GARDEN GROVE

AGENDA

GARDEN GROVE PLANNING COMMISSION

June 16, 2022 - 7:00 PM

COMMUNITY MEETING CENTER
11300 STANFORD AVENUE

COVID-19 Information: If you plan to attend the meeting in person, regardless of vaccination status, the public is encouraged to wear face masks indoors. Please do not attend this meeting if you have had direct contact with someone who has tested positive for COVID-19, or if you are experiencing symptoms such as coughing, sneezing, fever, difficulty breathing or have other flu-like symptoms.

Meeting Assistance: Any person requiring auxiliary aids and services, due to a disability, to address the Planning Commission, should contact the Department of Community & Economic Development at (714) 741-5312 or email planning@ggcity.org 72 hours prior to the meeting to arrange for special accommodations. (Government Code §5494.3.2).

Agenda Item Descriptions: Are intended to give a brief, general description of the item. The Planning Commission may take legislative action deemed appropriate with respect to the item and is not limited to the recommended action indicated in staff reports or the agenda.

Documents/Writings: Any revised or additional documents/writings related to an item on the agenda distributed to all or a majority of the Planning Commission within 72 hours of a meeting, are made available for public inspection at the same time (1) in the Planning Services Division Office at 11222 Acacia Parkway, Garden Grove, CA 92840, during normal business hours; and (1) at the Community Meeting Center at the time of the meeting.

Public Comments: Members of the public who attend the meeting in-person and would like to address the Planning Commission are requested to complete a yellow speaker card indicating their name and address, and identifying the subject matter they wish to address. This card should be given to the Recording Secretary before the meeting begins. General comments are made during "Oral Communications" and are limited to three (3) minutes and to matters the Planning Commission has jurisdiction over. Persons wishing to address the Planning Commission regarding a Public Hearing matter will be called to the podium at the time the matter is being considered. Members of the public who wish to comment on matters before the Commission, in lieu of doing so in person, may submit comments by emailing planning@ggcity.org no later than 3:00 p.m. the day of the meeting. The comments will be provided to the Commission as part of the meeting record.

PLEASE SILENCE YOUR CELL PHONES DURING THE MEETING.

REGULAR MEETING AGENDA

ROLL CALL: CHAIR RAMIREZ, VICE CHAIR LINDSAY
COMMISSIONERS ARESTEGUI, CUNNINGHAM, LEHMAN, PEREZ, SOEFFNER

PLEDGE OF ALLEGIANCE TO THE FLAG OF THE UNITED STATES OF AMERICA

A. ORAL COMMUNICATIONS - PUBLIC

B. APPROVAL OF MINUTES – May 19, 2022

C. CONTINUED PUBLIC HEARING FROM MAY 19, 2022 (Authorization for the Chair to execute Resolution shall be included in the motion.)

C.1. SITE PLAN NO. SP-110-2022
VARIANCE NO. V-036-2022
LOT LINE ADJUSTMENT NO. LLA-029-2022

APPLICANT: PROLOGIS, L.P.
LOCATION: WEST SIDE OF PALA DRIVE AND INDUSTRY STREET, NORTH OF ACACIA AVENUE, AND SOUTH OF LAMPSON AVENUE AT 12641 INDUSTRY STREET AND 12691 PALA DRIVE

REQUEST: Site Plan approval to demolish the 65,880 square-foot building at 12641 Industry Street, and the 83,100 square-foot building at 12691 Pala Drive, in order to build a new 148,284 square-foot industrial building. Also, a Variance request to deviate from the maximum building height requirement of the M-P (Industrial Park) zone, and a Lot Line Adjustment request to consolidate 12641 Industry Street and 12691 Pala Drive into a single parcel. The site is in the M-P (Industrial Park) zone. The project is exempt from CEQA pursuant to Government Code Section 15302 – Replacement or Reconstruction, of the State CEQA Guidelines.

STAFF RECOMMENDATION: Approval of Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022, subject to the recommended Conditions of Approval.

D. MATTERS FROM COMMISSIONERS

E. MATTERS FROM STAFF

F. ADJOURNMENT

GARDEN GROVE PLANNING COMMISSION
Community Meeting Center
11300 Stanford Avenue, Garden Grove, CA 92840

Meeting Minutes
Thursday, May 19, 2022

CALL TO ORDER: 7:01 p.m.

ROLL CALL:

Chair Ramirez
Vice Chair Lindsay
Commissioner Arestegui
Commissioner Cunningham
Commissioner Lehman
Commissioner Perez
Commissioner Soeffner

Absent: Lehman, Perez, Ramirez

PLEDGE OF ALLEGIANCE: Led by Commissioner Soeffner.

ORAL COMMUNICATIONS – PUBLIC – In regard to the first public hearing item, which was withdrawn, Maureen Blackmun expressed her opposition to the Crazy Beer & Wine Market project citing concerns that there were frequent Police calls for service in the neighborhood relating to drugs, alcohol, and high-crime, and there were too many convenience stores in the area, as well as graffiti on the wall.

April 21, 2022 MINUTES:

Action: Received and filed.

Motion: Lindsay Second: Arestegui

Ayes:	(4)	Arestegui, Cunningham, Lindsay, Soeffner
Noes:	(0)	None
Absent:	(3)	Lehman, Perez, Ramirez

PUBLIC HEARING – CONDITIONAL USE PERMIT NO. CUP-217-2022 FOR PROPERTY LOCATED NORTH OF GARDEN GROVE BOULEVARD, BETWEEN LORNA STREET AND JOSEPHINE STREET, AT 8725 GARDEN GROVE BOULEVARD

Applicant: HEDRA MAMLOUK
Date: May 19, 2022

Request: Conditional Use Permit approval to allow a new convenience store, Crazy

Beer & Wine Market, to operate with an original Alcoholic Beverage Control (ABC) Type "20" (Off-Sale, Beer and Wine) License. The site is in the GGMU-2 (Garden Grove Boulevard Mixed Use 2) zone. The project is exempt from the CEQA pursuant to Government Code Section 15301 – Existing Facilities – of the State CEQA Guidelines.

Action: Staff stated that a letter to withdraw the item was submitted by the applicant on the afternoon of 5/19/22. Comments were taken under Oral Communications.

PUBLIC HEARING – SITE PLAN NO. SP-112-2022 AND TENTATIVE PARCEL MAP NO. PM-2021-112 FOR PROPERTY LOCATED ON THE NORTHEAST CORNER OF BEVERLY LANE AND ENEO PLACE AT 9811 BEVERLY LANE

Applicant: HENRY BALANZA
Date: May 19, 2022

Request: A request for Site Plan and Tentative Parcel Map approval to reconfigure two (2) existing adjacent parcels for the purpose of constructing a new two-story single-family home on each lot. Lot 1 will have a lot size of 10,500 square feet, while Lot 2 will have a lot size of 7,238 square feet. The existing single-family dwelling will be demolished to accommodate the proposed development. The site is in the R-1 (Single-Family Residential) zone. The project is exempt from CEQA pursuant to Government Code Section 15303 – New Construction or Conversion of Small Structures and Section 15315 – Minor Land Divisions, of the State CEQA Guidelines.

Action: Resolution No. 6042-22 was approved with one amendment, the insertion of a new Condition of Approval No. 67, renumbering the condition count from 72 to 73. Condition of Approval No. 67 states: "Second-story windows located on the east and west side of each unit shall either be frosted or designed as clerestory windows to preserve privacy of adjacent dwelling units." Also, one letter of opposition was submitted by Leyna Nguyen. Three speakers expressed concerns with the two-story building height, loss of privacy, compromise of property value, loss of single-family neighborhood charm, increase in traffic, general noise increase, and construction noise.

Motion: Soeffner Second: Arestegui

Ayes: (4) Arestegui, Cunningham, Lindsay, Soeffner
Noes: (0) None
Absent: (3) Lehman, Perez, Ramirez

PUBLIC HEARING – SITE PLAN NO. SP-110-2022, VARIANCE NO. V-036-2022, AND LOT LINE ADJUSTMENT NO. LLA-029-2022 FOR PROPERTY LOCATED ON THE WEST SIDE OF PALA DRIVE AND INDUSTRY STREET, NORTH OF ACACIA AVENUE, AND SOUTH OF LAMPSON AVENUE AT 12641 INDUSTRY STREET AND 12691 PALA DRIVE

Applicant: PROLOGIS, L.P.
Date: May 19, 2022

Request: Site Plan approval to demolish the 65,880 square-foot building at 12641 Industry Street, and the 83,100 square-foot building at 12691 Pala Drive, in order to build a new 148,284 square-foot industrial building. Also, a Variance request to deviate from the maximum building height requirement of the M-P (Industrial Park) zone, and a Lot Line Adjustment request to consolidate 12641 Industry Street and 12691 Pala Drive into a single parcel. The site is in the M-P (Industrial Park) zone. The project is exempt from CEQA pursuant to Government Code Section 15302 – Replacement or Reconstruction, of the State CEQA Guidelines.

Action: In order for staff to analyze the estimated trip generation and potential traffic impacts of the project, the Planning Commission motioned to continue the item to the June 16th Planning Commission meeting. With the public hearing left open, the request was approved.

Motion: Soeffner Second: Arestegui

Ayes: (3) Arestegui, Cunningham, Soeffner
Noes: (1) Lindsay
Absent: (3) Lehman, Perez, Ramirez

PUBLIC HEARING – SITE PLAN NO. SP-111-2022 AND TENTATIVE PARCEL MAP NO. PM-2021-190 FOR PROPERTY LOCATED ON THE NORTHEAST CORNER OF GARDEN GROVE BOULEVARD AND BROOKHURST STREET AT 10201 AND 10231 GARDEN GROVE BOULEVARD

Applicant: DR. MICHAEL DAO
Date: May 19, 2022

Request: Site Plan approval to construct a five-story mixed-use development on a 1.86-acre site consisting of two parcels with 9,786 square feet of retail space, 9,270 square feet of medical space, and 52 apartment units with a 22.5% affordable housing density bonus for "very low-income" households. Pursuant to the State Density Bonus law, the applicant is requesting one (1) concession and three (3) waivers from the GGMU-2 (Garden Grove Boulevard Mixed Use 2) zone development standards: (1) a concession to reduce the minimum required private balcony area and dimensions for each unit, (2) a waiver to reduce the minimum active

recreation dimensions and to allow the indoor and roof deck recreation areas to contribute to more than 50% of the required open space; (3) a waiver to allow the building to exceed the maximum building height of 50 feet or 4-stories; and (4) a waiver to deviate from the minimum 300 cubic feet of private storage per unit. Also, Tentative Parcel Map approval to consolidate the two (2) existing parcels into a single lot to accommodate the proposed development. The site is in the GGMU-2 (Garden Grove Boulevard Mixed Use 2) zone. The project is exempt from CEQA pursuant to Government Code Section 15332 – In-Fill Development Projects, of the State CEQA Guidelines.

Action: Resolution No. 6041-22 was approved with one amendment, the addition of Condition of Approval No. 113, which states: The applicant shall enhance the east building elevation by incorporating vertical wall landscaping to soften the building façade, and shall also incorporate privacy features, that are integrated with the design of the building, to the parking structure openings located on levels 2 and 3.

In addition, staff would work with traffic engineering to potentially add a "No U-turn" and/or "Keep Clear" sign to assist with easing traffic in the area on Garden Grove Boulevard at the entrance to the Rosewood Village development.

Other than the applicant, architect, landscape architect, and traffic engineer speaking, seven speakers expressed that though the project was beautiful it was not "family-friendly". Their concerns included the building height, lack of privacy, opposition to the tall bamboo plantings along the property line, gate access hours, ingress and egress to the development, increased traffic and parking overflow into neighborhoods, and "U-turns" that hinder traffic. Four letters of opposition were submitted with concerns relating to lack of outdoor space for growing families, child-safety, homeless in area, low-income housing, lack of privacy, and overflow parking in neighborhood. Two letters of support were submitted citing the need for affordable housing and the addition of value to the corner, as well as new jobs, businesses, and medical services in the area.

Motion: Lindsay Second: Arestegui

Ayes:	(4)	Arestegui, Cunningham, Lindsay, Soeffner
Noes:	(0)	None
Absent:	(3)	Lehman, Perez, Ramirez

MATTERS FROM COMMISSIONERS: Commissioners reminded everyone of the upcoming Strawberry Festival and tribute concerts at the amphitheater, which include Aerosmith, Green Day, and Tom Petty.

MATTERS FROM STAFF: Staff noted that the June 2nd meeting would be cancelled and the continued item would be moved to the June 16th meeting.

ADJOURNMENT: At 9:53 p.m. to the next Meeting of the Garden Grove Planning Commission on Thursday, June 16, 2022, at 7:00 p.m. in the Community Meeting Center, 11300 Stanford Avenue, Garden Grove.

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Judith Moore
Recording Secretary

COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTMENT PLANNING STAFF REPORT

AGENDA ITEM NO.: C.1.	**SITE LOCATION:** West side of Pala Drive, North of Acacia Avenue, and West side of Industry Street, South of Lampson Avenue, at 12641 Industry Street and 12691 Pala Drive
HEARING DATE: June 16, 2022	**GENERAL PLAN:** Industrial (I)
CASE NO.: Site Plan No. SP-110-2022, Variance No. V-036-2022, Lot Line Adjustment No. LLA-029-2022	**ZONE:** M-P (Industrial Park)
APPLICANT: Prologis, L.P., ATTN: Eddie Pang	**APN:** 215-011-11 & 215-111-16
PROPERTY OWNER: Same as Applicant	**CEQA DETERMINATION:** Exempt: Section 15302 – Replacement or Reconstruction

REQUEST:

The applicant is requesting Site Plan approval to build a new 149,335 gross square-foot industrial building, necessitating the demolition of the 65,880 square-foot building at 12641 Industry Street, and the 83,100 square-foot building at 12691 Pala Drive. In conjunction with this request, the applicant is also requesting approval of a Variance request to deviate from the thirty-five foot (35'-0") maximum building height limit of the M-P (Industrial Park) zone by two feet and two inches (2'-2"), and a Lot Line Adjustment request to relocate the property line between 12641 Industry Street and 12691 Pala Drive.

DISCUSSION:

On May 19, 2022, the Planning Commission held a public hearing to consider Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022. At the meeting, no members of the public spoke about the project. The Planning Commission voted 3-1, with three commissioners absent, to keep the public hearing open, and to continue the item to the June 16th hearing date.

During the meeting, the Planning Commission directed Staff to analyze the trip generation, and any potential traffic impacts the project might have. Urban Crossroads, a traffic engineering firm, was retained by the applicant to do a traffic assessment based on the Planning Commission's directive. According to their findings, the existing building at 12691 Pala Drive currently generates an average of forty-four (44) daily trips, and using the ITE Trip Generation manual, the building at 12641 Industry Street is estimated to generate 116 daily trips (160 total daily

trips). The proposed building, to replace the two aforementioned buildings, is estimated to generate 374 daily trips, a 214 increase in daily trips.

During peak hours, the existing building at 12691 Pala Drive currently generates an average of six (6) A.M. peak-hour trips, and four (4) P.M. peak-hour trips. Again, using ITE standards, it was found that the existing building at 12641 Industry Street can be expected to generate ten (10) A.M. peak-hour trips, and twelve (12) P.M. peak-hour trips. Collectively, the two existing buildings are estimated to generate sixteen (16) A.M. peak-hour trips, and sixteen (16) P.M. peak-hour trips. The proposed building, is estimated to generate forty-six (46) A.M. peak-hour trips, and forty-three (43) P.M. peak-hour trips. This is a thirty (30) trip, and twenty-seven (27) trip increase, respectively, over the existing conditions. In neither case did the A.M. nor P.M. peak-hour trips increase more than fifty (50) trips, and therefore did not require further analysis, according to the City's Traffic Impact Analysis Guidelines.

	A.M. Peak	P.M. Peak	Daily Trips
12691 Pala Drive	6 trips	4 trips	44 trips
12641 Industry Street	10 trips	12 trips	116 trips
Proposed Building	46 trips	43 trips	374 trips

Additionally, the Planning Commission requested an assessment of the impacts that the project would have on the existing intersections near the project, particularly along Knott Avenue. Urban Crossroads identified and assessed six (6) intersections closest to the proposed project. After conducting traffic counts, it was revealed that only the Garden Grove Boulevard and Knott Avenue intersection has a current Level of Service (LOS) of F during P.M. peak hours. This is the only intersection identified with a deficient LOS. With the proposed building, and the estimated new trips generated, it is estimated that the Volume/Capacity ratio for said intersection would increase 0.006. This does not meet the threshold identified in the City's Traffic Impact Analysis Guidelines that would warrant any mitigation measures.

None of the other intersections studied had an existing LOS below acceptable levels. When the expected trips from the project were added to the existing LOS, none of the intersections saw an increase in the Volume/Capacity ratio of more than 0.01, or had the LOS decrease to unacceptable levels. Therefore, there are no expected decreases in the LOS at the studied intersections, as a result of the project.

City Staff, including the City's Traffic Engineer, have reviewed the traffic assessment, and concurred with the methodology used. Additionally, the Traffic Engineer, in accordance with the policies stated in the Traffic Impact Analysis Guidelines, concluded that no further assessment or mitigation measures would be required for the project. Urban Crossroad's report is appended for commissioner's review. No changes have been proposed to the Staff Report, Resolution, or Conditions of Approval related to the item from the May 19th Planning Commission meeting.

RECOMMENDATION:

Staff recommends that the Planning Commission take the following action:

- Adopt Resolution No. 6040-22 approving Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022, subject to the recommended Conditions of Approval.

Lee Marino
Planning Services Manager

By: Priit Kaskla
Assistant Planner

Attachment 1: Planning Commission Staff Report dated May 19, 2022
Attachment 2: Initial Draft Planning Commission Resolution of Approval
Attachment 3: Exhibit "A" Conditions of Approval
Attachment 4: Traffic Assessment by Urban Crossroads

COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTMENT STAFF REPORT

AGENDA ITEM NO.: C.3.	**SITE LOCATION:** West side of Pala Drive, North of Acacia Avenue, and West side of Industry Street, South of Lampson Avenue, at 12641 Industry Street and 12691 Pala Drive
HEARING DATE: May 19, 2022	**GENERAL PLAN:** Industrial (I)
CASE NOS.: Site Plan No. SP-110-2022, Variance No. V-036-2022, Lot Line Adjustment No. LLA-029-2022	**ZONE:** M-P (Industrial Park)
PROPERTY OWNER: Prologis, L.P., ATTN: Eddie Pang	**CEQA DETERMINATION:** Exempt: Section 15302 – Replacement or Reconstruction
APPLICANT: Same as Owner	**APN NOS.:** 215-011-11 & 215-111-16

REQUEST:

The applicant is requesting Site Plan approval to build a new 149,335 gross square-foot industrial building, necessitating the demolition of the 65,880 square-foot building at 12641 Industry Street, and the 83,100 square-foot building at 12691 Pala Drive. In conjunction with this request, the applicant is also requesting approval of a Variance request to deviate from the thirty-five foot (35'-0") maximum building height limit of the M-P (Industrial Park) zone by two feet and two inches (2'-2"), and a Lot Line Adjustment request to relocate the property line between 12641 Industry Street and 12691 Pala Drive.

BACKGROUND:

The subject site is comprised of two (2) parcels, located at 12691 Pala Drive, and 12641 Industry Street, totaling 9.02 acres. The property at 12691 Pala Drive (Assessor's Parcel No. 215-011-11), on the west side of Pala Drive, north of Acacia Avenue, is currently improved with an 83,100 square-foot industrial building, originally constructed in 1973. The property at 12641 Industry Street (Assessor's Parcel No. 215-011-16), on the west side of Industry Street, south of Lampson Avenue, is currently improved with a 65,880 square-foot industrial building, and a 36,338 square-foot building (12601 Industry Street), both also constructed in 1973. Both properties have a General Plan Land Use designation of Industrial (I), and are zoned Industrial Park (M-P). The subject site abuts industrial uses on M-P zoned properties to the north, south, west, and east, across Pala Drive and Industry Street.

In 1969, the City considered Lot Split No. LS-102-69 for the subdivision of industrial properties in the M-P zone, south of Lampson Street. While the Lot Split was approved, it was not exercised. In 1973, Lot Split No. LS-109-73 was approved by the City to subdivide property to create the lot at 12601-12641 Industry Street, and to dedicate Industry Street itself. The buildings at 12691 Pala Drive and 12641 Industry Street were approved in 1973, with construction finalizing in 1974. Lot Split

No. LS-111-74 was also approved in 1974, adjusting the lot lines approved under LS-109-73. Lastly, in 1974, Conditional Use Permit No. CUP-107-74 was approved for a freestanding monument sign on the subject Industry Street property.

Both properties have a long history of being occupied by manufacturing uses. Both 12601 and 12641 Industry Street were most recently occupied by the same textile dyeing company until 2019. According to business license records, the building at 12691 Pala Drive was most recently occupied by a garment manufacturing company until early 2021. Consequently, all buildings have remained vacant since.

Now, the applicant is requesting to demolish the 83,100 square foot building at 12691 Pala Drive, and the 65,880 square foot building at 12641 Industry Street. The 36,338 square foot building at 12601 Industry Street will remain. A new 149,335 gross square-foot industrial building will be constructed in virtually the same location as the demolished buildings. A Variance is also requested to allow for the new building to exceed the maximum height permitted in the M-P zone by two feet and two inches (2'-2"). The purpose and intent of the project is to construct a singular, larger, contemporary building with taller interior ceiling heights, meeting the current market demand for industrial facilities. The applicant is also requesting to move the lot line that is currently between the two properties approximately 262'-0" to the north, such that the existing building at 12601 Industry Street would reside on its own parcel. A reciprocal access agreement will be recorded along the new property line to maintain circulation access for both properties.

PROJECT STATISTICS:

	New Building	Building to Remain	Municipal Code
Minimum Lot Size	304,049 sq. ft. (6.98 acres)	88,862 sq. ft. (2.04 acres)	15,000 sq. ft. (0.34 acres)
Setbacks			
Front (East)	20'-0"	20'-0"	10'-0"
Rear (West)	44'-0"	83'-0"	0'-0"
Side (North)	40'-0"	65'-0"	0'-0"
Side (South)	76'-3"	35'-2"	0'-0"
Parking	154 spaces	89 spaces	150 spaces (New) 73 spaces (Remaining)
Building Height	*37'-2"	30'-0"	35'-0"
Building Area	149,335 sq. ft.	36,338 sq. ft.	N/A
Floor Area Ratio	0.49	0.41	1.0 Maximum
Landscaping Area	36,534 sq. ft. (11.97%)	8,932 sq. ft. (10.05%)	10%

*Variance requested under V-036-2022

DISCUSSION:

SITE PLAN:

Site Design and Circulation

The project will consist of constructing a 149,335 gross square-foot industrial building on a 6.98-acre property. The industrial building will be located approximately in the center of the site, with parking and landscaping surrounding, and fronting toward both Pala Drive and Industry Street. The entirety of the street frontage along Pala Drive and Industry Street, save for driveway and pedestrian access points, will be landscaped.

The building features two entrances: one on the northeast corner, fronting Industry Street, and one on the southeast corner, fronting Pala Drive. At the Pala Drive entrance will be a 3,000 square-foot office area. Directly above that area is another 3,000 square-foot mezzanine office area. At the Industry Street entrance, on the northern side of the building, is another 2,000 square-foot office area. The remaining 141,335 square feet of the building will consist of open floor area. No tenant has been identified to date. All interior improvements, including any subdivision of the building, will be completed by the tenant(s) at a later date.

	1st Floor	Mezzanine
Office	5,000 sq. ft.	3,000 sq. ft.
Industrial Floor	141,335 sq. ft.	

Vehicle traffic can access the site via two (2) new driveways on Pala Drive, or via two (2) new driveways on Industry Street. A two-way drive aisle provides the vehicular circulation on-site, wrapping around all sides of the building, connecting the four (4) driveways, and the truck docking area. The drive aisle also provides reciprocal access to the property directly to the north, at 12601 Industry Street. Standard parking spaces are provided along the north, south, and east sides of the proposed building. To the west, in the rear of the building, parallel parking spaces will be adjacent to the drive aisle. The City's Engineering Division has reviewed the on- and off-site vehicle circulation, and has not raised any concerns with the project design.

A single row of eighteen (18) truck bays will flank the eastern side of the building, between the two main entrances. The docking bays connect directly into the open floor area, toward the center of the building. Outside, a truck turn-around and parking area is provided adjacent to the loading bays. Primary access to the trucking area will be provided from Pala Drive, to the south, but secondary access is also provided from Industry Street.

The design of the building will also provide new pedestrian access from both Pala Drive and Industry Street. The accessible path-of-travel from Pala Drive will cross the drive aisle before reaching the southern entrance of the building. Access from Industry Street will pass through a landscaped area before reaching the north entrance of the building. This pedestrian access also connects to the accessible

parking spaces in the parking lot. Bicycle parking will also be provided near the entrances of the building.

Parking and Traffic

Parking requirements from Municipal Code Section 9.16.040.150.D. for "Industrial Uses" stipulate one (1) parking space is required per 1,000 square feet of gross floor area for buildings in excess of 100,000 square feet. Incidental offices associated with the industrial use that do not exceed 30% of the gross floor area do not require additional parking.

The proposed building is approximately 149,335 square feet in size. Of that floor area, the office space totals approximately 8,000 square feet, or approximately 5% of the gross floor area. This does not exceed 30% of the gross floor area, and therefore does not require additional parking. In total, 150 parking spaces are required for the use (149,335 sq. ft. / 1,000). The subject site provides 154 striped parking spaces, a surplus of four (4) spaces.

The building at 12601 Industry Street is approximately 36,338 square feet. Parking standards for an industrial use of that size requires two (2) parking spaces per 1,000 square feet of gross floor area. Only 4,791 square feet of the gross floor area is dedicated to office use, or 13.2%. This does not exceed 30% of the gross floor area, and therefore does not require additional parking. In total, 73 parking spaces are required for the use ((36,338 sq. ft. / 1,000) x 2). The subject site provides 89 striped parking spaces, a surplus of sixteen (16) spaces.

Landscaping

The M-P zone requires a minimum of 10% of the total site area to be dedicated for landscaping. The proposed site design will provide a total of approximately 36,534 square feet of landscaping on-site (11.97% of the overall site). This meets the Code requirement. The landscaping is provided in a variety of areas across the site, including adjacent to the parking areas so as to limit their visual impacts. The on-site landscaping design will consist of a mixture of trees, shrubs, and groundcover.

Furthermore, the M-P zone requires a minimum ten-foot (10'-0") landscaped setback along all non-arterial street frontages, excluding the driveway access points. Neither Industry Street nor Pala Drive have been identified as arterial streets. The entirety of the street frontages along Pala Drive and Industry Street are landscaped, with a minimum dimension of twenty feet (20'-0") wide. Additionally, one (1) tree must be provided for every thirty feet (30'-0") of street frontage. In the parking lot, a minimum of one (1) tree is required for every ten (10) parking spaces. The proposed project complies with both tree planting requirements.

The applicant is required to submit a landscape and irrigation plan to the City that complies with the landscaping requirements of Title 9 of the Municipal Code, including the Landscape Water Efficiency Guidelines. All landscaping shall be watered by means of an automatic irrigation system meeting the City's Landscape Water

Efficiency Guideline requirements. A separate landscape application will be submitted, and a building permit will be obtained for the proposed landscaping.

Building Architecture

Characterized by a rectangular footprint, flat roof, and large, vertical windows accentuating the corners of the building, the building takes on a contemporary design. The main entrances in the corners of the buildings feature vertical windows and storefronts glazed in green hues. Additional windows will be added above the loading bays, helping illuminate the interior of the building, and helping to add contrast against the concrete walls. A parapet, with a simple decorative coping will encircle the roof on all sides.

At the highest point, the roof stands approximately thirty-seven feet (37'-2") tall, above the maximum allowable building height of thirty-five feet (35'-0") for the M-P zone. As a result, a Variance is requested, and discussed below. The building parapet extends to a maximum height of forty-two feet (42'-0") at the highest point. The Municipal Code allows for architectural features that do not add usable square footage, like a parapet, to extend up to fifteen feet (15'-0") beyond the maximum building height, up to a maximum building height of fifty feet (50'-0").

The building will be constructed in a tilt-up concrete style. Various scores in the concrete walls, and various paint colors add visual intrigue. The neutral color scheme consists of shades of white, grey, and green colors, which contributes to the building's contemporary design. Window and door trim are all constructed of metal, trimmed black to add contrast. The building design and color is similar to other Prologis industrial buildings found nationwide.

VARIANCE:

The applicant is requesting consideration of a Variance from Section 9.16.040.030 (Industrial—General Requirements) of Title 9 of the Municipal Code for a deviation to the maximum building height permitted in the M-P (Industrial Park) zone. The maximum building height permitted in the M-P zone is thirty-five feet (35'-0"). The topmost portion of the roof, as measured from average finished grade, will be 37'-2." The roof will slope downwards to lower building heights to accommodate roof drainage. The topmost portion of the roof parapet will be 42'-0". The Municipal Code allows for parapets to extend up to fifteen feet (15'-0") beyond the maximum building height, up to fifty feet (50'-0"). Therefore, the parapet does not require a Variance. Only a Variance for the roof height will be considered.

Pursuant Garden Grove Municipal Code Section 9.32.030.D.6, in order to grant a property owner's request for a Variance, the Planning Commission must make each of the following five (5) findings:

1. That there are exceptional or extraordinary circumstances or conditions applicable to the property involved or to the intended use or development of the property that do not apply generally to other property in the same zone or neighborhood.

Approval of this Variance will allow the project to deviate from the maximum building height of thirty-five feet (35'-0") in the M-P (Industrial Park) zone by two feet and two inches (2'-2"), in order to facilitate the construction of the new building. With exception to the requested Variance, the project meets all other Municipal Code development standards such as, but not limited to, building setbacks, parking, and landscaping. There are exceptional or extraordinary circumstances or conditions applicable to the property involved that do not apply generally to other similar properties in the immediate vicinity, within the same zone, or other similarly zoned properties throughout the City.

The subject site is surrounded and constrained by previously developed properties to the north, west, and south. To accommodate the edge conditions created by the presence of these existing developments, the proposed elevations adjacent to the building in the northwest and southeast corners are lower to accommodate the positive flow of stormwater to the existing and proposed drainage inlets. Building height is measured from the average level of the building at grade. By lowering the adjacent grade, the average level of the building was also lowered, creating a taller measurement to the top of the building roof. This drainage condition coupled with the calculation process for determining building height, results in a building height that is measured slightly higher than the existing buildings.

Furthermore, increased building heights lead to more vertical racking, enhanced fire sprinkler systems, and more expansive commodity storage types, which may attract high quality tenants in the community. The current market demand for industrial buildings is calling for minimum interior ceiling height clearances of thirty-two feet (32'-0"), taller than buildings built in the past. Vertical expansion is favored over horizontal, resulting in the need for taller buildings to meet vertical racking space requirements. This provides sufficient space for the minimum standard vertical racking systems, as well as meeting storage capacity needs. The additional building height requested of two feet and two inches (2'-2") provides for five feet and two inches (5'-2") of space to accommodate fire sprinkler suppression system requirements, as well as all necessary structural building requirements.

Lastly, the property is irregularly shaped, with frontages along two culs-de-sac at Pala Drive and Industry Street. Some of the lot area are triangular slivers, and generally unusable space adjacent to the cul-de-sacs. This effectively reduces the usable area of the lot, preventing a larger building footprint. Horizontal expansion, with a larger building footprint is unfeasible. The most feasible option is to add vertical capacity, resulting in a taller building.

2. That such Variance is necessary for the preservation and enjoyment of a substantial property right possessed by other property in the same vicinity and zone, but which is denied to the subject property.

Approval of this Variance will allow the project to deviate from the maximum building height of thirty-five feet (35'-0") in the M-P (Industrial Park) zone by two

feet and two inches (2'-2"), in order to facilitate the construction of the new building. With exception to the requested Variance, the project meets all other Municipal Code development standards such as, but not limited to, building setbacks, parking, and landscaping. Other properties within immediate vicinity of the subject lot, and within other similarly zoned properties throughout the City, have existing similar type buildings that exceed the maximum thirty-five foot (35'-0") building height allowed M-P zone.

Within the vicinity of the subject lot, an industrial building located at 12821 Knott Street, which is a similarly zoned property (Industrial Planned Unit Development), provides a building height of thirty-nine feet (39'-0") to the top of the roof, and forty feet (40'-0") to the top of the parapet, exceeding the thirty-five foot (35'-0") building height requirement found in the M-P zone. Another building at 12752 Monarch Street was granted a Variance (V-033-2021) in May 2021 to allow for a building height of approximately thirty-seven feet (36'-9"). This property is also located in the same neighborhood and zoning district as the subject property.

Accordingly, approval of the proposed Variance will not set a precedent, and will allow the applicant to enjoy a substantial property right possessed by other property owners located in the M-P zone, and other similar zoned properties in the City. With exception to the requested Variance to deviate from the maximum building height limitation, the proposed project complies with all other development standards of the M-P zone.

3. That the granting of a Variance will not be materially detrimental to the public welfare or injurious to the property or improvements in such zone or neighborhood in which the property is located.

Approval of this Variance will allow the project to deviate from the maximum building height of thirty-five feet (35'-0") in the M-P (Industrial Park) zone, in order to facilitate the construction of the new building. The approval of this Variance will allow a 37'-2" building height (to the topmost portion of the roof), which is slightly more than two feet (2'-2") above the maximum building height of thirty-five feet (35'-0") allowed in the M-P zone.

The Variance will not affect surrounding properties, which are developed with existing industrial uses. The subject lot is not within close proximity to sensitive uses (e.g., residential, schools, parks). Other properties within the vicinity of the subject lot, and within other similar zoned properties throughout the City, have existing similar type buildings that exceed the maximum building height of the M-P zone. Nearby, an industrial building located at 12821 Knott Street, which is a similar zoned property (Industrial Planned Unit Development), provides a building height of thirty-nine feet (39'-0") to the top of the roof, and forty feet (40'-0") to the top of the parapet, exceeding the thirty-five foot (35'-0") building height requirement found in the M-P zone. Another building at 12752 Monarch Street was granted a Variance (V-033-2021) in May 2021 to allow for a building height of approximately thirty-seven feet (36'-9").

The project will be required to comply with all applicable building, and life-safety codes and regulations to ensure that there are no adverse impacts on public health, safety, or welfare. Furthermore, the proposal has been reviewed by all City departments in order to ensure compliance with all applicable Municipal Code provisions. Provided the project complies with the Conditions of Approval, the approval of the Variance will not be materially detrimental to the public welfare or injurious to the property or improvements in such zone or neighborhood in which the property is located.

4. That the granting of such Variance will not adversely affect the City's General Plan.

The General Plan does not explicitly impose a building height limitation. Therefore, the proposed building height Variance will not adversely affect the General Plan.

The Industrial (I) General Plan Land Use Designation is intended to create, maintain, and enhance industrial areas characterized by general industrial uses, such as warehousing and distribution or business parks, and more intensive industrial uses, such manufacturing, fabrication, assembly, processing, trucking, warehousing and distribution, and servicing. The proposed building is consistent with the intent of the Industrial Land Use Designation. Specifically, the project meets the intent of the general plan by furthering the following General Plan goals, policies, and implementation programs:

Goal LU-7: The City values its industrial areas as an important contributor to a well-planned community and for the jobs and economic impacts they provide. The proposed project will replace the existing buildings with a contemporary building that meets the needs of the current industrial market by providing increased vertical racking space for additional interior storage capacity. The proposed project will ensure that the City maintains healthy and competitive industrial areas contributing to a well-planned and well-maintained community.

Implementation Program LU-IMP-7B: Require improved maintenance and rehabilitation of industrial buildings and sites, as necessary. The project Conditions of Approval will remain in perpetuity for the life of the development. The Conditions of Approval will help ensure that the property is well-maintained, and will not be detrimental to the surrounding neighborhood in which the property is located. Additionally, the project proposes enhanced exterior elevations which are aesthetically pleasing, which can foster further investments in high quality, contemporary industrial areas around the community.

The proposed project will be consistent with the spirit and intent of the General Plan, furthering its goals, policies, and implementation programs. The project would also help meet the community's need for competitive industrial facilities in its industrial zoned areas. Therefore, the granting of the requested Variance will not adversely affect the City's General Plan.

5. That approval of the Variance is subject to such conditions as will assure that it does not constitute a grant of special privileges inconsistent with the limitations upon other properties in the vicinity and zone in which the subject property is situated.

Provided the Conditions of Approval are adhered to for the life of the project, approval of the subject Variance will not grant a special privilege that is inconsistent with the limitations upon other properties located within the vicinity or zone in which the subject property is situated.

To construct the proposed building, the Variance to deviate from the maximum building height of thirty-five feet (35'-0") allowed in the M-P (Industrial Park) zone is necessary to facilitate the development and improvement of the property, which otherwise meets all other Municipal Code development standards. This includes, but is not limited to, building setbacks, parking, and landscaping. Other properties within the immediate area of the subject lot, and within other similarly zoned properties throughout the City, have existing similar type buildings that exceed the maximum thirty-five foot (35'-0") building height allowed M-P zone.

Within the immediate vicinity of the subject site, an industrial building located at 12821 Knott Street, which is a similarly zoned property (Industrial Planned Unit Development) provides a building height of thirty-nine feet (39'-0") to the top of the roof, and forty feet (40'-0") to the top of the parapet, which exceeds the building height requirement of the M-P zone. A Variance (V-033-2021) was more recently granted for the redevelopment of an industrial building located 12752 Monarch Street, providing for a maximum building height of approximately thirty-seven feet (36'-9").

Accordingly, approval of the proposed Variance will not grant a special privilege that is inconsistent with the limitations upon other property owners located in the Industrial Park and other similar zoned properties in the City. With exception to the requested Variance to deviate from the maximum building height limitation, the proposed project complies with all other development standards of the M-P zone.

The industrial building market has evolved over the past years to necessitate a greater interior ceiling height. Current market demands are calling for a minimum thirty-two foot (32'-0") interior ceiling height to provide increased operations and storage capacity. Increased building heights lead to more vertical racking, enhanced fire sprinkler systems, and more expansive commodity storage types, which attract high quality tenants. Property acquisition in a built-out community to accommodate horizontal expansion is impractical, and the proposed project is otherwise consistent with the standards and intent of the M-P (Industrial Park) zone. Conditions applicable to the subject property and its intended development do not readily apply to other property in similar zones, the same zone, and neighborhood. Accordingly, approval of the proposed Variance will not set a precedent, and will allow the applicant to enjoy a substantial property right possessed by other property owners located in similar properties in the City.

In addition, Condition of Approval No. 84 states, "The rights granted the applicant pursuant to Variance No. V-036-2022 shall continue in effect for only so long as the improvements authorized and contemplated by Site Plan No. SP-110-2022, and these Conditions of Approval (as they may be amended from time to time) continue to exist on the Site. In the event that that Site Plan No. SP-110-2022 is not exercised within one year of approval (or the length of any extension approved by the City), or the improvements authorized and contemplated by Site Plan No. SP-110-2022 are demolished and not re-established within one year of demolition, Variance No. V-036-2022 shall cease to be effective or grant the applicant any rights to construct other improvements inconsistent with the then-currently applicable development standards."

Staff believes the record contains sufficient facts to support approval of the applicant's Variance request. Accordingly, Staff has prepared for the Commission's consideration a draft resolution approving the proposed Variance request, in conjunction with the Site Plan and Lot Line Adjustment requests, subject to the specified Conditions of Approval.

LOT LINE ADJUSTMENT:

Currently, the buildings at 12691 Pala Drive, and 12641 Industry Street are conjoined, with no direct access, and separated by a property line. To accommodate the new building, this property line will be moved approximately 262'-0" to the north. The new property line will reside in the drive aisle between the new building, and the existing building at 12601 Industry Street.

As a result of the lot line adjustment, the subject site with the new building will ultimately total 6.98 acres. The property at 12601 Industry Street will ultimately consist of 2.04 acres. Both new properties meet the minimum 15,000 square-foot lot sizes required in the M-P zone. After the Lot Line Adjustment, both the new and existing buildings will comply with the development standards pertaining to the M-P zone, save for the requested Variance.

Lastly, a new driveway and vehicle access aisle will be provided along the new lot line between the two subject parcels. The drive aisle will provide access to both the new building to the south, and the existing building to the north. A reciprocal easement agreement, or equivalent agreement, will be recorded between the two properties to maintain access to the properties in perpetuity. The project has been conditioned as such.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA):

CEQA's Class 2 exemption applies to replacement or reconstruction of existing structures (CEQA Guidelines §15302.). A project can qualify for a Class 2 exemption if a commercial building is replaced with a new structure of substantially the same size, purpose, and capacity (CEQA Guidelines §15302.).

The project involves the demolition of a 65,880 square-foot industrial building at 12641 Industry Street, and an 83,100 square-foot industrial building at 12691 Pala Drive. The two buildings are currently adjoined, and compose a singular 148,980 square-foot structure. The project will replace the existing two buildings with an industrial building with a 146,335 square-foot footprint. By replacing a 148,980 square-foot industrial building with another industrial building of a slightly smaller footprint, the project replaces a commercial building with a new structure of substantially the same size, purpose, and capacity. It can be determined that the project can be exempted from further CEQA action under the Class 2 exemption.

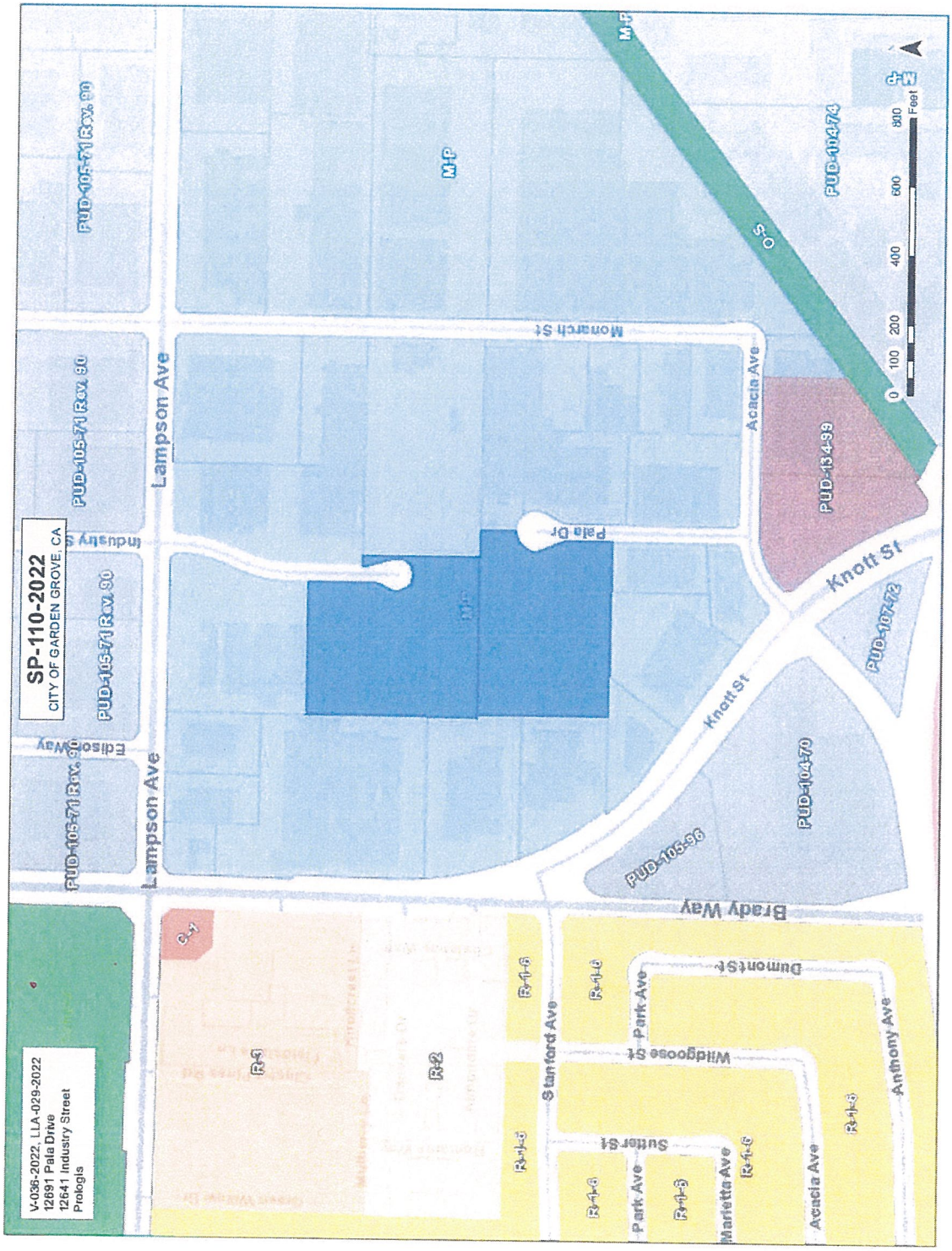
RECOMMENDATION:

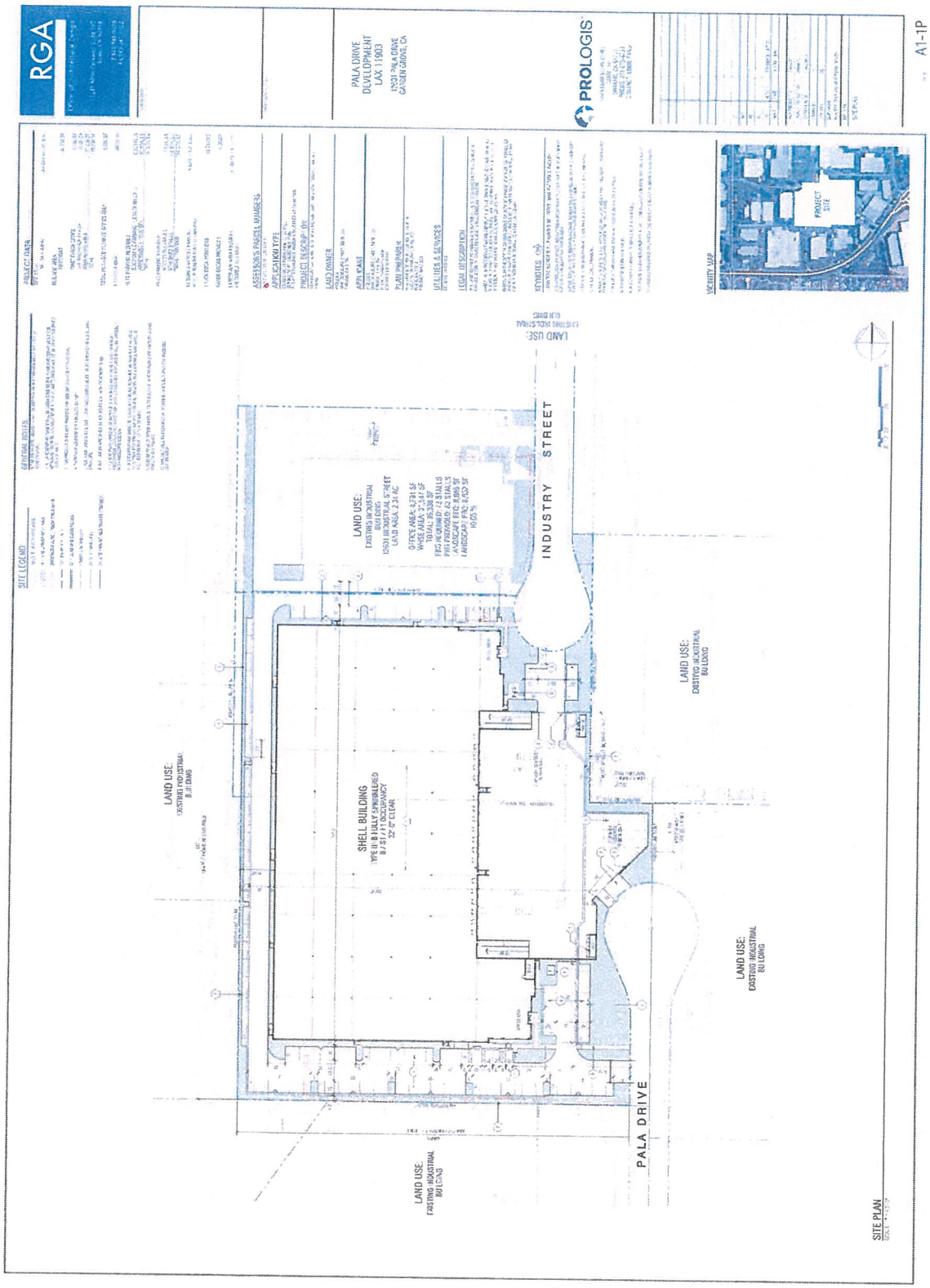
Staff recommends that the Planning Commission take the following action:

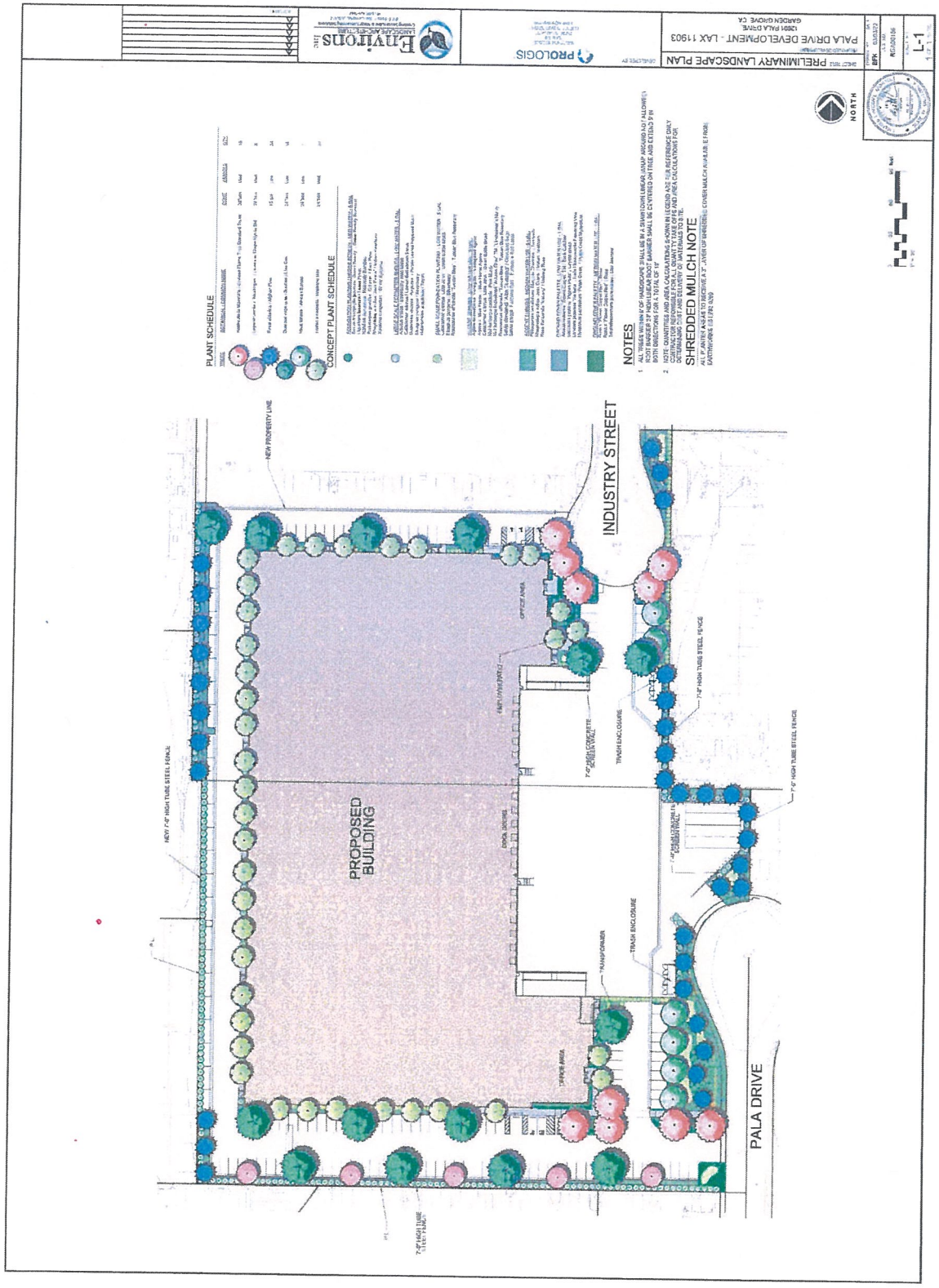
- Adopt Resolution No. 6040-22 approving Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022, subject to the recommended Conditions of Approval.

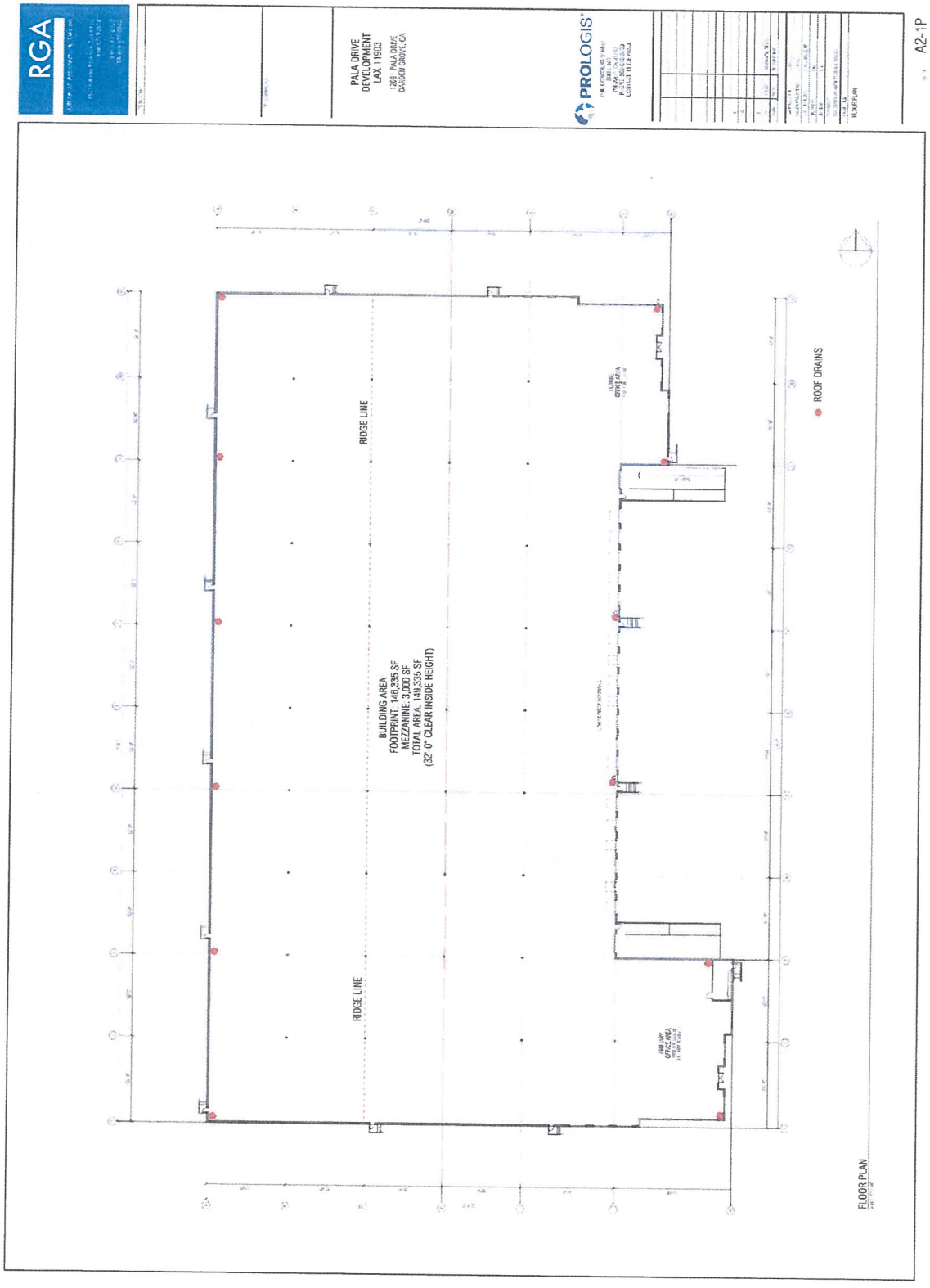
Lee Marino
Planning Services Manager

By: Priit Kaskla
Assistant Planner


SP-110-2022
CITY OF GARDEN GROVE, CA
V-036-2022, LLA-029-2022
12691 Pala Drive
12641 Industry Street
Prologis
M-P
O-S
C-2
R-2
R-3
R-1-6
PUD-105-71 Rev. 90
PUD-134-99
PUD-104-74
PUD-107-72
PUD-104-70
PUD-105-96
Lampson Ave
Monarch St
Acacia Ave
Pala Dr
Knott St
Brady Way
Industry St
Edison Way
Stanford Ave
Park Ave
Dumont St
Windgoose St
Sutter St
Marietta Ave
Anthony Ave
0 100 200 400 600 800 Feet


RGA
PALA DRIVE
DEVELOPMENT
LAX 11903
12531 PALA DRIVE
GARDEN GROVE, CA
PROLOGIS
A1-1P
VICINITY MAP
PROJECT SITE
SITE LEGEND
LAND USE:
EXISTING INDUSTRIAL
BUILDING
12531 INDUSTRIAL STREET
LAND AREA: 2.31 AC
OFFICE AREA: 4,731 SF
WHSE AREA: 31,541 SF
TOTAL: 36,338 SF
PKG REQUIRED: 73 STALLS
PKG PROVIDED: 73 STALLS
LANDSCAPE REQ: 8,999 SF
LANDSCAPE PRO: 8,420 SF
16.05 %
INDUSTRY STREET
SHELL BUILDING
TYPE III-B HIGLY SPRINKLERED
B / S1 / F1 OCCUPANCY
32'-0" CLEAR
LAND USE:
EXISTING INDUSTRIAL
BUILDING
PALA DRIVE
SITE PLAN


PRELIMINARY LANDSCAPE PLAN
PALA DRIVE DEVELOPMENT - LAX 11903
12591 PALA DRIVE
GARDEN GROVE, CA
L-1
PROLOGIS
Environs
PLANT SCHEDULE
CONCEPT PLANT SCHEDULE
NOTES
SHREDDED MULCH NOTE
NORTH
INDUSTRY STREET
PALA DRIVE
PROPOSED BUILDING
NEW PROPERTY LINE
NEW 7'-0" HIGH TUBE STEEL FENCE
7'-0" HIGH TUBE STEEL FENCE
OFFICE AREA
TRASH ENCLOSURE
TRANSFORMER
OPEN SPACE


RGA
PALA DRIVE
DEVELOPMENT
LAX 11933
1205 PALA DRIVE
GARDEN GROVE, CA
PROLOGIS
A2-1P
RIDGE LINE
RIDGE LINE
BUILDING AREA
FOOTPRINT: 146,335 SF
MEZZANINE: 3,000 SF
TOTAL AREA: 149,335 SF
(32'-0" CLEAR INSIDE HEIGHT)
ROOF DRAINS
FLOOR PLAN

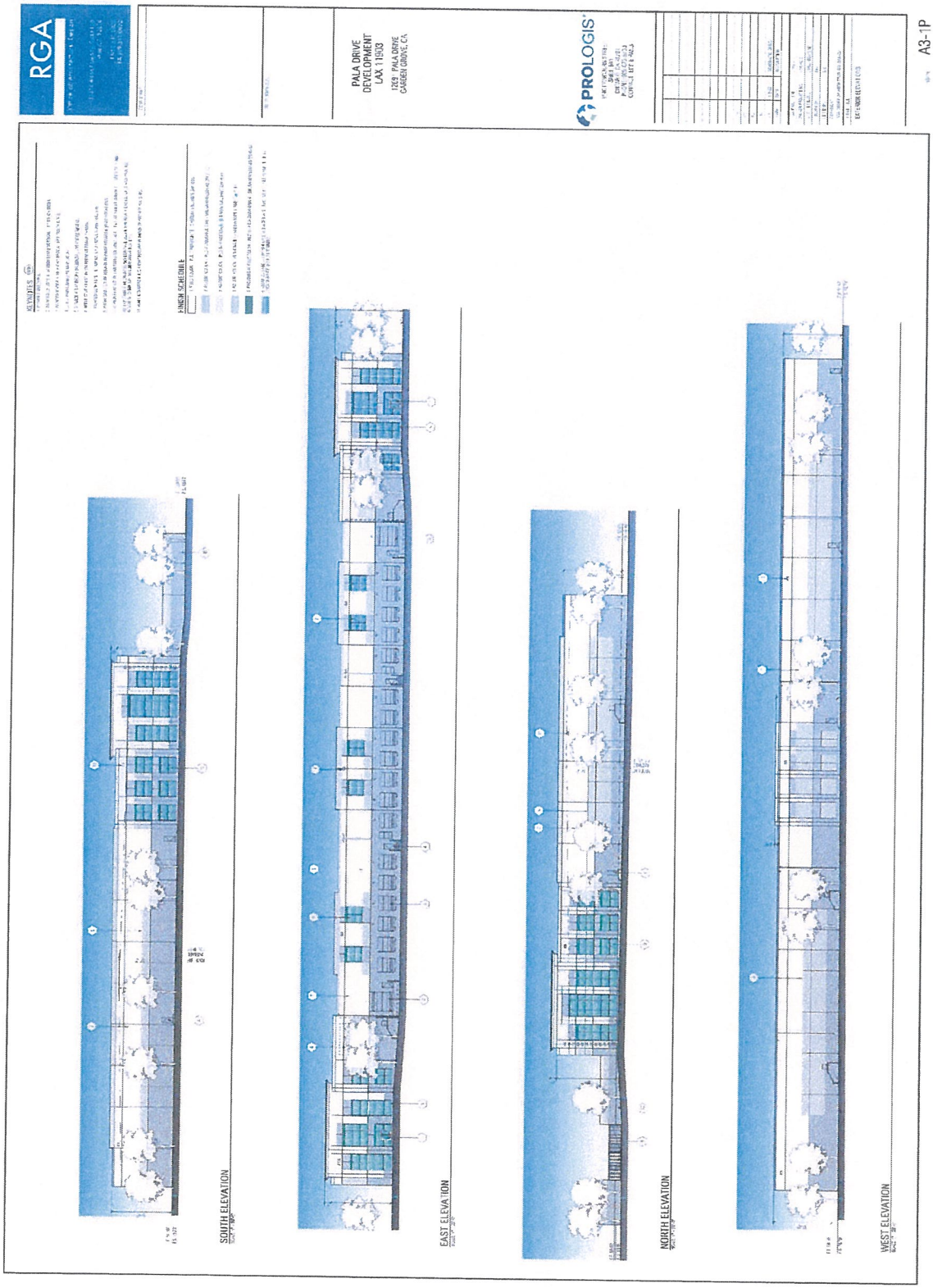
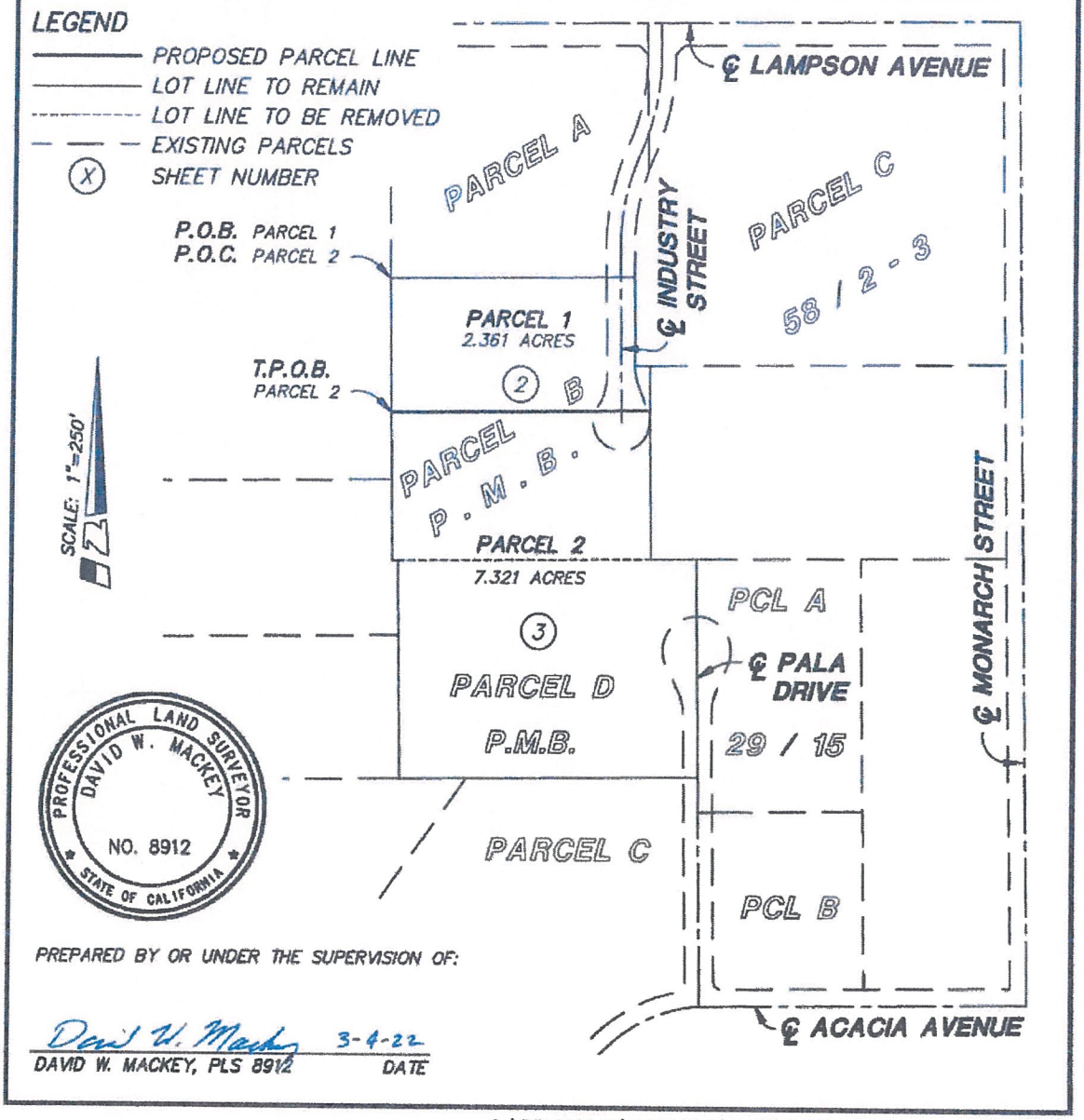

RGA
PALA DRIVE
DEVELOPMENT
LAX 119.03
1269 PALA DRIVE
GARDEN GROVE, CA
PROLOGIS
A3-1P
FINISH SCHEDULE
SOUTH ELEVATION
EAST ELEVATION
NORTH ELEVATION
WEST ELEVATION

EXHIBIT " B "

SHEET 1 OF 3

LOT LINE ADJUSTMENT
L L 2022-_____
MAP

OWNERS	EXISTING PARCEL AP NUMBERS	PROPOSED PARCEL NUMBER
LIBERTY PROPERTY LIMITED PARTNERSHIP A Pennsylvania limited partnership	215-011-16	PARCEL 1
LIBERTY PROPERTY LIMITED PARTNERSHIP A Pennsylvania limited partnership	215-011-11	PARCEL 2

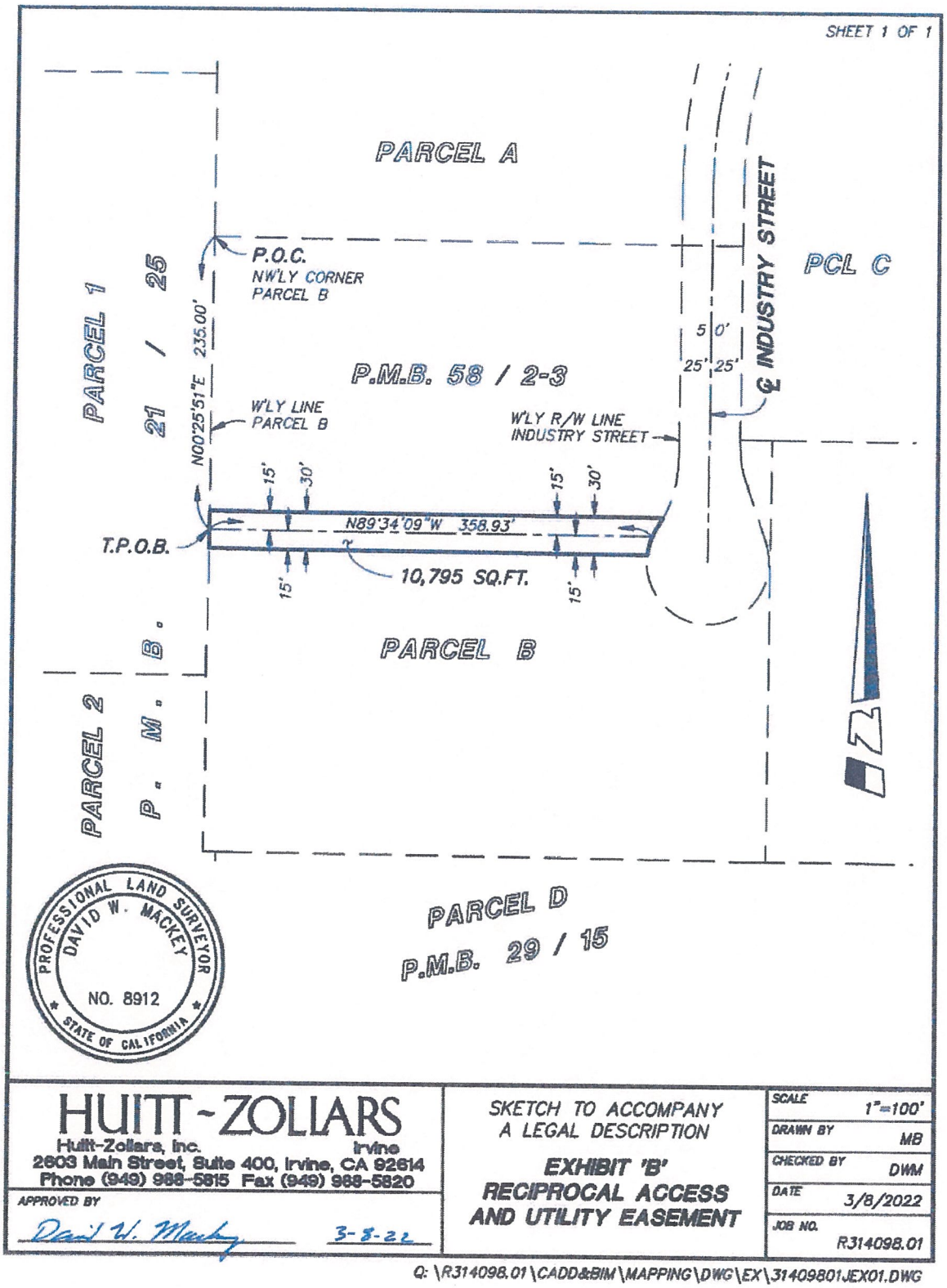


PROFESSIONAL LAND SURVEYOR
DAVID W. MACKEY
NO. 8912
STATE OF CALIFORNIA

PREPARED BY OR UNDER THE SUPERVISION OF:

David W. Mackey 3-4-22
DAVID W. MACKEY, PLS 8912 DATE

Q: \R314098.01\CADD&BIM\MAPPING\DWG\LL\31409801JLL01.DWG



HUITT-ZOLLARS

Huitt-Zollars, Inc. Irvine
2603 Main Street, Suite 400, Irvine, CA 92614
Phone (949) 988-5815 Fax (949) 988-5820

APPROVED BY
David W. Mackey 3-8-22

SKETCH TO ACCOMPANY
A LEGAL DESCRIPTION

EXHIBIT 'B'
RECIPROCAL ACCESS AND UTILITY EASEMENT

SCALE	1"=100'
DRAWN BY	MB
CHECKED BY	DWM
DATE	3/8/2022
JOB NO.	R314098.01

Q: \R314098.01\CADD&BIM\MAPPING\DWG\EX\31409801JEX01.DWG

RESOLUTION NO. 6040-22

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF GARDEN GROVE APPROVING SITE PLAN NO. SP-110-2022, VARIANCE NO. V-036-2022, AND LOT LINE ADJUSTMENT NO. LLA-029-2022 FOR PROPERTIES LOCATED ON THE WEST SIDE OF PALA DRIVE, NORTH OF ACACIA AVENUE, AND THE WEST SIDE OF INDUSTRY STREET, SOUTH OF LAMPSON AVENUE, AT 12691 PALA DRIVE AND 12641 INDUSTRY STREET, ASSESSOR'S PARCEL NOS. 215-011-11 AND 215-011-16.

BE IT RESOLVED that the Planning Commission of the City of Garden Grove, in regular session assembled on May 19, 2022, does hereby approve Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022, for land located on the west side of Pala Drive, north of Acacia Avenue, and the west side of Industry street, south of Lampson avenue, at 12691 Pala Drive and 12641 Industry Street, Assessor's Parcel No. 215-011-11 and 215-011-16, subject to the Conditions of Approval attached hereto as "Exhibit A."

BE IT FURTHER RESOLVED in the matter of Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022, the Planning Commission of the City of Garden Grove does hereby report as follows:

1. The subject case was initiated by Eddie Pang of Prologis, L.P. (the "Applicant").

2. The applicant is requesting Site Plan approval to build a new 149,335 gross square-foot industrial building, necessitating the demolition of the 65,880 square-foot building at 12641 Industry Street, and the 83,100 square-foot building at 12691 Pala Drive. In conjunction with this request, the applicant is also requesting a Variance request to deviate from the thirty-five foot (35'-0") maximum building height requirement of the M-P (Industrial Park) zone by two feet and two inches (2'-2"), and a Lot Line Adjustment request to relocate the property line between 12641 Industry Street and 12691 Pala Drive (collectively, the "Project").

3. The Planning Commission hereby determines that this project is categorically exempt from review under the California Environmental Quality Act ("CEQA") pursuant to Section 15302, Replacement or Reconstruction Projects of the CEQA Guidelines (14 Cal. Code Regs., 15302).

4. The property has a General Plan Land Use designation of Industrial (I), and is currently zoned Industrial Park (M-P). The subject site is currently improved with three industrial buildings across two parcels, comprising 9.02 acres.

5. Existing land use, zoning, and General Plan designation of property within the vicinity of the subject property have been reviewed.

6. Report submitted by City Staff was reviewed.

7. Pursuant to a legal notice, a public hearing was held on May 19, 2022, and interested persons were given an opportunity to be heard.

8. The Planning Commission gave due and careful consideration to the matter during its meeting of May 19, 2022, and considered all oral and written testimony presented regarding the project.

BE IT FURTHER RESOLVED, FOUND AND DETERMINED that the facts and reasons supporting the conclusion of the Planning Commission, as required under Municipal Code Section 9.32.30, are as follows:

FACTS:

The subject site is comprised of two (2) properties, across approximately 9.02 acres, located on the west side of Pala Drive, north of Acacia Avenue, and the west side of Industry Street, south of Lampson Avenue, at 12691 Pala Drive and 12641 Industry Street, respectively. The site has a General Plan Land Use designation of Industrial (I), and is zoned Industrial Park (M-P). The property at 12691 Pala Drive (Assessor's Parcel No. 215-011-11), is currently improved with a 65,800 square-foot industrial building. The property at 12641 Industry Street (Assessor's Parcel No. 215-011-16), is currently improved with an 83,100 square-foot industrial building, and a 36,338 square-foot building (12601 Industry Street). The buildings at 12691 Pala Drive, 12601 Industry Street, and 12641 Industry Street are currently unoccupied. The subject site abuts M-P zoned properties on all sides.

Now, the applicant is requesting to demolish the buildings at 12691 Pala Drive and 12641 Industry Street. The building at 12601 Industry Street is to remain. A new 149,335 gross square-foot industrial building will be constructed in virtually the same location as the existing buildings. The building features two entrances: one fronting Industry Street, and one fronting Pala Drive. At the Pala Drive entrance will be a 3,000 square-foot office area, and a 3,000 square-foot mezzanine office above. At the Industry Street entrance is another 2,000 square-foot office area. The remaining 141,335 square feet of the building will consist of open floor area.

Vehicle traffic can access the site via two (2) new driveways on Pala Drive, or two (2) new driveways on Industry Street. A drive aisle provides the vehicular circulation on-site, wrapping around all sides of the building, connecting the four (4) driveways, and the truck docking area. The drive aisle also provides reciprocal access to the property directly to the north, at 12601 Industry Street. Vehicular parking spaces are provided along all sides of the proposed building. Pedestrian access will also be provided from Pala Drive and Industry Street, with bicycle parking at both entrances.

The Municipal Code requires one (1) parking space per 1,000 square feet of gross floor area for industrial uses in excess of 100,000 square feet. Incidental offices

associated with the industrial use that do not exceed 30% of the gross floor area do not require additional parking. The proposed building is approximately 149,335 square feet in size. The total office space does not exceed 30% of the gross floor area, and therefore does not require additional parking. In total, 150 parking spaces are required for the use. The subject site provides 154 parking spaces, a surplus of four (4) parking spaces. Based on the parking requirements of the Municipal Code, the building at 12601 Industry Street requires 73 parking spaces, and provides 89, a sixteen (16) space surplus.

The M-P zone requires a minimum of 10% of the total site area to be dedicated to landscaping. The proposed site design will provide a total of approximately 36,534 square feet of landscaping (11.97% of the overall site). Furthermore, the M-P zone requires a minimum ten-foot (10'-0") landscaped setback along all non-arterial street frontages, excluding the driveway access points. The entirety of the street frontages along Pala Drive and Industry Street are landscaped, with a minimum dimension of twenty feet (20'-0") wide. Additionally, one (1) tree must be planted along every thirty feet (30'-0") of street frontage. In the parking lot, a minimum of one (1) tree is required for every ten (10) parking spaces. The proposed project complies with all landscaping requirements.

Characterized by a rectangular footprint, flat roof, and large, vertical windows accentuating the corners of the building, the building takes on a contemporary design. The building will be constructed in a tilt-up concrete style. Various scores in the concrete walls, and various paint colors add visual intrigue. The main entrances in the corners of the buildings feature vertical windows and storefronts glazed in green hues. Additional windows will be added above the loading bays, helping illuminate the interior of the building, and helping to add contrast against the concrete walls. The neutral color scheme consists of shades of white, grey, and green colors, which contributes to the building's contemporary design. Window and door trim are all constructed of metal, trimmed black to add contrast.

A Variance is also requested to allow for the new building to exceed the maximum height permitted in the M-P zone by two feet and two inches (2'-2"). The applicant is also requesting to move the lot line that is currently between the two properties approximately 262'-0" to the north, such that the existing building at 12601 Industry Street would reside on its own parcel. A reciprocal access agreement will be recorded along the new property line to maintain circulation access for both properties.

FINDINGS AND REASONS:

Site Plan:

1. The Site Plan complies with the spirit and intent of the provisions, conditions and requirements of Title 9 and is consistent with the General Plan.

The General Plan Land Use Designation of the subject site is Industrial (I), which is intended to encourage general industrial uses, such as warehousing and distribution or business parks, and more intensive industrial uses, such manufacturing, fabrication, assembly, processing, trucking, warehousing and distribution, and servicing. The Industrial Park (M-P) zoning implements the General Plan, and is intended to provide for modern industrial, research and administrative facilities by requiring comprehensive planning of large parcels of land and the coordination of building design and locations. Goals, policies, and implementation programs of the General Plan strive, in part, to:

Goal LU-1: The City of Garden Grove is a well-planned community with sufficient land uses and intensities to meet the needs of anticipated growth and achieve the community's vision. The existing buildings were constructed in 1973. In the years since, the industry standards for industrial-type uses have changed. The new building would accommodate these new industry standards with more truck bays, higher interior ceilings, and a large, open floor area. By accommodating current market demands, it helps the City to be a more economically viable destination for industrial uses into the foreseeable future.

Goal LU-4: The City seeks to develop uses that are compatible with one another. The proposed industrial building is located in an existing industrial area. Various industrial uses, including manufacturing, distribution, and storage/warehousing facilities, abut the subject property on all sides. The siting of the proposed industrial use will continue the development patterns of the immediate surroundings.

Policy LU-4.5: Require that the commercial and industrial developments adjoining residential uses be adequately screened and buffered from residential areas. The subject property is not directly adjacent to residential uses. The design of the proposed building, however, has taken into account any impacts on the vicinity, and has therefore proposed landscaping, and other visual screening methods to limit any impacts of the building.

Policy LU-5.1: Work with property owners of vacant property to develop their sites into appropriate, economically viable projects. The existing buildings on the subject site have both been vacant since 2021, according to Business License records. By constructing a new building, and introducing a new use, the proposed project could redevelop an unoccupied property into a more economically viable use.

Policy LU-7.3: Monitor the appearance of industrial properties to prevent areas of decline by requiring improved maintenance or rehabilitation, as necessary. The proposed project will redevelop the entirety of the subject site. As a brand new construction, the project would rid the site of potential

property maintenance issues involved with the existing buildings. Furthermore, the Conditions of Approval associated with the project will require the proper maintenance of the development, including, but not limited to, maintenance of landscaping, trash disposal, and graffiti abatement.

2. The project will not adversely affect essential on-site facilities such as off-street parking, loading and unloading areas, traffic circulation, and points of vehicular and pedestrian access.

Vehicle traffic can access the site from either Pala Drive via two (2) new driveways, or Industry Street via two (2) new driveways. A drive aisle provides the vehicular circulation on-site, wrapping around all sides of the building and connecting the four (4) driveways, and the truck docking area. The drive aisle also provides reciprocal access to the property directly to the north, at 12601 Industry Street. Standard parking spaces are provided along the north, south, and east sides of the proposed building. To the west, in the rear of the building, parallel parking spaces will be adjacent to the drive aisle. The City's Engineering Division has reviewed the on- and off-site vehicle circulation, and has not raised any concerns with the project design.

A row of eighteen (18) truck bays will flank the eastern side of the building, between the two entrances. The docking bays connect directly into the open floor area, toward the center of the building. Outside, a truck turn-around and parking area is provided adjacent to the loading bays. The main entrance to the trucking area will be provided from Pala Drive, to the south, but secondary access is also provided from Industry Street.

The design of the building will also provide new pedestrian access from both Pala Drive and Industry Street. The accessible path of travel from Pala Drive will cross the drive aisle before reaching the southern entrance of the storage building. Access from Industry Street will pass through a landscaped area before reaching the north entrance of the building. This pedestrian access also connects to the accessible parking spaces in the parking lot. Bicycle parking will also be provided near the entrances of the building.

Parking requirements from Municipal Code Section 9.16.040.150.D. for "Industrial Uses" stipulate one (1) parking space per 1,000 square feet of gross floor area for buildings in excess of 100,000 square feet. Incidental offices associated with the industrial use that do not exceed 30% of the gross floor area do not require additional parking.

The proposed building is approximately 149,335 square feet in size, requiring 150 parking spaces. Of that, the office space totals approximately 8,000 square feet, or approximately 5% of the gross floor area. This does not

exceed 30% of the gross floor area, and therefore does not require additional parking. Therefore, 150 parking spaces are required for the use. The subject site provides 154 striped parking spaces, a surplus of four (4) spaces.

The building at 12601 Industry Street is approximately 36,338 square feet. Parking standards for an industrial use of that size requires two (2) parking spaces per 1,000 square feet of gross floor area. Only 4,791 square feet of the gross floor area is dedicated to office use, or 13.2%. This does not exceed 30% of the gross floor area, and therefore does not require additional parking. In total, 73 parking spaces are required for the use. The subject site provides 89 striped parking spaces, a surplus of sixteen (16) spaces.

The Community and Economic Development Department, and the Engineering Division, have reviewed the plans and all appropriate conditions of approval and mitigation measures have been incorporated to minimize any adverse impacts on surrounding streets. Accordingly, the design of the project will not adversely affect essential on-site facilities such as off-street parking, loading and unloading areas, traffic circulation, and vehicular and pedestrian access.

3. The project will not adversely affect essential public facilities such as streets and alleys, utilities and drainage channels.

   The streets in the area are adequate to accommodate the development. Existing utilities and drainage channels in the area are adequate to accommodate the development. The proposed development will install and maintain landscaping, allowing adequate drainage of stormwater. Landscaping will also be added along the street frontages of Pala Drive and Industry Street. A preliminary water quality management plan (WQMP) has been reviewed and approved by the Engineering Division. The Public Works Department has reviewed the project, and has incorporated all of the appropriate conditions of approval to minimize any adverse impacts.

4. The project will not adversely impact the Public Works Department's ability to perform its required function.

   The Public Works Department has reviewed the project, and has incorporated all of the appropriate conditions of approval to minimize any adverse impacts to ensure the project will not adversely impact the Public Works Department's ability to perform its required function(s).

5. The project is compatible with the physical, functional, and visual quality of the neighboring uses and desirable neighborhood characteristics.

The subject properties are located in an area that is adjacent to Industrial Park (M-P) zoned properties in all directions.

The proposed development would improve a currently unoccupied property, making it more compatible with the surrounding neighborhood. Architecturally, the facility has been designed with facades to be aesthetically complimentary with the surrounding industrial buildings. A variety of colors, materials, and massing help create visual intrigue. Contemporary architectural styles are compatible with the nearby industrial uses.

The proposed building will provide adequate parking, vehicular and pedestrian circulation for access to and from the site, and new landscaping. The architecture and design of the project will be of sufficiently high quality, consistent with developments elsewhere in the surrounding industrial area.

The project has been designed in accordance with the development standards applicable to the M-P zone. With exception to the requested Variance, the project meets all other Municipal Code development standards, such as, but not limited to: building setbacks, parking, and landscaping. The City's Community and Economic Development Department has reviewed the proposed project, and all appropriate conditions of approval have been incorporated to ensure physical, functional, and visual compatibility with the project's surroundings.

6. Through the planning and design of buildings and building placement, the provision of open space landscaping and other site amenities will attain an attractive environment for the occupants of the property.

The proposed building will provide adequate parking, vehicular and pedestrian circulation for access to and from the site, and new landscaping. The architecture and design of the building will be of sufficiently high quality, consistent with the industrial buildings nearby.

The new building will be situated toward the center of the lot, with setbacks of forty feet (40'-0") to the northerly property line, forty-four feet (44'-0") to the westerly property line, approximately seventy-six feet (76'-3") to the southerly property line, and a minimum of twenty feet (20'-0") to the easterly property line along Pala Drive and Industry Street. Landscape planters will be provided along the perimeter of the site to ensure adequate buffering of any potential noise and light/glare impacts. A total of 36,534 square feet of landscaping will be provided on-site.

The City's Community and Economic Development Department has reviewed the proposed project, and all appropriate conditions of approval have been

incorporated to ensure the attractiveness of the on-site landscaping and other amenities.

Variance:

1. That there are exceptional or extraordinary circumstances or conditions applicable to the property involved or to the intended use or development of the property that do not apply generally to other property in the same zone or neighborhood.

   Approval of this Variance will allow the project to deviate from the maximum building height of thirty-five feet (35'-0") in the M-P (Industrial Park) zone by two feet and two inches (2'-2"), in order to facilitate the construction of the new building. With exception to the requested Variance, the project meets all other Municipal Code development standards such as, but not limited to, building setbacks, parking, and landscaping. There are exceptional or extraordinary circumstances or conditions applicable to the property involved that do not apply generally to other similar properties in the immediate vicinity, within the same zone, or other similarly zoned properties throughout the City.

   The subject site is surrounded and constrained by previously developed properties to the north, west, and south. To accommodate the edge conditions created by the presence of these existing developments, the proposed elevations adjacent to the building in the northwest and southeast corners are lower to accommodate the positive flow of stormwater to the existing and proposed drainage inlets. Building height is measured from the average level of the building at grade. By lowering the adjacent grade, the average level of the building was also lowered, creating a taller measurement to the top of the building roof. This drainage condition coupled with the calculation process for determining building height, results in a building height that is measured slightly higher than the existing buildings.

   Furthermore, increased building heights lead to more vertical racking, enhanced fire sprinkler systems, and more expansive commodity storage types, which may attract high quality tenants in the community. The current market demand for industrial buildings is calling for minimum interior ceiling height clearances of thirty-two feet (32'-0"), taller than buildings built in the past. Vertical expansion is favored over horizontal, resulting in the need for taller buildings to meet vertical racking space requirements. This provides sufficient space for the minimum standard vertical racking systems, as well as meeting storage capacity needs. The additional building height requested of two feet and two inches (2'-2") provides for five feet and two inches (5'-2") of space to accommodate fire sprinkler suppression system requirements, as well as all necessary structural building requirements.

Lastly, the property is irregularly shaped, with frontages along two culs-de-sac at Pala Drive and Industry Street. Some of the lot area are triangular slivers, and generally unusable space adjacent to the cul-de-sacs. This effectively reduces the usable area of the lot, preventing a larger building footprint. Horizontal expansion, with a larger building footprint is unfeasible. The most feasible option is to add vertical capacity, resulting in a taller building.

2. That such Variance is necessary for the preservation and enjoyment of a substantial property right possessed by other property in the same vicinity and zone, but which is denied to the subject property.

Approval of this Variance will allow the project to deviate from the maximum building height of thirty-five feet (35'-0") in the M-P (Industrial Park) zone by two feet and two inches (2'-2"), in order to facilitate the construction of the new building. With exception to the requested Variance, the project meets all other Municipal Code development standards such as, but not limited to, building setbacks, parking, and landscaping. Other properties within immediate vicinity of the subject lot, and within other similarly zoned properties throughout the City, have existing similar type buildings that exceed the maximum thirty-five foot (35'-0") building height allowed M-P zone.

Within the vicinity of the subject lot, an industrial building located at 12821 Knott Street, which is a similarly zoned property (Industrial Planned Unit Development), provides a building height of thirty-nine feet (39'-0") to the top of the roof, and forty feet (40'-0") to the top of the parapet, exceeding the thirty-five foot (35'-0") building height requirement found in the M-P zone. Another building at 12752 Monarch Street was granted a Variance (V-033-2021) in May 2021 to allow for a building height of approximately thirty-seven feet (36'-9"). This property is also located in the same neighborhood and zoning district as the subject property.

Accordingly, approval of the proposed Variance will not set a precedent, and will allow the applicant to enjoy a substantial property right possessed by other property owners located in the M-P zone, and other similar zoned properties in the City. With exception to the requested Variance to deviate from the maximum building height limitation, the proposed project complies with all other development standards of the M-P zone.

3. That the granting of a Variance will not be materially detrimental to the public welfare or injurious to the property or improvements in such zone or neighborhood in which the property is located.

Approval of this Variance will allow the project to deviate from the maximum building height of thirty-five feet (35'-0") in the M-P (Industrial Park) zone, in order to facilitate the construction of the new building. The approval of this Variance will allow a 37'-2" building height (to the topmost portion of the roof), which is slightly more than two feet (2'-2") above the maximum building height of thirty-five feet (35'-0") allowed in the M-P zone.

The Variance will not affect surrounding properties, which are developed with existing industrial uses. The subject lot is not within close proximity to sensitive uses (e.g., residential, schools, parks). Other properties within the vicinity of the subject lot, and within other similar zoned properties throughout the City, have existing similar type buildings that exceed the maximum building height of the M-P zone. Nearby, an industrial building located at 12821 Knott Street, which is a similar zoned property (Industrial Planned Unit Development), provides a building height of thirty-nine feet (39'-0") to the top of the roof, and forty feet (40'-0") to the top of the parapet, exceeding the thirty-five foot (35'-0") building height requirement found in the M-P zone. Another building at 12752 Monarch Street was granted a Variance (V-033-2021) in May 2021 to allow for a building height of approximately thirty-seven feet (36'-9").

The project will be required to comply with all applicable building, and life-safety codes and regulations to ensure that there are no adverse impacts on public health, safety, or welfare. Furthermore, the proposal has been reviewed by all City departments in order to ensure compliance with all applicable Municipal Code provisions. Provided the project complies with the Conditions of Approval, the approval of the Variance will not be materially detrimental to the public welfare or injurious to the property or improvements in such zone or neighborhood in which the property is located.

4. That the granting of such Variance will not adversely affect the City's General Plan.

The Industrial (I) General Plan Land Use Designation is intended to create, maintain, and enhance industrial areas characterized by general industrial uses, such as warehousing and distribution or business parks, and more intensive industrial uses, such manufacturing, fabrication, assembly, processing, trucking, warehousing and distribution, and servicing. The proposed building is consistent with the intent of the Industrial Land Use Designation. Specifically, the project meets the intent of the general plan by furthering the following General Plan goals, policies, and implementation programs:

Goal LU-7: The City values its industrial areas as an important contributor to a well-planned community and for the jobs and economic impacts they

provide. The proposed project will replace the existing buildings with a contemporary building that meets the needs of the current industrial market by providing increased vertical racking space for additional interior storage capacity. The proposed project will ensure that the City maintains healthy and competitive industrial areas contributing to a well-planned and well-maintained community.

Implementation Program LU-IMP-7B: Require improved maintenance and rehabilitation of industrial buildings and sites, as necessary. The project Conditions of Approval will remain in perpetuity for the life of the development. The Conditions of Approval will help ensure that the property is well-maintained, and will not be detrimental to the surrounding neighborhood in which the property is located. Additionally, the project proposes enhanced exterior elevations which are aesthetically pleasing, which can foster further investments in high quality, contemporary industrial areas around the community.

The proposed project will be consistent with the spirit and intent of the General Plan, furthering its goals, policies, and implementation programs. The project would also help meet the community's need for competitive industrial facilities in its industrial zoned areas. Therefore, the granting of the requested Variance will not adversely affect the City's General Plan.

5. That approval of the Variance is subject to such conditions as will assure that it does not constitute a grant of special privileges inconsistent with the limitations upon other properties in the vicinity and zone in which the subject property is situated.

Provided the Conditions of Approval are adhered to for the life of the project, approval of the subject Variance will not grant a special privilege that is inconsistent with the limitations upon other properties located within the vicinity or zone in which the subject property is situated.

To construct the proposed building, the Variance to deviate from the maximum building height of thirty-five feet (35'-0") allowed in the M-P (Industrial Park) zone by two feet and two inches (2'-2") is necessary to facilitate the development and improvement of the property, which otherwise meets all other Municipal Code development standards. This includes, but is not limited to, building setbacks, parking, and landscaping. Other properties within the immediate area of the subject lot, and within other similarly zoned properties throughout the City, have existing similar type buildings that exceed the maximum thirty-five foot (35'-0") building height allowed M-P zone.

Within the immediate vicinity of the subject site, an industrial building located at 12821 Knott Street, which is a similarly zoned property (Industrial Planned Unit Development) provides a building height of thirty-nine feet (39'-0") to the top of the roof, and forty feet (40'-0") to the top of the parapet, which exceeds the building height requirement of the M-P zone. A Variance (V-033-2021) was more recently granted for the redevelopment of an industrial building located 12752 Monarch Street, providing for a maximum building height of approximately thirty-seven feet (36'-9").

Accordingly, approval of the proposed Variance will not grant a special privilege that is inconsistent with the limitations upon other property owners located in the Industrial Park and other similar zoned properties in the City. With exception to the requested Variance to deviate from the maximum building height limitation, the proposed project complies with all other development standards of the M-P zone.

The industrial building market has evolved over the past years to necessitate a greater interior ceiling height. Current market demands are calling for a minimum thirty-two foot (32'-0") interior ceiling height to provide increased operations and storage capacity. Increased building heights lead to more vertical racking, enhanced fire sprinkler systems, and more expansive commodity storage types, which attract high quality tenants. Property acquisition in a built-out community to accommodate horizontal expansion is impractical, and the proposed project is otherwise consistent with the standards and intent of the M-P (Industrial Park) zone. Conditions applicable to the subject property and its intended development do not readily apply to other property in similar zones, the same zone, and neighborhood. Accordingly, approval of the proposed Variance will not set a precedent, and will allow the applicant to enjoy a substantial property right possessed by other property owners located in similar properties in the City.

In addition, Condition of Approval No. 84 states, "The rights granted the applicant pursuant to Variance No. V-036-2022 shall continue in effect for only so long as the improvements authorized and contemplated by Site Plan No. SP-110-2022, and these Conditions of Approval (as they may be amended from time to time) continue to exist on the Site. In the event that that Site Plan No. SP-110-2022 is not exercised within one year of approval (or the length of any extension approved by the City), or the improvements authorized and contemplated by Site Plan No. SP-110-2022 are demolished and not re-established within one year of demolition, Variance No. V-036-2022 shall cease to be effective or grant the applicant any rights to construct other improvements inconsistent with the then-currently applicable development standards."

Lot Line Adjustment:

1. The parcels, as a result of the Lot Line Adjustment, will conform to the zoning and building codes.

   The subject parcels comprising the project are both zoned M-P (Industrial Park). The M-P zone requires a minimum lot area of 15,000 square feet, or 0.34 acres. The property at 12691 Pala Drive (APN: 215-011-11) is currently approximately 4.4 acres. The northern property at 12641 Industry Street (APN: 215-011-16) is currently approximately 4.7 acres. The requested Lot Line Adjustment would move the property line between the two properties approximately 262'-0" to the north. As a result of the Lot Line Adjustment, the southern parcel will be expanded to approximately 6.98 acres, and the property to the north will be reduced to approximately 2.04 acres. Both properties will comply with the minimum lot size required by the Code, even after the lot line adjustment.

INCORPORATION OF FACTS AND REASONS SET FORTH IN STAFF REPORT

In addition to the foregoing, the Planning Commission incorporates herein by this reference, the facts and reasons set forth in the staff report.

BE IT FURTHER RESOLVED that the Planning Commission does conclude:

1. The Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022 possess characteristics that would indicate justification of the requests in accordance with Municipal Code Section 9.32.030.

2. In order to fulfill the purpose and intent of the Municipal Code, and thereby promote the health, safety, and general welfare, the following conditions of approval, attached as Exhibit "A", shall apply to Site Plan No. Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022.

Adopted this 19th day of May 2022

EXHIBIT "A"

Site Plan No. SP-110-2022
Variance No. V-036-2022
Lot Line Adjustment No. LLA-029-2022

12691 Pala Drive & 12641 Industry Street

CONDITIONS OF APPROVAL

General Conditions

1. The applicant and each owner of the property shall execute, and the applicant shall record against the property a "Notice of Agreement with Conditions of Approval and Discretionary Permit of Approval," as prepared by the City Attorney's Office. Proof of such recordation is required prior to issuance of building permits.

2. All Conditions of Approval set forth herein shall be binding on and enforceable against each of the following, and whenever used herein, the term "applicant" shall mean and refer to each of the following: the project applicant, Prologis L.P., the developer of the project, the current owner of the Property, the future owner(s) and tenants(s) of the Property, and each of their respective successors and assigns. All Conditions of Approval are required to be adhered to for the life of the project, regardless of property ownership. Any changes of the Conditions of Approval require approval by the Planning Commission. All Conditions of Approval herein shall apply to Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022.

3. Approval of this Site Plan, Variance, and Lot Line Adjustment shall not be construed to mean any waiver of applicable and appropriate zoning and other regulations; and wherein not otherwise specified, all requirements of the City of Garden Grove Municipal Code shall apply.

4. Minor modifications to the Site Plan, Variance, Lot Line Adjustment, and/or these Conditions of Approval may be approved by the Community and Economic Development Director, in his or her discretion. Proposed modifications, to the project and/or these Conditions of Approval, determined by the Community and Economic Development Director not to be minor in nature shall be subject to approval of new and/or amended land use entitlements by the applicable City hearing body.

5. The approved site plan, floor plan, and use of the subject property, as represented by the Applicant, are an integral part of the decision approving this Site Plan. If major modifications are made to the approved floor plan,

site plan, or other related changes that result in the intensification of the project or create impacts that have not been previously addressed, the proper entitlements shall be obtained reflecting such changes.

6. All conditions of approval shall be implemented at the applicant's expense, except where specified in the individual condition.

Engineering Division

7. The applicant shall be subject to Traffic Mitigation Fees, Drainage Facilities Fees, Water Assessment Fees, and other applicable mitigation fees identified in Chapter 9.44 of the Garden Grove Municipal Code, along with all other applicable fees duly adopted by the City. The amount of said fees shall be calculated based on the City's current fee schedule at the time of permit issuance.

8. Prior to issuance of a grading permit, the applicant shall design overhead street lighting within the development in a manner meeting the approval of the City Engineer. Location of lighting poles shall be shown on the precise grading and street improvement plans.

9. A geotechnical study prepared by a registered geotechnical engineer is required. The report shall analyze the liquefaction potential of the site and make recommendations. The report shall analyze sub-surface issues related to the past uses of the site, including sub-surface tanks, infiltration and stormwater treatment structures, and basement and septic facilities. Any soil or groundwater contamination shall be remediated prior to the issuance of a building permit in a manner meeting the approval of the City Engineer in concert with the Orange County Health Department. The report shall make recommendations for pavement design of the interior streets and parking spaces. The report shall also test and analyze soil conditions for LID (Low Impact Development) principles and implementations, including potential infiltration alternatives, soil compaction, saturation, permeability and groundwater levels. Requirements for any "dewatering" will also need to be addressed in the report.

10. A separate street permit shall be required for all work performed within the public right-of-way.

11. Grading and street improvement plans prepared by a registered Civil Engineer are required. The grading plan shall be based on a current survey

of the site, including a boundary survey, topography on adjacent properties up to thirty feet (30'-0") outside the boundary, and designed to preclude cross-lot drainage. Minimum grades shall be 0.50% for concrete flow lines, and 1.25% for asphalt. The grading plan shall also include water and sewer improvements. The grading plan shall include a coordinated utility plan. All improvements within the public right-of-way shall conform to all format and design requirements of the City Standard Drawings & Specifications. Special features, such as decorative pavers or other improvements, may be required to have an agreement prepared between the owner and the city to cover any encroachment limitations, responsibilities and maintenance requirements.

12. The applicant shall complete the following for the Lot Line Adjustment (LLA) application:

    a. Prior to issuance of a grading permit, the applicant shall submit to the Planning Services Division an updated title report along with copies of the recorded instruments listed in the title report, reference maps used to prepare legal description, and the plat per County of Orange Lot Line Adjustment Manual.

    b. Preparation, formatting, and packaging of the LLA application and exhibits must follow the requirements of the County of Orange Lot Line Adjustment Manual, and shall be reviewed and approved by the City Engineer.

    c. The order of recording documentation of the LLA application with the County of Orange Recorder's Office shall be as prescribed by the City Engineer. The instrument numbers assigned by the County Recorder for the LLA shall be written into the new property description of the succeeding Grant Deed or Quit Claim conveyances as prescribed by the City Engineer.

    d. If there is a lien against either parcel affected by the LLA resulting from a loan or deed of trust, whether or not indicated in the Title Report, each lender and/or beneficiary of the deed of trust, as applicable, must consent to the LLA by execution of a recordable Modification of Deed of Trust, or similar recordable document acceptable to the City. The Modification of Deed of Trust, or similar document, must be signed by a person authorized to represent the lender of beneficiary, as applicable, and notarized. Exhibits for the Modification of Deed of Trust shall be the exhibits as prepared for the

LLA prior to recordation. A blank line must be left in the acknowledgement description to write the LLA instrument number as recorded by the County Clerk.

13. The grading plan shall depict an accessibility route for the ADA pathway in conformance with the requirements of the Department of Justice standards, latest edition, and Section 1110A of the California Building Code.

14. Grading fees shall be calculated based the current fee schedule at the time of permit issuance.

15. All parking spaces that abut sidewalks that are not elevated with a curb face to the stall, shall have wheel stops in order to prevent vehicle overhang into sidewalk. A minimum six-foot (6'-0") wide sidewalk is required for parking spaces that are utilizing elevated sidewalk curb face as a wheel stop, and must maintain a minimum four-foot (4'-0") from the overhang of the vehicle bumper for the ADA pathway.

16. In accordance with the Orange County Storm Water Program manual, the applicant and/or their contractors shall provide dumpsters onsite during construction unless an Encroachment Permit is obtained for placement in street.

17. Prior to the issuance of any grading or building permits, or prior to recordation upon subdivision of land if determined applicable by the City Building Official, the applicant shall submit to the City for review and approval a Water Quality Management Plan that:

    a. Addresses required mitigation Site Design Best Management Practices (BMPs) based upon the latest Santa Ana Regional Water Quality Control Board (SARWQCB) approved Drainage Area Management Plan (DAMP), as identified in the geotechnical report recommendations and findings, including, but not limited to, infiltration minimizing impervious areas, maximizing permeability, minimizing directly connected impervious areas, creating reduced or "zero discharge" areas, and conserving natural areas as required by the latest adopted County of Orange Technical Guidance Document (TGD).

    b. BMP's shall be sized per the requirements of the latest Technical Guidance Documents.

c. Incorporates the applicable Routine Source Control BMPs as defined in the DAMP.

d. Incorporates structural and Treatment Control BMPs as defined in the DAMP.

e. Generally describes the long-term operation and maintenance requirements for the Treatment Control BMPs.

f. Identifies the entity that will be responsible for long-term operation and maintenance of the Treatment Control BMPs.

g. Describes the mechanism for funding the long-term operation and maintenance of the Treatment Control BMPs.

h. Provides a hydrological analysis with scaled map, as well as hydrologic and hydraulic calculations to size storm drains, per the Orange County RDMD standards.

18. All trash container areas shall meet the following requirements per City of Garden Grove Standard B-502, and state-mandated commercial organic recycling laws, including AB 1826 and its implementing regulations, and any other applicable State recycling laws related to refuse, recyclables, and/or organics:

a. Paved with an impervious surface, designed not to allow run-on mixing of drainage from adjoining areas, designed to divert drainage from adjoining roofs and pavements to be directed around the area for trash roll out, and screened or walled to prevent off-site transport of trash by water or wind.

b. Provide solid roof or awning to prevent direct precipitation into the enclosure.

c. Connection of trash area drains to the municipal storm drain system is prohibited. Drainage from the enclosure may be directed to a conforming grease or contaminant interceptor.

d. Potential conflicts with fire code access requirements and garbage pickup routing for access activities shall be considered in implementation of design and source control. See CASQA Storm

Water Handbook Section 3.2.9 and BMP Fact Sheet SD-32 for additional information.

e. The trash enclosure and containers shall be located to allow pick-up and maneuvering, including turnarounds, in the area of enclosures, and concrete aprons for roll-out areas.

f. Pursuant to commercial organic recycling state law (AB 1826), the applicant shall coordinate storage and removal of the organics waste with the local recycling/trash company.

g. Pursuant to applicable state laws, the applicant shall contact and coordinate with the operations manager of the local recycling/trash company (Republic Services, 800-700-8610) to ensure the trash enclosure includes the appropriate size and number of containers for the disposal of items, such as, but not limited to, municipal solid waste (MSW), recyclables, and organic green waste.

h. Based on the amount of waste disposed per week, the applicant shall coordinate with the local recycling/trash company to ensure the adequate frequency of trash pick-up is serviced to the site for municipal solid waste (MSW), recyclables, and organic green waste, and any other type of waste.

i. The applicant shall ensure large, bulky items, intended for coordinated and scheduled pick-up by the local recycling/trash company, are not placed in areas that encroach into drive aisles, parking spaces, pedestrian pathways, or areas in the front of the property, including the public right-of-way (e.g., street, sidewalk), during and after construction. Any large bulky items shall be out of public vantage points.

j. The requirements for the trash enclosure and design criteria are bound and coordinated with the Water Quality Management Plan (WQMP), when required, as depicted on the project grading plan, which shall be incorporated into the WQMP by narrative description, exhibits, and an Operation and Maintenance Plan (O&M).

19. The applicant and its contractor shall be responsible for protecting all existing horizontal and vertical survey controls, monuments, ties (centerline and corner), and benchmarks located within the limits of the project. If any of

the above require removal, relocation, or resetting, the contractor shall, prior to any construction work, and under the supervision of a California licensed Land Surveyor, establish sufficient temporary ties and benchmarks to enable the points to be reset after completion of construction. Any ties, monuments, and benchmarks disturbed during construction shall be reset per Orange County Surveyor Standards after construction. The applicant and its contractor shall also reset the tie monuments where curb or curb ramps are removed and replaced, or new ramps are installed. The Applicant and its contractor shall be liable for, at their expense, any resurvey required due to their negligence in protecting existing ties, monuments, benchmarks, or any such horizontal and vertical controls. Temporary Benchmarks shall not be used for vertical control. Benchmarks shall be to the National Geodetic Vertical Datum (NGVD).

20. Prior to the issuance of any grading or building permits for projects that will result in soil disturbance of one acre or more of land, the applicant shall demonstrate that coverage has been obtained under California's General Permit for Stormwater Discharges Associated with Construction Activity by providing a copy of the Notice of Intent (NOI) submitted to the State Water Resources Control Board, and a copy of the subsequent notification of the issuance of a Waste Discharge Identification (WDID) Number. Projects subject to this requirement shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP). A copy of the current SWPPP shall be kept at the project site, and be available for City review on request.

21. Any new or required block walls and/or retaining walls shall be shown on the grading plans, both in plan-view and cross-sections. Cross-sections shall show vertical and horizontal relations of improvements (existing and proposed) on both sides of property lines. Required wall heights shall be measured vertically from the highest adjacent finished grade. Block walls shall be designed in accordance to City of Garden Grove Standard B-504, B-505, B-506 & B-508, or designed by a professional registered engineer. In addition, the following shall apply:

    a. The color and material of all proposed block walls, columns, and wrought iron fencing shall be approved by the Planning Services Division Prior to installation.

    b. Openings for drainage through walls shall be shown in section details, and approved by the City Engineer. Cross-lot drainage is not allowed.

22. The applicant shall identify a temporary parking site(s) for construction crew(s) prior to issuance of a grading permit. No construction parking is allowed on local streets.

23. Prior to issuance of a grading permit, the applicant submit and obtain approval of a worksite traffic control plan, satisfactory to the City Traffic Engineer.

24. Heavy construction truck traffic and hauling trips shall occur outside of peak travel periods. Peak travel periods are considered to be from 7:00 a.m. to 9:00 a.m., and 4:00 p.m. to 6:00 p.m.

25. Any required lane closures shall occur outside of peak travel periods.

26. Construction vehicles shall be parked off traveled roadways, in a designated parking lot.

27. Prior to issuance of a grading permit, the applicant shall provide a hydrological analysis with scaled map, calculations, and hydraulic calculations to size storm drains per the Orange County RDMD standards. Parkway culverts shall be designed per Orange County Standard Plan 1309, Type B. BMP's shall be sized per the requirements of the latest Technical Guidance Documents.

28. Prior to the issuance of a building permit, the applicant shall design and construct street frontage improvements as identified below. All landscaping installed within public rights-of-way shall be maintained by the applicant in a manner meeting the approval of the City Engineer, and the Planning Services Division. A separate street improvement plan shall be prepared for Industry Street and Pala Drive, and submitted to the Engineering Division for improvements within the City rights-of-way.

Industry Street

a. The applicant shall cold mill (grind)the existing asphalt pavement three-inch (0'-03") uniform depth, and replace with three inches (0'-3") of fiber-reinforced asphalt surface course, from the edge of the westerly gutter to the edge of easterly gutter on Industry Street, along the property frontage, per City specifications, and the direction of the City Engineer.

b. Any proposed landscaping in the public right-of-way shall be approved by the Planning Services Division, and maintained by the applicant.

c. The applicant shall coordinate the location of all new water meters, backflow preventers, and backflow devices to be placed in the sidewalk area on Industry Street with the Planning Services Division, and the Water Services Division.

Pala Drive

a. Remove and replace the existing northerly substandard driveway approach to the site on Pala Drive, and construct a new commercial driveway approach in accordance with City of Garden Grove Standard Plan B-121.

b. Any proposed landscaping in the public right-of-way shall be approved by the Planning Services Division, and maintained by the applicant.

c. The applicant shall coordinate the location of all new water meters, backflow preventers, and backflow devices to be placed in the sidewalk area on Pala Drive with the Planning Services Division, and the Water Services Division.

Public Works Environmental

29. The applicant shall comply with all applicable Garden Grove Sanitary District and California State recycling requirements for commercial developments.

Orange County Fire Authority

30. The applicant shall comply with all applicable Orange County Fire Authority requirements, including, but not limited to the Fire Master Plan.

Building and Safety Division

31. All work shall comply with the current California Building Standards Code at the time of permit application.

32. The application shall provide "clean air" and "future electric vehicle charging" parking stalls, in compliance with California Green Building Code Sections 5.106.5.2 and 5.106.5.3. Additionally, all electric vehicle charging stations

and parking stalls shall comply with CBC Section 11B-228.3.

33. The applicant shall provide an accessible path-of-travel to the trash enclosures.

34. The applicant shall provide a building height/area analysis to show compliance with CBC Chapter 5

35. The applicant shall specify the type of fire sprinkler system to be used.

36. The applicant shall provide an exiting plan, showing the path-of-travel, and the maximum travel distance, including a common path of egress.

37. The applicant shall provide an accessible means of egress complying with CBC Section 1009.

38. The applicant shall provide a copy of a soils investigation report at the time of permit application.

39. All rooms/spaces/elements shall meet the accessibility requirements of CBC Chapter 11B.

Water Services Division

40. New water service installations two inches (0'-2") and smaller, shall be installed by the City of Garden Grove at owner's/developer's expense. Installation shall be scheduled upon payment of applicable fees, unless otherwise noted. Fire services and larger water services three inches (0'-3") and larger, shall be installed by developer/owner's contractor per City Standards.

41. Water meters shall be located within the City right-of-way, or within dedicated waterline easement. Fire services and large water services three inches (0'-3") and larger, shall be installed by contractor with a Class A or C-34 license, per City water standards, and inspected by approved Public Works inspection.

42. A Reduced Pressure Principle Device (RPPD) backflow prevention device shall be installed for meter protection. The landscape system shall also have RPPD device. Any carbonation dispensing equipment shall have a RPPD device. Installation shall be per City standards, and shall be tested by a certified

backflow device tester immediately after installation. The cross-connection inspector shall be notified for inspection after the installation is completed. The owner shall have the RPPD device tested once a year thereafter by a certified backflow device tester, and the test results submitted to the Public Works Department, Water Services Division. The property owner must open a water account upon installation of a RPPD device.

43. It shall be the responsibility of the owner/developer to abandon any existing private water well(s) per Orange County Health Department requirements. Abandonment(s) shall be inspected by an Orange County Health Department inspector after permits have been obtained.

44. A composite utility site plan shall be part of the water plan approval.

45. There is an existing water main and a water easement running along a portion of the westerly property line. There shall be no structures or utilities built on or crossing water or sewer main easements.

46. There shall be a minimum fifteen-foot (15'-0") clearance of building footings from the water main. Clearances less than fifteen feet (15'-0") shall be reviewed and approved by the Water Services Division.

47. New utilities shall have a minimum five-foot (5'-0") horizontal, and a minimum one-foot (1'-0") vertical clearance from the water main and appurtenances.

48. There shall be a minimum clearance from the sewer main or laterals, and the water main of ten feet (10'-0") from outside of pipe to outside of pipe.

49. No permanent structures, trees or deep-rooted plants shall be placed over sewer main or water main.

50. Any new or existing water valve located within a new concrete driveway or sidewalk shall be constructed per City Standard B-753.

51. The City shall determine if existing water services(s) is/are usable and meets current City standards. Any existing meter and service located within new driveway(s) shall be relocated at the owner's expense.

52. Existing fire services on both Pala Drive and Industry Street have single-check detector assembly in a vault. These are required to be upgraded to

above-ground Double-Check Detector Assembly (DCDA), as per condition 53, below. The Applicant shall prepare quitclaim deeds, at the Applicant's sole cost and expense, satisfactory to the City Engineer and City Attorney, for quitclaim by the City to the property owner(s) the existing water easements for the two (2) fire service vaults, following completion of the upgrade to the above-ground DCDA.

53. Fire service shall have an above-ground backflow device with a double-check valve assembly. The device shall be tested immediately after installation and once a year thereafter by a certified backflow device tester, and the results to be submitted to the Public Works Department, Water Services Division. The device shall be on private property, and is the responsibility of the property owner. The above-ground assembly shall be screened from public view as required by the Planning Services Division.

54. The location and number of fire hydrants shall be as required by the Water Services Division and Orange County Fire Authority (OCFA).

55. Commercial food use of any type shall require the installation of an approved grease interceptor prior to obtaining a business license. The plumbing plan for any grease interceptor shall be routed to Environmental Services for review.

56. Food grinders (garbage disposal devices) are prohibited per Ordinance 6 of the Garden Grove Sanitary District Code of Regulations. Existing units are to be removed.

57. If needed, the owner shall install a new sewer lateral with clean out at the street right-of-way line. Laterals in the public right-of-way shall be a minimum six-inch (0'-6") diameter, extra strength VCP with wedgelock joints.

58. The contractor shall abandon any existing unused sewer lateral(s) at the street right-of-way on the property owner's side. The sewer pipe shall be capped with an expansion sewer plug, and encased in concrete. Only one sewer connection per lot is allowed.

59. All perpendicular crossings of the sewer, including laterals, shall maintain a minimum vertical separation of twelve inches (1'-0") below the water main, outer diameter to outer diameter. All exceptions to the above require a variance from the State Water Resources Control Board.

60. If the water main is exposed during the installation of a sewer lateral, a twenty-foot (20'-0") section of the water main shall be replaced with twenty feet (20'-0") of PVC C-900 DR-14 Class 305 water pipe, size in kind and centered at the crossing.

Planning Services Division

61. A prominent, permanent sign, stating "NO LOITERING IS ALLOWED ON OR IN FRONT OF THE PREMISES," shall be posted in a place that is clearly visible to patrons of the applicant. The sign lettering shall be four to six inches tall (0'-4" – 0'-6"), with black letters on a white background. The sign shall be displayed near or at the entrance, and shall also be visible to the public.

62. Litter shall be removed daily from the premises, including adjacent public sidewalks, and from all parking areas under the control of the applicant. These areas shall be swept or cleaned, either mechanically or manually, on a weekly basis, to control debris.

63. The applicant/property owner shall abate all graffiti vandalism within the premises. The applicant/property owner shall implement best management practices to prevent and abate graffiti vandalism within the premises throughout the life of the project, including, but not limited to, timely removal of all graffiti, the use of graffiti resistant coatings and surfaces, the installation of vegetation screening of frequent graffiti sites, and the installation of signage, lighting, and/or security cameras, as necessary. Graffiti shall be removed/eliminated by the applicant/property owner as soon as reasonably possible after it is discovered, but not later than 72 hours after discovery.

64. The applicant is advised that the establishment is subject to the provisions of State Labor Code Section 6404.5 (ref: State Law AB 13), which prohibits smoking inside the establishment as of January 1, 1995.

65. Permits from the City of Garden Grove shall be obtained prior to displaying any temporary advertising (i.e., banners).

66. Signs shall comply with the City of Garden Grove sign requirements. No more than 15% of the total window area and clear doors shall bear advertising or signs of any sort. No signs advertising alcoholic beverages shall be placed on the windows. Any opaque material applied to the store

front, such as window tint, shall count toward the maximum window coverage area.

67. Exterior advertisements displays or exterior wall advertisements shall not be allowed.

68. Any modifications to existing signs or the installation of new signs shall require approval by the Community and Economic Development Department, Planning Services Division prior to issuance of a building permit.

69. Hours and days of construction and grading shall be as follows as set forth in the City of Garden Grove's Municipal Code Chapter 8.47 as adopted, except that:

    a. Monday through Saturday - not before 7 a.m. and not after 8 p.m. (of the same day).

    b. Sunday and Federal Holidays may work same hours, but subject to noise restrictions as stipulated in Chapter 8.47 of the Municipal Code.

70. Construction activities shall adhere to SCAQMD Rule 403 (Fugitive Dust) that includes dust minimization measures, the use of electricity from power poles rather than diesel or gasoline powered generators, and the use methanol, natural gas, propane or butane vehicles instead of gasoline or diesel powered equipment, where feasible. Also, the use of solar or low-emission water heaters, and use of low-sodium parking lot lights, and to ensure compliance with Title 24.

71. No exterior piping, plumbing, roof top access ladders, or mechanical ductwork shall be permitted on any exterior facade and/or be visible from any public right-of-way or adjoining property.

72. Any and all correction notice(s) generated through the plan check and/or inspection process is/are hereby incorporated by reference as conditions of approval and shall be fully complied with by the owner, applicant, and all agents thereof.

73. No roof-mounted mechanical equipment shall be permitted unless a method of screening complementary to the architecture of the building is approved by the Community and Economic Development Department, Planning Services

Division. Said screening shall block visibility of any roof-mounted mechanical equipment from view of public streets and surrounding properties.

74. Building color and material samples shall be submitted to the Planning Services Division for review and approval prior to issuance of building permits.

75. All lighting structures shall be placed so as to confine direct rays to the subject property. All exterior lights shall be reviewed and approved by the Planning Division. Lighting adjacent to residential properties shall be restricted to low decorative type wall-mounted lights, or a ground lighting system. Lighting shall be provided throughout all private drive aisles and entrances to the development per City standards for street lighting.

76. The site improvements and subsequent operation of the site/business(es) shall adhere to the following:

    a. There shall be no business activities, or storage permitted outside of the building. All business related equipment and material shall be kept inside the building except for loading or unloading purposes.

    b. Property owners, employees, and business operators shall not store vehicles anywhere on the site.

    c. All drive aisles on the site are considered to be fire lanes and shall remain clear and free of any materials, and/or vehicles.

    d. The property owner shall comply with the adopted City Noise Ordinance.

77. All landscaping shall be consistent with the landscape requirements of the Landscape Water Efficiency Guidelines (Appendix A), per Title 9 of the Municipal Code. The applicant shall submit a separate and complete Water Efficient Landscape Plan. The water efficient landscape submittal shall include landscape plans, irrigation plans, soils report, grading plans, and all other applicable documentation. The landscape plans shall include type, size, location, and quantity of all plant material. The landscape plans are also subject to the following:

    a. A complete, permanent, automatic remote control irrigation system shall be provided for all landscaping areas shown on the plans. The

sprinklers shall be of low flow/precipitation sprinkler heads for water conservation.

b. The plans shall provide a mixture of a minimum of ten percent (10%) of the trees at 48-inch box, ten percent (10%) of the trees at 36-inch box, fifteen percent (15%) of the trees at 24-inch box and sixty percent (60%) of the trees at 15-gallon, the remaining five percent (5%) may be of any size. These trees shall be incorporated into the landscaped frontages of all streets. Where clinging vines are considered for covering walls, drought tolerant vines shall be used.

c. Landscape treatments and irrigation shall be installed within the front, side, and rear setback areas of the property. The landscaping shall incorporate a mixture of ground cover, flowerbeds, shrubs, and trees. The Community and Economic Development Department shall review the type and location of all proposed trees.

d. Clinging vines shall be planted within landscape planters along any proposed block walls, and/or trash enclosure walls to deter graffiti.

e. The applicant shall be responsible for all installation and permanent maintenance of all landscaping on the property. Said responsibility shall extend to the parkway landscaping, sidewalk, curb, and pavement of the site. All planting areas are to be kept free of weeds, debris, and graffiti.

f. All above-ground utilities (e.g., water backflow devices, electrical transformers, irrigation equipment, etc.) shall be shown on the landscaping plans in order to ensure proper screening.

g. The landscape plans shall incorporate and maintain, for the life of the project, means and methods to address water run-off, including Low Impact Development (LID) provisions which address water run-off. This includes, without limitation, all applicable requirements of the Water Quality Management Plan (WQMP), Drainage Area Management Plan (DAMP), or Local Implementation Plan (LIP), and any other water conservation measures applicable to this type of development required by applicable ordinance or regulation.

78. During construction, if paleontological or archaeological resources are found, all attempts will be made to preserve in place or leave in an undisturbed

state. In the event that fossil specimens or cultural resources are encountered on the site during construction, and cannot be preserved in place, the applicant shall contact and retain, at applicant's expense, a qualified paleontologist or archaeologist, as applicable, acceptable to the City, to evaluate and determine appropriate treatment for the specimen or resource, and work in the vicinity of the discovery shall halt until appropriate assessment and treatment of the specimen or resource is determined by the paleontologist or archeologist (work can continue elsewhere on the project site). Any mitigation, monitoring, collection, and specimen/resource treatment measures recommended by the paleontologist/archaeologist shall be implemented by the applicant at its own cost.

79. The applicant shall comply with the Migratory Bird Treaty Act (MBTA), and Sections 3503, 3503.5, and 3513 of the California Fish and Game Code, which require the protection of active nests of all bird species, prior to the removal of any on-site landscaping, including the removal of existing trees.

80. A copy of the resolution, including the conditions approving Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022, shall be kept on the premises at all times.

81. The applicant/property owner shall submit signed letters acknowledging receipt of the decision approving Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022, and their agreement with all conditions of approval.

82. The applicant shall, as a condition of project approval, at its sole expense, defend, indemnify and hold harmless the City, its officers, employees, agents and consultants from any claim, action, or proceeding against the City, its officers, agents, employees and/or consultants, which action seeks to set aside, void, annul or otherwise challenge any approval by the City Council, Planning Commission, or other City decision-making body, or City staff action concerning Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022. The applicant shall pay the City's defense costs, including attorney fees and all other litigation related expenses, and shall reimburse the City for court costs, which the City may be required to pay as a result of such defense. The applicant shall further pay any adverse financial award, which may issue against the City including, but not limited, to any award of attorney fees to a party challenging such project approval. The City shall retain the right to select its counsel of choice in any action referred to herein.

83. In accordance with Garden Grove Municipal Code Sections 9.32.160, the rights granted pursuant to Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022 shall be valid for a period of one (1) year from the effective date of this approval. Unless a time extension is granted pursuant to Section 9.32.030.D.9 of the Municipal Code, the rights conferred by Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022 shall become null and void if the subject development and construction necessary and incidental thereto is not commenced within one (1) year of the expiration of the appeal period, and thereafter diligently advanced until completion of the project. In the event construction of the project is commenced but not diligently advanced until completion, the rights granted pursuant to Site Plan No. SP-110-2022, Variance No. V-036-2022, and Lot Line Adjustment No. LLA-029-2022 shall expire if the building permits for the project expire.

84. The rights granted the applicant pursuant to Variance No. V-036-2022 shall continue in effect for only so long as the improvements authorized and contemplated by Site Plan No. SP-110-2022, and these Conditions of Approval (as they may be amended from time to time) continue to exist on the Site. In the event that that Site Plan No. SP-110-2022 is not exercised within one year of approval (or the length of any extension approved by the City), or the improvements authorized and contemplated by Site Plan No. SP-110-2022 are demolished and not re-established within one year of demolition, Variance No. V-036-2022 shall cease to be effective or grant the applicant any rights to construct other improvements inconsistent with the then-currently applicable development standards.

June 7, 2022

Mr. Eddie Pang
Prologis
17777 Center Court Dr. N, Suite 100
Cerritos, CA 90703

PALA DRIVE INDUSTRIAL FOCUSED TRAFFIC ASSESSMENT

Mr. Eddie Pang,

This letter has been prepared to document the findings for the focused traffic assessment for the proposed Pala Drive Industrial development (Project) located at 12691 Pala Drive in the City of Garden Grove. It is our understanding that the Project is to demolish two existing light industrial buildings (totaling 149,800 square feet) and redevelop the site to accommodate a 148,284 square foot industrial building which would include 6,000 square feet of office space and 142,284 square feet of warehouse area. A third building on the property (located at 12601 Industry Street) will remain. The purpose of this work effort is to determine if there are any traffic deficiencies anticipated with the development of the proposed Project.

PROPOSED PROJECT

EXISTING TRAFFIC

The existing site is currently occupied by three buildings:

- 12691 Pala Drive = 83,000 square feet
- 12641 Industry Street = 66,800 square feet
- 12601 Industry Street = 36,100 square feet

The building located at 12691 Pala Drive is currently occupied by a tenant, however, the site at 12641 Industry Street is currently vacant. The building located at 12601 Industry Street is not proposed to be redeveloped as part of the Project and will remain. Exhibit 1 shows the proposed Project.

In an effort to understand the existing traffic associated with the current use at 12691 Pala Drive, traffic counts were collected at the driveways on March 2 and 3, 2022 (Wednesday and Thursday). A summary of the count data collected is shown in Table 1. See Attachment A for driveway count data worksheets.

TABLE 1: SUMMARY OF EXISTING DRIVEWAY COUNTS

	12691 Pala Drive[2]						
	AM Peak Hour			PM Peak Hour			
Land Use	In	Out	Total	In	Out	Total	Daily
Day 1: March 2, 2022							
Passenger Cars:	1	1	2	1	1	2	31
Total Truck Trips:	2	0	2	1	1	2	11
Total Trips[1]	3	1	4	2	2	4	42
Day 2: March 3, 2022							
Passenger Cars:	4	4	8	2	2	4	28
Total Truck Trips:	0	0	0	0	0	0	16
Total Trips[1]	4	4	8	2	2	4	44
2-Day Average Trip Generation:							
Passenger Cars:	3	3	5	2	2	3	30
Total Truck Trips:	1	0	1	1	1	1	14
Total Trips[1]	**4**	**3**	**6**	**2**	**2**	**4**	**43**

* Note: data collected on March 2, and 3, 2022.

[1] Total Trips = Passenger Cars + Truck Trips.

[2] Trip generation represents the sum of all driveways, by day.

The building located at 12641 Industry Street is currently vacant and driveway counts were not conducted for this location. However, the site could reasonably be occupied by another warehouse tenant. As such, the trip generation rates from the Institute of Transportation Engineers (ITE) as provided in their Trip Generation Manual (11th Edition, 2021) has been utilized to calculate the trip generation associated with the existing use at 12641 Industry Street (see Table 2).

TABLE 2: TRIP GENERATION RATES

	ITE LU		AM Peak Hour			PM Peak Hour			
Land Use	Code	Units[1]	In	Out	Total	In	Out	Total	Daily
Warehousing[2]	150	TSF	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars			0.116	0.034	0.150	0.042	0.108	0.150	1.110
Trucks			0.011	0.009	0.020	0.016	0.014	0.030	0.600

[1] TSF = Thousand Square Feet

[2] Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

Table 3 summarizes the average existing trip generation for 12691 Pala Drive based on the count data collected over two consecutive days in addition to the trip generation associated with 12641 Industry Street per ITE (for ITE Land Use Code 150, Warehousing). As such, the existing buildings what are proposed to be redeveloped currently generate a total of 160 two-way trips per day, with 16 trips during the AM peak hour and 16 trips during the PM peak hour.

TABLE 3: EXISTING TRIP GENERATION

Existing Land Use	Quantity Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
12691 Pala Drive	83.000 TSF							
Passenger Cars:		3	3	5	2	2	3	30
Truck Trips:		1	0	1	1	1	1	14
12691 Pala Trips[2]		**4**	**3**	**6**	**2**	**2**	**4**	**44**
12641 Industry Street	66.800 TSF							
Passenger Cars:		8	2	10	3	7	10	74
Truck Trips:		0	0	0	1	1	2	42
12641 Industry Trips[2]		**8**	**2**	**10**	**4**	**8**	**12**	**116**
Project Trips[2]		**12**	**5**	**16**	**6**	**10**	**16**	**160**

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

PROPOSED PROJECT

In order to develop the traffic characteristics of the proposed Project, trip-generation statistics published in the ITE Trip Generation Manual (11th Edition, 2021) for General Light Industrial (ITE Land Use Code 110) and Warehousing (ITE Land Use Code 150) were used. The vehicle mix (percentage of cars versus trucks) was also obtained from the Trip Generation Manual for each applicable land use. Table 4 presents the trip generation rates. For the purposes of this trip generation assessment and in order to calculate a conservative trip generation for the proposed Project, it was assumed 25% of the overall square footage would be general light industrial with the remaining 75% assuming warehousing uses. Table 4 shows the resulting Project trip generation summary, which shows the Project is anticipated to generate a total of 374 two-way trips per day with 46 AM peak hour trips and 43 PM peak hour trips.

TABLE 4: PROJECT TRIP GENERATION SUMMARY

Land Use[1]	ITE LU Code	Units[2]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Trip Generation Rates:									
General Light Industrial	110	TSF	0.651	0.089	0.740	0.091	0.559	0.650	4.870
Passenger Cars			0.642	0.088	0.730	0.090	0.550	0.640	4.620
Trucks			0.006	0.004	0.010	0.005	0.005	0.010	0.250
Warehousing	150	TSF	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars			0.116	0.034	0.150	0.042	0.108	0.150	1.110
Trucks			0.011	0.009	0.020	0.016	0.014	0.030	0.600

[1] Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] TSF = Thousand Square Feet

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Project Trip Generation Summary									
General Light Industrial (25%)	37.071	TSF							
Passenger Cars			24	3	27	3	20	23	172
Trucks			0	0	0	0	0	0	10
Subtotal			24	3	27	3	20	23	182
Warehousing (75%)	111.213	TSF							
Passenger Cars			13	4	17	5	12	17	124
Trucks			1	1	2	2	2	3	68
Subtotal			14	5	19	7	14	20	192
Project Total			**38**	**8**	**46**	**10**	**34**	**43**	**374**

[1] TSF = Thousand Square Feet

TRIP GENERATION COMPARISON

Table 5 shows the trip generation comparison between the existing uses and the proposed Project. The resulting net new trips are identified on Table 5. As shown, the Project is anticipated to generate 214 net new two-way trips per day with 30 net new AM peak hour trips and 27 net new PM peak hour trips.

TABLE 5: TRIP GENERATION COMPARISON

Proposed Land Use	Quantity Units[1]	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Existing Use (Table 3)	149.800 TSF							
Passenger Cars:		10	5	15	5	9	14	104
Total Truck Trips:		1	0	1	2	2	4	56
Total Trips		**11**	**5**	**16**	**6**	**10**	**18**	**160**
Proposed Project (Table 4)	148.284 TSF							
Passenger Cars:		37	7	44	8	32	40	296
Total Truck Trips:		1	1	2	2	2	4	78
Total Trips		**38**	**8**	**46**	**10**	**34**	**44**	**374**
VARIANCE								
Passenger Cars:		27	3	30	4	24	28	192
Total Truck Trips:		0	1	1	1	1	2	22
Total Trips		**27**	**4**	**31**	**5**	**25**	**30**	**214**

[1] TSF = thousand square feet

The net difference in trip generation has been utilized for this analysis. The Project only traffic volumes are provided on Exhibit 5.

TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. In addition, truck routes for the City of Garden Grove have been taken into consideration in the development of the trip distribution patterns for heavy trucks. Exhibit 2 illustrates the proposed Project distribution patterns for passenger cars and Exhibit 3 illustrates the proposed Project distribution patterns for trucks.

INTERSECTION OPERATIONS ANALYSIS

Intersection operations have been analyzed in accordance with the City of Garden Grove's Traffic Impact Analysis Guidelines for Vehicles Miles Traveled and Level of Service Assessment (dated May 2020) (City Guidelines). Per the City's traffic study guidelines, Level of Service (LOS) D or better is considered acceptable for City intersections. The study area utilized for this analysis is shown on Exhibit 4.

EXISTING (2022) CONDITIONS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in May 2022. The existing counts are provided in Attachment B. To represent the effect large trucks, buses, and recreational vehicles have on traffic flow, all trucks were converted into passenger car equivalent (PCE). By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is also much longer than for passenger cars and varies depending on the type of vehicle and number of axles. For this analysis, the following PCE factors have been used to estimate each turning movement: 2.0 for 2-axle trucks, 2.5 for 3-axle trucks, and 3.0 for 4+-axle trucks. These factors are consistent with the values utilized for other projects within the County of Orange. The Existing (2022) traffic volumes, in actual vehicles, are provided on Exhibit 6. Table 6 provides the intersection operations analysis for Existing (2022) traffic conditions.

TABLE 6: INTERSECTION OPERATIONS ANALYSIS FOR EXISTING (2022) CONDITIONS

#	Intersection	Traffic Control[2]	Delay[1] (secs.)		Volume-to-Capacity (V/C)		Level of Service	
			AM	PM	AM	PM	AM	PM
1	Knott St. & Lampson Av.	TS	--	--	0.655	0.582	B	A
2	Knott St. & Stanford Av.	TS	--	--	0.555	0.446	A	A
3	Knott St. & SR-22 WB On-Ramp/Acacia Av.	TS	--	--	0.608	0.621	B	B
4	Knott St. & Garden Grove Bl.	TS	--	--	0.895	**1.084**	D	**F**
5	Industry St. & Lampson Av.	CSS	15.2	12.3	--	--	C	B
6	Pala Dr. & Acacia Av.	CSS	9.1	9.7	--	--	A	A

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

1 Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

2 TS = Traffic Signal; CSS = Cross-street Stop

As shown in Table 6, the following intersection currently operates at an unacceptable LOS during the peak hours:

- Knott Street & Garden Grove Boulevard (#4) – LOS F PM peak hour only

The intersection operations analysis worksheets for Existing (2022) conditions are provided in Attachment C.

EXISTING PLUS PROJECT (E+P) CONDITIONS

The E+P traffic conditions analysis includes the existing traffic volumes plus the addition of traffic generated by the proposed Project. In an effort to conduct a conservative analysis, a PCE value of 3.0 has been utilized for Project truck trips. The E+P traffic volumes, in actual vehicles, are

provided on Exhibit 7. Table 7 provides the intersection operations analysis for E+P traffic conditions.

TABLE 7: INTERSECTION OPERATIONS ANALYSIS FOR E+P CONDITIONS

			Existing (2022)						E+P						Difference			
			Delay[1] (secs.)		Volume-to-Capacity (V/C)		Level of Service		Delay[1] (secs.)		Volume-to-Capacity (V/C)		Level of Service		Delay[1] (secs.)		Volume-to-Capacity (V/C)	
#	Intersection	Traffic Control[2]	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Knott St. & Lampson Av.	TS	--	--	0.655	0.581	B	A	--	--	0.655	0.581	B	A	--	--	0.000	0.000
2	Knott St. & Stanford Av.	TS	--	--	0.554	0.446	A	A	--	--	0.555	0.446	A	A	--	--	0.001	0.000
3	Knott St. & SR-22 WB On-Ramp/Acacia Av.	TS	--	--	0.606	0.619	B	B	--	--	0.608	0.630	B	B	--	--	0.002	0.011
4	Knott St. & Garden Grove Bl.	TS	--	--	0.894	**1.073**	D	**F**	--	--	0.895	**1.079**	D	**F**	--	--	0.001	0.006
5	Industry St. & Lampson Av.	CSS	15.2	12.3	--	--	C	B	15.3	12.4	--	--	C	B	0.1	0.1	--	--
6	Pala Dr. & Acacia Av.	CSS	9.1	9.7	--	--	A	A	9.1	9.7	--	--	A	A	0.0	0.0	--	--

[1] **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

[2] TS = Traffic Signal; CSS = Cross-street Stop

As shown in Table 7, there are no additional study area intersections anticipated to operate at an unacceptable LOS during the peak hours. The intersection operations analysis worksheets for E+P conditions are provided in Attachment D.

TRAFFIC SIGNAL WARRANT ANALYSIS.

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or determine the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This traffic assessment uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD).

There are currently no unsignalized study area intersections that currently meet a traffic signal warrant under Existing (2022) traffic conditions (see Attachment E). With the addition of Project traffic, there are no unsignalized study area intersections that are anticipated to meet a traffic signal warrant under E+P traffic conditions (see Attachment F).

DEFICIENCIES AND IMPROVEMENTS

Per the City of Garden Grove traffic study guidelines, signalized intersections require improvements if one of the following conditions is met:

- The addition of project traffic to an intersection results in the degradation of intersection operations from acceptable operations (LOS D or better to unacceptable operations (LOS E or F).
- The project-related increase in volume-to-capacity ratio (V/C) is equal to or greater than 0.010 at an intersection that is already operating at LOS E or F.

Unsignalized study area intersections require improvements if both of the following conditions are met:

- The addition of project traffic to an intersection results in the degradation of overall intersection operations from acceptable operations (LOS D or better) to unacceptable operations (LOS E or F), and
- The intersection meets peak hour signal warrants either caused by project volumes, or project volumes are added at an intersection that meets peak hour signal warrants in the baseline scenario(s). Peak hour signal warrants should be determined based on the latest CA MUTCD.

As shown in Table 7, the intersection of Knott Street & Garden Grove Boulevard (#4) currently operates at an unacceptable LOS during the peak hours and is anticipated to continue to operate at an unacceptable LOS during the peak hours with the addition of Project traffic. However, the volume-to-capacity does not increase by more than 0.010. The intersection of Knott Street & Garden Grove Boulevard (#4) does not meet this criterion based on the change in v/c between the Existing and E+P traffic conditions. As such, no intersection improvements have been identified for this deficient intersection per the City of Garden Grove traffic study guidelines.

CONCLUSION

Although the intersection of Knott Street & Garden Grove Boulevard (#4) currently operates and is anticipated to operate at an unacceptable LOS during the peak hours under both Existing (2022) and E+P traffic conditions, the proposed Project does not increase the volume-to-capacity ratio to the City's threshold. Therefore, no intersection improvements have been identified.

If you have any questions or comments, I can be reached at (916) 806-8326.

Respectfully submitted,

URBAN CROSSROADS, INC.

Connor Paquin, PE
Transportation Engineer

EXHIBIT 1: SITE MAP

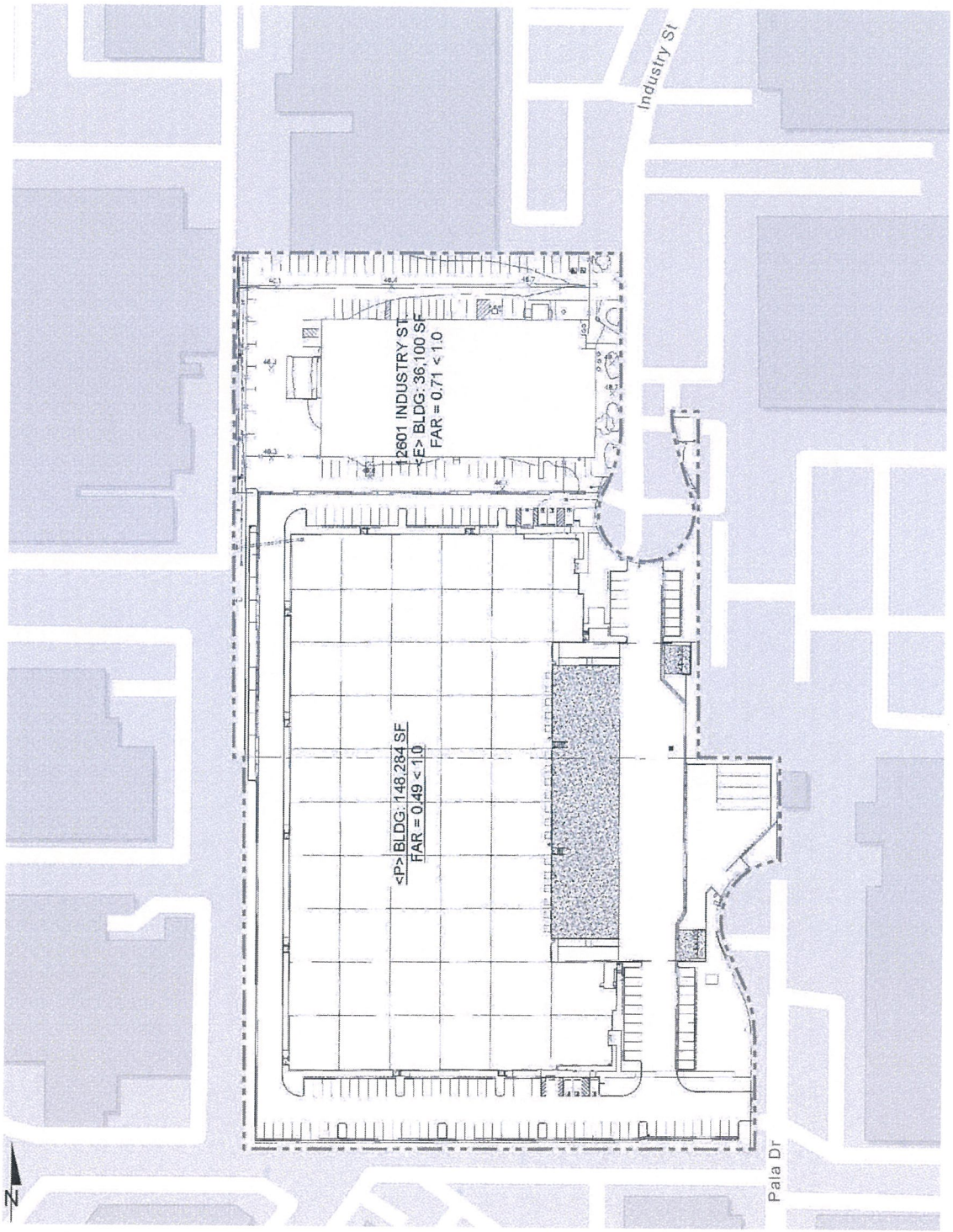


EXHIBIT 2: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION

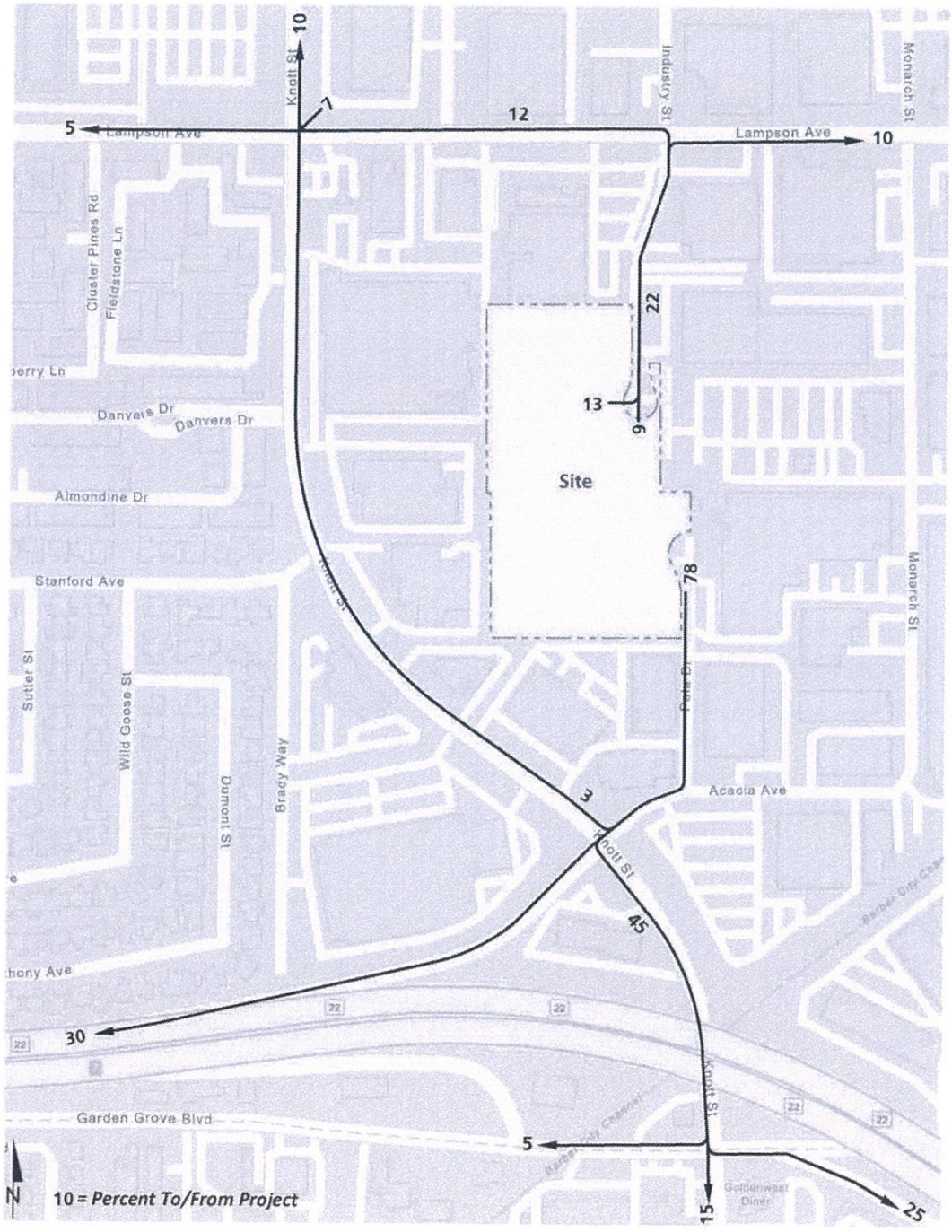


EXHIBIT 3: PROJECT (TRUCK) TRIP DISTRIBUTION

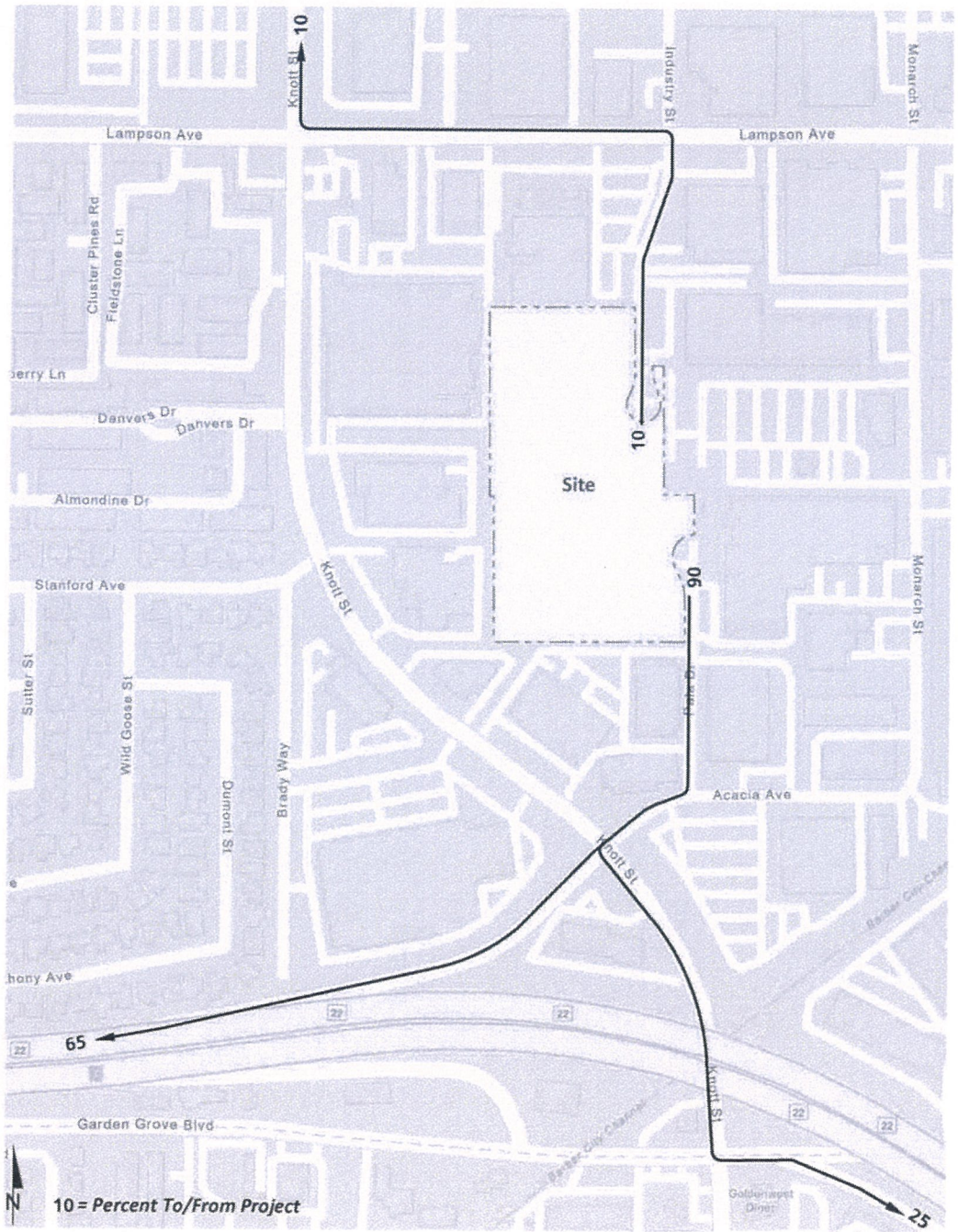


EXHIBIT 4: STUDY AREA

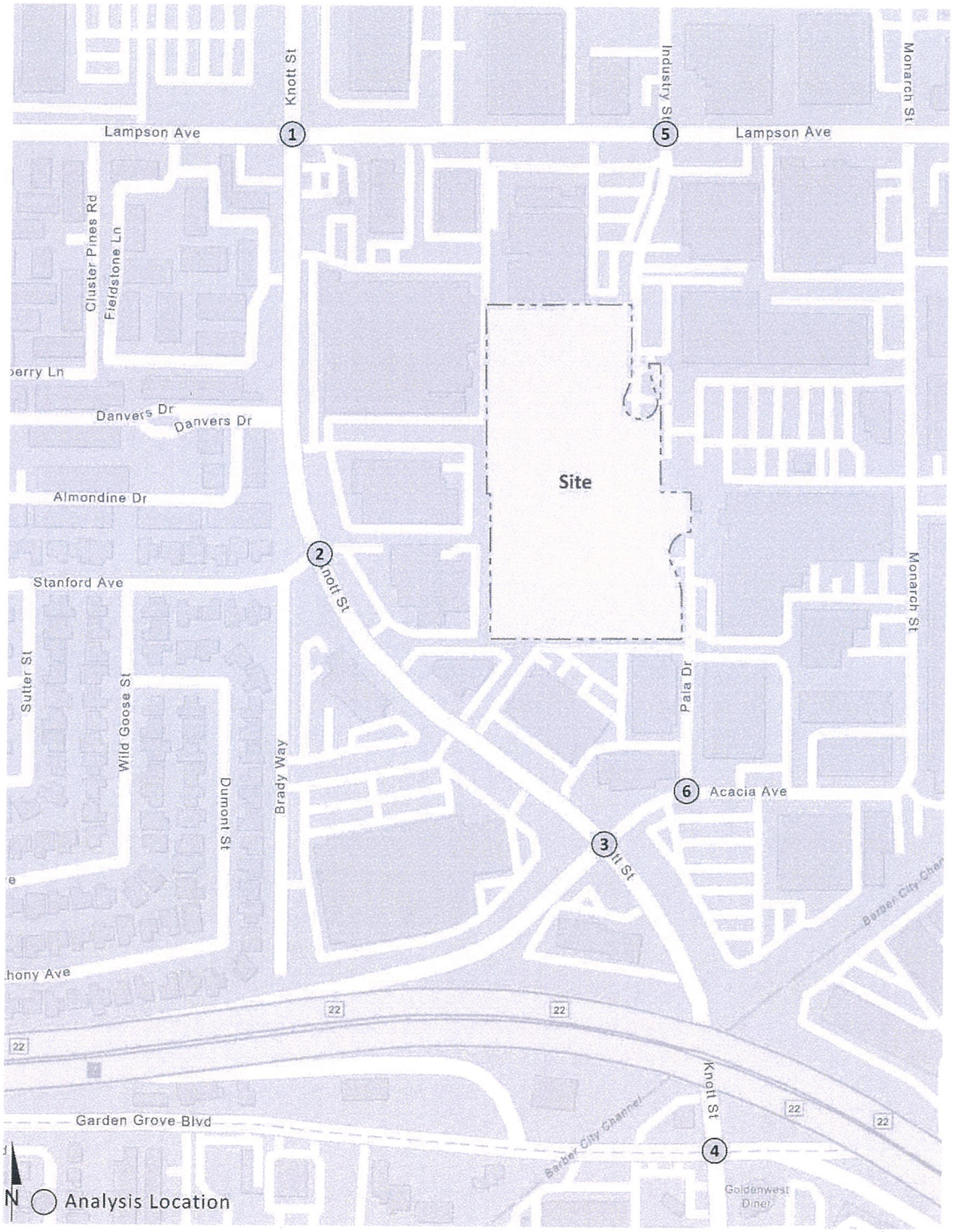
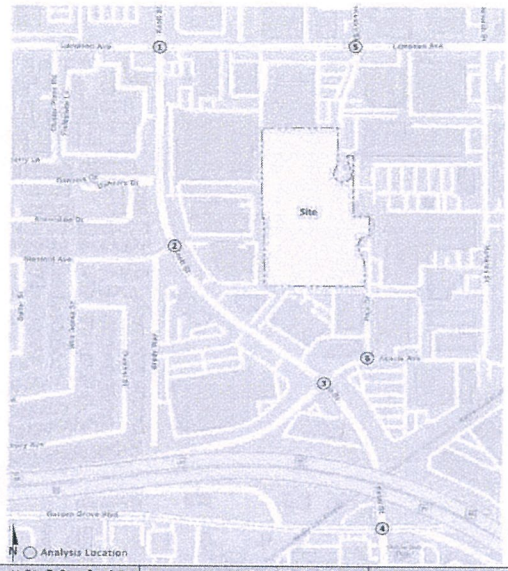


EXHIBIT 5: PROJECT ONLY TRAFFIC VOLUMES



1 Knott St. & Lampson Av.

Nominal

1(0) 2(0) ← 0(2) ← 0(1)

1(0) → 0(1) →

2 Knott St. & Stanford Av.

1(0) ↓

0(1) →

3 Knott St. & SR-22 WB On-Ramp/Acacia Av.

150

1(0) ← 0(1) ← 2(8) ↰ 2(11)

20(4) ↱

Nominal *150*

4 Knott St. & Garden Grove Bl.

150 *100*

0(1) 0(4) 1(6) ← 15(3)

1(0) → 4(1) →

Nominal

5 Industry St. & Lampson Av.

↰ 3(0)

3(1) → 0(3) ↰ 0(2) ↱

Nominal *Nominal*

6 Pala Dr. & Acacia Av.

150

3(20) ↓

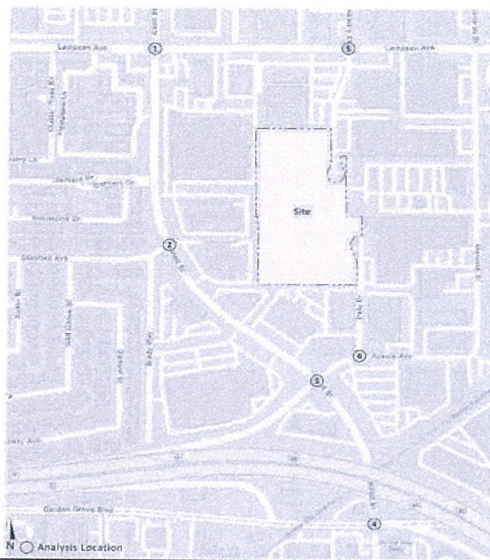
21(4) →

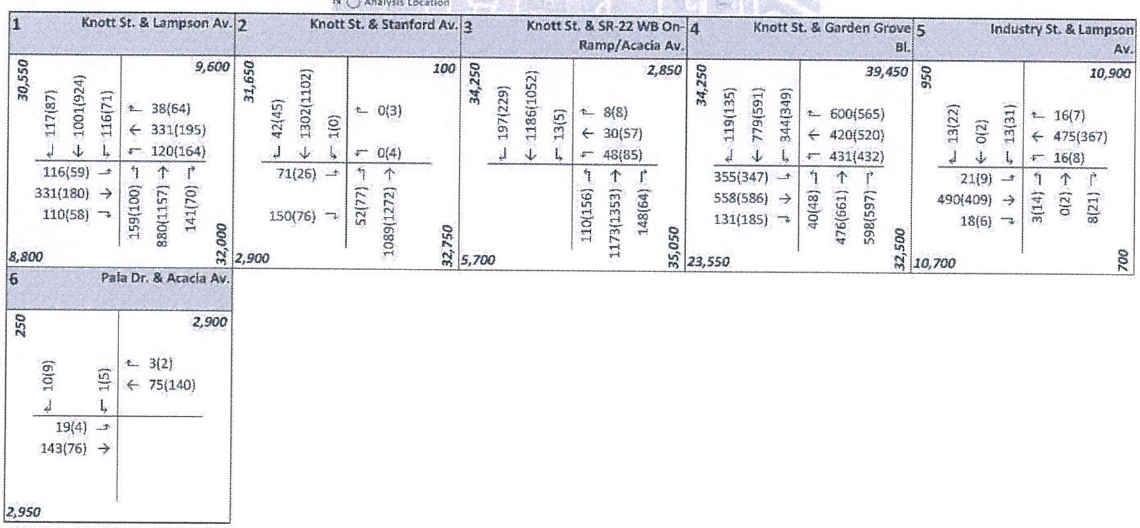
150

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

EXHIBIT 6: EXISTING (2022) TRAFFIC VOLUMES

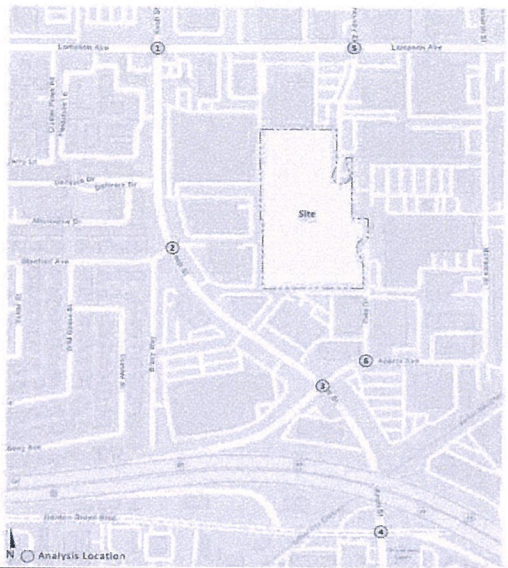



1 Knott St. & Lampson Av.
30,550
9,600
117(87)
1001(924)
116(71)
38(64)
331(195)
120(164)
116(59)
331(180)
110(58)
159(100)
880(1157)
141(70)
8,800
32,000
2 Knott St. & Stanford Av.
31,650
100
42(45)
1302(1102)
1(0)
0(3)
0(4)
71(26)
150(76)
52(77)
1089(1272)
2,900
32,750
3 Knott St. & SR-22 WB On-Ramp/Acacia Av.
34,250
2,850
197(229)
1186(1052)
13(5)
8(8)
30(57)
48(85)
110(156)
1173(1353)
148(64)
5,700
35,050
4 Knott St. & Garden Grove Bl.
34,250
39,450
119(135)
779(591)
344(349)
600(565)
420(520)
431(432)
355(347)
558(586)
131(185)
40(48)
476(661)
598(597)
23,550
32,500
5 Industry St. & Lampson Av.
950
10,900
13(22)
0(2)
13(31)
16(7)
475(367)
16(8)
21(9)
490(409)
18(6)
3(14)
0(2)
8(21)
10,700
700
6 Pala Dr. & Acacia Av.
250
2,900
10(9)
1(5)
3(2)
75(140)
19(4)
143(76)
2,950

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

EXHIBIT 6: E+P TRAFFIC VOLUMES



1 Knott St. & Lampson Av.

30,550 — 9,650

117(87) ↲	1002(924) ←	118(71) ↳
116(59) →		38(66) ↱
332(180) →		331(196) ←
110(58) ↴		120(164) ↰
	159(100) ↴	880(1158) ↑ 141(70) ↱

8,800 — 32,000

2 Knott St. & Stanford Av.

31,650 — 100

42(45) ↲	1303(1102) ←	1(0) ↳
71(26) →		0(3) ↱
		0(4) ↰
150(76) ↴		52(77) ↑ 1089(1273) →

2,900 — 32,750

3 Knott St. & SR-22 WB On-Ramp/Acacia Av.

34,250 — 3,000

197(229) ↲	1186(1052) ←	14(5) ↳
		8(9) ↱
		32(65) ←
		50(96) ↰
	110(156) ↴	1173(1353) ↑ 168(68) ↱

5,750 — 35,200

4 Knott St. & Garden Grove Bl.

34,400 — 39,500

119(136) ↲	779(595) ←	345(355) ↳
356(347) →		615(568) ↱
558(586) →		420(520) ←
131(185) ↴		431(432) ↰
	40(48) ↴	480(662) ↑ 598(597) ↱

23,550 — 32,550

5 Industry St. & Lampson Av.

950 — 10,900

13(22) ↲	0(2) ←	13(31) ↳
21(9) →		16(7) ↱
490(409) →		475(367) ←
21(7) ↴		19(8) ↰
	3(17) ↴	0(2) ↑ 8(23) ↱

10,700 — 750

6 Pala Dr. & Acacia Av.

450 — 2,900

13(29) ↲	1(5) ↳	3(2) ←
40(8) →		75(140) ←
143(76) →		

3,150

##(##) AM(PM) Peak Hour Intersection Volumes
Average Daily Trips

ATTACHMENT A

EXISTING SITE COUNTS

City: Garden Grove
Location: 12691 Pala Dr - TOTAL
Date: 3/2/2022
Count Type: Driveway Classification Count

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	0	0	0	0	0
4:00	0	0	0	0	0
4:15	0	0	0	0	0
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	0	0	0	0	0
5:15	0	0	0	0	0
5:30	1	0	0	0	1
5:45	1	0	0	1	2
6:00	0	0	0	0	0
6:15	1	0	0	0	1
6:30	0	0	0	0	0
6:45	0	0	0	0	0
7:00	3	0	0	0	3
7:15	0	0	0	0	0
7:30	0	0	0	0	0
7:45	0	0	0	0	0
8:00	0	0	0	0	0
8:15	0	0	0	1	1
8:30	1	0	0	1	2
8:45	0	0	0	0	0
9:00	1	0	0	0	1
9:15	0	0	0	0	0
9:30	0	0	0	0	0
9:45	0	0	0	0	0
10:00	0	0	0	0	0
10:15	0	0	0	0	0
10:30	1	0	0	0	1
10:45	0	0	0	0	0
11:00	0	0	0	0	0
11:15	0	0	0	0	0
11:30	0	0	0	0	0
11:45	0	0	0	0	0

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	0	0	0	0	0
4:00	0	0	0	0	0
4:15	0	0	0	0	0
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	0	0	0	0	0
5:15	0	0	0	0	0
5:30	0	0	0	0	0
5:45	0	0	0	0	0
6:00	0	0	0	0	0
6:15	0	0	0	0	0
6:30	0	0	0	0	0
6:45	0	0	0	0	0
7:00	0	0	0	1	1
7:15	0	0	0	0	0
7:30	0	0	0	0	0
7:45	0	0	0	0	0
8:00	0	0	0	0	0
8:15	0	0	0	0	0
8:30	1	0	0	0	1
8:45	0	0	0	0	0
9:00	0	0	0	0	0
9:15	0	0	0	0	0
9:30	0	0	0	0	0
9:45	0	0	0	0	0
10:00	1	0	0	0	1
10:15	0	0	0	0	0
10:30	0	0	0	0	0
10:45	1	0	0	0	1
11:00	0	1	0	0	1
11:15	0	0	0	0	0
11:30	1	0	0	0	1
11:45	0	0	0	0	0

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

City:	Garden Grove
Location:	12691 Pala Dr - TOTAL
Date:	3/2/2022
Count Type:	Driveway Classification Count

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	2	0	0	0	2
12:15	0	0	0	0	0
12:30	0	0	0	0	0
12:45	0	0	0	0	0
13:00	1	0	0	0	1
13:15	1	0	0	0	1
13:30	0	1	0	0	1
13:45	0	0	0	0	0
14:00	0	0	0	0	0
14:15	0	0	0	0	0
14:30	0	0	0	0	0
14:45	0	0	0	0	0
15:00	0	0	0	0	0
15:15	0	0	0	0	0
15:30	0	0	0	0	0
15:45	0	0	0	0	0
16:00	0	0	0	0	0
16:15	0	0	0	0	0
16:30	1	0	0	1	2
16:45	0	0	0	0	0
17:00	0	0	0	0	0
17:15	0	0	0	0	0
17:30	0	0	0	0	0
17:45	0	0	0	0	0
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	0	0	0	0	0
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	2	0	0	0	2
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	0	0	0	0	0
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	0	0	0	0	0
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
TOTAL	**16**	**1**	**0**	**4**	**21**

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	0	0	0	1	1
12:15	0	1	0	0	1
12:30	0	0	0	0	0
12:45	1	0	0	0	1
13:00	0	0	0	0	0
13:15	1	0	0	0	1
13:30	0	0	0	0	0
13:45	0	1	0	0	1
14:00	0	0	0	0	0
14:15	0	0	0	0	0
14:30	0	0	0	0	0
14:45	0	0	0	0	0
15:00	0	0	0	0	0
15:15	1	0	0	0	1
15:30	0	0	0	0	0
15:45	0	0	0	0	0
16:00	0	0	0	0	0
16:15	0	0	0	0	0
16:30	1	0	0	0	1
16:45	0	0	0	1	1
17:00	0	0	0	0	0
17:15	0	0	0	0	0
17:30	2	0	0	0	2
17:45	1	0	0	0	1
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	0	0	0	0	0
19:45	2	0	0	0	2
20:00	0	0	0	0	0
20:15	2	0	0	0	2
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	0	0	0	0	0
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	0	0	0	0	0
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
	15	**3**	**0**	**3**	**21**

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

City: Garden Grove
Location: 12691 Pala Dr - TOTAL
Date: 3/3/20222
Count Type: Driveway Classification Count

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	0	0	0	0	0
4:00	0	0	0	0	0
4:15	0	0	0	0	0
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	0	0	0	0	0
5:15	1	0	0	0	1
5:30	0	0	0	0	0
5:45	1	0	0	0	1
6:00	0	0	0	0	0
6:15	0	0	0	0	0
6:30	0	0	0	0	0
6:45	0	0	0	0	0
7:00	0	0	1	0	1
7:15	0	0	0	0	0
7:30	0	0	0	0	0
7:45	0	0	0	0	0
8:00	1	0	0	0	1
8:15	2	0	0	0	2
8:30	0	0	0	0	0
8:45	1	0	0	0	1
9:00	0	0	1	0	1
9:15	0	0	0	0	0
9:30	0	1	0	0	1
9:45	0	0	0	0	0
10:00	0	0	0	0	0
10:15	0	0	0	0	0
10:30	0	0	0	0	0
10:45	0	2	0	0	2
11:00	0	1	0	0	1
11:15	0	0	0	0	0
11:30	0	0	0	0	0
11:45	0	0	0	0	0

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	0	0	0	0	0
4:00	0	0	0	0	0
4:15	0	0	0	0	0
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	0	0	0	0	0
5:15	1	0	0	0	1
5:30	0	0	0	0	0
5:45	1	0	0	0	1
6:00	0	0	0	0	0
6:15	0	0	0	0	0
6:30	0	0	0	0	0
6:45	0	0	0	0	0
7:00	0	0	1	0	1
7:15	0	0	0	0	0
7:30	0	0	0	0	0
7:45	0	0	0	0	0
8:00	1	0	0	0	1
8:15	2	0	0	0	2
8:30	0	0	0	0	0
8:45	1	0	0	0	1
9:00	0	0	1	0	1
9:15	0	0	0	0	0
9:30	0	1	0	0	1
9:45	0	0	0	0	0
10:00	0	0	0	0	0
10:15	0	0	0	0	0
10:30	0	0	0	0	0
10:45	0	2	0	0	2
11:00	0	1	0	0	1
11:15	0	0	0	0	0
11:30	0	0	0	0	0
11:45	0	0	0	0	0

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

City: Garden Grove
Location: 12691 Pala Dr - TOTAL
Date: 3/3/20222
Count Type: Driveway Classification Count

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	1	0	0	0	1
12:15	0	0	0	0	0
12:30	0	0	0	0	0
12:45	0	0	0	0	0
13:00	1	0	0	0	1
13:15	0	0	0	0	0
13:30	0	1	0	0	1
13:45	0	0	0	0	0
14:00	0	0	0	0	0
14:15	0	0	0	0	0
14:30	1	0	0	0	1
14:45	1	0	0	0	1
15:00	0	1	0	0	1
15:15	1	0	0	0	1
15:30	0	0	0	0	0
15:45	0	0	0	0	0
16:00	0	0	0	0	0
16:15	0	0	0	0	0
16:30	0	0	0	0	0
16:45	0	0	0	0	0
17:00	0	0	0	0	0
17:15	0	0	0	0	0
17:30	2	0	0	0	2
17:45	0	0	0	0	0
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	0	0	0	0	0
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	1	0	0	0	1
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	0	0	0	0	0
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
TOTAL	14	6	2	0	22

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	1	0	0	0	1
12:15	0	0	0	0	0
12:30	0	0	0	0	0
12:45	0	0	0	0	0
13:00	1	0	0	0	1
13:15	0	0	0	0	0
13:30	0	1	0	0	1
13:45	0	0	0	0	0
14:00	0	0	0	0	0
14:15	0	0	0	0	0
14:30	1	0	0	0	1
14:45	1	0	0	0	1
15:00	0	1	0	0	1
15:15	1	0	0	0	1
15:30	0	0	0	0	0
15:45	0	0	0	0	0
16:00	0	0	0	0	0
16:15	0	0	0	0	0
16:30	0	0	0	0	0
16:45	0	0	0	0	0
17:00	0	0	0	0	0
17:15	0	0	0	0	0
17:30	2	0	0	0	2
17:45	0	0	0	0	0
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	0	0	0	0	0
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	1	0	0	0	1
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	0	0	0	0	0
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
	14	6	2	0	22

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

ATTACHMENT B
EXISTING TRAFFIC COUNTS

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Tuesday, May 24, 2022 **CITY:** Garden Grove

JOB #: SC3466 **LOCATION:** Knott south of Acacia

AM TIME	1	2	3	4	TOTAL	PM Time	1	2	3	4	TOTAL
0:00	34	0	0	1	35	12:00	203	33	4	3	243
0:15	35	0	1	1	37	12:15	226	32	6	8	272
0:30	33	0	0	1	34	12:30	234	60	6	8	308
0:45	24	0	0	0	24	12:45	233	33	0	5	271
1:00	27	3	0	1	31	13:00	200	48	5	11	264
1:15	21	1	0	0	22	13:15	243	33	4	10	290
1:30	25	2	1	0	28	13:30	256	40	2	5	303
1:45	28	0	0	0	28	13:45	291	34	4	10	339
2:00	19	1	0	1	21	14:00	242	46	4	6	298
2:15	24	0	0	0	24	14:15	282	41	6	4	333
2:30	23	1	0	1	25	14:30	314	44	1	5	364
2:45	31	1	0	0	32	14:45	329	41	4	10	384
3:00	33	1	0	3	37	15:00	322	34	1	5	362
3:15	33	2	0	1	36	15:15	327	45	5	5	382
3:30	63	1	2	2	68	15:30	324	28	4	7	363
3:45	82	2	0	1	85	15:45	330	28	9	5	372
4:00	41	0	0	1	42	16:00	303	19	6	9	337
4:15	48	3	2	2	55	16:15	378	26	8	1	413
4:30	118	3	0	1	122	16:30	300	21	6	2	329
4:45	139	5	0	2	146	16:45	354	18	7	5	384
5:00	70	4	1	2	77	17:00	343	17	3	3	366
5:15	104	5	0	0	109	17:15	388	20	8	7	423
5:30	186	8	1	2	197	17:30	351	14	4	1	370
5:45	247	7	2	5	261	17:45	351	9	6	6	372
6:00	178	10	0	5	193	18:00	298	12	4	1	315
6:15	183	35	2	3	223	18:15	275	15	4	2	296
6:30	221	25	4	5	255	18:30	294	14	1	2	311
6:45	281	31	3	2	317	18:45	238	11	1	4	254
7:00	210	32	8	9	259	19:00	231	7	2	3	243
7:15	267	19	3	8	297	19:15	223	6	4	0	233
7:30	340	19	2	5	366	19:30	175	6	0	0	181
7:45	381	38	1	5	425	19:45	181	8	1	1	191
8:00	308	27	4	4	343	20:00	176	5	0	0	181
8:15	284	29	1	9	323	20:15	169	4	2	2	177
8:30	238	20	6	11	275	20:30	155	6	3	0	164
8:45	202	25	2	12	241	20:45	123	6	0	1	130
9:00	229	25	4	6	264	21:00	144	3	0	0	147
9:15	200	34	3	14	251	21:15	149	2	0	1	152
9:30	195	37	4	9	245	21:30	126	2	0	0	128
9:45	186	35	9	6	236	21:45	111	3	0	1	115
10:00	168	25	5	8	206	22:00	104	1	0	0	105
10:15	206	26	6	8	246	22:15	80	2	1	0	83
10:30	175	36	7	12	230	22:30	90	1	0	1	92
10:45	186	28	3	9	226	22:45	72	2	0	1	75
11:00	203	22	4	9	238	23:00	89	1	5	0	95
11:15	194	40	7	8	249	23:15	56	1	0	1	58
11:30	211	40	7	4	262	23:30	47	1	1	0	49
11:45	243	28	7	11	289	23:45	56	1	1	1	59
TOTAL	6,977	736	112	210	8,035	TOTAL	10,786	884	143	163	11,976

AM PEAK HOUR	7:30 AM
AM PEAK VOLUME	1,457

AM PEAK HOUR	4:45 PM
AM PEAK VOLUME	1,543

CLASS 1	PASSENGER VEHICLES
CLASS 2	2-AXLE TRUCKS
CLASS 3	3-AXLE TRUCKS
CLASS 4	4 OR MORE AXLE TRUCKS

TOTAL: AM+PM	17,763	1,620	255	373	20,011
% OF TOTAL	88.8%	8.1%	1.3%	1.9%	100.0%
TOTAL: ALL	31,499	2,571	388	591	35,049
% OF TOTAL	89.9%	7.3%	1.1%	1.7%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Tuesday, May 24, 2022
JOB #: SC3466
CITY: Garden Grove
LOCATION: Knott south of Acacia

AM TIME	1	2	3	4	TOTAL	PM Time	1	2	3	4	TOTAL
0:00	34	0	0	0	34	12:00	175	19	3	7	204
0:15	24	2	0	0	26	12:15	146	25	3	6	180
0:30	28	0	0	3	31	12:30	185	29	4	1	219
0:45	18	1	0	0	19	12:45	167	12	3	2	184
1:00	18	0	1	0	19	13:00	194	17	7	3	221
1:15	18	0	0	1	19	13:15	163	26	4	3	196
1:30	16	0	1	0	17	13:30	180	21	6	3	210
1:45	16	2	0	0	18	13:45	192	15	4	5	216
2:00	26	0	0	1	27	14:00	207	21	3	7	238
2:15	11	0	0	2	13	14:15	200	17	4	2	223
2:30	19	0	0	0	19	14:30	282	23	1	6	312
2:45	20	1	0	0	21	14:45	233	15	3	7	258
3:00	30	2	0	0	32	15:00	281	14	2	1	298
3:15	20	0	0	2	22	15:15	196	19	0	4	219
3:30	27	4	0	1	32	15:30	274	11	0	2	287
3:45	24	0	0	1	25	15:45	240	10	1	1	252
4:00	31	1	0	2	34	16:00	240	12	2	2	256
4:15	47	4	0	1	52	16:15	250	17	1	5	273
4:30	84	3	0	1	88	16:30	293	11	0	0	304
4:45	79	1	0	0	80	16:45	235	16	3	1	255
5:00	68	3	3	1	75	17:00	265	9	1	3	278
5:15	108	7	0	0	115	17:15	297	13	0	0	310
5:30	146	3	1	5	155	17:30	230	8	0	4	242
5:45	130	6	1	0	137	17:45	206	10	1	3	220
6:00	139	10	2	3	154	18:00	190	4	0	1	195
6:15	160	16	2	1	179	18:15	191	1	1	1	194
6:30	200	16	4	0	220	18:30	179	1	0	1	181
6:45	243	16	0	3	262	18:45	155	3	0	1	159
7:00	266	17	0	3	286	19:00	164	5	0	0	169
7:15	315	23	2	2	342	19:15	133	4	1	0	138
7:30	311	22	4	2	339	19:30	126	5	0	1	132
7:45	267	22	6	4	299	19:45	101	4	0	1	106
8:00	236	19	2	6	263	20:00	131	3	0	1	135
8:15	219	19	2	5	245	20:15	102	1	1	4	108
8:30	286	21	2	6	315	20:30	104	2	0	0	106
8:45	209	24	0	7	240	20:45	83	3	0	0	86
9:00	173	20	4	6	203	21:00	93	2	0	1	96
9:15	192	19	1	6	218	21:15	77	2	0	1	80
9:30	178	13	5	4	200	21:30	84	2	0	0	86
9:45	170	26	2	7	205	21:45	80	1	1	0	82
10:00	189	26	6	6	227	22:00	57	1	0	1	59
10:15	173	17	6	5	201	22:15	55	2	0	1	58
10:30	163	26	3	6	198	22:30	72	0	0	0	72
10:45	150	21	5	5	181	22:45	46	2	0	0	48
11:00	181	12	2	2	197	23:00	67	0	0	1	68
11:15	169	30	1	3	203	23:15	42	0	0	0	42
11:30	181	17	2	5	205	23:30	46	0	0	1	47
11:45	174	21	3	4	202	23:45	41	0	0	1	42
TOTAL	5,986	513	73	122	6,694	TOTAL	7,750	438	60	96	8,344

AM PEAK HOUR	7:00 AM
AM PEAK VOLUME	1,266

AM PEAK HOUR	4:30 PM
AM PEAK VOLUME	1,147

TOTAL: AM+PM	13,736	951	133	218	15,038
% OF TOTAL	91.3%	6.3%	0.9%	1.4%	100.0%

CLASS 1 PASSENGER VEHICLES
CLASS 2 2-AXLE TRUCKS
CLASS 3 3-AXLE TRUCKS
CLASS 4 4 OR MORE AXLE TRUCKS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC, tel: 714 253 7663 cs@aimtd.com

T42321

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
Tue, May 24, 22	NORTH & SOUTH:	Knott	LOCATION #:	1
	EAST & WEST:	Acacia	CONTROL:	SIGNAL

NOTES:

Queue 07:11-07:14, 07:24-07:26, 07:32-07:35, 07:42-08:03, 08:07, 08:33-08:51 SB AM; 16:15-16:19, 16:23-16:30, 16:36-16:39, 17:15-17:33, 17:45-17:48 SB PM.

N ▲ / ◄ W / E ► / S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Acacia - SR-22 WB Ramps)			WESTBOUND (Acacia - SR-22 WB Ramps)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL X	ET X	ER X	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	20	210	29	4	277	53	0	0	0	8	6	0	607
	7:15 AM	22	248	27	2	328	56	0	0	0	13	4	0	700
	7:30 AM	25	300	41	1	324	42	0	0	0	12	8	1	754
	7:45 AM	37	335	53	3	289	58	0	0	0	7	8	3	793
	8:00 AM	26	290	27	7	245	41	0	0	0	16	10	4	666
	8:15 AM	24	268	31	4	235	54	0	0	0	8	5	2	631
	8:30 AM	25	223	29	2	302	39	0	0	0	9	10	5	642
	8:45 AM	27	192	22	6	228	33	0	0	0	9	5	5	527
	VOLUMES	204	2,066	259	29	2,228	376	0	0	0	82	56	20	5,320
	APPROACH %	8%	82%	10%	1%	85%	14%	0%	0%	0%	52%	35%	13%	
	APP/DEPART	2,529	/	2,091	2,633	/	2,329	0	/	283	158	/	617	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	110	1,173	148	13	1,186	197	0	0	0	48	30	8	2,913
	APPROACH %	8%	82%	10%	1%	85%	14%	0%	0%	0%	56%	35%	9%	
	PEAK HR FACTOR		0.842			0.904			0.000			0.717		0.918
	APP/DEPART	1,431	/	1,184	1,396	/	1,243	0	/	158	86	/	328	0
PM	4:00 PM	43	279	15	3	230	68	0	0	0	23	19	3	679
	4:15 PM	33	362	18	5	254	58	0	0	0	15	9	4	758
	4:30 PM	38	272	19	2	266	64	0	0	0	36	21	3	721
	4:45 PM	32	332	20	1	240	48	0	0	0	13	13	1	700
	5:00 PM	43	314	9	2	254	64	0	0	0	21	9	3	719
	5:15 PM	36	374	13	0	292	53	0	0	0	15	14	1	798
	5:30 PM	31	328	11	0	225	49	0	0	0	16	5	2	667
	5:45 PM	29	325	18	2	213	31	0	0	0	5	11	3	637
	VOLUMES	285	2,586	123	15	1,974	435	0	0	0	144	97	20	5,679
	APPROACH %	10%	86%	4%	1%	81%	18%	0%	0%	0%	55%	37%	8%	
	APP/DEPART	2,994	/	2,609	2,424	/	2,138	0	/	135	261	/	797	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	149	1,292	61	5	1,052	229	0	0	0	85	57	8	2,938
	APPROACH %	10%	86%	4%	0%	82%	18%	0%	0%	0%	57%	38%	5%	
	PEAK HR FACTOR		0.888			0.932			0.000			0.625		0.920
	APP/DEPART	1,502	/	1,301	1,286	/	1,147	0	/	65	150	/	425	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
1	0	0	0	1
1	1	0	0	2
3	0	0	0	3
3	1	0	0	4
2	1	0	0	3
2	1	0	0	3
4	0	0	0	4
3	1	0	0	4
19	5	0	0	24

RTOR			
NRR 0	SRR 0	ERR X	WRR 0
6	17	0	0
5	22	0	0
7	9	0	0
7	15	0	1
2	14	0	2
6	10	0	0
2	4	0	4
1	1	0	3
36	95	0	11

21	60	0	4

3	0	0	0
4	1	0	0
2	0	0	0
2	1	0	0
3	0	0	0
3	0	0	0
1	0	0	0
2	1	0	0
23	3	0	0

0	9	0	1
0	2	0	3
4	7	0	1
1	7	0	0
2	13	0	2
0	3	0	0
0	1	0	1
1	0	0	3
8	42	0	12

7	30	0	4

Knott

NORTH SIDE

Acacia — WEST SIDE — EAST SIDE — Acacia

SOUTH SIDE

Knott

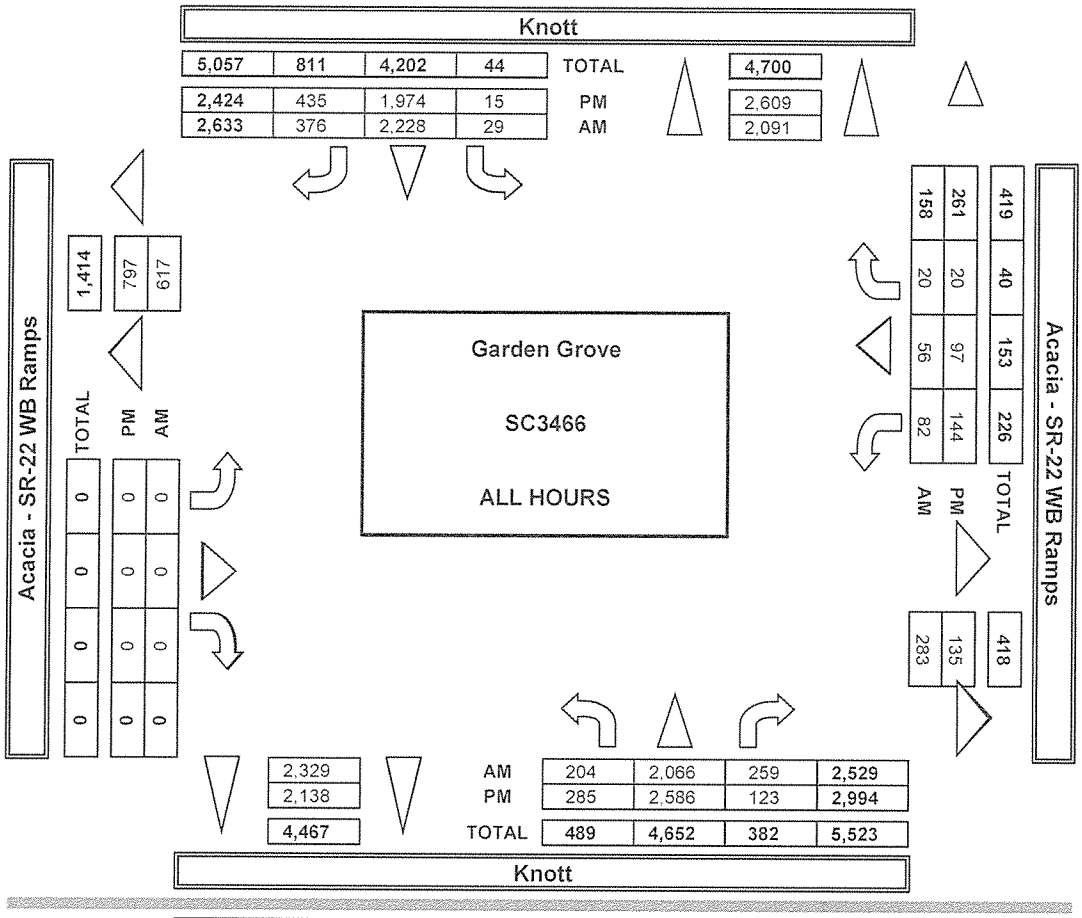
		ALL PED AND BIKE				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	1	1	0	0	2
	7:15 AM	0	1	0	0	1
	7:30 AM	0	0	0	0	0
	7:45 AM	1	0	0	0	1
	8:00 AM	0	0	0	0	0
	8:15 AM	1	0	0	1	2
	8:30 AM	2	0	0	0	2
	8:45 AM	0	0	0	0	0
	TOTAL	5	2	0	1	8
PM	4:00 PM	0	2	0	0	2
	4:15 PM	0	1	0	0	1
	4:30 PM	1	2	0	1	4
	4:45 PM	1	1	0	1	3
	5:00 PM	1	1	0	0	2
	5:15 PM	0	3	0	0	3
	5:30 PM	0	1	0	0	1
	5:45 PM	0	0	0	0	0
	TOTAL	3	11	0	2	16

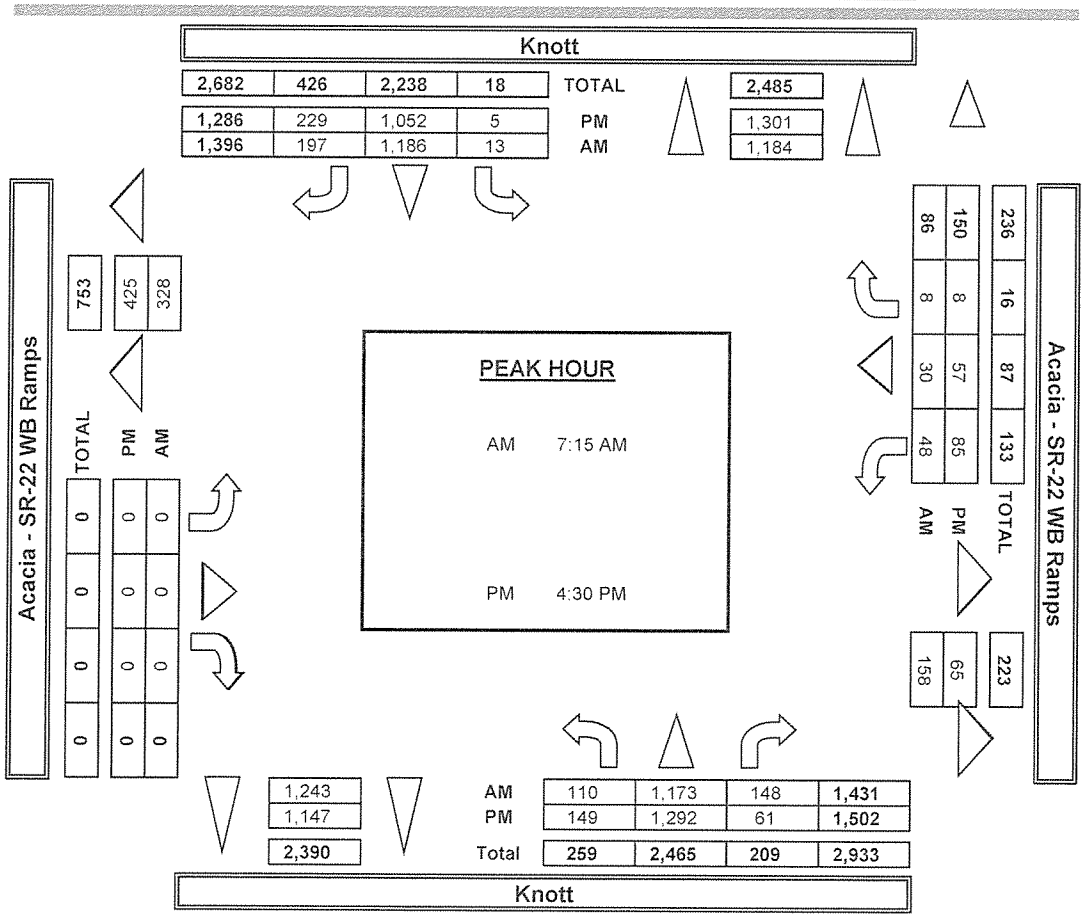
PEDESTRIAN CROSSINGS				
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
2	0	0	0	2
0	2	0	0	2
0	1	0	0	1
0	0	0	0	0
0	1	0	0	1
1	1	0	0	2
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
1	6	0	0	7

BICYCLE CROSSINGS				
ES	WS	SS	NS	TOTAL
0	1	0	0	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	1	2
2	0	0	0	2
0	0	0	0	0
3	2	0	1	6
0	0	0	0	0
0	0	0	0	0
1	3	0	1	4
1	0	0	1	2
0	0	0	0	0
0	3	0	0	3
0	0	0	0	0
0	0	0	0	0
2	5	0	2	9

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:					
5/24/22	LOCATION:	Garden Grove	PROJECT #:	SC3466	
TUESDAY	NORTH & SOUTH:	Knott	LOCATION #:	1	
	EAST & WEST:	Acacia	CONTROL:	SIGNAL	

CLASS 1: PASSENGER VEHICLES

NOTES:

N ▲ ◄ W E ► S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Acacia)			WESTBOUND (Acacia)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL X	ET X	ER X	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	18	168	24	4	259	43	0	0	0	6	3	0	525
	7:15 AM	16	227	24	1	305	43	0	0	0	9	3	0	628
	7:30 AM	20	282	38	1	299	28	0	0	0	9	7	1	685
	7:45 AM	28	305	48	2	258	49	0	0	0	7	8	3	708
	8:00 AM	23	260	25	7	220	32	0	0	0	14	3	2	586
	8:15 AM	22	232	30	4	212	41	0	0	0	5	5	1	552
	8:30 AM	16	198	23	2	277	27	0	0	0	5	5	5	558
	8:45 AM	23	161	18	5	199	25	0	0	0	7	4	5	447
	VOLUMES	166	1,833	230	26	2,029	288	0	0	0	62	38	17	4,689
	APPROACH %	7%	82%	10%	1%	87%	12%	0%	0%	0%	53%	32%	15%	
	APP/DEPART	2,229	/	1,853	2,343	/	2,108	0	/	253	117	/	475	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	79	1,074	135	10	1,082	152	0	0	0	39	21	6	2,607
	APPROACH %	6%	83%	10%	1%	87%	12%	0%	0%	0%	59%	32%	9%	
	PEAK HR FACTOR		0.850			0.892			0.000			0.868		0.921
	APP/DEPART	1,296	/	1,081	1,245	/	1,129	0	/	145	66	/	252	0
PM	4:00 PM	41	249	13	3	218	63	0	0	0	19	15	3	624
	4:15 PM	29	334	15	5	231	51	0	0	0	15	7	4	691
	4:30 PM	37	250	13	2	256	54	0	0	0	36	19	3	670
	4:45 PM	30	307	17	1	222	47	0	0	0	11	12	0	647
	5:00 PM	43	293	7	2	242	60	0	0	0	20	8	3	678
	5:15 PM	31	345	12	0	280	51	0	0	0	15	14	1	749
	5:30 PM	31	310	10	0	214	48	0	0	0	15	5	2	635
	5:45 PM	27	306	18	2	199	29	0	0	0	5	11	3	600
	VOLUMES	269	2,394	105	15	1,862	403	0	0	0	136	91	19	5,294
	APPROACH %	10%	86%	4%	1%	82%	18%	0%	0%	0%	55%	37%	8%	
	APP/DEPART	2,768	/	2,416	2,280	/	2,016	0	/	117	246	/	745	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	133	1,195	49	4	1,000	212	0	0	0	82	53	7	2,744
	APPROACH %	10%	86%	4%	0%	82%	17%	0%	0%	0%	58%	37%	5%	
	PEAK HR FACTOR		0.892			0.919			0.000			0.612		0.916
	APP/DEPART	1,385	/	1,203	1,217	/	1,090	0	/	53	142	/	398	0

U-TURNS

NB	SB	EB	WB	TTL
1	0	0	0	1
1	0	0	0	1
3	0	0	0	3
2	0	0	0	2
2	1	0	0	3
2	1	0	0	3
3	0	0	0	3
3	1	0	0	4
17	3	0	0	20

NB	SB	EB	WB	TTL
3	0	0	0	3
4	1	0	0	5
1	0	0	0	1
2	1	0	0	3
3	0	0	0	3
2	0	0	0	2
1	0	0	0	1
2	1	0	0	3
18	3	0	0	21

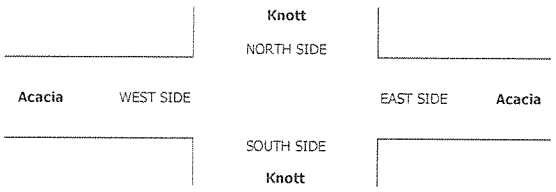
RTOR

NRR 0	SRR 0	ERR X	WRR 0
6	13	0	0
4	18	0	0
6	6	0	0
6	12	0	1
2	12	0	2
6	10	0	0
1	3	0	4
1	1	0	3
32	75	0	10

18	48	0	3

0	8	0	1
0	2	0	3
1	7	0	1
0	7	0	0
2	13	0	3
0	3	0	0
0	1	0	1
1	0	0	3
4	41	0	12

3	30	0	4



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Knott	LOCATION #:	1
TUESDAY	EAST & WEST:	Acacia	CONTROL:	SIGNAL

CLASS 2:	NOTES:
2-AXLE WORK VEHICLES/ TRUCKS	

▲ N ◄ W E ► S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Acacia)			WESTBOUND (Acacia)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL X	ET X	ER X	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	2	23	4	0	13	8	0	0	0	2	2	0	54
	7:15 AM	4	10	2	1	18	10	0	0	0	3	1	0	49
	7:30 AM	5	10	2	0	19	10	0	0	0	2	1	0	49
	7:45 AM	8	25	4	1	20	7	0	0	0	0	0	0	65
	8:00 AM	2	21	1	0	15	9	0	0	0	2	6	2	58
	8:15 AM	0	27	1	0	16	12	0	0	0	3	0	1	60
	8:30 AM	2	14	4	0	16	10	0	0	0	4	4	0	54
	8:45 AM	4	19	2	1	22	6	0	0	0	2	1	0	57
	VOLUMES	27	149	20	3	139	72	0	0	0	18	15	3	446
	APPROACH %	14%	76%	10%	1%	65%	34%	0%	0%	0%	50%	42%	8%	
	APP/DEPART	196	/	154	214	/	158	0	/	21	36	/	113	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	18	66	9	0	72	36	0	0	0	7	8	2	221
	APPROACH %	19%	70%	10%	0%	65%	33%	0%	0%	0%	41%	47%	12%	
	PEAK HR FACTOR		0.635			0.948			0.000			0.425		0.850
	APP/DEPART	94	/	70	110	/	80	0	/	9	17	/	62	0
PM	4:00 PM	2	13	2	0	9	4	0	0	0	3	0	0	33
	4:15 PM	4	18	3	0	15	4	0	0	0	0	1	0	45
	4:30 PM	1	15	5	0	9	8	0	0	0	0	2	0	40
	4:45 PM	2	14	2	0	14	1	0	0	0	0	1	1	35
	5:00 PM	0	14	2	0	8	3	0	0	0	1	0	0	28
	5:15 PM	3	14	1	0	11	2	0	0	0	0	0	0	31
	5:30 PM	0	13	1	0	7	1	0	0	0	1	0	0	23
	5:45 PM	1	8	0	0	9	2	0	0	0	0	0	0	20
	VOLUMES	13	109	16	0	82	25	0	0	0	5	4	1	255
	APPROACH %	9%	79%	12%	0%	77%	23%	0%	0%	0%	50%	40%	10%	
	APP/DEPART	138	/	110	107	/	89	0	/	16	10	/	40	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	4	57	10	0	42	14	0	0	0	1	3	1	134
	APPROACH %	5%	78%	14%	0%	75%	25%	0%	0%	0%	20%	60%	20%	
	PEAK HR FACTOR		0.869			0.824			0.000			0.625		0.838
	APP/DEPART	73	/	58	56	/	45	0	/	10	5	/	21	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
1	1	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	2	0	0	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
2	0	0	0	2

RTOR

NRR 0	SRR 0	ERR X	WRR 0
0	3	0	0
1	4	0	0
1	2	0	0
1	3	0	0
0	2	0	1
0	3	0	0
1	1	0	0
0	0	0	0
4	18	0	1
3	11	0	1
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
3	1	0	0
3	0	0	0

Knott

NORTH SIDE

Acacia WEST SIDE EAST SIDE Acacia

SOUTH SIDE

Knott

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Knott	LOCATION #:	1
TUESDAY	EAST & WEST:	Acacia	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

N ▲ / ◄ W / E ► / S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Acacia)			WESTBOUND (Acacia)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL X	ET X	ER X	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	8	0	0	0	0	0	0	0	0	0	0	8
	7:15 AM	1	2	0	0	1	1	0	0	0	1	0	0	6
	7:30 AM	0	2	0	0	4	0	0	0	0	0	0	0	6
	7:45 AM	1	0	0	0	6	1	0	0	0	0	0	0	8
	8:00 AM	0	4	0	0	2	0	0	0	0	0	0	0	6
	8:15 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
	8:30 AM	3	3	0	0	2	0	0	0	0	0	1	0	9
	8:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
	VOLUMES	5	22	0	0	17	2	0	0	0	1	1	0	48
	APPROACH %	19%	81%	0%	0%	89%	11%	0%	0%	0%	50%	50%	0%	
	APP/DEPART	27	/	22	19	/	18	0	/	0	2	/	8	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	2	8	0	0	13	2	0	0	0	1	0	0	26
	APPROACH %	20%	80%	0%	0%	87%	13%	0%	0%	0%	100%	0%	0%	
	PEAK HR FACTOR	0.625			0.536			0.000			0.250			0.813
	APP/DEPART	10	/	8	15	/	14	0	/	0	1	/	4	0
PM	4:00 PM	0	6	0	0	1	0	0	0	0	1	0	0	8
	4:15 PM	0	8	0	0	1	2	0	0	0	0	0	0	11
	4:30 PM	0	5	1	0	0	0	0	0	0	0	0	0	6
	4:45 PM	0	7	0	0	2	0	0	0	0	1	0	0	10
	5:00 PM	0	3	0	0	1	0	0	0	0	0	0	0	4
	5:15 PM	2	6	0	0	0	0	0	0	0	0	0	0	8
	5:30 PM	0	4	0	0	0	0	0	0	0	0	0	0	4
	5:45 PM	0	6	0	0	1	0	0	0	0	0	0	0	7
	VOLUMES	2	45	1	0	6	2	0	0	0	2	0	0	58
	APPROACH %	4%	94%	2%	0%	75%	25%	0%	0%	0%	100%	0%	0%	
	APP/DEPART	48	/	45	8	/	8	0	/	1	2	/	4	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	2	21	1	0	3	0	0	0	0	1	0	0	28
	APPROACH %	8%	88%	4%	0%	100%	0%	0%	0%	0%	100%	0%	0%	
	PEAK HR FACTOR	0.750			0.375			0.000			0.250			0.700
	APP/DEPART	24	/	21	3	/	4	0	/	1	1	/	2	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

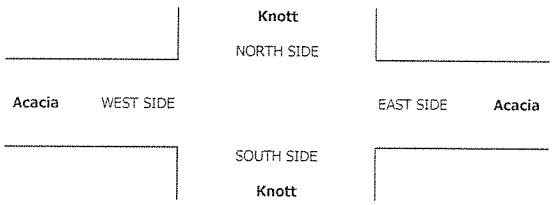
NRR 0	SRR 0	ERR X	WRR 0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Knott	LOCATION #:	1
TUESDAY	EAST & WEST:	Acacia	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

▲ N ◄ W E ► S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Acacia)			WESTBOUND (Acacia)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL X	ET X	ER X	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	8	1	0	3	2	0	0	0	0	1	0	15
	7:15 AM	1	6	1	0	2	2	0	0	0	0	0	0	12
	7:30 AM	0	4	1	0	1	4	0	0	0	1	0	0	11
	7:45 AM	0	4	1	0	4	1	0	0	0	0	0	0	10
	8:00 AM	1	2	1	0	6	0	0	0	0	0	1	0	11
	8:15 AM	2	7	0	0	5	1	0	0	0	0	0	0	15
	8:30 AM	1	8	2	0	6	2	0	0	0	0	0	0	19
	8:45 AM	0	10	2	0	7	2	0	0	0	0	0	0	21
	VOLUMES	5	49	9	0	34	14	0	0	0	1	2	0	114
	APPROACH %	8%	78%	14%	0%	71%	29%	0%	0%	0%	33%	67%	0%	
	APP/DEPART	63	/	49	48	/	35	0	/	9	3	/	21	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	2	16	4	0	13	7	0	0	0	1	1	0	44
	APPROACH %	9%	73%	18%	0%	65%	35%	0%	0%	0%	50%	50%	0%	
	PEAK HR FACTOR		0.688			0.833			0.000			0.500		0.917
	APP/DEPART	22	/	16	20	/	14	0	/	4	2	/	10	0
PM	4:00 PM	0	9	0	0	2	1	0	0	0	0	0	0	12
	4:15 PM	0	1	0	0	5	1	0	0	0	0	1	0	8
	4:30 PM	0	2	0	0	0	2	0	0	0	0	0	0	4
	4:45 PM	0	4	1	0	0	0	0	0	0	1	0	0	6
	5:00 PM	0	3	0	0	3	1	0	0	0	0	1	0	8
	5:15 PM	0	7	0	0	0	0	0	0	0	0	0	0	7
	5:30 PM	0	1	0	0	4	0	0	0	0	0	0	0	5
	5:45 PM	1	5	0	0	3	0	0	0	0	0	0	0	9
	VOLUMES	1	32	1	0	17	5	0	0	0	1	2	0	59
	APPROACH %	3%	94%	3%	0%	77%	23%	0%	0%	0%	33%	67%	0%	
	APP/DEPART	34	/	32	22	/	18	0	/	1	3	/	8	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	16	1	0	3	3	0	0	0	1	1	0	25
	APPROACH %	0%	94%	6%	0%	50%	50%	0%	0%	0%	50%	50%	0%	
	PEAK HR FACTOR		0.607			0.375			0.000			0.500		0.781
	APP/DEPART	17	/	16	6	/	4	0	/	1	2	/	4	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR 0	ERR X	WRR 0
0	1	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	2	0	0

0	1	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0

1	0	0	0

Knott

NORTH SIDE

Acacia WEST SIDE EAST SIDE Acacia

SOUTH SIDE

Knott

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Knott	LOCATION #:	1
TUESDAY	EAST & WEST:	Acacia	CONTROL:	SIGNAL

CLASS 5:	NOTES:
RV	

▲ N ◄ W E ► S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Acacia)			WESTBOUND (Acacia)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL X	ET X	ER X	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
	VOLUMES	0	0	0	0	1	0	0	0	0	0	0	0	1
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	1	/	1	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR 0	ERR X	WRR 0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

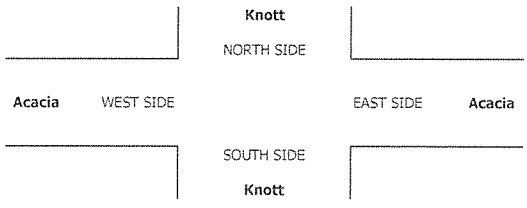
U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR 0	ERR X	WRR 0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Knott	LOCATION #:	1
TUESDAY	EAST & WEST:	Acacia	CONTROL:	SIGNAL

CLASS 6:	NOTES:
BUSES	

▲ N ◄ W E ► S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Acacia)			WESTBOUND (Acacia)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL X	ET X	ER X	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	3	0	0	2	0	0	0	0	0	0	0	5
	7:15 AM	0	3	0	0	2	0	0	0	0	0	0	0	5
	7:30 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
	7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
	8:00 AM	0	3	0	0	2	0	0	0	0	0	0	0	5
	8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
	8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	13	0	0	9	0	0	0	0	0	0	0	22
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	13	/	13	9	/	9	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	9	0	0	6	0	0	0	0	0	0	0	15
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.750			0.750			0.000			0.000		0.750
	APP/DEPART	9	/	9	6	/	6	0	/	0	0	/	0	0
PM	4:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
	4:15 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
	4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
	4:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
	5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	5:15 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	6	0	0	6	0	0	0	0	0	0	0	12
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	6	/	6	6	/	6	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	3	0	0	4	0	0	0	0	0	0	0	7
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.375			0.500			0.000			0.000		0.583
	APP/DEPART	3	/	3	4	/	4	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR 0	ERR X	WRR 0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

Knott

NORTH SIDE

Acacia WEST SIDE EAST SIDE Acacia

SOUTH SIDE

Knott

T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, May 24, 22	LOCATION: Garden Grove		PROJECT #:	SC3466
	NORTH & SOUTH: Industry		LOCATION #:	2
	EAST & WEST: Lampson		CONTROL:	STOP N/S

NOTES:

		NORTHBOUND (Industry)			SOUTHBOUND (Industry)			EASTBOUND (Lampson)			WESTBOUND (Lampson)			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	1	2	0	1	2	0	
AM	7:00 AM	1	0	2	2	0	5	8	67	8	4	63	9	169
	7:15 AM	4	0	1	0	0	4	2	68	2	1	77	9	168
	7:30 AM	0	0	0	2	0	1	4	86	4	2	141	3	246
	7:45 AM	0	0	6	3	0	6	5	180	5	11	177	3	396
	8:00 AM	0	0	2	4	0	3	10	142	6	2	70	4	243
	8:15 AM	3	0	0	4	0	3	2	82	3	1	84	6	188
	8:30 AM	1	0	5	3	0	5	4	85	1	1	74	6	185
	8:45 AM	1	0	2	5	1	3	3	68	3	4	72	3	165
	VOLUMES	10	0	18	23	1	30	38	778	32	26	761	43	1,760
	APPROACH %	36%	0%	64%	43%	2%	56%	4%	92%	4%	3%	92%	5%	
	APP/DEPART	28	/	80	54	/	59	848	/	819	830	/	802	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	3	0	8	13	0	13	21	490	18	16	475	16	1,073
	APPROACH %	27%	0%	73%	50%	0%	50%	4%	93%	3%	3%	94%	3%	
	PEAK HR FACTOR		0.458			0.722			0.696			0.664		0.677
	APP/DEPART	11	/	37	26	/	34	529	/	511	507	/	491	0
PM	4:00 PM	8	1	4	6	0	8	2	101	3	0	87	3	223
	4:15 PM	5	0	3	7	0	5	3	89	0	1	91	1	205
	4:30 PM	5	0	11	9	1	8	3	102	5	3	80	1	228
	4:45 PM	3	2	2	5	1	1	2	102	0	3	92	1	214
	5:00 PM	1	0	5	10	0	8	1	116	1	1	104	4	251
	5:15 PM	1	0	2	7	0	3	1	85	2	0	99	3	203
	5:30 PM	1	1	4	1	0	6	4	98	0	0	77	1	193
	5:45 PM	2	0	2	1	0	3	1	79	0	2	84	0	174
	VOLUMES	26	4	33	46	2	42	17	772	11	10	714	14	1,691
	APPROACH %	41%	6%	52%	51%	2%	47%	2%	97%	1%	1%	97%	2%	
	APP/DEPART	63	/	33	90	/	23	800	/	851	738	/	784	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	14	2	21	31	2	22	9	409	6	8	367	7	898
	APPROACH %	38%	5%	57%	56%	4%	40%	2%	96%	1%	2%	96%	2%	
	PEAK HR FACTOR		0.578			0.764			0.898			0.876		0.894
	APP/DEPART	37	/	17	55	/	16	424	/	461	382	/	404	0

☑ Add U-Turns to Left Turns

	U-TURNS					RTOR			
	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	0	0	0	0		X	X	X	X
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	1	0	0	0	0
VOLUMES	0	0	1	0	1	0	0	0	0
PEAK HR VOLUMES						0	0	0	0
4:00 PM	0	0	1	0	1	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	2	0	2	0	0	0	0
PEAK HR VOLUMES						0	0	0	0

Industry

NORTH SIDE

Lampson WEST SIDE

EAST SIDE Lampson

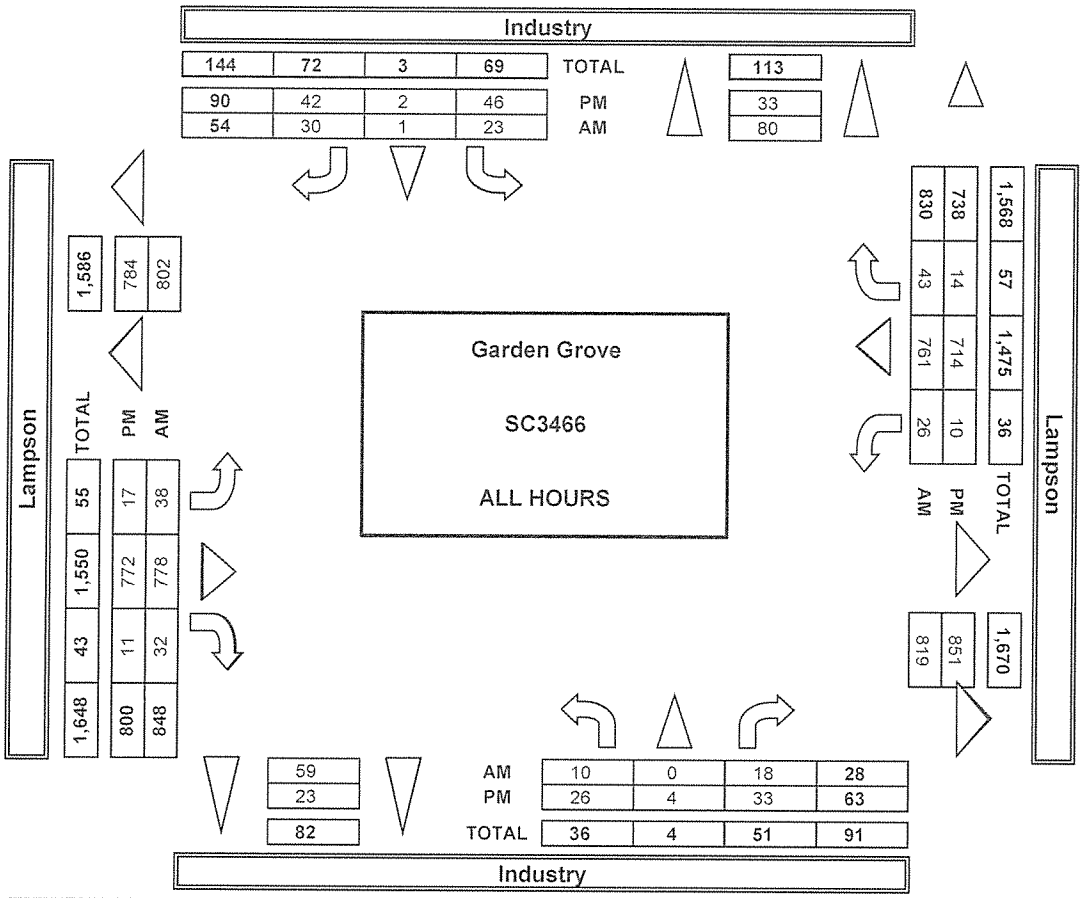
SOUTH SIDE

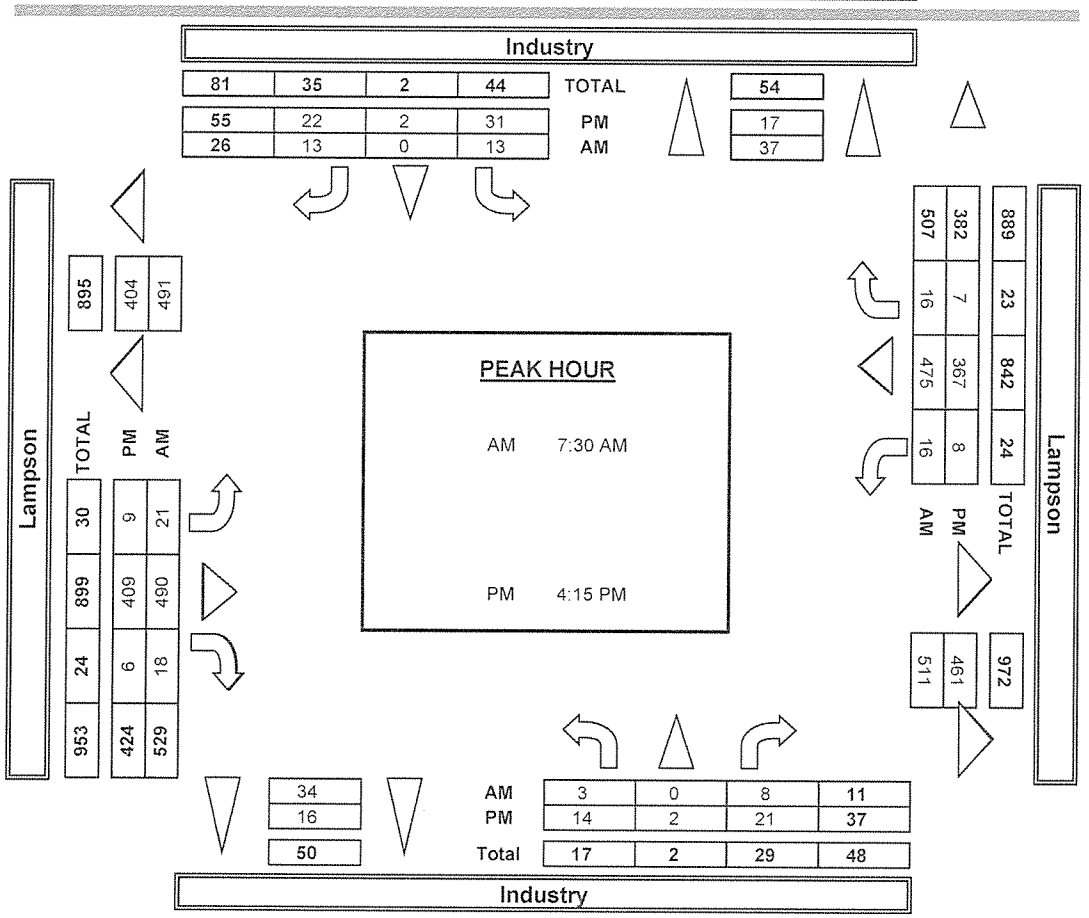
Industry

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	7:15 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	7:30 AM	0	0	0	4	4	0	0	0	3	3	0	0	0	1	1
	7:45 AM	0	0	0	4	4	0	0	0	2	2	0	0	0	2	2
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
	8:30 AM	0	0	1	2	3	0	0	0	0	0	0	0	1	2	3
	8:45 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	TOTAL	0	0	2	14	16	0	0	1	8	9	0	0	1	6	7
PM	4:00 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	4:15 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	5:00 PM	0	0	0	2	2	0	0	0	1	1	0	0	0	1	1
	5:15 PM	0	0	0	3	3	0	0	0	2	2	0	0	0	1	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	2	0	2	0	0	0	0	0	0	0	2	0	2
	TOTAL	0	0	3	7	10	0	0	0	5	5	0	0	3	2	5

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Industry	LOCATION #:	2
TUESDAY	EAST & WEST:	Lampson	CONTROL:	STOP N/S

CLASS 1: PASSENGER VEHICLES

NOTES:

N ▲ ◄ W E ► S ▼

		NORTHBOUND (Industry)			SOUTHBOUND (Industry)			EASTBOUND (Lampson)			WESTBOUND (Lampson)			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	1	2	0	1	2	0	
AM	7:00 AM	1	0	1	1	0	4	4	58	7	4	54	9	143
AM	7:15 AM	1	0	1	0	0	3	2	62	1	1	63	6	140
AM	7:30 AM	0	0	0	2	0	1	4	81	4	2	135	3	232
AM	7:45 AM	0	0	5	1	0	3	5	175	5	8	170	3	375
AM	8:00 AM	0	0	0	3	0	1	9	132	6	2	63	3	219
AM	8:15 AM	2	0	0	4	0	1	1	75	2	1	79	5	170
AM	8:30 AM	0	0	3	1	0	2	3	77	1	1	66	4	158
AM	8:45 AM	1	0	1	3	1	2	1	57	2	1	65	3	137
AM	VOLUMES	5	0	11	15	1	17	29	717	28	20	695	36	1,574
AM	APPROACH %	31%	0%	69%	45%	3%	52%	4%	93%	4%	3%	93%	5%	
AM	APP/DEPART	16	/	65	33	/	49	774	/	743	751	/	717	0
AM	BEGIN PEAK HR		7:30 AM											
AM	VOLUMES	2	0	5	10	0	6	19	463	17	13	447	14	996
AM	APPROACH %	29%	0%	71%	63%	0%	38%	4%	93%	3%	3%	94%	3%	
AM	PEAK HR FACTOR		0.350			0.800			0.674			0.655		0.664
AM	APP/DEPART	7	/	33	16	/	30	499	/	478	474	/	455	0
PM	4:00 PM	8	1	3	4	0	7	1	87	2	0	85	1	199
PM	4:15 PM	5	0	3	5	0	5	2	82	0	1	84	0	187
PM	4:30 PM	5	0	11	6	1	7	1	88	3	3	76	0	201
PM	4:45 PM	3	2	1	4	1	0	1	92	0	3	90	1	198
PM	5:00 PM	1	0	4	9	0	7	1	102	1	1	101	1	228
PM	5:15 PM	1	0	1	6	0	3	1	77	1	0	94	2	186
PM	5:30 PM	1	1	4	1	0	4	2	91	0	0	72	0	176
PM	5:45 PM	2	0	2	1	0	3	0	73	0	1	83	0	165
PM	VOLUMES	26	4	29	36	2	36	9	692	7	9	685	5	1,540
PM	APPROACH %	44%	7%	49%	49%	3%	49%	1%	98%	1%	1%	98%	1%	
PM	APP/DEPART	59	/	17	74	/	18	708	/	757	699	/	748	0
PM	BEGIN PEAK HR		4:15 PM											
PM	VOLUMES	14	2	19	24	2	19	4	364	4	8	351	2	814
PM	APPROACH %	40%	6%	54%	53%	4%	42%	1%	98%	1%	2%	97%	1%	
PM	PEAK HR FACTOR		0.547			0.703			0.897			0.876		0.893
PM	APP/DEPART	35	/	8	45	/	14	373	/	407	361	/	385	0

U-TURNS

	NB	SB	EB	WB	TTL
AM 7:00 AM	0	0	0	0	0
AM 7:15 AM	0	0	0	0	0
AM 7:30 AM	0	0	0	0	0
AM 7:45 AM	0	0	0	0	0
AM 8:00 AM	0	0	0	0	0
AM 8:15 AM	0	0	0	0	0
AM 8:30 AM	0	0	0	0	0
AM 8:45 AM	0	0	0	0	0
AM VOLUMES	0	0	0	0	0
PM 4:00 PM	0	0	0	0	0
PM 4:15 PM	0	0	0	0	0
PM 4:30 PM	0	0	0	0	0
PM 4:45 PM	0	0	0	0	0
PM 5:00 PM	0	0	1	0	1
PM 5:15 PM	0	0	0	0	0
PM 5:30 PM	0	0	0	0	0
PM 5:45 PM	0	0	0	0	0
PM VOLUMES	0	0	1	0	1

RTOR

	NRR	SRR	ERR	WRR
	X	X	X	X
AM 7:00 AM	0	0	0	0
AM 7:15 AM	0	0	0	0
AM 7:30 AM	0	0	0	0
AM 7:45 AM	0	0	0	0
AM 8:00 AM	0	0	0	0
AM 8:15 AM	0	0	0	0
AM 8:30 AM	0	0	0	0
AM 8:45 AM	0	0	0	0
AM VOLUMES	0	0	0	0
AM PEAK HR VOLUMES	0	0	0	0
PM 4:00 PM	0	0	0	0
PM 4:15 PM	0	0	0	0
PM 4:30 PM	0	0	0	0
PM 4:45 PM	0	0	0	0
PM 5:00 PM	0	0	0	0
PM 5:15 PM	0	0	0	0
PM 5:30 PM	0	0	0	0
PM 5:45 PM	0	0	0	0
PM VOLUMES	0	0	0	0
PM PEAK HR VOLUMES	0	0	0	0

Industry

NORTH SIDE

Lampson WEST SIDE

EAST SIDE **Lampson**

SOUTH SIDE

Industry

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Industry	LOCATION #:	2
TUESDAY	EAST & WEST:	Lampson	CONTROL:	STOP N/S

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Industry			SOUTHBOUND Industry			EASTBOUND Lampson			WESTBOUND Lampson			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	1	2	0	1	2	0	
AM	7:00 AM	0	0	1	0	0	0	4	6	1	0	7	0	19
AM	7:15 AM	3	0	0	0	0	0	0	5	1	0	12	1	22
AM	7:30 AM	0	0	0	0	0	0	0	4	0	0	8	0	12
AM	7:45 AM	0	0	1	1	0	3	0	3	0	3	4	0	15
AM	8:00 AM	0	0	1	1	0	2	1	5	0	0	6	1	17
AM	8:15 AM	1	0	0	0	0	2	1	5	1	0	4	1	15
AM	8:30 AM	1	0	2	1	0	3	1	7	0	0	7	1	23
AM	8:45 AM	0	0	1	2	0	1	1	10	0	3	4	0	22
AM	VOLUMES	5	0	6	5	0	11	8	45	3	6	52	4	145
AM	APPROACH %	45%	0%	55%	31%	0%	69%	14%	80%	5%	10%	84%	6%	
AM	APP/DEPART	11	/	12	16	/	9	56	/	56	62	/	68	0
AM	BEGIN PEAK HR		7:30 AM											
AM	VOLUMES	1	0	2	2	0	7	2	17	1	3	22	2	59
AM	APPROACH %	33%	0%	67%	22%	0%	78%	10%	85%	5%	11%	81%	7%	
AM	PEAK HR FACTOR		0.750			0.563			0.714			0.844		0.868
AM	APP/DEPART	3	/	4	9	/	4	20	/	21	27	/	30	0
PM	4:00 PM	0	0	0	2	0	1	0	9	1	0	1	1	15
PM	4:15 PM	0	0	0	2	0	0	1	6	0	0	6	1	16
PM	4:30 PM	0	0	0	1	0	1	2	9	1	0	4	0	18
PM	4:45 PM	0	0	1	1	0	1	1	4	0	0	2	0	10
PM	5:00 PM	0	0	1	0	0	1	0	6	0	0	3	2	13
PM	5:15 PM	0	0	0	0	0	0	0	4	0	0	5	0	9
PM	5:30 PM	0	0	0	0	0	2	2	5	0	0	4	1	14
PM	5:45 PM	0	0	0	0	0	0	1	2	0	1	1	0	5
PM	VOLUMES	0	0	2	6	0	6	7	45	2	1	26	5	100
PM	APPROACH %	0%	0%	100%	50%	0%	50%	13%	83%	4%	3%	81%	16%	
PM	APP/DEPART	2	/	12	12	/	3	54	/	53	32	/	32	0
PM	BEGIN PEAK HR		4:15 PM											
PM	VOLUMES	0	0	2	4	0	3	4	25	1	0	15	3	57
PM	APPROACH %	0%	0%	100%	57%	0%	43%	13%	83%	3%	0%	83%	17%	
PM	PEAK HR FACTOR		0.500			0.875			0.625			0.643		0.792
PM	APP/DEPART	2	/	7	7	/	1	30	/	31	18	/	18	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0

Industry

NORTH SIDE

Lampson WEST SIDE

EAST SIDE **Lampson**

SOUTH SIDE

Industry

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Industry	LOCATION #:	2
TUESDAY	EAST & WEST:	Lampson	CONTROL:	STOP N/S

CLASS 3: 3-AXLE TRUCKS

NOTES:

N / W / E / S

		NORTHBOUND (Industry)			SOUTHBOUND (Industry)			EASTBOUND (Lampson)			WESTBOUND (Lampson)			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	1	0	0	0	0	3	0	0	0	0	4
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%	
	APP/DEPART	1	/	0	0	/	0	3	/	4	0	/	0	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	0	0	1	0	0	0	0	1	0	0	0	0	2
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%	
	PEAK HR FACTOR	0.250			0.000			0.250			0.000			0.500
	APP/DEPART	1	/	0	0	/	0	1	/	2	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	3	0	0	0	1	4
	4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	4:30 PM	0	0	0	2	0	0	0	3	0	0	0	0	5
	4:45 PM	0	0	0	0	0	0	0	6	0	0	0	0	6
	5:00 PM	0	0	0	1	0	0	0	6	0	0	0	0	7
	5:15 PM	0	0	1	1	0	0	0	4	0	0	0	0	6
	5:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
	5:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
	VOLUMES	0	0	1	4	0	0	0	28	0	0	0	1	34
	APPROACH %	0%	0%	100%	100%	0%	0%	0%	100%	0%	0%	0%	100%	
	APP/DEPART	1	/	1	4	/	0	28	/	33	1	/	0	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	0	0	0	3	0	0	0	16	0	0	0	0	19
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	
	PEAK HR FACTOR	0.000			0.375			0.667			0.000			0.679
	APP/DEPART	0	/	0	3	/	0	16	/	19	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

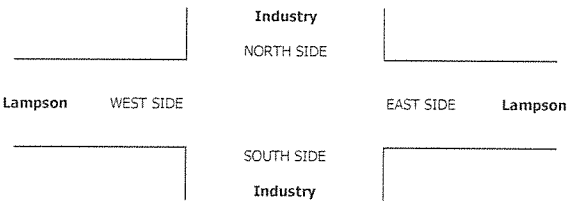
NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Industry	LOCATION #:	2
TUESDAY	EAST & WEST:	Lampson	CONTROL:	STOP N/S

CLASS 4:	NOTES:
4 OR MORE AXLE TRUCKS	

▲ N ◄ W E ► S ▼

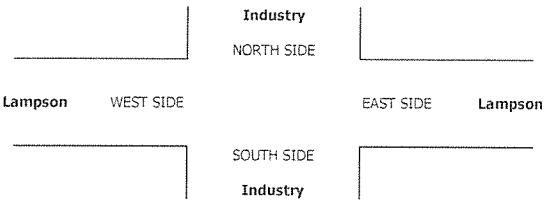
		NORTHBOUND (Industry)			SOUTHBOUND (Industry)			EASTBOUND (Lampson)			WESTBOUND (Lampson)			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	1	0	1	0	0	0	0	0	0	2
	7:15 AM	0	0	0	0	0	1	0	1	0	0	0	2	4
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	1	0	0	0	1	0	0	1	0	3
	8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	8:30 AM	0	0	0	1	0	0	0	0	0	0	1	1	3
	8:45 AM	0	0	0	0	0	0	1	0	1	0	2	0	4
	VOLUMES	0	0	0	3	0	2	1	2	1	0	6	3	18
	APPROACH %	0%	0%	0%	60%	0%	40%	25%	50%	25%	0%	67%	33%	
	APP/DEPART	0	/	3	5	/	1	4	/	5	9	/	9	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	1	0	0	0	1	0	0	3	0	5
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.250			0.250			0.750		0.417
	APP/DEPART	0	/	0	1	/	0	1	/	2	3	/	3	0
PM	4:00 PM	0	0	1	0	0	0	1	2	0	0	1	0	5
	4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	4:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	2
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	2
	5:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	2
	5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	VOLUMES	0	0	1	0	0	0	1	5	1	0	3	3	14
	APPROACH %	0%	0%	100%	0%	0%	0%	14%	71%	14%	0%	50%	50%	
	APP/DEPART	1	/	3	0	/	1	7	/	6	6	/	4	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	0	0	0	0	0	0	0	2	0	0	1	2	5
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	33%	67%	
	PEAK HR FACTOR		0.000			0.000			0.500			0.750		0.625
	APP/DEPART	0	/	2	0	/	0	2	/	2	3	/	1	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	1	0	1
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	1	0	1

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Industry	LOCATION #:	2
TUESDAY	EAST & WEST:	Lampson	CONTROL:	STOP N/S

CLASS 5:	NOTES:
RV	

▲ N ◄ W E ► S ▼

		NORTHBOUND (Industry)			SOUTHBOUND (Industry)			EASTBOUND (Lampson)			WESTBOUND (Lampson)			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

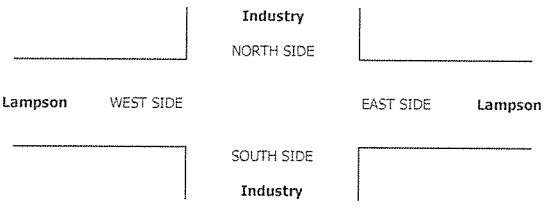
RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Industry	LOCATION #:	2
TUESDAY	EAST & WEST:	Lampson	CONTROL:	STOP N/S

CLASS 6:	NOTES:
BUSES	

▲ N ◄ W E ► S ▼

		NORTHBOUND (Industry)			SOUTHBOUND (Industry)			EASTBOUND (Lampson)			WESTBOUND (Lampson)			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	2	0	3
	7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
	7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	7:45 AM	0	0	0	0	0	0	0	1	0	0	2	0	3
	8:00 AM	0	0	0	0	0	0	0	5	0	0	0	0	5
	8:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
	8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	8:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	VOLUMES	0	0	0	0	0	0	0	11	0	0	8	0	19
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	0	/	0	11	/	11	8	/	8	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	8	0	0	3	0	11
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.000			0.400			0.375		0.550
	APP/DEPART	0	/	0	0	/	0	8	/	8	3	/	3	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	2
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	2	1	0	0	0	3
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	67%	33%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	1	3	/	2	0	/	0	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	0	0	0	0	0	0	0	2	1	0	0	0	3
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	67%	33%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.375			0.000		0.375
	APP/DEPART	0	/	0	0	/	1	3	/	2	0	/	0	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR			
NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

0	0	0	0

Industry

NORTH SIDE

Lampson WEST SIDE EAST SIDE **Lampson**

SOUTH SIDE

Industry

T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
Tue, May 24, 22	NORTH & SOUTH:	Pala	LOCATION #:	3
	EAST & WEST:	Acacia	CONTROL:	STOP S

NOTES:

Queue 4:20 WB PM

N ▲ ◄ W E ► S ▼

☐ Add U-Turns to Left Turns

		NORTHBOUND Pala			SOUTHBOUND Pala			EASTBOUND Acacia			WESTBOUND Acacia			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	X	X	0	X	0	0	1	X	X	1	0	
AM	7:00 AM	0	0	0	0	0	2	5	30	0	0	12	0	49
AM	7:15 AM	0	0	0	0	0	1	1	28	0	0	17	0	47
AM	7:30 AM	0	0	0	0	0	3	4	37	0	0	17	0	61
AM	7:45 AM	0	0	0	0	0	1	8	46	0	0	18	1	74
AM	8:00 AM	0	0	0	0	0	6	3	32	0	0	25	2	68
AM	8:15 AM	0	0	0	1	0	0	4	28	0	0	15	0	48
AM	8:30 AM	0	0	0	0	0	3	4	26	0	0	22	2	57
AM	8:45 AM	0	0	0	0	0	2	7	21	0	0	15	0	45
AM	VOLUMES	0	0	0	1	0	18	36	248	0	0	141	5	449
AM	APPROACH %	0%	0%	0%	5%	0%	95%	13%	87%	0%	0%	97%	3%	
AM	APP/DEPART	0	/	41	19	/	0	284	/	249	146	/	159	0
AM	BEGIN PEAK HR		7:30 AM											
AM	VOLUMES	0	0	0	1	0	10	19	143	0	0	75	3	251
AM	APPROACH %	0%	0%	0%	9%	0%	91%	12%	88%	0%	0%	96%	4%	
AM	PEAK HR FACTOR		0.000			0.458			0.750			0.722		0.848
AM	APP/DEPART	0	/	22	11	/	0	162	/	144	78	/	85	0
PM	4:00 PM	0	0	0	0	0	3	1	16	0	0	37	0	57
PM	4:15 PM	0	0	0	0	0	0	2	20	0	0	27	0	49
PM	4:30 PM	0	0	0	2	0	4	1	20	0	0	51	1	79
PM	4:45 PM	0	0	0	3	0	2	0	20	0	0	25	1	51
PM	5:00 PM	0	0	0	2	0	8	2	9	0	0	25	0	46
PM	5:15 PM	0	0	0	1	0	0	0	13	0	0	29	0	43
PM	5:30 PM	0	0	0	0	0	1	0	13	0	0	21	0	35
PM	5:45 PM	0	0	0	0	0	0	0	17	0	0	20	0	37
PM	VOLUMES	0	0	0	8	0	18	6	128	0	0	235	2	398
PM	APPROACH %	0%	0%	0%	31%	0%	69%	4%	96%	0%	0%	99%	1%	
PM	APP/DEPART	0	/	8	26	/	0	134	/	137	238	/	253	0
PM	BEGIN PEAK HR		4:00 PM											
PM	VOLUMES	0	0	0	5	0	9	4	76	0	0	140	2	236
PM	APPROACH %	0%	0%	0%	36%	0%	64%	5%	95%	0%	0%	99%	1%	
PM	PEAK HR FACTOR		0.000			0.583			0.909			0.683		0.747
PM	APP/DEPART	0	/	6	14	/	0	80	/	81	142	/	149	0

U-TURNS

		NB	SB	EB	WB	TTL
		0	0	0	0	
AM	7:00 AM	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0
AM	VOLUMES	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0
PM	5:00 PM	0	0	0	1	1
PM	5:15 PM	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0
PM	VOLUMES	0	0	0	1	1

RTOR

		NRR	SRR	ERR	WRR
		X	X	X	X
AM	7:00 AM	0	0	0	0
AM	7:15 AM	0	0	0	0
AM	7:30 AM	0	0	0	0
AM	7:45 AM	0	0	0	0
AM	8:00 AM	0	0	0	0
AM	8:15 AM	0	0	0	0
AM	8:30 AM	0	0	0	0
AM	8:45 AM	0	0	0	0
AM	VOLUMES	0	0	0	0
AM	PEAK HR VOLUMES	0	0	0	0
PM	4:00 PM	0	0	0	0
PM	4:15 PM	0	0	0	0
PM	4:30 PM	0	0	0	0
PM	4:45 PM	0	0	0	0
PM	5:00 PM	0	0	0	0
PM	5:15 PM	0	0	0	0
PM	5:30 PM	0	0	0	0
PM	5:45 PM	0	0	0	0
PM	VOLUMES	0	0	0	0
PM	PEAK HR VOLUMES	0	0	0	0

Pala

NORTH SIDE

Acacia WEST SIDE

EAST SIDE **Acacia**

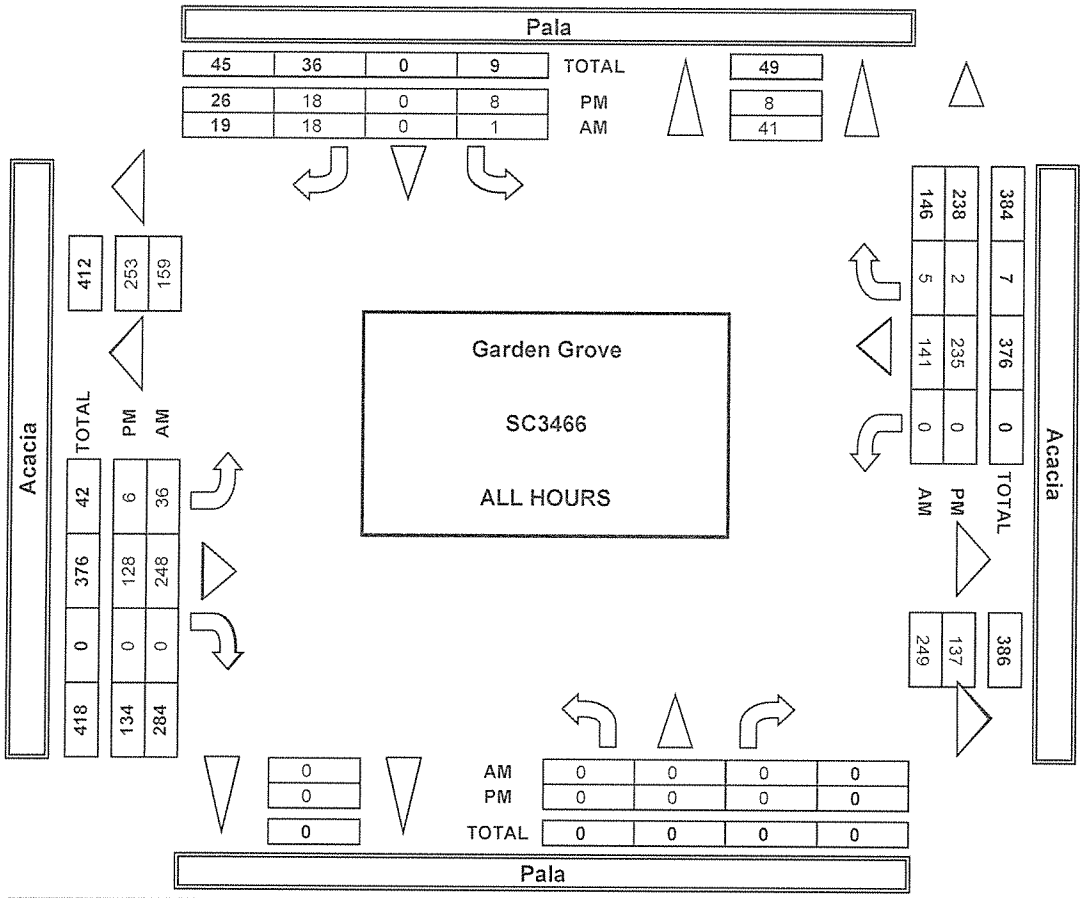
SOUTH SIDE

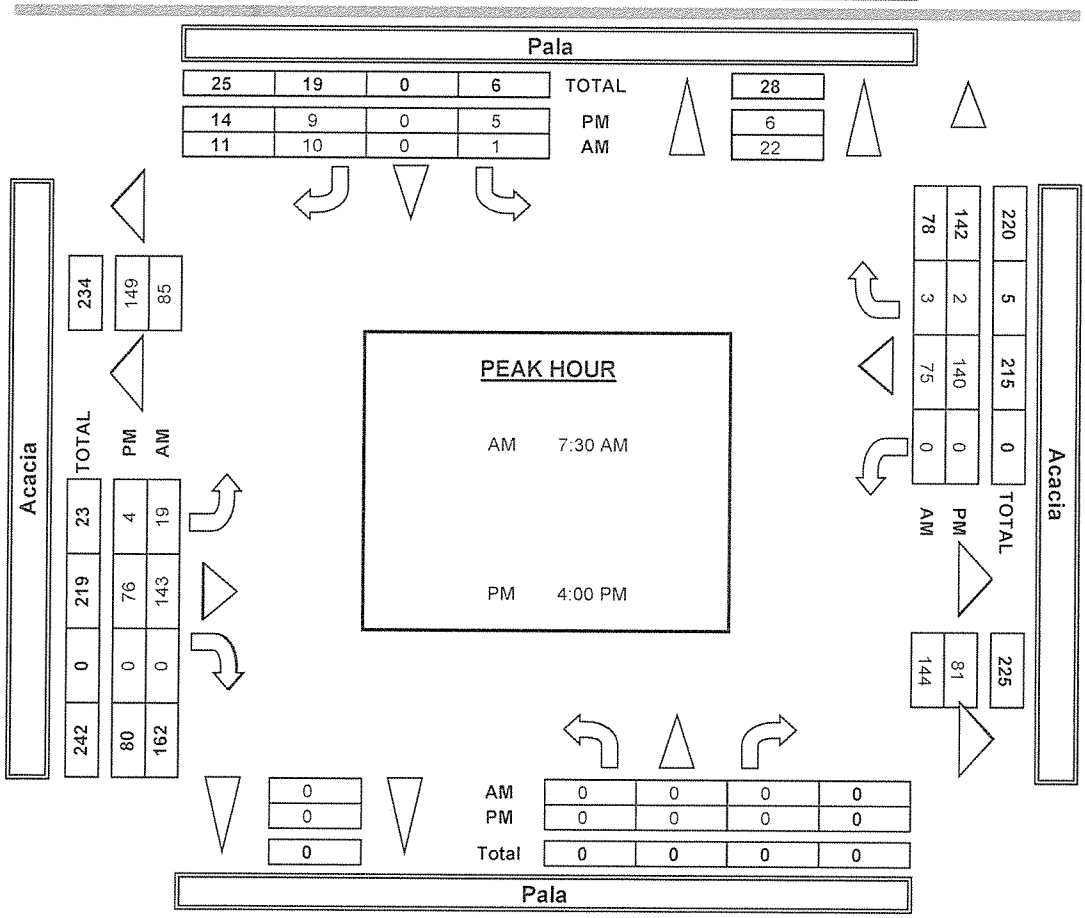
Pala

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
AM	8:30 AM	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	TOTAL	2	0	0	2	4	2	0	0	0	2	0	0	0	2	2
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
PM	4:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Pala	LOCATION #:	3
TUESDAY	EAST & WEST:	Acacia	CONTROL:	STOP S

CLASS 1: PASSENGER VEHICLES

NOTES:

N ▲ ◄ W E ► S ▼

		NORTHBOUND Pala			SOUTHBOUND Pala			EASTBOUND Acacia			WESTBOUND Acacia			
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 0	ET 1	ER X	WL X	WT 1	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	5	26	0	0	8	0	39
AM	7:15 AM	0	0	0	0	0	1	1	25	0	0	13	0	40
AM	7:30 AM	0	0	0	0	0	1	4	33	0	0	14	0	52
AM	7:45 AM	0	0	0	0	0	1	8	43	0	0	15	1	68
AM	8:00 AM	0	0	0	0	0	4	2	30	0	0	19	2	57
AM	8:15 AM	0	0	0	0	0	0	4	26	0	0	11	0	41
AM	8:30 AM	0	0	0	0	0	2	4	20	0	0	15	2	43
AM	8:45 AM	0	0	0	0	0	2	5	18	0	0	11	0	36
AM	VOLUMES	0	0	0	0	0	11	33	221	0	0	106	5	376
AM	APPROACH %	0%	0%	0%	0%	0%	100%	13%	87%	0%	0%	95%	5%	
AM	APP/DEPART	0	/	38	11	/	0	254	/	221	111	/	117	0
AM	BEGIN PEAK HR		7:30 AM											
AM	VOLUMES	0	0	0	0	0	6	18	132	0	0	59	3	218
AM	APPROACH %	0%	0%	0%	0%	0%	100%	12%	88%	0%	0%	95%	5%	
AM	PEAK HR FACTOR		0.000			0.375			0.735			0.738		0.801
AM	APP/DEPART	0	/	21	6	/	0	150	/	132	62	/	65	0
PM	4:00 PM	0	0	0	0	0	2	1	15	0	0	34	0	52
PM	4:15 PM	0	0	0	0	0	0	1	18	0	0	26	0	45
PM	4:30 PM	0	0	0	2	0	4	1	16	0	0	49	1	73
PM	4:45 PM	0	0	0	3	0	2	0	17	0	0	23	1	46
PM	5:00 PM	0	0	0	1	0	8	1	8	0	0	23	0	41
PM	5:15 PM	0	0	0	0	0	0	0	11	0	0	29	0	40
PM	5:30 PM	0	0	0	0	0	1	0	11	0	0	19	0	31
PM	5:45 PM	0	0	0	0	0	0	0	16	0	0	20	0	36
PM	VOLUMES	0	0	0	6	0	17	4	112	0	0	223	2	365
PM	APPROACH %	0%	0%	0%	26%	0%	74%	3%	97%	0%	0%	99%	1%	
PM	APP/DEPART	0	/	6	23	/	0	116	/	119	226	/	240	0
PM	BEGIN PEAK HR		4:00 PM											
PM	VOLUMES	0	0	0	5	0	8	3	66	0	0	132	2	216
PM	APPROACH %	0%	0%	0%	38%	0%	62%	4%	96%	0%	0%	99%	1%	
PM	PEAK HR FACTOR		0.000			0.542			0.908			0.670		0.740
PM	APP/DEPART	0	/	5	13	/	0	69	/	71	134	/	140	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Pala

NORTH SIDE

Acacia WEST SIDE EAST SIDE **Acacia**

SOUTH SIDE

Pala

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Pala	LOCATION #:	3
TUESDAY	EAST & WEST:	Acacia	CONTROL:	ALL STOP

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

N ▲ / ◄ W / E ► / S ▼

		NORTHBOUND (Pala)			SOUTHBOUND (Pala)			EASTBOUND (Acacia)			WESTBOUND (Acacia)			
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 0	ET 1	ER X	WL X	WT 1	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	2	0	3	0	0	3	0	8
	7:15 AM	0	0	0	0	0	0	0	2	0	0	3	0	5
	7:30 AM	0	0	0	0	0	2	0	3	0	0	2	0	7
	7:45 AM	0	0	0	0	0	0	0	2	0	0	3	0	5
	8:00 AM	0	0	0	0	0	2	1	1	0	0	5	0	9
	8:15 AM	0	0	0	1	0	0	0	2	0	0	4	0	7
	8:30 AM	0	0	0	0	0	1	0	4	0	0	6	0	11
	8:45 AM	0	0	0	0	0	0	2	1	0	0	3	0	6
	VOLUMES	0	0	0	1	0	7	3	18	0	0	29	0	58
	APPROACH %	0%	0%	0%	13%	0%	88%	14%	86%	0%	0%	100%	0%	
	APP/DEPART	0	/	3	8	/	0	21	/	19	29	/	36	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	0	0	0	1	0	4	1	8	0	0	14	0	28
	APPROACH %	0%	0%	0%	20%	0%	80%	11%	89%	0%	0%	100%	0%	
	PEAK HR FACTOR	0.000			0.625			0.750			0.700			0.778
	APP/DEPART	0	/	1	5	/	0	9	/	9	14	/	18	0
PM	4:00 PM	0	0	0	0	0	1	0	1	0	0	1	0	3
	4:15 PM	0	0	0	0	0	0	1	2	0	0	0	0	3
	4:30 PM	0	0	0	0	0	0	0	3	0	0	2	0	5
	4:45 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
	5:00 PM	0	0	0	1	0	0	1	1	0	0	1	0	4
	5:15 PM	0	0	0	1	0	0	0	2	0	0	0	0	3
	5:30 PM	0	0	0	0	0	0	0	2	0	0	2	0	4
	5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	VOLUMES	0	0	0	2	0	1	2	14	0	0	7	0	26
	APPROACH %	0%	0%	0%	67%	0%	33%	13%	88%	0%	0%	100%	0%	
	APP/DEPART	0	/	2	3	/	0	16	/	16	7	/	8	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	0	0	0	0	0	1	1	8	0	0	4	0	14
	APPROACH %	0%	0%	0%	0%	0%	100%	11%	89%	0%	0%	100%	0%	
	PEAK HR FACTOR	0.000			0.250			0.750			0.500			0.700
	APP/DEPART	0	/	1	1	/	0	9	/	8	4	/	5	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

Pala

NORTH SIDE

Acacia WEST SIDE EAST SIDE Acacia

SOUTH SIDE

Pala

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Pala	LOCATION #:	3
TUESDAY	EAST & WEST:	Acacia	CONTROL:	STOP S

CLASS 3: 3-AXLE TRUCKS

NOTES:

N ▲ / ◄ W / E ► / S ▼

		NORTHBOUND (Pala)			SOUTHBOUND (Pala)			EASTBOUND (Acacia)			WESTBOUND (Acacia)			
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 0	ET 1	ER X	WL X	WT 1	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	VOLUMES	0	0	0	0	0	0	0	0	0	0	2	0	2
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	2	/	2	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	1	0	0	2	0	3
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	0	/	0	1	/	1	2	/	2	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	0	0	0	0	1	0	0	2	0	3
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.000			0.250			0.250		0.375
	APP/DEPART	0	/	0	0	/	0	1	/	1	2	/	2	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

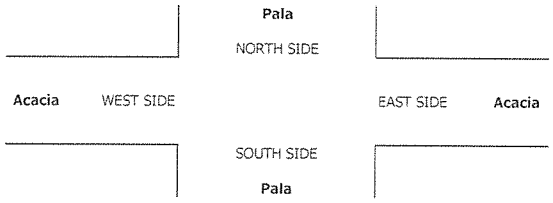
NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Pala	LOCATION #:	3
TUESDAY	EAST & WEST:	Acacia	CONTROL:	STOP S

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

▲ N ◄ W E ► S ▼

		NORTHBOUND (Pala)			SOUTHBOUND (Pala)			EASTBOUND (Acacia)			WESTBOUND (Acacia)			
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 0	ET 1	ER X	WL X	WT 1	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	7:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	7:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	8:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
	8:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
	VOLUMES	0	0	0	0	0	0	0	9	0	0	4	0	13
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	0	/	0	9	/	9	4	/	4	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	3	0	0	2	0	5
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.000			0.750			0.500		0.625
	APP/DEPART	0	/	0	0	/	0	3	/	3	2	/	2	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
	5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	1	0	0	3	0	4
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	0	/	0	1	/	1	3	/	3	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	0	0	0	0	1	0	0	2	0	3
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.000			0.250			0.500		0.375
	APP/DEPART	0	/	0	0	/	0	1	/	1	2	/	2	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

Pala

NORTH SIDE

Acacia WEST SIDE EAST SIDE Acacia

SOUTH SIDE

Pala

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Pala	LOCATION #:	3
TUESDAY	EAST & WEST:	Acacia	CONTROL:	STOP S

CLASS 5:	NOTES:
RV	

N ▲ ◄ W E ► S ▼

		NORTHBOUND Pala			SOUTHBOUND Pala			EASTBOUND Acacia			WESTBOUND Acacia			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	X	X	0	X	0	0	1	X	X	1	0	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
AM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
AM	BEGIN PEAK HR		7:30 AM											
AM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
AM	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
AM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	BEGIN PEAK HR		4:00 PM											
PM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0

Pala

NORTH SIDE

Acacia WEST SIDE

EAST SIDE **Acacia**

SOUTH SIDE

Pala

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/24/22	NORTH & SOUTH:	Pala	LOCATION #:	3
TUESDAY	EAST & WEST:	Acacia	CONTROL:	STOP S

CLASS 6:	NOTES:
BUSES	

▲ N ◄ W E ► S ▼

		NORTHBOUND (Pala)			SOUTHBOUND (Pala)			EASTBOUND (Acacia)			WESTBOUND (Acacia)			
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 0	ET 1	ER X	WL X	WT 1	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

Pala

NORTH SIDE

Acacia WEST SIDE EAST SIDE Acacia

SOUTH SIDE

Pala

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC, tel: 714 253 7880 cs@aimtd.com

T42321

DATE: Wed, May 25, 22

LOCATION: Garden Grove
NORTH & SOUTH: Knott
EAST & WEST: Lampson

PROJECT #: SC3466
LOCATION #: 4
CONTROL: SIGNAL

NOTES:

N ▲ S ▼ ◄ W E ►

☑ Add U-Turns to Left Turns

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Lampson)			WESTBOUND (Lampson)			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	13	132	26	23	260	6	15	31	28	33	36	6	609
	7:15 AM	26	175	11	24	267	11	17	40	33	30	34	18	688
	7:30 AM	44	191	26	29	276	33	28	64	33	37	107	12	880
	7:45 AM	69	225	44	54	261	57	35	118	35	42	122	8	1,070
	8:00 AM	18	249	45	24	257	13	24	83	24	16	34	9	806
	8:15 AM	28	215	26	9	207	14	19	66	18	25	68	9	704
	8:30 AM	15	163	18	14	285	9	15	48	24	28	45	9	683
	8:45 AM	14	199	16	13	181	11	10	38	20	26	28	11	567
	VOLUMES	227	1,849	212	190	1,974	154	173	488	215	237	474	82	5,975
	APPROACH %	11%	78%	11%	8%	85%	7%	20%	56%	25%	30%	60%	10%	
	APP/DEPART	1,988	/	1,801	2,318	/	2,428	876	/	885	793	/	861	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	159	880	141	116	1,001	117	116	331	110	120	331	36	3,460
	APPROACH %	13%	75%	12%	9%	81%	9%	21%	59%	20%	25%	68%	8%	
	PEAK HR FACTOR		0.873			0.829			0.741			0.711		0.808
	APP/DEPART	1,180	/	1,033	1,234	/	1,233	557	/	583	489	/	611	0
PM	4:00 PM	20	210	11	27	235	23	9	49	19	56	42	27	728
	4:15 PM	18	256	20	15	226	16	11	40	24	36	46	13	721
	4:30 PM	19	281	15	18	224	17	16	43	13	46	39	23	764
	4:45 PM	16	301	14	19	224	23	17	37	15	31	44	14	756
	5:00 PM	32	270	19	14	216	23	13	46	12	47	49	12	753
	5:15 PM	33	305	22	20	260	24	13	54	18	40	63	15	867
	5:30 PM	24	249	18	25	228	23	15	55	13	32	44	16	742
	5:45 PM	27	257	9	13	208	23	18	58	15	33	42	17	720
	VOLUMES	189	2,129	128	151	1,821	172	112	382	129	321	369	137	6,040
	APPROACH %	8%	87%	5%	7%	85%	8%	18%	61%	21%	39%	45%	17%	
	APP/DEPART	2,446	/	2,378	2,144	/	2,372	623	/	659	827	/	731	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	100	1,157	70	71	924	87	59	180	58	164	195	64	3,129
	APPROACH %	8%	87%	5%	7%	85%	8%	20%	61%	20%	39%	46%	15%	
	PEAK HR FACTOR		0.922			0.890			0.874			0.896		0.902
	APP/DEPART	1,327	/	1,279	1,082	/	1,148	297	/	321	423	/	383	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	2	1	0	3
1	3	4	0	8
0	0	0	0	0
1	0	1	0	2
0	0	1	0	1
0	0	0	0	0
2	5	8	0	15
1	1	0	0	2
0	1	0	0	1
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
1	2	2	0	5

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
8	0	9	2
3	0	8	4
6	6	11	1
8	7	1	1
2	1	2	3
0	0	3	0
3	0	7	4
2	0	4	5
29	17	45	20
13	14	17	5
1	2	3	6
1	0	11	5
0	0	6	0
1	2	3	1
2	0	4	1
1	2	4	2
1	1	4	5
1	1	4	6
9	9	39	27
4	4	17	4

Knott

NORTH SIDE

Lampson WEST SIDE EAST SIDE Lampson

SOUTH SIDE

Knott

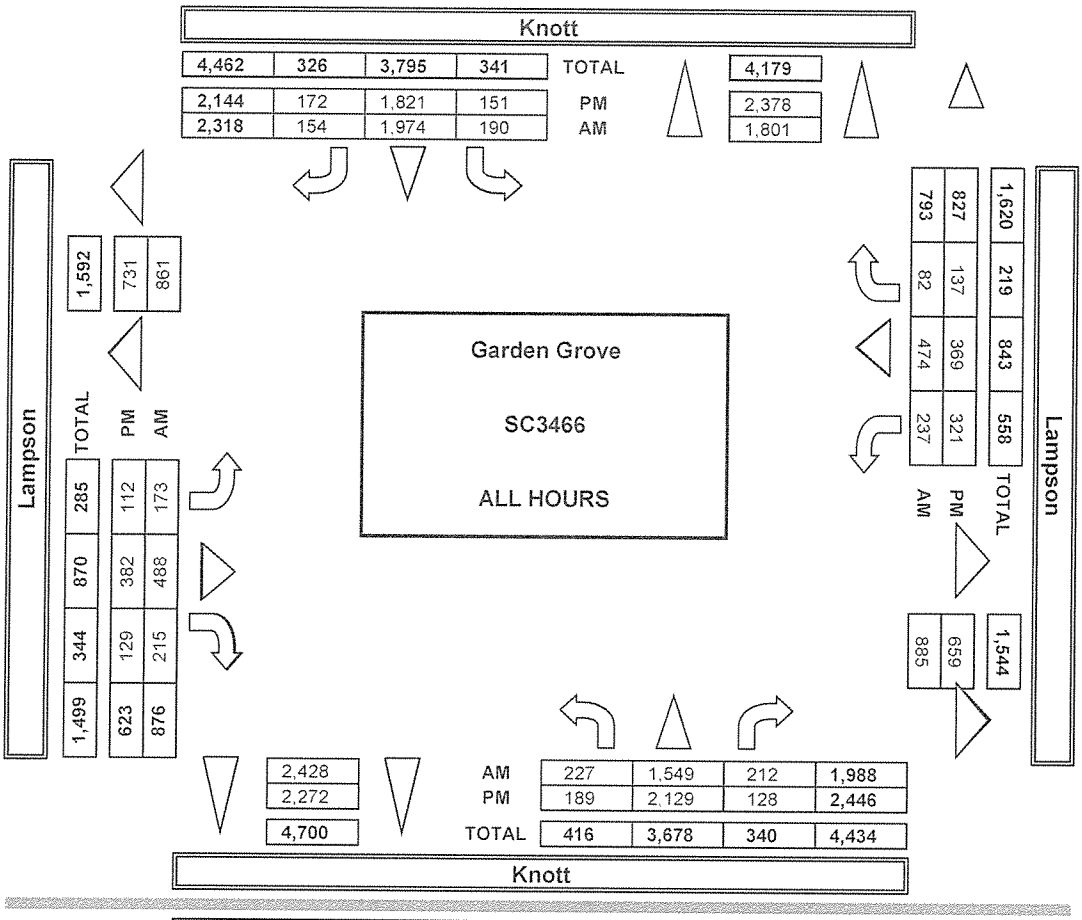
		ALL PED AND BIKE				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	0	6	2	3	11
	7:15 AM	0	2	2	4	8
	7:30 AM	2	16	2	9	29
	7:45 AM	1	27	4	5	37
	8:00 AM	0	0	0	2	2
	8:15 AM	0	0	0	0	0
	8:30 AM	2	1	0	1	4
	8:45 AM	0	2	1	0	3
	TOTAL	5	54	11	24	94
PM	4:00 PM	0	4	0	0	4
	4:15 PM	0	3	0	0	3
	4:30 PM	0	0	0	0	0
	4:45 PM	0	2	0	0	2
	5:00 PM	0	0	1	1	2
	5:15 PM	1	2	0	0	3
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	1	11	1	1	14

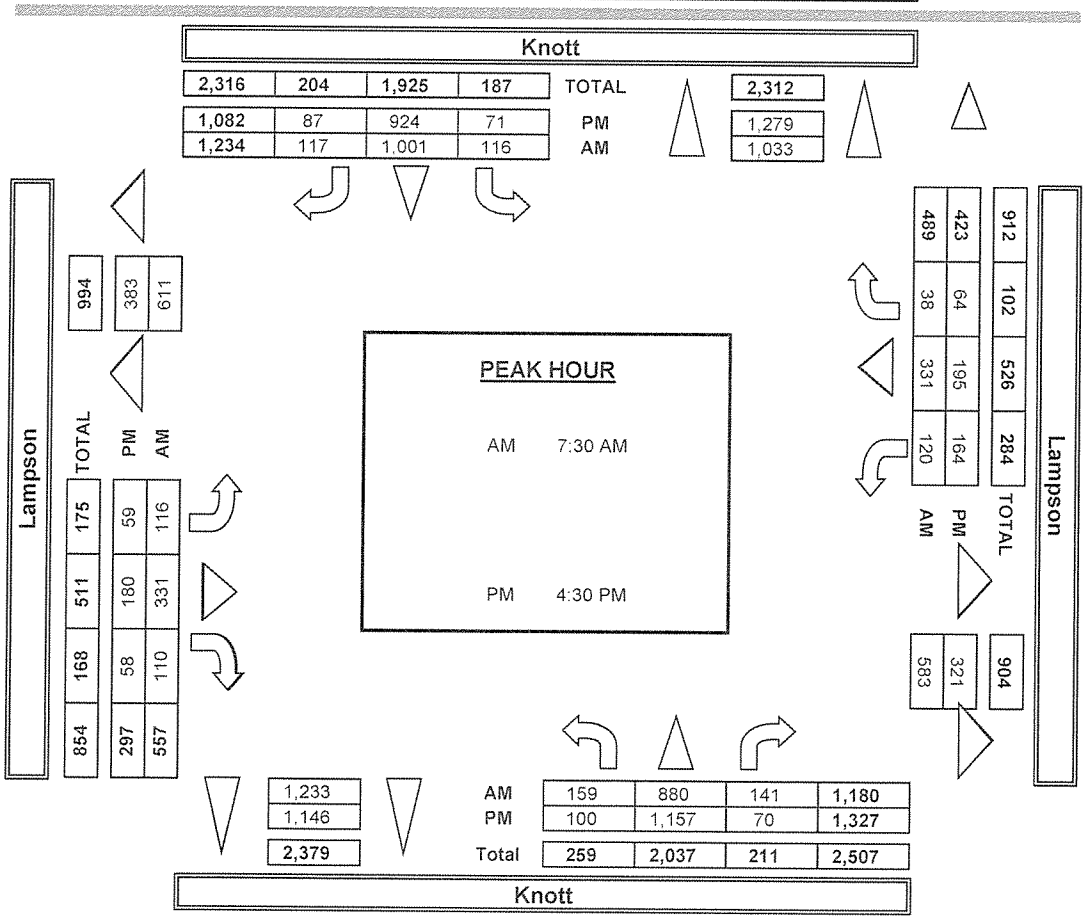
	PEDESTRIAN CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
	0	3	2	0	5
	0	0	1	4	5
	2	15	2	7	26
	1	27	4	3	35
	0	0	0	1	1
	0	0	0	0	0
	2	1	0	1	4
	0	1	1	0	2
	5	47	10	16	78
	0	4	0	0	4
	0	3	0	0	3
	0	0	0	0	0
	0	2	0	0	2
	0	0	1	0	1
	0	1	0	0	1
	0	0	0	0	0
	0	0	0	0	0
	0	10	1	0	11

	BICYCLE CROSSINGS				
	ES	WS	SS	NS	TOTAL
	0	3	0	3	6
	0	2	1	0	3
	0	1	0	2	3
	0	0	0	2	2
	0	0	0	1	1
	0	0	0	0	0
	0	0	0	0	0
	0	1	0	0	1
	0	7	1	8	16
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	1	1
	1	1	0	0	2
	0	0	0	0	0
	0	0	0	0	0
	1	1	0	1	3

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:					
5/25/22	LOCATION:	Garden Grove	PROJECT #:	SC3466	
WEDNESDAY	NORTH & SOUTH:	Knott	LOCATION #:	4	
	EAST & WEST:	Lampson	CONTROL:	SIGNAL	

CLASS 1: PASSENGER VEHICLES

NOTES:

N ▲ / ◄ W / E ► / S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Lampson)			WESTBOUND (Lampson)			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	12	117	22	16	238	5	15	28	27	28	32	6	546
	7:15 AM	23	160	8	18	244	10	14	37	31	24	31	13	613
	7:30 AM	40	170	21	28	248	31	27	60	33	29	104	11	802
	7:45 AM	66	201	41	52	236	55	34	114	34	36	117	7	993
	8:00 AM	15	219	41	23	226	13	31	76	21	8	33	8	714
	8:15 AM	26	195	22	9	183	14	18	59	17	18	63	7	631
	8:30 AM	14	145	13	11	237	9	14	46	23	24	41	6	583
	8:45 AM	11	176	15	12	144	10	10	35	19	22	26	10	490
	VOLUMES	207	1,383	183	169	1,756	147	163	455	205	189	447	68	5,372
	APPROACH %	12%	78%	10%	8%	85%	7%	20%	55%	25%	27%	63%	10%	
	APP/DEPART	1,773	/	1,611	2,072	/	2,152	823	/	802	704	/	807	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	145	785	125	107	893	113	104	309	105	91	317	33	3,140
	APPROACH %	14%	74%	12%	10%	80%	10%	20%	59%	20%	21%	72%	7%	
	PEAK HR FACTOR		0.858			0.815			0.720			0.689		0.791
	APP/DEPART	1,057	/	927	1,118	/	1,091	524	/	541	441	/	581	0
PM	4:00 PM	20	187	8	27	216	20	8	45	19	49	39	26	664
	4:15 PM	17	232	17	12	215	15	11	39	19	35	43	11	666
	4:30 PM	17	260	14	13	215	16	15	37	13	43	37	23	703
	4:45 PM	16	274	13	18	209	22	16	35	15	28	44	12	702
	5:00 PM	32	251	16	12	208	23	12	42	10	47	47	12	712
	5:15 PM	33	277	21	13	248	22	12	50	18	37	62	15	808
	5:30 PM	23	227	14	20	218	23	15	53	13	30	43	16	695
	5:45 PM	26	241	9	10	199	22	18	56	15	33	42	16	687
	VOLUMES	184	1,949	112	125	1,728	163	107	357	122	302	357	131	5,637
	APPROACH %	8%	87%	5%	6%	86%	8%	18%	61%	21%	38%	45%	17%	
	APP/DEPART	2,245	/	2,187	2,016	/	2,153	586	/	592	790	/	705	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	98	1,062	64	56	880	83	54	164	56	155	190	62	2,925
	APPROACH %	8%	87%	5%	5%	86%	8%	20%	60%	20%	38%	47%	15%	
	PEAK HR FACTOR		0.924			0.900			0.859			0.893		0.905
	APP/DEPART	1,224	/	1,178	1,019	/	1,091	275	/	284	407	/	372	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	1	0	1
0	0	0	0	0
0	2	1	0	3
1	3	4	0	8
0	0	0	0	0
1	0	1	0	2
0	0	1	0	1
0	0	0	0	0
2	5	8	0	15

1	1	0	0	2
0	1	0	0	1
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
1	2	2	0	5

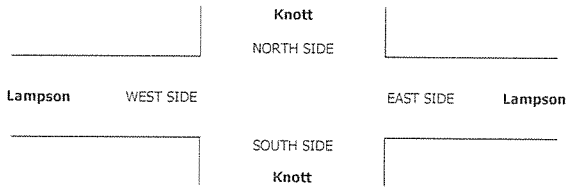
RTOR

NRR 0	SRR 0	ERR 0	WRR 0
7	0	9	2
2	2	8	2
5	5	11	1
5	7	1	1
1	1	1	2
0	0	3	0
2	0	7	2
2	0	4	5
24	15	44	15

11	13	16	4

0	2	3	6
1	0	8	4
0	0	6	0
0	2	3	1
1	0	3	1
1	2	4	2
2	1	4	6
1	2	4	5
6	9	35	25

2	4	16	4



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/25/22	NORTH & SOUTH:	Knott	LOCATION #:	4
WEDNESDAY	EAST & WEST:	Lampson	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:

N ▲ ◄ W E ► S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Lampson)			WESTBOUND (Lampson)			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	8	2	4	15	1	0	1	1	4	1	0	37
	7:15 AM	1	7	3	5	16	0	1	3	2	3	1	4	46
	7:30 AM	2	17	5	1	17	1	1	4	0	8	2	0	58
	7:45 AM	0	15	3	2	19	1	1	2	1	3	2	1	50
	8:00 AM	3	24	3	1	19	0	2	3	3	6	1	1	66
	8:15 AM	2	16	2	0	16	0	1	4	1	5	5	2	54
	8:30 AM	1	8	5	3	22	0	1	0	1	4	3	3	51
	8:45 AM	1	19	1	1	30	1	0	2	0	4	2	1	62
	VOLUMES	10	114	24	17	154	4	7	19	9	37	17	12	424
	APPROACH %	7%	77%	16%	10%	88%	2%	20%	54%	26%	56%	26%	18%	
	APP/DEPART	148	/	133	175	/	200	35	/	60	66	/	31	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	7	72	13	4	71	2	5	13	5	22	10	4	228
	APPROACH %	8%	78%	14%	5%	92%	3%	22%	57%	22%	61%	28%	11%	
	PEAK HR FACTOR		0.767			0.875			0.719			0.750		0.864
	APP/DEPART	92	/	81	77	/	98	23	/	30	36	/	19	0
PM	4:00 PM	0	14	2	0	15	1	0	4	0	5	3	1	45
	4:15 PM	1	14	3	0	4	0	0	1	4	1	3	2	33
	4:30 PM	2	18	1	2	6	1	0	4	0	3	2	0	39
	4:45 PM	0	18	1	0	8	1	1	2	0	3	0	1	35
	5:00 PM	0	9	2	0	7	0	0	4	2	0	2	0	26
	5:15 PM	0	15	1	1	9	2	1	4	0	2	1	0	36
	5:30 PM	1	11	3	1	8	0	0	1	0	2	1	0	28
	5:45 PM	1	10	0	2	9	1	0	2	0	0	0	1	26
	VOLUMES	5	109	13	6	66	6	2	22	6	16	12	5	268
	APPROACH %	4%	86%	10%	8%	85%	8%	7%	73%	20%	48%	36%	15%	
	APP/DEPART	127	/	116	78	/	88	30	/	41	33	/	23	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	2	60	5	3	30	4	2	14	2	8	5	1	136
	APPROACH %	3%	90%	7%	8%	81%	11%	11%	78%	11%	57%	36%	7%	
	PEAK HR FACTOR		0.798			0.771			0.750			0.700		0.872
	APP/DEPART	67	/	63	37	/	40	18	/	22	14	/	11	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

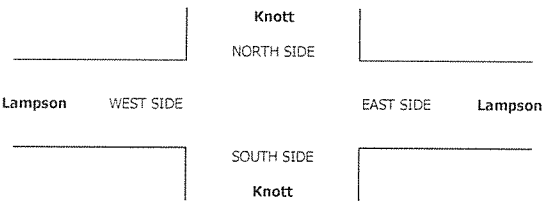
NRR 0	SRR 0	ERR 0	WRR 0
1	0	0	0
1	0	0	2
1	0	0	0
0	0	0	0
1	0	1	1
0	0	0	0
1	0	0	2
0	0	0	0
5	0	1	5

2	0	1	1

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	2	1
0	0	0	0
1	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	1
1	0	3	2

1	0	1	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/25/22	NORTH & SOUTH:	Knott	LOCATION #:	4
WEDNESDAY	EAST & WEST:	Lampson	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

N ▲ ◄ W E ► S ▼

		NORTHBOUND Knott			SOUTHBOUND Knott			EASTBOUND Lampson			WESTBOUND Lampson			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	3	0	1	3	0	1	2	0	1	2	0	
AM	7:00 AM	0	2	1	1	3	0	0	1	0	0	0	0	8
AM	7:15 AM	0	2	0	0	3	1	1	0	0	1	0	0	8
AM	7:30 AM	1	0	0	0	3	0	0	0	0	0	0	1	5
AM	7:45 AM	0	2	0	0	1	0	0	1	0	1	1	0	6
AM	8:00 AM	0	2	1	0	2	0	1	0	0	0	0	0	6
AM	8:15 AM	0	2	1	0	0	0	0	0	0	0	0	0	3
AM	8:30 AM	0	4	0	0	2	0	0	0	0	0	1	0	7
AM	8:45 AM	0	3	0	0	2	0	0	0	0	0	0	0	5
AM	VOLUMES	1	17	3	1	16	1	2	2	0	2	2	1	48
AM	APPROACH %	5%	81%	14%	6%	89%	6%	50%	50%	0%	40%	40%	20%	
AM	APP/DEPART	21	/	20	18	/	18	4	/	6	5	/	4	0
AM	BEGIN PEAK HR		7:30 AM											
AM	VOLUMES	1	6	2	0	6	0	1	1	0	1	1	1	20
AM	APPROACH %	11%	67%	22%	0%	100%	0%	50%	50%	0%	33%	33%	33%	
AM	PEAK HR FACTOR		0.750			0.500			0.500			0.375		0.833
AM	APP/DEPART	9	/	8	6	/	7	2	/	3	3	/	2	0
PM	4:00 PM	0	3	0	0	1	2	1	0	0	0	0	0	7
PM	4:15 PM	0	0	0	3	3	1	0	0	0	0	0	0	7
PM	4:30 PM	0	0	0	3	0	0	1	0	0	0	0	0	4
PM	4:45 PM	0	2	0	1	2	0	0	0	0	0	0	0	5
PM	5:00 PM	0	5	0	2	0	0	1	0	0	0	0	0	8
PM	5:15 PM	0	4	0	6	0	0	0	0	0	0	0	0	10
PM	5:30 PM	0	3	0	3	2	0	0	1	0	0	0	0	9
PM	5:45 PM	0	2	0	1	0	0	0	0	0	0	0	0	3
PM	VOLUMES	0	19	0	19	8	3	3	1	0	0	0	0	53
PM	APPROACH %	0%	100%	0%	63%	27%	10%	75%	25%	0%	0%	0%	0%	
PM	APP/DEPART	19	/	22	30	/	8	4	/	20	0	/	3	0
PM	BEGIN PEAK HR		4:30 PM											
PM	VOLUMES	0	11	0	12	2	0	2	0	0	0	0	0	27
PM	APPROACH %	0%	100%	0%	86%	14%	0%	100%	0%	0%	0%	0%	0%	
PM	PEAK HR FACTOR		0.550			0.583			0.500			0.000		0.675
PM	APP/DEPART	11	/	13	14	/	2	2	/	12	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
AM 7:00 AM	0	0	0	0	0
AM 7:15 AM	0	0	0	0	0
AM 7:30 AM	0	0	0	0	0
AM 7:45 AM	0	0	0	0	0
AM 8:00 AM	0	0	0	0	0
AM 8:15 AM	0	0	0	0	0
AM 8:30 AM	0	0	0	0	0
AM 8:45 AM	0	0	0	0	0
AM VOLUMES	0	0	0	0	0
PM 4:00 PM	0	0	0	0	0
PM 4:15 PM	0	0	0	0	0
PM 4:30 PM	0	0	0	0	0
PM 4:45 PM	0	0	0	0	0
PM 5:00 PM	0	0	0	0	0
PM 5:15 PM	0	0	0	0	0
PM 5:30 PM	0	0	0	0	0
PM 5:45 PM	0	0	0	0	0
PM VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES	0	0	0	0
AM 7:00 AM	0	0	0	0
AM 7:15 AM	0	1	0	0
AM 7:30 AM	0	0	0	0
AM 7:45 AM	0	0	0	0
AM 8:00 AM	0	0	0	0
AM 8:15 AM	0	0	0	0
AM 8:30 AM	0	0	0	0
AM 8:45 AM	0	0	0	0
AM VOLUMES	0	1	0	0
AM PEAK HR VOLUMES	0	0	0	0
PM 4:00 PM	0	0	0	0
PM 4:15 PM	0	0	0	0
PM 4:30 PM	0	0	0	0
PM 4:45 PM	0	0	0	0
PM 5:00 PM	0	0	0	0
PM 5:15 PM	0	0	0	0
PM 5:30 PM	0	0	0	0
PM 5:45 PM	0	0	0	0
PM VOLUMES	0	0	0	0
PM PEAK HR VOLUMES	0	0	0	0

Knott

NORTH SIDE

Lampson WEST SIDE

EAST SIDE **Lampson**

SOUTH SIDE

Knott

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/25/22	NORTH & SOUTH:	Knott	LOCATION #:	4
WEDNESDAY	EAST & WEST:	Lampson	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

▲ N ◄ W E ► S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Lampson)			WESTBOUND (Lampson)			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	3	1	1	1	0	0	0	0	1	0	0	7
	7:15 AM	0	5	0	1	2	0	0	0	0	2	1	0	11
	7:30 AM	1	4	0	0	7	0	0	0	0	0	0	0	12
	7:45 AM	2	5	0	0	5	0	0	0	0	1	0	0	13
	8:00 AM	0	3	0	0	7	0	0	0	0	2	0	0	12
	8:15 AM	0	2	1	0	8	0	0	0	0	2	0	0	13
	8:30 AM	0	6	0	0	4	0	0	1	0	0	0	0	11
	8:45 AM	1	1	0	0	5	0	0	0	0	0	0	0	7
	VOLUMES	4	29	2	2	39	0	0	1	0	8	1	0	86
	APPROACH %	11%	83%	6%	5%	95%	0%	0%	100%	0%	89%	11%	0%	
	APP/DEPART	35	/	29	41	/	47	1	/	5	9	/	5	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	3	14	1	0	27	0	0	0	0	5	0	0	50
	APPROACH %	17%	78%	6%	0%	100%	0%	0%	0%	0%	100%	0%	0%	
	PEAK HR FACTOR		0.643			0.844			0.000			0.625		0.962
	APP/DEPART	18	/	14	27	/	32	0	/	1	5	/	3	0
PM	4:00 PM	0	5	1	0	3	0	0	0	0	2	0	0	11
	4:15 PM	0	9	0	0	2	0	0	0	1	0	0	0	12
	4:30 PM	0	3	0	0	1	0	0	1	0	0	0	0	5
	4:45 PM	0	7	0	0	5	0	0	0	0	0	0	1	13
	5:00 PM	0	5	1	0	1	0	0	0	0	0	0	0	7
	5:15 PM	0	6	0	0	1	0	0	0	0	1	0	0	8
	5:30 PM	0	8	1	1	0	0	0	0	0	0	0	0	10
	5:45 PM	0	4	0	0	0	0	0	0	0	0	0	0	4
	VOLUMES	0	47	3	1	13	0	0	1	1	3	0	1	70
	APPROACH %	0%	94%	6%	7%	93%	0%	0%	50%	50%	75%	0%	25%	
	APP/DEPART	50	/	48	14	/	17	2	/	5	4	/	0	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	0	21	1	0	8	0	0	1	0	1	0	1	33
	APPROACH %	0%	95%	5%	0%	100%	0%	0%	100%	0%	50%	0%	50%	
	PEAK HR FACTOR		0.786			0.400			0.250			0.500		0.635
	APP/DEPART	22	/	22	8	/	9	1	/	2	2	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR 0	ERR 0	WRR 0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

1	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
2	0	1	0

1	0	0	0

Knott

NORTH SIDE

Lampson WEST SIDE EAST SIDE Lampson

SOUTH SIDE

Knott

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/25/22	NORTH & SOUTH:	Knott	LOCATION #:	4
WEDNESDAY	EAST & WEST:	Lampson	CONTROL:	SIGNAL

CLASS 5:	NOTES:
RV	

N ▲ ◄ W E ► S ▼

		NORTHBOUND Knott			SOUTHBOUND Knott			EASTBOUND Lampson			WESTBOUND Lampson			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	3	0	1	3	0	1	2	0	1	2	0	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
AM	VOLUMES	0	1	0	0	0	0	0	1	0	0	0	0	2
AM	APPROACH %	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	
AM	APP/DEPART	1	/	1	0	/	0	1	/	1	0	/	0	0
AM	BEGIN PEAK HR		7:30 AM											
AM	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1
AM	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
AM	PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250
AM	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	BEGIN PEAK HR		4:30 PM											
PM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
AM VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
PM VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
	0	0	0	0
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
AM VOLUMES	0	0	0	0
AM PEAK HR	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
PM VOLUMES	0	0	0	0
PM PEAK HR	0	0	0	0

Knott

NORTH SIDE

Lampson WEST SIDE

EAST SIDE **Lampson**

SOUTH SIDE

Knott

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/25/22	NORTH & SOUTH:	Knott	LOCATION #:	4
WEDNESDAY	EAST & WEST:	Lampson	CONTROL:	SIGNAL

CLASS 6:	NOTES:
BUSES	

N ▲ ◄ W E ► S ▼

		NORTHBOUND Knott			SOUTHBOUND Knott			EASTBOUND Lampson			WESTBOUND Lampson		
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	3	0	1	3	0	1	2	0	1	2	0	
AM	7:00 AM	1	2	0	1	3	0	0	1	0	0	3	0	11
AM	7:15 AM	2	1	0	0	2	0	1	0	0	0	1	1	8
AM	7:30 AM	0	0	0	0	1	1	0	0	0	0	1	0	3
AM	7:45 AM	1	1	0	0	0	1	0	1	0	1	2	0	7
AM	8:00 AM	0	1	0	0	3	0	0	4	0	0	0	0	8
AM	8:15 AM	0	0	0	0	0	0	0	3	0	0	0	0	3
AM	8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
AM	8:45 AM	1	0	0	0	0	0	0	0	1	0	0	0	2
AM	VOLUMES	5	5	0	1	9	2	1	10	1	1	7	1	43
AM	APPROACH %	50%	50%	0%	8%	75%	17%	8%	83%	8%	11%	78%	11%	
AM	APP/DEPART	10	/	7	12	/	11	12	/	11	9	/	14	0
AM	BEGIN PEAK HR		7:30 AM											
AM	VOLUMES	1	2	0	0	4	2	0	8	0	1	3	0	21
AM	APPROACH %	33%	67%	0%	0%	67%	33%	0%	100%	0%	25%	75%	0%	
AM	PEAK HR FACTOR		0.375			0.500			0.500			0.333		0.656
AM	APP/DEPART	3	/	2	6	/	5	8	/	8	4	/	6	0
PM	4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
PM	4:15 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
PM	4:30 PM	0	0	0	0	2	0	0	1	0	0	0	0	3
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	3	0	0	2	0	0	0	0	0	0	0	5
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	5	0	0	6	0	0	1	0	0	0	0	12
PM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	
PM	APP/DEPART	5	/	5	6	/	6	1	/	1	0	/	0	0
PM	BEGIN PEAK HR		4:30 PM											
PM	VOLUMES	0	3	0	0	4	0	0	1	0	0	0	0	8
PM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	
PM	PEAK HR FACTOR		0.250			0.500			0.250			0.000		0.400
PM	APP/DEPART	3	/	3	4	/	4	1	/	1	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
AM VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
PM VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
	0	0	0	0
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	1	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
AM VOLUMES	0	1	0	0
AM PEAK HR VOLUMES	0	1	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
PM VOLUMES	0	0	0	0
PM PEAK HR VOLUMES	0	0	0	0

Knott

NORTH SIDE

Lampson WEST SIDE EAST SIDE **Lampson**

SOUTH SIDE

Knott

T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC tel: 714.253.7588 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	3C3466
Wed, May 25, 22	NORTH & SOUTH:	Knott	LOCATION #:	5
	EAST & WEST:	Stanford	CONTROL:	SIGNAL

NOTES:

N ▲ / ◄ W / E ► / S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Stanford)			WESTBOUND (Stanford)			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	9	187	0	0	307	2	2	0	28	0	0	0	535
	7:15 AM	4	231	0	0	344	2	5	0	31	0	0	0	617
	7:30 AM	17	248	0	0	346	7	16	0	25	0	0	0	659
	7:45 AM	19	321	0	1	313	28	31	0	44	0	0	0	757
	8:00 AM	12	289	0	0	299	5	19	0	50	0	0	0	674
	8:15 AM	12	263	0	1	248	4	10	0	17	1	0	1	557
	8:30 AM	12	202	0	2	301	4	3	0	27	0	0	1	552
	8:45 AM	9	227	0	0	231	3	7	0	22	0	0	2	501
	VOLUMES	94	1,968	0	4	2,389	55	93	0	244	1	0	4	4,852
	APPROACH %	5%	95%	0%	0%	98%	2%	28%	0%	72%	20%	0%	80%	
	APP/DEPART	2,062	/	2,066	2,448	/	2,635	337	/	3	5	/	148	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	52	1,089	0	1	1,302	42	71	0	150	0	0	0	2,707
	APPROACH %	5%	95%	0%	0%	97%	3%	32%	0%	68%	0%	0%	0%	
	PEAK HR FACTOR		0.829			0.953			0.737			0.000		0.894
	APP/DEPART	1,141	/	1,160	1,345	/	1,452	221	/	1	0	/	34	0
PM	4:00 PM	16	281	0	0	241	9	5	0	11	2	0	1	566
	4:15 PM	20	284	0	0	237	8	7	0	13	1	0	2	572
	4:30 PM	17	286	0	0	260	8	6	0	22	4	0	3	626
	4:45 PM	17	316	0	0	260	10	9	0	10	0	0	0	622
	5:00 PM	20	323	0	0	266	13	6	0	26	0	0	0	654
	5:15 PM	23	345	0	0	296	14	5	0	18	0	0	0	701
	5:30 PM	17	253	0	1	253	6	3	0	15	0	0	0	548
	5:45 PM	19	300	0	0	253	7	3	0	17	0	0	0	599
	VOLUMES	149	2,390	0	1	2,086	75	44	0	132	7	0	6	4,890
	APPROACH %	6%	94%	0%	0%	96%	3%	25%	0%	75%	54%	0%	46%	
	APP/DEPART	2,539	/	2,440	2,162	/	2,225	176	/	1	13	/	224	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	77	1,272	0	0	1,102	45	26	0	76	4	0	3	2,605
	APPROACH %	6%	94%	0%	0%	96%	4%	25%	0%	75%	57%	0%	43%	
	PEAK HR FACTOR		0.916			0.925			0.797			0.250		0.929
	APP/DEPART	1,349	/	1,301	1,147	/	1,182	102	/	0	7	/	122	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
1	1	0	0	2

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SPR	ERR	WRR
0	0	0	0
0	0	15	0
0	1	16	0
0	1	14	0
0	2	16	0
0	0	20	0
0	0	12	0
0	0	17	1
0	0	19	2
0	5	135	3

0	5	72	0

0	0	9	0
0	0	11	0
0	1	15	1
0	0	9	0
0	2	21	0
0	1	9	0
0	1	14	0
0	1	11	0
0	6	99	1

0	4	54	1

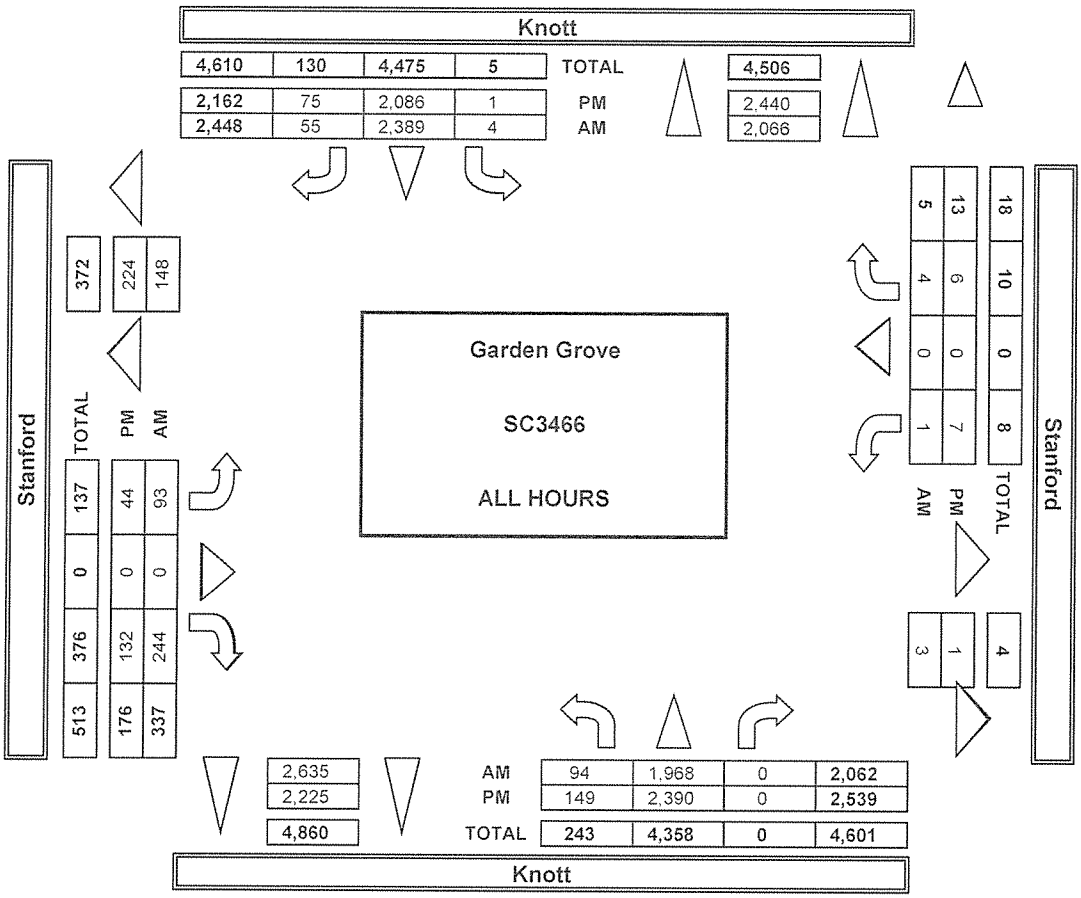
		ALL PED AND BIKE				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	0	1	0	0	1
	7:15 AM	0	1	0	1	2
	7:30 AM	0	0	0	0	0
	7:45 AM	0	2	0	0	2
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	1	1	0	0	2
	8:45 AM	0	0	0	0	0
	TOTAL	1	5	0	1	7
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	1	1
	4:30 PM	0	0	0	0	0
	4:45 PM	0	1	0	0	1
	5:00 PM	1	0	0	0	1
	5:15 PM	1	1	0	1	3
	5:30 PM	0	0	0	0	0
	5:45 PM	0	1	0	0	1
	TOTAL	2	3	0	2	7

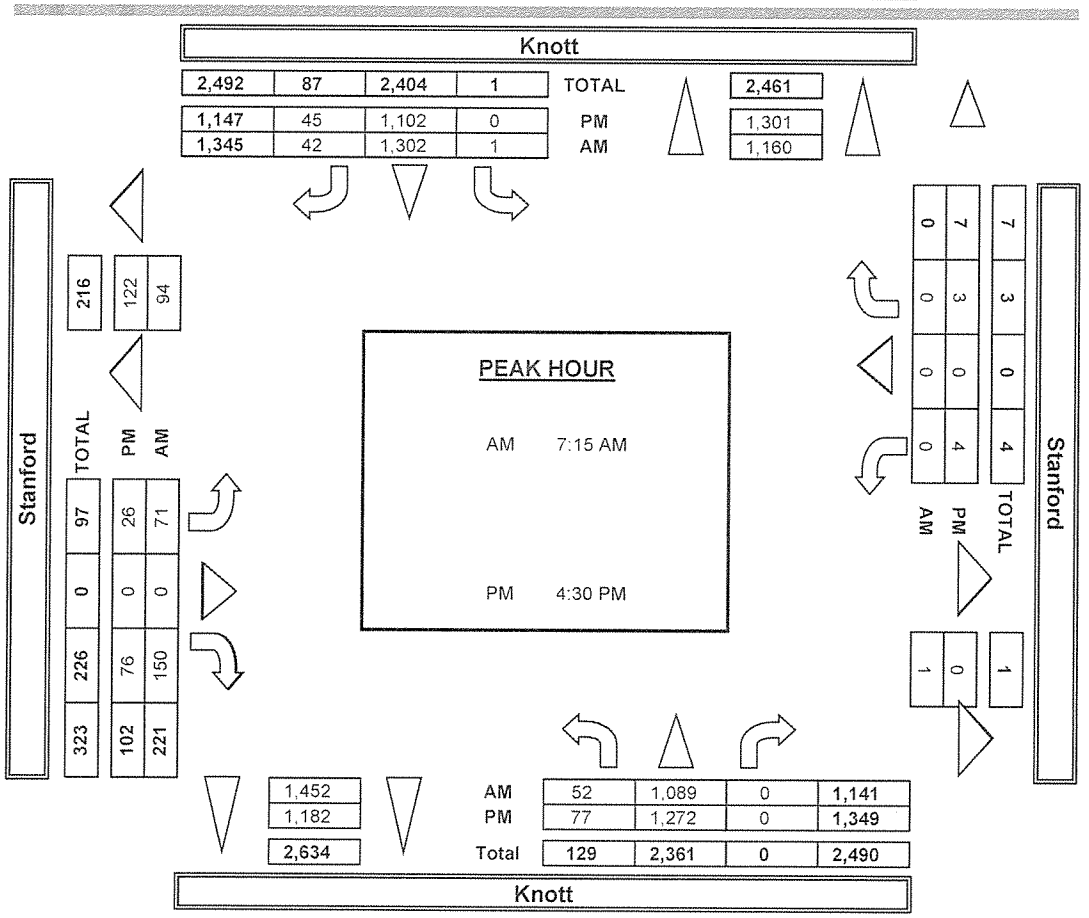
		PEDESTRIAN CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	1	1
	7:30 AM	0	0	0	0	0
	7:45 AM	0	1	0	0	1
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	1	1	0	0	2
	8:45 AM	0	0	0	0	0
	TOTAL	1	2	0	1	4
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	1	1
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	1	1
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	0	0	2	2

		BICYCLE CROSSINGS				
		ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	1	0	0	1
	7:15 AM	0	1	0	0	1
	7:30 AM	0	0	0	0	0
	7:45 AM	0	1	0	0	1
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	0	3	0	0	3
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	1	0	0	1
	5:00 PM	1	0	0	0	1
	5:15 PM	1	1	0	0	2
	5:30 PM	0	0	0	0	0
	5:45 PM	0	1	0	0	1
	TOTAL	2	3	0	0	5

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/25/22	NORTH & SOUTH:	Knott	LOCATION #:	5
WEDNESDAY	EAST & WEST:	Stanford	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

N ▲ / ◄ W / E ► / S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Stanford)			WESTBOUND (Stanford)			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	7	170	0	0	285	2	1	0	27	0	0	0	492
	7:15 AM	4	203	0	0	310	2	5	0	28	0	0	0	552
	7:30 AM	15	222	0	0	312	6	14	0	24	0	0	0	593
	7:45 AM	16	290	0	1	282	28	30	0	44	0	0	0	691
	8:00 AM	10	261	0	0	260	4	16	0	48	0	0	0	599
	8:15 AM	8	240	0	1	224	3	9	0	17	1	0	1	504
	8:30 AM	11	184	0	1	275	3	2	0	26	0	0	1	503
	8:45 AM	7	205	0	0	191	3	7	0	22	0	0	1	436
	VOLUMES	78	1,775	0	3	2,139	51	84	0	236	1	0	3	4,370
	APPROACH %	4%	96%	0%	0%	98%	2%	26%	0%	74%	25%	0%	75%	
	APP/DEPART	1,853	/	1,862	2,193	/	2,376	320	/	3	4	/	129	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	45	976	0	1	1,164	40	65	0	144	0	0	0	2,435
	APPROACH %	4%	96%	0%	0%	97%	3%	31%	0%	69%	0%	0%	0%	
	PEAK HR FACTOR		0.834			0.947			0.706			0.000		0.881
	APP/DEPART	1,021	/	1,041	1,205	/	1,308	209	/	1	0	/	85	0
PM	4:00 PM	15	264	0	0	234	9	5	0	8	2	0	1	538
	4:15 PM	18	260	0	0	224	8	7	0	11	1	0	2	531
	4:30 PM	16	267	0	0	266	8	6	0	19	4	0	3	589
	4:45 PM	15	287	0	0	247	10	9	0	8	0	0	0	576
	5:00 PM	20	299	0	0	257	12	5	0	22	0	0	0	615
	5:15 PM	23	316	0	0	285	13	4	0	17	0	0	0	658
	5:30 PM	17	226	0	0	244	6	3	0	14	0	0	0	510
	5:45 PM	18	278	0	0	248	4	3	0	16	0	0	0	567
	VOLUMES	142	2,197	0	0	2,005	70	42	0	115	7	0	6	4,584
	APPROACH %	6%	94%	0%	0%	97%	3%	27%	0%	73%	54%	0%	46%	
	APP/DEPART	2,339	/	2,245	2,075	/	2,127	157	/	0	13	/	212	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	74	1,169	0	0	1,055	43	24	0	66	4	0	3	2,438
	APPROACH %	6%	94%	0%	0%	96%	4%	27%	0%	73%	57%	0%	43%	
	PEAK HR FACTOR		0.917			0.921			0.833			0.250		0.926
	APP/DEPART	1,243	/	1,196	1,098	/	1,125	90	/	0	7	/	117	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR 0	ERR 0	WRR 0
0	0	15	0
0	1	15	0
0	1	14	0
0	3	16	0
0	0	25	0
0	0	12	0
0	0	16	1
0	0	19	1
0	5	132	2

0	5	70	0

0	0	8	0
0	0	10	0
0	1	14	1
0	0	7	0
0	2	18	0
0	1	9	0
0	1	13	0
0	1	11	0
0	6	90	1

0	4	48	1

Knott

NORTH SIDE

Stanford WEST SIDE EAST SIDE **Stanford**

SOUTH SIDE

Knott

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/25/22	NORTH & SOUTH:	Knott	LOCATION #:	5
WEDNESDAY	EAST & WEST:	Stanford	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

N ▲ | ◄ W | E ► | S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Stanford)			WESTBOUND (Stanford)			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	2	7	0	0	17	0	1	0	1	0	0	0	28
	7:15 AM	0	17	0	0	23	0	0	0	3	0	0	0	43
	7:30 AM	1	20	0	0	22	1	2	0	1	0	0	0	47
	7:45 AM	1	20	0	0	23	0	0	0	0	0	0	0	44
	8:00 AM	0	23	0	0	24	1	3	0	1	0	0	0	52
	8:15 AM	2	19	0	0	17	1	0	0	0	0	0	0	39
	8:30 AM	1	9	0	1	18	1	1	0	0	0	0	0	31
	8:45 AM	2	17	0	0	32	0	0	0	0	0	0	0	51
	VOLUMES	9	132	0	1	176	4	7	0	6	0	0	0	335
	APPROACH %	6%	94%	0%	1%	97%	2%	54%	0%	46%	0%	0%	0%	
	APP/DEPART	141	/	140	181	/	183	13	/	0	0	/	12	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	2	80	0	0	92	2	5	0	5	0	0	0	186
	APPROACH %	2%	98%	0%	0%	98%	2%	50%	0%	50%	0%	0%	0%	
	PEAK HR FACTOR		0.891			0.940			0.625			0.000		0.894
	APP/DEPART	82	/	85	94	/	97	10	/	0	0	/	4	0
PM	4:00 PM	1	15	0	0	7	0	0	0	2	0	0	0	25
	4:15 PM	2	17	0	0	6	0	0	0	1	0	0	0	26
	4:30 PM	1	17	0	0	10	0	0	0	2	0	0	0	30
	4:45 PM	2	22	0	0	7	0	0	0	2	0	0	0	33
	5:00 PM	0	12	0	0	8	1	1	0	1	0	0	0	23
	5:15 PM	0	16	0	0	6	1	0	0	1	0	0	0	24
	5:30 PM	0	13	0	1	7	0	0	0	1	0	0	0	22
	5:45 PM	1	12	0	0	5	3	0	0	1	0	0	0	22
	VOLUMES	7	124	0	1	56	5	1	0	11	0	0	0	205
	APPROACH %	5%	95%	0%	2%	90%	8%	8%	0%	92%	0%	0%	0%	
	APP/DEPART	131	/	125	62	/	67	12	/	1	0	/	12	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	3	67	0	0	31	2	1	0	6	0	0	0	110
	APPROACH %	4%	96%	0%	0%	94%	6%	14%	0%	86%	0%	0%	0%	
	PEAK HR FACTOR		0.729			0.825			0.875			0.000		0.833
	APP/DEPART	70	/	68	33	/	37	7	/	0	0	/	5	0

U-TURNS

NB	SB	EB	WB	TTL
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
1	1	0	0	2

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

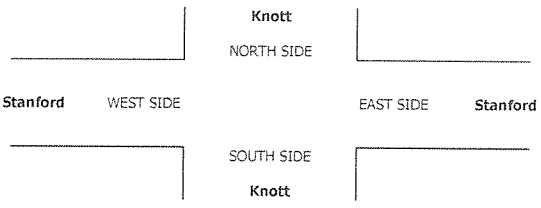
RTOR

NRR 0	SRR 0	ERR 0	WRR 0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0

0	0	1	0

0	0	1	0
0	0	1	0
0	0	1	0
0	0	2	0
0	0	1	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	7	0

0	0	4	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:					
5/25/22	LOCATION:	Garden Grove	PROJECT #:	SC3466	
WEDNESDAY	NORTH & SOUTH:	Knott	LOCATION #:	5	
	EAST & WEST:	Stanford	CONTROL:	SIGNAL	

CLASS 3: 3-AXLE TRUCKS

NOTES:

N ▲ ◄ W E ► S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Stanford)			WESTBOUND (Stanford)			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	3	0	0	2	0	0	0	0	0	0	0	5
	7:15 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
	7:30 AM	0	1	0	0	4	0	0	0	0	0	0	0	5
	7:45 AM	2	2	0	0	2	0	0	0	0	0	0	0	6
	8:00 AM	1	1	0	0	2	0	0	0	0	0	0	0	4
	8:15 AM	2	1	0	0	0	0	0	0	0	0	0	0	3
	8:30 AM	0	4	0	0	2	0	0	0	0	0	0	0	6
	8:45 AM	0	3	0	0	2	0	0	0	0	0	0	1	6
	VOLUMES	5	17	0	0	15	0	0	0	0	0	0	1	38
	APPROACH %	23%	77%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%	
	APP/DEPART	22	/	18	15	/	15	0	/	0	1	/	5	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	3	6	0	0	9	0	0	0	0	0	0	0	18
	APPROACH %	33%	67%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR	0.563			0.563			0.000			0.000			0.750
	APP/DEPART	9	/	6	9	/	9	0	/	0	0	/	3	0
PM	4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
	4:15 PM	0	0	0	0	3	0	0	0	1	0	0	0	4
	4:30 PM	0	1	0	0	1	0	0	0	1	0	0	0	3
	4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
	5:00 PM	0	1	0	0	0	0	0	0	2	0	0	0	3
	5:15 PM	0	1	0	0	1	0	1	0	0	0	0	0	3
	5:30 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	VOLUMES	0	5	0	0	8	0	1	0	5	0	0	0	19
	APPROACH %	0%	100%	0%	0%	100%	0%	17%	0%	83%	0%	0%	0%	
	APP/DEPART	5	/	6	8	/	13	6	/	0	0	/	0	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	0	3	0	0	3	0	1	0	3	0	0	0	10
	APPROACH %	0%	100%	0%	0%	100%	0%	25%	0%	75%	0%	0%	0%	
	PEAK HR FACTOR	0.750			0.750			0.500			0.000			0.833
	APP/DEPART	3	/	4	3	/	6	4	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	1

0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	2	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	2	0

0	0	2	0

Knott

NORTH SIDE

Stanford WEST SIDE EAST SIDE Stanford

SOUTH SIDE

Knott

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/25/22	NORTH & SOUTH:	Knott	LOCATION #:	5
WEDNESDAY	EAST & WEST:	Stanford	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

▲ N ◄ W E ► S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Stanford)			WESTBOUND (Stanford)			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	4	0	0	2	0	0	0	0	0	0	0	6
	7:15 AM	0	6	0	0	6	0	0	0	0	0	0	0	12
	7:30 AM	1	4	0	0	7	0	0	0	0	0	0	0	12
	7:45 AM	0	8	0	0	5	0	0	0	0	0	0	0	13
	8:00 AM	1	3	0	0	10	0	0	0	0	0	0	0	14
	8:15 AM	0	3	0	0	7	0	1	0	0	0	0	0	11
	8:30 AM	0	5	0	0	6	0	0	0	0	0	0	0	11
	8:45 AM	0	1	0	0	5	0	0	0	0	0	0	0	6
	VOLUMES	2	34	0	0	48	0	1	0	0	0	0	0	85
	APPROACH %	6%	94%	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%	
	APP/DEPART	36	/	35	48	/	48	1	/	0	0	/	2	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	2	21	0	0	28	0	0	0	0	0	0	0	51
	APPROACH %	9%	91%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.719			0.700			0.000			0.000		0.911
	APP/DEPART	23	/	21	28	/	28	0	/	0	0	/	2	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	6	0	0	2	0	0	0	0	0	0	0	8
	4:30 PM	0	3	0	0	1	0	0	0	0	0	0	0	4
	4:45 PM	0	7	0	0	5	0	0	0	0	0	0	0	12
	5:00 PM	0	11	0	0	1	0	0	0	0	0	0	0	12
	5:15 PM	0	9	0	0	2	0	0	0	0	0	0	0	11
	5:30 PM	0	13	0	0	0	0	0	0	0	0	0	0	13
	5:45 PM	0	9	0	0	0	0	0	0	0	0	0	0	9
	VOLUMES	0	58	0	0	11	0	0	0	0	0	0	0	69
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	58	/	58	11	/	11	0	/	0	0	/	0	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	0	30	0	0	9	0	0	0	0	0	0	0	39
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.682			0.450			0.000			0.000		0.813
	APP/DEPART	30	/	30	9	/	9	0	/	0	0	/	0	0

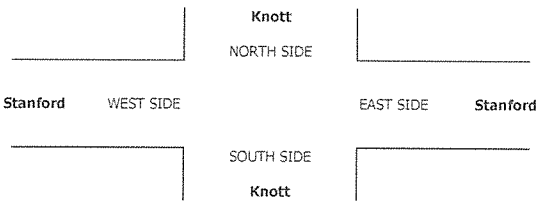
U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/25/22	NORTH & SOUTH:	Knott	LOCATION #:	5
WEDNESDAY	EAST & WEST:	Stanford	CONTROL:	SIGNAL

CLASS 5:	NOTES:
RV	

▲ N ◄ W E ► S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Stanford)			WESTBOUND (Stanford)			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

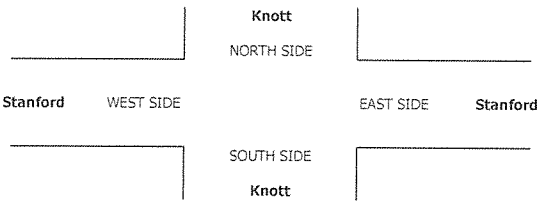
RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

NRR	SRR	ERR	WRR
0	0	0	0

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

NRR	SRR	ERR	WRR
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/25/22	NORTH & SOUTH:	Knott	LOCATION #:	5
WEDNESDAY	EAST & WEST:	Stanford	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

▲ N ◄ W E ► S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Stanford)			WESTBOUND (Stanford)			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	3	0	0	1	0	0	0	0	0	0	0	4
	7:15 AM	0	3	0	0	4	0	0	0	0	0	0	0	7
	7:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
	7:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	2
	8:00 AM	0	1	0	0	3	0	0	0	1	0	0	0	5
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
	8:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
	VOLUMES	0	9	0	0	11	0	1	0	2	0	0	0	23
	APPROACH %	0%	100%	0%	0%	100%	0%	33%	0%	67%	0%	0%	0%	
	APP/DEPART	9	/	10	11	/	13	3	/	0	0	/	0	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	0	5	0	0	9	0	1	0	1	0	0	0	16
	APPROACH %	0%	100%	0%	0%	100%	0%	50%	0%	50%	0%	0%	0%	
	PEAK HR FACTOR		0.417			0.563			0.500			0.000		0.571
	APP/DEPART	5	/	6	9	/	10	2	/	0	0	/	0	0
PM	4:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
	4:15 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
	4:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
	5:15 PM	0	3	0	0	2	0	0	0	0	0	0	0	5
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	6	0	0	6	0	0	0	1	0	0	0	13
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	
	APP/DEPART	6	/	6	6	/	7	1	/	0	0	/	0	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	0	3	0	0	4	0	0	0	1	0	0	0	8
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	
	PEAK HR FACTOR		0.250			0.500			0.250			0.000		0.400
	APP/DEPART	3	/	3	4	/	5	1	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	2	0

0	0	1	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

Knott

NORTH SIDE

Stanford WEST SIDE EAST SIDE Stanford

SOUTH SIDE

Knott

T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AmTD LLC. tel: 714 260 7885 cs@amtd.com

DATE:	LOCATION:		PROJECT #:	SC3466
Wed, May 25, 22	NORTH & SOUTH:	Knott	LOCATION #:	6
	EAST & WEST:	Garden Grove	CONTROL:	SIGNAL

NOTES:

N ▲ | ◄ W | E ► | S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND (Knott - Southwest)			SOUTHBOUND (Knott - Southwest)			EASTBOUND (Garden Grove)			WESTBOUND (Garden Grove)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 1	WL 1.5	WT 1.5	WR 1	TOTAL
AM	7:00 AM	8	84	127	121	182	26	71	120	22	96	61	93	941
	7:15 AM	9	118	142	80	215	30	71	158	30	90	79	114	1,122
	7:30 AM	11	114	156	93	182	39	74	123	32	111	131	157	1,223
	7:45 AM	15	128	186	92	197	34	97	144	29	129	110	185	1,316
	8:00 AM	11	111	144	79	185	16	109	141	40	101	100	137	1,174
	8:15 AM	7	109	139	76	163	19	82	117	21	98	100	122	1,051
	8:30 AM	6	114	128	68	177	21	54	121	30	96	86	103	1,009
	8:45 AM	10	110	103	74	144	30	82	105	22	100	97	96	963
	VOLUMES	71	888	1,095	683	1,415	215	640	1,021	226	779	764	1,012	8,799
	APPROACH %	3%	42%	53%	30%	61%	9%	34%	54%	12%	31%	30%	40%	
	APP/DEPART	2,054	/	2,540	2,313	/	2,422	1,887	/	2,801	2,545	/	1,036	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	40	471	598	344	779	119	351	558	131	401	420	593	4,835
	APPROACH %	4%	42%	54%	28%	63%	10%	34%	54%	13%	30%	29%	41%	
	PEAK HR FACTOR		0.927			0.955			0.897			0.851		0.919
	APP/DEPART	1,109	/	1,415	1,242	/	1,341	1,040	/	1,502	1,444	/	577	0
PM	4:00 PM	14	135	147	93	144	35	71	132	36	105	125	115	1,174
	4:15 PM	14	163	152	96	138	29	93	143	44	126	129	139	1,267
	4:30 PM	18	158	141	90	153	35	88	148	46	100	123	139	1,239
	4:45 PM	11	174	160	74	126	36	82	151	44	116	111	139	1,325
	5:00 PM	11	158	144	94	143	28	87	153	43	114	149	154	1,276
	5:15 PM	8	171	152	91	169	38	89	134	52	102	137	113	1,276
	5:30 PM	15	145	148	88	129	39	61	153	59	128	124	137	1,226
	5:45 PM	15	147	140	97	109	34	88	169	40	126	126	129	1,220
	VOLUMES	106	1,271	1,183	725	1,111	272	660	1,183	364	917	1,024	1,085	9,903
	APPROACH %	4%	50%	46%	34%	53%	13%	30%	54%	16%	29%	34%	36%	
	APP/DEPART	2,562	/	3,016	2,108	/	2,398	2,207	/	3,094	3,026	/	1,395	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	48	661	597	349	591	135	347	586	185	432	520	565	5,016
	APPROACH %	4%	51%	46%	32%	55%	13%	31%	52%	17%	28%	34%	37%	
	PEAK HR FACTOR		0.946			0.902			0.988			0.909		0.983
	APP/DEPART	1,306	/	1,573	1,075	/	1,210	1,118	/	1,532	1,517	/	701	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	1	1
1	0	0	1	2
1	0	0	0	1
0	0	0	0	0
3	0	0	2	5

1	0	0	0	1
0	0	0	1	1
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
3	0	0	1	4

2	0	0	1	3

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
43	4	14	42
68	2	14	55
66	2	10	76
74	2	19	82
66	0	22	59
44	1	11	49
41	2	5	47
32	5	15	43
434	18	113	453

271	6	65	272

62	3	22	41
71	4	15	66
48	2	20	60
68	5	24	55
60	1	20	68
61	9	13	47
55	7	26	56
34	9	13	50
485	38	168	437

233	18	83	230

ALL PED AND BIKE

	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM 7:00 AM	1	1	0	0	2
7:15 AM	0	1	0	0	1
7:30 AM	1	0	0	1	2
7:45 AM	1	2	0	1	4
8:00 AM	6	3	3	0	11
8:15 AM	1	1	0	2	4
8:30 AM	2	2	0	1	5
8:45 AM	2	1	0	0	3
TOTAL	13	11	3	5	32
PM 4:00 PM	1	2	1	1	5
4:15 PM	0	1	3	0	4
4:30 PM	1	0	0	0	1
4:45 PM	0	2	2	0	4
5:00 PM	1	2	0	0	3
5:15 PM	1	2	2	0	5
5:30 PM	0	0	2	0	2
5:45 PM	0	1	0	1	2
TOTAL	4	10	10	2	26

PEDESTRIAN CROSSINGS

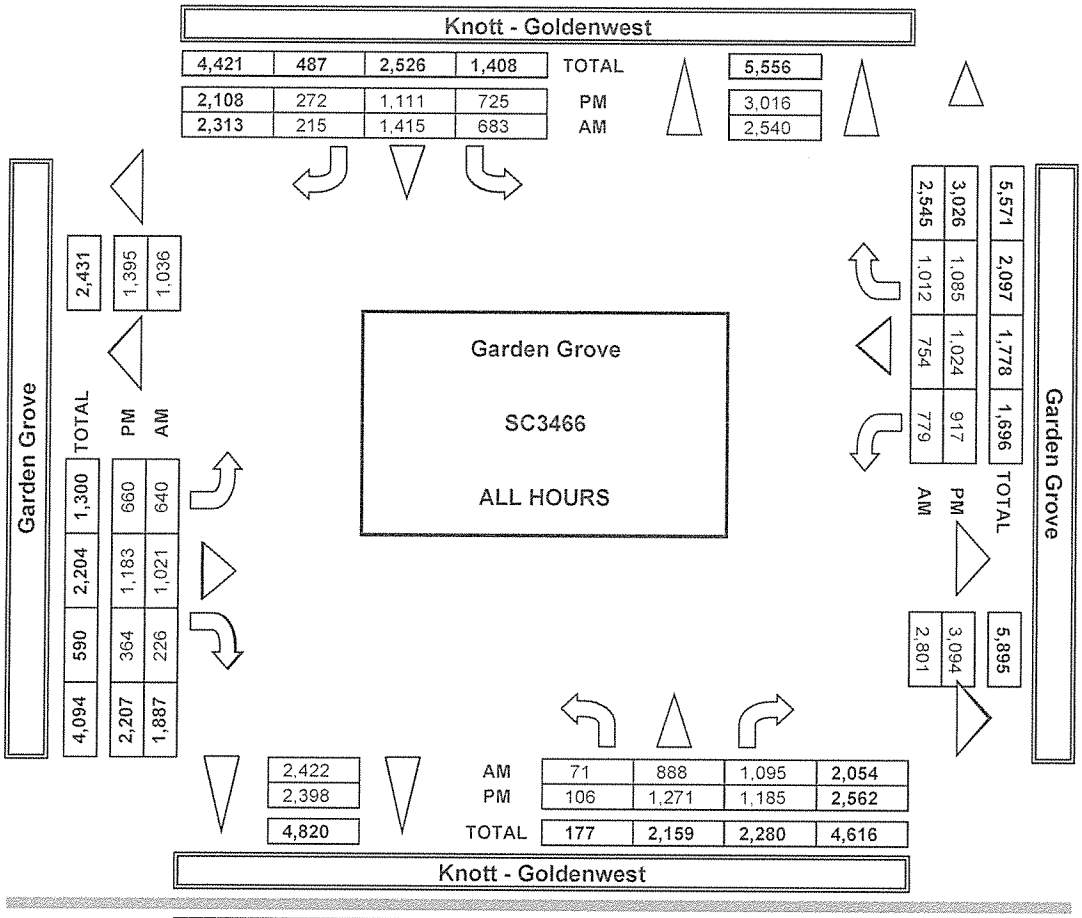
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM 7:00 AM	1	0	0	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	1	0	1	2
8:00 AM	4	2	3	0	9
8:15 AM	1	1	0	2	4
8:30 AM	1	2	0	1	4
8:45 AM	0	0	0	0	0
TOTAL	7	6	3	4	20
PM 4:00 PM	1	1	1	0	3
4:15 PM	0	1	3	0	4
4:30 PM	0	0	0	0	0
4:45 PM	0	1	1	0	2
5:00 PM	1	2	0	0	3
5:15 PM	0	1	2	0	3
5:30 PM	0	0	2	0	2
5:45 PM	0	0	0	0	0
TOTAL	2	6	9	0	17

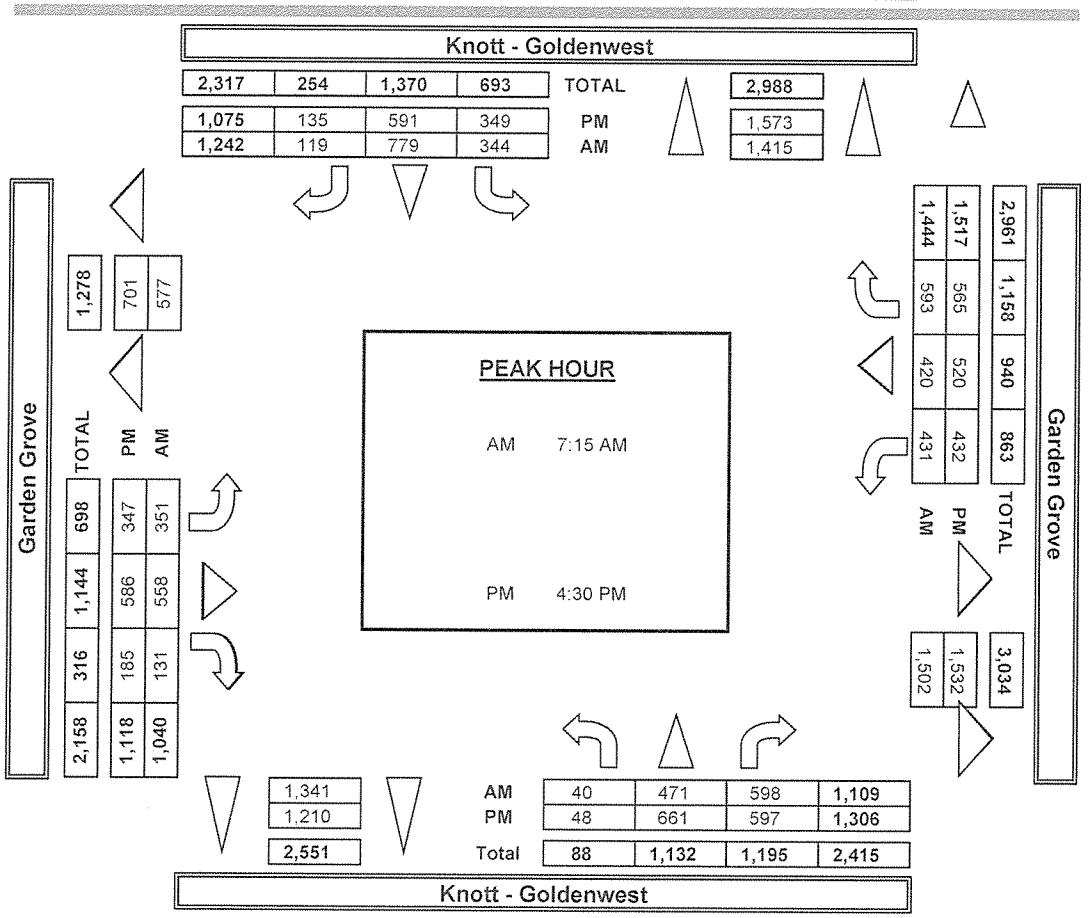
BICYCLE CROSSINGS

	ES	WB	SS	NB	TOTAL
AM 7:00 AM	0	1	0	0	1
7:15 AM	0	1	0	0	1
7:30 AM	1	0	0	1	2
7:45 AM	1	1	0	0	2
8:00 AM	1	1	0	0	2
8:15 AM	0	0	0	0	0
8:30 AM	1	0	0	0	1
8:45 AM	2	1	0	0	3
TOTAL	6	5	0	1	12
PM 4:00 PM	0	1	0	1	2
4:15 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1
4:45 PM	0	1	1	0	2
5:00 PM	0	0	0	0	0
5:15 PM	1	1	0	0	2
5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	1	2
TOTAL	2	4	1	2	9

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/25/22	NORTH & SOUTH:	Knott	LOCATION #:	6
WEDNESDAY	EAST & WEST:	Garden Grove	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

▲ N ◄ W E ► S ▼

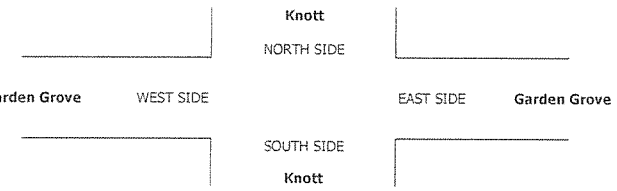
		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Garden Grove)			WESTBOUND (Garden Grove)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 1	WL 1.5	WT 1.5	WR 1	TOTAL
AM	7:00 AM	7	76	117	111	138	24	66	106	18	49	57	77	846
	7:15 AM	3	111	130	70	200	28	59	137	26	79	73	96	1,012
	7:30 AM	9	102	144	84	169	38	62	111	27	97	120	133	1,096
	7:45 AM	14	116	144	76	187	33	85	134	27	119	98	163	1,196
	8:00 AM	10	101	133	65	171	15	92	132	36	86	88	122	1,051
	8:15 AM	7	102	129	61	146	19	74	110	19	82	85	100	934
	8:30 AM	6	104	116	57	162	18	46	107	27	79	82	90	894
	8:45 AM	8	100	86	65	124	29	69	93	19	93	78	81	845
	VOLUMES	64	812	999	589	1,297	204	553	930	199	684	681	862	7,874
	APPROACH %	3%	43%	53%	28%	62%	10%	33%	55%	12%	31%	31%	39%	
	APP/DEPART	1,875	/	2,227	2,090	/	2,181	1,682	/	2,520	2,227	/	946	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	35	430	551	295	727	114	298	514	116	379	379	514	4,355
	APPROACH %	3%	42%	54%	26%	64%	10%	32%	55%	13%	30%	30%	40%	
	PEAK HR FACTOR		0.928			0.953			0.892			0.838		0.910
	APP/DEPART	1,017	/	1,242	1,136	/	1,223	928	/	1,362	1,274	/	528	0
PM	4:00 PM	14	143	136	85	133	32	61	112	32	100	119	103	1,070
	4:15 PM	14	152	141	87	129	28	80	132	41	119	122	126	1,171
	4:30 PM	17	147	136	82	148	35	82	133	44	99	119	132	1,174
	4:45 PM	11	169	151	71	117	34	71	136	42	109	105	129	1,145
	5:00 PM	11	154	135	91	136	26	79	144	41	112	142	138	1,209
	5:15 PM	8	161	141	85	160	38	85	126	50	97	132	119	1,202
	5:30 PM	15	140	144	83	127	37	52	148	58	123	115	121	1,163
	5:45 PM	15	143	128	94	108	34	82	158	39	123	121	121	1,166
	VOLUMES	105	1,209	1,112	678	1,058	264	592	1,089	347	882	975	989	9,300
	APPROACH %	4%	50%	46%	34%	53%	13%	29%	54%	17%	31%	34%	35%	
	APP/DEPART	2,426	/	2,790	2,000	/	2,293	2,028	/	2,880	2,846	/	1,337	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	45	631	563	329	561	133	317	539	177	417	498	518	4,730
	APPROACH %	4%	51%	45%	32%	55%	13%	31%	52%	17%	29%	35%	36%	
	PEAK HR FACTOR		0.937			0.904			0.978			0.914		0.978
	APP/DEPART	1,241	/	1,466	1,023	/	1,157	1,033	/	1,431	1,433	/	676	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	1	1
0	0	0	1	1
1	0	0	0	1
1	0	0	0	1
0	0	0	0	0
3	0	0	2	5
1	0	0	0	1
0	0	0	1	1
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1
0	0	0	0	0
3	0	0	0	3
1	0	0	0	1
7	0	0	1	8

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
43	4	12	36
60	2	12	44
61	2	8	65
67	2	18	71
61	0	22	54
42	1	9	38
38	2	8	40
33	5	13	35
405	18	102	383
249	6	60	234
57	3	21	35
67	3	16	61
44	2	19	57
60	4	23	48
58	2	19	59
56	9	17	41
52	6	24	45
32	6	18	48
426	35	157	394
218	17	78	205



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:					
5/25/22	LOCATION:	Garden Grove	PROJECT #:	SC3466	
WEDNESDAY	NORTH & SOUTH:	Knott	LOCATION #:	6	
	EAST & WEST:	Garden Grove	CONTROL:	SIGNAL	

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:

N ▲ / W ◄ / E ► / S ▼

		NORTHBOUND Knott			SOUTHBOUND Knott			EASTBOUND Garden Grove			WESTBOUND Garden Grove			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 1	WL 1.5	WT 1.5	WR 1	TOTAL
AM	7:00 AM	1	3	6	9	13	2	4	10	3	5	2	7	65
	7:15 AM	0	6	8	3	9	2	8	9	4	9	5	10	73
	7:30 AM	1	8	11	5	8	1	8	8	5	11	7	16	89
	7:45 AM	1	9	7	13	8	0	9	9	1	8	9	13	87
	8:00 AM	0	8	11	6	12	1	14	8	3	15	8	9	95
	8:15 AM	0	7	10	11	14	0	6	4	2	11	12	17	94
	8:30 AM	0	9	10	3	13	3	6	14	3	14	2	8	85
	8:45 AM	1	10	12	7	18	1	6	9	2	4	7	10	87
	VOLUMES	4	60	75	57	95	10	61	71	23	77	52	90	675
	APPROACH %	3%	43%	54%	35%	59%	6%	39%	46%	15%	35%	24%	41%	
	APP/DEPART	139	/	211	162	/	195	155	/	203	219	/	66	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	2	31	37	27	37	4	39	34	13	43	29	48	344
	APPROACH %	3%	44%	53%	40%	54%	6%	45%	40%	15%	36%	24%	40%	
	PEAK HR FACTOR	0.875			0.810			0.860			0.882			0.905
	APP/DEPART	70	/	118	68	/	93	86	/	98	120	/	35	0
PM	4:00 PM	0	6	8	6	10	3	9	17	3	4	6	6	78
	4:15 PM	0	7	7	8	4	0	11	11	3	5	5	9	70
	4:30 PM	1	10	4	4	4	0	5	14	1	1	4	5	53
	4:45 PM	0	3	9	1	7	2	9	14	2	5	5	7	64
	5:00 PM	0	2	7	3	5	0	8	9	1	2	7	6	50
	5:15 PM	0	7	9	3	7	0	1	7	2	4	5	8	53
	5:30 PM	0	2	4	4	1	2	4	5	1	5	7	7	42
	5:45 PM	0	1	11	3	1	0	4	10	1	3	4	3	41
	VOLUMES	1	38	59	32	39	7	51	87	14	29	43	51	451
	APPROACH %	1%	39%	60%	41%	50%	9%	34%	57%	9%	24%	35%	41%	
	APP/DEPART	98	/	140	78	/	82	152	/	178	123	/	51	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	1	22	29	11	23	2	23	44	6	12	21	26	220
	APPROACH %	2%	42%	56%	31%	64%	6%	32%	60%	8%	20%	36%	44%	
	PEAK HR FACTOR	0.813			0.900			0.730			0.868			0.859
	APP/DEPART	52	/	71	36	/	41	73	/	84	59	/	24	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

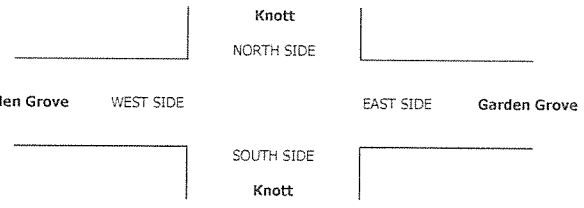
RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	1	5
2	0	2	4
4	0	2	8
3	0	1	6
5	0	0	2
2	0	2	7
3	0	0	2
2	0	2	5
21	0	10	39

14	0	5	20

3	0	1	2
2	0	3	2
0	0	1	3
5	1	1	5
2	0	1	4
6	0	2	5
3	1	1	2
2	0	1	2
23	2	11	23

13	1	5	15



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:					
5/25/22	LOCATION:	Garden Grove	PROJECT #:	SC3466	
WEDNESDAY	NORTH & SOUTH:	Knott	LOCATION #:	6	
	EAST & WEST:	Garden Grove	CONTROL:	SIGNAL	

CLASS 3: 3-AXLE TRUCKS

NOTES:

N ▲ / ◄ W / E ► / S ▼

		NORTHBOUND Knott			SOUTHBOUND Knott			EASTBOUND Garden Grove			WESTBOUND Garden Grove			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 1	WL 1.5	WT 1.5	WR 1	TOTAL
AM	7:00 AM	0	1	1	1	0	0	0	3	0	0	0	3	9
	7:15 AM	0	0	1	2	3	0	1	3	0	2	1	2	15
	7:30 AM	0	1	1	2	2	0	0	1	0	1	1	2	11
	7:45 AM	0	0	0	0	1	1	1	1	0	0	0	3	7
	8:00 AM	0	1	0	0	0	0	2	1	0	0	0	3	7
	8:15 AM	0	0	0	1	1	0	1	0	0	0	2	2	7
	8:30 AM	0	1	1	0	1	0	0	0	0	0	2	3	8
	8:45 AM	0	0	0	0	1	0	2	0	0	1	0	2	6
	VOLUMES	0	4	4	6	9	1	7	9	0	4	6	20	70
	APPROACH %	0%	50%	50%	38%	56%	6%	44%	56%	0%	13%	20%	67%	
	APP/DEPART	8	/	31	16	/	13	16	/	19	30	/	7	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	2	2	4	6	1	4	6	0	3	2	10	40
	APPROACH %	0%	50%	50%	36%	55%	9%	40%	60%	0%	20%	13%	67%	
	PEAK HR FACTOR		0.500			0.550			0.625			0.750		0.667
	APP/DEPART	4	/	16	11	/	9	10	/	12	15	/	3	0
PM	4:00 PM	0	4	0	3	0	0	1	2	1	0	0	3	14
	4:15 PM	0	0	1	0	3	0	0	0	0	0	0	0	4
	4:30 PM	0	1	0	1	0	0	0	0	0	0	0	1	3
	4:45 PM	0	1	0	0	1	0	1	0	0	1	0	1	5
	5:00 PM	0	2	2	0	1	0	0	0	0	0	0	5	10
	5:15 PM	0	2	0	1	0	0	1	0	0	0	0	3	7
	5:30 PM	0	3	0	1	1	0	3	0	0	0	0	5	13
	5:45 PM	0	2	0	0	0	0	1	0	0	0	0	5	8
	VOLUMES	0	15	3	6	6	0	7	2	1	1	0	23	64
	APPROACH %	0%	83%	17%	50%	50%	0%	70%	20%	10%	4%	0%	96%	
	APP/DEPART	18	/	45	12	/	8	10	/	11	24	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	6	2	2	2	0	2	0	0	1	0	10	25
	APPROACH %	0%	75%	25%	50%	50%	0%	100%	0%	0%	9%	0%	91%	
	PEAK HR FACTOR		0.500			1.000			0.500			0.550		0.625
	APP/DEPART	8	/	18	4	/	3	2	/	4	11	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

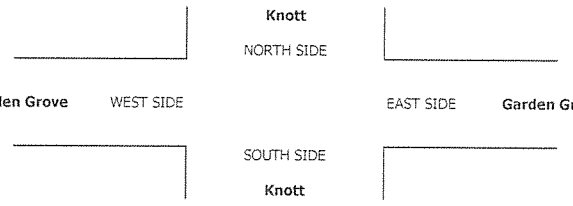
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	2
1	0	0	1
0	0	0	1
0	0	0	1
0	0	0	1
0	0	0	1
0	0	0	2
0	0	0	1
1	0	0	9

1	0	0	5

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	1	
0	0	0	0	
0	0	0	0	
0	0	0	1	
0	0	0	2	
0	0	0	2	
0	0	0	2	
0	0	0	0	
0	0	0	8	

0	0	0	5



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
5/25/22	LOCATION:	Garden Grove	PROJECT #:	SC3466
WEDNESDAY	NORTH & SOUTH:	Knott	LOCATION #:	6
	EAST & WEST:	Garden Grove	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

N ▲ / ◄ W / E ► / S ▼

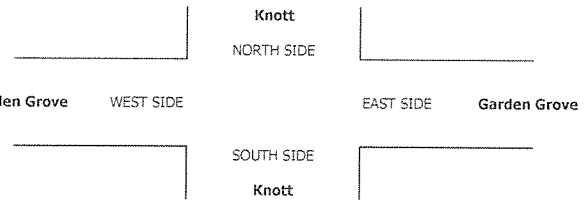
		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Garden Grove)			WESTBOUND (Garden Grove)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 1	WL 1.5	WT 1.5	WR 1	TOTAL
AM	7:00 AM	0	2	1	0	0	0	1	0	1	2	1	5	13
	7:15 AM	0	0	2	4	1	0	3	0	0	0	0	5	15
	7:30 AM	1	2	0	2	2	0	4	1	0	2	1	5	20
	7:45 AM	0	3	5	3	0	0	1	0	1	1	2	6	22
	8:00 AM	1	0	0	5	1	0	1	0	1	0	4	3	16
	8:15 AM	0	0	0	3	2	0	1	1	0	3	0	3	13
	8:30 AM	0	0	1	7	1	0	2	0	0	3	0	7	21
	8:45 AM	1	0	5	2	0	0	4	2	1	2	1	2	20
	VOLUMES	3	7	14	26	7	0	17	4	4	13	9	36	140
	APPROACH %	13%	29%	58%	79%	21%	0%	68%	16%	16%	22%	16%	62%	
	APP/DEPART	24	/	60	33	/	25	25	/	44	58	/	11	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	1	5	7	14	4	0	9	1	2	3	7	19	73
	APPROACH %	7%	36%	50%	78%	22%	0%	75%	8%	17%	10%	24%	66%	
	PEAK HR FACTOR		0.438			0.750			0.600			0.806		0.830
	APP/DEPART	14	/	33	18	/	10	12	/	22	29	/	8	0
PM	4:00 PM	0	1	2	1	1	0	0	0	0	1	0	3	9
	4:15 PM	0	3	3	1	1	0	2	0	0	0	0	4	14
	4:30 PM	0	0	0	2	0	0	0	0	1	0	0	1	4
	4:45 PM	0	1	0	2	1	0	2	0	0	1	0	2	9
	5:00 PM	0	0	0	0	0	0	0	0	1	0	0	5	6
	5:15 PM	0	0	1	2	0	0	0	0	0	1	0	3	7
	5:30 PM	0	0	0	0	0	0	2	0	0	0	1	4	7
	5:45 PM	0	1	1	0	0	0	1	0	0	0	1	0	4
	VOLUMES	0	6	7	8	3	0	7	0	2	3	2	22	60
	APPROACH %	0%	46%	54%	73%	27%	0%	78%	0%	22%	11%	7%	81%	
	APP/DEPART	13	/	35	11	/	8	9	/	15	27	/	2	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	0	1	1	6	1	0	2	0	2	2	0	11	26
	APPROACH %	0%	50%	50%	86%	14%	0%	50%	0%	50%	15%	0%	85%	
	PEAK HR FACTOR		0.500			0.583			0.500			0.650		0.722
	APP/DEPART	2	/	14	7	/	5	4	/	7	13	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	1	1
2	0	0	4
0	0	0	2
4	0	0	4
0	0	0	2
0	0	0	3
0	0	0	3
0	0	0	2
6	0	1	21
6	0	0	12
1	0	0	3
1	0	0	3
0	0	0	0
0	0	0	1
0	0	0	3
0	0	0	1
0	0	0	1
0	0	0	0
2	0	0	12
0	0	0	5



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/25/22	NORTH & SOUTH:	Knott	LOCATION #:	6
WEDNESDAY	EAST & WEST:	Garden Grove	CONTROL:	SIGNAL

CLASS 5:	NOTES:
RV	

▲ N ◄ W E ► S ▼

		NORTHBOUND (Knott)			SOUTHBOUND (Knott)			EASTBOUND (Garden Grove)			WESTBOUND (Garden Grove)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 1	WL 1.5	WT 1.5	WR 1	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	2
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	1	0	0	1	1	0	3
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	50%	50%	0%	
	APP/DEPART	0	/	1	0	/	1	1	/	0	2	/	1	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	0	0	1	0	0	1	1	0	3
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	50%	50%	0%	
	PEAK HR FACTOR		0.000			0.000			0.250			0.500		0.375
	APP/DEPART	0	/	1	0	/	1	1	/	0	2	/	1	0
PM	4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
	4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	VOLUMES	0	0	1	0	0	0	1	1	0	0	1	0	4
	APPROACH %	0%	0%	100%	0%	0%	0%	50%	50%	0%	0%	100%	0%	
	APP/DEPART	1	/	1	0	/	0	2	/	2	1	/	1	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	0	0	0	0	0	1	0	0	0	0	0	1
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.250			0.000		0.250
	APP/DEPART	0	/	1	0	/	0	1	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

NRR	SRR	ERR	WRR
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0

0	0	0	0

Knott

NORTH SIDE

Garden Grove WEST SIDE EAST SIDE Garden Grove

SOUTH SIDE

Knott

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Garden Grove	PROJECT #:	SC3466
5/25/22	NORTH & SOUTH:	Knott	LOCATION #:	6
WEDNESDAY	EAST & WEST:	Garden Grove	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

N ▲ / ◄ W / E ► / S ▼

		NORTHBOUND Knott			SOUTHBOUND Knott			EASTBOUND Garden Grove			WESTBOUND Garden Grove			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	1	1	2	0	1	2	1	1.5	1.5	1	
AM	7:00 AM	0	2	2	0	1	0	0	1	0	0	1	1	8
AM	7:15 AM	0	1	1	1	2	0	0	1	0	0	0	1	7
AM	7:30 AM	0	1	0	0	1	0	0	2	0	0	1	1	6
AM	7:45 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
AM	8:00 AM	0	1	0	3	1	0	0	0	0	0	0	0	5
AM	8:15 AM	0	0	0	0	0	0	0	2	0	0	1	0	3
AM	8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
AM	8:45 AM	0	0	0	0	1	0	1	1	0	0	1	1	5
AM	VOLUMES	0	5	3	5	7	0	1	7	0	0	5	4	37
AM	APPROACH %	0%	63%	38%	42%	58%	0%	13%	88%	0%	0%	56%	44%	
AM	APP/DEPART	8	/	10	12	/	7	8	/	15	9	/	5	0
AM	BEGIN PEAK HR		7:15 AM											
AM	VOLUMES	0	3	1	4	5	0	0	3	0	0	2	2	20
AM	APPROACH %	0%	75%	25%	44%	56%	0%	0%	100%	0%	0%	50%	50%	
AM	PEAK HR FACTOR		0.500			0.563			0.375			0.500		0.714
AM	APP/DEPART	4	/	5	9	/	5	3	/	8	4	/	2	0
PM	4:00 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
PM	4:15 PM	0	1	1	0	1	1	0	0	0	2	1	0	7
PM	4:30 PM	0	0	1	1	1	0	0	1	0	0	0	0	4
PM	4:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
PM	5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
PM	5:15 PM	0	1	1	0	2	0	2	1	0	0	0	0	7
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	3	3	1	5	1	2	4	0	2	3	0	24
PM	APPROACH %	0%	50%	50%	14%	71%	14%	33%	67%	0%	40%	60%	0%	
PM	APP/DEPART	6	/	5	7	/	7	6	/	8	5	/	4	0
PM	BEGIN PEAK HR		4:30 PM											
PM	VOLUMES	0	1	2	1	4	0	2	3	0	0	1	0	14
PM	APPROACH %	0%	33%	67%	20%	80%	0%	40%	60%	0%	0%	100%	0%	
PM	PEAK HR FACTOR		0.375			0.625			0.417			0.250		0.500
PM	APP/DEPART	3	/	3	5	/	4	5	/	6	1	/	1	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
AM VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
PM VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
	0	0	0	0
7:00 AM	0	0	0	0
7:15 AM	1	0	0	1
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
AM VOLUMES	1	0	0	1
AM PEAK HR VOLUMES	1	0	0	1
4:00 PM	0	0	0	0
4:15 PM	1	1	0	0
4:30 PM	1	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	1	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
PM VOLUMES	3	1	0	0
PM PEAK HR VOLUMES	2	0	0	0

Knott

NORTH SIDE

Garden Grove WEST SIDE

EAST SIDE **Garden Grove**

SOUTH SIDE

Knott

ATTACHMENT C

EXISTING (2022) INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

Pala Drive Industrial TA (JN:14700)
Existing
AM Peak Hour

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

Intersection #1 Knott & Lampson

Cycle (sec):	100	Critical Vol./Cap.(X):	0.655
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	170	950	152	118	1097	118	120	339	113	142	337	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	170	950	152	118	1097	118	120	339	113	142	337	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	170	950	152	118	1097	118	120	339	113	142	337	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	170	950	152	118	1097	118	120	339	113	142	337	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	170	950	152	118	1097	118	120	339	113	142	337	41
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.59	0.41	1.00	2.71	0.29	1.00	1.50	0.50	1.00	1.78	0.22
Final Sat.:	1700	4397	703	1700	4605	495	1700	2550	850	1700	3031	369
Capacity Analysis Module:												
Vol/Sat:	0.10	0.22	0.22	0.07	0.24	0.24	0.07	0.13	0.13	0.08	0.11	0.11
Crit Moves:	****				****			****			****	

Pala Drive Industrial TA (JN:14700)
Existing
AM Peak Hour

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

Intersection #2 Knott & Stanford

Cycle (sec):	100	Critical Vol./Cap.(X):	0.554
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	60	1177	0	1	1413	43	74	0	153	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	60	1177	0	1	1413	43	74	0	153	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	60	1177	0	1	1413	43	74	0	153	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	1177	0	1	1413	43	74	0	153	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	60	1177	0	1	1413	43	74	0	153	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	1.00	2.91	0.09	0.33	0.00	0.67	0.00	1.00	0.00
Final Sat.:	1700	5100	0	1700	4949	151	554	0	1146	0	1700	0
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.00	0.00	0.29	0.29	0.04	0.00	0.13	0.00	0.00	0.00
Crit Moves:	****				****				****			

Pala Drive Industrial TA (JN:14700)
Existing
AM Peak Hour

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

Intersection #3 Knott & Acacia/SR-22 WB Ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.606
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	0 0	0 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	129	1278	165	13	1261	231	0	0	0	55	36	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	1278	165	13	1261	231	0	0	0	55	36	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	129	1278	165	13	1261	231	0	0	0	55	36	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	129	1278	165	13	1261	231	0	0	0	55	36	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	129	1278	165	13	1261	231	0	0	0	55	36	9
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.55	0.36	0.09
Final Sat.:	1700	3400	1700	1700	3400	1700	0	0	0	935	612	153
Capacity Analysis Module:												
Vol/Sat:	0.08	0.38	0.10	0.01	0.37	0.14	0.00	0.00	0.00	0.06	0.06	0.06
Crit Moves:	****				****						****	

Pala Drive Industrial TA (JN:14700)
Existing
AM Peak Hour

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

Intersection #4 Knott & Garden Grove

Cycle (sec):	100	Critical Vol./Cap.(X):	0.894
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	97	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 1	1 0	1	1 1	1 0	1
Volume Module:												
Base Vol:	43	504	633	390	812	122	397	583	142	462	451	672
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	504	633	390	812	122	397	583	142	462	451	672
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	43	504	633	390	812	122	397	583	142	462	451	672
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	504	633	390	812	122	397	583	142	462	451	672
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	43	504	633	390	812	122	397	583	142	462	451	672
OvlAdjVol:			0						99			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.74	0.26	1.22	1.78	1.00	1.52	1.48	1.00
Final Sat.:	1700	3400	1700	1700	2956	444	2066	3034	1700	2581	2519	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.15	0.37	0.23	0.27	0.27	0.19	0.19	0.08	0.18	0.18	0.40
OvlAdjV/S:			0.00						0.06			
Crit Moves:			****	****				****				****

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	502	19	18	492	17	4	0	10	16	0	17
Future Vol, veh/h	22	502	19	18	492	17	4	0	10	16	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	70	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	32	738	28	26	724	25	6	0	15	24	0	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	749	0	0	766	0	0	1230	1617	383	1222	1619	375
Stage 1	-	-	-	-	-	-	816	816	-	789	789	-
Stage 2	-	-	-	-	-	-	414	801	-	433	830	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	869	-	-	856	-	-	136	105	621	138	104	628
Stage 1	-	-	-	-	-	-	341	393	-	354	405	-
Stage 2	-	-	-	-	-	-	592	400	-	577	388	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	869	-	-	856	-	-	124	98	621	128	97	628
Mov Cap-2 Maneuver	-	-	-	-	-	-	282	263	-	291	264	-
Stage 1	-	-	-	-	-	-	328	378	-	341	393	-
Stage 2	-	-	-	-	-	-	551	388	-	543	374	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	13.2	15.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	462	869	-	-	856	-	-	402
HCM Lane V/C Ratio	0.045	0.037	-	-	0.031	-	-	0.121
HCM Control Delay (s)	13.2	9.3	-	-	9.3	-	-	15.2
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-	-	0.4

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰↑	↑↱		Y	
Traffic Vol, veh/h	20	153	86	3	2	12
Future Vol, veh/h	20	153	86	3	2	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	180	101	4	2	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	105	0	-	0	331	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	228	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1499	-	-	-	668	957
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	815	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1499	-	-	-	656	957
Mov Cap-2 Maneuver	-	-	-	-	656	-
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	815	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1499	-	-	-	898
HCM Lane V/C Ratio	0.016	-	-	-	0.018
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Pala Drive Industrial TA (JN:14700)
Existing
PM Peak Hour

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

Intersection #1 Knott & Lampson

Cycle (sec):	100	Critical Vol./Cap.(X):	0.581
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	101	1240	75	85	957	89	62	189	59	170	198	67
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	1240	75	85	957	89	62	189	59	170	198	67
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	1240	75	85	957	89	62	189	59	170	198	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	1240	75	85	957	89	62	189	59	170	198	67
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	1240	75	85	957	89	62	189	59	170	198	67
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.83	0.17	1.00	2.74	0.26	1.00	1.52	0.48	1.00	1.49	0.51
Final Sat.:	1700	4809	291	1700	4666	434	1700	2591	809	1700	2540	860
Capacity Analysis Module:												
Vol/Sat:	0.06	0.26	0.26	0.05	0.21	0.21	0.04	0.07	0.07	0.10	0.08	0.08
Crit Moves:		****		****				****		****		

Pala Drive Industrial TA (JN:14700)
Existing
PM Peak Hour

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

Intersection #2 Knott & Stanford

Cycle (sec):	100	Critical Vol./Cap.(X):	0.446
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	79	1369	0	0	1139	46	28	0	82	4	0	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	79	1369	0	0	1139	46	28	0	82	4	0	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	79	1369	0	0	1139	46	28	0	82	4	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	1369	0	0	1139	46	28	0	82	4	0	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	1369	0	0	1139	46	28	0	82	4	0	3
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	1.00	2.88	0.12	0.25	0.00	0.75	0.57	0.00	0.43
Final Sat.:	1700	5100	0	1700	4902	198	433	0	1267	971	0	729
Capacity Analysis Module:												
Vol/Sat:	0.05	0.27	0.00	0.00	0.23	0.23	0.02	0.00	0.06	0.00	0.00	0.00
Crit Moves:	****				****				****	****		

Pala Drive Industrial TA (JN:14700)
Existing
PM Peak Hour

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

Intersection #3 Knott & Acacia/SR-22 WB Ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.619
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	0 0	0 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	160	1435	72	5	1082	242	0	0	0	89	61	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	160	1435	72	5	1082	242	0	0	0	89	61	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	160	1435	72	5	1082	242	0	0	0	89	61	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	160	1435	72	5	1082	242	0	0	0	89	61	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	160	1435	72	5	1082	242	0	0	0	89	61	9
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.56	0.38	0.06
Final Sat.:	1700	3400	1700	1700	3400	1700	0	0	0	952	652	96
Capacity Analysis Module:												
Vol/Sat:	0.09	0.42	0.04	0.00	0.32	0.14	0.00	0.00	0.00	0.09	0.09	0.09
Crit Moves:		****		****						****		

Pala Drive Industrial TA (JN:14700)
Existing
PM Peak Hour

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

Intersection #4 Knott & Garden Grove

Cycle (sec):	100	Critical Vol./Cap.(X):	1.073
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	0 1	1 0	1	1 0	1 1	1	0 1	1 1	1	0 1
Volume Module:												
Base Vol:	49	682	616	369	607	136	365	608	192	443	531	620
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	49	682	616	369	607	136	365	608	192	443	531	620
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	682	616	369	607	136	365	608	192	443	531	620
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	682	616	369	607	136	365	608	192	443	531	620
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	682	616	369	607	136	365	608	192	443	531	620
OvlAdjVol:			0						143			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.63	0.37	1.13	1.87	1.00	1.36	1.64	1.00
Final Sat.:	1700	3400	1700	1700	2778	622	1913	3187	1700	2320	2780	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.20	0.36	0.22	0.22	0.22	0.19	0.19	0.11	0.19	0.19	0.36
OvlAdjV/S:			0.00						0.08			
Crit Moves:		****			****			****				****

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	442	7	8	377	13	14	2	22	36	2	24
Future Vol, veh/h	11	442	7	8	377	13	14	2	22	36	2	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	70	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	12	497	8	9	424	15	16	2	25	40	2	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	439	0	0	505	0	0	756	982	253	724	979	220
Stage 1	-	-	-	-	-	-	525	525	-	450	450	-
Stage 2	-	-	-	-	-	-	231	457	-	274	529	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1132	-	-	1070	-	-	301	251	753	317	252	790
Stage 1	-	-	-	-	-	-	509	533	-	564	575	-
Stage 2	-	-	-	-	-	-	757	571	-	714	530	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1132	-	-	1070	-	-	285	246	753	301	247	790
Mov Cap-2 Maneuver	-	-	-	-	-	-	447	419	-	476	419	-
Stage 1	-	-	-	-	-	-	503	527	-	558	570	-
Stage 2	-	-	-	-	-	-	722	566	-	680	524	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	11.7	12.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	582	1132	-	-	1070	-	-	560
HCM Lane V/C Ratio	0.073	0.011	-	-	0.008	-	-	0.124
HCM Control Delay (s)	11.7	8.2	-	-	8.4	-	-	12.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Traffic Vol, veh/h	5	83	148	2	5	10
Future Vol, veh/h	5	83	148	2	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	111	197	3	7	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	200	0	-	0	324	199
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	125	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1384	-	-	-	674	847
Stage 1	-	-	-	-	839	-
Stage 2	-	-	-	-	906	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1384	-	-	-	671	847
Mov Cap-2 Maneuver	-	-	-	-	671	-
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	906	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1384	-	-	-	779
HCM Lane V/C Ratio	0.005	-	-	-	0.026
HCM Control Delay (s)	7.6	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

ATTACHMENT D

E+P INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

Pala Drive Industrial TA (JN:14700)
E+P
AM Peak Hour

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

Intersection #1 Knott & Lampson

Cycle (sec):	100	Critical Vol./Cap.(X):	0.655
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	170	950	152	118	1097	118	120	339	113	142	337	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	170	950	152	118	1097	118	120	339	113	142	337	41
Added Vol:	0	0	0	2	1	0	0	1	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	170	950	152	120	1098	118	120	340	113	142	337	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	170	950	152	120	1098	118	120	340	113	142	337	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	170	950	152	120	1098	118	120	340	113	142	337	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	170	950	152	120	1098	118	120	340	113	142	337	41
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.59	0.41	1.00	2.71	0.29	1.00	1.50	0.50	1.00	1.78	0.22
Final Sat.:	1700	4397	703	1700	4605	495	1700	2552	848	1700	3031	369
Capacity Analysis Module:												
Vol/Sat:	0.10	0.22	0.22	0.07	0.24	0.24	0.07	0.13	0.13	0.08	0.11	0.11
Crit Moves:	****				****			****			****	

Pala Drive Industrial TA (JN:14700)
E+P
AM Peak Hour

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

Intersection #2 Knott & Stanford

Cycle (sec):	100	Critical Vol./Cap.(X):	0.555
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	0	0 1!	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	60	1177	0	1	1413	43	74	0	153	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	60	1177	0	1	1413	43	74	0	153	0	0	0
Added Vol:	0	0	0	0	1	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	60	1177	0	1	1414	43	74	0	153	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	60	1177	0	1	1414	43	74	0	153	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	1177	0	1	1414	43	74	0	153	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	60	1177	0	1	1414	43	74	0	153	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	1.00	2.91	0.09	0.33	0.00	0.67	0.00	1.00	0.00
Final Sat.:	1700	5100	0	1700	4949	151	554	0	1146	0	1700	0
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.00	0.00	0.29	0.29	0.04	0.00	0.13	0.00	0.00	0.00
Crit Moves:	****				****				****			

Pala Drive Industrial TA (JN:14700)
E+P
AM Peak Hour

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

Intersection #3 Knott & Acacia/SR-22 WB Ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.608
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	0 0	0 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	129	1278	165	13	1261	231	0	0	0	55	36	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	1278	165	13	1261	231	0	0	0	55	36	9
Added Vol:	0	0	20	1	0	0	0	0	0	2	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	129	1278	185	14	1261	231	0	0	0	57	38	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	129	1278	185	14	1261	231	0	0	0	57	38	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	129	1278	185	14	1261	231	0	0	0	57	38	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	129	1278	185	14	1261	231	0	0	0	57	38	9
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.55	0.36	0.09
Final Sat.:	1700	3400	1700	1700	3400	1700	0	0	0	932	621	147
Capacity Analysis Module:												
Vol/Sat:	0.08	0.38	0.11	0.01	0.37	0.14	0.00	0.00	0.00	0.06	0.06	0.06
Crit Moves:	****				****							****

Pala Drive Industrial TA (JN:14700)
E+P
AM Peak Hour

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

Intersection #4 Knott & Garden Grove

Cycle (sec):	100	Critical Vol./Cap.(X):	0.895
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	97	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 1	1 0	1	1 1	1 0	1
Volume Module:												
Base Vol:	43	504	633	390	812	122	397	583	142	462	451	672
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	504	633	390	812	122	397	583	142	462	451	672
Added Vol:	0	4	0	1	0	0	1	0	0	0	0	15
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	43	508	633	391	812	122	398	583	142	462	451	687
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	43	508	633	391	812	122	398	583	142	462	451	687
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	508	633	391	812	122	398	583	142	462	451	687
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	43	508	633	391	812	122	398	583	142	462	451	687
OvlAdjVol:			0						99			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.74	0.26	1.22	1.78	1.00	1.52	1.48	1.00
Final Sat.:	1700	3400	1700	1700	2956	444	2069	3031	1700	2581	2519	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.15	0.37	0.23	0.27	0.27	0.19	0.19	0.08	0.18	0.18	0.40
OvlAdjV/S:			0.00						0.06			
Crit Moves:			****	****				****				****

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	502	22	21	492	17	5	0	10	16	0	17
Future Vol, veh/h	22	502	22	21	492	17	5	0	10	16	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	70	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	32	738	32	31	724	25	7	0	15	24	0	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	749	0	0	770	0	0	1242	1629	385	1232	1633	375
Stage 1	-	-	-	-	-	-	818	818	-	799	799	-
Stage 2	-	-	-	-	-	-	424	811	-	433	834	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	869	-	-	854	-	-	133	103	619	136	102	628
Stage 1	-	-	-	-	-	-	340	393	-	350	401	-
Stage 2	-	-	-	-	-	-	584	396	-	577	386	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	869	-	-	854	-	-	121	96	619	126	95	628
Mov Cap-2 Maneuver	-	-	-	-	-	-	280	260	-	287	259	-
Stage 1	-	-	-	-	-	-	327	378	-	337	387	-
Stage 2	-	-	-	-	-	-	540	382	-	543	372	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.4	13.6	15.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	441	869	-	-	854	-	-	398
HCM Lane V/C Ratio	0.05	0.037	-	-	0.036	-	-	0.122
HCM Control Delay (s)	13.6	9.3	-	-	9.4	-	-	15.3
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-	-	0.4

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		Y	
Traffic Vol, veh/h	41	153	86	3	2	17
Future Vol, veh/h	41	153	86	3	2	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	48	180	101	4	2	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	105	0	-	0	379	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	276	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1499	-	-	-	627	957
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	775	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1499	-	-	-	604	957
Mov Cap-2 Maneuver	-	-	-	-	604	-
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	775	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1499	-	-	-	902
HCM Lane V/C Ratio	0.032	-	-	-	0.025
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Pala Drive Industrial TA (JN:14700)
E+P
PM Peak Hour

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

Intersection #1 Knott & Lampson

Cycle (sec):	100	Critical Vol./Cap.(X):	0.581
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	101	1240	75	85	957	89	62	189	59	170	198	67
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	1240	75	85	957	89	62	189	59	170	198	67
Added Vol:	0	1	0	0	0	0	0	0	0	0	1	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	101	1241	75	85	957	89	62	189	59	170	199	69
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	1241	75	85	957	89	62	189	59	170	199	69
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	1241	75	85	957	89	62	189	59	170	199	69
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	1241	75	85	957	89	62	189	59	170	199	69
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.83	0.17	1.00	2.74	0.26	1.00	1.52	0.48	1.00	1.49	0.51
Final Sat.:	1700	4809	291	1700	4666	434	1700	2591	809	1700	2525	875
Capacity Analysis Module:												
Vol/Sat:	0.06	0.26	0.26	0.05	0.21	0.21	0.04	0.07	0.07	0.10	0.08	0.08
Crit Moves:		****		****				****		****		

Pala Drive Industrial TA (JN:14700)
E+P
PM Peak Hour

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

Intersection #2 Knott & Stanford

Cycle (sec):	100	Critical Vol./Cap.(X):	0.446
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	79	1369	0	0	1139	46	28	0	82	4	0	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	79	1369	0	0	1139	46	28	0	82	4	0	3
Added Vol:	0	1	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	79	1370	0	0	1139	46	28	0	82	4	0	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	79	1370	0	0	1139	46	28	0	82	4	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	1370	0	0	1139	46	28	0	82	4	0	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	1370	0	0	1139	46	28	0	82	4	0	3
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	1.00	2.88	0.12	0.25	0.00	0.75	0.57	0.00	0.43
Final Sat.:	1700	5100	0	1700	4902	198	433	0	1267	971	0	729
Capacity Analysis Module:												
Vol/Sat:	0.05	0.27	0.00	0.00	0.23	0.23	0.02	0.00	0.06	0.00	0.00	0.00
Crit Moves:	****				****				****	****		

Pala Drive Industrial TA (JN:14700)
E+P
PM Peak Hour

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

Intersection #3 Knott & Acacia/SR-22 WB Ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.630
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	0 0	0 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	160	1435	72	5	1082	242	0	0	0	89	61	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	160	1435	72	5	1082	242	0	0	0	89	61	9
Added Vol:	0	0	4	0	0	0	0	0	0	11	8	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	160	1435	76	5	1082	242	0	0	0	100	69	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	160	1435	76	5	1082	242	0	0	0	100	69	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	160	1435	76	5	1082	242	0	0	0	100	69	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	160	1435	76	5	1082	242	0	0	0	100	69	10
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.56	0.38	0.06
Final Sat.:	1700	3400	1700	1700	3400	1700	0	0	0	950	655	95
Capacity Analysis Module:												
Vol/Sat:	0.09	0.42	0.04	0.00	0.32	0.14	0.00	0.00	0.00	0.11	0.11	0.11
Crit Moves:		****		****							****	

Pala Drive Industrial TA (JN:14700)
E+P
PM Peak Hour

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

Intersection #4 Knott & Garden Grove

Cycle (sec):	100	Critical Vol./Cap.(X):	1.079
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 1	1 0	1	1 1	1 0	1
Volume Module:												
Base Vol:	49	682	616	369	607	136	365	608	192	443	531	620
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	49	682	616	369	607	136	365	608	192	443	531	620
Added Vol:	0	1	0	6	4	1	0	0	0	0	0	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	49	683	616	375	611	137	365	608	192	443	531	623
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	683	616	375	611	137	365	608	192	443	531	623
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	683	616	375	611	137	365	608	192	443	531	623
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	683	616	375	611	137	365	608	192	443	531	623
OvlAdjVol:			0						143			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.63	0.37	1.13	1.87	1.00	1.36	1.64	1.00
Final Sat.:	1700	3400	1700	1700	2777	623	1913	3187	1700	2320	2780	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.20	0.36	0.22	0.22	0.22	0.19	0.19	0.11	0.19	0.19	0.37
OvlAdjV/S:			0.00						0.08			
Crit Moves:		****			****			****				****

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	442	8	8	377	13	17	2	24	36	2	24
Future Vol, veh/h	11	442	8	8	377	13	17	2	24	36	2	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	70	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	12	497	9	9	424	15	19	2	27	40	2	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	439	0	0	506	0	0	757	983	253	724	980	220
Stage 1	-	-	-	-	-	-	526	526	-	450	450	-
Stage 2	-	-	-	-	-	-	231	457	-	274	530	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1132	-	-	1069	-	-	300	251	753	317	252	790
Stage 1	-	-	-	-	-	-	508	532	-	564	575	-
Stage 2	-	-	-	-	-	-	757	571	-	714	530	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1132	-	-	1069	-	-	284	246	753	300	247	790
Mov Cap-2 Maneuver	-	-	-	-	-	-	446	419	-	475	419	-
Stage 1	-	-	-	-	-	-	502	526	-	558	570	-
Stage 2	-	-	-	-	-	-	722	566	-	678	524	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	11.8	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	575	1132	-	-	1069	-	-	559
HCM Lane V/C Ratio	0.084	0.011	-	-	0.008	-	-	0.125
HCM Control Delay (s)	11.8	8.2	-	-	8.4	-	-	12.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		⋎	
Traffic Vol, veh/h	10	83	148	2	5	31
Future Vol, veh/h	10	83	148	2	5	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	13	111	197	3	7	41

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	200	0	-	0	336	199
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	137	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1384	-	-	-	663	847
Stage 1	-	-	-	-	839	-
Stage 2	-	-	-	-	895	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1384	-	-	-	656	847
Mov Cap-2 Maneuver	-	-	-	-	656	-
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	895	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1384	-	-	-	814
HCM Lane V/C Ratio	0.01	-	-	-	0.059
HCM Control Delay (s)	7.6	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

ATTACHMENT E

EXISTING (2022) TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

California MUTCD 2014 Edition
(FHWA's MUTCD 2009, as amended for use in California)

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = Existing (2022) Conditions - Weekday PM Peak Hour

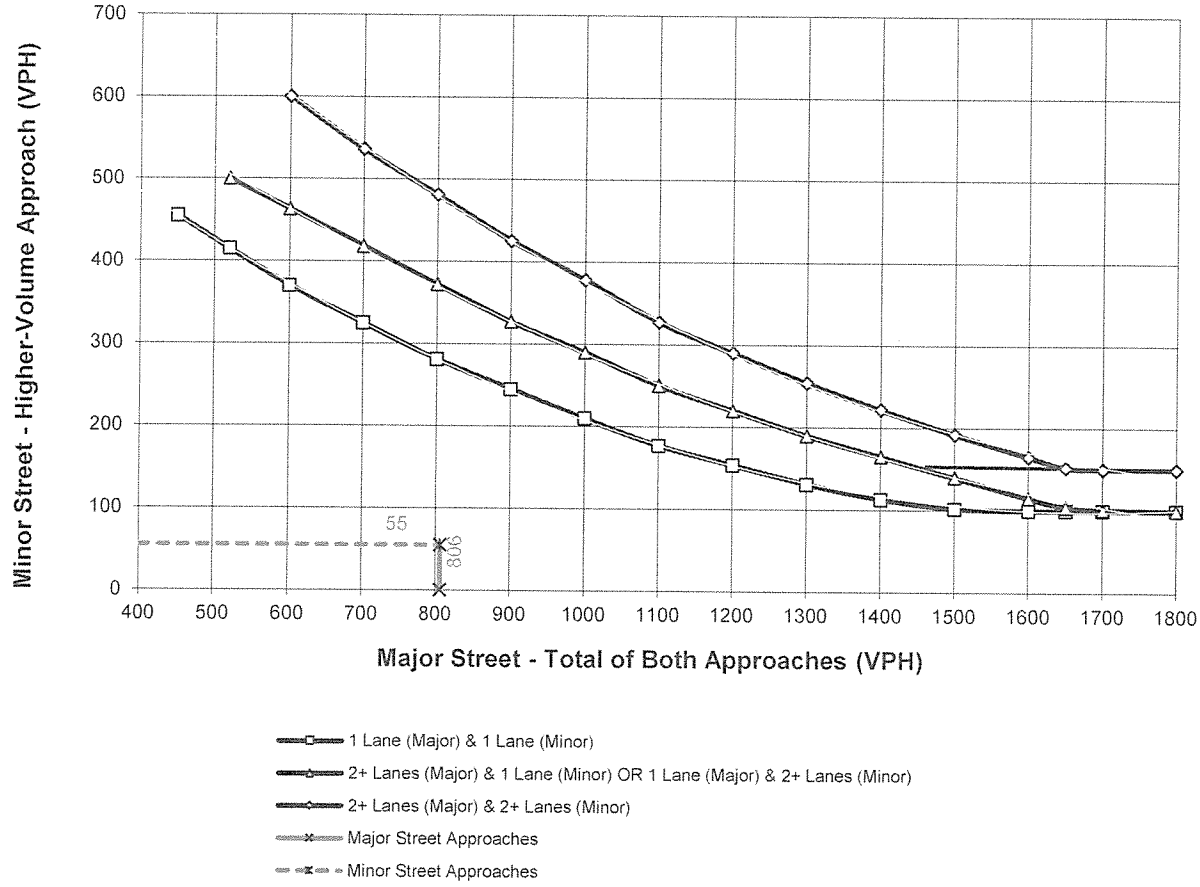
Major Street Name = Lampson Av.

Total of Both Approaches (VPH) = 806
Number of Approach Lanes on Major Street = 2

Minor Street Name = Industry St.

High Volume Approach (VPH) = 55
Number of Approach Lanes On Minor Street = 1

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = Existing (2022) Conditions - Weekday PM Peak Hour

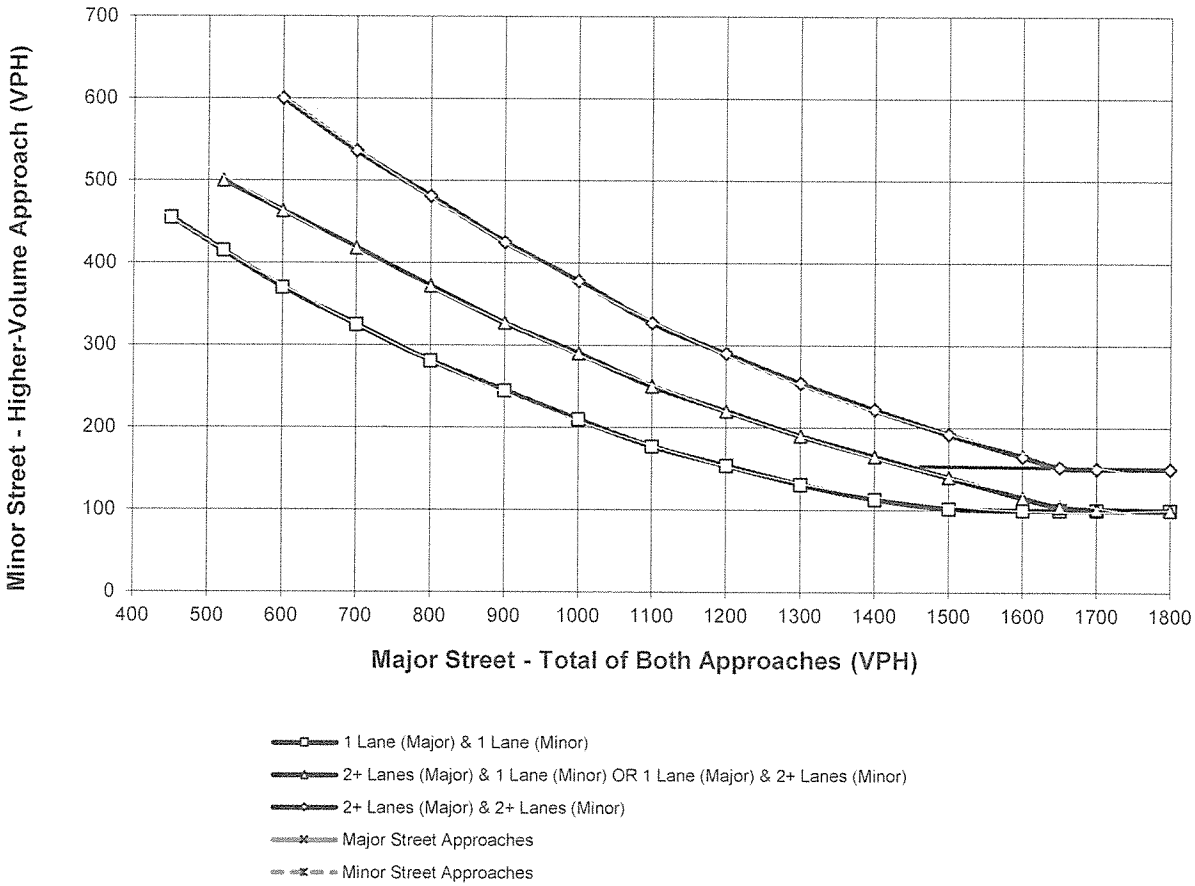
Major Street Name = Acacia Av.

Total of Both Approaches (VPH) = 222
Number of Approach Lanes on Major Street = 1

Minor Street Name = Pala Dr.

High Volume Approach (VPH) = 14
Number of Approach Lanes On Minor Street = 1

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

ATTACHMENT F

E+P TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = E+P Conditions - Weekday PM Peak Hour

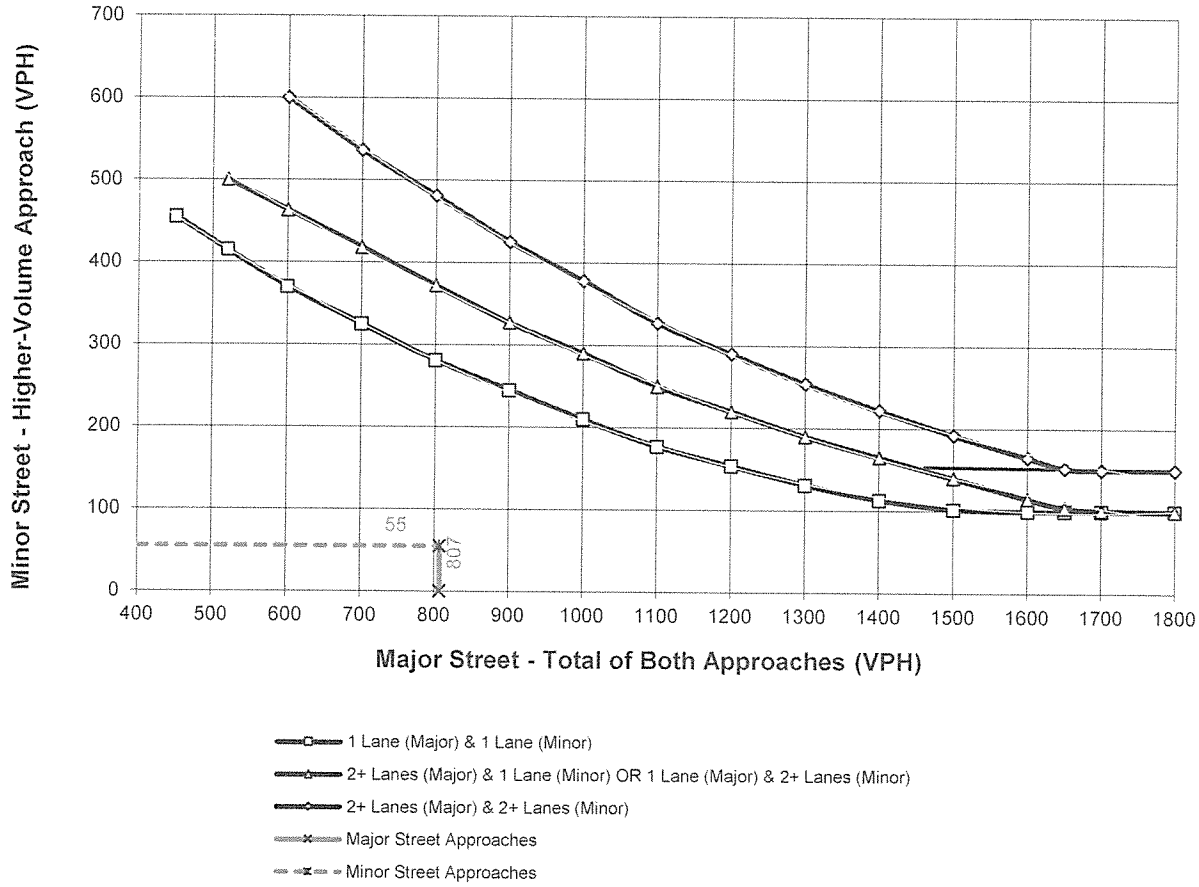
Major Street Name = Lampson Av.

Total of Both Approaches (VPH) = 807
Number of Approach Lanes on Major Street = 2

Minor Street Name = Industry St.

High Volume Approach (VPH) = 55
Number of Approach Lanes On Minor Street = 1

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = Existing (2022) Conditions - Weekday PM Peak Hour

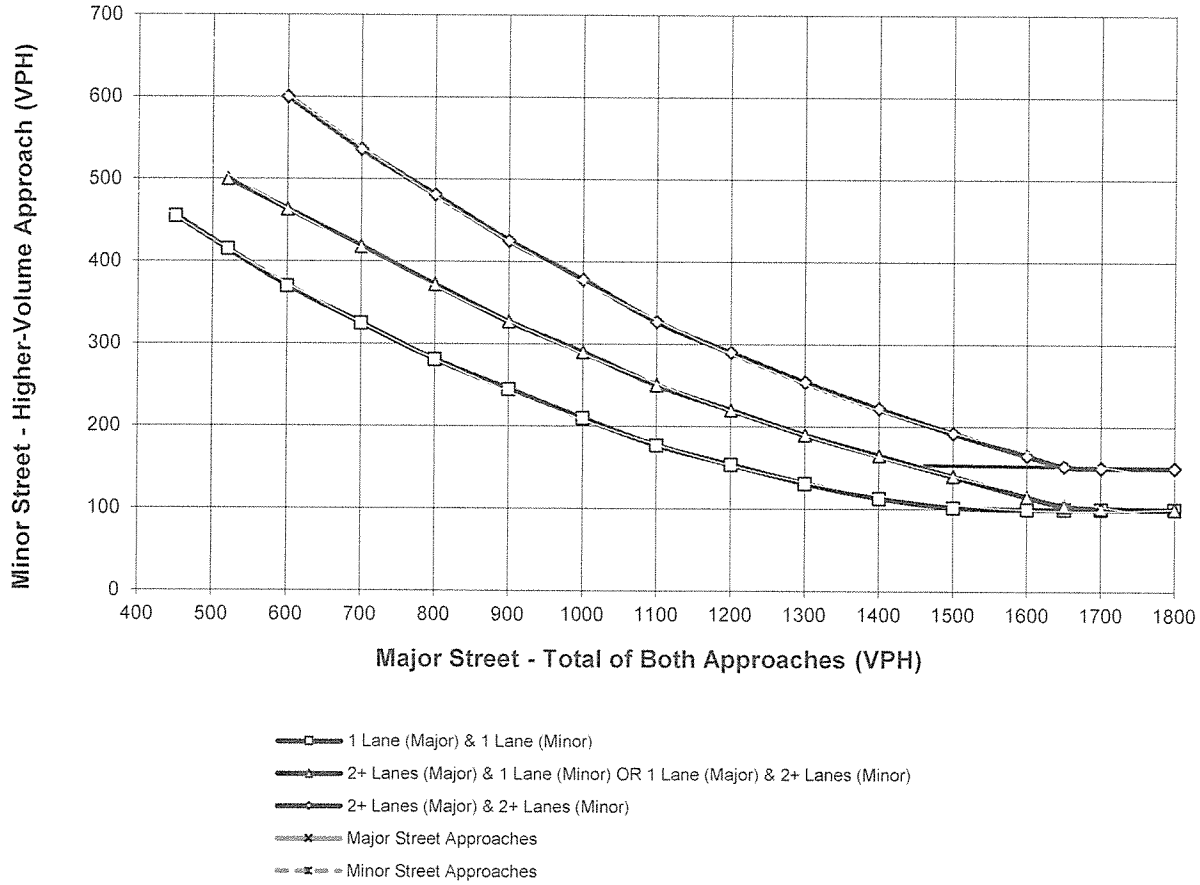
Major Street Name = Acacia Av.

Total of Both Approaches (VPH) = 226
Number of Approach Lanes on Major Street = 1

Minor Street Name = Pala Dr.

High Volume Approach (VPH) = 34
Number of Approach Lanes On Minor Street = 1

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane