
Lane Group Flow (vph)	177	1555	908	0	482	400
Turn Type	pm+pt	NA	NA		Prot	pm+ov
Protected Phases	3	8	4		6	3
Permitted Phases	8					6
Actuated Green, G (s)	31.5	31.5	20.5		19.5	26.0
Effective Green, g (s)	31.5	31.5	20.5		19.5	26.0
Actuated g/C Ratio	0.52	0.52	0.34		0.32	0.43
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	265	1672	993		937	724
v/s Ratio Prot	0.07	c0.49	0.31		0.17	c0.06
v/s Ratio Perm	0.28					0.22
v/c Ratio	0.67	0.93	0.91		0.51	0.55
Uniform Delay, d1	10.2	13.2	18.9		16.4	12.7
Progression Factor	1.00	1.00	0.99		1.00	1.00
Incremental Delay, d2	6.2	9.7	10.5		2.0	0.9
Delay (s)	16.5	22.9	29.2		18.4	13.6
Level of Service	B	C	C		B	B
Approach Delay (s)		22.3	29.2		16.2	
Approach LOS		C	C		B	
Intersection Summary						
HCM 2000 Control Delay			22.5		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.89			
Actuated Cycle Length (s)			60.0		Sum of lost time (s)	13.5
Intersection Capacity Utilization			70.5%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

1: Ventura & Vineland





















04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	1644	55	70	705	110	56	163	49	781	402	255
Future Volume (vph)	255	1644	55	70	705	110	56	163	49	781	402	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1486	2959		1486	2973	1425	1486	1510		2884	1565	1425
Flt Permitted	0.95	1.00		0.10	1.00	1.00	0.53	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1486	2959		163	2973	1425	822	1510		2884	1565	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	255	1644	55	70	705	110	56	163	49	781	402	255
RTOR Reduction (vph)	0	2	0	0	0	52	0	9	0	0	0	25
Lane Group Flow (vph)	255	1697	0	70	705	58	56	203	0	781	402	230
Turn Type	Prot	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	pm+ov
Protected Phases	7				8	1		2		1	6	7
Permitted Phases		4		8		8	2					6
Actuated Green, G (s)	18.5	61.5		38.5	38.5	63.0	20.5	20.5		24.5	49.5	68.0
Effective Green, g (s)	18.5	61.5		38.5	38.5	63.0	20.5	20.5		24.5	49.5	68.0
Actuated g/C Ratio	0.15	0.51		0.32	0.32	0.52	0.17	0.17		0.20	0.41	0.57
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	229	1516		52	953	748	140	257		588	645	860
v/s Ratio Prot	0.17				0.24	0.02		c0.13		c0.27	0.26	0.04
v/s Ratio Perm		c0.57		c0.43		0.02	0.07					0.12
v/c Ratio	1.11	1.12		1.35	0.74	0.08	0.40	0.79		1.33	0.62	0.27
Uniform Delay, d1	50.8	29.2		40.8	36.3	14.1	44.3	47.7		47.8	27.9	13.3
Progression Factor	0.90	0.83		0.61	0.60	0.18	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	77.6	59.0		236.9	2.8	0.0	8.3	21.4		159.2	4.5	0.2
Delay (s)	123.5	83.3		261.8	24.4	2.5	52.6	69.1		206.9	32.4	13.5
Level of Service	F	F		F	C	A	D	E		F	C	B
Approach Delay (s)		88.5			40.5			65.6			123.8	
Approach LOS		F			D			E			F	
Intersection Summary												
HCM 2000 Control Delay	89.0			HCM 2000 Level of Service			F					
HCM 2000 Volume to Capacity ratio	1.21											
Actuated Cycle Length (s)	120.0			Sum of lost time (s)			18.0					
Intersection Capacity Utilization	109.3%			ICU Level of Service			H					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Riverton & Ventura






















04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	724	1667	10	0	301	42	0	24	12	15	0	596
Future Volume (vph)	724	1667	10	0	301	42	0	24	12	15	0	596
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00			0.91	0.91
Frt	1.00	1.00			1.00	0.85		0.95			0.86	0.85
Flt Protected	0.95	1.00			1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)	2884	2970			2973	1425		1494			1221	2594
Flt Permitted	0.95	1.00			1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)	2884	2970			2973	1425		1494			1221	2594
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	724	1667	10	0	301	42	0	24	12	15	0	596
RTOR Reduction (vph)	0	0	0	0	0	36	0	8	0	0	179	247
Lane Group Flow (vph)	724	1677	0	0	301	6	0	28	0	0	27	158
Turn Type	Prot	NA		Prot	NA	custom		NA		Split	NA	pt+ov
Protected Phases	3	8		7			2	2		6	6	6 3
Permitted Phases					4	4						
Actuated Green, G (s)	39.5	61.7			17.7	17.7		37.4			7.4	46.9
Effective Green, g (s)	39.5	61.7			17.7	17.7		37.4			7.4	46.9
Actuated g/C Ratio	0.33	0.51			0.15	0.15		0.31			0.06	0.39
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	949	1527			438	210		465			75	1013
v/s Ratio Prot	0.25	c0.56						c0.02			c0.02	0.06
v/s Ratio Perm					0.10	0.00						
v/c Ratio	0.76	1.10			0.69	0.03		0.06			0.36	0.16
Uniform Delay, d1	36.1	29.1			48.5	43.8		29.0			54.0	23.7
Progression Factor	0.88	0.85			1.07	1.00		1.00			1.00	1.00
Incremental Delay, d2	0.3	45.2			2.7	0.0		0.2			2.9	0.1
Delay (s)	32.1	69.9			54.8	43.8		29.2			56.9	23.8
Level of Service	C	E			D	D		C			E	C
Approach Delay (s)		58.5			53.5			29.2			35.0	
Approach LOS		E			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			53.4				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			82.7%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Ventura & Lankershim

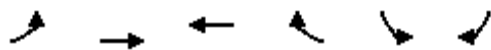
04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	1545	14	20	201	262	37	70	54	1094	105	1239
Future Volume (vph)	61	1545	14	20	201	262	37	70	54	1094	105	1239
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Flt Protected	1.00	1.00		1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	1486	4266		1486	2973	1425		1477		1412	1428	1425
Satd. Flow (perm)	831	4266		196	2973	1425		1477		1412	1428	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	61	1545	14	20	201	262	37	70	54	1094	105	1239
RTOR Reduction (vph)	0	1	0	0	0	88	0	14	0	0	0	0
Lane Group Flow (vph)	61	1558	0	20	201	174	0	147	0	602	597	1239
Turn Type	pm+pt	NA		Perm	NA	pt+ov	Split	NA		Split	NA	Free
Protected Phases	7	4			8	8 6	2	2		6	6	
Permitted Phases	4			8								Free
Actuated Green, G (s)	40.6	40.6		32.0	32.0	79.7		18.2		47.7	47.7	120.0
Effective Green, g (s)	40.6	40.6		32.0	32.0	79.7		18.2		47.7	47.7	120.0
Actuated g/C Ratio	0.34	0.34		0.27	0.27	0.66		0.15		0.40	0.40	1.00
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	303	1443		52	792	946		224		561	567	1425
v/s Ratio Prot	0.01	c0.37			0.07	0.12		0.10		c0.43	0.42	
v/s Ratio Perm	0.06			0.10								c0.87
v/c Ratio	0.20	1.08		0.38	0.25	0.18		0.66		1.07	1.05	0.87
Uniform Delay, d1	27.5	39.7		36.0	34.6	7.7		48.0		36.1	36.1	0.0
Progression Factor	0.40	0.37		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	37.4		4.7	0.2	0.1		14.2		59.1	52.5	7.5
Delay (s)	11.0	52.3		40.6	34.8	7.8		62.1		95.3	88.6	7.5
Level of Service	B	D		D	C	A		E		F	F	A
Approach Delay (s)		50.7			20.4			62.1			49.0	
Approach LOS		D			C			E			D	
Intersection Summary												
HCM 2000 Control Delay			47.1				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			1.13									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			99.4%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Ventura & Tunjuga

04/25/2022

























Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	177	1558	805	136	483	427
Future Volume (vph)	177	1558	805	136	483	427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	12	10	12
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1486	3185	2908		2884	1425
Flt Permitted	0.16	1.00	1.00		0.95	1.00
Satd. Flow (perm)	250	3185	2908		2884	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	177	1558	805	136	483	427
RTOR Reduction (vph)	0	0	23	0	0	26
Lane Group Flow (vph)	177	1558	918	0	483	401
Turn Type	pm+pt	NA	NA		Prot	pm+ov
Protected Phases	3	8	4		6	3
Permitted Phases	8					6
Actuated Green, G (s)	31.5	31.5	20.5		19.5	26.0
Effective Green, g (s)	31.5	31.5	20.5		19.5	26.0
Actuated g/C Ratio	0.52	0.52	0.34		0.32	0.43
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	265	1672	993		937	724
v/s Ratio Prot	0.07	c0.49	0.32		0.17	c0.06
v/s Ratio Perm	0.28					0.22
v/c Ratio	0.67	0.93	0.92		0.52	0.55
Uniform Delay, d1	10.3	13.3	19.0		16.4	12.7
Progression Factor	1.00	1.00	1.02		1.00	1.00
Incremental Delay, d2	6.2	9.9	11.5		2.0	0.9
Delay (s)	16.5	23.1	30.8		18.4	13.6
Level of Service	B	C	C		B	B
Approach Delay (s)		22.5	30.8		16.2	
Approach LOS		C	C		B	
Intersection Summary						
HCM 2000 Control Delay			23.1		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.89			
Actuated Cycle Length (s)			60.0		Sum of lost time (s)	13.5
Intersection Capacity Utilization			70.7%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

1: Ventura & Vineland





















04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	423	988	79	67	1020	313	69	286	104	184	178	336
Future Volume (vph)	423	988	79	67	1020	313	69	286	104	184	178	336
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1486	2940		1486	2973	1425	1486	1502		2884	1565	1425
Flt Permitted	0.95	1.00		0.27	1.00	1.00	0.64	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1486	2940		419	2973	1425	1009	1502		2884	1565	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	423	988	79	67	1020	313	69	286	104	184	178	336
RTOR Reduction (vph)	0	5	0	0	0	107	0	12	0	0	0	6
Lane Group Flow (vph)	423	1062	0	67	1020	207	69	378	0	184	178	330
Turn Type	Prot	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	pm+ov
Protected Phases	7				8		1		2		1	
Permitted Phases		4		8		8	2				6	
Actuated Green, G (s)	27.5	64.5		32.5	32.5	39.0	25.5	25.5		6.5	36.5	64.0
Effective Green, g (s)	27.5	64.5		32.5	32.5	39.0	25.5	25.5		6.5	36.5	64.0
Actuated g/C Ratio	0.25	0.59		0.30	0.30	0.35	0.23	0.23		0.06	0.33	0.58
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	371	1723		123	878	563	233	348		170	519	887
v/s Ratio Prot	c0.28				c0.34	0.02		c0.25		c0.06	0.11	0.09
v/s Ratio Perm		0.36		0.16		0.12	0.07					0.14
v/c Ratio	1.14	0.62		0.54	1.16	0.37	0.30	1.09		1.08	0.34	0.37
Uniform Delay, d1	41.2	14.7		32.5	38.8	26.3	34.8	42.2		51.8	27.7	12.3
Progression Factor	0.85	0.78		0.62	0.61	0.16	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	87.9	0.6		3.9	83.0	0.3	3.2	73.7		92.7	1.8	0.3
Delay (s)	122.8	12.0		24.2	106.6	4.5	38.1	116.0		144.4	29.5	12.5
Level of Service	F	B		C	F	A	D	F		F	C	B
Approach Delay (s)		43.5			79.8			104.3			51.6	
Approach LOS		D			E			F			D	
Intersection Summary												
HCM 2000 Control Delay		64.4										
HCM 2000 Volume to Capacity ratio		1.13										
Actuated Cycle Length (s)		110.0								18.0		
Intersection Capacity Utilization		102.0%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Riverton & Ventura






















04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	407	914	6	6	765	151	6	80	12	11	4	602
Future Volume (vph)	407	914	6	6	765	151	6	80	12	11	4	602
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		1.00			0.91	0.91
Frt	1.00	1.00		1.00	1.00	0.85		0.98			0.86	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)	2884	2970		1486	2973	1425		1534			1222	2594
Flt Permitted	0.95	1.00		0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)	2884	2970		1486	2973	1425		1534			1222	2594
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	407	914	6	6	765	151	6	80	12	11	4	602
RTOR Reduction (vph)	0	0	0	0	0	100	0	5	0	0	176	284
Lane Group Flow (vph)	407	920	0	6	765	51	0	93	0	0	32	125
Turn Type	Prot	NA		Prot	NA	custom	Split	NA		Split	NA	pt+ov
Protected Phases	3	8		7			2	2		6	6	6 3
Permitted Phases					4	4						
Actuated Green, G (s)	19.5	55.4		1.4	37.3	37.3		25.6			9.6	33.6
Effective Green, g (s)	19.5	55.4		1.4	37.3	37.3		25.6			9.6	33.6
Actuated g/C Ratio	0.18	0.50		0.01	0.34	0.34		0.23			0.09	0.31
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	511	1495		18	1008	483		357			106	792
v/s Ratio Prot	c0.14	0.31		0.00				c0.06			c0.03	0.05
v/s Ratio Perm					c0.26	0.04						
v/c Ratio	0.80	0.62		0.33	0.76	0.11		0.26			0.30	0.16
Uniform Delay, d1	43.3	19.6		53.8	32.3	24.9		34.5			47.1	27.9
Progression Factor	1.19	0.69		1.21	0.64	0.01		1.00			1.00	1.00
Incremental Delay, d2	6.1	0.5		7.7	2.4	0.1		1.8			1.6	0.1
Delay (s)	57.6	14.2		72.9	23.0	0.3		36.3			48.6	28.0
Level of Service	E	B		E	C	A		D			D	C
Approach Delay (s)		27.5			19.6			36.3			34.9	
Approach LOS		C			B			D			C	
Intersection Summary												
HCM 2000 Control Delay			26.9				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)		18.0			
Intersection Capacity Utilization			60.4%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Ventura & Lankershim

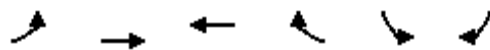
04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	798	24	36	695	594	40	152	67	529	112	756
Future Volume (vph)	109	798	24	36	695	594	40	152	67	529	112	756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.97	1.00
Satd. Flow (prot)	1486	4253		1486	2973	1425		1498		1412	1439	1425
Flt Permitted	0.21	1.00		0.22	1.00	1.00		0.99		0.95	0.97	1.00
Satd. Flow (perm)	324	4253		352	2973	1425		1498		1412	1439	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	109	798	24	36	695	594	40	152	67	529	112	756
RTOR Reduction (vph)	0	3	0	0	0	178	0	12	0	0	0	0
Lane Group Flow (vph)	109	819	0	36	695	416	0	247	0	317	324	756
Turn Type	pm+pt	NA		Perm	NA	pt+ov	Split	NA		Split	NA	Free
Protected Phases	7	4			8	8 6	2	2		6	6	
Permitted Phases	4			8								Free
Actuated Green, G (s)	40.3	40.3		29.8	29.8	65.0		25.5		30.7	30.7	110.0
Effective Green, g (s)	40.3	40.3		29.8	29.8	65.0		25.5		30.7	30.7	110.0
Actuated g/C Ratio	0.37	0.37		0.27	0.27	0.59		0.23		0.28	0.28	1.00
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	182	1558		95	805	842		347		394	401	1425
v/s Ratio Prot	0.03	0.19			c0.23	0.29		c0.17		0.22	c0.23	
v/s Ratio Perm	0.19			0.10								c0.53
v/c Ratio	0.60	0.53		0.38	0.86	0.49		0.71		0.80	0.81	0.53
Uniform Delay, d1	40.6	27.3		32.6	38.2	13.0		38.9		36.9	36.9	0.0
Progression Factor	0.42	0.32		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	4.2	0.3		2.5	9.5	0.5		11.8		15.9	15.9	1.4
Delay (s)	21.2	9.0		35.1	47.7	13.5		50.7		52.8	52.9	1.4
Level of Service	C	A		D	D	B		D		D	D	A
Approach Delay (s)		10.4			32.0			50.7			25.0	
Approach LOS		B			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			25.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			78.5%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Ventura & Tunjuga

04/25/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	308	1270	1165	292	185	211
Future Volume (vph)	308	1270	1165	292	185	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	12	10	12
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1486	3185	2884		2884	1425
Flt Permitted	0.07	1.00	1.00		0.95	1.00
Satd. Flow (perm)	103	3185	2884		2884	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	308	1270	1165	292	185	211
RTOR Reduction (vph)	0	0	20	0	0	31
Lane Group Flow (vph)	308	1270	1437	0	185	180
Turn Type	pm+pt	NA	NA		Prot	pm+ov
Protected Phases	3	8	4		6	3
Permitted Phases	8					6
Actuated Green, G (s)	80.7	80.7	56.2		20.3	40.3
Effective Green, g (s)	80.7	80.7	56.2		20.3	40.3
Actuated g/C Ratio	0.73	0.73	0.51		0.18	0.37
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	327	2336	1473		532	580
v/s Ratio Prot	c0.17	0.40	0.50		c0.06	0.06
v/s Ratio Perm	c0.52					0.07
v/c Ratio	0.94	0.54	0.98		0.35	0.31
Uniform Delay, d1	35.3	6.5	26.2		39.1	24.9
Progression Factor	1.00	1.00	0.39		1.00	1.00
Incremental Delay, d2	34.7	0.3	9.6		1.8	0.3
Delay (s)	69.9	6.8	19.9		40.9	25.2
Level of Service	E	A	B		D	C
Approach Delay (s)		19.1	19.9		32.5	
Approach LOS		B	B		C	























Intersection Summary

HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

1: Ventura & Vineland





















04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	428	995	79	67	1027	313	69	286	104	184	178	348
Future Volume (vph)	428	995	79	67	1027	313	69	286	104	184	178	348
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1486	2940		1486	2973	1425	1486	1502		2884	1565	1425
Flt Permitted	0.95	1.00		0.27	1.00	1.00	0.64	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1486	2940		417	2973	1425	1009	1502		2884	1565	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	428	995	79	67	1027	313	69	286	104	184	178	348
RTOR Reduction (vph)	0	5	0	0	0	105	0	12	0	0	0	6
Lane Group Flow (vph)	428	1069	0	67	1027	208	69	378	0	184	178	342
Turn Type	Prot	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	pm+ov
Protected Phases	7				8	1		2		1	6	7
Permitted Phases		4		8		8	2					6
Actuated Green, G (s)	27.5	64.5		32.5	32.5	39.0	25.5	25.5		6.5	36.5	64.0
Effective Green, g (s)	27.5	64.5		32.5	32.5	39.0	25.5	25.5		6.5	36.5	64.0
Actuated g/C Ratio	0.25	0.59		0.30	0.30	0.35	0.23	0.23		0.06	0.33	0.58
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	371	1723		123	878	563	233	348		170	519	887
v/s Ratio Prot	c0.29				c0.35	0.02		c0.25		c0.06	0.11	0.10
v/s Ratio Perm		0.36		0.16		0.12	0.07					0.14
v/c Ratio	1.15	0.62		0.54	1.17	0.37	0.30	1.09		1.08	0.34	0.39
Uniform Delay, d1	41.2	14.8		32.5	38.8	26.4	34.8	42.2		51.8	27.7	12.4
Progression Factor	0.85	0.79		0.71	0.64	0.15	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	92.8	0.6		3.8	86.2	0.3	3.2	73.7		92.7	1.8	0.3
Delay (s)	127.9	12.2		27.0	110.9	4.3	38.1	116.0		144.4	29.5	12.7
Level of Service	F	B		C	F	A	D	F		F	C	B
Approach Delay (s)		45.2			83.2			104.3			51.0	
Approach LOS		D			F			F			D	
Intersection Summary												
HCM 2000 Control Delay			66.0		HCM 2000 Level of Service					E		
HCM 2000 Volume to Capacity ratio			1.13									
Actuated Cycle Length (s)			110.0		Sum of lost time (s)					18.0		
Intersection Capacity Utilization			102.5%		ICU Level of Service					G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Riverton & Ventura



























04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	410	919	6	6	768	151	6	80	12	11	4	606
Future Volume (vph)	410	919	6	6	768	151	6	80	12	11	4	606
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		1.00			0.91	0.91
Frt	1.00	1.00		1.00	1.00	0.85		0.98			0.86	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)	2884	2970		1486	2973	1425		1534			1222	2594
Flt Permitted	0.95	1.00		0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)	2884	2970		1486	2973	1425		1534			1222	2594
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	410	919	6	6	768	151	6	80	12	11	4	606
RTOR Reduction (vph)	0	1	0	0	0	100	0	5	0	0	177	286
Lane Group Flow (vph)	410	924	0	6	768	51	0	93	0	0	32	126
Turn Type	Prot	NA		Prot	NA	custom	Split	NA		Split	NA	pt+ov
Protected Phases	3	8		7			2	2		6	6	6 3
Permitted Phases					4	4						
Actuated Green, G (s)	19.6	53.3		3.6	37.3	37.3		25.5			9.6	33.7
Effective Green, g (s)	19.6	53.3		3.6	37.3	37.3		25.5			9.6	33.7
Actuated g/C Ratio	0.18	0.48		0.03	0.34	0.34		0.23			0.09	0.31
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	513	1439		48	1008	483		355			106	794
v/s Ratio Prot	c0.14	0.31		0.00				c0.06			c0.03	0.05
v/s Ratio Perm					c0.26	0.04						
v/c Ratio	0.80	0.64		0.12	0.76	0.11		0.26			0.30	0.16
Uniform Delay, d1	43.3	21.2		51.7	32.4	24.9		34.6			47.1	27.8
Progression Factor	1.09	0.67		0.77	0.60	0.02		1.00			1.00	1.00
Incremental Delay, d2	6.1	0.7		0.8	2.5	0.1		1.8			1.6	0.1
Delay (s)	53.5	14.9		40.8	22.0	0.6		36.4			48.7	27.9
Level of Service	D	B		D	C	A		D			D	C
Approach Delay (s)		26.8			18.6			36.4			34.9	
Approach LOS		C			B			D			C	
Intersection Summary												
HCM 2000 Control Delay			26.2				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)		18.0			
Intersection Capacity Utilization			60.6%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Ventura & Lankershim

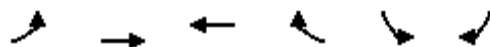
04/25/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Traffic Volume (vph)	109	802	24	36	698	594	40	152	67	529	112	756
Future Volume (vph)	109	802	24	36	698	594	40	152	67	529	112	756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	10	10	12	10	10	12	10	10	12
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.97	1.00
Satd. Flow (prot)	1486	4253		1486	2973	1425		1498		1412	1439	1425
Flt Permitted	0.20	1.00		0.22	1.00	1.00		0.99		0.95	0.97	1.00
Satd. Flow (perm)	319	4253		350	2973	1425		1498		1412	1439	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	109	802	24	36	698	594	40	152	67	529	112	756
RTOR Reduction (vph)	0	3	0	0	0	175	0	12	0	0	0	0
Lane Group Flow (vph)	109	823	0	36	698	419	0	247	0	317	324	756
Turn Type	pm+pt	NA		Perm	NA	pt+ov	Split	NA		Split	NA	Free
Protected Phases	7	4			8	8	6	2	2		6	6
Permitted Phases	4			8								Free
Actuated Green, G (s)	40.9	40.9		29.6	29.6	64.8		24.9		30.7	30.7	110.0
Effective Green, g (s)	40.9	40.9		29.6	29.6	64.8		24.9		30.7	30.7	110.0
Actuated g/C Ratio	0.37	0.37		0.27	0.27	0.59		0.23		0.28	0.28	1.00
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	190	1581		94	800	839		339		394	401	1425
v/s Ratio Prot	0.04	0.19			c0.23	0.29		c0.17		0.22	c0.23	
v/s Ratio Perm	0.18			0.10								c0.53
v/c Ratio	0.57	0.52		0.38	0.87	0.50		0.73		0.80	0.81	0.53
Uniform Delay, d1	40.1	26.9		32.8	38.4	13.2		39.4		36.9	36.9	0.0
Progression Factor	0.36	0.22		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	3.2	0.2		2.6	10.3	0.5		13.0		15.9	15.9	1.4
Delay (s)	17.8	6.2		35.3	48.7	13.6		52.4		52.8	52.9	1.4
Level of Service	B	A		D	D	B		D		D	D	A
Approach Delay (s)		7.6			32.7			52.4			25.0	
Approach LOS		A			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			25.3				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			78.6%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Ventura & Tunjuga

04/25/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	308	1277	1170	293	187	211
Future Volume (vph)	308	1277	1170	293	187	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	12	10	12
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1486	3185	2884		2884	1425
Flt Permitted	0.07	1.00	1.00		0.95	1.00
Satd. Flow (perm)	103	3185	2884		2884	1425
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	308	1277	1170	293	187	211
RTOR Reduction (vph)	0	0	20	0	0	31
Lane Group Flow (vph)	308	1277	1443	0	187	180
Turn Type	custom	NA	NA		Prot	pm+ov
Protected Phases	3	8	4		6	3
Permitted Phases	4 8					6
Actuated Green, G (s)	80.9	80.9	56.4		20.1	40.1
Effective Green, g (s)	80.9	80.9	56.4		20.1	40.1
Actuated g/C Ratio	0.74	0.74	0.51		0.18	0.36
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	327	2342	1478		526	577
v/s Ratio Prot	c0.17	0.40	0.50		c0.06	0.06
v/s Ratio Perm	c0.52					0.07
v/c Ratio	0.94	0.55	0.98		0.36	0.31
Uniform Delay, d1	35.3	6.4	26.1		39.3	25.1
Progression Factor	1.00	1.00	0.39		1.00	1.00
Incremental Delay, d2	34.7	0.3	9.3		1.9	0.3
Delay (s)	70.0	6.7	19.4		41.2	25.4
Level of Service	E	A	B		D	C
Approach Delay (s)		19.0	19.4		32.8	
Approach LOS		B	B		C	
Intersection Summary						
HCM 2000 Control Delay			20.8		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.84			
Actuated Cycle Length (s)			110.0		Sum of lost time (s)	13.5
Intersection Capacity Utilization			82.5%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

APPENDIX C: NOISE IMPACT ASSESSMENT

October 11, 2022

Mr. Craig Fajnor
EcoTierra Consulting
633 W 5th Street, 26th Floor
Los Angeles, CA 90071

**Subject: 4260 Arch Drive Multi-Family Residential – Cat32 Exemption Noise Impact Assessment –
Los Angeles, CA**

Dear Mr. Fajnor:

MD Acoustics, LLC (MD) has completed a noise impact assessment for the proposed Multi-Family Residential Development project located at 4260 Arch Drive in the City of Los Angeles, CA. The project has filed for a Categorical 32 Exemption (Cat32) in which an “Infill” Categorical Exemption (CEQA Guideline Section 15332), exempts infill development within urbanized areas if it meets certain criteria. The class consists of environmentally benign infill projects that are consistent with the local General Plan and Zoning requirements. This class is not intended for projects that would result in any significant traffic, noise, air quality, or water quality impacts. It may apply to residential, commercial, industrial, and/or mixed-use projects.

This noise assessment intends to demonstrate the project’s compliance with applicable noise regulations and lack of significant noise impacts. A list of definitions and terminology is located in Appendix A.

1.0 Project Description and Assessment Overview

The Project Site is approximately 44,572 square feet. The Project includes construction of a new multifamily residential 5-story building containing 129 residential dwelling units. The Project would include a total of 145 parking stalls in a subterranean parking garage. The project includes on-site amenities such as a 1st floor pool deck and courtyard. The proposed project site plan is in Exhibit B.

Land uses and the closest existing sensitive receptors surrounding the site include single-family residential uses to the northwest and south, multi-family residential uses to the east, and commercial uses to the west, northeast, and southeast. The project is not within two miles of a public airport or public use airport. The proposed project location is in Exhibit A.

2.0 Local Acoustical Requirements and CEQA Guidelines

The City of Los Angeles has outlined the following within the Los Angeles Municipal Code as it relates to noise regulation:

Per Section 111.03, the minimum ambient level for all residential zones is 50 dBA from 7AM to 10PM and 40 dBA from 10PM to 7AM.

Per Section 112.02, air conditioning, refrigeration, and heating equipment cannot cause a noise level to exceed the ambient noise level on the premises of another occupied property by more than 5 dB.

Per Section 112.05(A), construction machinery must not exceed 75 dBA at 50 feet.

Per Section 41.40, construction must occur between the hours of 7 AM and 9 PM on Monday through Friday and 8 AM to 6 PM on Saturday. Construction may not occur on Sundays or national holidays.

According to CEQA guidelines, the project would have a potential impact if it resulted in:

- a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- b) Generation of excessive groundborne vibration or groundborne noise levels?
- c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

3.0 Study Method and Procedure

3.1 Ambient Noise Measurements

MD performed two (2) 15-minute measurements on 10/10/22 between 1 PM and 2 PM as shown in Appendix B. NM1 was placed near the south corner of the project site and NM2 was placed near the east corner of the site. The main source of ambient noise throughout the project site and surrounding areas came from traffic on Ventura Boulevard. The noise level was 61 to 65 dBA Leq as shown in Table 1. Further notes and pictures are provided in Appendix B.

Table 1: Short-Term Measurement Summary, dBA

Location	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
NM1	1:09 PM	1:24 PM	64.5	71.2	48.3	69.5	67.8	65.8	63.7	56
NM2	1:25 PM	1:40 PM	61.0	73.1	48.7	68.4	64.9	61	58.9	54.1

3.2 FHWA Traffic Noise Model

The traffic noise analysis utilizes the Federal Highway Administration (FHWA) Traffic Noise Model, together with several key construction parameters. Key input speed, site conditions, average daily traffic (ADT), and vehicle mix data. The modeling does not take into account any existing barriers, structures, and/or topographical features that may further reduce noise levels.

The traffic noise model indicated that the noise level at the eastern corner of the site is 64 dBA Leq during the peak hour of the day, 62 dBA Leq during daytime hours, 59 dBA Leq during evening hours, and 54 dBA Leq during nighttime hours. The CNEL level is calculated to be 63 dBA. See Appendix C.

3.3 FHWA Construction Noise Model

The construction noise analysis utilizes the FHWA Roadway Construction Noise Model methodology, together with several key construction parameters. Key inputs include distance to the sensitive receiver, equipment usage, % usage factor, and baseline parameters for the project site. The project was analyzed based on the different construction phases. The FHWA has compiled data regarding the noise-generated characteristics of typical construction activities and is presented in Table 2.

Table 2: RCNM Measured Noise Emission Reference Levels¹

Type	Typical Noise Level at 50 Feet (dBA)
Concrete Saw	90
Dozer	82
Grader	85
Tractor	84
Roller	80
Crane	81
Man Lift	75
Concrete Mixer Truck	79
Air Compressor	78
Notes: ¹ Referenced Noise Levels from the FHWA RCNM.	

3.3 Construction Vibration Model

Construction activities can produce vibration that may be felt by adjacent land uses. The construction of the proposed project would not require the use of equipment such as pile drivers, which are known to generate substantial construction vibration levels. The primary vibration source during construction may be from a bulldozer. A large bulldozer has a vibration impact of 0.089 inches per second peak particle velocity (PPV) at 25 feet which is likely perceptible but below any risk of architectural damage.

The fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

$$PPV_{\text{equipment}} = PPV_{\text{ref}} (25/D_{\text{rec}})^n$$

Where: PPV_{ref} = reference PPV at 25ft.

D_{rec} = distance from equipment to receiver in ft.

$n = 1.1$ (the value related to the attenuation rate through ground)

The thresholds from the Caltrans Transportation and Construction Induced Vibration Guidance Manual provide general thresholds and guidelines as to the vibration damage potential from vibratory impacts.

4.0 Traffic Noise Level Projections

Traffic noise along Ventura Boulevard will be the main source of noise impacting the project site and the surrounding area. The structure has subterranean parking and has no above ground parking. The project projects 593 daily trips. Per the Project traffic study (Overland Traffic Consultants, Inc. 2022), Ventura Boulevard has 26,300 trips by the project site.

It takes a change of 3 dB or more to hear an audible difference which would occur with a doubling of traffic. The project is anticipated to not increase the existing noise level due to an increase in traffic, and therefore the impact is less than significant.

5.0 Project Operational Noise Level Projections

On-site operational noise includes a transformer and HVAC. All HVAC equipment is located on the rooftop and will be blocked by a 5' parapet wall. Equipment will be at least 57 feet away from adjacent residences. The maximum sound power level from a single unit is 75 dBA. At 57 feet away, the sound pressure level is estimated to be 42 dBA. For all 34 units near the residential property operating simultaneously, the sound level is 58 dBA. This is a simplification assuming all units are 57 feet away from the receiver when in reality most will be over 57 feet away. The parapet will provide a 15 dB reduction. The maximum sound level at the nearby residential receivers will be 43 dBA and will therefore not increase the overall nighttime ambient level of 54 dBA Leq. See Appendix D.

Per ANSI and NEPA requirements for transformer noise, transformers must be no louder than 65 dBA at 6 feet. Transformers should be placed at least 20 feet from the adjacent residential receptors or should be shielded to stay below the nighttime ambient level.

Operational noise complies with Section 122.02 of the Los Angeles Municipal Code. The impact is, therefore, less than significant.

6.0 Construction Noise Level Projections

The degree of construction noise may vary for different areas of the project site and also vary depending on the construction activities. Noise levels associated with the construction will vary with the different phases of construction. Table 3 presents the construction noise levels at sensitive receptors with the implementation of 15 dB mufflers on all heavy equipment. See Appendix E for calculations.

Table 3: Projected Construction Noise Levels (dBA, Lmax)¹

Location	Phase	Construction Noise Level	Exceeds Significant Threshold?
Adjacent Residential Properties	Grade	70	No
	Build	69	No
	Pave	69	No
	Arch Coat	63	No

Assuming the implementation of 15 dB mufflers on all heavy equipment, the regulatory noise level limit of 75 dBA is never exceeded during each phase of construction at 50 feet from the source. The impact is, therefore, less than significant.

7.0 Construction Vibration Level Projections

Bulldozers will get as close as 19 ft to the nearest residential buildings surrounding the project site. The vibration will be up to 0.120 in/sec PPV during construction. This is perceptible but below the threshold of damage of 0.2 in/sec PPV for the adjacent buildings. The impact is, therefore, less than significant. See Appendix E for calculations.

8.0 Conclusions

The Project will be compliant with the City's noise ordinance and CEQA guidelines with the implementation of typical construction noise best practices. In addition, the project will not generate a noise impact during operation. The project is not within 2 miles of a private or public airport. MD is pleased to provide this noise assessment for the proposed project. If you have any questions regarding this analysis, please call our office at (805) 426-4477.

Sincerely,
MD Acoustics, LLC

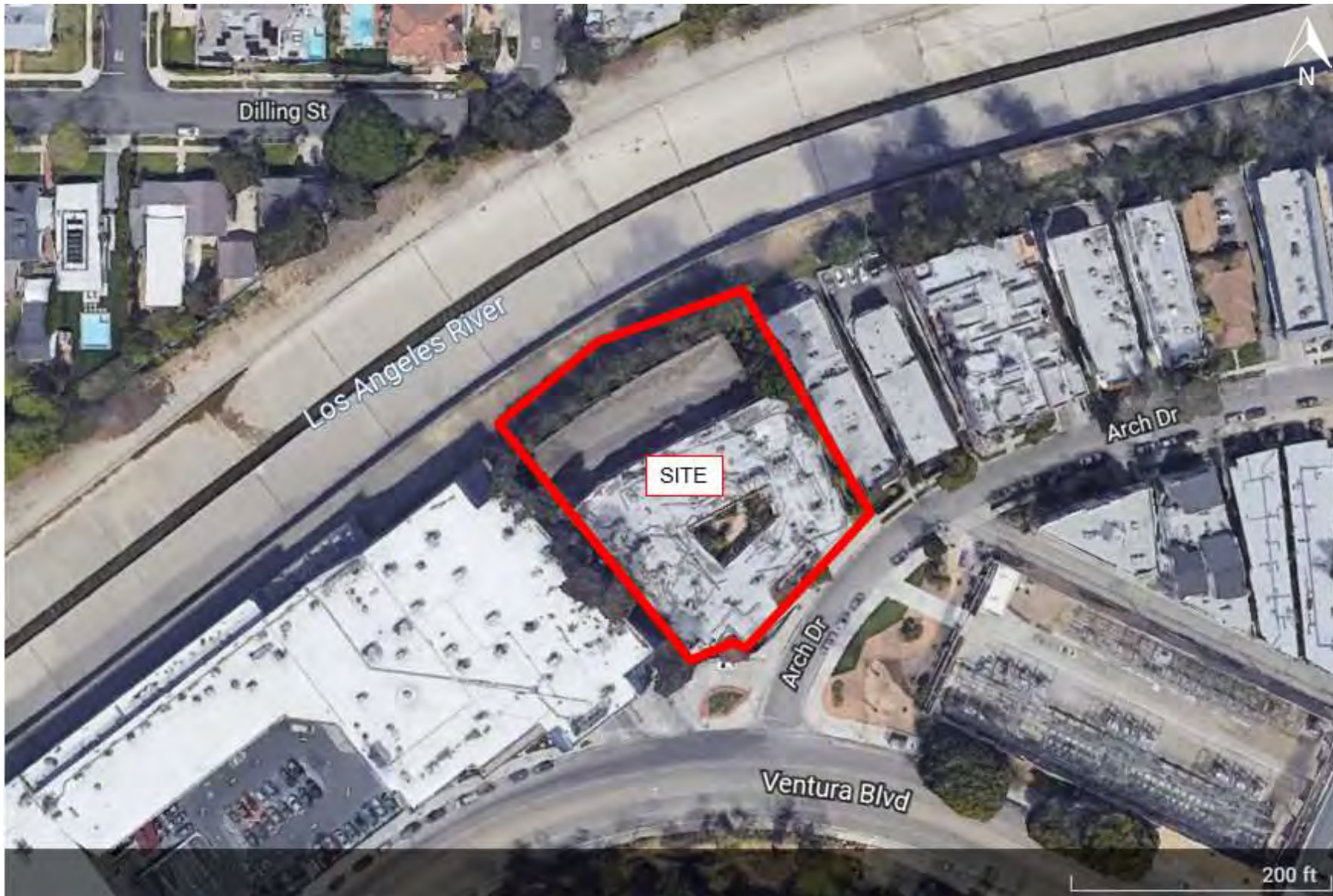


Rachel Edelman
Acoustical Consultant

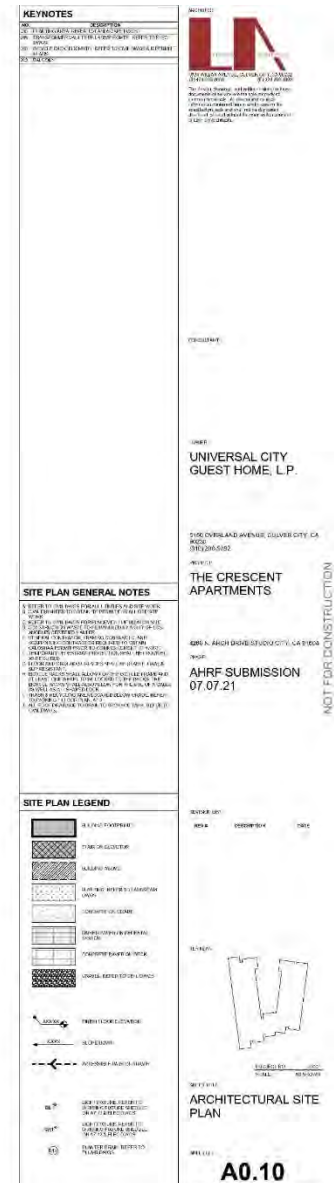


Claire Pincock, INCE-USA
Acoustical Consultant

Exhibit A Location Map



7



Appendix A

Glossary of Acoustical Terms

Glossary of Terms

A-Weighted Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high-frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

Ambient Noise Level: The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Community Noise Equivalent Level (CNEL): The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after the addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM.

Decibel (dB): A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

dB(A): A-weighted sound level (see definition above).

Equivalent Sound Level (LEQ): The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time-varying noise level. The energy average noise level during the sample period.

Habitable Room: Any room meeting the requirements of the Uniform Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking, or dining purposes, excluding such enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms, and similar spaces.

L(n): The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly L50, L90, L99, etc.

Noise: Any unwanted sound or sound which is undesirable because it interferes with speech and hearing or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

Noise Criteria (NC) Method: This metric plots octave band sound levels against a family of reference curves, with the number rating equal to the highest tangent line value as demonstrated in Figure 1.

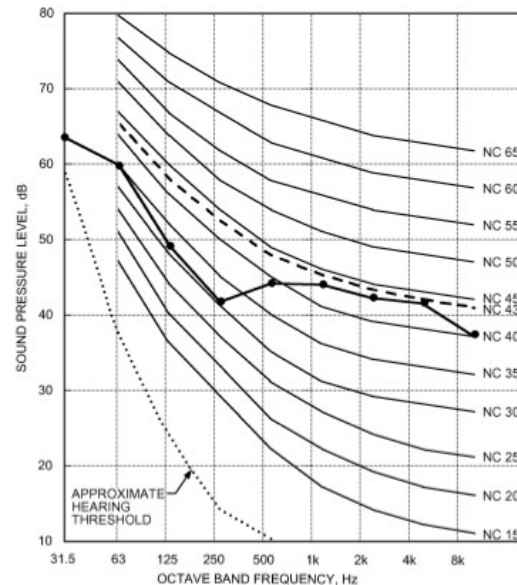
Percent Noise Levels: See L(n).

Room Criterion (RC) Method: When sound quality in the space is important, the RC metric provides a diagnostic tool to quantify both the speech interference level and spectral imbalance.

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency filter for attenuating part of the sound spectrum.

Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

FIGURE 1: Sample NC Curves and Sample Spectrum Levels



Sound Transmission Class (STC): To quantify STC, a Transmission Loss (TL) measurement is performed in a laboratory over a range of 16 third-octave bands between 125 – 4,000 Hertz (Hz). The average human voice creates sound within the 125 – 4,000 Hz $1/3^{\text{rd}}$ octave bands.

STC is a single-number rating given to a particular material or assembly. The STC rating measures the ability of a material or an assembly to resist airborne sound transfer over the specified frequencies (see ASTM International Classification E413 and E90). In general, a higher STC rating corresponds with a greater reduction of noise transmitting through a partition.

STC is highly dependent on the construction of the partition. The STC of a partition can be increased by: adding mass, increasing or adding air space, and adding absorptive materials within the assembly. The STC rating does not assess low-frequency sound transfer (e.g. sounds less than 125 Hz). Special consideration must be given to spaces where the noise transfer concern has lower frequencies than speech, such as mechanical equipment and or/or music. The STC rating is a lab test that does not take into consideration weak points, penetrations, or flanking paths.

Even with a high STC rating, any penetration, air-gap, or “flanking path can seriously degrade the isolation quality of a wall. Flanking paths are the means for sound to transfer from one space to another other than through the wall. Sound can flank over, under, or around a wall. Sound can also travel through common ductwork, plumbing, or corridors. Noise will travel between spaces at the weakest points. Typically, there is no reason to spend money or effort to improve the walls until all weak points are controlled first.

Outdoor Living Area: Outdoor spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include patio areas, barbecue areas, jacuzzi areas, etc. associated with residential uses; outdoor patient recovery or resting areas associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship which have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes which may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas and storage areas associated with residential land uses; exterior areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and, outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas).

Percent Noise Levels: See L(n).

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency filter for attenuating part of the sound spectrum.

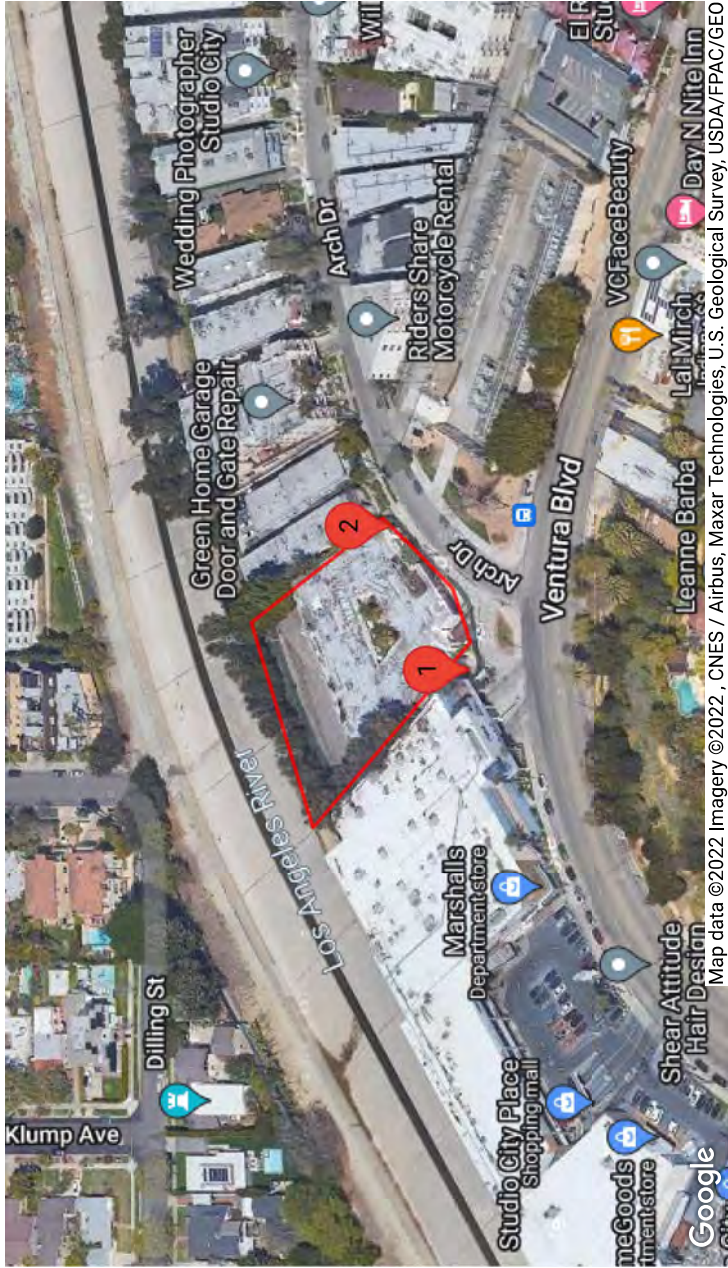
Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

Single Event Noise Exposure Level (SENEL): The dB(A) level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.

Appendix B
Field Sheet

15-Minute Continuous Noise Measurement Datasheet

Project Name:	4260 Arch Drive Multi-Family - Cat32	Site Observations:	Sunny, scattered clouds 76F winds 0-3mph from S SE and swirling. No people passed by the meters during testing, several trucks drove by and a couple of plug-in vehicle owners were charging their cars about 80' from NM2.
Project: #/Name:	0332-2022-013		
Site Address/Location:	4260 N Arch Drive, Studio City,		
Date:	10/10/2022		
Field Tech/Engineer:			
Sound Meter:	XL2, NTI	SN: A2A-08562-E0	
Settings:	A-weighted, slow, 1-sec, 15-minute interval		
Site Id:	NM1, NM2		



15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name: 4260 Arch Drive Multi-Family - Cat32

Site Address/Location: 4260 N Arch Drive, Studio City,

Site Id: NM1, NM2

Figure 1: NM1



Figure 2: NM2

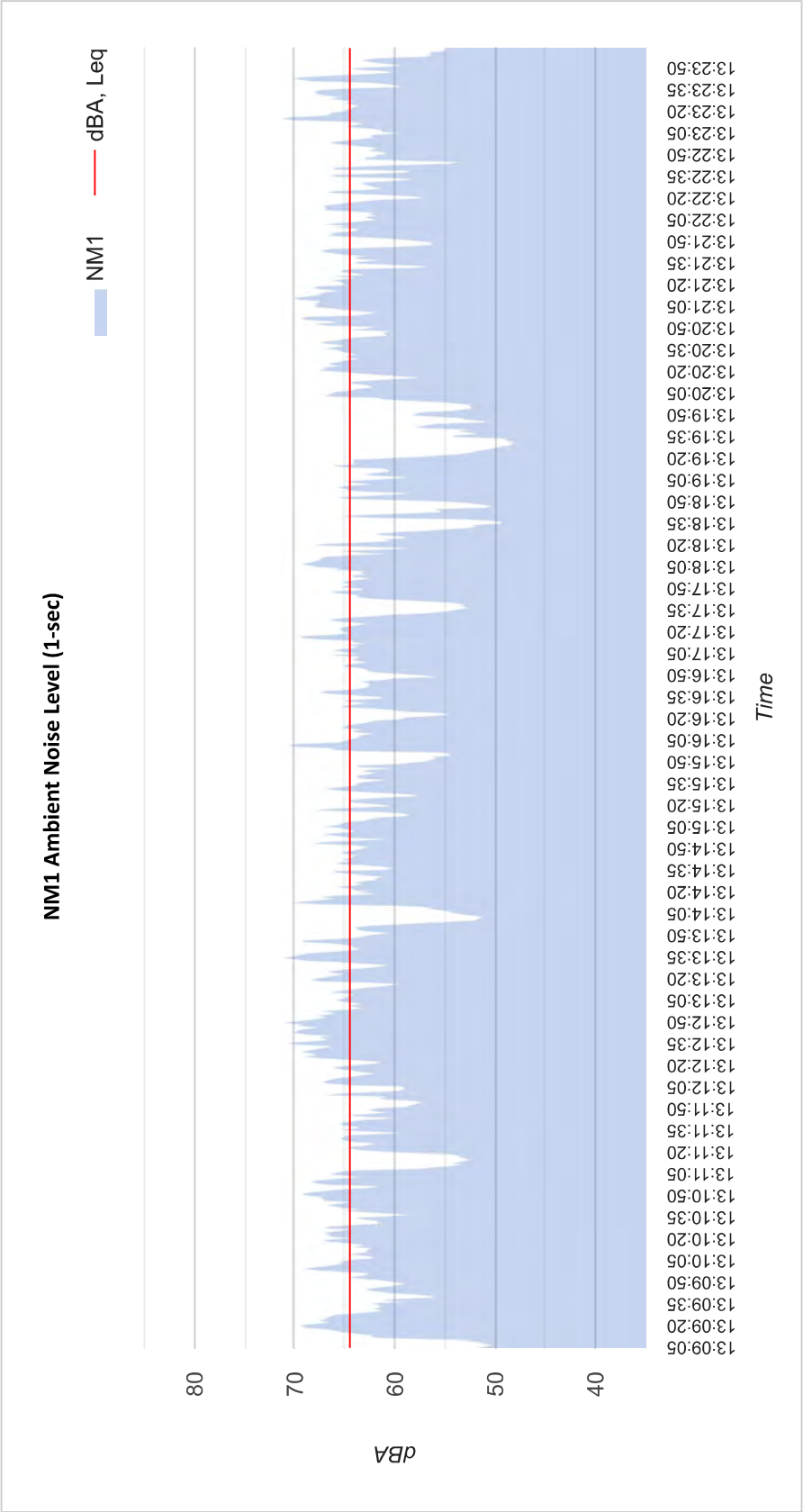


Table 1: Baseline Noise Measurement Summary

Location	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
NM1	1:09 PM	1:24 PM	64.5	71.2	48.3	69.5	67.8	65.8	63.7	56
NM2	1:25 PM	1:40 PM	61	73.1	48.7	68.4	64.9	61	58.9	54.1

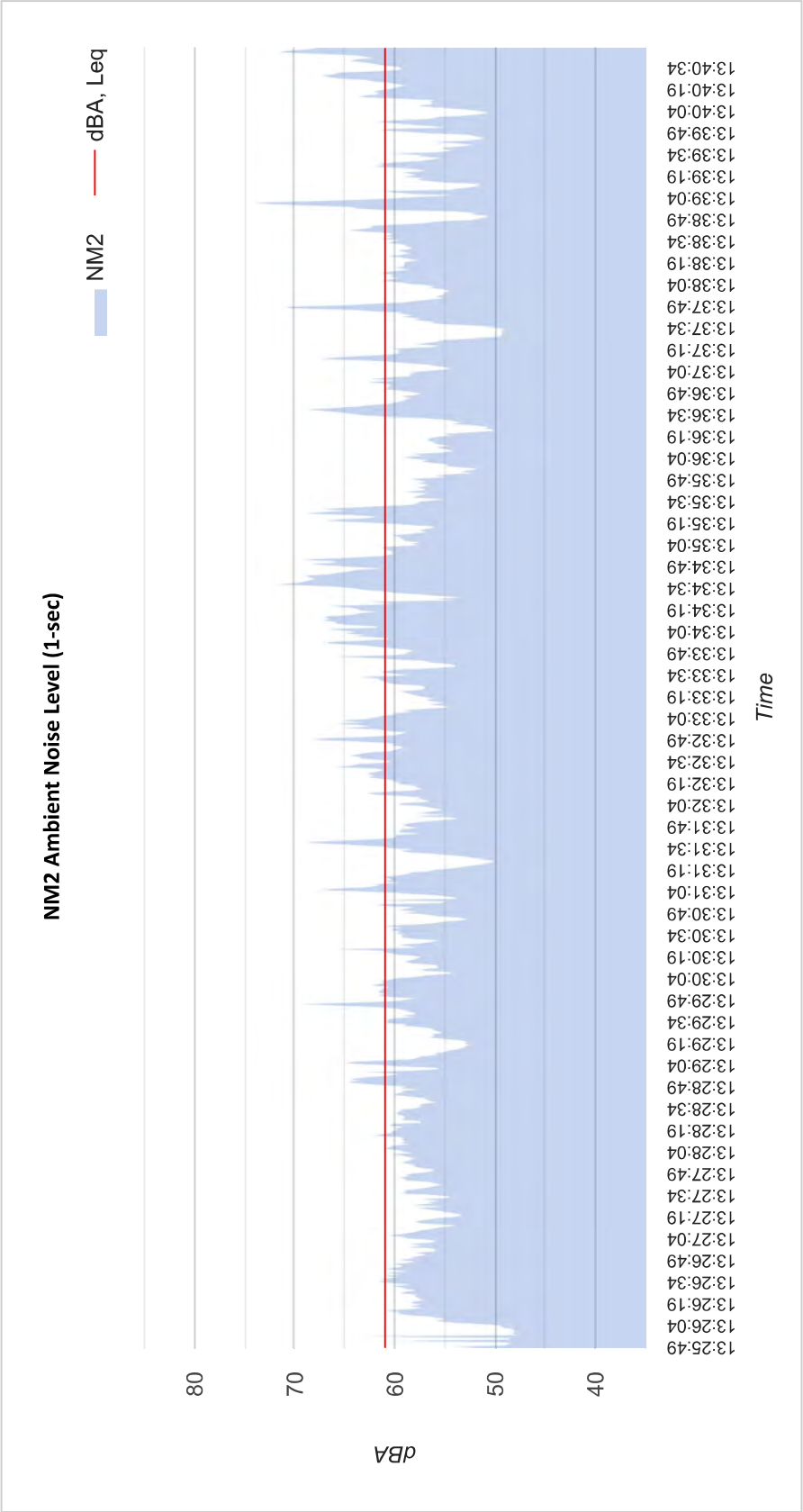
15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name:	4260 Arch Drive Multi-Family - Cat32	Site Topo:	Buildings 1-2 stories tall site	Noise Source(s) w/ Distance:
Site Address/Location:	4260 N Arch Drive, Studio City,	Meteorological Cond.:	76F Winds 1-3mph	Road Noise
Site Id:	NM1	Ground Type:	buildings and asphalt	



15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name:	4260 Arch Drive Multi-Family - Cat32	Site Topo:	Buildings 1-2 stories tall site	Noise Source(s) w/ Distance:
Site Address/Location:	4260 N Arch Drive, Studio City,	Meteorological Cond.:	76F Winds 3-1mph	Road Noise
Site Id:	NM2	Ground Type:	buildings and asphalt	



Appendix C

Traffic

EXISTING ADT'S BY LEG

FACTOR=

10

Use 10, 12, or 11 in LA

[illegible]

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT: 4260 Arch Drive
 ROADWAY: Ventura Blvd
 LOCATION: East PL

JOB #: 0332-21-13
 DATE: 11-Oct-22
 ENGINEER: C Pincock

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT = 26,300
 SPEED = 35
 PK HR % = 10
 NEAR LANE/FAR LANE DIS 45
 ROAD ELEVATION = 0.0
 GRADE = 1.0 %
 PK HR VOL = 2,630

RECEIVER INPUT DATA

RECEIVER DISTANCE = 204
 DIST C/L TO WALL = 80
 RECEIVER HEIGHT = 5.0
 WALL DISTANCE FROM RECEIVER 124
 PAD ELEVATION = 0.5
 ROADWAY VIEW: LF ANGLE= -90
 RT ANGLE= 90
 DF ANGLE= 180

SITE CONDITIONS

AUTOMOBILES = 10
 MEDIUM TRUCKS = 10 (10 = HARD SITE, 15 = SOFT SITE)
 HEAVY TRUCKS = 10

WALL INFORMATION

HTH WALL 0.0
 AMBIENT= 0.0
 BARRIER = 0 (0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	202.79	--
MEDIUM TRUCKS	4.0	202.76	--
HEAVY TRUCKS	8.0	202.77	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	62.3	60.4	58.6	52.6	61.2	61.8
MEDIUM TRUCKS	54.8	53.3	46.9	45.4	53.8	54.1
HEAVY TRUCKS	56.0	54.6	45.6	46.8	55.2	55.3
NOISE LEVELS (dBA)	63.8	62.0	59.1	54.2	62.8	63.2

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	62.3	60.4	58.6	52.6	61.2	61.8
MEDIUM TRUCKS	54.8	53.3	46.9	45.4	53.8	54.1
HEAVY TRUCKS	56.0	54.6	45.6	46.8	55.2	55.3
NOISE LEVELS (dBA)	63.8	62.0	59.1	54.2	62.8	63.2

NOISE CONTOUR (FT)

NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	43	136	431	1362
LDN	39	122	386	1220

Appendix D
Noise Calculations Input/Output

APPLICATION & ACCESSORIES

Refer to Price Manual for specific model numbers.

Standard Application Limits*		
Maximum Lineset Equivalent Length		80 Ft
Outdoor Ambient Temperature Limits		
Cooling Operation	Maximum DB	125°F
	Minimum DB	55°F
Heating Operation	Maximum DB	75°F
	Minimum DB	-10°F

* For applications such as Low Ambient, reduced linesets, and/or long linesets, see the accessories listed below.

Non-Standard Lineset Applications - For installations with reduced diameter or long linesets, refer to the current version of the Piping Application Guide P/N 247077, available in the Application Bulletins section on www.upgnet.com.

Standard Low Ambient Control Kit S1-2LA06700424: Allows the use of air conditioning at low outdoor ambient temperatures down to +20°F (-7°C). For use with all R-410A single stage AC & HP models.

Advanced Low Ambient Control Kit S1-2LA04701024: Contains the necessary components and controls to allow cooling operation down to -20°F (-29°C). For use with all R-410A single stage AC & HP models.

High Ambient Condenser Fan Motor S1-FHM**HT:** Class F 70°C motor to allow cooling operation up to 160°F air entering the condenser. For use with all R-410A single stage AC & HP models containing R-410A refrigerant only.

Outdoor Communicating Board Kit (S1-33102952310): Electronic control upgrade for standard AC & HP units to provide compatibility with the Residential Touch Screen Communicating Control.

Start Assist Kit S1-2SA067***:** Provides increased compressor starting torque for areas with low supply voltage. Required for units with recip compressors when applied with indoor TXV, and for all units when applied with long linesets or low ambient kits. May be factory installed on select AC & HP units (see Physical & Electrical Table). See Price Pages or Source1 SmartSearch for the correct kit for each application.

Compressor Crankcase Heater Kit (S1-025-***-***):** A wrap-around electrical resistance heater that warms the compressor sump, reducing the chance of liquid slugging on startup. Required on all long lineset and low ambient applications. See Price Pages or Source1 SmartSearch for the correct part for each application.

Indoor Blower-Off Delay Kit S1-2FD06700224: Provides a 1-minute blower-off delay at the end of the cooling cycle. May be required for retrofits with non-Johnson Controls Unitary Products indoor units. This feature is factory-provided on all JCUP indoor products.

Low Temperature Cutoff S1-2LT067224: Locks the compressor out at temperatures below -6°F, allowing the system thermostat to cycle on supplemental heat.

Support Feet S1-HPRKIT:** Kit of 5 support feet to raise unit above snow or landscaping. Available in heights of 3", 6" or 12".

Anchor Bracket Kit S1-1HK0401: Firmly anchors unit to pad or support structure. When properly installed, approved for ground-mounted or roof-mounted applications.

Indoor TXV Kit S1-1TVM*:** Thermal expansion valves precisely meter refrigerant for optimum performance over a wide range of conditions. See System Charge Table, Price Pages, or Source1 Smart Search for TXV part number for each AC & HP model.

Wall Mount Kit (S1-ACB):** Includes two brackets to allow outdoor unit to be securely mounted to a vertical wall. Mounting hardware is field sourced according to the specific application.

Winter Cover Kit S1-CCVRE*:** Custom fit winter cover protects AC condensing unit from debris during the off-season. Must be removed prior to unit operation. See Price Pages or Source1 SmartSearch for the correct cover for each application.

Cold Weather Charging Tent S1-CHGTENT01: Provides warm environment to accurately service AC & HP systems in ambient conditions 55°F (13°C) or colder.

Touch-up Paint S1-5130153**:** Color matched aerosol paint for touching up unit chassis and panels. See Price Pages or Source1 SmartSearch for the correct color for each application.

Compressor Sound Blanket S1-010-07xxx-000: A field installed dense foam cover that provides 2dBA sound level reduction. See Price Pages or Source1 SmartSearch for the correct blanket for each application.

Thermostat: Compatible thermostat controls are available through accessory sourcing. For optimum performance, these outdoor units are fully compatible with our **YorkColemanLuxair-residential** touch screen thermostat with proprietary (patent-pending) hexagon interface. For more information, see the thermostat section of the Product Equipment Catalog.

SOUND POWER RATINGS - COOLING

Cooling	Octave Band Sound Power Level (db re. 1-pW)									
Model Number	63	125	250	500	1000	2000	4000	8000	dBA	SQI
YHE18B21S	69.3	72.8	66.8	69.1	66.7	63.6	59.3	59.7	72	19.1
YHE24B21S	70.0	70.1	67.6	70.0	67.3	63.5	60.7	56.8	72	19.1
YHE30B21S	68.0	70.6	68.3	70.0	68.9	65.5	64.7	61.1	74	19.0
YHE35B21S	67.9	72.6	68.3	70.5	68.0	63.6	59.7	56.5	72	19.2
YHE36B21H	68.4	70.2	68.8	68.9	69.0	65.0	63.3	60.2	73	19.1
YHE42B21H	56.0	71.2	68.1	70.0	65.9	65.5	58.8	54.9	75	19.0
YHE48B21S	58.0	70.7	64.1	68.3	66.1	61.7	57.9	56.0	75	19.0
YHE60B21S	69.1	71.6	68.9	71.3	70.2	65.5	61.5	58.4	74	19.0

Rated in accordance with ARI Standard 270.

SOUND POWER RATINGS - HEATING

Heating	Octave Band Sound Power Level (db re. 1-pW)									
Model Number	63	125	250	500	1000	2000	4000	8000	dBA	SQI
YHE18B21S	69.9	73.1	68.0	69.3	66.1	63.6	59.2	58.0	72	19.0
YHE24B21S	69.7	69.7	66.7	71.2	66.9	63.2	60.3	56.5	72	19.0
YHE30B21S	70.3	74.6	70.5	71.9	68.9	66.0	60.4	58.7	74	19.2
YHE35B21S	64.3	73.7	67.7	73.6	68.0	63.4	60.2	61.1	73	19.1
YHE36B21H	69.3	70.0	70.8	71.3	70.8	67.1	62.5	61.3	75	19.0
YHE42B21H	58.0	75.1	72.2	67.1	62.4	60.7	55.3	52.3	75	19.0
YHE48B21S	61.2	69.6	65.8	68.1	65.5	60.3	55.2	52.4	74	19.0
YHE60B21S	72.6	73.4	70.8	71.9	69.0	67.2	65.4	65.5	75	19.1

Rated in accordance with ARI Standard 270.

MECHANICAL SPECIFICATIONS**MANUFACTURE AND CERTIFICATIONS**

- Units shall be manufactured in an ISO 9001 certified facility.
- Units shall be certified by CSA to UL 1995 / CSA 22.2 and performance certified to ANSI/AHRI Standard 210/240.
- Units shall be sound tested according to ANSI/AHRI Standard 270.
- Certified matched system ratings will be available for download from the AHRI online directory at www.ahridirectory.org.
- Unit packaging shall be marked, "Assembled in the USA"

UNIT APPLICATION

- Units shall be approved for cooling operation between 55°F and 125°F without modification.
- Units shall be approved for heating operation between -20°F and 75°F without modification.
- Units shall be approved for linesets up to 80 feet equivalent length without modification.
- Units shall be approved for installation within 6 inches of a flat vertical wall without modification, according to the instructions in the technical literature.
- Units shall be certified to the 5th Edition (2014) of the Florida Building Code for a combined allowable lateral and uplift wind force of 200 psf and 100 psf, respectively, for both ground-mounted and rooftop-mounted applications up to 200 feet above grade with approved mounting kit
- Units shall be designed to 76dBA or less to minimize sound pollution.

UNIT ACCESS

- Units shall have a removable fan guard that can be removed independently of the top for interior access through the top of the unit without damaging the coil.
- Units shall have two removable stamped steel coil guards for exterior coil access.
- Units shall have a separate compartment for electrical controls that can be accessed without disturbing the unit airflow.
- Units shall have a blockoff panel that can be removed to provide interior unit access through the side of the unit.
- Units shall have a removable blockoff panel and a swing away removable electrical panel that provides sufficient interior unit access for removing the compressor through the side of the unit.

UNIT CONSTRUCTION

- Units shall be shipped completely wired, piped and assembled. Wiring pigtails shall be provided for field control wiring connections. Service valves shall be provided for field refrigerant line connections.

- Units shall be factory leak checked, run tested, and shipped with a holding charge of R-410A refrigerant.
- Unit cabinet components shall be G90 equivalent steel finished with powder-coat paint rated at a minimum of 500 hours under ASTM B117 testing.
- Unit base pan shall be stamped G90 equivalent steel finished with powder-coat paint rated at a minimum of 500 hours under ASTM B117 testing.
- Units shall have a single corner post opposite the electrical control box and two independently removable steel coil guard panels to optimize cabinet strength and serviceability.
- Units shall have L-shaped stamped sheet metal coil guards with punched and extruded slots for maximum panel durability and stiffness.
- Units shall have a factory installed filter-drier for faster installation and improved system reliability.
- Unit base valves shall be mounted diagonally on the unit base pan with service ports that provide sufficient clearance for low-loss hose fittings.
- Units shall be constructed with a high pressure switch for system protection.
- Units shall be constructed with all badging and labels applied at the factory.

UNIT COMPONENTS

- Compressor shall be hermetic with internal electrical overload protection and internal overpressure protection.
- Compressor shall be mounted on rubber vibration isolators that do not require the removal of transportation clips or brackets.
- Units shall be constructed with internally sprung reciprocating compressors for low vibration. (Applies to select models).
- Condenser fan shall be direct drive with vertical air discharge for low sound levels.
- Condenser fan motor shall be totally enclosed with permanently lubricated ball bearings motors approved for vertical shaft applications.
- Condenser coil shall be air cooled and constructed of enhanced aluminum fins mechanically bonded to internally enhanced Ø 7mm copper tubing.

UNIT WARRANTIES

- Unit manufacturer shall provide a 10-Year compressor warranty without a requirement for unit registration.
- Unit manufacturer shall provide a 5-Year parts warranty without a requirement for unit registration.

Appendix E
Construction Noise and Vibration Calculations

Receptor - Residences to the East

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA ¹	Edge of Site to Receptor, feet	Center of Site to Receptor, feet	Item Usage Percent ¹	Ground Factor ²	Usage Factor	Receptor Item Lmax, dBA	Recptor. Item Leq, dBA
GRADE									
Grader	1	70	50	100	40	0	0.40	70.0	60.0
Dozer	1	67	50	100	40	0	0.40	67.0	57.0
Tractor	2	69	50	100	40	0	0.40	69.0	59.0
								70.0	64.9
BUILD									
Crane	1	66	50	100	16	0	0.16	66.0	52.0
Man lift	1	60	50	100	20	0	0.20	60.0	47.0
Generator	1	66	50	100	50	0	0.50	66.0	57.0
Tractor	1	69	50	100	40	0	0.40	69.0	59.0
Welder/Torch	3	59	50	100	40	0	0.40	59.0	49.0
								69.0	62.4
PAVE									
Paver	1	62	50	100	50	0	0.50	62.0	53.0
Tractor	1	69	50	100	40	0	0.40	69.0	59.0
Roller	1	65	50	100	20	0	0.20	65.0	52.0
Concrete Mixer Truck	1	64	50	100	40	0	0.40	64.0	54.0
								69.0	60.6
ARCH COAT									
Compressor (air)	1	63	50	100	40	0	0.40	63.0	53.0
								63.0	53.0

¹FHWA Construction Noise Handbook: Table 9.1 RCNM Default Noise Emission Reference Levels and Usage Factors

VIBRATION LEVEL IMPACT

Project: 4260 Arch Drive

Date: 10/11/22

Source: Large Bulldozer

Scenario: Unmitigated

Location: Adjacent residences

Address: 4260 Arch Drive

PPV = $PPV_{ref}(25/D)^n$ (in/sec)**DATA INPUT**Equipment =
Type

2

Large Bulldozer

INPUT SECTION IN BLUE

PPVref =

0.089

Reference PPV (in/sec) at 25 ft.

D =

19.00

Distance from Equipment to Receiver (ft)

n =

1.10

Vibration attenuation rate through the ground

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

DATA OUT RESULTS

PPV =

0.120

IN/SEC

OUTPUT IN RED

APPENDIX D: AIR QUALITY, GREENHOUSE GAS, AND ENERGY IMPACT ASSESSMENT

October 11, 2022

Mr. Craig Fajnor
EcoTierra Consulting
633 W 5th Street, 26th Floor
Los Angeles, CA 90071

Subject:

4260 Arch Drive Multi-Family Project – Cat32 Exemption – Focused Air Quality, Greenhouse Gas, and Energy Impact Evaluation, City of Los Angeles, CA

Dear Mr. Heller:

MD Acoustics, LLC (MD) has completed a focused Air Quality, Greenhouse Gas, and Energy Impact Evaluation for the proposed 4260 Arch Drive Multi-Family Project located in the City of Los Angeles, CA. The purpose of this focused study is to evaluate the air quality, greenhouse gas, and energy construction and operational emissions generated by the proposed project and to compare the project emissions to South Coast Air Quality Management District's (SCAQMD) thresholds of significance as it relates to residential and commercial uses and consistency to the City's General Plan. A list of definitions and terminology is located in Appendix A.

1.0 Project Description

The Project Site is approximately one acre and is currently vacant and was previously occupied by an assisted living building, which has since been demolished. The Project includes construction of a new multifamily residential building containing 129 residential dwelling units. The proposed building would include five stories. The Project would include a total of 145 residential vehicular parking spaces on two subterranean levels of the building. The proposed project site plan is in Appendix B.

Land uses and the closest existing sensitive receptors surrounding the site include multi-family residential uses 10 feet to the northeast, commercial uses 10 feet to the southwest, a water and power distribution station across Arch Drive to the east, and the Los Angeles River to the northwest.

2.0 AQ/GHG Thresholds of Significance

2.1 AQ Significance Thresholds

Project emissions were compared to both regional and localized SCAQMD's thresholds of significance for construction and operational emissions^{1,2}.

2.2 GHG Significance Thresholds

The project emissions were compared to the SCAQMD's 3,000 MTCO₂e draft threshold for all land uses³.

¹ <https://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>

² <https://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds>

³ <https://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds/page/2>

3.0 Evaluation Procedure/Methodology

MD utilized the latest version of CalEEMod (2020.4.0) to calculate both the construction and operational emissions from the project site⁴. Project construction is modeled to commence no earlier than June 2023 and be completed by July 2025. Construction assumes grading, building construction, paving, and architectural coating. CalEEMod defaults were utilized. Assumptions and output calculations for winter, summer and annual are provided in Appendix C.

4.0 Local Ambient Conditions

The project site is located in South Coast Air Basin (SCAB) in the Central Los Angeles Source Receptor Area (SRA) ⁵. The nearest air monitoring station to the project site is the Los Angeles – North Main Street Monitoring Station. Historical air quality data for the vicinity can be found both at CARB and SCAQMD’s websites^{6,7}. Temperature and historical precipitation data can be found at the WRCC⁸.

5.0 Findings

The following outlines the emissions for the project:

5.1 Regional Construction Emissions

The construction emissions for the project would not exceed the SCAQMD’s daily emission thresholds at the regional level as indicated in Table 1, and therefore the impact would be considered less than significant.

<Table 1, next page>

⁴ <https://www.caleemod.com/>

⁵ <https://www.aqmd.gov/docs/default-source/default-document-library/map-of-monitoring-areas.pdf?sfvrsn=6>

⁶ <https://www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year>

⁷ <https://www.arb.ca.gov/adam/>

⁸ <https://www.wrcc.dri.edu/summary/Climsmsca.html>

Table 1: Regional Significance – Construction Emissions (lbs/day)

Activity	Pollutant Emissions (pounds/day)					
	VOC	NOx	CO	SO ₂	PM10	PM2.5
Grading						
On-Site ²	1.33	14.47	8.70	0.02	3.58	1.92
Off-Site ³	0.98	54.36	11.86	0.25	8.15	2.59
Total	2.32	68.82	20.56	0.27	11.73	4.51
Building Construction						
On-Site ²	1.52	11.71	12.61	0.02	0.51	0.50
Off-Site ³	0.50	1.38	4.19	0.01	1.15	0.32
Total	2.02	13.09	16.80	0.04	1.67	0.81
Paving						
On-Site ²	0.57	5.33	8.80	0.01	0.25	0.23
Off-Site ³	0.04	0.03	0.36	0.00	0.11	0.03
Total	0.62	5.35	9.16	0.01	0.35	0.26
Architectural Coating						
On-Site ²	33.39	1.15	1.81	0.00	0.05	0.05
Off-Site ³	0.08	0.05	0.67	0.00	0.20	0.05
Total	33.47	1.19	2.48	0.00	0.25	0.10
Total of overlapping phases⁴	34.09	6.54	11.63	0.02	0.60	0.36
SCAQMD Thresholds	75	100	550	150	150	55
Exceeds Thresholds	No	No	No	No	No	No
Notes:						
¹ Source: CalEEMod Version 2020.4.0						
² On-site emissions from equipment operated on-site that is not operated on public roads.						
³ Off-site emissions from equipment operated on public roads.						
⁴ Architectural coatings and paving phases may overlap.						

5.2 Localized Construction Emissions

Utilizing the construction equipment list and associated acreages per 8-hour day provided in the SCAQMD “Fact Sheet for Applying CalEEMod to Localized Significance Thresholds” (South Coast Air Quality Management District 2011b), the maximum number of acres disturbed in a day would be 2.0 acres during grading (as shown in Table 2 below); however, as the project is approximately one acre, the project emissions have been compared to the 1-acre per day localized significance threshold.

Table 2: Maximum Number of Acres Disturbed Per Day¹

Activity	Equipment	Number	Acres/8hr-day	Total Acres
Grading	Graders	1	0.5	0.5
	Rubber Tired Dozers	1	0.5	0.5
	Tractors/Loaders/Backhoes	2	0.5	1.0
Total Per Phase				2.0
Notes:				
¹ Source: CalEEMod output and South Coast AQMD, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2				

None of the analyzed criteria pollutants would exceed the LST emission thresholds at the nearest sensitive receptors as shown in Table 3. Therefore, the impact would be less than significant from construction.

Table 3: Localized Significance – Construction Emissions (lbs/day)

Phase	On-Site Pollutant Emissions (pounds/day) ¹			
	NOx	CO	PM10	PM2.5
Grading	14.47	8.70	3.58	1.92
Building Construction	11.71	12.61	0.51	0.50
Paving	5.33	8.80	0.25	0.23
Architectural Coating	1.15	1.81	0.05	0.05
Total for overlapping construction phases	18.18	23.22	0.81	0.78
SCAQMD Threshold²	74	680	5	3
Exceeds Threshold?	No	No	No	No
Notes: ¹ Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for one-acre (see Table 2), to be conservative, in Central Los Angeles Source Receptor Area (SRA 1). ² The nearest sensitive receptors are the multi-family residential uses located approximately 10 feet (~3 meters) to the northeast of the project site; therefore, the 25-meter threshold was utilized.				

5.3 Regional Operational Emissions

The operating emissions were based on year 2025, which is the anticipated opening year for the project. The CalEEMod default project trips and vehicle miles traveled (VMTs) were used.

The summer and winter emissions created by the proposed project's long-term operations were calculated and the highest emissions from either summer or winter are summarized in Table 4. The data in Table 3 shows that the operational emissions for the project would not exceed the SCAQMD's regional significance thresholds.

Table 4: Regional Significance – Operational Emissions (lbs/day)

Activity	Pollutant Emissions (pounds/day) ¹					
	VOC	NOx	CO	SO2	PM10	PM2.5
Area Sources ²	3.12	1.30	11.15	0.01	0.15	0.15
Energy Usage ³	0.04	0.38	0.16	0.00	0.03	0.03
Mobile Sources ⁴	1.92	2.92	15.61	0.04	3.24	0.89
Total Emissions	5.08	4.60	26.92	0.05	3.43	1.07
SCAQMD Thresholds	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No
Notes: ¹ Source: CalEEMod Version 2020.4.0 ² Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment. ³ Energy usage consists of emissions from on-site natural gas usage. ⁴ Mobile sources consist of emissions from vehicles and road dust.						

5.4 Localized Operational Emissions

Project-related air emissions from on-site sources such as architectural coatings, landscaping equipment, on-site usage of natural gas appliances as well as the operation of vehicles on-site may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin.

According to SCAQMD LST methodology, LSTs would apply to the operational phase of a project, if the project includes stationary sources, or attracts mobile sources (such as heavy-duty trucks) that may spend long periods queuing and idling at the site; such as industrial warehouse/transfer facilities. The proposed

project is a residential project and does not include such uses. Therefore, due to the lack of stationary source emissions, no long-term localized significance threshold analysis is warranted.

5.5 GHG Emissions

Table 5 outlines the construction and operational GHG emissions for the project. The project's emissions are below (996.70 MTCO₂e) the SCAQMD's draft screening threshold of 3,000 MTCO₂e for all land uses and; therefore, the impact is less than significant.

Table 5: Opening Year Project-Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year) ¹					
	Bio-CO ₂	NonBio-CO ₂	CO ₂	CH ₄	N ₂ O	CO ₂ e
Area Sources ²	0.00	57.45	57.45	0.00	0.00	57.82
Energy Usage ³	0.00	229.74	229.74	0.01	0.00	230.99
Mobile Sources ⁴	0.00	568.31	568.31	0.03	0.03	578.57
Solid Waste ⁶	12.05	0.00	12.05	0.71	0.00	29.84
Water ⁷	2.67	11.35	14.02	0.27	0.01	22.85
Construction ⁸	0.00	29.16	29.16	0.00	0.00	29.62
Total Emissions	14.71	896.02	910.73	1.04	0.04	949.69
SCAQMD Draft Screening Threshold						3,000
Exceeds Threshold?						No
Notes:						
¹ Source: CalEEMod Version 2020.4.0						
² Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.						
³ Energy usage consist of GHG emissions from electricity and natural gas usage.						
⁴ Mobile sources consist of GHG emissions from vehicles.						
⁵ Solid waste includes the CO ₂ and CH ₄ emissions created from the solid waste placed in landfills.						
⁶ Water includes GHG emissions from electricity used for transport of water and processing of wastewater.						
⁷ Construction GHG emissions based on a 30-year amortization rate.						

5.6 Consistency with Applicable Plans

Consistency with the City's General Plan

The project site is located in the City of Los Angeles. The project site has a current land use classification of "C2" Commercial Zone (C2-1VL-RIO) according to the Zone Information and Map Access System (ZIMAS). C2 zones allow for apartment housing per Section 12.14 of the Los Angeles Planning and Zoning Code. The proposed project is a multi-family residential building with 129 units. Therefore, the proposed project is consistent with the land use and zoning designations of the City's General Plan and Community Plan.

The project will be subject to the policies and ordinances pertaining to air quality and climate change in the City's General Plan. Although the project would generate greenhouse gas emissions, either directly or indirectly, these emissions are short-term and not considered to have a significant impact on the environment. Furthermore, project emissions have demonstrated that they will be below any significant thresholds as outlined by SCAQMD.

In addition, as shown below, the project's GHG impacts have been evaluated by assessing the project's consistency with applicable statewide, regional, and local GHG reduction plans and strategies.

Consistency with the City of Los Angeles' Sustainable City pLAN and Green New Deal

The proposed project could have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. The applicable plan for the proposed project is the L.A. Green New Deal Sustainable city pLAN 2019, which is an update to the City of Los Angeles' Sustainable City pLAN (Plan) adopted by the City in April 2015. The Green New Deal Sustainable City pLAN establishes visions for the City in thirteen topic areas including environmental justice, renewable energy, local water, clean and healthy buildings, housing and development, mobility and public transit, zero emission vehicles, industrial emissions and air quality monitoring, waste and resource recovery, food systems, urban ecosystems and resilience, prosperity and green jobs, and lead by example.

Project consistency with all of the applicable targets within the Green New Deal Sustainable City pLAN are assessed in Table 6. As shown in Table 6, the project is consistent with the applicable targets within the Green New Deal Sustainable City Plan.

Table 6: Project Consistency with the City of Los Angeles Green New Deal¹

Targets	Consistency Analysis
Environment	
<i>Renewable Energy</i>	
LADWP will supply 55% renewable energy by 2025; 80% by 2036; and 100% by 2045.	Not Applicable. This target calls for LADWP to utilize renewable energy in their supply. However, the proposed project is to follow the California Green Building Standards Code (proposed Part 11, Title 24) adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development which includes energy efficiency (in excess of the California Energy Code requirements). The project will be required to include these mandatory standards.
Increase cumulative MW by 2025; 2035; and 2050 of: -Local solar to 900-1,500 MW; 1,500-1,800 MW; and 1,950 MW -Energy storage capacity to 1,654-1,750 MW; 3,000 MW; and 4,000 MW -Demand response (DR) programs to 234 MW (2025) and 600 MW (2035)	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.

<i>Local Water</i>	
Source 70% of L.A.'s water locally and capture 150,000 acre ft/yr of stormwater by 2035.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
Recycle 100% of all wastewater for beneficial reuse by 2035.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
Reduce potable water use per capita by 22.5% by 2025; and 25% by 2035; and maintain or reduce 2035 per capita water use through 2050.	Consistent. The project will comply with all applicable City ordinances and CAL Green requirements.
<i>Clean and Healthy Buildings</i>	
All new buildings will be net zero carbon by 2030; and 100% of buildings will be net zero carbon by 2050.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
Reduce building energy use per sq.ft. for all building types 22% by 2025; 34% by 2035; and 44% by 2050.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.

<i>Mobility and Public Transit</i>	
Increase the percentage of all trips made by walking, biking, micro-mobility / matched rides or transit to at least 35% by 2025; 50% by 2035; and maintain at least 50% by 2050	Consistent. The proposed project is an infill development in close proximity to existing transit and development. The project is a residential use and is surrounded by other commercial development and residential uses.
Reduce VMT per capita by at least 13% by 2025; 39% by 2035; and 45% by 2050.	Consistent. The proposed project is an infill development in close proximity to existing transit and development. The project is a residential use and is surrounded by other commercial development and residential uses.
<i>Zero Emission Vehicles</i>	
Increase the percentage of electric and zero emission vehicles in the city to 25% by 2025; 80% by 2035; and 100% by 2050.	Consistent. The City's Building Code requires the proposed building to provide conduit for on-site electric vehicle charging stalls, which the project is to provide in the proposed parking garage.
<i>Waste and Resource Recovery</i>	
Increase landfill diversion rate to 90% by 2025; 95% by 2035; and 100% by 2050.	Consistent. The proposed project is required to have recycling programs that reduce waste to landfills by a minimum of 75 percent (per AB 341).
Eliminate organic waste going to landfill by 2028.	Consistent. The proposed project is required to have recycling programs that reduce waste to landfills by a minimum of 75 percent (per AB 341).
Increase proportion of waste products and recyclables productively reused and/or repurposed within L.A. County to at least 25% by 2025; and 50% by 2035.	Consistent. The proposed project is required to have recycling programs that reduce waste to landfills by a minimum of 75 percent (per AB 341).
Notes: ¹ Source: City of Los Angeles Green New Deal Sustainable City pLAn, 2019.	

Additional relevant plans and policies that govern climate change include:
Executive Orders S-305 and B-30-15;
AB 32 Scoping Plan;
SCAG's Regional Transportation Plan/Sustainable Communities Strategy;
City of Los Angeles Climate LA Implementation Plan; and
City of Los Angeles Building Ordinance

Consistency with Executive Orders S-03-05 and B-30-15

Executive Orders S-3-05 and B-30-15 are orders from the State's Executive Branch for the purpose of reducing GHG emissions. These strategies call for developing more efficient land-use patterns to match population increases, workforce, and socioeconomic needs for the full spectrum of the population. The project includes elements of smart land use as it is an infill development well-served by transportation infrastructure and near public transit.

Although the project's emissions level in 2050 cannot be reliably quantified, statewide efforts are underway to facilitate the State's achievement of that goal and it is reasonable to expect the project's emissions profile to decline as the regulatory initiatives identified by ARB in the First Update are implemented, and other technological innovations occur. As such, given the reasonably anticipated decline in project emissions once fully constructed and operational, the project is consistent with the

Executive Order’s horizon-year goal. Therefore, the project is consistent with Executive Orders S-3-05 and B-30-15.

Consistency with AB32 Scoping Plan

The ARB Board approved a Climate Change Scoping Plan in December 2008. The Scoping Plan outlines the State’s strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan “proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health” (California Air Resources Board 2008). The measures in the Scoping Plan have been in place since 2012.

This Scoping Plan calls for an “ambitious but achievable” reduction in California’s greenhouse gas emissions, cutting approximately 30 percent from business-as-usual emission levels projected for 2020, or about 10 percent from today’s levels. In May 2014, the CARB released its *First Update to the Climate Change Scoping Plan* (CARB 2014). This *Update* identifies the next steps for California’s leadership on climate change. In November 2017, the CARB released the 2017 Scoping Plan. This Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts and identifies new policies and actions to accomplish the State’s climate goals, and includes a description of a suite of specific actions to meet the State’s 2030 GHG limit. The 2017 Scoping Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets.

As the latest, 2017 Scoping Plan builds upon previous versions, project consistency with applicable strategies of both the 2008 and 2017 Plan are assessed in Table 7. As shown in Table 7, the project is consistent with the applicable strategies within the Scoping Plan.

Table 7: Project Consistency with CARB Scoping Plan Policies and Measures¹

2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions	Project Compliance with Measure
California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	Consistent. The project will be compliant with the current Title 24 standards.
Low Carbon Fuel Standard – Develop and adopt the Low Carbon Fuel Standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the

	strategy.
Medium/Heavy-Duty Vehicles – Adopt medium and heavy-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California’s new and existing inventory of buildings.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases.	Consistent. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the project that are required to comply with the measures will comply with the strategy.
Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	Consistent. The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The project will be required to comply with City programs, such as City’s recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
Water – Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. The project will comply with all applicable City ordinances and CAL Green requirements.
2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	Project Compliance with Recommended Action
Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020,	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.

increasing to 10 percent in 2025 and remaining flat through 2030.	
Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.	Consistent. The project will be compliant with the current Title 24 standards.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	Consistent. The project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply with the 75 percent reduction required by 2020 per AB 341.
Notes: ¹ Source: CARB Scoping Plan (2008 and 2017)	

Consistency with SCAG's 2016-2040 RTP/SCS

At the regional level, the 2016-2040 RTP and Sustainable Communities Strategy represent the region's Climate Action Plan that defines strategies for reducing GHGs. In order to assess the project's potential to conflict with the RTP/SCS, this section analyzes the project's land use profile for consistency with those in the Sustainable Communities Strategy. Generally, projects are considered consistent with the provisions and general policies of applicable City and regional land use plans and regulations, such as SCAG's Sustainable Communities Strategy, if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals.

Table 8 demonstrates the project's consistency with the Actions and Strategies set forth in the 2016-2040 RTP/SCS. As shown in Table 8, the project would be consistent with the GHG reduction related actions and strategies contained in the 2016-2040 RTP/SCS.

Table 8: Project Consistency with SCAG 2016-2040 RTP/SCS¹

Actions and Strategies	Responsible Party(ies)	Consistency Analysis
Land Use Strategies		
Reflect the changing population and demands, including combating gentrification and displacement, by increasing housing supply at a variety of affordability levels.	Local Jurisdictions	Consistent. The proposed project is an infill development, which is replacing existing single family residential buildings with a proposed multifamily residential use; therefore, it will not displace existing housing.
Focus new growth around transit.	Local Jurisdictions	Consistent. The proposed project is an infill development that would be consistent with the 2016 RTP/SCS focus on growing near transit facilities.
Plan for growth around livable corridors, including growth on the Livable Corridors network.	SCAG, Local Jurisdictions	Consistent. The proposed project is an infill development that would be consistent with the 2016 RTP/SCS focus on growing along the 2,980 miles of Livable Corridors in the region.
Provide more options for short trips through Neighborhood Mobility Areas and Complete Communities.	SCAG, Local Jurisdictions	Consistent. The proposed project would help further jobs/housing balance objectives. The proposed project is also consistent with the Complete Communities initiative that focuses on creation of mixed-use districts in growth areas.
Support local sustainability planning, including	Local	Not Applicable. This strategy calls on local

developing sustainable planning and design policies, sustainable zoning codes, and Climate Action Plans.	Jurisdictions	governments to adopt General Plan updates, zoning codes, and Climate Action Plans to further sustainable communities. The proposed project would not interfere with such policymaking and would be consistent with those policy objectives.
Protect natural and farmlands, including developing conservation strategies.	SCAG, Local Jurisdictions	Consistent. The proposed project is an infill development that would help reduce demand for growth in urbanizing areas that threaten green fields and open spaces.
Transportation Strategies		
Preserve our existing transportation system.	SCAG, County Transportation Commissions, Local Jurisdictions	Not Applicable. This strategy calls on investing in the maintenance of our existing transportation system. The proposed project would not interfere with such policymaking.
Manage congestion through programs like the Congestion Management Program, Transportation Demand Management, and Transportation Systems Management strategies.	County Transportation Commissions, Local Jurisdictions	Consistent. The proposed project is an infill development that will minimize congestion impacts on the region because of its proximity to public transit and general density of population and jobs.
Promote safety and security in the transportation system.	SCAG, County Transportation Commissions, Local Jurisdictions	Not Applicable. This strategy aims to improve the safety of the transportation system and protect users from security threats. The proposed project would not interfere with such policymaking.
Complete our transit, passenger rail, active transportation, highways and arterials, regional express lanes goods movement, and airport ground transportation systems.	SCAG, County Transportation Commissions, Local Jurisdictions	Not Applicable. This strategy calls for transportation planning partners to implement major capital and operational projects that are designed to address regional growth. The proposed project would not interfere with this larger goal of investing in the transportation system.
Technological Innovation and 21st Century Transportation		
Promote zero-emissions vehicles.	SCAG, Local Jurisdictions	Consistent. While this action/strategy is not necessarily applicable on a project-specific basis, the City's Building Code requires the proposed building to provide conduit for on-site electric vehicle charging stalls, which the project is to provide in the proposed parking garage.
Promote neighborhood electric vehicles.	SCAG, Local Jurisdictions	Consistent. While this action/strategy is not necessarily applicable on a project-specific basis, the City's Building Code requires the proposed building to provide conduit for on-site electric vehicle charging stalls, which the project is to provide in the proposed parking garage.
Implement shared mobility programs.	SCAG, Local Jurisdictions	Not Applicable. This strategy is designed to integrate new technologies for last-mile and alternative transportation programs. The proposed project would not interfere with these emerging programs.
Notes: ¹ Source: Southern California Association of Governments; 2016–2040 RTP/SCS, Chapter 5: The Road to Greater Mobility and Sustainable Growth; April 2016.		

Consistency with the City of Los Angeles ClimateLA Implementation Plan

The “ClimateLA” plan focuses on transportation, energy, water use, land use, waste, open space and greening, and economic factors to achieve emissions reductions. The project is required to comply with CALGreen and the City’s Green Building Code, as well as solid waste diversion policies administered by CalRecycle, and is an infill location with immediate access to significant public transit, pedestrian, and bicycle facilities. Therefore, the project is consistent with the “ClimateLA” plan.

Consistency with the City of Los Angeles Green Building Ordinance

The Los Angeles Green Building Ordinance requires that all projects filed on or after January 1, 2014 comply with the current Los Angeles Green Building Code as amended to comply with the 2016 and 2019 CALGreen Codes. Mandatory measures under the Green Building Ordinance that would help reduce GHG emissions include short- and long-term bicycle parking measures; designated parking measure; and electric vehicle supply wiring. The project provides 11 short-term and 159 long-term bicycle parking spaces and 13 on-site electric automobile charging stations as well as 44 EV capable spaces in the parking garage as required per the City’s Building Code. The Green Building Ordinance also includes measures that would increase energy efficiency on the project site, including installing Energy Star rated appliances and installation of water conserving fixtures, that the project is required to comply with. Therefore, the project is consistent with the Los Angeles Green Building Ordinance.

5.7 Energy Analysis

Information from the CalEEMod 2020.4.0 Daily and Annual Outputs contained in the air quality and greenhouse gas analyses above was utilized for this analysis. The CalEEMod outputs detail project related construction equipment, transportation energy demands, and facility energy demands.

Construction Energy Demand

Construction Equipment Electricity Usage Estimates

Electrical service will be provided by the Los Angeles Department of Water and Power (LADWP). Based on the 2017 National Construction Estimator, Richard Pray (2017)⁹, the typical power cost per 1,000 square feet of building construction per month is estimated to be \$2.32. The project plans to develop the site with a 175,528.4 square foot building including 129 multi-family residential dwelling units over the course of approximately 24 months. Based on Table 9, the total power cost of the on-site electricity usage during the construction of the proposed project is estimated to be approximately \$9,773.42. As shown in Table 9, the total electricity usage from Project construction related activities is estimated to be approximately 177,699 kWh.¹⁰

⁹ Pray, Richard. 2017 National Construction Estimator. Carlsbad : Craftsman Book Company, 2017.

¹⁰ LADWP’s Small Commercial & Multi-Family Service (A-1) is approximately \$0.06 per kWh of electricity Southern California Edison (SCE). Rates & Pricing Choices: General Service/Industrial Rates. https://library.sce.com/content/dam/sce-doelclib/public/regulatory/historical/electric/2020/schedules/general-service-&-industrial-rates/ELECTRIC_SCHEDULES_GS-1_2020.pdf

Table 9: Project Construction Power Cost and Electricity Usage

Power Cost (per 1,000 square foot of building per month of construction)	Total Building Size (1,000 Square Foot) ¹	Construction Duration (months)	Total Project Construction Power Cost
\$2.32	176	24	\$9,773.42

Cost per kWh	Total Project Construction Electricity Usage (kWh)
\$0.06	177,699

*Assumes the project will be under the A-1 Small Commercial & Multi-Family Service rate under LADWP.
https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-financesandreports/a-fr-electricrates/a-fr-er-stcommindrates?_adf.ctrl-state=4uqberzct_4&_afLoop=958662023680086

Construction Equipment Fuel Estimates

Using the CalEEMod data input, the project's construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB's 2017 Emissions Factors Tables show that on average aggregate fuel consumption (gasoline and diesel fuel) would be approximately 18.5 hp-hr-gal.¹¹ As presented in Table 10 below, project construction activities would consume an estimated 37,796 gallons of diesel fuel.

Table 10: Construction Equipment Fuel Consumption Estimates

Phase	Number of Days	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/day	Total Fuel Consumption (gal diesel fuel) ¹
Grading	9	Graders	1	8	187	0.41	613	298
	9	Rubber Tired Dozers	1	8	247	0.4	790	385
	9	Tractors/Loaders/Backhoes	2	7	97	0.37	502	244
Building Construction	446	Cranes	1	6	231	0.29	402	9,690
	446	Forklifts	1	6	89	0.2	107	2,575
	446	Generator Sets	1	8	78	0.37	231	5,566
	446	Tractors/Loaders/Backhoes	1	6	97	0.37	215	5,191
	446	Welders	3	8	46	0.45	497	11,977
Paving	22	Cement and Mortar Mixers	4	6	9	0.56	121	144
	22	Pavers	1	7	130	0.42	382	455
	22	Paving Equipment	1	8	132	0.36	380	452
	22	Rollers	1	7	80	0.38	213	253
	22	Tractors/Loaders/Backhoes	1	7	97	0.37	251	299
Architectural Coating	22	Air Compressors	1	6	78	0.48	225	267
CONSTRUCTION FUEL DEMAND (gallons of diesel fuel)								37,796

Notes:

¹Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp.

(Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)

¹¹ Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/day (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: (https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)).

Construction Worker Fuel Estimates

It is assumed that all construction worker trips are from light duty autos (LDA) along area roadways. With respect to estimated VMT, the construction worker trips would generate an estimated 793,478 VMT. Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analysis using information generated using CARB's EMFAC model (see Appendix C for details). Table 11 shows that an estimated 25,637 gallons of fuel would be consumed for construction worker trips.

Table 11: Construction Worker Fuel Consumption Estimates

Phase	Number of Days	Worker Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Grading	9	10	14.7	1,323	30.95	43
Building Construction	446	119	14.7	780,188	30.95	25,208
Paving	22	13	14.7	4,204	30.95	136
Architectural Coating	22	24	14.7	7,762	30.95	251
Total Construction Worker Fuel Consumption						25,637

Notes:

¹Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod 2020.4.0 defaults.

Construction Vendor/Hauling Fuel Estimates

Tables 12 and 13 show the estimated fuel consumption for vendor and hauling during building construction and architectural coating. With respect to estimated VMT, the vendor and hauling trips would generate an estimated 151,358 VMT. For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles.¹² Tables 12 and 13 show that an estimated 19,509 gallons of fuel would be consumed for vendor and hauling trips.

Table 12: Construction Vendor Fuel Consumption Estimates (MHD Trucks)¹

Phase	Number of Days	Vendor Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Grading	9	0	6.9	0	9.22	0
Building Construction	446	24	6.9	73,858	9.22	8,011
Paving	22	0	6.9	0	9.22	0
Architectural Coating	22	0	6.9	0	9.22	0
Total Vendor Fuel Consumption						8,011

Notes:

¹Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod 2020.4.0 defaults.

¹² Vendors delivering construction material or hauling debris from the site during grading would use medium to heavy duty vehicles with an average fuel consumption of 9.22 mpg for medium heavy-duty trucks and 6.74 mpg for heavy heavy-duty trucks (see Appendix C for details).

Table 13: Construction Hauling Fuel Consumption Estimates (HHD Trucks)¹

Phase	Number of Days	Hauling Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Grading	9	430.6	20	77,500	6.74	11,499
Building Construction	446	0	20	0	6.74	0
Paving	22	0	20	0	6.74	0
Architectural Coating	22	0	20	0	6.74	0
Total Construction Hauling Fuel Consumption						11,499

Notes:

¹Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod 2020.40 defaults.

Construction Energy Efficiency/Conservation Measures

Construction equipment used over the approximately 24-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. In addition, the CARB Airborne Toxic Control Measure limits idling times of construction vehicles to no more than five minutes, thereby minimizing unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Furthermore, the project has been designed in compliance with California's Energy Efficiency Standards and 2019 CALGreen Standards.

Construction of the proposed residential development would require the typical use of energy resources. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

Operational Energy Demand

Energy consumption in support of or related to project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

Transportation Fuel Consumption

The largest source of operational energy use would be vehicle operation of customers. The site is located in an urbanized area just in close proximity to downtown Los Angeles.

Using the defaults VMT estimates from CalEEMod, it is assumed that the average vehicle miles traveled was 6.69 miles for all vehicle categories. As the proposed project is a residential project, it was assumed that vehicles would operate 365 days per year. Table 8 shows the worst-case estimated annual fuel

consumption for all classes of vehicles from autos to heavy-heavy trucks.¹³ Table 14 shows that an estimated 53,784 gallons of fuel would be consumed per year for the operation of the proposed project.

Table 14: Estimated Vehicle Operations Fuel Consumption

Vehicle Type	Vehicle Mix	Number of Vehicles	Average Trip (miles) ¹	Daily VMT	Average Fuel Economy (mpg)	Total Gallons per Day	Total Annual Fuel Consumption (gallons)
Light Auto	Automobile	269	6.69	1,799	31.82	56.53	20,634
Light Truck	Automobile	29	6.69	194	27.16	7.14	2,604
Light Truck	Automobile	95	6.69	636	25.6	24.83	9,064
Medium Truck	Automobile	90	6.69	603	20.81	28.96	10,572
Light Heavy Truck	2-Axle Truck	19	6.69	128	13.81	9.27	3,385
Light Heavy Truck 10,000 lbs +	2-Axle Truck	5	6.69	32	14.18	2.26	826
Medium Heavy Truck	3-Axle Truck	6	6.69	39	9.58	4.12	1,503
Heavy Heavy Truck	4-Axle Truck	15	6.69	102	7.14	14.24	5,196
Total		528	--	3,532	--	147.35	--
Total Annual Fuel Consumption							53,784

Notes:

¹Based on the size of the site and relative location, trips were assumed to be local rather than regional.

Trip generation and VMT generated by the proposed project are consistent with other similar residential uses of similar scale and configuration. That is, the proposed project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption. Therefore, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Facility Energy Demands (Electricity and Natural Gas)

The annual natural gas and electricity demands were provided per the CalEEMod output and are provided in Table 15.

Table 15: Project Mitigated Annual Operational Energy Demand Summary¹

Natural Gas Demand	kBTU/year
Apartments High Rise	1,519,680
Total	1,519,680

Electricity Demand	kWh/year
Apartments High Rise	508,878
Enclosed Parking Structure	329,285
Total	838,163

Notes:

¹Taken from the CalEEMod 2020.4.0 annual output.

As shown in Table 15, the estimated electricity demand for the proposed project is approximately 838,163 kWh per year. In 2020, the residential sector of the County of Los Angeles consumed approximately 22,913 million kWh of electricity.¹⁴ In addition, the estimated natural gas consumption for the proposed

¹³ Average fuel economy based on aggregate mileage calculated in EMFAC 2017 for opening year (2023). See Appendix A for EMFAC output.

¹⁴ California Energy Commission, Electricity Consumption by County. <https://ecdms.energy.ca.gov/elecbycounty.aspx>

project is approximately 1,519,680 kBtu per year. In 2020, the residential sector of the County of Los Angeles consumed approximately 1,238 million therms of gas.¹⁵ Therefore, the increase in both electricity and natural gas demand from the proposed project is insignificant compared to the County's 2020 demand.

Renewable Energy and Energy Efficiency Plan Consistency

Regarding federal transportation regulations, the project site is located in an already developed area. Access to/from the project site is from existing roads. These roads are already in place so the project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the ISTEA because SCAG is not planning for intermodal facilities in the project area.

Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by the SCE and Southern California Gas Company.

Regarding the State's Renewable Energy Portfolio Standards, the project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CalGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

6.0 Conclusions

Construction and operational project emissions were evaluated and compared to both regional and localized SCAQMD's thresholds of significance. In addition, project GHG emissions were evaluated and compared to SCAQMD's draft threshold of 3,000 MTCO₂e per year for all land uses. Project emissions are anticipated to be below SCAQMD's thresholds of significance with no mitigation. Therefore, the impact is less than significant.

Furthermore, neither construction nor operation of the project would result in wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources. The proposed project does not include any unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities and is a residential project that is not proposing any additional features that would require a larger energy demand than other residential projects of similar scale and configuration. The energy demands of the project are anticipated to be accommodated within the context of available resources and energy delivery systems. The project would therefore not cause or result in the need for additional energy producing or transmission facilities. The project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservation goals within the State of California. The Project has been designed in compliance with California's Energy Efficiency Standards and 2019 CALGreen Standards. The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency; therefore, impacts would be less than significant.

¹⁵ California Energy Commission, Gas Consumption by County. <http://ecdms.energy.ca.gov/gasbycounty.aspx>

MD is pleased to provide this focused Air Quality, Greenhouse Gas, and Energy Impact Evaluation. If you have any questions regarding this analysis, please don't hesitate to call us at (805) 426-4477.

Sincerely,
MD Acoustics, LLC

A handwritten signature in black ink, appearing to read 'Tyler Klassen', is positioned above the typed name.

Tyler Klassen, EIT
Air Quality Specialist

Appendix A

Glossary of Terms

AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH ₄	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DPM	Diesel particulate matter
GHG	Greenhouse gas
HFCs	Hydrofluorocarbons
LST	Localized Significant Thresholds
MTCO ₂ e	Metric tons of carbon dioxide equivalent
MMTCO ₂ e	Million metric tons of carbon dioxide equivalent
NAAQS	National Ambient Air Quality Standards
NO _x	Nitrogen Oxides
NO ₂	Nitrogen dioxide
N ₂ O	Nitrous oxide
O ₃	Ozone
PFCs	Perfluorocarbons
PM	Particle matter
PM ₁₀	Particles that are less than 10 micrometers in diameter
PM _{2.5}	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SF ₆	Sulfur hexafluoride
SIP	State Implementation Plan
SO _x	Sulfur Oxides
SRA	Source/Receptor Area
TAC	Toxic air contaminants
VOC	Volatile organic compounds
WRCC	Western Regional Climate Center

Appendix B
Site Plan

Appendix C
CalEEMod Outputs & EMFAC2017 Data

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**4260 Arch Drive Multi-Family Project****Madera County, Summer****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	145.00	Space	0.00	62,721.00	0
Apartments High Rise	129.00	Dwelling Unit	1.03	114,004.40	369

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.9	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5-story 129-unit multifamily building on 44,866.8 SF (1.03 acre) lot with 145 parking spaces on two subterranean levels.

Construction Phase -

Demolition - Per Google Earth estimate

Architectural Coating - SCAQMD Rule 1113

Woodstoves - No woodstoves or fireplaces

Area Coating - SCAQMD Rule 1113

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Waste Mitigation - AB 341 requires each jurisdiction in CA to divert at least 75% of thier waste away from landfills by 2020.

Grading -

Vehicle Trips - Per transportation assessment from Overland Consultants, Inc., the project will generate 528 trips per day (4.093 trips per unit)

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	50.00
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	50
tblAreaCoating	Area_EF_Nonresidential_Interior	150	50
tblAreaCoating	Area_EF_Parking	150	100
tblAreaCoating	Area_EF_Residential_Exterior	150	50
tblAreaCoating	Area_EF_Residential_Interior	150	50
tblGrading	MaterialExported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	58,000.00	62,721.00
tblLandUse	LandUseSquareFeet	129,000.00	114,004.40
tblLandUse	LotAcreage	1.30	0.00
tblLandUse	LotAcreage	2.08	1.03
tblWoodstoves	NumberCatalytic	1.03	0.00
tblWoodstoves	NumberNoncatalytic	1.03	0.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Unmitigated Construction

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
Percent Reduction	0.00	0.00	0.00	0.00	27.61	0.00	25.75	35.25	0.00	29.60	0.00	0.00	0.00	0.00	0.00	0.00

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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	3.1219	1.2998	11.1607	8.0800e-003		0.1541	0.1541		0.1541	0.1541	0.0000	1,521.6656	1,521.6656	0.0473	0.0276	1,531.0568
Energy	0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362
Mobile	2.3293	3.2296	19.1928	0.0410	3.5488	0.0392	3.5880	0.9487	0.0368	0.9855		4,218.6834	4,218.6834	0.2190	0.2235	4,290.7507
Total	5.4962	4.9131	30.5167	0.0516	3.5488	0.2243	3.7732	0.9487	0.2220	1.1707	0.0000	6,230.1743	6,230.1743	0.2757	0.2600	6,314.5436

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	3.1219	1.2998	11.1607	8.0800e-003		0.1541	0.1541		0.1541	0.1541	0.0000	1,521.6656	1,521.6656	0.0473	0.0276	1,531.0568
Energy	0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362
Mobile	2.3293	3.2296	19.1928	0.0410	3.5488	0.0392	3.5880	0.9487	0.0368	0.9855		4,218.6834	4,218.6834	0.2190	0.2235	4,290.7507
Total	5.4962	4.9131	30.5167	0.0516	3.5488	0.2243	3.7732	0.9487	0.2220	1.1707	0.0000	6,230.1743	6,230.1743	0.2757	0.2600	6,314.5436

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2023	1/27/2023	5	20	
2	Grading	Grading	1/28/2023	2/2/2023	5	4	
3	Building Construction	Building Construction	2/3/2023	11/9/2023	5	200	
4	Paving	Paving	11/10/2023	11/23/2023	5	10	
5	Architectural Coating	Architectural Coating	11/24/2023	12/7/2023	5	10	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 4****Acres of Paving: 0****Residential Indoor: 230,859; Residential Outdoor: 76,953; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,763 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Paving Equipment	1	8.00	132	0.36
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	273.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	2,125.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	119.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	24.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.2 Demolition - 2023****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					3.0186	0.0000	3.0186	0.4571	0.0000	0.4571			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328		2,324.3959	2,324.3959	0.5893		2,339.1278
Total	1.4725	14.3184	13.4577	0.0241	3.0186	0.6766	3.6953	0.4571	0.6328	1.0898		2,324.3959	2,324.3959	0.5893		2,339.1278

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	0.0299	1.6102	0.3605	7.9300e-003	0.2394	0.0164	0.2557	0.0657	0.0157	0.0813		839.7855	839.7855	1.7900e-003	0.1320	879.1681
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
Worker	0.0515	0.0271	0.4188	1.0200e-003	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		104.1355	104.1355	3.0600e-003	2.6800e-003	105.0121
Total	0.0814	1.6373	0.7793	8.9500e-003	0.3462	0.0170	0.3631	0.0940	0.0162	0.1102		943.9210	943.9210	4.8500e-003	0.1347	984.1802

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.2 Demolition - 2023****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1773	0.0000	1.1773	0.1783	0.0000	0.1783			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328	0.0000	2,324.395 9	2,324.395 9	0.5893		2,339.127 8
Total	1.4725	14.3184	13.4577	0.0241	1.1773	0.6766	1.8539	0.1783	0.6328	0.8110	0.0000	2,324.395 9	2,324.395 9	0.5893		2,339.127 8

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	0.0299	1.6102	0.3605	7.9300e-003	0.2394	0.0164	0.2557	0.0657	0.0157	0.0813		839.7855	839.7855	1.7900e-003	0.1320	879.1681
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
Worker	0.0515	0.0271	0.4188	1.0200e-003	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		104.1355	104.1355	3.0600e-003	2.6800e-003	105.0121
Total	0.0814	1.6373	0.7793	8.9500e-003	0.3462	0.0170	0.3631	0.0940	0.0162	0.1102		943.9210	943.9210	4.8500e-003	0.1347	984.1802

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.3 Grading - 2023****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					7.7709	0.0000	7.7709	3.5290	0.0000	3.5290			0.0000			0.0000
Off-Road	1.3330	14.4676	8.7038	0.0206		0.6044	0.6044		0.5560	0.5560		1,995.614 7	1,995.614 7	0.6454		2,011.750 3
Total	1.3330	14.4676	8.7038	0.0206	7.7709	0.6044	8.3752	3.5290	0.5560	4.0850		1,995.614 7	1,995.614 7	0.6454		2,011.750 3

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	1.1641	62.6687	14.0298	0.3087	9.3161	0.6364	9.9525	2.5557	0.6089	3.1646		32,683.95 82	32,683.95 82	0.0697	5.1376	34,216.70 72
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
Worker	0.0396	0.0208	0.3222	7.8000e-004	0.0822	4.8000e-004	0.0826	0.0218	4.4000e-004	0.0222		80.1043	80.1043	2.3500e-003	2.0700e-003	80.7786
Total	1.2037	62.6895	14.3520	0.3094	9.3983	0.6369	10.0352	2.5775	0.6093	3.1868		32,764.06 25	32,764.06 25	0.0720	5.1397	34,297.48 58

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.3 Grading - 2023****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					3.0307	0.0000	3.0307	1.3763	0.0000	1.3763			0.0000			0.0000
Off-Road	1.3330	14.4676	8.7038	0.0206		0.6044	0.6044		0.5560	0.5560	0.0000	1,995.614 7	1,995.614 7	0.6454		2,011.750 3
Total	1.3330	14.4676	8.7038	0.0206	3.0307	0.6044	3.6350	1.3763	0.5560	1.9323	0.0000	1,995.614 7	1,995.614 7	0.6454		2,011.750 3

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	1.1641	62.6687	14.0298	0.3087	9.3161	0.6364	9.9525	2.5557	0.6089	3.1646		32,683.95 82	32,683.95 82	0.0697	5.1376	34,216.70 72
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
Worker	0.0396	0.0208	0.3222	7.8000e-004	0.0822	4.8000e-004	0.0826	0.0218	4.4000e-004	0.0222		80.1043	80.1043	2.3500e-003	2.0700e-003	80.7786
Total	1.2037	62.6895	14.3520	0.3094	9.3983	0.6369	10.0352	2.5775	0.6093	3.1868		32,764.06 25	32,764.06 25	0.0720	5.1397	34,297.48 58

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.4 Building Construction - 2023****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	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
Total	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858

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	0.0000
Vendor	0.0297	1.0146	0.3523	4.9000e-003	0.1628	6.9100e-003	0.1697	0.0469	6.6100e-003	0.0535		517.1014	517.1014	1.8800e-003	0.0755	539.6525
Worker	0.4715	0.2477	3.8340	9.3100e-003	0.9776	5.7000e-003	0.9833	0.2593	5.2400e-003	0.2645		953.2406	953.2406	0.0280	0.0246	961.2648
Total	0.5012	1.2623	4.1863	0.0142	1.1403	0.0126	1.1529	0.3062	0.0119	0.3180		1,470.3420	1,470.3420	0.0299	0.1001	1,500.9173

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.4 Building Construction - 2023****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	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.7877	2,001.7877	0.3399		2,010.2858
Total	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.7877	2,001.7877	0.3399		2,010.2858

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	0.0000
Vendor	0.0297	1.0146	0.3523	4.9000e-003	0.1628	6.9100e-003	0.1697	0.0469	6.6100e-003	0.0535		517.1014	517.1014	1.8800e-003	0.0755	539.6525
Worker	0.4715	0.2477	3.8340	9.3100e-003	0.9776	5.7000e-003	0.9833	0.2593	5.2400e-003	0.2645		953.2406	953.2406	0.0280	0.0246	961.2648
Total	0.5012	1.2623	4.1863	0.0142	1.1403	0.0126	1.1529	0.3062	0.0119	0.3180		1,470.3420	1,470.3420	0.0299	0.1001	1,500.9173

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.5 Paving - 2023****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	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.688 0	1,297.688 0	0.4114		1,307.972 5
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.688 0	1,297.688 0	0.4114		1,307.972 5

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	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
Worker	0.0515	0.0271	0.4188	1.0200e-003	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		104.1355	104.1355	3.0600e-003	2.6800e-003	105.0121
Total	0.0515	0.0271	0.4188	1.0200e-003	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		104.1355	104.1355	3.0600e-003	2.6800e-003	105.0121

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.5 Paving - 2023****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	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.688 0	1,297.688 0	0.4114		1,307.972 5
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.688 0	1,297.688 0	0.4114		1,307.972 5

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	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
Worker	0.0515	0.0271	0.4188	1.0200e-003	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		104.1355	104.1355	3.0600e-003	2.6800e-003	105.0121
Total	0.0515	0.0271	0.4188	1.0200e-003	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		104.1355	104.1355	3.0600e-003	2.6800e-003	105.0121

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.6 Architectural Coating - 2023****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	73.0796					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	73.2712	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

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	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
Worker	0.0951	0.0500	0.7733	1.8800e-003	0.1972	1.1500e-003	0.1983	0.0523	1.0600e-003	0.0534		192.2502	192.2502	5.6500e-003	4.9600e-003	193.8685
Total	0.0951	0.0500	0.7733	1.8800e-003	0.1972	1.1500e-003	0.1983	0.0523	1.0600e-003	0.0534		192.2502	192.2502	5.6500e-003	4.9600e-003	193.8685

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.6 Architectural Coating - 2023****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	73.0796					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	73.2712	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

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	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
Worker	0.0951	0.0500	0.7733	1.8800e-003	0.1972	1.1500e-003	0.1983	0.0523	1.0600e-003	0.0534		192.2502	192.2502	5.6500e-003	4.9600e-003	193.8685
Total	0.0951	0.0500	0.7733	1.8800e-003	0.1972	1.1500e-003	0.1983	0.0523	1.0600e-003	0.0534		192.2502	192.2502	5.6500e-003	4.9600e-003	193.8685

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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	2.3293	3.2296	19.1928	0.0410	3.5488	0.0392	3.5880	0.9487	0.0368	0.9855		4,218.683 4	4,218.683 4	0.2190	0.2235	4,290.750 7
Unmitigated	2.3293	3.2296	19.1928	0.0410	3.5488	0.0392	3.5880	0.9487	0.0368	0.9855		4,218.683 4	4,218.683 4	0.2190	0.2235	4,290.750 7

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	574.05	584.37	463.11	1,601,931	1,601,931
Enclosed Parking Structure	0.00	0.00	0.00		
Total	574.05	584.37	463.11	1,601,931	1,601,931

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments High Rise	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.491491	0.052949	0.173689	0.164683	0.034990	0.008766	0.010778	0.027771	0.000810	0.000210	0.026873	0.002020	0.004972
Enclosed Parking Structure	0.491491	0.052949	0.173689	0.164683	0.034990	0.008766	0.010778	0.027771	0.000810	0.000210	0.026873	0.002020	0.004972

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362
NaturalGas Unmitigated	0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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					
Apartments High Rise	4163.52	0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362
Enclosed Parking Structure	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		0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362

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					
Apartments High Rise	4.16352	0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362
Enclosed Parking Structure	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		0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362

6.0 Area Detail

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.1219	1.2998	11.1607	8.0800e-003		0.1541	0.1541		0.1541	0.1541	0.0000	1,521.6656	1,521.6656	0.0473	0.0276	1,531.0568
Unmitigated	3.1219	1.2998	11.1607	8.0800e-003		0.1541	0.1541		0.1541	0.1541	0.0000	1,521.6656	1,521.6656	0.0473	0.0276	1,531.0568

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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	0.2002					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4619					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1377	1.1769	0.5008	7.5100e-003		0.0952	0.0952		0.0952	0.0952	0.0000	1,502.4706	1,502.4706	0.0288	0.0276	1,511.3990
Landscaping	0.3221	0.1228	10.6598	5.6000e-004		0.0590	0.0590		0.0590	0.0590		19.1950	19.1950	0.0185		19.6578
Total	3.1219	1.2998	11.1607	8.0700e-003		0.1541	0.1541		0.1541	0.1541	0.0000	1,521.6656	1,521.6656	0.0473	0.0276	1,531.0568

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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	0.2002					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4619					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1377	1.1769	0.5008	7.5100e-003		0.0952	0.0952		0.0952	0.0952	0.0000	1,502.4706	1,502.4706	0.0288	0.0276	1,511.3990
Landscaping	0.3221	0.1228	10.6598	5.6000e-004		0.0590	0.0590		0.0590	0.0590		19.1950	19.1950	0.0185		19.6578
Total	3.1219	1.2998	11.1607	8.0700e-003		0.1541	0.1541		0.1541	0.1541	0.0000	1,521.6656	1,521.6656	0.0473	0.0276	1,531.0568

7.0 Water Detail**7.1 Mitigation Measures Water**

4260 Arch Drive Multi-Family Project - Madera County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**8.0 Waste Detail**

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**4260 Arch Drive Multi-Family Project****Madera County, Winter****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	145.00	Space	0.00	62,721.00	0
Apartments High Rise	129.00	Dwelling Unit	1.03	114,004.40	369

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.9	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5-story 129-unit multifamily building on 44,866.8 SF (1.03 acre) lot with 145 parking spaces on two subterranean levels.

Construction Phase -

Demolition - Per Google Earth estimate

Architectural Coating - SCAQMD Rule 1113

Woodstoves - No woodstoves or fireplaces

Area Coating - SCAQMD Rule 1113

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Waste Mitigation - AB 341 requires each jurisdiction in CA to divert at least 75% of thier waste away from landfills by 2020.

Grading -

Vehicle Trips - Per transportation assessment from Overland Consultants, Inc., the project will generate 528 trips per day (4.093 trips per unit)

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	50.00
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	50
tblAreaCoating	Area_EF_Nonresidential_Interior	150	50
tblAreaCoating	Area_EF_Parking	150	100
tblAreaCoating	Area_EF_Residential_Exterior	150	50
tblAreaCoating	Area_EF_Residential_Interior	150	50
tblGrading	MaterialExported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	58,000.00	62,721.00
tblLandUse	LandUseSquareFeet	129,000.00	114,004.40
tblLandUse	LotAcreage	1.30	0.00
tblLandUse	LotAcreage	2.08	1.03
tblWoodstoves	NumberCatalytic	1.03	0.00
tblWoodstoves	NumberNoncatalytic	1.03	0.00

2.0 Emissions Summary

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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					
2023	73.3558	81.5294	23.2680	0.3304	17.1692	1.2420	18.4112	6.1065	1.1661	7.2725	0.0000	34,795.82 65	34,795.82 65	0.7136	5.1470	36,347.48 45
Maximum	73.3558	81.5294	23.2680	0.3304	17.1692	1.2420	18.4112	6.1065	1.1661	7.2725	0.0000	34,795.82 65	34,795.82 65	0.7136	5.1470	36,347.48 45

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					
2023	73.3558	81.5294	23.2680	0.3304	12.4289	1.2420	13.6709	3.9538	1.1661	5.1199	0.0000	34,795.82 65	34,795.82 65	0.7136	5.1470	36,347.48 45
Maximum	73.3558	81.5294	23.2680	0.3304	12.4289	1.2420	13.6709	3.9538	1.1661	5.1199	0.0000	34,795.82 65	34,795.82 65	0.7136	5.1470	36,347.48 45

	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
Percent Reduction	0.00	0.00	0.00	0.00	27.61	0.00	25.75	35.25	0.00	29.60	0.00	0.00	0.00	0.00	0.00	0.00

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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	3.1219	1.2998	11.1607	8.0800e-003		0.1541	0.1541		0.1541	0.1541	0.0000	1,521.6656	1,521.6656	0.0473	0.0276	1,531.0568
Energy	0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362
Mobile	1.8774	3.6174	18.5067	0.0379	3.5488	0.0392	3.5881	0.9487	0.0369	0.9856		3,900.1087	3,900.1087	0.2455	0.2381	3,977.2009
Total	5.0442	5.3009	29.8307	0.0484	3.5488	0.2244	3.7732	0.9487	0.2220	1.1707	0.0000	5,911.5997	5,911.5997	0.3022	0.2746	6,000.9938

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	3.1219	1.2998	11.1607	8.0800e-003		0.1541	0.1541		0.1541	0.1541	0.0000	1,521.6656	1,521.6656	0.0473	0.0276	1,531.0568
Energy	0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362
Mobile	1.8774	3.6174	18.5067	0.0379	3.5488	0.0392	3.5881	0.9487	0.0369	0.9856		3,900.1087	3,900.1087	0.2455	0.2381	3,977.2009
Total	5.0442	5.3009	29.8307	0.0484	3.5488	0.2244	3.7732	0.9487	0.2220	1.1707	0.0000	5,911.5997	5,911.5997	0.3022	0.2746	6,000.9938

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2023	1/27/2023	5	20	
2	Grading	Grading	1/28/2023	2/2/2023	5	4	
3	Building Construction	Building Construction	2/3/2023	11/9/2023	5	200	
4	Paving	Paving	11/10/2023	11/23/2023	5	10	
5	Architectural Coating	Architectural Coating	11/24/2023	12/7/2023	5	10	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 4****Acres of Paving: 0****Residential Indoor: 230,859; Residential Outdoor: 76,953; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,763 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Paving Equipment	1	8.00	132	0.36
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	273.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	2,125.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	119.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	24.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.2 Demolition - 2023****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					3.0186	0.0000	3.0186	0.4571	0.0000	0.4571			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328		2,324.3959	2,324.3959	0.5893		2,339.1278
Total	1.4725	14.3184	13.4577	0.0241	3.0186	0.6766	3.6953	0.4571	0.6328	1.0898		2,324.3959	2,324.3959	0.5893		2,339.1278

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	0.0277	1.7225	0.3671	7.9400e-003	0.2394	0.0164	0.2557	0.0657	0.0157	0.0813		840.9347	840.9347	1.6800e-003	0.1322	880.3692
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
Worker	0.0458	0.0322	0.3585	9.1000e-004	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		92.9829	92.9829	3.3900e-003	3.0200e-003	93.9670
Total	0.0735	1.7547	0.7256	8.8500e-003	0.3462	0.0170	0.3632	0.0940	0.0162	0.1102		933.9176	933.9176	5.0700e-003	0.1352	974.3362

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.2 Demolition - 2023****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1773	0.0000	1.1773	0.1783	0.0000	0.1783			0.0000			0.0000
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328	0.0000	2,324.395 9	2,324.395 9	0.5893		2,339.127 8
Total	1.4725	14.3184	13.4577	0.0241	1.1773	0.6766	1.8539	0.1783	0.6328	0.8110	0.0000	2,324.395 9	2,324.395 9	0.5893		2,339.127 8

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	0.0277	1.7225	0.3671	7.9400e-003	0.2394	0.0164	0.2557	0.0657	0.0157	0.0813		840.9347	840.9347	1.6800e-003	0.1322	880.3692
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
Worker	0.0458	0.0322	0.3585	9.1000e-004	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		92.9829	92.9829	3.3900e-003	3.0200e-003	93.9670
Total	0.0735	1.7547	0.7256	8.8500e-003	0.3462	0.0170	0.3632	0.0940	0.0162	0.1102		933.9176	933.9176	5.0700e-003	0.1352	974.3362

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.3 Grading - 2023****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					7.7709	0.0000	7.7709	3.5290	0.0000	3.5290			0.0000			0.0000
Off-Road	1.3330	14.4676	8.7038	0.0206		0.6044	0.6044		0.5560	0.5560		1,995.614 7	1,995.614 7	0.6454		2,011.750 3
Total	1.3330	14.4676	8.7038	0.0206	7.7709	0.6044	8.3752	3.5290	0.5560	4.0850		1,995.614 7	1,995.614 7	0.6454		2,011.750 3

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	1.0776	67.0370	14.2885	0.3091	9.3161	0.6372	9.9533	2.5557	0.6096	3.1653		32,728.68 64	32,728.68 64	0.0656	5.1447	34,263.45 19
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
Worker	0.0352	0.0248	0.2757	7.0000e-004	0.0822	4.8000e-004	0.0826	0.0218	4.4000e-004	0.0222		71.5253	71.5253	2.6100e-003	2.3200e-003	72.2823
Total	1.1128	67.0618	14.5643	0.3098	9.3983	0.6377	10.0359	2.5775	0.6101	3.1876		32,800.21 17	32,800.21 17	0.0682	5.1470	34,335.73 42

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.3 Grading - 2023****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					3.0307	0.0000	3.0307	1.3763	0.0000	1.3763			0.0000			0.0000
Off-Road	1.3330	14.4676	8.7038	0.0206		0.6044	0.6044		0.5560	0.5560	0.0000	1,995.614 7	1,995.614 7	0.6454		2,011.750 3
Total	1.3330	14.4676	8.7038	0.0206	3.0307	0.6044	3.6350	1.3763	0.5560	1.9323	0.0000	1,995.614 7	1,995.614 7	0.6454		2,011.750 3

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	1.0776	67.0370	14.2885	0.3091	9.3161	0.6372	9.9533	2.5557	0.6096	3.1653		32,728.68 64	32,728.68 64	0.0656	5.1447	34,263.45 19
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
Worker	0.0352	0.0248	0.2757	7.0000e-004	0.0822	4.8000e-004	0.0826	0.0218	4.4000e-004	0.0222		71.5253	71.5253	2.6100e-003	2.3200e-003	72.2823
Total	1.1128	67.0618	14.5643	0.3098	9.3983	0.6377	10.0359	2.5775	0.6101	3.1876		32,800.21 17	32,800.21 17	0.0682	5.1470	34,335.73 42

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.4 Building Construction - 2023****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	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
Total	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858

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	0.0000
Vendor	0.0280	1.0857	0.3631	4.9100e-003	0.1628	6.9300e-003	0.1697	0.0469	6.6300e-003	0.0535		518.1213	518.1213	1.8000e-003	0.0758	540.7509
Worker	0.4193	0.2950	3.2812	8.3200e-003	0.9776	5.7000e-003	0.9833	0.2593	5.2400e-003	0.2645		851.1514	851.1514	0.0311	0.0276	860.1593
Total	0.4473	1.3807	3.6443	0.0132	1.1403	0.0126	1.1529	0.3062	0.0119	0.3180		1,369.2727	1,369.2727	0.0329	0.1034	1,400.9102

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.4 Building Construction - 2023****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	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.7877	2,001.7877	0.3399		2,010.2858
Total	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.7877	2,001.7877	0.3399		2,010.2858

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	0.0000
Vendor	0.0280	1.0857	0.3631	4.9100e-003	0.1628	6.9300e-003	0.1697	0.0469	6.6300e-003	0.0535		518.1213	518.1213	1.8000e-003	0.0758	540.7509
Worker	0.4193	0.2950	3.2812	8.3200e-003	0.9776	5.7000e-003	0.9833	0.2593	5.2400e-003	0.2645		851.1514	851.1514	0.0311	0.0276	860.1593
Total	0.4473	1.3807	3.6443	0.0132	1.1403	0.0126	1.1529	0.3062	0.0119	0.3180		1,369.2727	1,369.2727	0.0329	0.1034	1,400.9102

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.5 Paving - 2023****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	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.688 0	1,297.688 0	0.4114		1,307.972 5
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.688 0	1,297.688 0	0.4114		1,307.972 5

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	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
Worker	0.0458	0.0322	0.3585	9.1000e-004	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		92.9829	92.9829	3.3900e-003	3.0200e-003	93.9670
Total	0.0458	0.0322	0.3585	9.1000e-004	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		92.9829	92.9829	3.3900e-003	3.0200e-003	93.9670

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.5 Paving - 2023****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	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.688 0	1,297.688 0	0.4114		1,307.972 5
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.688 0	1,297.688 0	0.4114		1,307.972 5

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	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
Worker	0.0458	0.0322	0.3585	9.1000e-004	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		92.9829	92.9829	3.3900e-003	3.0200e-003	93.9670
Total	0.0458	0.0322	0.3585	9.1000e-004	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		92.9829	92.9829	3.3900e-003	3.0200e-003	93.9670

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.6 Architectural Coating - 2023****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	73.0796					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	73.2712	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

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	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
Worker	0.0846	0.0595	0.6618	1.6800e-003	0.1972	1.1500e-003	0.1983	0.0523	1.0600e-003	0.0534		171.6608	171.6608	6.2600e-003	5.5700e-003	173.4775
Total	0.0846	0.0595	0.6618	1.6800e-003	0.1972	1.1500e-003	0.1983	0.0523	1.0600e-003	0.0534		171.6608	171.6608	6.2600e-003	5.5700e-003	173.4775

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.6 Architectural Coating - 2023****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	73.0796					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	73.2712	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

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	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
Worker	0.0846	0.0595	0.6618	1.6800e-003	0.1972	1.1500e-003	0.1983	0.0523	1.0600e-003	0.0534		171.6608	171.6608	6.2600e-003	5.5700e-003	173.4775
Total	0.0846	0.0595	0.6618	1.6800e-003	0.1972	1.1500e-003	0.1983	0.0523	1.0600e-003	0.0534		171.6608	171.6608	6.2600e-003	5.5700e-003	173.4775

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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	1.8774	3.6174	18.5067	0.0379	3.5488	0.0392	3.5881	0.9487	0.0369	0.9856		3,900.108 7	3,900.108 7	0.2455	0.2381	3,977.200 9
Unmitigated	1.8774	3.6174	18.5067	0.0379	3.5488	0.0392	3.5881	0.9487	0.0369	0.9856		3,900.108 7	3,900.108 7	0.2455	0.2381	3,977.200 9

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	574.05	584.37	463.11	1,601,931	1,601,931
Enclosed Parking Structure	0.00	0.00	0.00		
Total	574.05	584.37	463.11	1,601,931	1,601,931

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
Apartments High Rise	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.491491	0.052949	0.173689	0.164683	0.034990	0.008766	0.010778	0.027771	0.000810	0.000210	0.026873	0.002020	0.004972
Enclosed Parking Structure	0.491491	0.052949	0.173689	0.164683	0.034990	0.008766	0.010778	0.027771	0.000810	0.000210	0.026873	0.002020	0.004972

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362
NaturalGas Unmitigated	0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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					
Apartments High Rise	4163.52	0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362
Enclosed Parking Structure	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		0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362

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					
Apartments High Rise	4.16352	0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362
Enclosed Parking Structure	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		0.0449	0.3837	0.1633	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8254	489.8254	9.3900e-003	8.9800e-003	492.7362

6.0 Area Detail

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.1219	1.2998	11.1607	8.0800e-003		0.1541	0.1541		0.1541	0.1541	0.0000	1,521.6656	1,521.6656	0.0473	0.0276	1,531.0568
Unmitigated	3.1219	1.2998	11.1607	8.0800e-003		0.1541	0.1541		0.1541	0.1541	0.0000	1,521.6656	1,521.6656	0.0473	0.0276	1,531.0568

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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	0.2002					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4619					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1377	1.1769	0.5008	7.5100e-003		0.0952	0.0952		0.0952	0.0952	0.0000	1,502.4706	1,502.4706	0.0288	0.0276	1,511.3990
Landscaping	0.3221	0.1228	10.6598	5.6000e-004		0.0590	0.0590		0.0590	0.0590		19.1950	19.1950	0.0185		19.6578
Total	3.1219	1.2998	11.1607	8.0700e-003		0.1541	0.1541		0.1541	0.1541	0.0000	1,521.6656	1,521.6656	0.0473	0.0276	1,531.0568

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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	0.2002					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4619					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1377	1.1769	0.5008	7.5100e-003		0.0952	0.0952		0.0952	0.0952	0.0000	1,502.4706	1,502.4706	0.0288	0.0276	1,511.3990
Landscaping	0.3221	0.1228	10.6598	5.6000e-004		0.0590	0.0590		0.0590	0.0590		19.1950	19.1950	0.0185		19.6578
Total	3.1219	1.2998	11.1607	8.0700e-003		0.1541	0.1541		0.1541	0.1541	0.0000	1,521.6656	1,521.6656	0.0473	0.0276	1,531.0568

7.0 Water Detail**7.1 Mitigation Measures Water**

4260 Arch Drive Multi-Family Project - Madera County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**8.0 Waste Detail**

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**4260 Arch Drive Multi-Family Project****Madera County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	145.00	Space	0.00	62,721.00	0
Apartments High Rise	129.00	Dwelling Unit	1.03	114,004.40	369

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.9	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5-story 129-unit multifamily building on 44,866.8 SF (1.03 acre) lot with 145 parking spaces on two subterranean levels.

Construction Phase -

Demolition - Per Google Earth estimate

Architectural Coating - SCAQMD Rule 1113

Woodstoves - No woodstoves or fireplaces

Area Coating - SCAQMD Rule 1113

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Waste Mitigation - AB 341 requires each jurisdiction in CA to divert at least 75% of thier waste away from landfills by 2020.

Grading -

Vehicle Trips - Per transportation assessment from Overland Consultants, Inc., the project will generate 528 trips per day (4.093 trips per unit)

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	50.00
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	50
tblAreaCoating	Area_EF_Nonresidential_Interior	150	50
tblAreaCoating	Area_EF_Parking	150	100
tblAreaCoating	Area_EF_Residential_Exterior	150	50
tblAreaCoating	Area_EF_Residential_Interior	150	50
tblGrading	MaterialExported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	58,000.00	62,721.00
tblLandUse	LandUseSquareFeet	129,000.00	114,004.40
tblLandUse	LotAcreage	1.30	0.00
tblLandUse	LotAcreage	2.08	1.03
tblWoodstoves	NumberCatalytic	1.03	0.00
tblWoodstoves	NumberNoncatalytic	1.03	0.00

2.0 Emissions Summary

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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					
2023	0.5867	1.6622	1.8754	4.6400e-003	0.1795	0.0640	0.2436	0.0478	0.0615	0.1092	0.0000	409.3743	409.3743	0.0423	0.0198	416.3324
Maximum	0.5867	1.6622	1.8754	4.6400e-003	0.1795	0.0640	0.2436	0.0478	0.0615	0.1092	0.0000	409.3743	409.3743	0.0423	0.0198	416.3324

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					
2023	0.5867	1.6622	1.8754	4.6400e-003	0.1516	0.0640	0.2157	0.0407	0.0615	0.1021	0.0000	409.3740	409.3740	0.0423	0.0198	416.3321
Maximum	0.5867	1.6622	1.8754	4.6400e-003	0.1516	0.0640	0.2157	0.0407	0.0615	0.1021	0.0000	409.3740	409.3740	0.0423	0.0198	416.3321

	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
Percent Reduction	0.00	0.00	0.00	0.00	15.54	0.00	11.45	14.85	0.00	6.49	0.00	0.00	0.00	0.00	0.00	0.00

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2023	3-31-2023	0.6565	0.6565
2	4-1-2023	6-30-2023	0.4874	0.4874
3	7-1-2023	9-30-2023	0.4928	0.4928
		Highest	0.6565	0.6565

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	0.5205	0.0593	0.9799	3.6000e-004		9.2100e-003	9.2100e-003		9.2100e-003	9.2100e-003	0.0000	57.4510	57.4510	2.5800e-003	1.0200e-003	57.8208
Energy	8.1900e-003	0.0700	0.0298	4.5000e-004		5.6600e-003	5.6600e-003		5.6600e-003	5.6600e-003	0.0000	229.7406	229.7406	0.0141	3.0100e-003	230.9893
Mobile	0.3419	0.5989	3.1113	6.7500e-003	0.6001	6.8300e-003	0.6069	0.1608	6.4200e-003	0.1672	0.0000	629.5753	629.5753	0.0363	0.0364	641.3175
Waste						0.0000	0.0000		0.0000	0.0000	12.0455	0.0000	12.0455	0.7119	0.0000	29.8422
Water						0.0000	0.0000		0.0000	0.0000	2.6665	11.3544	14.0209	0.2748	6.5800e-003	22.8534
Total	0.8705	0.7282	4.1210	7.5600e-003	0.6001	0.0217	0.6218	0.1608	0.0213	0.1821	14.7120	928.1213	942.8333	1.0396	0.0470	982.8232

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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	0.5205	0.0593	0.9799	3.6000e-004		9.2100e-003	9.2100e-003		9.2100e-003	9.2100e-003	0.0000	57.4510	57.4510	2.5800e-003	1.0200e-003	57.8208
Energy	8.1900e-003	0.0700	0.0298	4.5000e-004		5.6600e-003	5.6600e-003		5.6600e-003	5.6600e-003	0.0000	229.7406	229.7406	0.0141	3.0100e-003	230.9893
Mobile	0.3419	0.5989	3.1113	6.7500e-003	0.6001	6.8300e-003	0.6069	0.1608	6.4200e-003	0.1672	0.0000	629.5753	629.5753	0.0363	0.0364	641.3175
Waste						0.0000	0.0000		0.0000	0.0000	3.0114	0.0000	3.0114	0.1780	0.0000	7.4605
Water						0.0000	0.0000		0.0000	0.0000	2.6665	11.3544	14.0209	0.2748	6.5800e-003	22.8534
Total	0.8705	0.7282	4.1210	7.5600e-003	0.6001	0.0217	0.6218	0.1608	0.0213	0.1821	5.6779	928.1213	933.7992	0.5057	0.0470	960.4416

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.41	0.00	0.96	51.35	0.00	2.28

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2023	1/27/2023	5	20	
2	Grading	Grading	1/28/2023	2/2/2023	5	4	
3	Building Construction	Building Construction	2/3/2023	11/9/2023	5	200	

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Paving	Paving	11/10/2023	11/23/2023	5	10
5	Architectural Coating	Architectural Coating	11/24/2023	12/7/2023	5	10

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 4****Acres of Paving: 0****Residential Indoor: 230,859; Residential Outdoor: 76,953; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,763 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Paving Equipment	1	8.00	132	0.36
Building Construction	Welders	3	8.00	46	0.45

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	273.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	2,125.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	119.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	24.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2023**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					0.0302	0.0000	0.0302	4.5700e-003	0.0000	4.5700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0147	0.1432	0.1346	2.4000e-004		6.7700e-003	6.7700e-003		6.3300e-003	6.3300e-003	0.0000	21.0866	21.0866	5.3500e-003	0.0000	21.2202
Total	0.0147	0.1432	0.1346	2.4000e-004	0.0302	6.7700e-003	0.0370	4.5700e-003	6.3300e-003	0.0109	0.0000	21.0866	21.0866	5.3500e-003	0.0000	21.2202

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

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	2.9000e-004	0.0168	3.6300e-003	8.0000e-005	2.3300e-003	1.6000e-004	2.4900e-003	6.4000e-004	1.6000e-004	8.0000e-004	0.0000	7.6228	7.6228	2.0000e-005	1.2000e-003	7.9803
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.9000e-004	3.6300e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8713	0.8713	3.0000e-005	3.0000e-005	0.8796
Total	7.4000e-004	0.0171	7.2600e-003	9.0000e-005	3.3700e-003	1.7000e-004	3.5300e-003	9.2000e-004	1.7000e-004	1.0800e-003	0.0000	8.4940	8.4940	5.0000e-005	1.2300e-003	8.8599

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					0.0118	0.0000	0.0118	1.7800e-003	0.0000	1.7800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0147	0.1432	0.1346	2.4000e-004		6.7700e-003	6.7700e-003		6.3300e-003	6.3300e-003	0.0000	21.0865	21.0865	5.3500e-003	0.0000	21.2202
Total	0.0147	0.1432	0.1346	2.4000e-004	0.0118	6.7700e-003	0.0185	1.7800e-003	6.3300e-003	8.1100e-003	0.0000	21.0865	21.0865	5.3500e-003	0.0000	21.2202

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.2 Demolition - 2023****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	2.9000e-004	0.0168	3.6300e-003	8.0000e-005	2.3300e-003	1.6000e-004	2.4900e-003	6.4000e-004	1.6000e-004	8.0000e-004	0.0000	7.6228	7.6228	2.0000e-005	1.2000e-003	7.9803
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.9000e-004	3.6300e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8713	0.8713	3.0000e-005	3.0000e-005	0.8796
Total	7.4000e-004	0.0171	7.2600e-003	9.0000e-005	3.3700e-003	1.7000e-004	3.5300e-003	9.2000e-004	1.7000e-004	1.0800e-003	0.0000	8.4940	8.4940	5.0000e-005	1.2300e-003	8.8599

3.3 Grading - 2023**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					0.0155	0.0000	0.0155	7.0600e-003	0.0000	7.0600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6700e-003	0.0289	0.0174	4.0000e-005		1.2100e-003	1.2100e-003		1.1100e-003	1.1100e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	2.6700e-003	0.0289	0.0174	4.0000e-005	0.0155	1.2100e-003	0.0168	7.0600e-003	1.1100e-003	8.1700e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.3 Grading - 2023****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	2.2600e-003	0.1311	0.0283	6.2000e-004	0.0181	1.2700e-003	0.0194	4.9900e-003	1.2200e-003	6.2100e-003	0.0000	59.3349	59.3349	1.2000e-004	9.3300e-003	62.1174
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	7.0000e-005	4.0000e-005	5.6000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1340	0.1340	0.0000	0.0000	0.1353
Total	2.3300e-003	0.1311	0.0288	6.2000e-004	0.0183	1.2700e-003	0.0196	5.0300e-003	1.2200e-003	6.2500e-003	0.0000	59.4689	59.4689	1.2000e-004	9.3300e-003	62.2527

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					6.0600e-003	0.0000	6.0600e-003	2.7500e-003	0.0000	2.7500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6700e-003	0.0289	0.0174	4.0000e-005		1.2100e-003	1.2100e-003		1.1100e-003	1.1100e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	2.6700e-003	0.0289	0.0174	4.0000e-005	6.0600e-003	1.2100e-003	7.2700e-003	2.7500e-003	1.1100e-003	3.8600e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.3 Grading - 2023****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	2.2600e-003	0.1311	0.0283	6.2000e-004	0.0181	1.2700e-003	0.0194	4.9900e-003	1.2200e-003	6.2100e-003	0.0000	59.3349	59.3349	1.2000e-004	9.3300e-003	62.1174
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	7.0000e-005	4.0000e-005	5.6000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1340	0.1340	0.0000	0.0000	0.1353
Total	2.3300e-003	0.1311	0.0288	6.2000e-004	0.0183	1.2700e-003	0.0196	5.0300e-003	1.2200e-003	6.2500e-003	0.0000	59.4689	59.4689	1.2000e-004	9.3300e-003	62.2527

3.4 Building Construction - 2023**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	0.1523	1.1710	1.2611	2.2100e-003		0.0515	0.0515		0.0497	0.0497	0.0000	181.5991	181.5991	0.0308	0.0000	182.3701
Total	0.1523	1.1710	1.2611	2.2100e-003		0.0515	0.0515		0.0497	0.0497	0.0000	181.5991	181.5991	0.0308	0.0000	182.3701

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.4 Building Construction - 2023****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	2.8700e-003	0.1059	0.0357	4.9000e-004	0.0159	6.9000e-004	0.0166	4.5900e-003	6.6000e-004	5.2500e-003	0.0000	46.9494	46.9494	1.7000e-004	6.8600e-003	48.9986
Worker	0.0408	0.0268	0.3323	8.6000e-004	0.0948	5.7000e-004	0.0954	0.0252	5.2000e-004	0.0257	0.0000	79.7528	79.7528	2.6300e-003	2.3500e-003	80.5177
Total	0.0437	0.1327	0.3680	1.3500e-003	0.1107	1.2600e-003	0.1119	0.0298	1.1800e-003	0.0310	0.0000	126.7022	126.7022	2.8000e-003	9.2100e-003	129.5163

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	0.1523	1.1710	1.2611	2.2100e-003		0.0515	0.0515		0.0497	0.0497	0.0000	181.5989	181.5989	0.0308	0.0000	182.3698
Total	0.1523	1.1710	1.2611	2.2100e-003		0.0515	0.0515		0.0497	0.0497	0.0000	181.5989	181.5989	0.0308	0.0000	182.3698

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.4 Building Construction - 2023****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	2.8700e-003	0.1059	0.0357	4.9000e-004	0.0159	6.9000e-004	0.0166	4.5900e-003	6.6000e-004	5.2500e-003	0.0000	46.9494	46.9494	1.7000e-004	6.8600e-003	48.9986
Worker	0.0408	0.0268	0.3323	8.6000e-004	0.0948	5.7000e-004	0.0954	0.0252	5.2000e-004	0.0257	0.0000	79.7528	79.7528	2.6300e-003	2.3500e-003	80.5177
Total	0.0437	0.1327	0.3680	1.3500e-003	0.1107	1.2600e-003	0.1119	0.0298	1.1800e-003	0.0310	0.0000	126.7022	126.7022	2.8000e-003	9.2100e-003	129.5163

3.5 Paving - 2023**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	3.2200e-003	0.0312	0.0440	7.0000e-005		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.2200e-003	0.0312	0.0440	7.0000e-005		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.5 Paving - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.5000e-004	1.8100e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4356	0.4356	1.0000e-005	1.0000e-005	0.4398
Total	2.2000e-004	1.5000e-004	1.8100e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4356	0.4356	1.0000e-005	1.0000e-005	0.4398

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	3.2200e-003	0.0312	0.0440	7.0000e-005		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.2200e-003	0.0312	0.0440	7.0000e-005		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.5 Paving - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.5000e-004	1.8100e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4356	0.4356	1.0000e-005	1.0000e-005	0.4398
Total	2.2000e-004	1.5000e-004	1.8100e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4356	0.4356	1.0000e-005	1.0000e-005	0.4398

3.6 Architectural Coating - 2023**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	0.3654					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	0.3664	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.6 Architectural Coating - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	2.7000e-004	3.3500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8042	0.8042	3.0000e-005	2.0000e-005	0.8119
Total	4.1000e-004	2.7000e-004	3.3500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8042	0.8042	3.0000e-005	2.0000e-005	0.8119

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	0.3654					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	0.3664	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.6 Architectural Coating - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	2.7000e-004	3.3500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8042	0.8042	3.0000e-005	2.0000e-005	0.8119
Total	4.1000e-004	2.7000e-004	3.3500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8042	0.8042	3.0000e-005	2.0000e-005	0.8119

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	0.3419	0.5989	3.1113	6.7500e-003	0.6001	6.8300e-003	0.6069	0.1608	6.4200e-003	0.1672	0.0000	629.5753	629.5753	0.0363	0.0364	641.3175
Unmitigated	0.3419	0.5989	3.1113	6.7500e-003	0.6001	6.8300e-003	0.6069	0.1608	6.4200e-003	0.1672	0.0000	629.5753	629.5753	0.0363	0.0364	641.3175

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	574.05	584.37	463.11	1,601,931	1,601,931
Enclosed Parking Structure	0.00	0.00	0.00		
Total	574.05	584.37	463.11	1,601,931	1,601,931

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
Apartments High Rise	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	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
Apartments High Rise	0.491491	0.052949	0.173689	0.164683	0.034990	0.008766	0.010778	0.027771	0.000810	0.000210	0.026873	0.002020	0.004972
Enclosed Parking Structure	0.491491	0.052949	0.173689	0.164683	0.034990	0.008766	0.010778	0.027771	0.000810	0.000210	0.026873	0.002020	0.004972

5.0 Energy Detail

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	148.6445	148.6445	0.0126	1.5200e-003	149.4113
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	148.6445	148.6445	0.0126	1.5200e-003	149.4113
NaturalGas Mitigated	8.1900e-003	0.0700	0.0298	4.5000e-004		5.6600e-003	5.6600e-003		5.6600e-003	5.6600e-003	0.0000	81.0961	81.0961	1.5500e-003	1.4900e-003	81.5780
NaturalGas Unmitigated	8.1900e-003	0.0700	0.0298	4.5000e-004		5.6600e-003	5.6600e-003		5.6600e-003	5.6600e-003	0.0000	81.0961	81.0961	1.5500e-003	1.4900e-003	81.5780

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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					
Apartments High Rise	1.51968e+006	8.1900e-003	0.0700	0.0298	4.5000e-004		5.6600e-003	5.6600e-003		5.6600e-003	5.6600e-003	0.0000	81.0961	81.0961	1.5500e-003	1.4900e-003	81.5780
Enclosed Parking Structure	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		8.1900e-003	0.0700	0.0298	4.5000e-004		5.6600e-003	5.6600e-003		5.6600e-003	5.6600e-003	0.0000	81.0961	81.0961	1.5500e-003	1.4900e-003	81.5780

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					
Apartments High Rise	1.51968e+006	8.1900e-003	0.0700	0.0298	4.5000e-004		5.6600e-003	5.6600e-003		5.6600e-003	5.6600e-003	0.0000	81.0961	81.0961	1.5500e-003	1.4900e-003	81.5780
Enclosed Parking Structure	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		8.1900e-003	0.0700	0.0298	4.5000e-004		5.6600e-003	5.6600e-003		5.6600e-003	5.6600e-003	0.0000	81.0961	81.0961	1.5500e-003	1.4900e-003	81.5780

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	508878	90.2472	7.6200e-003	9.2000e-004	90.7128
Enclosed Parking Structure	329285	58.3973	4.9300e-003	6.0000e-004	58.6985
Total		148.6445	0.0126	1.5200e-003	149.4113

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	508878	90.2472	7.6200e-003	9.2000e-004	90.7128
Enclosed Parking Structure	329285	58.3973	4.9300e-003	6.0000e-004	58.6985
Total		148.6445	0.0126	1.5200e-003	149.4113

6.0 Area Detail

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5205	0.0593	0.9799	3.6000e-004		9.2100e-003	9.2100e-003		9.2100e-003	9.2100e-003	0.0000	57.4510	57.4510	2.5800e-003	1.0200e-003	57.8208
Unmitigated	0.5205	0.0593	0.9799	3.6000e-004		9.2100e-003	9.2100e-003		9.2100e-003	9.2100e-003	0.0000	57.4510	57.4510	2.5800e-003	1.0200e-003	57.8208

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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	0.0365					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4493					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.6500e-003	0.0483	0.0205	3.1000e-004		3.9000e-003	3.9000e-003		3.9000e-003	3.9000e-003	0.0000	55.8838	55.8838	1.0700e-003	1.0200e-003	56.2158
Landscaping	0.0290	0.0111	0.9594	5.0000e-005		5.3100e-003	5.3100e-003		5.3100e-003	5.3100e-003	0.0000	1.5672	1.5672	1.5100e-003	0.0000	1.6050
Total	0.5205	0.0593	0.9799	3.6000e-004		9.2100e-003	9.2100e-003		9.2100e-003	9.2100e-003	0.0000	57.4510	57.4510	2.5800e-003	1.0200e-003	57.8208

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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	0.0365					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4493					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.6500e-003	0.0483	0.0205	3.1000e-004		3.9000e-003	3.9000e-003		3.9000e-003	3.9000e-003	0.0000	55.8838	55.8838	1.0700e-003	1.0200e-003	56.2158
Landscaping	0.0290	0.0111	0.9594	5.0000e-005		5.3100e-003	5.3100e-003		5.3100e-003	5.3100e-003	0.0000	1.5672	1.5672	1.5100e-003	0.0000	1.6050
Total	0.5205	0.0593	0.9799	3.6000e-004		9.2100e-003	9.2100e-003		9.2100e-003	9.2100e-003	0.0000	57.4510	57.4510	2.5800e-003	1.0200e-003	57.8208

7.0 Water Detail**7.1 Mitigation Measures Water**

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	14.0209	0.2748	6.5800e-003	22.8534
Unmitigated	14.0209	0.2748	6.5800e-003	22.8534

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	8.40487 / 5.29872	14.0209	0.2748	6.5800e-003	22.8534
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		14.0209	0.2748	6.5800e-003	22.8534

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	8.40487 / 5.29872	14.0209	0.2748	6.5800e-003	22.8534
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		14.0209	0.2748	6.5800e-003	22.8534

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.0114	0.1780	0.0000	7.4605
Unmitigated	12.0455	0.7119	0.0000	29.8422

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	59.34	12.0455	0.7119	0.0000	29.8422
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		12.0455	0.7119	0.0000	29.8422

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**8.2 Waste by Land Use****Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	14.835	3.0114	0.1780	0.0000	7.4605
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		3.0114	0.1780	0.0000	7.4605

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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11.0 Vegetation

4260 Arch Drive Multi-Family Project - Madera County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Source: EMFAC2017 (v1.0.3) Emissions Inventory

Region Type: Air District

Region: South Coast AQMD

Calendar Year: 2023

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Yr	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption	Fuel Consumption	Total Fuel Consumption	VMT	Total VMT	Miles Per Gallon	Vehicle Class
South Coast	2023	HHDT	Aggregate	Aggregate	Gasoline	75.10442936	8265.097	1502.689	1.936286145	1936.286145		1913466.474	8265.097	13656273.03	7.14 HHDT
South Coast	2023	HHDT	Aggregate	Aggregate	Diesel	109818.6753	13648008	1133618	1911.530188	1911530.188			13648008		
South Coast	2023	LDA	Aggregate	Aggregate	Gasoline	6635002.295	2.53E+08	31352477	7971.24403	7971244.03		8020635.698	2.53E+08	255180358.3	31.82 LDA
South Coast	2023	LDA	Aggregate	Aggregate	Diesel	62492.97958	2469816	297086.6	49.3916685	49391.6685			2469816		
South Coast	2023	LDA	Aggregate	Aggregate	Electricity	150700.3971	6237106	751566	0	0			6237106		
South Coast	2023	LDT1	Aggregate	Aggregate	Gasoline	758467.6481	27812996	3504563	1023.913006	1023913.006		1024279.466	27812996	27821405.09	27.16 LDT1
South Coast	2023	LDT1	Aggregate	Aggregate	Diesel	360.7799144	8408.618	1256.88	0.366459477	366.4594769			8408.618		
South Coast	2023	LDT1	Aggregate	Aggregate	Electricity	7122.93373	303507.5	35798.19	0	0			303507.5		
South Coast	2023	LDT2	Aggregate	Aggregate	Gasoline	2285150.139	85272416	10723315	3338.798312	3338798.312		3356536.438	85272416	85922778.34	25.60 LDT2
South Coast	2023	LDT2	Aggregate	Aggregate	Diesel	15594.68309	650362.8	76635.83	17.73812611	17738.12611			650362.8		
South Coast	2023	LDT2	Aggregate	Aggregate	Electricity	28809.63735	917592.8	145405.4	0	0			917592.8		
South Coast	2023	LHDT1	Aggregate	Aggregate	Gasoline	174910.3847	6216643	2605904	583.3851736	583385.1736		811563.1022	6216643	11211395.79	13.81 LHDT1
South Coast	2023	LHDT1	Aggregate	Aggregate	Diesel	125545.0822	4994753	1579199	228.1779285	228177.9285			4994753		
South Coast	2023	LHDT2	Aggregate	Aggregate	Gasoline	30102.75324	1034569	448486.2	111.5753864	111575.3864		209423.5025	1034569	2969599.008	14.18 LHDT2
South Coast	2023	LHDT2	Aggregate	Aggregate	Diesel	50003.13116	1935030	628976.5	97.84811618	97848.11618			1935030		
South Coast	2023	MCY	Aggregate	Aggregate	Gasoline	305044.5141	2104624	610089	57.849018	57849.018		57849.018	2104624	2104623.657	36.38 MCY
South Coast	2023	MDV	Aggregate	Aggregate	Gasoline	1589862.703	55684188	7354860	2693.883526	2693883.526		2744536.341	55684188	57109879.73	20.81 MDV
South Coast	2023	MDV	Aggregate	Aggregate	Diesel	36128.1019	1425691	176566.9	50.65281491	50652.81491			1425691		
South Coast	2023	MDV	Aggregate	Aggregate	Electricity	16376.67653	537591.7	83475.95	0	0			537591.7		
South Coast	2023	MH	Aggregate	Aggregate	Gasoline	34679.50542	330042.9	3469.338	63.26295123	63262.95123		74893.26955	330042.9	454344.9436	6.07 MH
South Coast	2023	MH	Aggregate	Aggregate	Diesel	13122.69387	124302	1312.269	11.63031832	11630.31832			124302		
South Coast	2023	MHDT	Aggregate	Aggregate	Gasoline	25624.3151	1363694	512691.3	265.2060557	265206.0557		989975.6425	1363694	9484317.768	9.58 MHDT
South Coast	2023	MHDT	Aggregate	Aggregate	Diesel	122124.488	8120623	1221858	724.7695868	724769.5868			8120623		
South Coast	2023	OBUS	Aggregate	Aggregate	Gasoline	5955.291639	245774	119153.5	48.07750689	48077.50689		86265.88761	245774	579743.8353	6.72 OBUS
South Coast	2023	OBUS	Aggregate	Aggregate	Diesel	4286.940093	333969.8	41558.29	38.18838072	38188.38072			333969.8		
South Coast	2023	SBUS	Aggregate	Aggregate	Gasoline	2783.643068	112189.6	11134.57	12.19474692	12194.74692		39638.85935	112189.6	323043.5203	8.15 SBUS
South Coast	2023	SBUS	Aggregate	Aggregate	Diesel	6671.825716	210853.9	76991.94	27.44411242	27444.11242			210853.9		
South Coast	2023	UBUS	Aggregate	Aggregate	Gasoline	957.7686184	89782.63	3831.074	17.62416327	17624.16327		17863.66378	89782.63	91199.2533	5.11 UBUS
South Coast	2023	UBUS	Aggregate	Aggregate	Diesel	13.00046095	1416.622	52.00184	0.239500509	239.5005093			1416.622		
South Coast	2023	UBUS	Aggregate	Aggregate	Electricity	16.11693886	1320.163	64.46776	0				1320.163		