HERITAGE PARK AT GOYA,
RECORD NUMBER LST23-0023 for APPLICATIONS PAP23-0390,
PEN22-0037, PEN23-0069 and TTM 38702

July 31, 2023

Ms. Lori Trottier
ARDURRA GROUP, INC.
3737 Birch Street, Suite 250
Newport Beach, California 92660

RE: South of Goya Project Transportation Study Screening Assessment & VMT Impact Analysis
Project No. 19550

Dear Ms. Trottier:

Ganddini Group, Inc. is pleased to provide this Transportation Study Screening Assessment & VMT Impact Analysis for the proposed South of Goya Project in the City of Moreno Valley. The purpose of this analysis is to assess the need for preparation of further Level of Service (LOS) analysis for general plan compliance and/or vehicle miles traveled (VMT) analysis for compliance with California Environmental Quality Act (CEQA) requirements. We trust the findings of this analysis will aid you and the City of Moreno Valley in assessing the project.

PROJECT DESCRIPTION

The 13.7-acre project site is located at east of Indian Street and south of the extension of Goya Avenue in the City of Moreno Valley, California. The project site is currently vacant. The proposed project involves construction of a single-family detached housing development with 131 dwelling units. Vehicular access is proposed to be provided by one full access driveway on Indian Street and one full access driveway on Goya Avenue. The proposed site plan is shown in Attachment A.

PROJECT TRIPS

Table 1 shows the proposed project trip generation based on trip generation rates obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021). Trip generation rates for ITE Land Use Code 210 (Single Family Detached Housing) were determined to adequately describe the proposed land uses and were selected for this analysis.

As shown in Table 1, the proposed project is forecast to generate 1,235 daily trips, including 92 trips during the AM peak hour and 124 trips during the PM peak hour.

TRAFFIC IMPACT ANALYSIS EXEMPTIONS

Certain projects, because of their size, nature, or location, are exempt from the requirements of preparing a traffic impact analysis (TIA). The criteria used to determine the need for preparation of a TIA are established in the City of Moreno Valley *Transportation Impact Analysis Preparation Guide for Vehicle Miles Traveled and Level of Service Assessment (June 2020)* ["City TIA Guidelines"].

LOS SCREENING CRITERIA (NON-CEQA/GENERAL PLAN CONFORMITY)

As specified in the City TIA Guidelines, the following activities generally will not require preparation of a TIA that includes LOS analysis:

- All residential parcel maps
- Single family residential tracts of less than 100 lots
- Apartments and multi-family projects of less than 150 units
- Plot plan and uses cases for projects of one acre or less
- Preschools
- Local serving churches, lodges, community centers, neighborhood parks and community parks (weekend peak generation analyses may be required for churches)
- Mini storage yards
- Congregate care facilities that contain significant special services, such as medical facilities, dining facilities, recreation facilities and support retail services
- Any use which can demonstrate trip generation of less than 100 vehicle trips in the peak hour.

These exemptions will apply in most cases; however, the City reserves the right to require preparation of additional traffic analysis based on existing safety, environmental, or operational concerns in the vicinity, truck intensive uses, and special event uses.

The proposed project does not meet any of the LOS exemption criteria; therefore, preparation of a TIA that includes LOS analysis will be required to evaluate General Plan conformity.

VMT SCREENING CRITERIA (CEQA)

Certain projects may be presumed to result in a less than significant VMT impact based on the substantial evidence provided in the Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (State of California, December 2018) ["OPR Technical Advisory"]. As specified in the City TIA Guidelines, a project may be exempt from further VMT analysis if one or more of the following screening steps are satisfied:

- Transit Priority Area (TPA) Screening
- Low VMT Area Screening
- Project Type Screening

TPA Screening

Projects located within a TPA[1] may be presumed to have a less than significant VMT impact absent substantial evidence to the contrary. This presumption may not be appropriate if the project:

[1] A TPA is defined as a half-mile area around an existing major transit stop or an existing stop along a high quality transit corridor per the definitions below:

Major Transit Stop: an existing rail transit station, ferry terminal with bus or rail service, or the intersection of two or more major bus routes with less than 15 minute-headways during the peak commute hours (Pub. Resources Code, § 21064.3.).

High Quality Transit Corridor: A corridor with fixed route bus service with service intervals no longer than 15 minutes during the peak commute hours (Pub. Resources Code, § 21155).

1. Has a Floor Area Ratio (FAR) of less than 0.75;
2. Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
3. Is inconsistent with the applicable Sustainable Communities Strategy; or
4. Replaces affordable residential units with a smaller number of moderate or high-income residential units.

Based on the review of the Western Riverside Council of Governments (WRCOG) VMT Screening Tool, the proposed project is partially located within a TPA; however, the project has an FAR of less than 0.75. Therefore, a presumption of less than significant VMT impact based on location within a TPA may not be appropriate.

Low VMT Area Screening

Residential and office projects located within a low VMT generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area.

To identify if the project is in a low VMT area, the WRCOG VMT Screening Tool was used. The WRCOG VMT Screening Tool was developed from the Riverside County Model (RIVCOM) travel forecasting model to measure VMT performance for individual jurisdictions and for individual traffic analysis zones (TAZs). TAZs are geographic polygons similar to census block groups used to represent areas of homogenous travel behavior. Therefore, projects located in areas that incorporate similar features of the TAZ will tend to exhibit similar VMT. This presumption may not be appropriate if the project land uses would alter the existing built environment in such a way as to increase the rate or length of vehicle trips.

Exhibit A shows the WRCOG VMT Screening Tool results for the project site. The proposed project consists of residential uses only; therefore, the applicable screening threshold is project zone VMT per capita that does not exceed the average VMT per capita for the City of Moreno Valley.

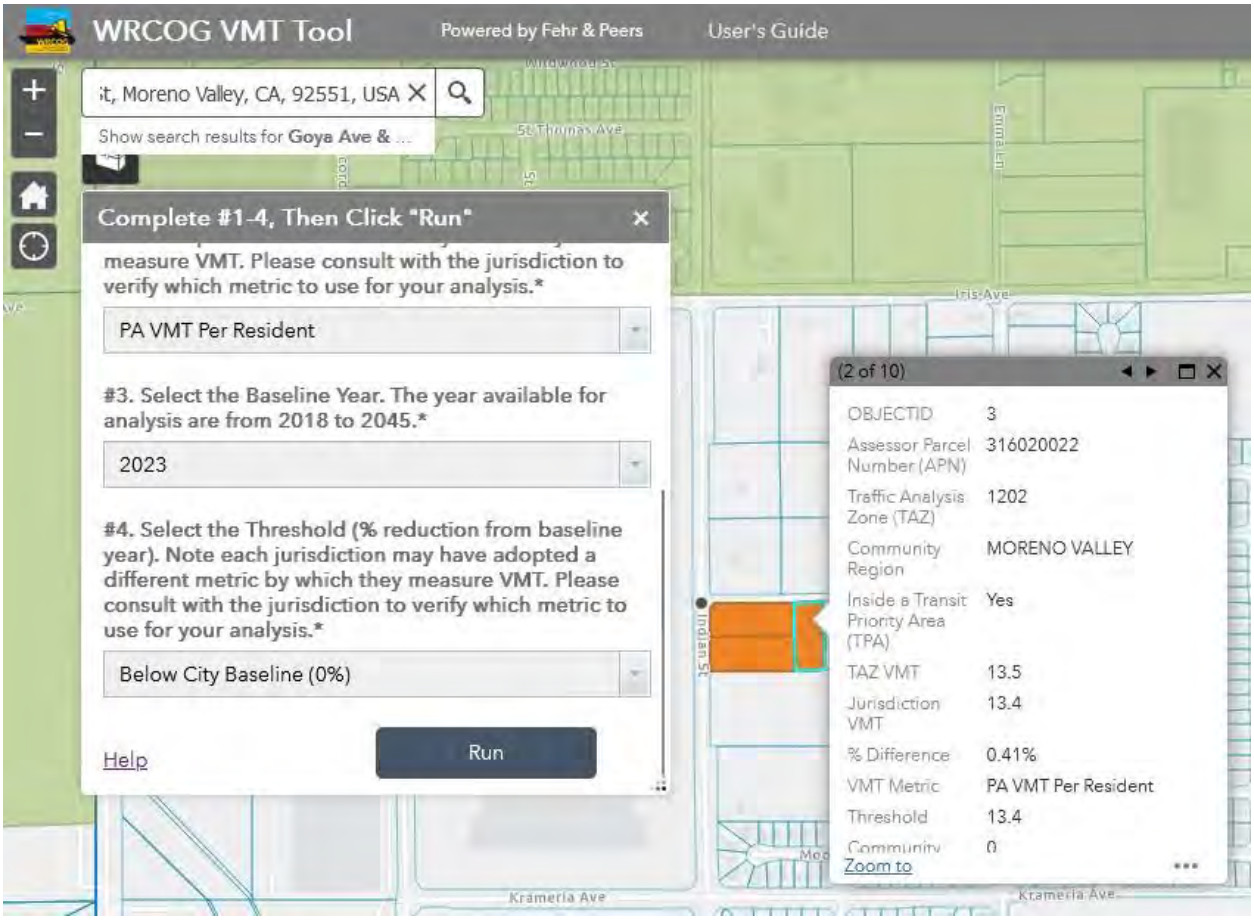

Exhibit A – WRCOG VMT Screening Tool Results

As shown in Exhibit A, the project site is located within TAZ 1202, which generates 13.5 VMT per capita and exceeds the Citywide average of 13.4 VMT per capita; therefore, this screening criteria is not satisfied. The proposed project is consistent with existing residential land uses within the TAZ and there does not appear to be anything unique about the project that would otherwise be mis-represented utilizing the data from the WRCOG VMT Screening Tool.

Project Type Screening

Local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel. In accordance with guidance from the OPR Technical Advisory, the City has established that local serving retail projects less than 50,000 square feet may be presumed to have a less than significant impact absent substantial evidence to the contrary.

In addition to local serving retail, the City TIA Guidelines identify the following uses that are also considered local serving in nature and may be presumed to have a less than significant VMT impact absent substantial evidence to the contrary:

- Local-serving K-12 schools
- Local parks

- Day care centers
- Local-serving gas stations
- Local-serving banks
- Local-serving hotels (e.g., non-destination hotels)
- Student housing projects
- Local serving community colleges that are consistent with the assumptions noted in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)
- Projects generating less than 400 daily vehicle trips [2,3]

As previously noted, the proposed project is forecast to generate 1,235 daily trips; therefore, the proposed project does not meet the City-established project type screening.

THRESHOLDS OF SIGNIFICANCE

Since the project does not appear to satisfy any of the City-established VMT screening criteria, further analysis was performed to assess the project's potential VMT impact relative to the following thresholds of significance established in the City TIA Guidelines:

- A project would have a significant VMT impact if, in the Existing Plus Project scenario, its net VMT per capita (for residential projects) or per employee (for office and industrial projects) exceeds the per capita VMT for Moreno Valley. For all other uses, a net increase in VMT would be considered a significant impact.

- If a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant subject to consideration of other substantial evidence. If it is not consistent with the RTP/SCS, then it would have a significant VMT impact if:

  a. For residential projects its net VMT per capita exceeds the average VMT per capita for Moreno Valley in the RTP/SCS horizon-year.

  b. For office and industrial projects its net VMT per employee exceeds the average VMT per employee for Moreno Valley in the RTP/SCS horizon year

  c. For all other land development project types, a net increase in VMT in the RTP/SCS horizon-year would be considered a significant impact.

Note that the Cumulative No Project scenario shall reflect the adopted RTP/SCS; as such, if a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant subject to consideration of other substantial evidence.

[2] The OPR technical advisory notes that CEQA provides a categorical exemption for existing facilities, including additions to existing structures of up to 10,000 square feet, so long as the project is in an area where public infrastructure is available to allow for maximum planned development and the project is not in an environmentally sensitive area. (CEQA Guidelines, § 15301, subd. (e)(2).). Typical project types for which trip generation increases relatively linearly with building footprint (i.e., general office building, single tenant office building, office park, and business park) generate or attract an additional 110-124 trips per 10,000 square feet. However, local air quality analysis has shown that various developments can have GHG production below AQMD limits with up to 400 trips per day. Therefore, absent substantial evidence otherwise, it is reasonable to conclude that the addition of 400 or fewer trips could be considered not to lead to a significant impact.

[3] CEQA Guidelines, § 15064.3, subd. (a), states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." As noted in OPR Technical Advisory, the term automobile refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty trucks may be included for modeling convenience and ease of calculation (e.g., where available data provides combined auto and heavy truck VMT). Therefore, it is reasonable to exclude heavy-duty trucks from VMT screening/impact assessment.

PROJECT VMT IMPACT ASSESSMENT

The WRCOG VMT Tool was used to perform VMT calculations for the project, which is based on data derived from RIVCOM. The project site is in TAZ 1202, which includes other existing residential uses and would not otherwise misrepresent the proposed project.

EXISTING PLUS PROJECT CONDITIONS

As previously shown on Exhibit A, the project is estimated to generate 13.5 VMT per capita for Existing Plus Project conditions, which exceeds the City-established threshold of 13.4 VMT per capita; therefore, the project would have a significant VMT impact without mitigation.

The California Air Pollution Control Officers Association (CAPCOA) *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities and Advancing Health and Equity Designed for Local Governments, Communities and Project Developers* (December 2021) ["CAPCOA Handbook"] is an industry standard document for guidance regarding VMT reduction measures and quantification. One of the VMT reduction measures identified in the CAPCOA Handbook includes increasing residential density. As noted in the GHG Reductions Handbook, *"increasing residential density results in shorter and fewer trips by single-occupancy vehicles and thus a reduction in GHG emissions."* Attachment B contains the CAPCOA worksheets and VMT reduction calculations.

The proposed project's increased density (131 DU/13.7 AC = 9.6 DU/AC) is expected to result in a VMT reduction of 1.2 percent (-0.162 VMT per capita) based on the CAPCOA guidance, resulting in project VMT of 13.3 VMT per capita. A minimum density of 9.4 dwelling units per acre would ensure the project does not exceed 13.4 VMT per capita. Therefore, the proposed project would not exceed the City-established VMT threshold of significance for Existing Plus Project conditions with mitigation to ensure the project provides increased density.

CUMULATIVE CONDITIONS

The project is located within the Southern California Association of Governments (SCAG) Metropolitan Planning Organization (MPO). SCAG is the MPO responsible for development of Connect SoCal, the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the region. Through the local input process, SCAG solicited input from all 197 local jurisdictions, including the City of Moreno Valley, regarding current land use, socio-economic projections, sustainability and transit measures to develop the Connect SoCal plan. The information collected and used in development of the SCAG's long-range plans and environmental goals is documented in Data/Map Books for each jurisdiction.

Based on review of the Data/Map Book for the City of Moreno Valley, the project site is designated as Single Family Residential per SCAG's land use codes, which is consistent with the City's General Plan designation and permits single-family residential uses. Although the project involves an amendment to the City's General Plan for increased density, the increased density would contribute toward the City's allocation of the Regional Housing Needs Assessment (RHNA) as assigned to the City by SCAG. The proposed increase in density is expected to improve VMT efficiency for the project site. Furthermore, as noted in the OPR Technical Adivsory: *"A project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact, and vice versa."*

Since the project is consistent with the RTP/SCS land use, contributes toward RHNA targets allocated by SCAG, and falls below an efficiency-based threshold resulting in less-than-significant project impact, cumulative VMT impacts would be less than significant.

MITIGATION MEASURES

Based on the project VMT impact assessment presented above, the following mitigation measure is recommended to ensure the project does not exceed the City-established thresholds of significance:

Mitigation Measure T-1
The proposed project shall provide a minimum density of 9.4 dwelling units per acre.

The proposed project would have a less than significant VMT impact based on the City-established thresholds for Existing Plus Project and cumulative conditions with implementation of Mitigation Measure T-1.

CONCLUSIONS

The proposed project is forecast to generate 1,235 daily trips, including 92 trips during the AM peak hour and 124 trips during the PM peak hour.

The proposed project does not meet any of the LOS exemption criteria; therefore, preparation of a TIA that includes LOS analysis will be required to evaluate General Plan conformity.

The proposed project would not exceed the City-established VMT threshold of significance for Existing Plus Project conditions with mitigation to ensure the project provides increased density.

Since the project is consistent with the RTP/SCS land use, contributes toward RHNA targets allocated by SCAG, and falls below an efficiency-based threshold resulting in less-than-significant project impact, cumulative VMT impacts would be less than significant.

The proposed project would have a less than significant VMT impact based on the City-established thresholds for Existing Plus Project and cumulative conditions with implementation of Mitigation Measure T-1.

It has been a pleasure to assist you with this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 795-3100.

Sincerely,
GANDDINI GROUP, INC.

Giancarlo Ganddini, PE, PTP
Principal

ATTACHMENT A

SITE PLAN

ATTACHMENT B

VMT REDUCTION WORKSHEETS

HERITAGE PARK AT GOYA,
RECORD NUMBER LST23-0023 for APPLICATIONS PAP23-0390,
PEN22-0037, PEN23-0069 and TTM 38702

GOYA AT HERITAGE PARK TRAFFIC IMPACT ANALYSIS

City of Moreno Valley

July 25, 2023

gandini

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

GOYA AT HERITAGE PARK
TRAFFIC IMPACT ANALYSIS

City of Moreno Valley

July 25, 2023

prepared by

Po Leung
Giancarlo Ganddini, PE, PTP

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Project No. 19550

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ACRONYMS

AC	Acres
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
DU	Dwelling Unit
ICU	Intersection Capacity Utilization
GFA	Gross Floor Area
GLA	Gross Leasable Area
LMA	Local Mobility Analysis
LOS	Level of Service
MUTCD	Manual on Uniform Traffic Control Devices
NEPA	National Environmental Policy Act
PCE	Passenger Car Equivalent
SCAG	Southern California Association of Governments
SF	Square Feet
STS/RTP	Sustainable Communities Strategy/Regional Transportation Plan
TAZ	Traffic Analysis Zone
TIA	Traffic/Transportation Impact Analysis
TSF	Thousand Square Feet
V/C	Volume/Capacity
VMT	Vehicle Miles Traveled

EXECUTIVE SUMMARY

This section summarizes the proposed project, operational findings, and identifies recommendations (if any) as specified in this study.

Project Description

The 13.7-acre project site is located at east of Indian Street and south of the extension of Goya Avenue in the City of Moreno Valley, California. The project site is currently vacant.

The proposed project (PAP23-0390) involves construction of a single-family detached housing development with 131 dwelling units. Vehicular access is proposed to be provided by one full access driveway on Indian Street and one full access driveway on Goya Avenue.

Project Trip Generation

The proposed project is forecast to generate approximately 1,235 daily trips, including 92 trips during the AM peak hour and 124 trips during the PM peak hour.

LOS Impacts

The study intersections are forecast to operate within acceptable LOS during the peak hours for Project Completion conditions; therefore, no improvements are required at the study intersections based on the City-established operational criteria.

The study intersections are forecast to operate within acceptable LOS during the peak hours for Cumulative Without Project conditions, except for the intersection of Indian Street and Iris Avenue that is forecast to operate at LOS E during the AM peak hour.

The study intersections are forecast to operate within acceptable LOS during the peak hours for Cumulative With Project conditions, except for the intersection of Indian Street and Iris Avenue that is forecast to continue operating at LOS E during the AM peak hour. No improvements are required at the study intersections based on the City-established operational criteria.

Summary of Improvements

Project design features (as detailed in the Site Access & On-Site Circulation section) involve improvements necessary to provide project site access.

Since the proposed project is not forecast to cause any substantial adverse transportation effects relating to LOS operations, no additional improvements or fair share contributions are recommended.

Vehicle Miles Traveled Analysis

For compliance with California Environmental Quality Act (CEQA) requirements, the project VMT assessment is documented separately in the *South of Goya Project Transportation Study Screening Assessment & VMT Impact Analysis* (Ganddini Group, Inc., July 2023).

1. INTRODUCTION

This section provides an overview of the proposed project and the general scope of the analysis.

PURPOSE AND OBJECTIVES

The purpose of this study is to evaluate the potential for transportation impacts resulting from the development of the proposed project in the context of the City of Moreno Valley's discretionary authority for conformance with locally established operational standards. Although this is a technical report, effort has been made to prepare the report clearly and concisely. A glossary is provided in Appendix A to assist the reader with technical terms.

This study was prepared in consultation with the City of Moreno Valley staff following the procedures and methodologies for assessing transportation impacts established by the City of Moreno Valley. To assess the project's conformance with local operational standards, this study evaluates the project's effect on traffic operations and, if necessary, identifies recommended improvements or corrective measures to alleviate operational deficiencies substantially caused or worsened by the proposed project. For compliance with California Environmental Quality Act (CEQA) requirements, a vehicle miles traveled (VMT) assessment is documented separately in the *South of Goya Project Transportation Study Screening Assessment & VMT Impact Analysis* (Ganddini Group, Inc., April 2023).

PROJECT DESCRIPTION

The 13.7-acre project site is located at east of Indian Street and south of the extension of Goya Avenue in the City of Moreno Valley, California. The project site is currently vacant. Figures 1 and 2 show the regional and project location maps.

The proposed project (PAP23-0390) involves construction of a single-family detached housing development with 131 dwelling units. Vehicular access is proposed to be provided by one full access driveway on Indian Street and one full access driveway on Goya Avenue. Figure 3 shows the project site plan.

SCOPE OF ANALYSIS

The scope of this analysis was determined in consultation with the City of Moreno Valley as documented in the approved scoping agreement provided in Appendix B.

Study Area

Figure 2 also shows the study area map. In accordance with the City of Moreno Valley requirements, the study area was determined in consultation with the City of Moreno Valley engineering staff and consists of classified roadway intersections to which the project is forecast to contribute 50 or more peak hour trips. Based on the project trip generation and distribution forecasts presented later in this report, the study area consists of the following study intersections, each within the City of Moreno Valley jurisdiction:

1. Indian Street (NS) at Iris Avenue (EW) [1]
2. Indian Street (NS) at Goya Avenue (EW)
3. Indian Street (NS) at Project Driveway (EW)
4. Project Driveway (NS) at Goya Avenue (EW)
5. Emma Lane (NS) at Goya Avenue (EW)

[1] (NS) = north-south roadway; (EW) = east-west roadway.

Analysis Scenarios

This study includes an evaluation of the following analysis scenarios for weekday AM and PM peak hour conditions:

- Existing
- Project Completion (Existing Plus Ambient Growth Plus Project)
- Cumulative Conditions (Without and With Project)

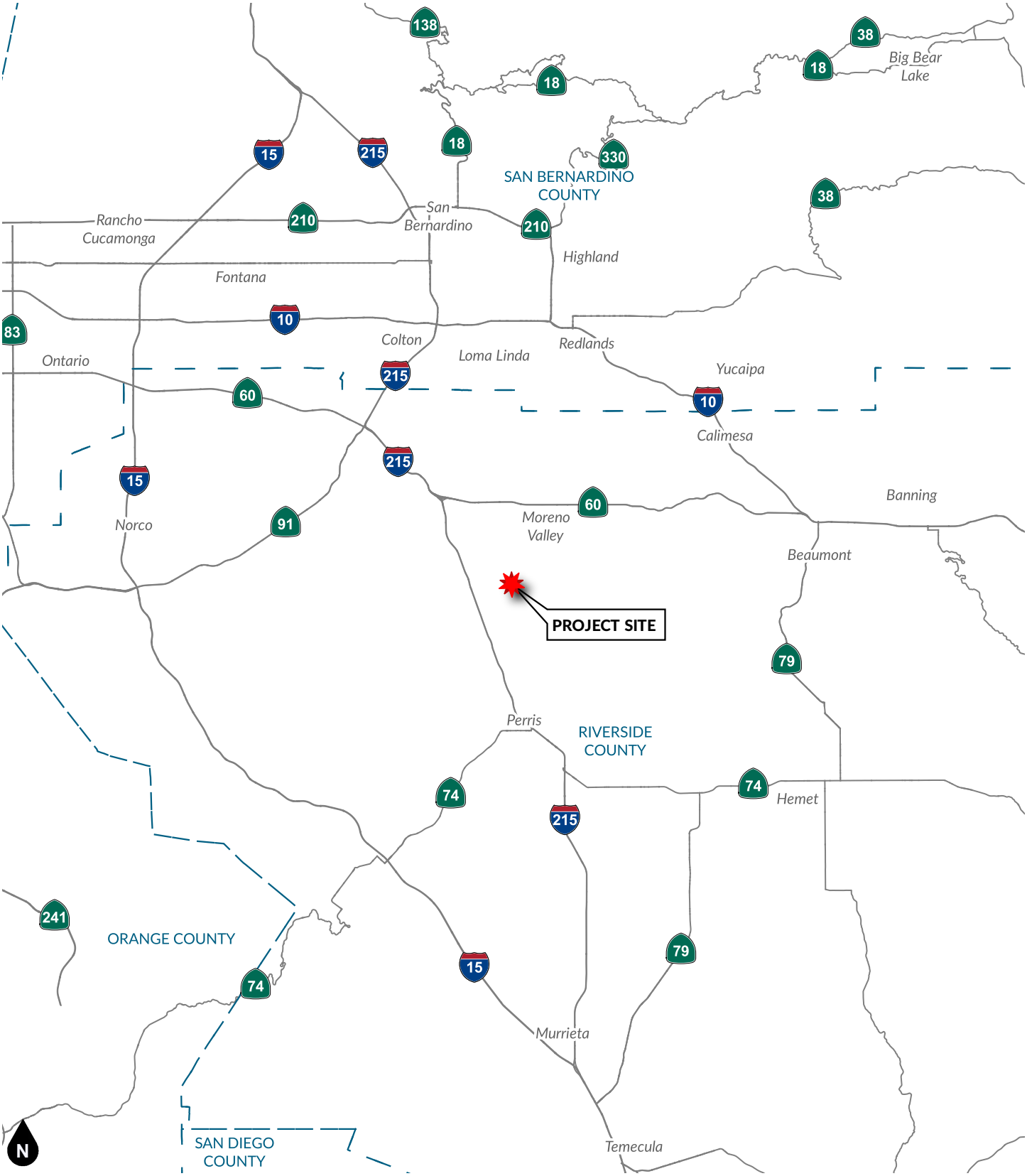
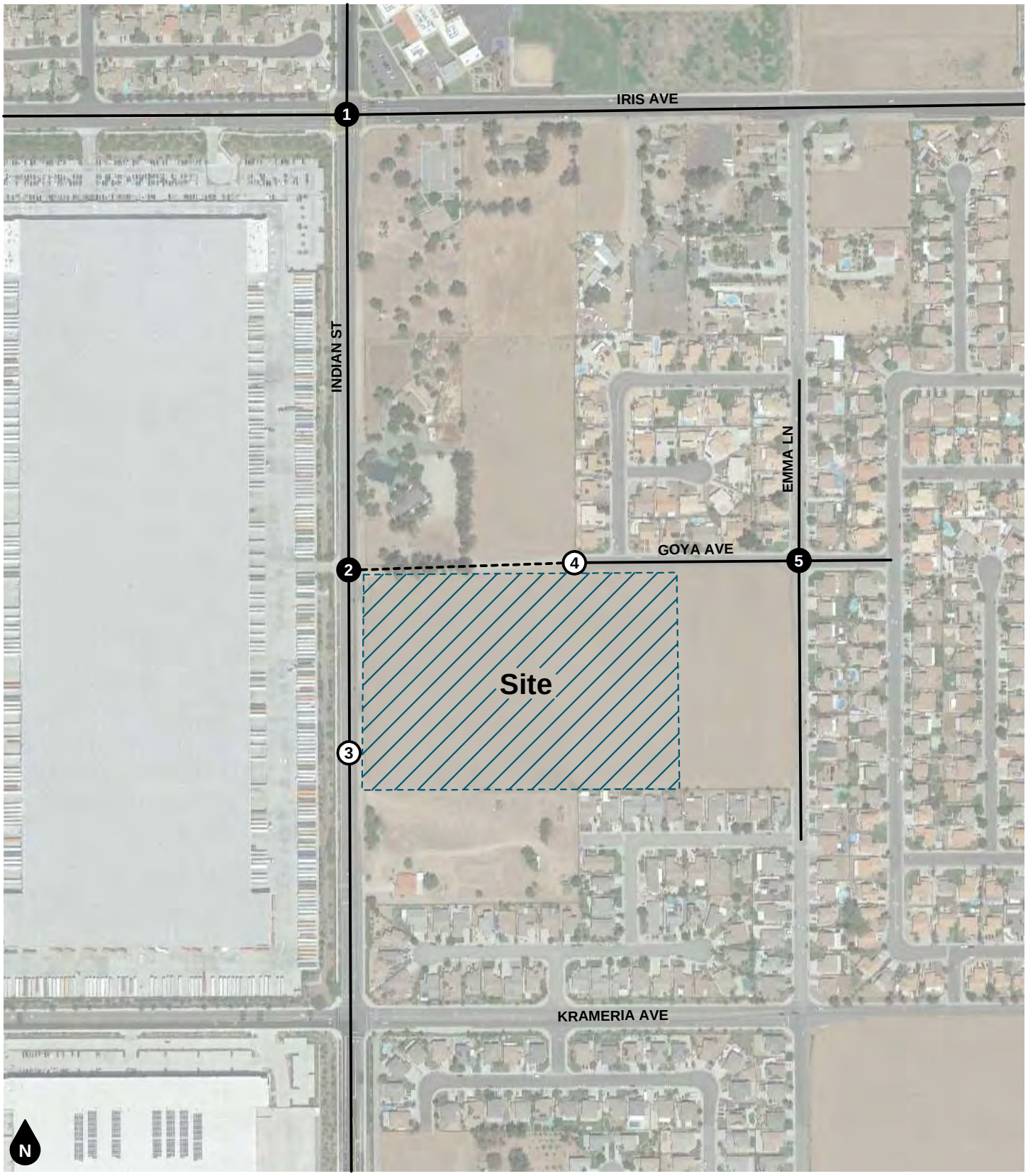


Figure 1
Regional Location Map



Legend

(#) Study Intersection

(#) Project Driveway

– – Future Roadway Extension

Figure 2
Project Location & Study Area

Source: Kevin L. Crook Architect Inc.

Figure 3
Site Plan

2. METHODOLOGY

This section discusses the analysis methodologies used to assess transportation facility performance as adopted by the respective jurisdictional agencies. This traffic impact analysis is based on the *City of Moreno Valley Transportation Impact Analysis Preparation Guide for Vehicle Miles Traveled and Level of Service Assessment* (June 2020) ["City TIA Guidelines"].

LEVEL OF SERVICE/OPERATIONAL ANALYSIS METHODOLOGY (NON-CEQA)

Level of Service analysis is performed to assess conformance with General Plan and operational standards established by the applicable agencies. In accordance with current CEQA provisions, a project's effect on automobile delay (as measured by Level of Service) shall not constitute a significant environmental impact.

Highway Capacity Manual Delay Methodology

City of Moreno Valley intersections are analyzed using the intersection delay methodology based on procedures contained in the *Highway Capacity Manual* (HCM) (Transportation Research Board, 7th Edition). The methodology considers the traffic volume and distribution of movements, traffic composition, geometric characteristics, and signalization details to calculate the average control delay per vehicle and corresponding Level of Service (LOS). Control delay is defined as the portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign) and includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay. The intersection control delay is then correlated to LOS based on the following thresholds:

Level of Service	Intersection Control Delay (Seconds / Vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: *Highway Capacity Manual* (Transportation Research Board, 7th Edition).

LOS is used to qualitatively describe the performance of a roadway facility, ranging from LOS A (free-flow conditions) to LOS F (extreme congestion and system failure). At intersections with traffic signal or all way stop control, LOS is determined by the average control delay for the overall intersection. At intersections with cross street stop control (i.e., one- or two-way stop control), LOS is determined by the average control delay for the worst minor street approach or major street left turn movement. Intersection delay and Level of Service calculations were performed using the Vistro software in accordance with the parameters outlined in the City TIA Guidelines.

Performance Standards

As specified in the City TIA Guidelines, LOS D is applicable to intersections that are adjacent to freeway on/off ramps, and adjacent to employment generating land uses. LOS C is applicable to all other intersections. For boundary intersections, LOS D is assumed to be acceptable.

Substantial Operational Deficiency Criteria

In accordance with the City TIA Guidelines, intersection improvements should be considered at signalized intersections within City of Moreno Valley jurisdiction under the following conditions:

- Any signalized study intersection operating at acceptable LOS without project traffic in which the addition of project traffic causes the intersection to degrade to unacceptable LOS shall identify improvements to provide acceptable LOS.

- Any signalized study intersection that is operating at unacceptable LOS without project traffic where the project increases delay by 5.0 or more seconds shall identify improvements to offset the increase in delay.

Intersection improvements should be considered at unsignalized intersections within City of Moreno Valley jurisdiction under the following conditions:

- The addition of project trips causes an unsignalized intersection to degrade from acceptable LOS to unacceptable LOS; or

- The project adds 5.0 seconds or more of delay to an unsignalized intersection that is already projected to operate at unacceptable LOS without the addition of project trips – AND – the intersection meets peak hour traffic signal warrant after the addition of project trips.

If a project is forecast to result in a substantial operational deficiency, recommended corrective measures are identified that would reduce the project's effect to a level that does not exceed the specified deficiency criteria. Corrective measures can be in many forms, including the construction of physical improvements (e.g., addition of travel lanes, traffic control modifications, etc.) or the implementation of transportation demand management measures.

VEHICLE MILES TRAVELED ANALYTICAL METHODOLOGY (CEQA)

The metric used to evaluate the transportation impact of land use and transportation projects under CEQA is known as vehicle miles traveled (VMT). In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. A detailed project assessment is documented separately in the *South of Goya Project Transportation Study Screening Assessment & VMT Impact Analysis* (Ganddini Group, Inc., July 2023).

3. EXISTING TRANSPORTATION SETTING

This section describes the existing transportation setting in the project vicinity.

EXISTING ROADWAY SYSTEM

Figure 4 shows the lane geometry and intersection traffic controls for existing conditions based on a field survey of the study area.

Regional access to/from the project site is provided by State Route 60 (SR-60) approximately four miles to the north and Interstate 215 (I-215) approximately two miles to the west of the project site. Local north-south circulation is provided by Indian Street and Emma Lane; and east-west circulation is provided by Iris Avenue and Goya Avenue.

Indian Street is a four-lane divided roadway north of Iris Avenue and three-lane divided roadway (one lane northbound, two lanes southbound) south of Iris Avenue with a painted two-way left-turn lane median in the project study area. The posted speed limit is 40 miles per hour north of Iris Avenue, with 25 mile per hour school zone adjacent to Rainbow Ridge Elementary and March Middle Schools, and 45 miles per hour south of Iris Avenue. On-street parking is prohibited on both sides of roadway. Class II (dedicated/on-street) bicycle lanes are provided north of Iris Avenue. Sidewalks are provided on both sides of the roadway north of Iris Avenue and along the southbound side south of Iris Avenue.

Emma Lane is a two-lane undivided roadway in the project study area. The posted speed limit is 25 miles per hour. On-street parking is generally permitted on both sides of roadway. There are no existing bicycle facilities. Sidewalks are provided on both sides of the roadway south of Iris Avenue; north of Iris Avenue, Emma Lane is only paved with no curb, gutter, or sidewalks.

Iris Avenue is a four-lane divided roadway with alternating raised and painted two-way left-turn lane medians in the project study area, except for an approximately one-quarter mile segment between Indian Street and immediately east of Emma Lane that consists of one eastbound lane and two westbound lanes. The posted speed limit is 40 miles per hour between Heacock Street and Perris Boulevard, with 25 mile per hour school zone adjacent to Rainbow Ridge Elementary School, and 45 miles per hour east of Perris Boulevard. On-street parking is prohibited on both sides of roadway. Class II (dedicated/on-street) bicycle lanes are provided on both sides of the roadway east of Indian Street.

Goya Avenue is a two-lane undivided roadway in the project study area. There is no posted speed limit. Between Indian Street and Emma Lane, on-street parking is generally permitted and sidewalks are provided on the north side of the roadway; only one travel lane with no curb, gutter, or sidewalk is provided on the south side of the roadway. There are no existing bicycle facilities. Goya Avenue currently terminates approximately one-quarter mile west of Emma Lane.

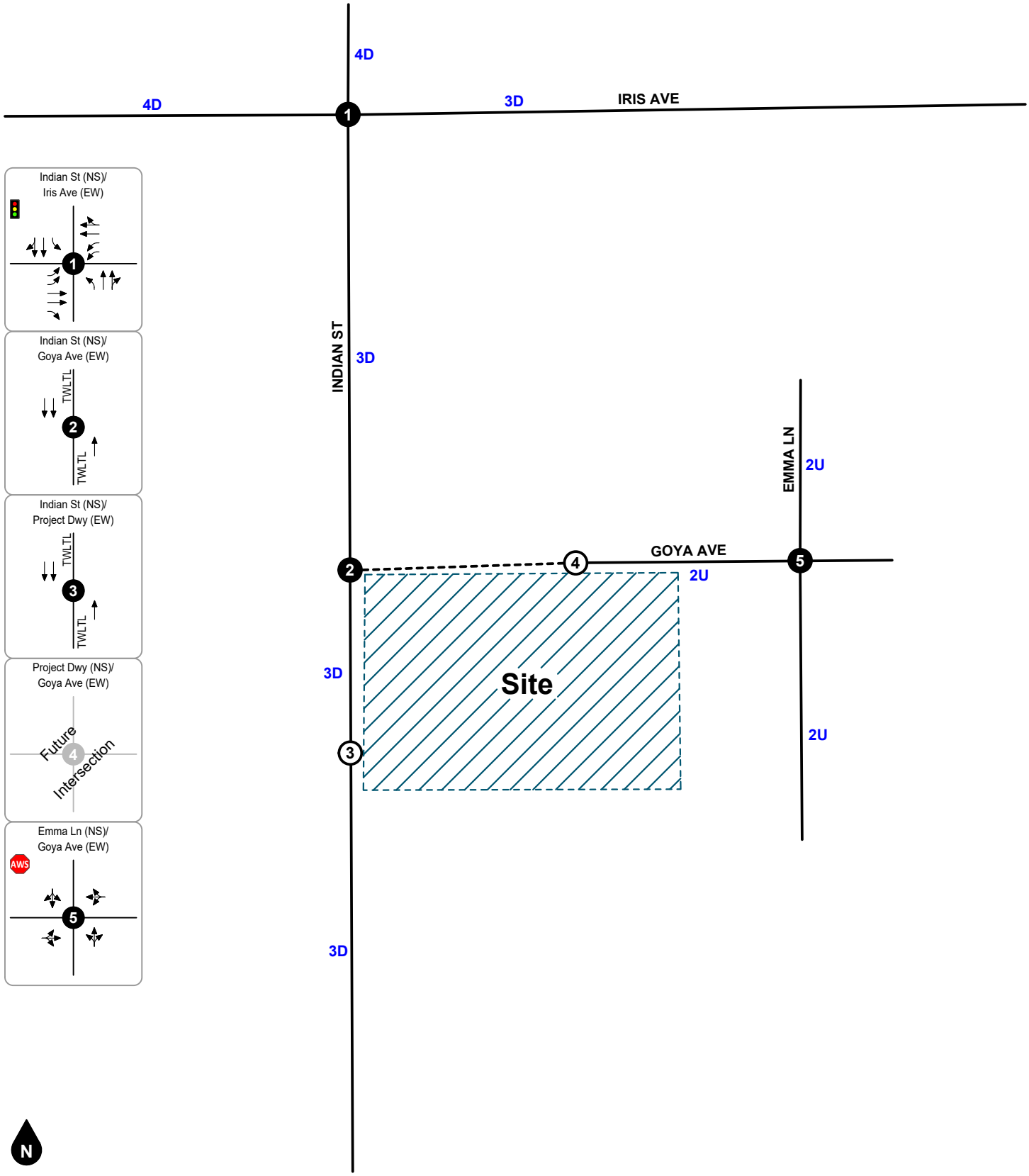


Figure 4
Existing Lane Geometry and Intersection Traffic Controls

Existing Bicycle and Pedestrian Facilities

Existing bicycle and pedestrian facilities in the project vicinity are shown on Figure 5. As shown on Figure 5, sidewalks are currently provided on the north side of Goya Avenue and west side of Indian Street; there are currently no sidewalks along the project frontage of either roadway. There are no bicycle facilities in the immediate vicinity.

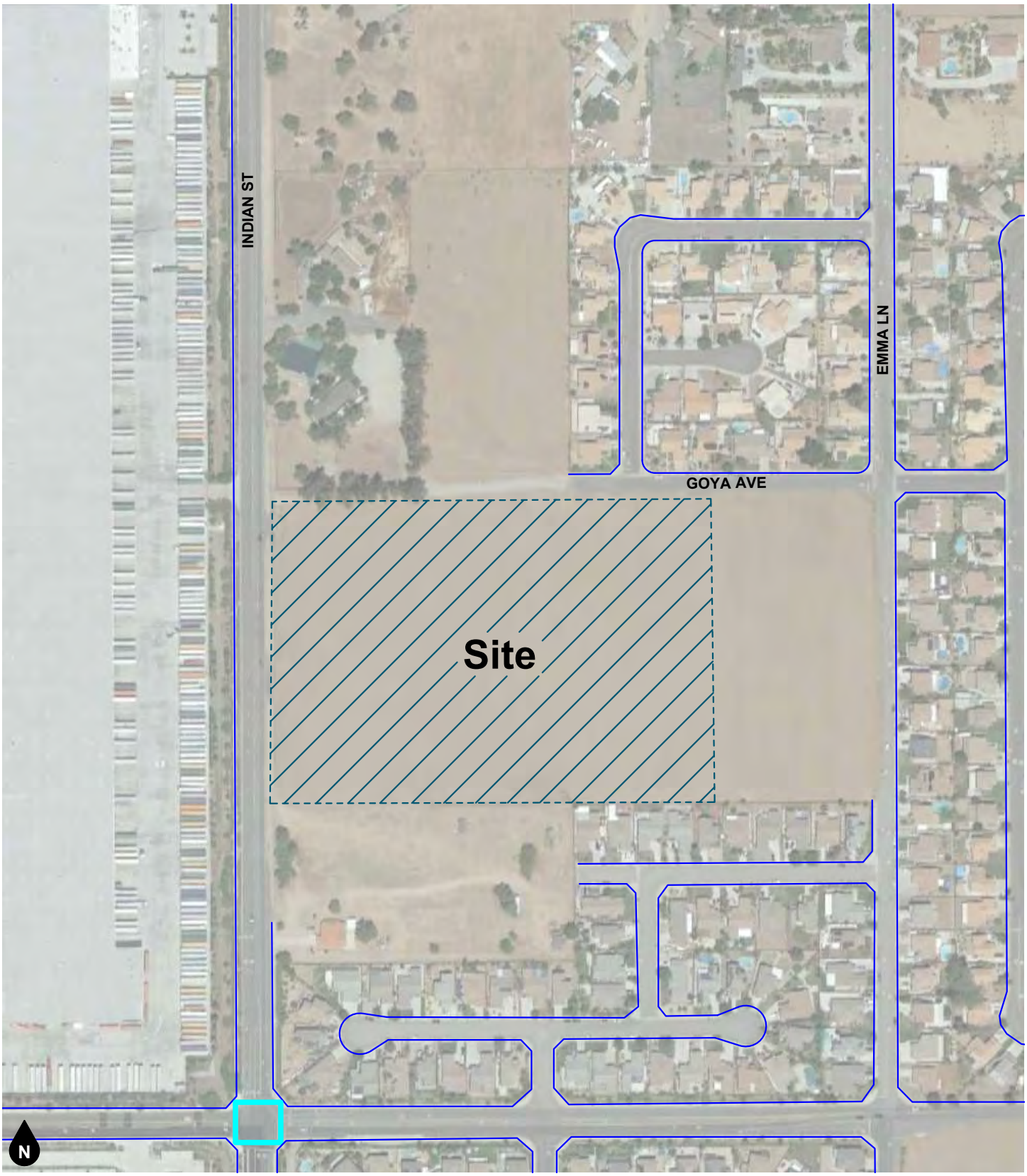
Existing Transit Service

Figure 6 shows existing public transit service in the project vicinity. As shown on Figure 6, the study area is currently served by the Riverside Transit Agency (RTA) bus service. RTA Route 19 runs along Perris Boulevard with the nearest stops located more than one-half mile walking distance from the project site at the intersections of Perris Boulevard/Iris Avenue and Perris Boulevard/Krameria Avenue. The Moreno Valley/March Field Metrolink Station is located approximately 3.75 miles northwest of the project site on the opposite side of I-215.

General Plan Context

Figure 7 shows the City of Moreno Valley General Plan Circulation Diagram. This figure shows the nature and extent of arterial and collector highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The City of Moreno Valley standard roadway cross-sections are illustrated on Figure 8.

Figure 9 shows the City of Moreno Valley Existing and Planned Bicycle and Pedestrian Network. As shown on Figure 9, there are proposed Class II bicycle lanes on Indian Street south of Iris Avenue along the project frontage.



Legend
Sidewalk
Cross Walk

Figure 5
Existing Bicycle and Pedestrian Facilities

Source: Riverside Transit Agency, May 2023 System Map

Figure 6
Existing Transit Service

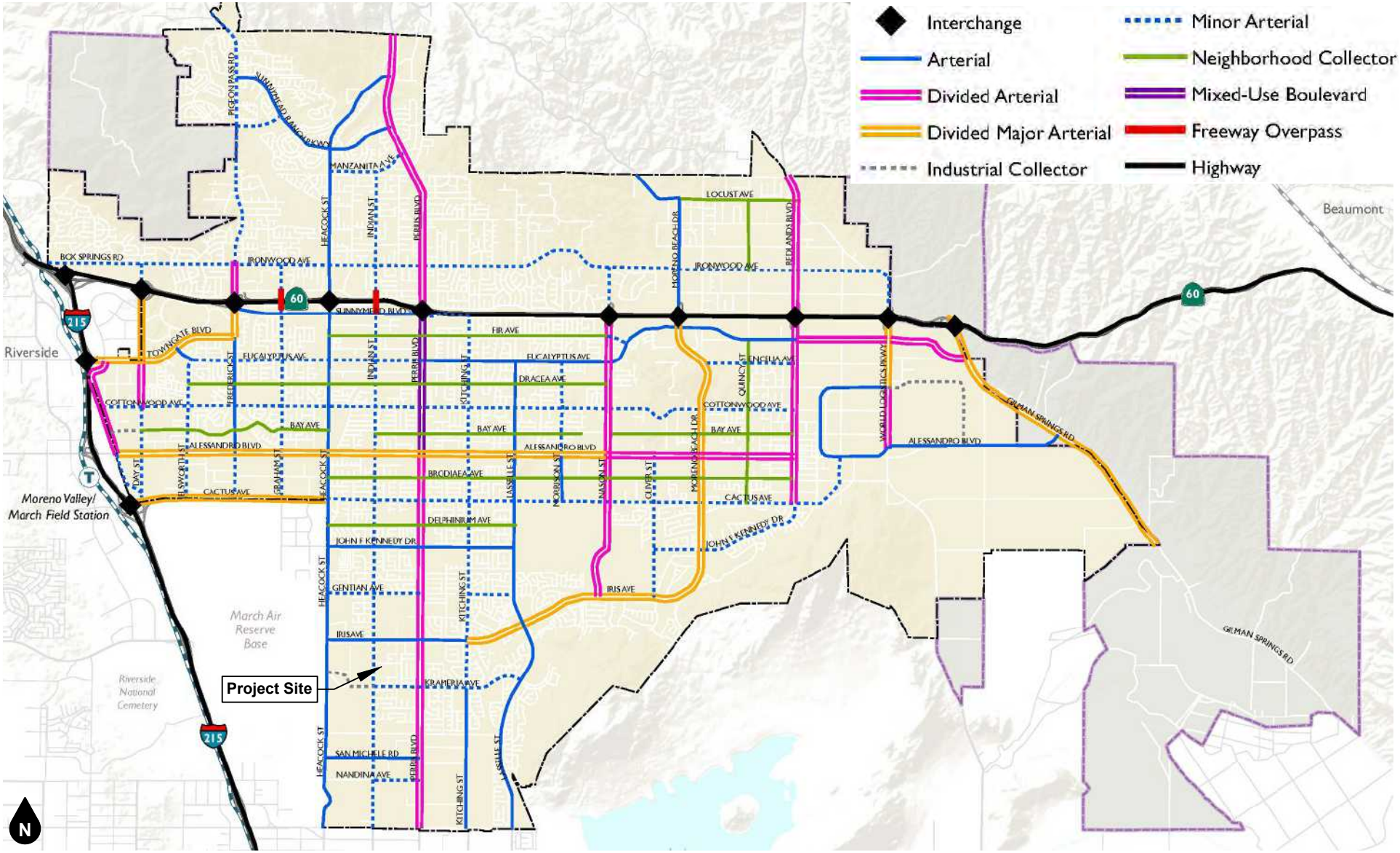


Figure 7
City of Moreno Valley General Plan Circulation Diagram

Source: City of Moreno Valley General Plan 2040

STANDARD CITY PLAN NO.	STREET CLASS	ROW/ CURB TO CURB (FT)	TYPICAL SECTION (PARKING, TRAVEL LANES & MEDIAN) *** (FT)	PARKWAY WIDTH (FT)	THRU LANES	LOS C CAPACITY (ADT)	TRAFFIC INDEX ▲▲	MIN BUS BAY WIDTH (FT)	MIN THICKNESS AC OVER CAB (FT)
MVSI-101A-0, MVSI-101B-0	DIVIDED MAJOR ARTERIAL	134/110 (RAISED MEDIAN)	8 | 12 | 12 | 14 | 18 | 14 | 12 | 12 | 8	12 **	6 ▲	45,000	10	10	.50/1.00 ▲▲▲
	ALT.	142/110							
MVSI-102A-0, MVSI-102B-0	MODIFIED DIVIDED MAJOR ARTERIAL	120/102 (RAISED MEDIAN)	8 | 12 | 12 | 12 | 14 | 12 | 12 | 12 | 8	9 **	6 ▲	45,000	10	10	.50/1.00 ▲▲▲
	ALT.	130/102							
MVSI-103A-0, MVSI-103B-0	4-LANE DIVIDED ARTERIAL	110/86 (RAISED MEDIAN)	8 | 12 | 14 | 18 | 14 | 12 | 8	12 **	4 ▲	30,000	10	10	.50/1.00 ▲▲▲
	ALT.	114/86							
MVSI-103C-0	6-LANE DIVIDED ARTERIAL	110/86 (RAISED MEDIAN)	13 | 11 | 12 | 14 | 12 | 11 | 13	12	6	45,000	10	10	.50/1.00 ▲▲▲
MVSI-104A-0, MVSI-104B-0	ARTERIAL	100/76	8 | 12 | 12 | 12 | 12 | 12 | 8 ****	12 **	4 ▲	20,000	10	10	.50/1.00 ▲▲▲
	ALT.	104/76	6 | 12 | 13 | 14 | 13 | 12 | 6 *****			30,000			
MVSI-105A-0, MVSI-105B-0	MINOR ARTERIAL	88/64	8 | 12 | 12 | 12 | 12 | 8 6 | 11 | 10 | 10 | 10 | 11 | 6 7 | 10 | 10 | 10 | 10 | 10 | 7	12 **	4	20,000	9	10	.45/.75 ▲▲▲
MVSI-105C-0	PIGEON PASS RD.	98/74	6 | 13 | 12 | 12 | 12 | 13 | 6	12	4 ▲	20,000	9	10	.45/.75 ▲▲▲
MVSI-106A-0	INDUSTRIAL COLLECTOR	78/56	10 | 12 | 12 | 12 | 10	11	2 ▲	10,000	10	10	.50/1.00 ▲▲▲
MVSI-106B-0	COLLECTOR	66/44	8 | 14 | 14 | 8	11	2	N/A	7	N/A	.30/.50
MVSI-107A-0	LOCAL STREET	56/36	7 | 11 | 11 | 7	10	2	N/A	6	N/A	.30/.50
MVSI-107B-0	MODIFIED LOCAL STREET	50/36	7 | 11 | 11 | 7	7	2	N/A	6	N/A	.30/.50
MVSI-104C-0, MVSI-104D-0, MVSI-104E-0	SUNNYMEAD BOULEVARD	100/72	20 | 12 | 12 | 12 | 16	12/16	4	30,000	10	10	.50/1.00
		100/68	16 | 12 | 12 | 12 | 16	16	4	30,000	10	10	.50/1.00
		100/68	16 | 12 | 12 | 12 | 16 6 | 11 | 11 | 12 | 11 | 11 | 6	16	4	30,000	10	10	.50/1.00

Figure 8
City of Moreno Valley Street Classification and Cross Section Design Standards

Source: City of Moreno Valley, Standard Plan MVSI-100A-2

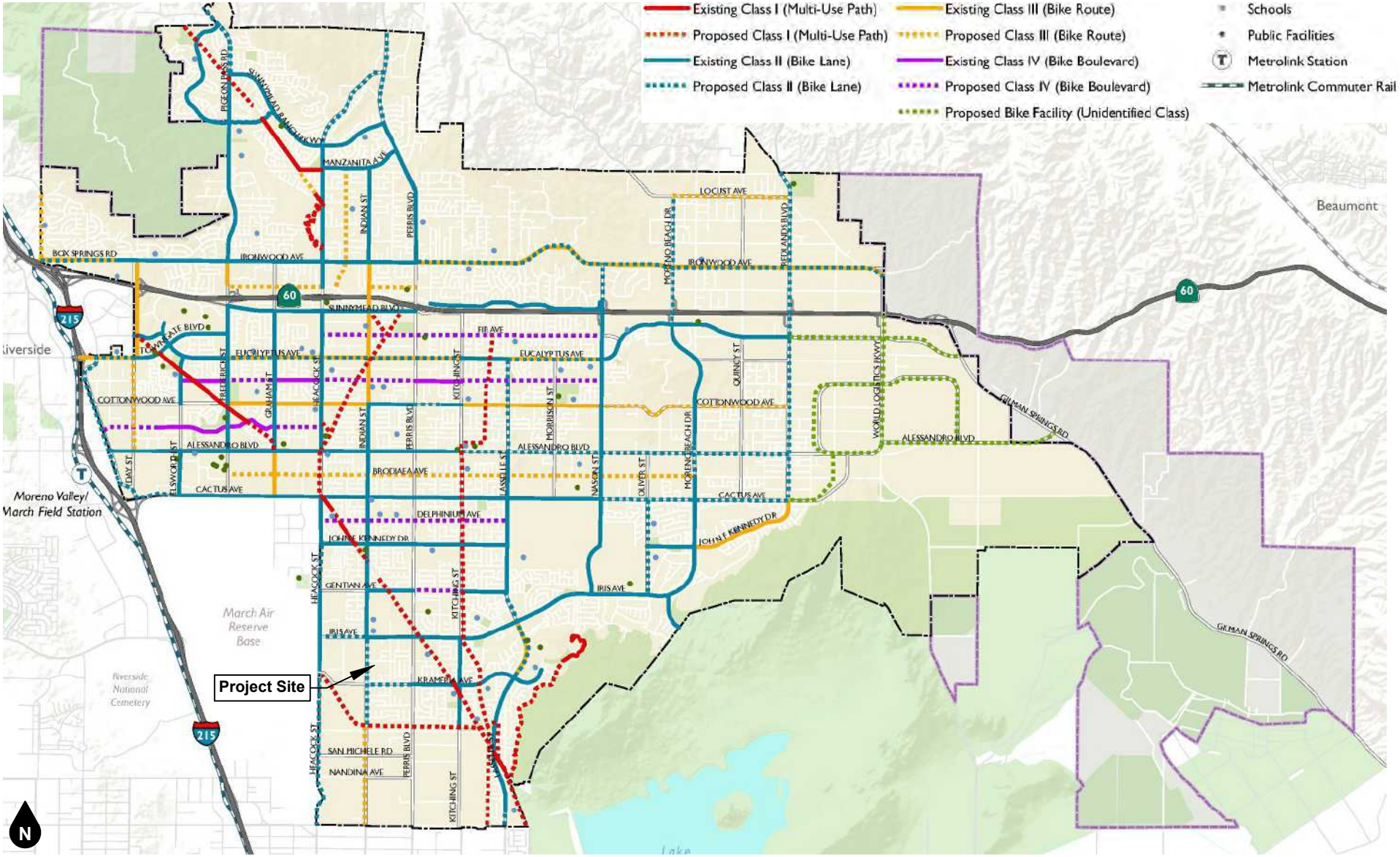


Figure 9
City of Moreno Valley Existing and Planned Bicycle and Pedestrian Network

Source: City of Moreno Valley General Plan 2040

EXISTING ROADWAY VOLUMES

Figure 10 and Figure 11 show the existing AM and PM peak hour intersection turning movement volumes based upon AM peak period and PM peak period intersection turning movement counts obtained in April 2023 during typical weekday conditions. The weekday AM peak period was counted between 7:00 AM and 9:00 AM and the weekday PM peak period was counted between 4:00 PM and 6:00 PM; these periods generally capture the peak times for commuter traffic when the roadway system is typically experiencing peak demand. The actual peak hour within each two-hour count period is determined based on the sum of the four consecutive 15-minute periods with the highest total volume. Thus, the peak hour may vary from one intersection to another depending on the four consecutive 15-minute periods with the highest total volume.

Intersection turning movement count worksheets are provided in Appendix C. Average daily traffic (ADT) volume estimates for roadways in the project vicinity are also provided in Appendix D for reference by other technical studies.

EXISTING LOS

Table 1 shows study intersection LOS for Existing conditions. Detailed LOS calculation worksheets are provided in Appendix E. As shown in Table 1, the study intersections currently operate within acceptable LOS during peak hours.

Table 1
Existing Intersection LOS

Study Intersection	Traffic Control[1]	Acceptable LOS	AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Indian St at Iris Ave	TS	D	39.8	D	34.8	C
2. Indian St at Goya Ave	CSS	D	Future Intersection			
3. Indian St at Project Dwy	CSS	D	Future Intersection			
4. Project Dwy at Goya Ave	CSS	C	Future Intersection			
5. Emma Ln at Goya Ave	AWS	C	7.0	A	7.2	A

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop; AWS = All Way Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, Level of Service is based on average delay of the worst minor street approach or major street left turn movement.

(3) LOS = Level of Service

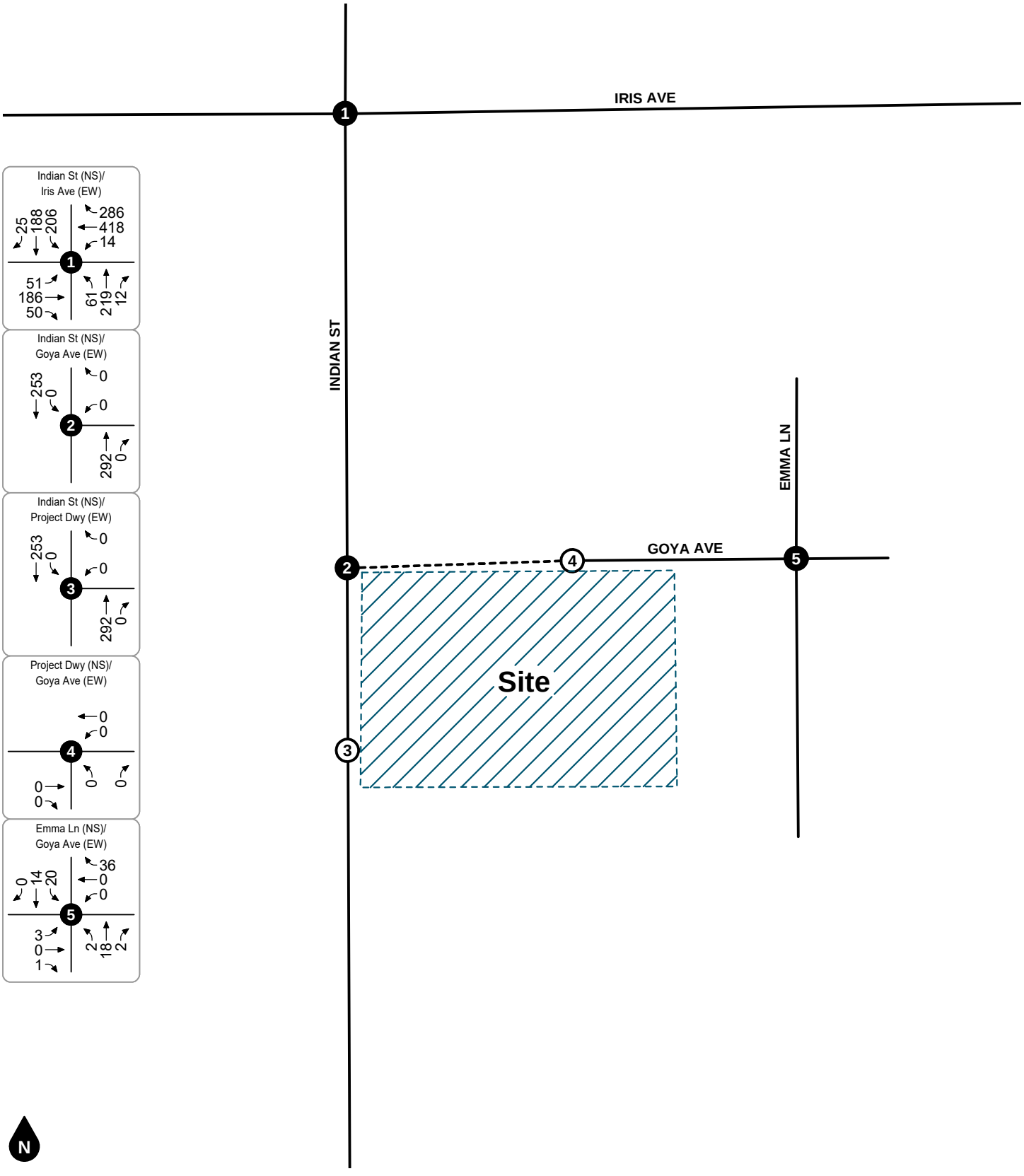


Figure 10
Existing AM Peak Hour Intersection Turning Movement Volumes

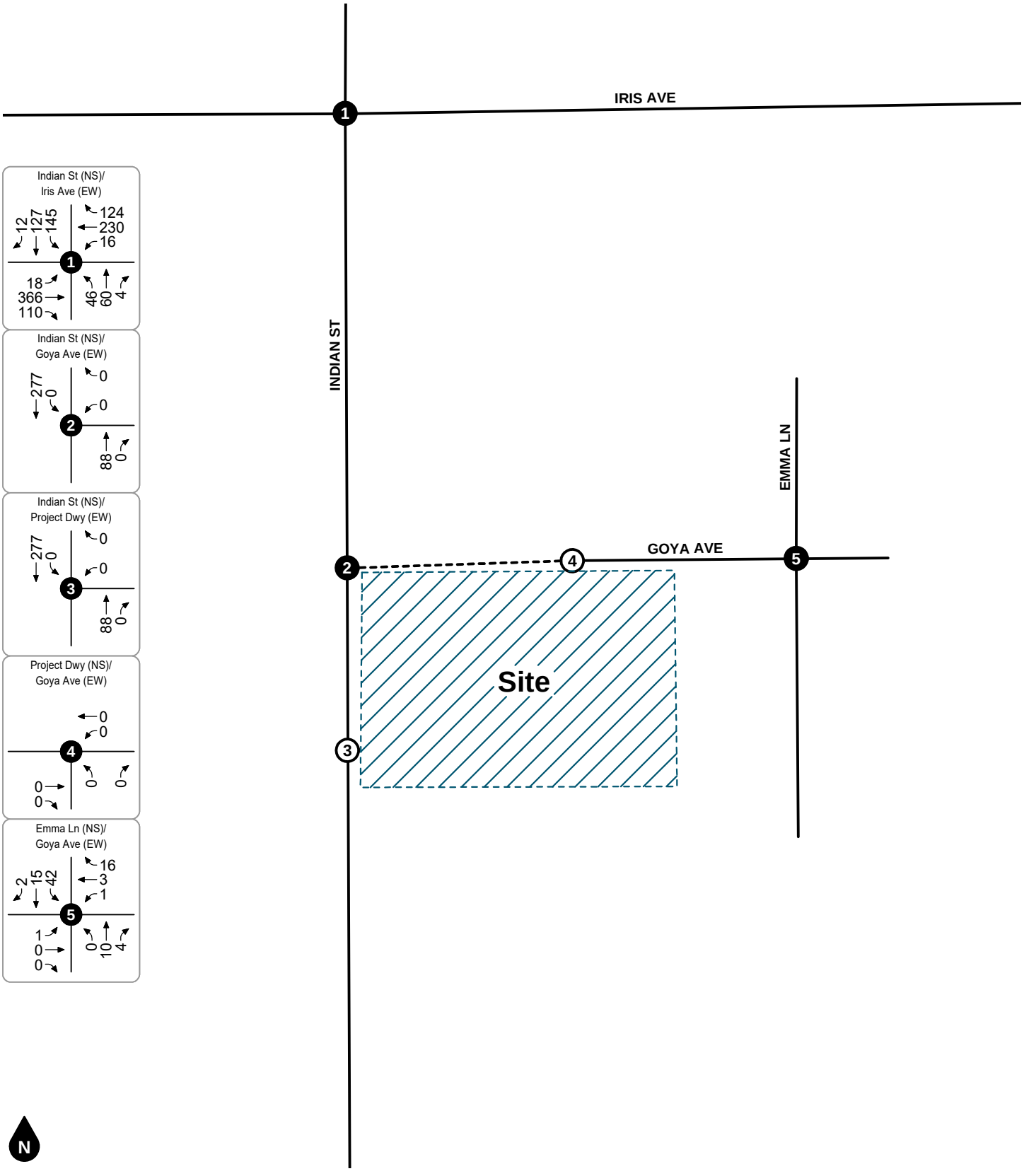


Figure 11
Existing PM Peak Hour Intersection Turning Movement Volumes

4. PROJECT TRIP FORECASTS

This section describes how project trip generation, trip distribution, and trip assignment forecasts were developed. The forecast project volumes are illustrated in the figures contained in this section.

PROJECT TRIP GENERATION

Table 2 shows the project trip generation forecast based on rates obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021). Based on review of the ITE land use description, trip generation rates for ITE Land Use Code 210 – Single-Family Detached Housing were determined to adequately represent the proposed use and were selected for calculation of the project trip generation forecast. The number of trips generated is determined by multiplying the trip generation rates and directional distributions by the land use quantity.

As shown in Table 2, the proposed project is forecast to generate approximately 1,235 daily trips, including 92 trips during the AM peak hour and 124 trips during the PM peak hour.

PROJECT TRIP DISTRIBUTION & ASSIGNMENT

Figure 12 shows the forecast distribution patterns for the project generated trips. The project trip distribution patterns were developed using engineering judgment in consultation with the City engineering staff based on a review of existing traffic data, surrounding land uses, and the local and regional roadway facilities in the project vicinity.

Based on the identified project trip generation and distributions, the project-generated AM and PM peak hour intersection turning movement volumes are shown on Figures 13 and 14.

SITE ACCESS

This analysis assumes the project will construct the roadway improvements necessary to provide project site access. Additional details are provided in the Site Access and Circulation section of this report.

Table 2
Project Trip Generation

Trip Generation Rates									
			AM Peak Hour			PM Peak Hour			
Land Use	Source[1]	Land Use Variable[2]	% In	% Out	Rate	% In	% Out	Rate	Daily Rate
Single-Family Detached Housing	ITE 210	DU	26%	74%	0.70	63%	37%	0.94	9.43

Trips Generated									
			AM Peak Hour			PM Peak Hour			
Land Use	Source	Quantity	In	Out	Total	In	Out	Total	Daily
Single-Family Detached Housing	ITE 210	131 DU	24	68	92	78	46	124	1,235

Notes:

1 ITE = Institute of Transportation Engineers Trip Generation Manual (11th Edition, 2021); ### = Land Use Code. All rates based on General Urban/Suburban setting.

2 DU = Dwelling Unit

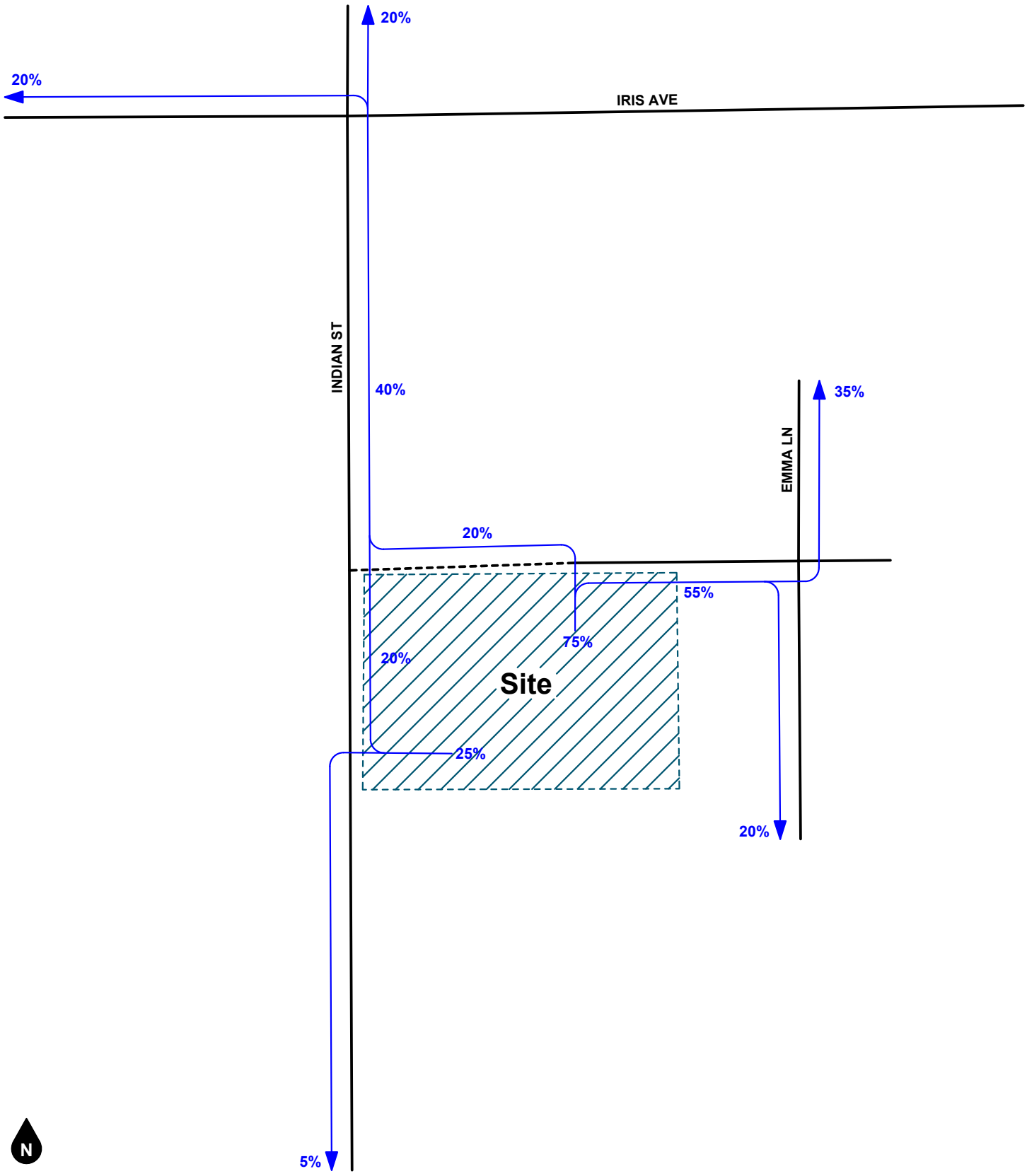


Figure 12
Project Trip Distribution

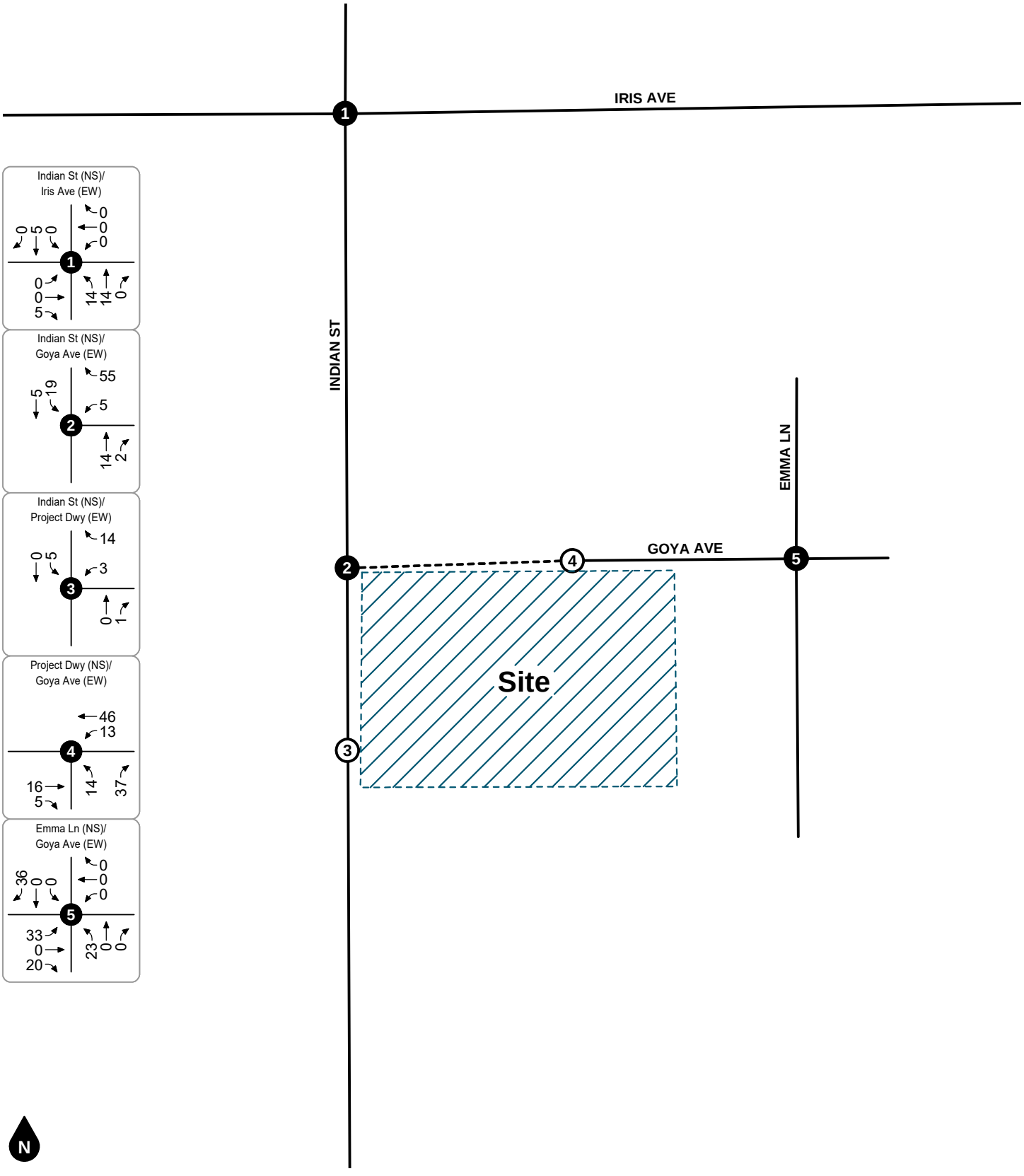


Figure 13
Project AM Peak Hour Intersection Turning Movement Volumes

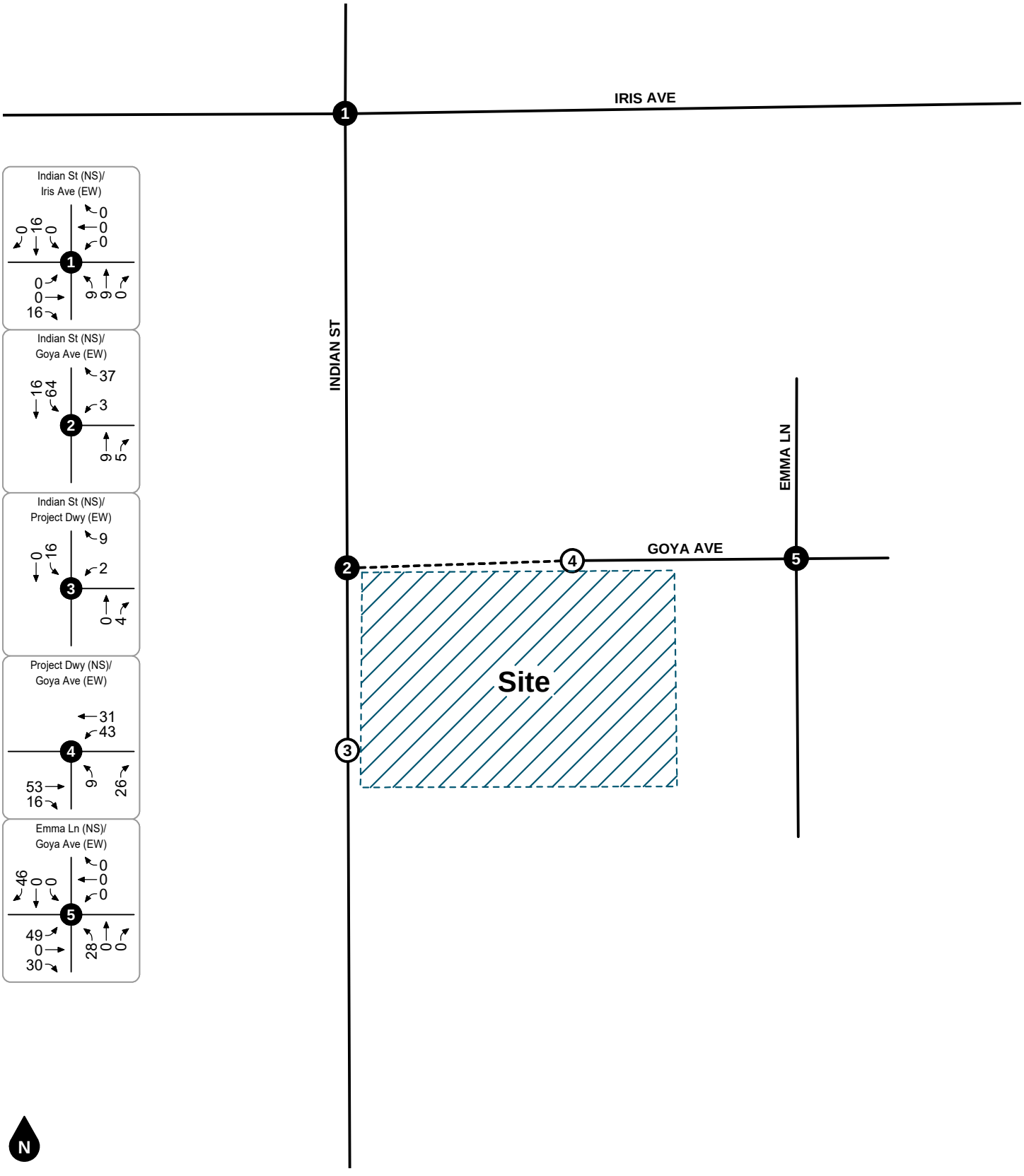


Figure 14
Project PM Peak Hour Intersection Turning Movement Volumes

5. FUTURE VOLUME FORECASTS

This section describes how future volume forecasts for each analysis scenario were developed. Forecast study area volumes are illustrated in the figures contained in this section.

METHOD OF PROJECTION

To assess future conditions, existing volumes were combined with project trips, ambient growth, and other development trips. The project completion date for analysis purposes in this report is 2027.

Ambient Growth

To account for ambient growth, Project Completion roadway volumes were developed by increasing existing (year 2023) volumes by a growth rate of two percent (2.0%) per year over a four (4) year period for a total growth factor of 1.08. The ambient growth was conservatively applied to all movements at the study intersections.

Other Developments

To account for growth associated with other development projects, trips generated by other pending or approved/unconstructed developments in the City of Moreno Valley were reviewed and added to the study area as appropriate. The other development trip generation summary is shown in Table 3. Regional ambient growth is assumed to account for any additional trips generated by other developments not specifically listed in Table 3.

Figure 15 shows the other development location map. Figures 16 and 17 show the forecast AM peak hour and PM peak hour intersection turning movement volumes for trips generated by other developments.

Existing Diverted Trips

The project will provide extension of Goya Avenue from Smoke Tree Place to Indian Street, which is expected to result in diversion of trips from existing adjacent developments located east of the project site. Appendix D (see Tables D-2 and D-3) contains trip generation estimates and trip assignment calculations for existing diverted trips with buildout of Goya Avenue. Existing diverted trips are applied to Project Completion and Cumulative With Project conditions.

ANALYSIS SCENARIO VOLUMES

Project Completion

The Project Completion volume forecast was developed by applying the ambient growth factor to existing volumes, adding existing diverted trips, and adding project-generated trips. This scenario does not include trips from other developments. Project Completion AM and PM peak hour intersection turning movement volumes are shown on Figures 18 and 19.

Cumulative Without Project

The Cumulative Without Project conditions volume forecast was developed by applying the ambient growth factor to existing volumes and adding trips generated by other developments. Cumulative Without Project AM and PM peak hour intersection turning movement volumes are shown on Figures 20 and 21.

Cumulative With Project

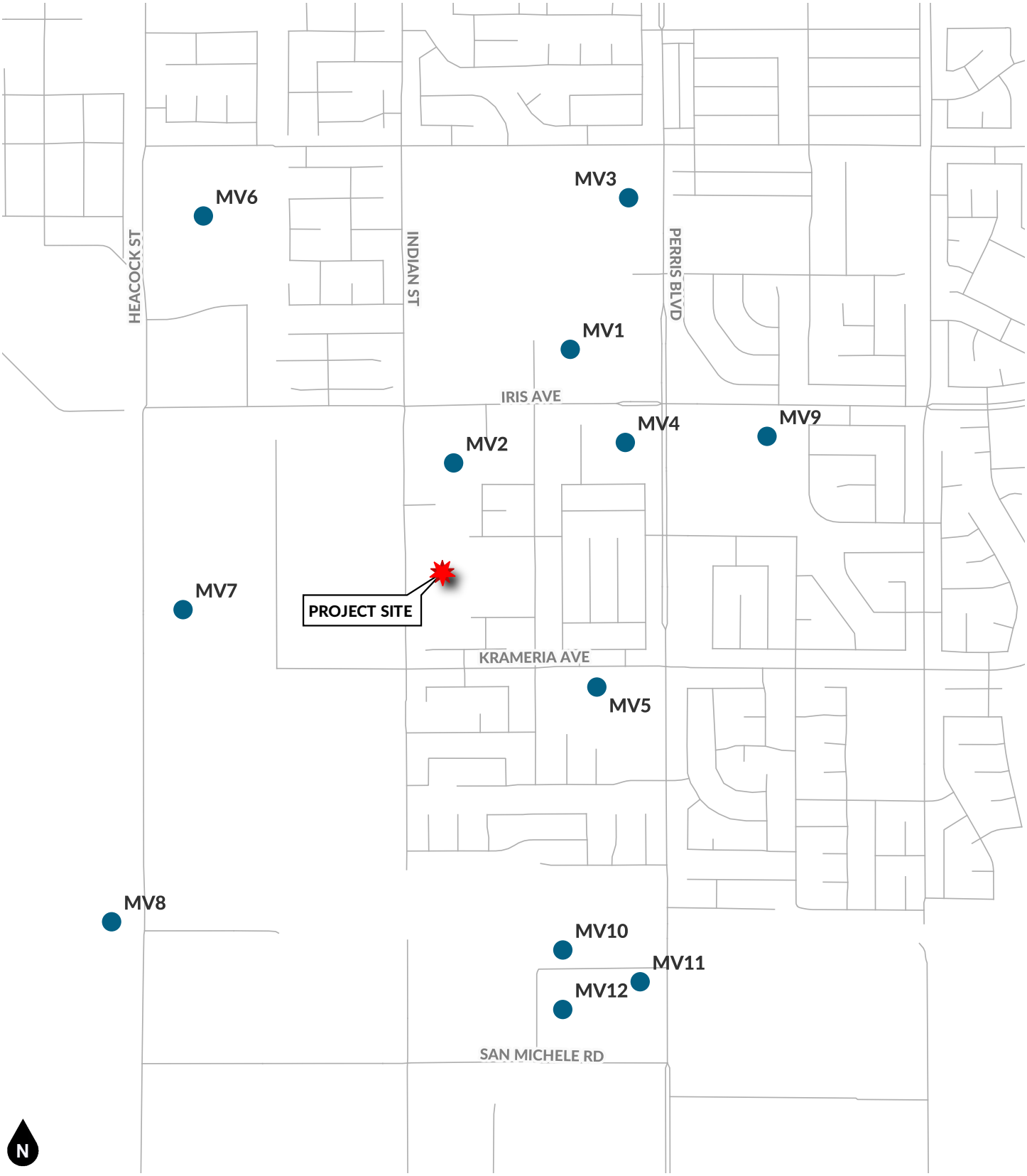
The Cumulative With Project volume forecast was developed by adding project-generated trips and existing diverted trips to Cumulative Without Project volumes. Cumulative With Project AM and PM peak hour intersection turning movement volumes are shown on Figures 22 and 23.

Table 3
Other Development Trip Generation

ID	Project Name (Case Number)	Land Use	Source[1]	Quantity[2]	AM Peak Hour			PM Peak Hour			Daily
					In	Out	Total	In	Out	Total	
MV1	TTM38064 (PEN21-0216)	Residential	ITE 220	426 DU	41	130	171	137	80	217	2,871
MV2	TTM38458 (PEN22-0156)	Residential	ITE 210	78 DU	14	40	54	46	27	73	736
MV3	Walmart (PEN21-0228)	Retail	ITE 813	189.520 TSF	197	155	352	402	419	821	9,575
			ITE 945	16 VFP	253	253	506	215	215	430	5,532
MV4	Perris & Iris (PEN21-0208)	Retail/Commercial	ITE 850	22 TSF	37	26	63	98	98	196	2,064
			ITE 934	2.800 TSF	64	61	125	48	44	92	1,309
			ITE 937	1.000 TSF	44	42	86	19	19	38	534
			ITE 948	1 CWT	17	17	34	39	39	78	861
MV5	TTM37725 (PEN21-0206)	Residential	ITE 210	64 DU	12	33	45	38	22	60	604
MV6	Heacock Commerce Center (PEN23-0010)	Industrial	ITE 150	883.250 TSF	116	35	151	45	114	159	1,510
MV7	Heacock Street Warehouse (PEN21-0022)	Industrial	ITE 150	99.486 TSF	13	4	17	5	13	18	170
MV8	Meridian D-1 Gateway Aviation	Air Freight Cargo Center	MV	40 CLD 37 TSP	131	131	262	72	72	144	1,880
MV9	TTM37909 (PEN20-0063)	Residential	ITE 210	82 DU	15	42	57	49	29	78	773
MV10	Rivard Industrial (PEN21-0151)	Industrial	ITE 150	21.700 TSF	3	1	4	1	3	4	37
MV11	MV Business Center 5 (PEN22-0260)	Industrial	ITE 150	39.665 TSF	5	2	7	2	5	7	68
MV12	Rivard Truck Storage and Office (PEN21-0213)	Industrial	[a]	4.47 AC	3	5	8	7	5	12	192

(1) Sources:
ITE = Institute of Transportation Engineers Trip Generation Manual (11th Edition, 2021); ### = Land Use Code
MV = City of Moreno Valley
[a] = Based on trip generation rates observed at three trailer storage facilities per *4060 East 26th Street Trailer Storage Facility Transportation Study Screening Assessment* (Ganddini Group, Inc., March 2023).

(2) DU = Dwelling Units; TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions; CWT = Car Wash Tunnels; CLD = Commerical Loading Docks; TSP = Trailer Storage Positions



Legend

Other Development
MV = Moreno Valley (see Table 3 for Map ID)

Figure 15
Other Development Location Map

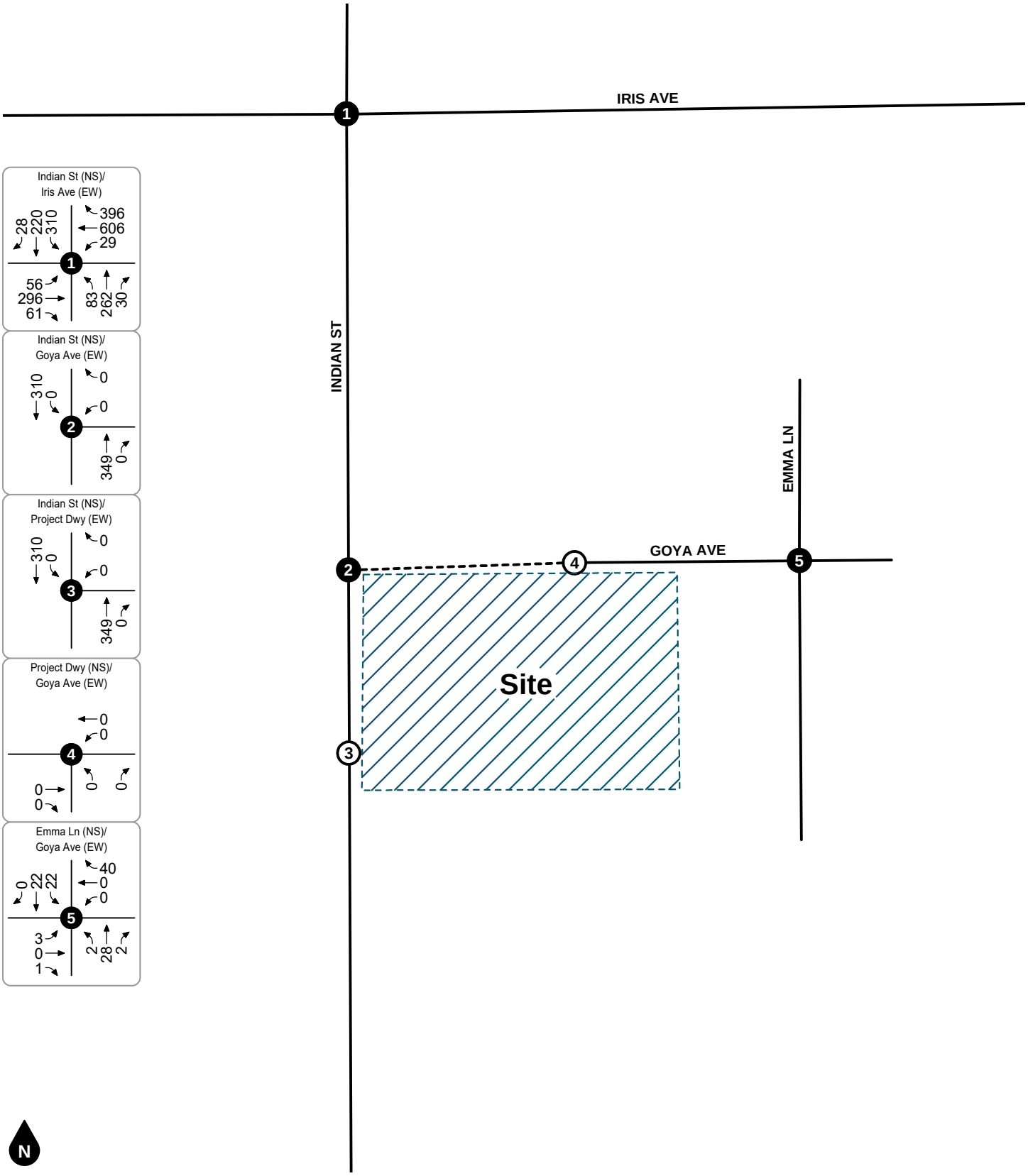


Figure 16
Other Development AM Peak Hour
Intersection Turning Movement Volumes

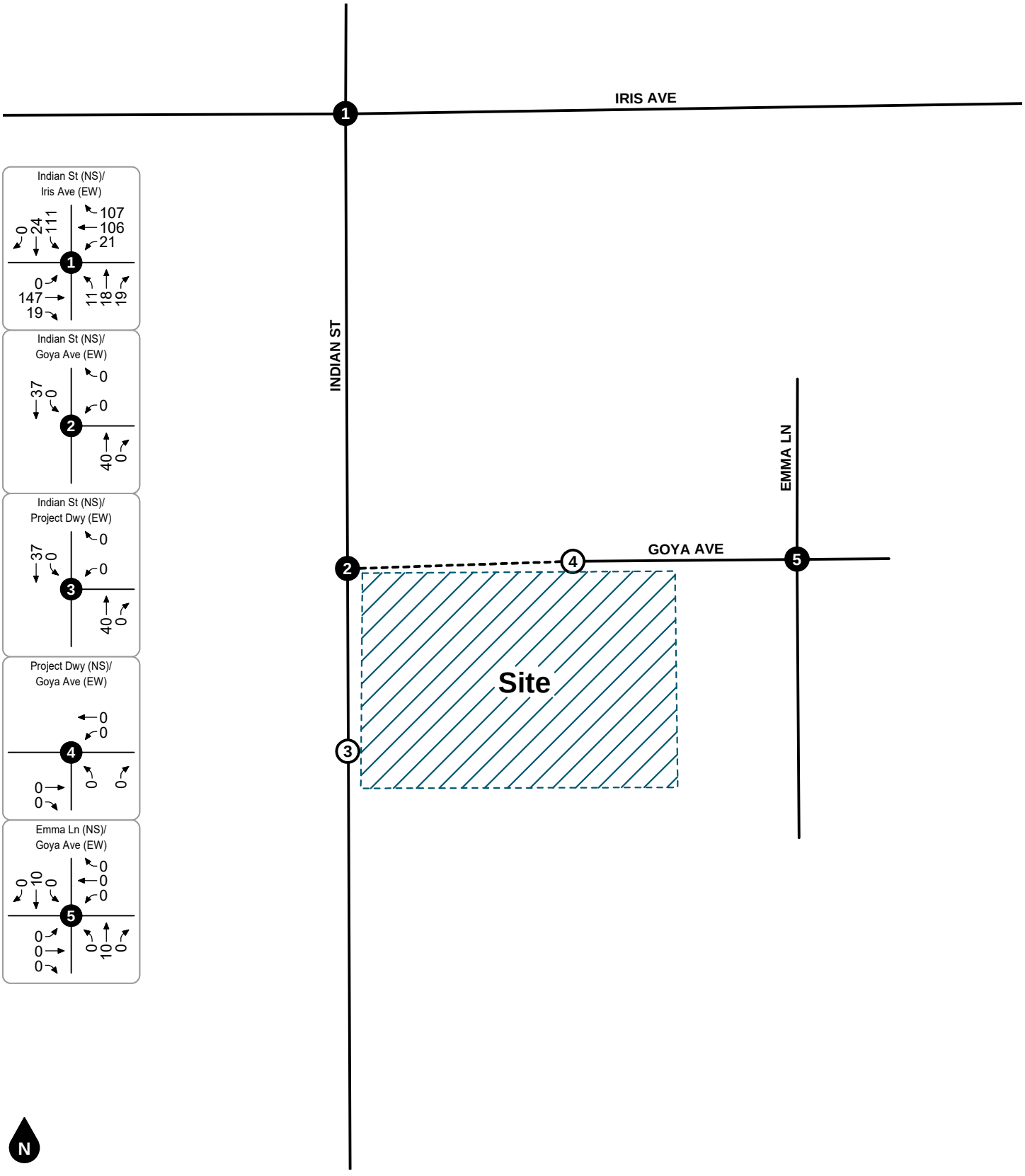


Figure 17
Other Development PM Peak Hour
Intersection Turning Movement Volumes

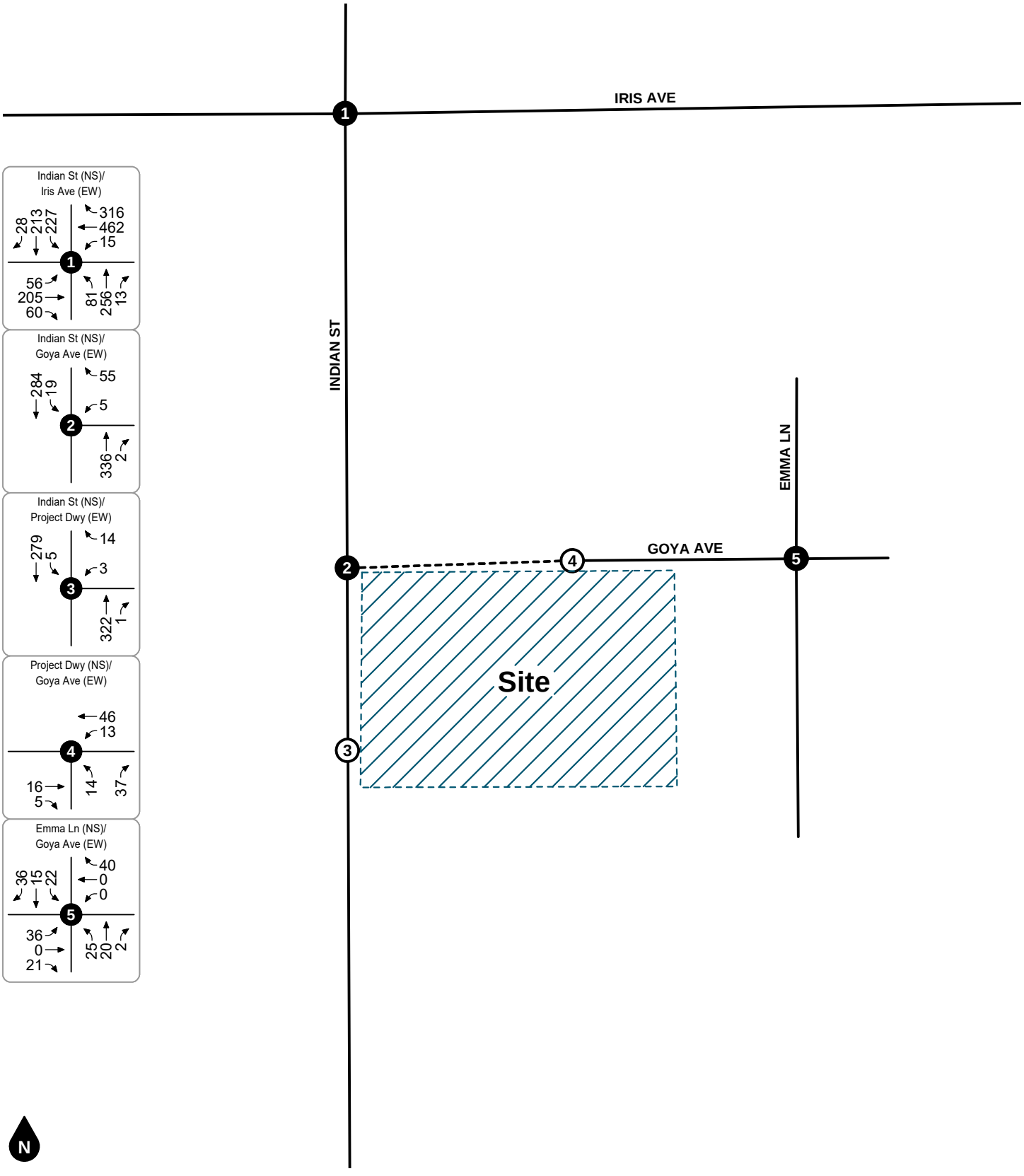


Figure 18
Project Completion AM Peak Hour
Intersection Turning Movement Volumes

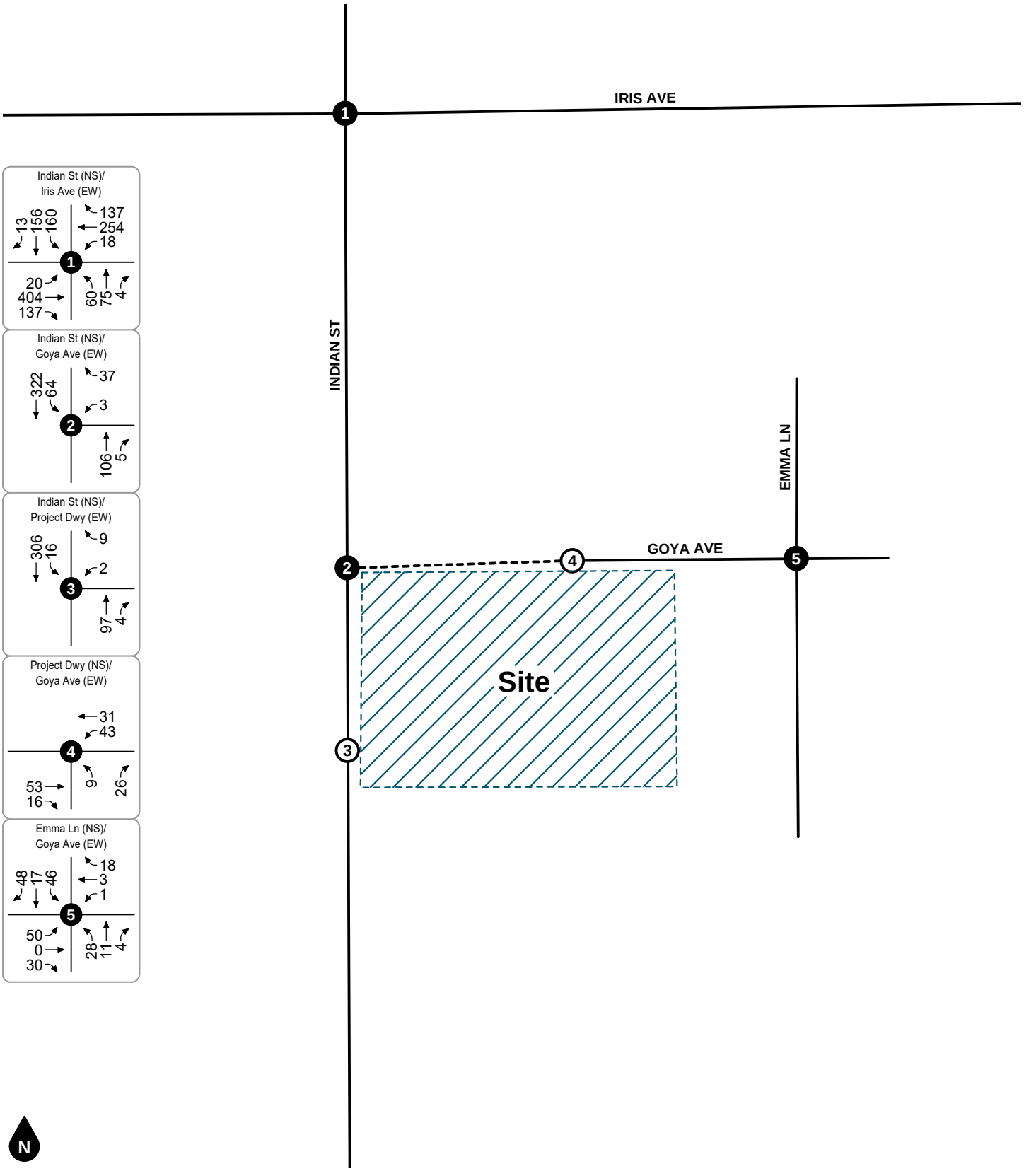


Figure 19
Project Completion PM Peak Hour
Intersection Turning Movement Volumes

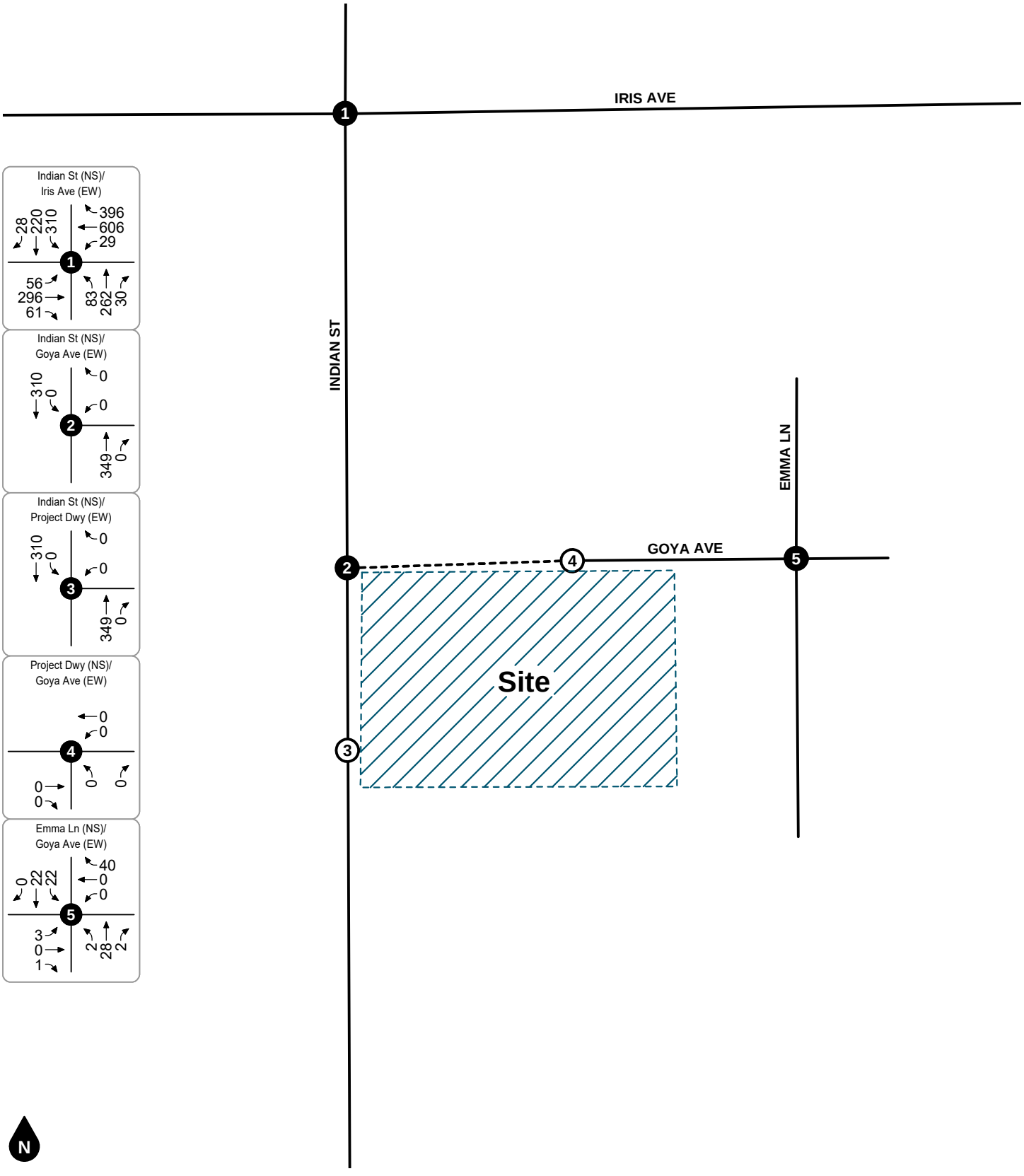


Figure 20
Cumulative Without Project AM Peak Hour
Intersection Turning Movement Volumes

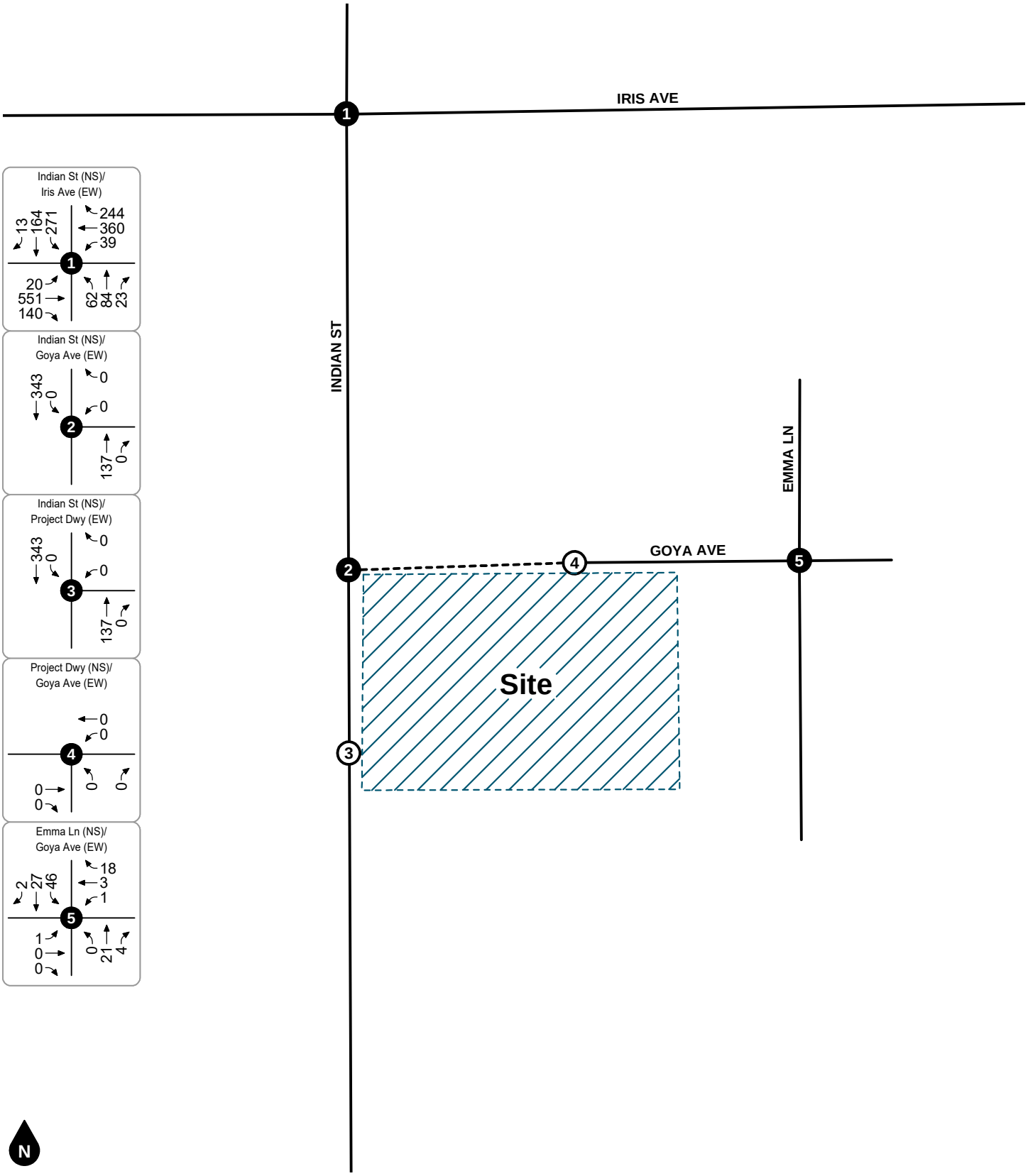


Figure 21
Cumulative Without Project PM Peak Hour
Intersection Turning Movement Volumes

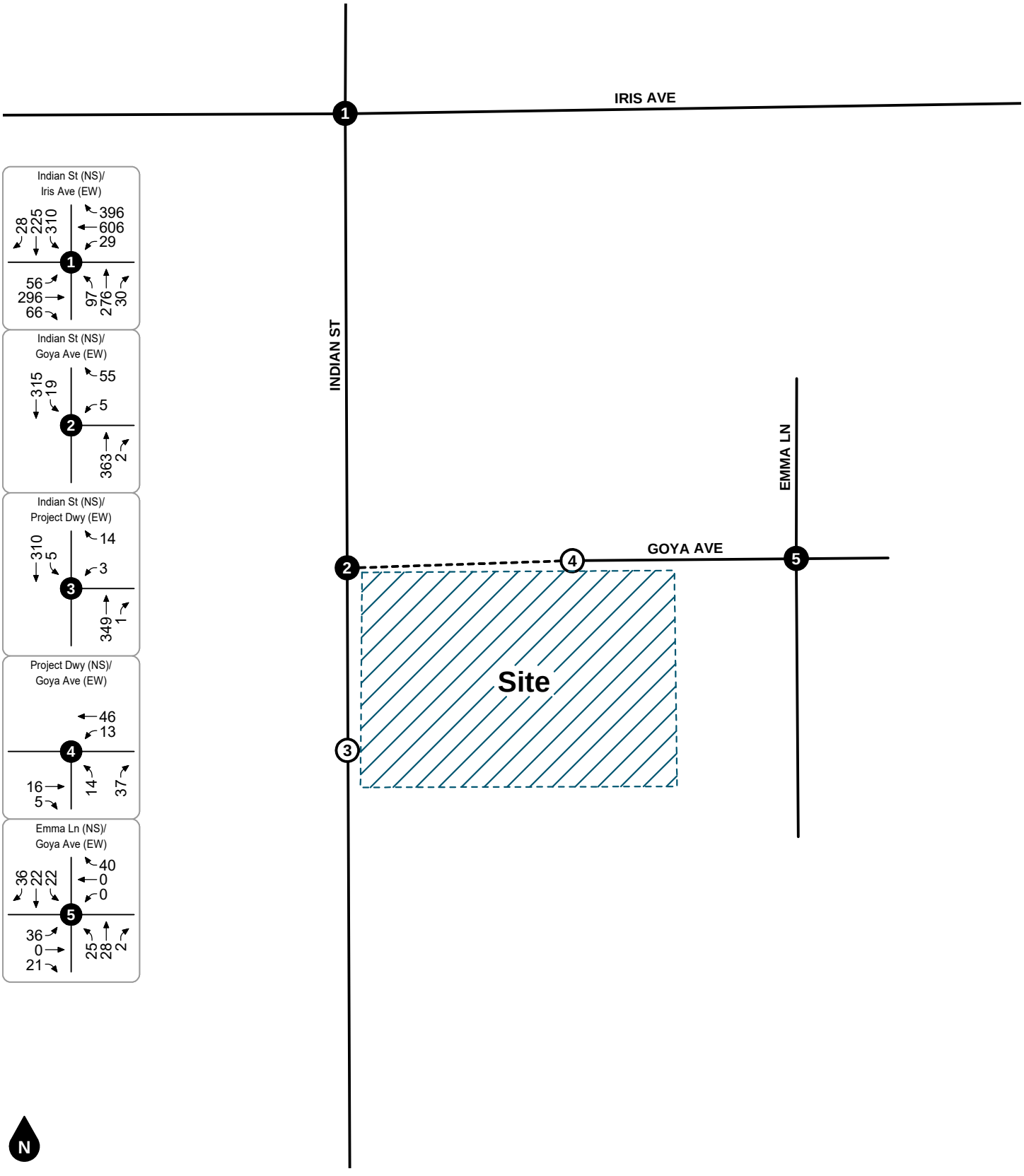


Figure 22
Cumulative With Project AM Peak Hour
Intersection Turning Movement Volumes

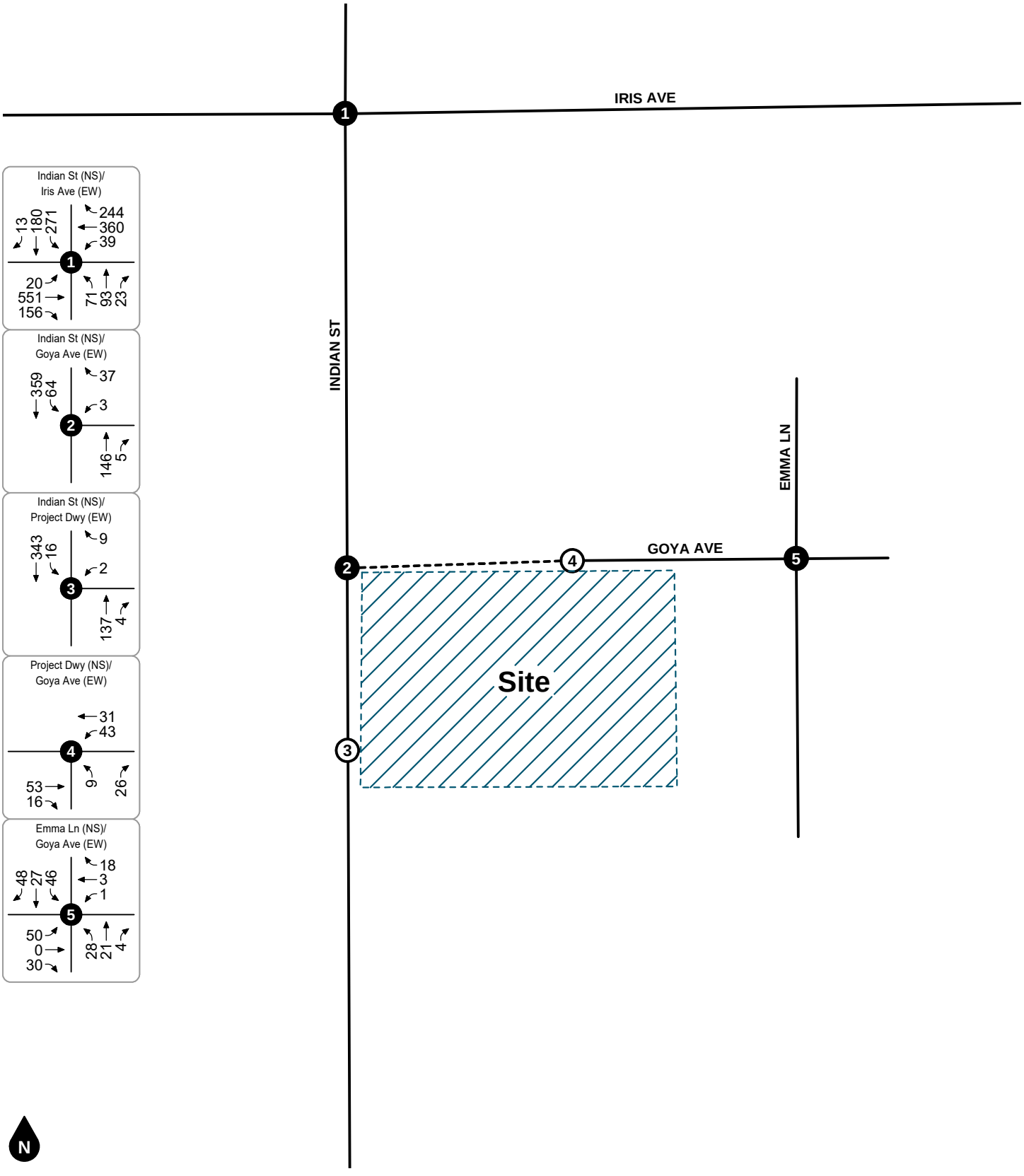


Figure 23
Cumulative With Project PM Peak Hour
Intersection Turning Movement Volumes

6. LOS IMPACT ANALYSIS

Detailed intersection LOS calculation worksheets for each of the following analysis scenarios are provided in Appendix E.

PROJECT COMPLETION

The study intersection LOS for Project Completion conditions are shown in Table 4. As shown in Table 4, the study intersections are forecast to operate within acceptable LOS during the peak hours for Project Completion conditions.

Table 5 shows the impact assessment for Project Completion conditions. As shown in Table 5, no improvements are required at the study intersections based on the City-established operational criteria.

CUMULATIVE WITHOUT PROJECT

The study intersection LOS for Cumulative Without Project conditions are shown in Table 6. As shown in Table 6, the study intersections are forecast to operate within acceptable LOS during the peak hours for Cumulative Without Project conditions, except for the intersection of Indian Street and Iris Avenue that is forecast to operate at LOS E during the AM peak hour.

CUMULATIVE WITH PROJECT

The study intersection LOS for Cumulative With Project conditions are shown in Table 7. As shown in Table 7, the study intersections are forecast to operate within acceptable LOS during the peak hours for Cumulative With Project conditions, except for the intersection of Indian Street and Iris Avenue that is forecast to continue operating at LOS E during the AM peak hour.

Table 8 shows the impact assessment for Cumulative conditions. As shown in Table 8, no improvements are required at the study intersections based on the City-established operational criteria. The intersection of Indian Street and Iris Avenue is forecast to operate at LOS E for Cumulative Without Project conditions and the addition of project trips is forecast to increase delay by less than five seconds.

Table 4
Project Completion Intersection LOS

Study Intersection	Traffic Control[1]	Acceptable LOS	AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Indian St at Iris Ave	TS	D	42.3	D	35.1	D
2. Indian St at Goya Ave	CSS	D	10.6	B	9.0	A
3. Indian St at Project Dwy	CSS	D	9.8	A	9.0	A
4. Project Dwy at Goya Ave	CSS	C	8.8	A	9.0	A
5. Emma Ln at Goya Ave	AWS	C	7.4	A	7.7	A

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop; AWS = All Way Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, Level of Service is based on average delay of the worst minor street approach or major street left turn movement.

(3) LOS = Level of Service

Table 5
Impact Assessment for Project Completion

Study Intersection	Traffic Control[1]	Acceptable LOS	AM Peak Hour						PM Peak Hour					
			Existing		Existing Plus Ambient Growth Plus Project		Project-Related Δ	Improvements Required?	Existing		Existing Plus Ambient Growth Plus Project		Project-Related Δ	Improvements Required?
			Delay[2]	LOS[3]	Delay	LOS			Delay	LOS	Delay	LOS		
1. Indian St at Iris Ave	TS	D	39.8	D	42.3	D	+2.5	No	34.8	C	35.1	D	+0.3	No
2. Indian St at Goya Ave	CSS	D	-	-	10.6	B	n/a	No	-	-	9.0	A	n/a	No
3. Indian St at Project Dwy	CSS	D	-	-	9.8	A	n/a	No	-	-	9.0	A	n/a	No
4. Project Dwy at Goya Ave	CSS	C	-	-	8.8	A	n/a	No	-	-	9.0	A	n/a	No
5. Emma Ln at Goya Ave	AWS	C	7.0	A	7.4	A	+0.4	No	7.2	A	7.7	A	+0.5	No

Notes:
(1) TS = Traffic Signal; CSS = Cross Street Stop; AWS = All Way Stop

(2) Delay is shown as seconds/vehicle.

Table 6
Cumulative Without Project Intersection LOS

Study Intersection	Traffic Control[1]	Acceptable LOS	AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Indian St at Iris Ave	TS	D	64.7	E	40.2	D
2. Indian St at Goya Ave	CSS	D	Future Intersection			
3. Indian St at Project Dwy	CSS	D	Future Intersection			
4. Project Dwy at Goya Ave	CSS	C	Future Intersection			
5. Emma Ln at Goya Ave	AWS	C	7.1	A	7.3	A

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop; AWS = All Way Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, Level of Service is based on average delay of the worst minor street approach or major street left turn movement.

(3) LOS = Level of Service

Table 7
Cumulative With Project Intersection LOS

Study Intersection	Traffic Control[1]	Acceptable LOS	AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Indian St at Iris Ave	TS	D	64.8	E	40.2	D
2. Indian St at Goya Ave	CSS	D	10.8	B	9.2	A
3. Indian St at Project Dwy	CSS	D	10.0	A	9.1	A
4. Project Dwy at Goya Ave	CSS	C	8.8	A	9.0	A
5. Emma Ln at Goya Ave	AWS	C	7.5	A	7.8	A

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop; AWS = All Way Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, Level of Service is based on average delay of the worst minor street approach or major street left turn movement.

(3) LOS = Level of Service

Table 8
Impact Assessment for Cumulative Conditions

Study Intersection	Traffic Control[1]	Acceptable LOS	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Project-Related Δ	Improvements Required?	Without Project		With Project		Project-Related Δ	Improvements Required?
			Delay[2]	LOS[3]	Delay	LOS			Delay	LOS	Delay	LOS		
1. Indian St at Iris Ave	TS	D	64.7	E	64.8	E	+0.1	No	40.2	D	40.2	D	-	No
2. Indian St at Goya Ave	CSS	D	-	-	10.8	B	n/a	No	-	-	9.2	A	n/a	No
3. Indian St at Project Dwy	CSS	D	-	-	10.0	A	n/a	No	-	-	9.1	A	n/a	No
4. Project Dwy at Goya Ave	CSS	C	-	-	8.8	A	n/a	No	-	-	9.0	A	n/a	No
5. Emma Ln at Goya Ave	AWS	C	7.1	A	7.5	A	+0.4	No	7.3	A	7.8	A	+0.5	No

Notes:
(1) TS = Traffic Signal; CSS = Cross Street Stop; AWS = All Way Stop

(2) Delay is shown as seconds/vehicle.

7. SITE ACCESS & ON-SITE CIRCULATION

This section includes a description of project improvements necessary to provide site access. Vehicular access is proposed to be provided by one full access driveway on Indian Street and one full access driveway on Goya Avenue. Figure 24 summarizes the circulation recommendations.

PROJECT DESIGN FEATURES

This analysis assumes the following improvements will be constructed by the project to provide project site access:

- Construct Goya Avenue along the project frontage from Indian Street to the eastern project boundary at its ultimate half-section width, including landscaping and parkway improvements, plus one 12-foot lane for opposing traffic in conjunction with development.

- Construct Indian Street along the project frontage from Goya Avenue to the southern project boundary at its ultimate half-section width, including landscaping and parkway improvements, in conjunction with development.

- Indian Street (NS) at Goya Avenue (EW)
  - Install westbound stop control.
  - Northbound: maintain existing through lane and construct one new right turn lane.
  - Southbound: maintain two existing through lanes and two-way left-turn lane.
  - Westbound: one shared left/right turn lane.

- Indian Street (NS) at Project Driveway (EW)
  - Install westbound stop control.
  - Northbound: one through lane and one shared through/right turn lane.
  - Southbound: maintain two existing through lanes.
  - Westbound: one shared left/right turn lane.

- Project Driveway (NS) at Goya Avenue (EW)
  - Install northbound stop control
  - Northbound: one shared left/right turn lane.
  - Eastbound: one shared through/right turn lane.
  - Westbound: one shared through/left turn lane.

STANDARD CONDITIONS OF APPROVAL

This analysis also assumes the project shall comply with the following or similar conditions through the standard development review process and conditions of approval for the City of Moreno Valley:

- A construction work zone traffic control plan that complies with State/Federal standards as prescribed in the California Manual on Uniform Traffic Control Devices (CA MUTCD) shall be submitted to the City for review and approval prior to the issuance of a grading permit or start of construction. The plan shall identify any roadway, sidewalk, bicycle route, or bus stop closures and detours as well as haul routes and hours of operation. All construction-related trips shall be restricted to off-peak hours to the extent possible.

- All on-site and off-site roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project shall be constructed in accordance with applicable State/Federal engineering standards.

- Site-adjacent roadways shall be constructed or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the City of Moreno Valley. Specifically, the proposed project includes construction of adjacent street improvements to ultimate right-of-way width for Goya Avenue and Indian Street.

- Adequate emergency vehicle access shall be provided to the satisfaction of the Moreno Valley Fire Department.

- The final grading, landscaping, and street improvement plans shall demonstrate that sight distance requirements are met in accordance with applicable sight distance standards.

The proposed project is forecast to result in no significant impacts under CEQA relating to a substantial increase in hazards due to geometric design or inadequate emergency access based on compliance with the City's standard development review process and conditions of approval.

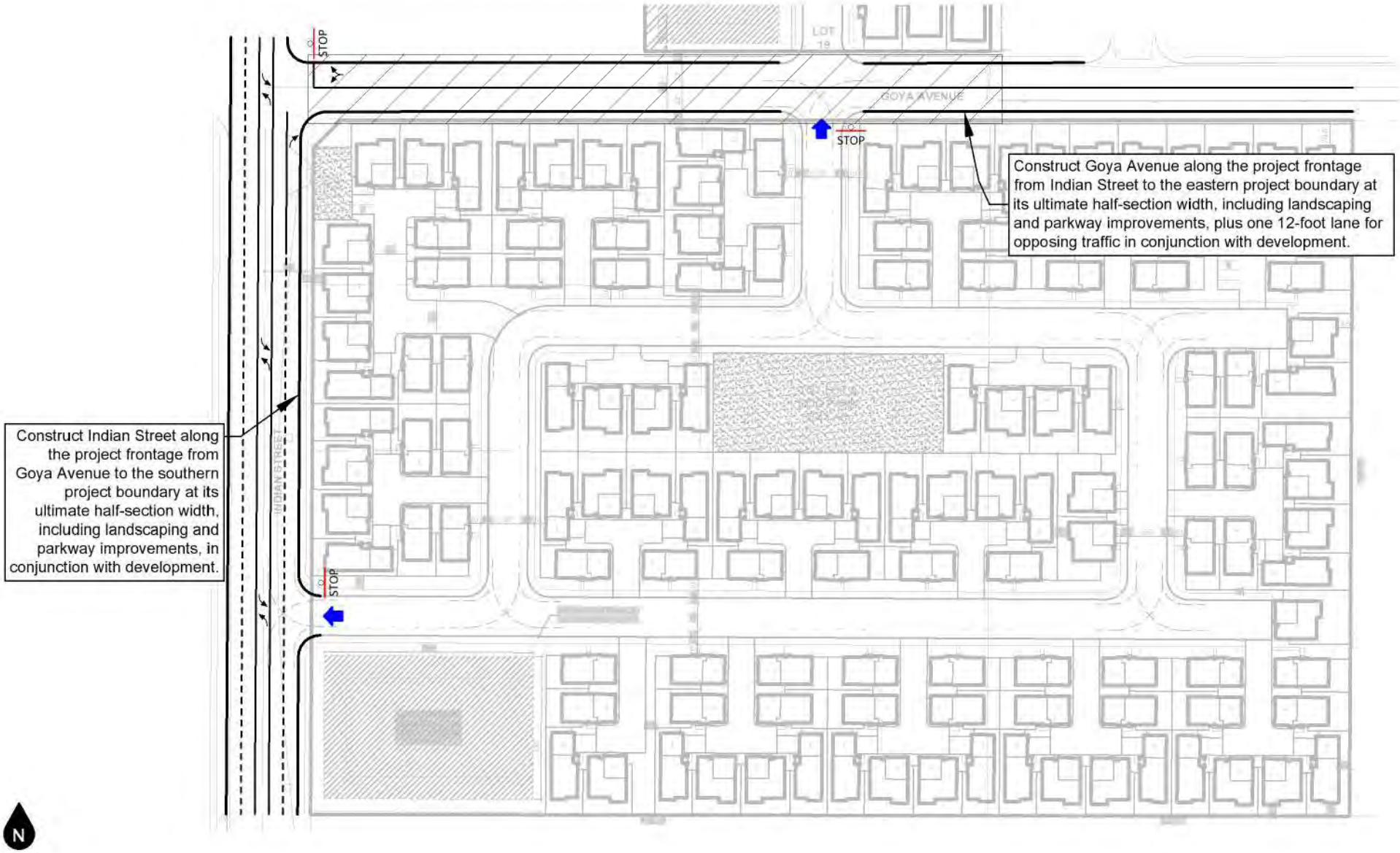


Figure 24
Circulation Recommendations

8. CONCLUSIONS

This section summarizes the proposed project, operational findings, and identifies recommendations (if any) as specified in previous sections of this study.

PROJECT TRIP GENERATION

The proposed project is forecast to generate approximately 1,235 daily trips, including 92 trips during the AM peak hour and 124 trips during the PM peak hour.

LOS IMPACTS

The study intersections are forecast to operate within acceptable LOS during the peak hours for Project Completion conditions; therefore, no improvements are required at the study intersections based on the City-established operational criteria.

The study intersections are forecast to operate within acceptable LOS during the peak hours for Cumulative Without Project conditions, except for the intersection of Indian Street and Iris Avenue that is forecast to operate at LOS E during the AM peak hour.

The study intersections are forecast to operate within acceptable LOS during the peak hours for Cumulative With Project conditions, except for the intersection of Indian Street and Iris Avenue that is forecast to continue operating at LOS E during the AM peak hour. No improvements are required at the study intersections based on the City-established operational criteria.

SUMMARY OF IMPROVEMENTS

Project design features (as detailed in the Site Access & On-Site Circulation section) involve improvements necessary to provide project site access.

Since the proposed project is not forecast to cause any substantial adverse transportation effects relating to LOS operations, no additional improvements or fair share contributions are recommended.

VEHICLE MILES TRAVELED ANALYSIS

For compliance with California Environmental Quality Act (CEQA) requirements, the project VMT assessment is documented separately in the *South of Goya Project Transportation Study Screening Assessment & VMT Impact Analysis* (Ganddini Group, Inc., July 2023).

APPENDICES

Appendix A Glossary
Appendix B Scoping Agreement
Appendix C Intersection Turning Movement Count Worksheets
Appendix D Average Daily Traffic (ADT) Volumes
Appendix E Intersection LOS Worksheets

APPENDIX A

GLOSSARY

ACTUATED SIGNAL CONTROL: A type of traffic signal control in which display of each phase depends on whether the corresponding phase detector has registered a service call or the phase is on recall.

ACTUATION: Detection of a roadway user that is forwarded to the signal controller.

AVERAGE DAILY TRAFFIC: The average 24-hour volume for a stated period is divided by the number of days in that period. For example, Annual Average Daily Traffic is the total volume during a year divided by 365 days.

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

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

CALL: An indication within a signal controller that a particular phase is waiting for service, either through actuation from a roadway user or phase recall.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass through a roadway facility during a specified period.

CHANNELIZATION: The separation of conflicting traffic movements by use of pavement markings, raised curbs, or other suitable means to facilitate free flow movement.

CLEARANCE INTERVAL: Equal to the yellow plus all-red time, if any, when a traffic signal changes between phases (i.e., the amount of time between the end of a green light from one movement to the beginning of a green light for the next).

COORDINATED SIGNAL CONTROL: A type of traffic signal control in which non-coordinated phases associated with minor movements are constrained such that the coordinated phases are served at a specific time during the signal cycle, thus maintaining the efficient progression of traffic flow along the major roadway.

CONTROL DELAY: The portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign). It includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay.

CORDON: An imaginary boundary line around or across a study area across which vehicles, persons, or other information can be collected for survey and analytical purposes.

CORNER SIGHT DISTANCE: The minimum sight distance required by the driver of a vehicle to cross or enter the lanes of the major roadway without requiring approaching traffic traveling at a given speed to radically alter their speed or trajectory.

CYCLE: A complete sequence of signal indications for all phases. Also known as a signal cycle.

CYCLE LENGTH: The total time for a traffic signal to complete one full cycle.

DAILY CAPACITY: A theoretical value representing the daily traffic volume that will typically result in a peak hour volume equal to the capacity of the roadway.

DELAY: The total additional travel time experienced by a roadway user (driver, passenger, bicyclist, or pedestrian) beyond that required to travel at a desired speed.

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

DETECTOR: A device used to count or determine the presence of a roadway user.

DESIGN SPEED: A speed used for purposes of designing horizontal and vertical alignments of a highway.

DIRECTIONAL SPLIT: The percent of two-way traffic traveling in a specified direction.

DIVERSION: The rerouting of traffic from a normal path of travel between two points, such as to avoid congestion or perform a secondary trip.

FREE FLOW: Traffic flow that is unaffected by a traffic control and/or or upstream or downstream conditions.

GAP: Time or distance between two vehicles measured from rear bumper of the front vehicle to front bumper of the second vehicle.

GAP ACCEPTANCE: The method by which a driver accepts an available gap in traffic to enter or cross the road.

HEADWAY: Time or distance between two successive vehicles measured from same point on both vehicles (i.e., front bumper to front bumper). Also known as gap.

LEVEL OF SERVICE: A grading scale of quantitative performance measures representing the quality of service of a transportation facility or service from an average traveler's perspective.

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

MULTI-MODAL: More than one mode, such as automobile, transit, bicycle, and pedestrian.

OFFSET: The time interval between the beginning of a traffic signal cycle at one intersection and the beginning of signal cycle an adjacent intersection.

PLATOON: A set of vehicles traveling at similar speed and moving as a general group with clear separation between other vehicles ahead and behind.

PASSENGER CAR EQUIVALENT: A metric used to assess the impact of larger vehicles, such as trucks, recreational vehicles, and buses, by converting the traffic volume of larger vehicles to an equivalent number of passenger cars.

PEDESTRIAN CLEARANCE INTERVAL: Also known as the "Flashing Don't Walk" interval, it signals the end of pedestrian entry into the crosswalk following the "Walk" indication and provides time for pedestrians who have already entered the crosswalk to finishing crossing.

PEAK HOUR: The hour within a day in which the maximum volume occurs.

PEAK HOUR FACTOR: The peak hour volume divided by four times the peak 15-minute flow rate.

PHASE: In traffic signals, the green, yellow, and red clearance intervals assigned to a specified traffic movement.

PRETIMED SIGNAL: A traffic signal operation in which the cycle length, phasing sequence, and phasing times are predetermined and fixed, regardless of actual demand for any given traffic movement. Also known as a fixed time signal.

PROGRESSION: The coordinated movement of vehicles through signalized intersections along a corridor.

QUEUE: The number of vehicles waiting at a service area such as a traffic signal, stop sign, or access gate.

QUEUE LENGTH: The length of vehicle queue, typically expressed in feet, waiting at a service area such as a traffic signal, stop sign, or access gate.

RECALL: A signal phasing operation in which a specified phase places a call to the signal controller each time a conflicting phase is served, thus ensuring the specified phase will be serviced again.

SEMI-ACTUATED CONTROL: A type of traffic signal control in which only the minor movements are provided detection.

SIGHT DISTANCE: The continuous length of roadway visible to a driver or roadway user.

STACKING DISTANCE: The length of area available behind a service area, such as a traffic signal or gate, for vehicle queuing to occur.

STOPPING SIGHT DISTANCE: The minimum distance required by the driver of a vehicle traveling at a given speed to bring the vehicle to a stop after an object on the road becomes visible, including reaction and response time.

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

TRIP OR TRIP END: The one-directional movement of a person or vehicle. Every trip has an origin and a destination at its respective ends (i.e., trip ends). In terms of site trip generation, the same vehicle entering and exiting a site generates two trips: one inbound trip and one outbound trip.

TRIP GENERATION RATE: The rate at which a land use generates trips per the specified land use variable, such per dwelling unit or per thousand square feet.

TURNING RADIUS: The circular arc formed by the smallest turning path radius of the front outside tire of a vehicle, such as that performed by a U-turn maneuver. This is based on the length and width of the wheelbase as well as the steering mechanism of the vehicle.

VEHICLE MILES TRAVELED: A measure of the amount and distance of automobile travel essentially calculated as the sum of each trip times the trip length.

APPENDIX B

SCOPING AGREEMENT

EXHIBIT A

4/20/23

Project Scoping Form

This scoping form shall be submitted to the Lead Agency to assist in identifying infrastructure improvements that may be required to support traffic from the proposed project.

Project Identification:

Case Number:	
Related Cases:	
SP No.	
EIR No.	
GPA No.	
CZ No.	
Project Name:	South of Goya Project
Project Address:	East of Indian St & South of the extension of Goya Avenue, Moreno Valley
Project Opening Year:	2027
Project Description:	Construct 131 DU Single-Family Detached Housing

	Consultant:	Developer:
Name:	Giancarlo Ganddini, PE, PTP	Patton Developments
Address:	555 Park Center Drive, Suite 225	41 Corporate Park, Suite 250
	Santa Ana, CA 92705	Irvine, CA 92606
Telephone:	(714) 795-3100*101	
Email:	giancarlo@ganddini.com	

Trip Generation Information:

Trip Generation Data Source: ITE Trip Generation Manual (11th Edition, 2021)

The City of Moreno Valley reserves the right to use, share, and reproduce the information including, but not limited to, traffic counts, exhibits, and surveys provided in all submitted traffic studies and VMT assessments.

Current General Plan Land Use: Residential: Max 5 du/ac

Proposed General Plan Land Use: Residential: Max 10 du/ac

Current Zoning: R5

Proposed Zoning: R10

	Existing Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	-	-	-	24	68	92
PM Trips	-	-	-	78	46	124

Trip Internalization: ☐ Yes ☑ No (_____% Trip Discount)

Pass-By Allowance: ☐ Yes ☑ No (_____% Trip Discount)

Potential Screening Checks

Is your project screened from specific analyses (see Page 3 of the guidelines related to LOS assessment and Pages 22-23 for VMT screening criteria).

Is the project screened from LOS assessment? ☐ Yes ☑ No

LOS screening justification (see Page 3 of the guidelines): LOS screening not justified; LOS analysis will be prepared.

Is the project screened from VMT assessment? ☐ Yes ☑ No

VMT screening justification (see Pages 22-23 of the guidelines): VMT screening not satisfied; detailed VMT analysis/mitigation will be provided separately.

Level of Service Scoping

- Proposed Trip Distribution (Attach Graphic for Detailed Distribution):

North	South	East	West
55 %	25 %	0 %	20 %

Link level of service and data collection:

____ will be required

__X__ will not be required

- Attach list of study intersections (and roadway segments if applicable)
- Attach site plan
- Other specific items to be addressed:
  - Site access
  - On-site circulation
  - Parking
  - Consistency with Plans supporting Bikes/Peds/Transit
  - Other _____
- Date of Traffic Counts New counts
- Attach proposed analysis scenarios (years plus proposed forecasting approach)
- Attach proposed phasing approach (if the project is phased)

Legend

(#) Study Intersection

(#) Project Driveway

Figure 1
Project Location Map

ganddini

South of Goya
Scoping Agreement
19550

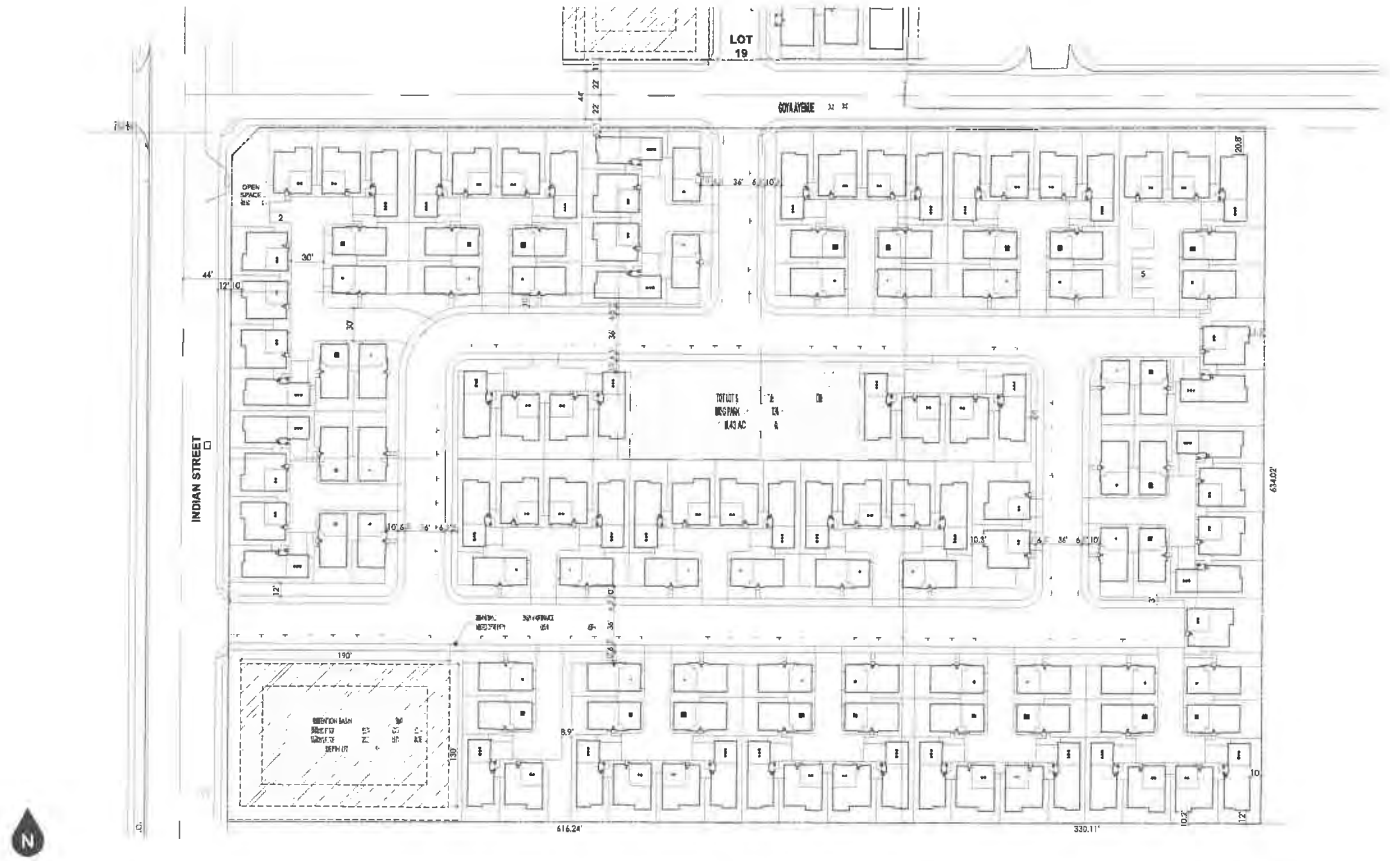


Figure 2
Site Plan

South of Goya
Scoping Agreement
19550

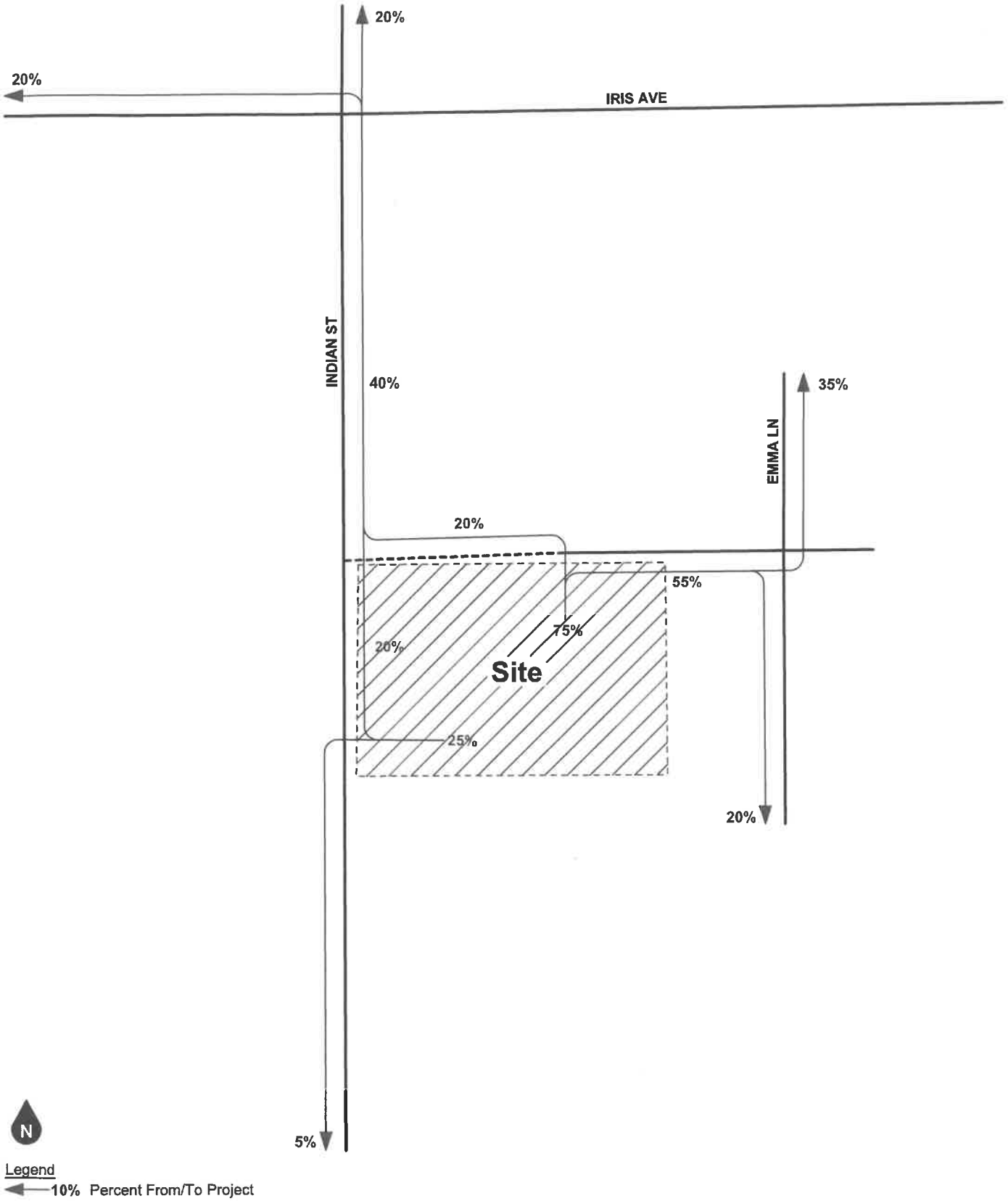


Figure 3
Project Trip Distribution

ganddini

South of Goya
Scoping Agreement
19550

Table 1
Project Trip Generation

Trip Generation Rates									
			AM Peak Hour			PM Peak Hour			
Land Use	Source[1]	Land Use Variable[2]	% In	% Out	Rate	% In	% Out	Rate	Daily Rate
Single-Family Detached Housing	ITE 210	DU	26%	74%	0.70	63%	37%	0.94	9.43

Trips Generated									
			AM Peak Hour			PM Peak Hour			
Land Use	Source	Quantity	In	Out	Total	In	Out	Total	Daily
Single-Family Detached Housing	ITE 210	131 DU	24	68	92	78	46	124	1,235

Notes:

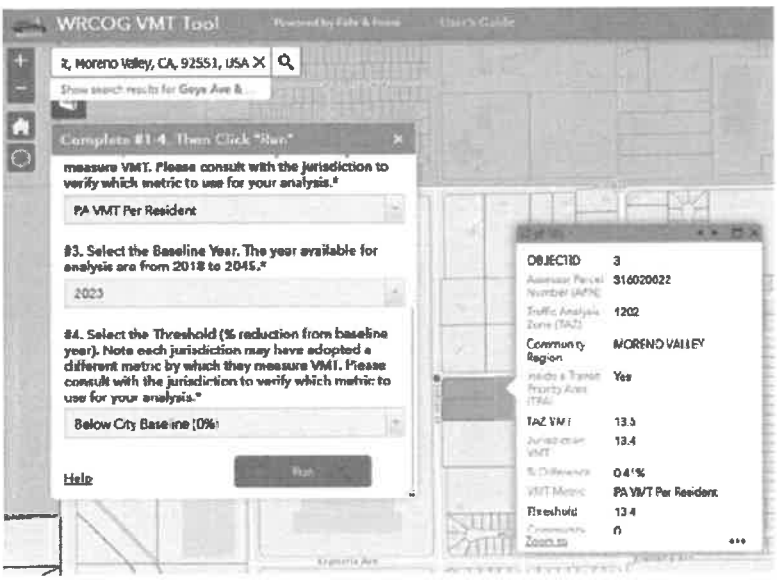
1 ITE = Institute of Transportation Engineers Trip Generation Manual (11th Edition, 2021); ### = Land Use Code. All rates based on General Urban/Suburban setting.

2 DU = Dwelling Unit.

VMT Scoping

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used WRCOG VMT Screening
- Attach WRCOG Screening VMT Assessment output or describe why it is not appropriate for use See below.
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)



Analysis Scenarios:
1. Existing
2. Project Completion (Existing Plus Ambient Growth Plus Project)
3. Cumulative (Existing Plus Ambient Growth Plus Project Plus Cumulative)

Forecast methodology will be manual, build-up approach by adding growth rate, cumulative, and project trips to existing volumes.

Study Intersections:
1. Indian Street (NS) / Iris Avenue (EW)
2. Indian Street (NS) / Goya Avenue (EW)
3. Indian Street (NS) / Westerly Project Driveway (EW)
4. Northerly Project Driveway (NS) / Goya Avenue (EW)
5. Emma Lane (NS) / Goya Avenue (EW)

APPENDIX C

INTERSECTION TURNING MOVEMENT COUNT WORKSHEETS

Record No. PAP23-0390

INTERSECTION TURNING MOVEMENT COUNTS

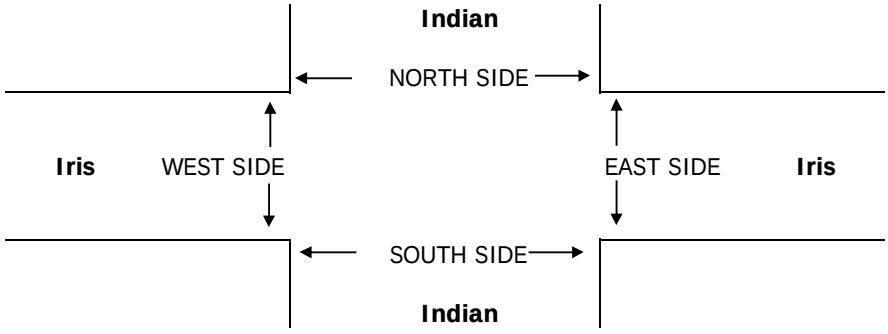
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3973
Wed, Apr 26, 23	NORTH & SOUTH:	Indian	LOCATION #:	1
	EAST & WEST:	Iris	CONTROL:	SIGNAL

NOTES:

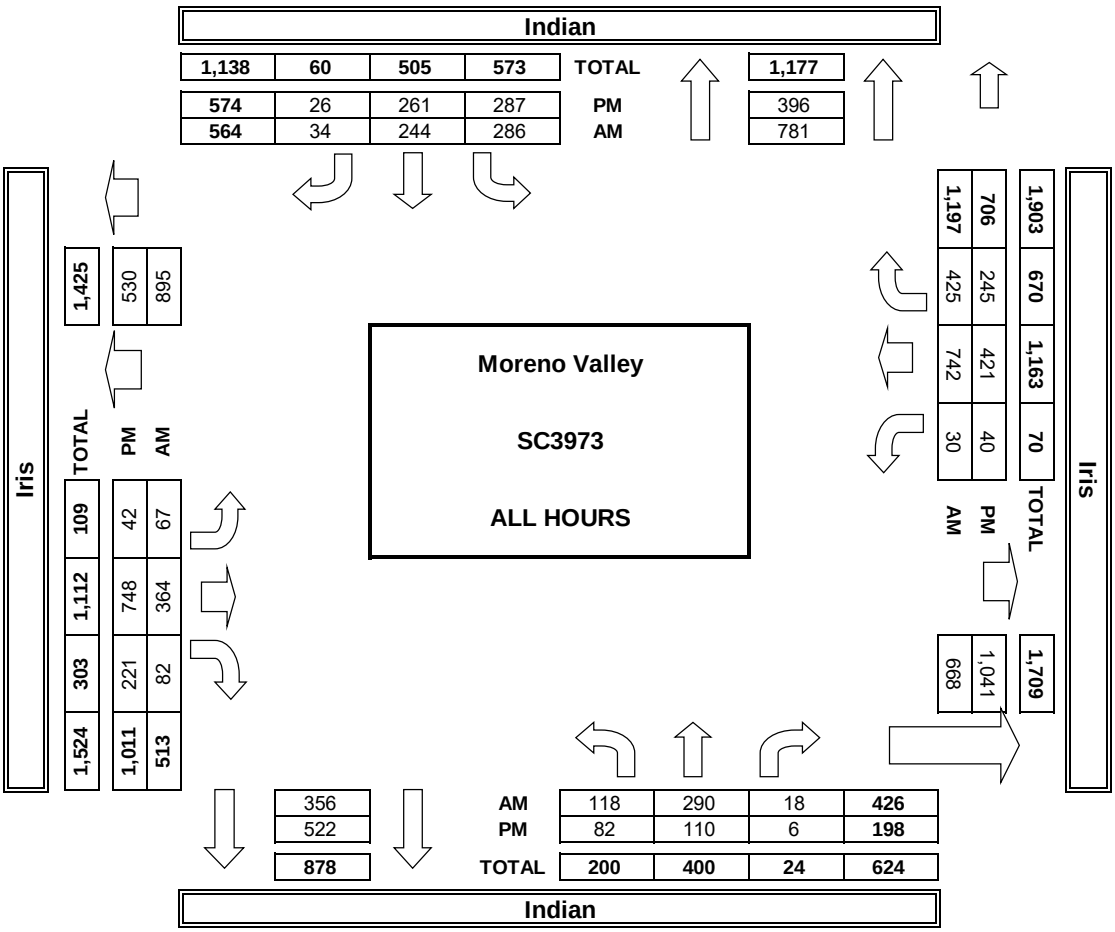
AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

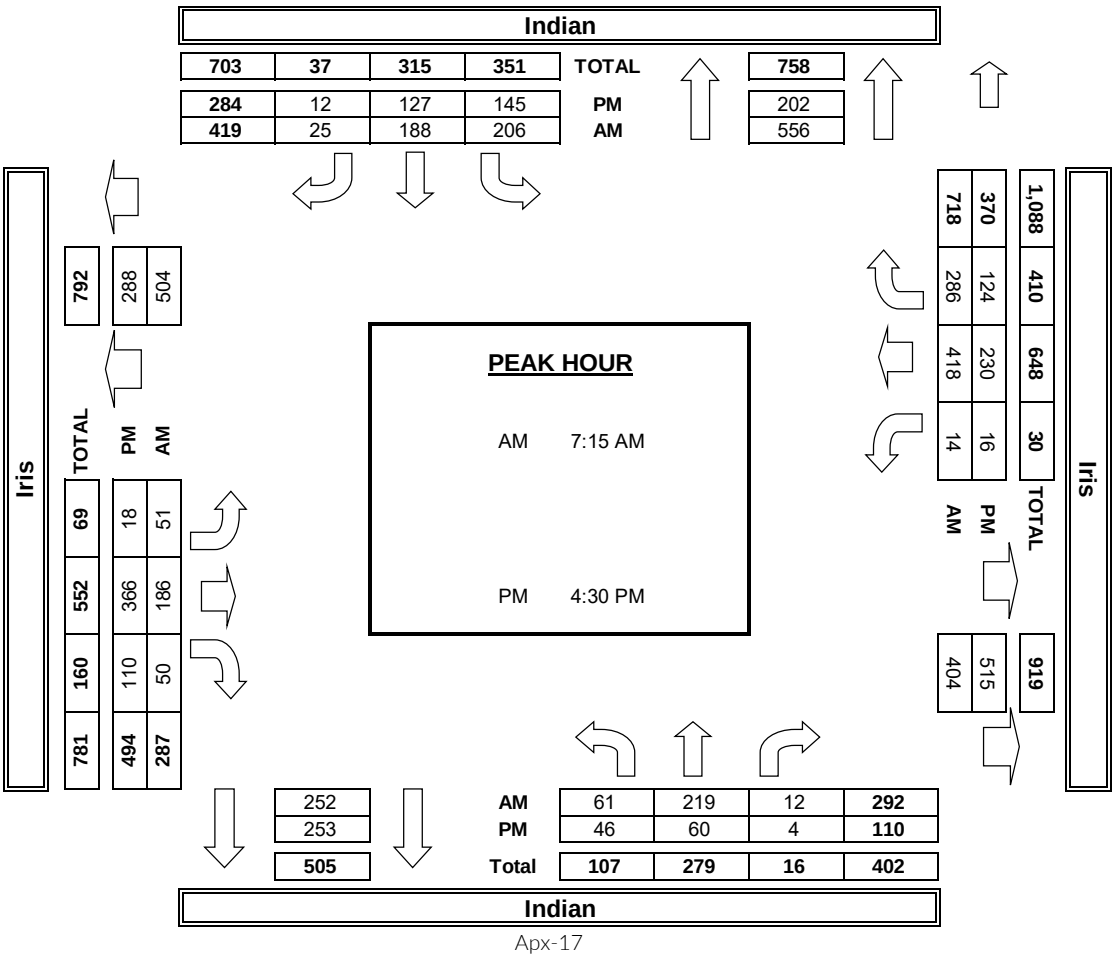
		NORTHBOUND Indian			SOUTHBOUND Indian			EASTBOUND Iris			WESTBOUND Iris			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 2	ET 2	ER 1	WL 2	WT 2	WR 0	TOTAL
AM	7:00 AM	20	32	1	24	20	5	5	23	5	1	91	56	283
	7:15 AM	9	46	4	26	29	6	8	39	13	3	94	81	358
	7:30 AM	21	78	6	41	57	8	27	57	15	4	97	69	480
	7:45 AM	19	69	1	85	63	7	13	50	11	4	113	89	524
	8:00 AM	12	26	1	54	39	4	3	40	11	3	114	47	354
	8:15 AM	16	12	2	23	10	1	4	53	9	9	99	39	277
	8:30 AM	10	17	1	18	14	1	3	42	12	4	79	22	223
	8:45 AM	11	10	2	15	12	2	4	60	6	2	55	22	201
	VOLUMES	118	290	18	286	244	34	67	364	82	30	742	425	2,700
	APPROACH %	28%	68%	4%	51%	43%	6%	13%	71%	16%	3%	62%	36%	
	APP/DEPART	426	/	781	564	/	356	513	/	668	1,197	/	895	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	61	219	12	206	188	25	51	186	50	14	418	286	1,716
	APPROACH %	21%	75%	4%	49%	45%	6%	18%	65%	17%	2%	58%	40%	
	PEAK HR FACTOR		0.695			0.676			0.725			0.871		0.819
	APP/DEPART	292	/	556	419	/	252	287	/	404	718	/	504	0
PM	4:00 PM	11	11	2	25	34	4	7	99	29	0	58	28	308
	4:15 PM	9	17	0	35	33	2	11	73	27	3	43	34	287
	4:30 PM	10	29	1	42	26	5	10	90	28	6	71	27	345
	4:45 PM	9	9	0	41	33	3	3	88	25	0	62	31	304
	5:00 PM	13	11	1	29	30	4	3	80	27	6	54	33	291
	5:15 PM	14	11	2	33	38	0	2	108	30	4	43	33	318
	5:30 PM	8	10	0	47	27	5	3	117	24	8	56	28	333
	5:45 PM	8	12	0	35	40	3	3	93	31	13	34	31	303
	VOLUMES	82	110	6	287	261	26	42	748	221	40	421	245	2,489
	APPROACH %	41%	56%	3%	50%	45%	5%	4%	74%	22%	6%	60%	35%	
	APP/DEPART	198	/	396	574	/	522	1,011	/	1,041	706	/	530	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	46	60	4	145	127	12	18	366	110	16	230	124	1,258
	APPROACH %	42%	55%	4%	51%	45%	4%	4%	74%	22%	4%	62%	34%	
	PEAK HR FACTOR		0.688			0.922			0.882			0.889		0.912
	APP/DEPART	110	/	202	284	/	253	494	/	515	370	/	288	0



AimTD LLC

TURNING MOVEMENT COUNTS





Record No. PAP23-0390

INTERSECTION TURNING MOVEMENT COUNTS

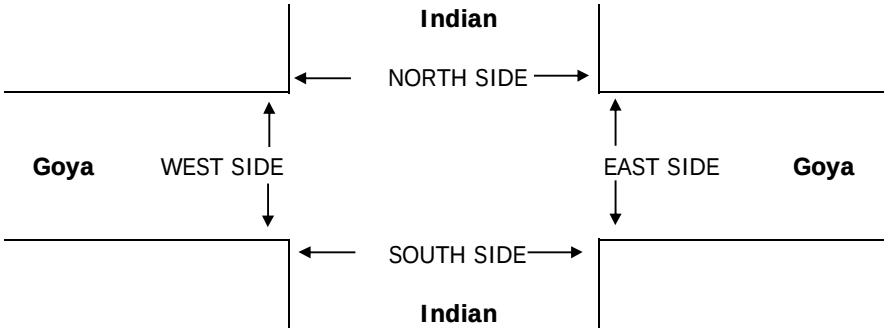
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3973
Wed, Apr 26, 23	NORTH & SOUTH:	Indian	LOCATION #:	2
	EAST & WEST:	Goya	CONTROL:	NO CONTROL

NOTES: Dwy was closed

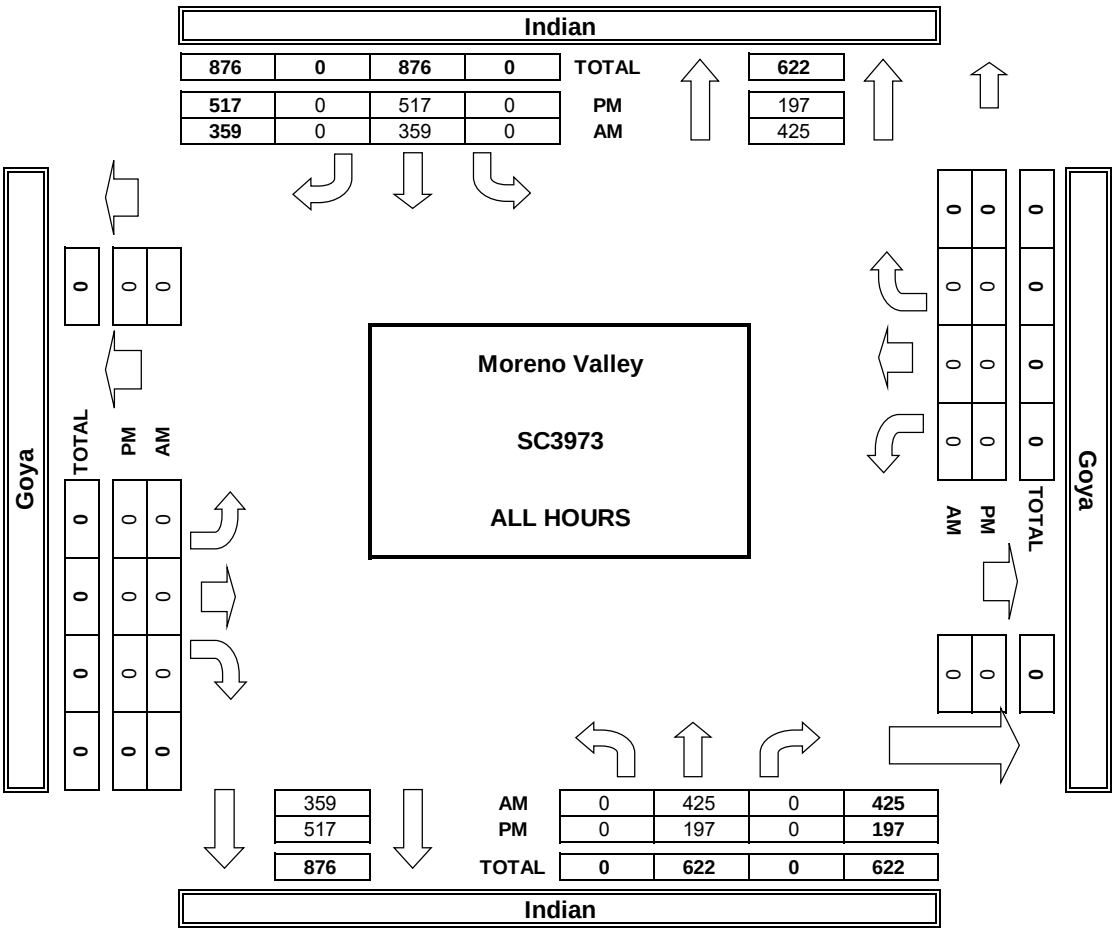
AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

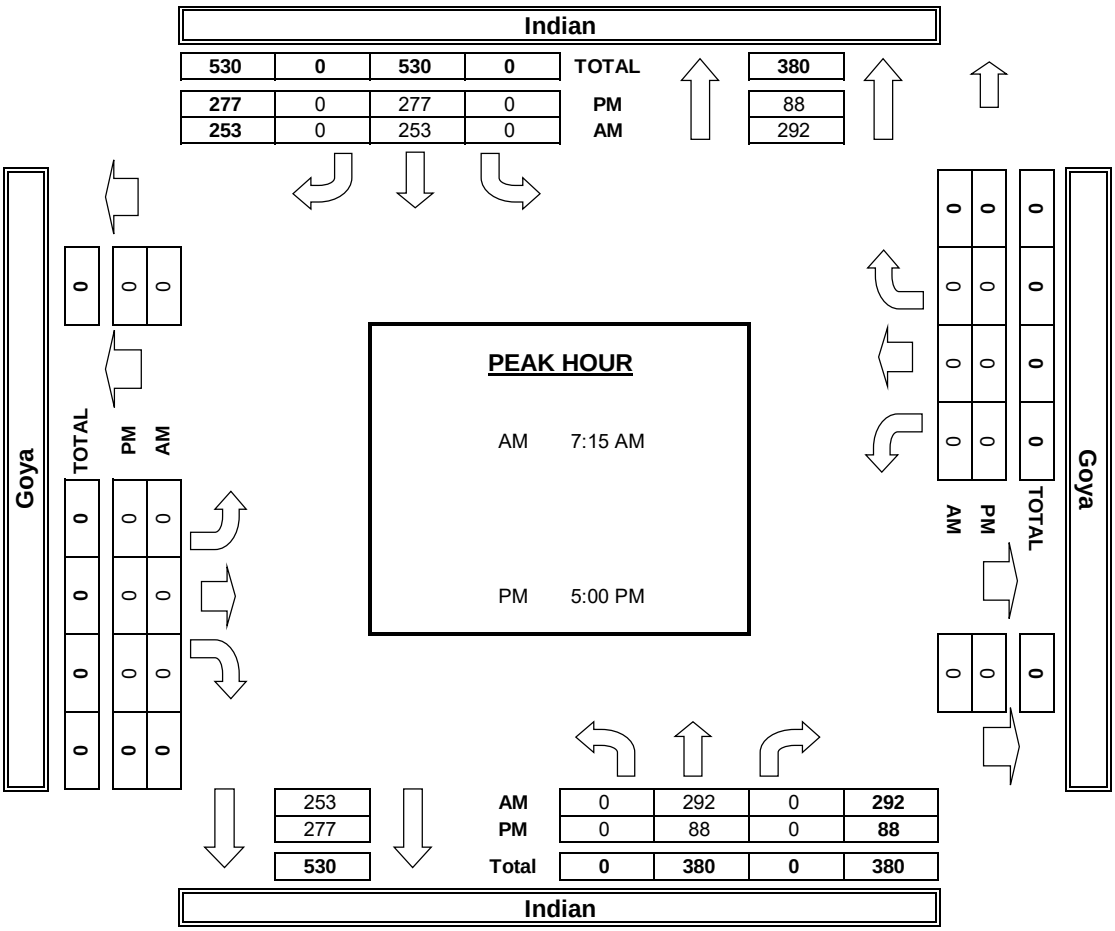
		NORTHBOUND Indian			SOUTHBOUND Indian			EASTBOUND Goya			WESTBOUND Goya			
	LANES:	NL 0	NT 1	NR X	SL X	ST 2	SR 0	EL 0	ET X	ER 0	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	53	0	0	27	0	0	0	0	0	0	0	80
	7:15 AM	0	75	0	0	45	0	0	0	0	0	0	0	120
	7:30 AM	0	102	0	0	76	0	0	0	0	0	0	0	178
	7:45 AM	0	82	0	0	81	0	0	0	0	0	0	0	163
	8:00 AM	0	33	0	0	51	0	0	0	0	0	0	0	84
	8:15 AM	0	34	0	0	31	0	0	0	0	0	0	0	65
	8:30 AM	0	26	0	0	26	0	0	0	0	0	0	0	52
	8:45 AM	0	20	0	0	22	0	0	0	0	0	0	0	42
	VOLUMES	0	425	0	0	359	0	0	0	0	0	0	0	784
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	425	/	425	359	/	359	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	292	0	0	253	0	0	0	0	0	0	0	545
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.716			0.781			0.000			0.000		0.765
	APP/DEPART	292	/	292	253	/	253	0	/	0	0	/	0	0
PM	4:00 PM	0	25	0	0	64	0	0	0	0	0	0	0	89
	4:15 PM	0	24	0	0	57	0	0	0	0	0	0	0	81
	4:30 PM	0	41	0	0	59	0	0	0	0	0	0	0	100
	4:45 PM	0	19	0	0	60	0	0	0	0	0	0	0	79
	5:00 PM	0	24	0	0	63	0	0	0	0	0	0	0	87
	5:15 PM	0	29	0	0	69	0	0	0	0	0	0	0	98
	5:30 PM	0	15	0	0	63	0	0	0	0	0	0	0	78
	5:45 PM	0	20	0	0	82	0	0	0	0	0	0	0	102
	VOLUMES	0	197	0	0	517	0	0	0	0	0	0	0	714
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	197	/	197	517	/	517	0	/	0	0	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	88	0	0	277	0	0	0	0	0	0	0	365
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.759			0.845			0.000			0.000		0.895
	APP/DEPART	88	/	88	277	/	277	0	/	0	0	/	0	0



AimTD LLC

TURNING MOVEMENT COUNTS





Record No. PAP23-0390

INTERSECTION TURNING MOVEMENT COUNTS

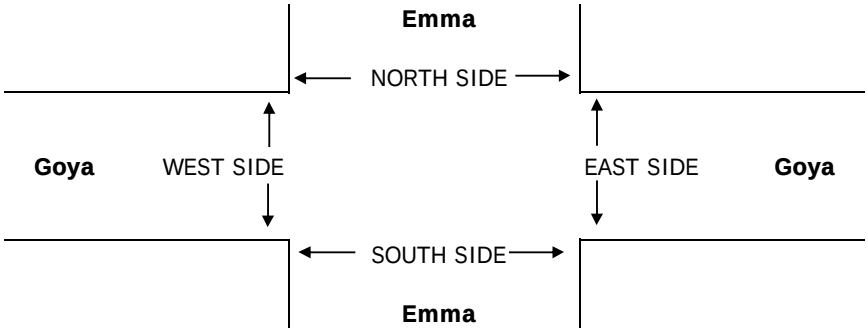
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3973
Wed, Apr 26, 23	NORTH & SOUTH:	Emma	LOCATION #:	5
	EAST & WEST:	Goya	CONTROL:	STOP ALL

NOTES:

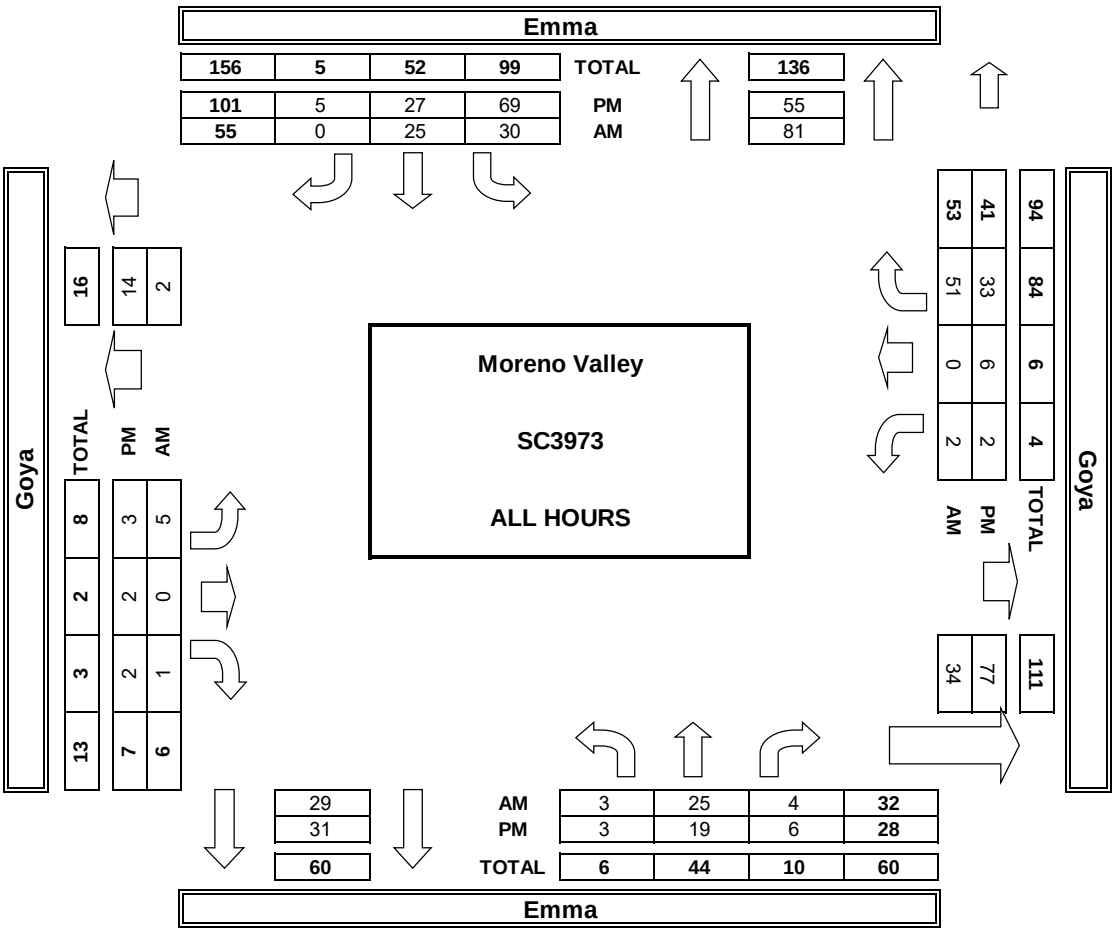
AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

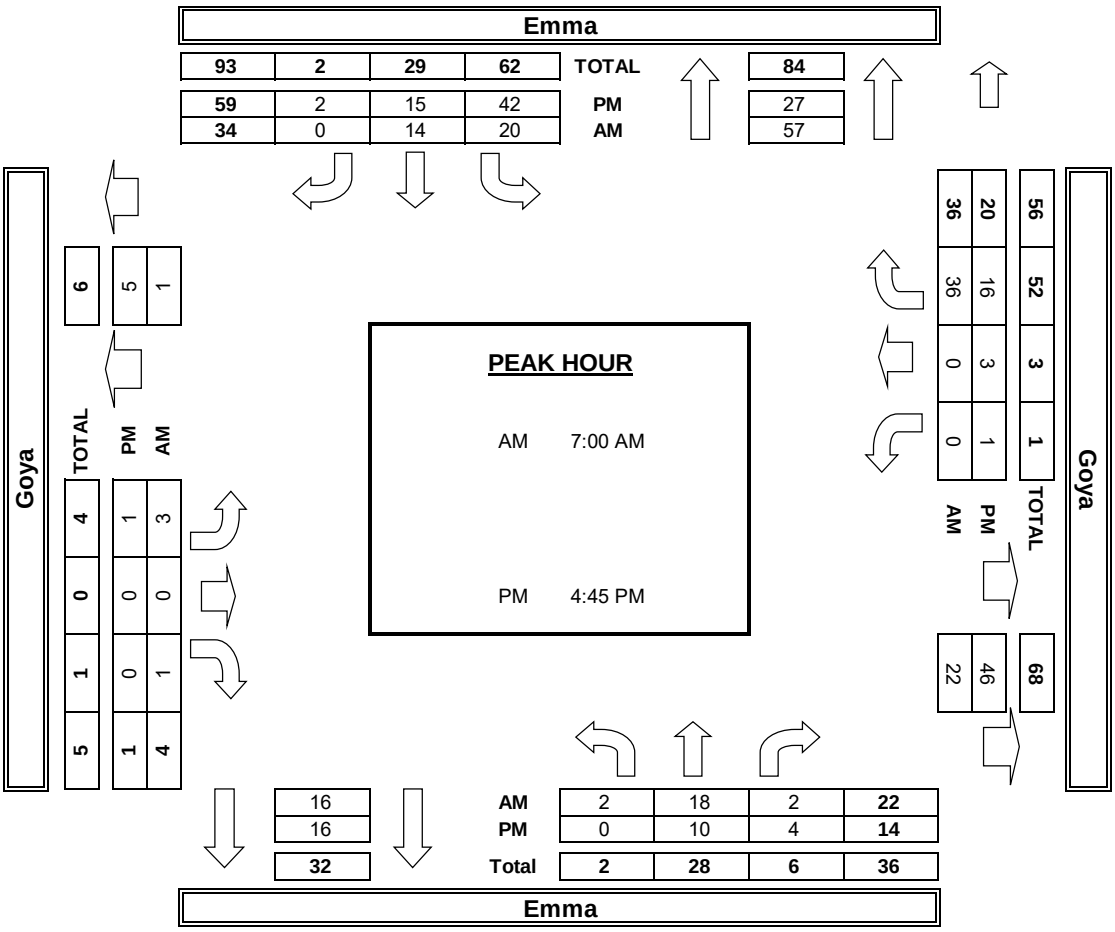
		NORTHBOUND Emma			SOUTHBOUND Emma			EASTBOUND Goya			WESTBOUND Goya			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	1	4	2	1	2	0	1	0	0	0	0	11	22
	7:15 AM	1	5	0	7	1	0	1	0	0	0	0	8	23
	7:30 AM	0	8	0	3	7	0	0	0	1	0	0	11	30
	7:45 AM	0	1	0	9	4	0	1	0	0	0	0	6	21
	8:00 AM	0	1	1	2	3	0	1	0	0	0	0	3	11
	8:15 AM	1	2	0	1	1	0	0	0	0	1	0	2	8
	8:30 AM	0	2	1	3	5	0	1	0	0	1	0	5	18
	8:45 AM	0	2	0	4	2	0	0	0	0	0	0	5	13
	VOLUMES	3	25	4	30	25	0	5	0	1	2	0	51	146
	APPROACH %	9%	78%	13%	55%	45%	0%	83%	0%	17%	4%	0%	96%	
	APP/DEPART	32	/	81	55	/	29	6	/	34	53	/	2	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	2	18	2	20	14	0	3	0	1	0	0	36	96
	APPROACH %	9%	82%	9%	59%	41%	0%	75%	0%	25%	0%	0%	100%	
	PEAK HR FACTOR		0.688			0.654			1.000			0.818		0.800
	APP/DEPART	22	/	57	34	/	16	4	/	22	36	/	1	0
PM	4:00 PM	1	3	1	6	4	0	1	1	0	0	1	5	23
	4:15 PM	1	3	1	7	2	0	0	0	0	1	0	3	18
	4:30 PM	1	3	0	3	4	3	1	1	1	0	2	6	25
	4:45 PM	0	4	1	11	5	0	0	0	0	0	0	2	23
	5:00 PM	0	2	1	7	1	0	0	0	0	0	0	3	14
	5:15 PM	0	3	1	10	5	0	0	0	0	0	3	6	28
	5:30 PM	0	1	1	14	4	2	1	0	0	1	0	5	29
	5:45 PM	0	0	0	11	2	0	0	0	1	0	0	3	17
	VOLUMES	3	19	6	69	27	5	3	2	2	2	6	33	177
	APPROACH %	11%	68%	21%	68%	27%	5%	43%	29%	29%	5%	15%	80%	
	APP/DEPART	28	/	55	101	/	31	7	/	77	41	/	14	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	0	10	4	42	15	2	1	0	0	1	3	16	94
	APPROACH %	0%	71%	29%	71%	25%	3%	100%	0%	0%	5%	15%	80%	
	PEAK HR FACTOR		0.700			0.738			0.250			0.556		0.810
	APP/DEPART	14	/	27	59	/	16	1	/	46	20	/	5	0



AimTD LLC

TURNING MOVEMENT COUNTS





APPENDIX D

AVERAGE DAILY TRAFFIC (ADT) VOLUMES

Table D-1

Average Daily Traffic (ADT) Volumes Estimates

ID	Roadway	Segment	ADT (in 1,000's)					
			Existing	Project	Other Development	Project Completion	Cumulative w/o Project	Cumulative w/ Project
1	Indian St	Iris to Goya	4.4	0.5	1.2	5.3	6.0	6.5
2	Indian St	Goya to Krameria	4.4	0.5	1.2	5.3	6.0	6.5
3	Goya Ave	Indian to Emma	0.1	0.7	0.0	0.8	0.1	0.8
4	Emma Ln	n/o Goya	1.0	0.4	0.2	1.5	1.3	1.7
5	Emma Ln	s/o Goya	0.4	0.2	0.2	0.6	0.6	0.8

Notes:

1. Existing ADT estimated from PM peak hour counts at adjacent study intersections based on 12 times the volume entering and exiting the applicable intersection leg. Per HCM (6th Edition, Exhibit 3-11), the proportion of ADT(i.e., K-factor) that occurs during the peak hour typically falls between 0.09 and 0.10. Multiplying the peak hour by 12 (i.e., K-factor of 0.083) typically provides a conservative estimate of daily trips.
2. Project and other development ADT based on daily trip assignments.
3. Ambient growth applied to Project Completion and Cumulative conditions is equal to 2% per year over a 4-year period.

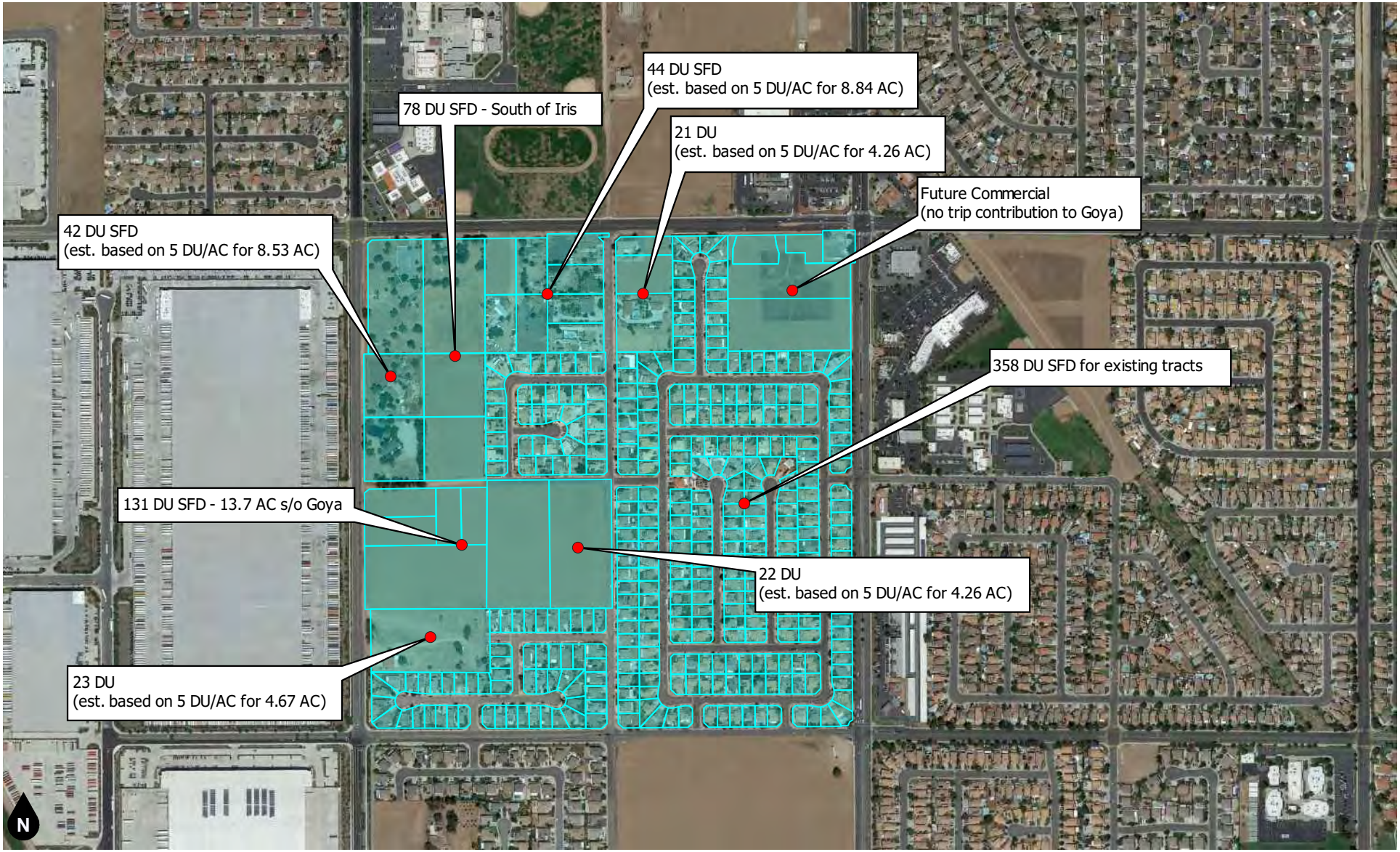


Figure A
Existing / Future Development

Table D-2
Buildout Trip Forecasts for Goya Avenue With Connection to Indian Street

Trip Generation Rates									
			AM Peak Hour			PM Peak Hour			
Land Use	Source[1]	Land Use Variable[2]	% In	% Out	Rate	% In	% Out	Rate	Daily Rate
Single-Family Detached Housing	ITE 210	DU	26%	74%	0.70	63%	37%	0.94	9.43

Trips Assignment to Goya Avenue										
				AM Peak Hour			PM Peak Hour			
Land Use	% to Goya	Source	Quantity	In	Out	Total	In	Out	Total	Daily Trips
13.7 AC South of Goya (Project)	55%	ITE 210	131 DU	13	37	50	43	25	68	679
South of Iris (Other Development)	50%	ITE 210	78 DU	7	20	27	23	14	37	368
8.53 AC SEC Indian / Iris (GP Buildout)	50%	ITE 210	42 DU	4	11	15	12	7	19	198
8.84 AC SWC Emma / Iris (GP Buildout)	25%	ITE 210	44 DU	2	6	8	7	4	11	104
4.26 AC SEC Emma / Iris (GP Buildout)	25%	ITE 210	21 DU	1	3	4	3	2	5	50
4.53 AC SWC Emma / Goya (GP Buildout)	50%	ITE 210	22 DU	2	6	8	7	4	11	104
4.67 AC NEC Indian / Krameria (GP Buildout)	0%	ITE 210	23 DU	0	0	0	0	0	0	0
Existing SFD	25%	ITE 210	358 DU	16	46	62	53	31	84	844
TOTAL WITH PROJECT			**719 DU**	**45**	**129**	**174**	**148**	**87**	**235**	**2,347**
EXISTING DIVERTED TRIPS			**358 DU**	**16**	**46**	**62**	**53**	**31**	**84**	**844**

Notes:
1. ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code.
2. DU = Dwelling Units

Table D-3
Intersection Trip Assignment For Diverted Trips With Goya Avenue Connection to Indian Street

Int #2 - Indian / Goya	NR	SL	WL	WR
Distribution	10%	90%	10%	90%
AM Peak Hour	2	14	5	41
PM Peak Hour	5	48	3	28

Int #4 - Project Dwy / Goya	ET	WT
Distribution	100%	100%
AM Peak Hour	16	46
PM Peak Hour	53	31

Int #5 - Emma / Goya	NL	SR	EL	ER
Distribution	40%	60%	60%	40%
AM Peak Hour	18	28	10	6
PM Peak Hour	12	19	32	21

Notes:
1. Based on Existing Diverted Trips for Goya Avenue With Connection to Indian Street (see Table D-2).
2. Distribution reflects percentage of Existing Diverted Trips assigned to Goya Avenue.

APPENDIX E

INTERSECTION LOS WORKSHEETS

EXISTING

Intersection Level Of Service Report
Intersection 1: Indian St (NS) at Iris Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	39.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.548

Intersection Setup

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	2	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	240.00	100.00	100.00	220.00	100.00	220.00	193.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	188.00
Speed [mph]	25.00			45.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Base Volume Input [veh/h]	61	219	12	206	188	25	51	186	50	14	418	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	219	12	206	188	25	51	186	50	14	418	286
Peak Hour Factor	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	67	4	63	57	8	16	57	15	4	128	87
Total Analysis Volume [veh/h]	75	267	15	252	230	31	62	227	61	17	511	349
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	16	36	0	28	48	0	11	45	0	11	45	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	25	0	0	29	0	0	23	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	32	32	24	44	44	7	41	41	7	41	41
g / C, Green / Cycle	0.10	0.27	0.27	0.20	0.37	0.37	0.06	0.34	0.34	0.06	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.04	0.07	0.08	0.14	0.07	0.07	0.02	0.06	0.04	0.00	0.24	0.24
s, saturation flow rate [veh/h]	1810	1900	1865	1810	1900	1822	3514	3618	1615	3514	1900	1646
c, Capacity [veh/h]	181	507	497	362	697	668	205	1236	552	205	649	562
d1, Uniform Delay [s]	50.70	34.87	34.89	44.61	25.87	25.89	54.16	27.75	27.02	53.46	34.32	34.34
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.86	1.37	1.42	10.58	0.61	0.64	3.76	0.33	0.41	0.79	6.45	7.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.28	0.28	0.70	0.19	0.19	0.30	0.18	0.11	0.08	0.71	0.71
d, Delay for Lane Group [s/veh]	57.56	36.24	36.31	55.20	26.48	26.53	57.92	28.07	27.43	54.26	40.77	41.76
Lane Group LOS	E	D	D	E	C	C	E	C	C	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.48	3.53	3.50	7.83	2.62	2.54	1.01	2.39	1.28	0.26	12.47	10.98
50th-Percentile Queue Length [ft/ln]	62.11	88.29	87.46	195.69	65.48	63.55	25.34	59.79	32.12	6.55	311.81	274.38
95th-Percentile Queue Length [veh/ln]	4.47	6.36	6.30	12.42	4.71	4.58	1.82	4.31	2.31	0.47	18.26	16.41
95th-Percentile Queue Length [ft/ln]	111.79	158.93	157.43	310.40	117.86	114.39	45.62	107.63	57.81	11.80	456.60	410.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.56	36.27	36.31	55.20	26.50	26.53	57.92	28.07	27.43	54.26	40.87	41.76
Movement LOS	E	D	D	E	C	C	E	C	C	D	D	D
d_A, Approach Delay [s/veh]	40.75			40.60			33.25			41.48		
Approach LOS	D			D			C			D		
d_I, Intersection Delay [s/veh]	39.77											
Intersection LOS	D											
Intersection V/C	0.548											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.422	2.662	2.720	2.764
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	733	683	683
d_b, Bicycle Delay [s]	32.27	24.07	26.00	26.00
l_b,int, Bicycle LOS Score for Intersection	1.854	1.983	1.848	2.283
Bicycle LOS	A	A	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Indian St (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Indian St		Indian St		Goya Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Goya Ave	
Base Volume Input [veh/h]	292	0	0	253	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	292	0	0	253	0	0
Peak Hour Factor	0.7654	0.7654	0.9500	0.7654	0.7654	0.7654
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	95	0	0	83	0	0
Total Analysis Volume [veh/h]	381	0	0	331	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	8.03	0.00	12.62	9.36
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.99	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Indian St (NS) at Westerly Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Indian St		Indian St		Westerly Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Westerly Project Dwy	
Base Volume Input [veh/h]	292	0	0	253	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	292	0	0	253	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	0	0	67	0	0
Total Analysis Volume [veh/h]	307	0	0	266	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.85	0.00	11.54	9.13
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.33	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Northerly Project Dwy (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.50	8.30	0.00	0.00	7.20	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40		0.00		3.60	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.00					
Intersection LOS						

Intersection Level Of Service Report
Intersection 5: Emma Ln (NS) at Goya Ave (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.049

Intersection Setup

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Base Volume Input [veh/h]	2	18	2	20	14	0	3	0	1	0	0	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	18	2	20	14	0	3	0	1	0	0	36
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	6	1	6	4	0	1	0	0	0	0	11
Total Analysis Volume [veh/h]	3	23	3	25	18	0	4	0	1	0	0	45
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	901	870	871	1041
Degree of Utilization, x	0.03	0.05	0.01	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.10	0.16	0.02	0.14
95th-Percentile Queue Length [ft]	2.49	3.89	0.43	3.39
Approach Delay [s/veh]	7.13	7.35	7.16	6.62
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.02			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1: Indian St (NS) at Iris Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	34.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.257

Intersection Setup

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	2	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	240.00	100.00	100.00	220.00	100.00	220.00	193.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	188.00
Speed [mph]	25.00			45.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Base Volume Input [veh/h]	46	60	4	145	127	12	18	366	110	16	230	124
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	46	60	4	145	127	12	18	366	110	16	230	124
Peak Hour Factor	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	16	1	40	35	3	5	100	30	4	63	34
Total Analysis Volume [veh/h]	50	66	4	159	139	13	20	401	121	18	252	136
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	36	0	33	54	0	11	40	0	11	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	25	0	0	29	0	0	23	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	32	32	29	50	50	7	36	36	7	36	36
g / C, Green / Cycle	0.09	0.27	0.27	0.24	0.42	0.42	0.06	0.30	0.30	0.06	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.03	0.02	0.02	0.09	0.04	0.04	0.01	0.11	0.07	0.01	0.11	0.11
s, saturation flow rate [veh/h]	1810	1900	1862	1810	1900	1844	3514	3618	1615	3514	1900	1683
c, Capacity [veh/h]	166	507	497	437	792	768	205	1085	485	205	570	505
d1, Uniform Delay [s]	50.91	32.87	32.88	37.83	21.27	21.29	53.51	33.07	31.78	53.48	32.90	33.05
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.61	0.26	0.27	2.33	0.24	0.25	0.95	0.97	1.23	0.84	1.72	2.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.07	0.07	0.36	0.10	0.10	0.10	0.37	0.25	0.09	0.35	0.37
d, Delay for Lane Group [s/veh]	55.53	33.14	33.16	40.16	21.52	21.54	54.46	34.03	33.01	54.32	34.62	35.12
Lane Group LOS	E	C	C	D	C	C	D	C	C	D	C	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.63	0.82	0.81	4.07	1.32	1.30	0.32	4.81	2.87	0.28	4.79	4.47
50th-Percentile Queue Length [ft/ln]	40.82	20.40	20.33	101.71	33.03	32.56	7.90	120.20	71.75	6.94	119.76	111.82
95th-Percentile Queue Length [veh/ln]	2.94	1.47	1.46	7.32	2.38	2.34	0.57	8.40	5.17	0.50	8.38	7.94
95th-Percentile Queue Length [ft/ln]	73.48	36.71	36.59	183.07	59.46	58.61	14.22	210.11	129.16	12.50	209.50	198.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.53	33.15	33.16	40.16	21.53	21.54	54.46	34.03	33.01	54.32	34.72	35.12
Movement LOS	E	C	C	D	C	C	D	C	C	D	C	D
d_A, Approach Delay [s/veh]	42.47			31.05			34.56			35.72		
Approach LOS	D			C			C			D		
d_I, Intersection Delay [s/veh]	34.80											
Intersection LOS	C											
Intersection V/C	0.257											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.378	2.470	2.707	2.677
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	833	600	600
d_b, Bicycle Delay [s]	32.27	20.42	29.40	29.40
l_b,int, Bicycle LOS Score for Intersection	1.659	1.816	2.007	1.895
Bicycle LOS	A	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Indian St (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Indian St		Indian St		Goya Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Goya Ave	
Base Volume Input [veh/h]	88	0	0	277	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	88	0	0	277	0	0
Peak Hour Factor	0.8946	0.8946	0.9500	0.8946	0.8946	0.8946
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	0	0	77	0	0
Total Analysis Volume [veh/h]	98	0	0	310	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.39	0.00	10.00	8.54
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.27	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Indian St (NS) at Westerly Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Indian St		Indian St		Westerly Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Westerly Project Dwy	
Base Volume Input [veh/h]	88	0	0	277	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	88	0	0	277	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	0	0	73	0	0
Total Analysis Volume [veh/h]	93	0	0	292	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.38	0.00	9.91	8.53
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.22	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Northerly Project Dwy (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.50	8.30	0.00	0.00	7.20	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40		0.00		3.60	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.00					
Intersection LOS						

Intersection Level Of Service Report
Intersection 5: Emma Ln (NS) at Goya Ave (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.083

Intersection Setup

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Base Volume Input [veh/h]	0	10	4	42	15	2	1	0	0	1	3	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	10	4	42	15	2	1	0	0	1	3	16
Peak Hour Factor	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	1	13	5	1	0	0	0	0	1	5
Total Analysis Volume [veh/h]	0	12	5	52	19	2	1	0	0	1	4	20
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	937	880	834	994
Degree of Utilization, x	0.02	0.08	0.00	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06	0.27	0.00	0.08
95th-Percentile Queue Length [ft]	1.39	6.77	0.09	1.93
Approach Delay [s/veh]	6.91	7.46	7.32	6.72
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.22			
Intersection LOS	A			

EXISTING PLUS AMBIENT GROWTH PLUS PROJECT

Intersection Level Of Service Report
Intersection 1: Indian St (NS) at Iris Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	42.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.609

Intersection Setup

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	2	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	240.00	100.00	100.00	220.00	100.00	220.00	193.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	188.00
Speed [mph]	25.00			45.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Base Volume Input [veh/h]	61	219	12	206	188	25	51	186	50	14	418	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	14	0	0	5	0	0	0	5	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	256	13	227	213	28	56	205	60	15	462	316
Peak Hour Factor	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	78	4	69	65	9	17	63	18	5	141	96
Total Analysis Volume [veh/h]	99	313	16	277	260	34	68	250	73	18	564	386
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	18	36	0	28	46	0	11	45	0	11	45	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	25	0	0	29	0	0	23	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	32	32	24	42	42	7	41	41	7	41	41
g / C, Green / Cycle	0.12	0.27	0.27	0.20	0.35	0.35	0.06	0.34	0.34	0.06	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.05	0.09	0.09	0.15	0.08	0.08	0.02	0.07	0.05	0.01	0.27	0.27
s, saturation flow rate [veh/h]	1810	1900	1868	1810	1900	1824	3514	3618	1615	3514	1900	1646
c, Capacity [veh/h]	211	507	498	362	665	638	205	1236	552	205	649	562
d1, Uniform Delay [s]	49.53	35.34	35.36	45.34	27.51	27.53	54.25	27.93	27.24	53.48	35.52	35.52
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.31	1.71	1.76	14.29	0.78	0.82	4.30	0.37	0.50	0.84	9.20	10.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.33	0.33	0.77	0.22	0.23	0.33	0.20	0.13	0.09	0.78	0.78
d, Delay for Lane Group [s/veh]	56.83	37.06	37.12	59.63	28.30	28.35	58.55	28.30	27.73	54.32	44.72	46.02
Lane Group LOS	E	D	D	E	C	C	E	C	C	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.23	4.19	4.15	8.99	3.08	2.99	1.12	2.65	1.55	0.28	14.60	12.85
50th-Percentile Queue Length [ft/ln]	80.84	104.75	103.69	224.81	77.04	74.67	27.96	66.33	38.77	6.94	364.95	321.17
95th-Percentile Queue Length [veh/ln]	5.82	7.54	7.47	13.91	5.55	5.38	2.01	4.78	2.79	0.50	20.86	18.72
95th-Percentile Queue Length [ft/ln]	145.52	188.55	186.64	347.76	138.68	134.41	50.33	119.39	69.78	12.50	521.60	468.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.83	37.09	37.12	59.63	28.32	28.35	58.55	28.30	27.73	54.32	44.85	46.02
Movement LOS	E	D	D	E	C	C	E	C	C	D	D	D
d_A, Approach Delay [s/veh]	41.66			43.51			33.46			45.49		
Approach LOS	D			D			C			D		
d_I, Intersection Delay [s/veh]	42.32											
Intersection LOS	D											
Intersection V/C	0.609											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.440	2.705	2.734	2.794
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	700	683	683
d_b, Bicycle Delay [s]	32.27	25.35	26.00	26.00
l_b,int, Bicycle LOS Score for Intersection	1.913	2.031	1.882	2.358
Bicycle LOS	A	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Indian St (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Indian St		Indian St		Goya Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Goya Ave	
Base Volume Input [veh/h]	292	0	0	253	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.0000	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	0	5	5	0	14
Diverted Trips [veh/h]	0	2	14	0	5	41
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	336	2	19	284	5	55
Peak Hour Factor	0.7654	0.7654	0.9500	0.7654	0.7654	0.7654
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	110	1	5	93	2	18
Total Analysis Volume [veh/h]	439	3	20	371	7	72
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.02	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	8.25	0.00	14.84	10.17
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.00	0.37	0.37
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.35	0.00	9.15	9.15
d_A, Approach Delay [s/veh]	0.00		0.42		10.59	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.10					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Indian St (NS) at Westerly Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Indian St		Indian St		Westerly Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Westerly Project Dwy	
Base Volume Input [veh/h]	292	0	0	253	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.0000	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	5	0	3	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	322	1	5	279	3	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	0	1	73	1	4
Total Analysis Volume [veh/h]	339	1	5	294	3	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.94	0.00	12.23	9.35
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.31	0.00	1.81	1.81
d_A, Approach Delay [s/veh]	0.00		0.13		9.83	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.33					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Northerly Project Dwy (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	37	0	5	13	0
Diverted Trips [veh/h]	0	0	16	0	0	46
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	37	16	5	13	46
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	10	4	1	3	12
Total Analysis Volume [veh/h]	15	39	17	5	14	48
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.20	8.58	0.00	0.00	7.26	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	4.22	4.22	0.00	0.00	0.59	0.59
d_A, Approach Delay [s/veh]	8.75		0.00		1.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.16					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Emma Ln (NS) at Goya Ave (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.102

Intersection Setup

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Base Volume Input [veh/h]	2	18	2	20	14	0	3	0	1	0	0	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	0	0	8	23	0	14	0	0	0
Diverted Trips [veh/h]	18	0	0	0	0	28	10	0	6	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	20	2	22	15	36	36	0	21	0	0	40
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	6	1	7	5	11	11	0	7	0	0	13
Total Analysis Volume [veh/h]	31	25	3	28	19	45	45	0	26	0	0	50
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	835	904	862	974
Degree of Utilization, x	0.07	0.10	0.08	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.23	0.34	0.27	0.16
95th-Percentile Queue Length [ft]	5.69	8.46	6.71	4.05
Approach Delay [s/veh]	7.64	7.43	7.55	6.90
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.41			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1: Indian St (NS) at Iris Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	35.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.287

Intersection Setup

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	2	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	240.00	100.00	100.00	220.00	100.00	220.00	193.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	188.00
Speed [mph]	25.00			45.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Base Volume Input [veh/h]	46	60	4	145	127	12	18	366	110	16	230	124
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	9	0	0	16	0	0	0	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	75	4	160	156	13	20	404	137	18	254	137
Peak Hour Factor	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	21	1	44	43	4	5	111	38	5	70	38
Total Analysis Volume [veh/h]	66	82	4	176	171	14	22	443	150	20	279	150
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	36	0	32	51	0	11	41	0	11	41	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	25	0	0	29	0	0	23	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	32	32	28	47	47	7	37	37	7	37	37
g / C, Green / Cycle	0.11	0.27	0.27	0.23	0.39	0.39	0.06	0.31	0.31	0.06	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.04	0.02	0.02	0.10	0.05	0.05	0.01	0.12	0.09	0.01	0.12	0.12
s, saturation flow rate [veh/h]	1810	1900	1869	1810	1900	1850	3514	3618	1615	3514	1900	1683
c, Capacity [veh/h]	196	507	498	422	744	725	205	1115	498	205	586	519
d1, Uniform Delay [s]	49.51	33.02	33.02	39.07	23.35	23.36	53.54	32.71	31.64	53.51	32.54	32.69
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.59	0.33	0.34	3.01	0.35	0.36	1.05	1.06	1.55	0.95	1.89	2.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.09	0.09	0.42	0.13	0.13	0.11	0.40	0.30	0.10	0.38	0.40
d, Delay for Lane Group [s/veh]	54.10	33.35	33.36	42.08	23.70	23.72	54.59	33.77	33.19	54.46	34.43	34.94
Lane Group LOS	D	C	C	D	C	C	D	C	C	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.10	1.01	1.00	4.64	1.71	1.69	0.35	5.31	3.59	0.31	5.31	4.93
50th-Percentile Queue Length [ft/ln]	52.59	25.18	25.09	116.02	42.76	42.15	8.70	132.81	89.68	7.73	132.79	123.24
95th-Percentile Queue Length [veh/ln]	3.79	1.81	1.81	8.17	3.08	3.03	0.63	9.09	6.46	0.56	9.09	8.57
95th-Percentile Queue Length [ft/ln]	94.67	45.33	45.16	204.34	76.97	75.86	15.66	227.31	161.43	13.91	227.29	214.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.10	33.35	33.36	42.08	23.71	23.72	54.59	33.77	33.19	54.46	34.53	34.94
Movement LOS	D	C	C	D	C	C	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	42.36			32.67			34.37			35.55		
Approach LOS	D			C			C			D		
d_I, Intersection Delay [s/veh]	35.09											
Intersection LOS	D											
Intersection V/C	0.287											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.394	2.494	2.721	2.699
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	783	617	617
d_b, Bicycle Delay [s]	32.27	22.20	28.70	28.70
l_b,int, Bicycle LOS Score for Intersection	1.685	1.857	2.067	1.930
Bicycle LOS	A	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Indian St (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Indian St		Indian St		Goya Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Goya Ave	
Base Volume Input [veh/h]	88	0	0	277	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.0000	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	16	16	0	9
Diverted Trips [veh/h]	0	5	48	0	3	28
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	106	5	64	322	3	37
Peak Hour Factor	0.8946	0.8946	0.9500	0.8946	0.8946	0.8946
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	1	17	90	1	10
Total Analysis Volume [veh/h]	118	6	67	360	3	41
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.05	0.00	0.01	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	7.56	0.00	11.99	8.80
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.14	0.00	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.57	0.00	3.68	3.68
d_A, Approach Delay [s/veh]	0.00		1.19		9.02	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.52					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Indian St (NS) at Westerly Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Indian St		Indian St		Westerly Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Westerly Project Dwy	
Base Volume Input [veh/h]	88	0	0	277	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.0000	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	16	0	2	9
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	4	16	306	2	9
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	1	4	81	1	2
Total Analysis Volume [veh/h]	102	4	17	322	2	9
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.43	0.00	10.45	8.61
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.86	0.00	0.90	0.90
d_A, Approach Delay [s/veh]	0.00		0.37		8.95	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.49					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Northerly Project Dwy (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	26	0	16	43	0
Diverted Trips [veh/h]	0	0	53	0	0	31
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	26	53	16	43	31
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	7	14	4	11	8
Total Analysis Volume [veh/h]	9	27	56	17	45	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	9.76	8.73	0.00	0.00	7.39	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	2.99	2.99	0.00	0.00	1.92	1.92
d_A, Approach Delay [s/veh]	8.99		0.00		4.26	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.51					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Emma Ln (NS) at Goya Ave (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.155

Intersection Setup

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Base Volume Input [veh/h]	0	10	4	42	15	2	1	0	0	1	3	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	0	0	0	0	27	17	0	9	0	0	0
Diverted Trips [veh/h]	12	0	0	0	0	19	32	0	21	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	11	4	46	17	48	50	0	30	1	3	18
Peak Hour Factor	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	3	1	14	5	15	15	0	9	0	1	6
Total Analysis Volume [veh/h]	35	14	5	57	21	59	62	0	37	1	4	22
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	819	886	848	913
Degree of Utilization, x	0.07	0.15	0.12	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.21	0.55	0.40	0.09
95th-Percentile Queue Length [ft]	5.28	13.64	9.88	2.28
Approach Delay [s/veh]	7.70	7.81	7.81	7.07
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.73			
Intersection LOS	A			

OPENING YEAR WITHOUT PROJECT

Intersection Level Of Service Report
Intersection 1: Indian St (NS) at Iris Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	64.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.775

Intersection Setup

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	2	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	240.00	100.00	100.00	220.00	100.00	220.00	193.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	188.00
Speed [mph]	25.00			45.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Base Volume Input [veh/h]	61	219	12	206	188	25	51	186	50	14	418	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	20	17	83	12	0	0	91	6	14	144	80
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	262	30	310	220	28	56	296	61	29	606	396
Peak Hour Factor	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	80	9	95	67	9	17	90	19	9	185	121
Total Analysis Volume [veh/h]	101	320	37	379	269	34	68	362	75	35	740	484
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	36	0	29	46	0	11	44	0	11	44	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	25	0	0	29	0	0	23	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	32	32	25	42	42	7	40	40	7	40	40
g / C, Green / Cycle	0.13	0.27	0.27	0.21	0.35	0.35	0.06	0.33	0.33	0.06	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.06	0.10	0.10	0.21	0.08	0.08	0.02	0.10	0.05	0.01	0.34	0.35
s, saturation flow rate [veh/h]	1810	1900	1832	1810	1900	1826	3514	3618	1615	3514	1900	1654
c, Capacity [veh/h]	226	507	489	377	665	639	205	1206	538	205	633	551
d1, Uniform Delay [s]	48.65	35.66	35.70	47.50	27.59	27.60	54.25	29.63	27.97	53.74	40.00	40.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.26	1.96	2.06	47.70	0.82	0.85	4.30	0.64	0.54	1.80	43.08	48.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.36	0.36	1.01	0.23	0.23	0.33	0.30	0.14	0.17	1.03	1.04
d, Delay for Lane Group [s/veh]	54.92	37.62	37.76	95.20	28.40	28.45	58.55	30.27	28.51	55.54	83.08	88.99
Lane Group LOS	D	D	D	F	C	C	E	C	C	E	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.23	4.63	4.53	15.86	3.19	3.08	1.12	4.04	1.62	0.55	25.52	23.11
50th-Percentile Queue Length [ft/ln]	80.73	115.75	113.14	396.58	79.73	77.08	27.96	101.05	40.49	13.68	637.98	577.84
95th-Percentile Queue Length [veh/ln]	5.81	8.16	8.01	22.46	5.74	5.55	2.01	7.28	2.92	0.98	34.46	31.83
95th-Percentile Queue Length [ft/ln]	145.31	203.98	200.37	561.57	143.51	138.74	50.33	181.88	72.88	24.62	861.39	795.63

Movement, Approach, & Intersection Results

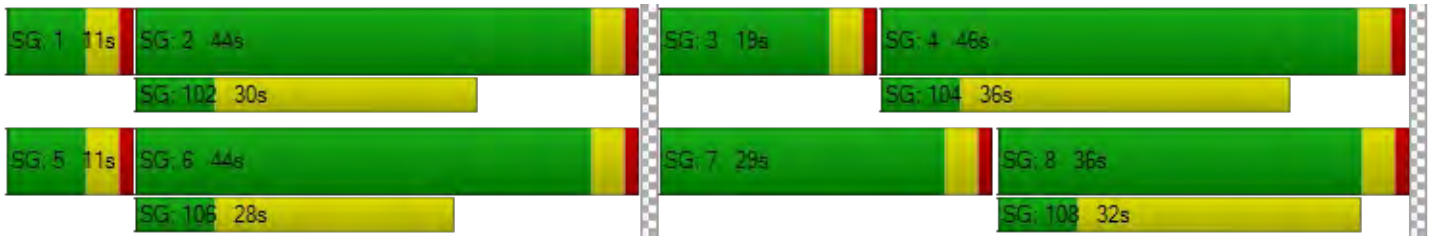
d_M, Delay for Movement [s/veh]	54.92	37.68	37.76	95.20	28.42	28.45	58.55	30.27	28.51	55.54	83.79	88.99
Movement LOS	D	D	D	F	C	C	E	C	C	E	F	F
d_A, Approach Delay [s/veh]	41.49			65.53			33.82			85.00		
Approach LOS	D			E			C			F		
d_I, Intersection Delay [s/veh]	64.67											
Intersection LOS	E											
Intersection V/C	0.775											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.450	2.768	2.768	2.908
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	700	667	667
d_b, Bicycle Delay [s]	32.27	25.35	26.67	26.67
l_b,int, Bicycle LOS Score for Intersection	1.937	2.122	1.976	2.598
Bicycle LOS	A	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Indian St (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Indian St		Indian St		Goya Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Goya Ave	
Base Volume Input [veh/h]	292	0	0	253	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.0000	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	0	0	31	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	349	0	0	310	0	0
Peak Hour Factor	0.7654	0.7654	0.9500	0.7654	0.7654	0.7654
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	114	0	0	101	0	0
Total Analysis Volume [veh/h]	456	0	0	405	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	8.23	0.00	13.97	9.61
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.79	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Indian St (NS) at Westerly Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Indian St		Indian St		Westerly Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Westerly Project Dwy	
Base Volume Input [veh/h]	292	0	0	253	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.0000	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	0	0	31	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	349	0	0	310	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	0	0	82	0	0
Total Analysis Volume [veh/h]	367	0	0	326	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.99	0.00	12.44	9.32
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.88	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Northerly Project Dwy (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.50	8.30	0.00	0.00	7.20	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40		0.00		3.60	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.00					
Intersection LOS						

Intersection Level Of Service Report
Intersection 5: Emma Ln (NS) at Goya Ave (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.064

Intersection Setup

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Base Volume Input [veh/h]	2	18	2	20	14	0	3	0	1	0	0	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	0	7	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	28	2	22	22	0	3	0	1	0	0	40
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	9	1	7	7	0	1	0	0	0	0	13
Total Analysis Volume [veh/h]	3	35	3	28	28	0	4	0	1	0	0	50
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	894	869	859	1025
Degree of Utilization, x	0.05	0.06	0.01	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.14	0.21	0.02	0.15
95th-Percentile Queue Length [ft]	3.60	5.16	0.44	3.84
Approach Delay [s/veh]	7.22	7.43	7.22	6.70
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.12			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1: Indian St (NS) at Iris Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	40.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

Intersection Setup

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	2	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	240.00	100.00	100.00	220.00	100.00	220.00	193.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	188.00
Speed [mph]	25.00			45.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Base Volume Input [veh/h]	46	60	4	145	127	12	18	366	110	16	230	124
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	18	19	111	24	0	0	147	19	21	106	107
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	84	23	271	164	13	20	551	140	39	360	244
Peak Hour Factor	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	23	6	74	45	4	5	151	38	11	99	67
Total Analysis Volume [veh/h]	68	92	25	297	180	14	22	604	154	43	395	268
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	36	0	34	53	0	11	39	0	11	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	25	0	0	29	0	0	23	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	32	32	30	49	49	7	35	35	7	35	35
g / C, Green / Cycle	0.11	0.27	0.27	0.25	0.41	0.41	0.06	0.29	0.29	0.06	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.03	0.03	0.16	0.05	0.05	0.01	0.17	0.10	0.01	0.19	0.19
s, saturation flow rate [veh/h]	1810	1900	1765	1810	1900	1852	3514	3618	1615	3514	1900	1648
c, Capacity [veh/h]	196	507	471	452	776	756	205	1055	471	205	554	481
d1, Uniform Delay [s]	49.57	33.31	33.36	40.38	22.15	22.15	53.54	36.14	33.28	53.86	36.98	37.07
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.80	0.47	0.53	7.26	0.33	0.35	1.05	2.26	1.84	2.32	5.53	6.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.12	0.12	0.66	0.13	0.13	0.11	0.57	0.33	0.21	0.64	0.64
d, Delay for Lane Group [s/veh]	54.37	33.78	33.89	47.64	22.48	22.50	54.59	38.40	35.12	56.18	42.51	43.58
Lane Group LOS	D	C	C	D	C	C	D	D	D	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.17	1.40	1.37	8.53	1.74	1.71	0.35	7.93	3.81	0.68	9.65	8.60
50th-Percentile Queue Length [ft/ln]	54.34	34.97	34.26	213.23	43.51	42.74	8.70	198.17	95.21	16.91	241.29	214.97
95th-Percentile Queue Length [veh/ln]	3.91	2.52	2.47	13.32	3.13	3.08	0.63	12.54	6.85	1.22	14.75	13.41
95th-Percentile Queue Length [ft/ln]	97.81	62.94	61.66	332.96	78.32	76.94	15.66	313.61	171.37	30.44	368.67	335.20

Movement, Approach, & Intersection Results

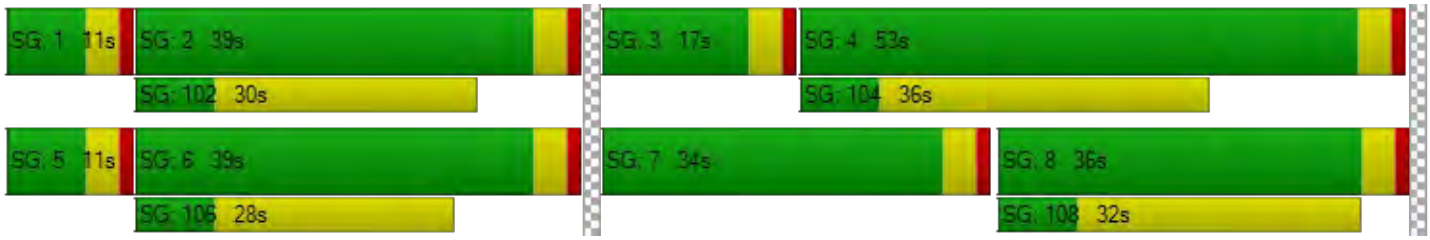
d_M, Delay for Movement [s/veh]	54.37	33.82	33.89	47.64	22.49	22.50	54.59	38.40	35.12	56.18	42.62	43.58
Movement LOS	D	C	C	D	C	C	D	D	D	E	D	D
d_A, Approach Delay [s/veh]	41.38			37.70			38.21			43.81		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	40.19											
Intersection LOS	D											
Intersection V/C	0.451											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.405	2.569	2.754	2.820
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	817	583	583
d_b, Bicycle Delay [s]	32.27	21.00	30.10	30.10
l_b,int, Bicycle LOS Score for Intersection	1.712	1.965	2.203	2.142
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Indian St (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Indian St		Indian St		Goya Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Goya Ave	
Base Volume Input [veh/h]	88	0	0	277	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.0000	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	40	0	0	37	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	137	0	0	343	0	0
Peak Hour Factor	0.8946	0.8946	0.9500	0.8946	0.8946	0.8946
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	0	0	96	0	0
Total Analysis Volume [veh/h]	153	0	0	383	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	10.70	8.69
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.70	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Indian St (NS) at Westerly Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Indian St		Indian St		Westerly Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Westerly Project Dwy	
Base Volume Input [veh/h]	88	0	0	277	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.0000	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	40	0	0	37	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	137	0	0	343	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	0	0	90	0	0
Total Analysis Volume [veh/h]	144	0	0	361	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.48	0.00	10.54	8.67
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.60	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Northerly Project Dwy (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.50	8.30	0.00	0.00	7.20	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40		0.00		3.60	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.00					
Intersection LOS						

Intersection Level Of Service Report
Intersection 5: Emma Ln (NS) at Goya Ave (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.105

Intersection Setup

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Base Volume Input [veh/h]	0	10	4	42	15	2	1	0	0	1	3	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	0	0	10	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	21	4	46	27	2	1	0	0	1	3	18
Peak Hour Factor	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	1	14	8	1	0	0	0	0	1	6
Total Analysis Volume [veh/h]	0	26	5	57	33	2	1	0	0	1	4	22
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	913	880	820	978
Degree of Utilization, x	0.03	0.10	0.00	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.11	0.35	0.00	0.09
95th-Percentile Queue Length [ft]	2.64	8.73	0.09	2.13
Approach Delay [s/veh]	7.08	7.57	7.39	6.79
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.33			
Intersection LOS	A			

OPENING YEAR WITH PROJECT

Intersection Level Of Service Report
Intersection 1: Indian St (NS) at Iris Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	64.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.780

Intersection Setup

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	2	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	240.00	100.00	100.00	220.00	100.00	220.00	193.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	188.00
Speed [mph]	25.00			45.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Base Volume Input [veh/h]	61	219	12	206	188	25	51	186	50	14	418	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	30	34	17	83	17	0	0	91	11	14	144	80
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	276	30	310	225	28	56	296	66	29	606	396
Peak Hour Factor	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187	0.8187
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	84	9	95	69	9	17	90	20	9	185	121
Total Analysis Volume [veh/h]	118	337	37	379	275	34	68	362	81	35	740	484
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	36	0	29	45	0	11	44	0	11	44	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	25	0	0	29	0	0	23	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.1	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.10	4.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.10	2.10
g_i, Effective Green Time [s]	16	32	32	25	41	41	7	40	40	7	40	40
g / C, Green / Cycle	0.13	0.27	0.27	0.21	0.34	0.34	0.06	0.33	0.33	0.06	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.07	0.10	0.10	0.21	0.08	0.08	0.02	0.10	0.05	0.01	0.34	0.35
s, saturation flow rate [veh/h]	1810	1900	1835	1810	1900	1828	3514	3618	1615	3514	1900	1654
c, Capacity [veh/h]	241	507	489	377	649	624	205	1206	538	205	632	550
d1, Uniform Delay [s]	48.21	35.84	35.87	47.50	28.35	28.36	54.25	29.63	28.07	53.74	40.05	40.05
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.93	2.11	2.21	47.70	0.88	0.92	4.30	0.64	0.59	1.80	43.85	49.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.37	0.38	1.01	0.24	0.24	0.33	0.30	0.15	0.17	1.03	1.04
d, Delay for Lane Group [s/veh]	55.14	37.95	38.08	95.20	29.23	29.28	58.55	30.27	28.67	55.54	83.90	89.86
Lane Group LOS	E	D	D	F	C	C	E	C	C	E	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.78	4.88	4.77	15.86	3.31	3.20	1.12	4.04	1.76	0.55	25.59	23.18
50th-Percentile Queue Length [ft/ln]	94.39	122.04	119.25	396.58	82.75	80.05	27.96	101.05	43.92	13.68	639.87	579.60
95th-Percentile Queue Length [veh/ln]	6.80	8.50	8.35	22.46	5.96	5.76	2.01	7.28	3.16	0.98	34.60	31.96
95th-Percentile Queue Length [ft/ln]	169.91	212.62	208.80	561.57	148.96	144.08	50.33	181.88	79.06	24.62	865.08	799.04

Movement, Approach, & Intersection Results

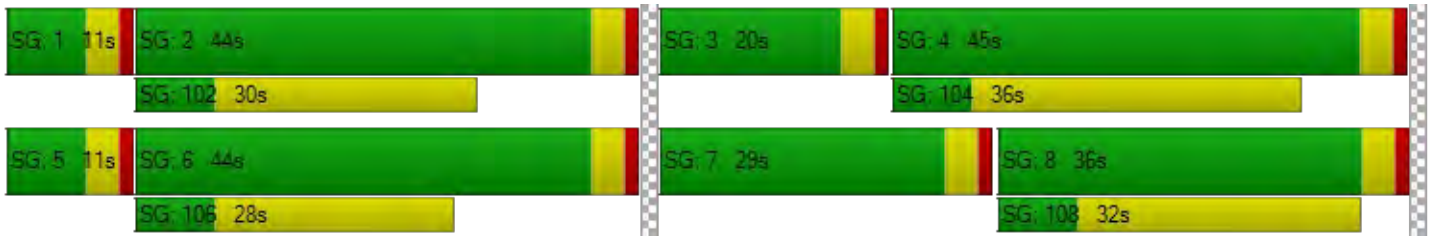
d_M, Delay for Movement [s/veh]	55.14	38.01	38.08	95.20	29.25	29.28	58.55	30.27	28.67	55.54	84.62	89.86
Movement LOS	E	D	D	F	C	C	E	C	C	E	F	F
d_A, Approach Delay [s/veh]	42.12			65.58			33.78			85.82		
Approach LOS	D			E			C			F		
d_I, Intersection Delay [s/veh]	64.80											
Intersection LOS	E											
Intersection V/C	0.780											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.457	2.775	2.771	2.908
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	683	667	667
d_b, Bicycle Delay [s]	32.27	26.00	26.67	26.67
l_b,int, Bicycle LOS Score for Intersection	1.966	2.127	1.981	2.598
Bicycle LOS	A	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Indian St (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	Indian St		Indian St		Goya Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Goya Ave	
Base Volume Input [veh/h]	292	0	0	253	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.0000	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	41	0	5	36	0	14
Diverted Trips [veh/h]	0	2	14	0	5	41
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	363	2	19	315	5	55
Peak Hour Factor	0.7654	0.7654	0.9500	0.7654	0.7654	0.7654
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	119	1	5	103	2	18
Total Analysis Volume [veh/h]	474	3	20	412	7	72
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.02	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	8.35	0.00	15.67	10.34
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.06	0.00	0.38	0.38
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.39	0.00	9.52	9.52
d_A, Approach Delay [s/veh]	0.00		0.39		10.81	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.03					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: Indian St (NS) at Westerly Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Indian St		Indian St		Westerly Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Westerly Project Dwy	
Base Volume Input [veh/h]	292	0	0	253	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.0000	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	1	5	31	3	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	349	1	5	310	3	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	0	1	82	1	4
Total Analysis Volume [veh/h]	367	1	5	326	3	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	8.01	0.00	12.71	9.44
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.31	0.00	1.87	1.87
d_A, Approach Delay [s/veh]	0.00		0.12		9.99	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.31					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Northerly Project Dwy (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	37	0	5	13	0
Diverted Trips [veh/h]	0	0	16	0	0	46
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	37	16	5	13	46
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	10	4	1	3	12
Total Analysis Volume [veh/h]	15	39	17	5	14	48
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.20	8.58	0.00	0.00	7.26	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	4.22	4.22	0.00	0.00	0.59	0.59
d_A, Approach Delay [s/veh]	8.75		0.00		1.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.16					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Emma Ln (NS) at Goya Ave (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.113

Intersection Setup

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Base Volume Input [veh/h]	2	18	2	20	14	0	3	0	1	0	0	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	8	0	0	7	8	23	0	14	0	0	0
Diverted Trips [veh/h]	18	0	0	0	0	28	10	0	6	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	28	2	22	22	36	36	0	21	0	0	40
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	9	1	7	7	11	11	0	7	0	0	13
Total Analysis Volume [veh/h]	31	35	3	28	28	45	45	0	26	0	0	50
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	835	897	854	963
Degree of Utilization, x	0.08	0.11	0.08	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.27	0.38	0.27	0.16
95th-Percentile Queue Length [ft]	6.74	9.48	6.79	4.10
Approach Delay [s/veh]	7.70	7.52	7.60	6.94
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.49			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1: Indian St (NS) at Iris Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	40.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.454

Intersection Setup

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	2	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	240.00	100.00	100.00	220.00	100.00	220.00	193.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	188.00
Speed [mph]	25.00			45.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian St			Indian St			Iris Ave			Iris Ave		
Base Volume Input [veh/h]	46	60	4	145	127	12	18	366	110	16	230	124
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	27	19	111	40	0	0	147	35	21	106	107
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	93	23	271	180	13	20	551	156	39	360	244
Peak Hour Factor	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116	0.9116
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	26	6	74	49	4	5	151	43	11	99	67
Total Analysis Volume [veh/h]	78	102	25	297	197	14	22	604	171	43	395	268
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	18	36	0	34	52	0	11	39	0	11	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	25	0	0	29	0	0	23	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	32	32	30	48	48	7	35	35	7	35	35
g / C, Green / Cycle	0.12	0.27	0.27	0.25	0.40	0.40	0.06	0.29	0.29	0.06	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.03	0.04	0.16	0.06	0.06	0.01	0.17	0.11	0.01	0.19	0.19
s, saturation flow rate [veh/h]	1810	1900	1775	1810	1900	1856	3514	3618	1615	3514	1900	1648
c, Capacity [veh/h]	211	507	473	452	760	742	205	1055	471	205	554	481
d1, Uniform Delay [s]	48.93	33.40	33.45	40.38	22.88	22.89	53.54	36.14	33.67	53.86	36.98	37.07
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.91	0.52	0.58	7.26	0.39	0.40	1.05	2.26	2.16	2.32	5.53	6.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.13	0.13	0.66	0.14	0.14	0.11	0.57	0.36	0.21	0.64	0.64
d, Delay for Lane Group [s/veh]	53.84	33.91	34.03	47.64	23.27	23.29	54.59	38.40	35.83	56.18	42.51	43.58
Lane Group LOS	D	C	C	D	C	C	D	D	D	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.47	1.52	1.49	8.53	1.93	1.90	0.35	7.93	4.29	0.68	9.65	8.60
50th-Percentile Queue Length [ft/ln]	61.79	38.08	37.29	213.23	48.37	47.57	8.70	198.17	107.25	16.91	241.29	214.97
95th-Percentile Queue Length [veh/ln]	4.45	2.74	2.68	13.32	3.48	3.42	0.63	12.54	7.69	1.22	14.75	13.41
95th-Percentile Queue Length [ft/ln]	111.22	68.55	67.12	332.96	87.06	85.62	15.66	313.61	192.17	30.44	368.67	335.20

Movement, Approach, & Intersection Results

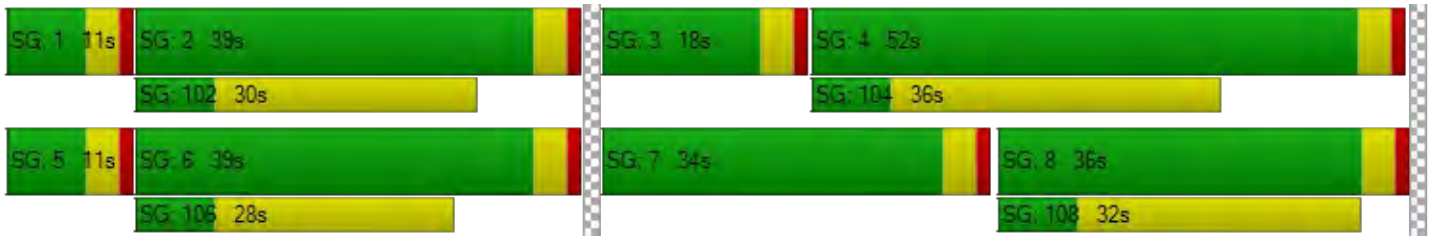
d_M, Delay for Movement [s/veh]	53.84	33.96	34.03	47.64	23.28	23.29	54.59	38.40	35.83	56.18	42.62	43.58
Movement LOS	D	C	C	D	C	C	D	D	D	E	D	D
d_A, Approach Delay [s/veh]	41.53			37.52			38.29			43.81		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	40.17											
Intersection LOS	D											
Intersection V/C	0.454											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.414	2.577	2.757	2.820
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	800	583	583
d_b, Bicycle Delay [s]	32.27	21.60	30.10	30.10
l_b,int, Bicycle LOS Score for Intersection	1.729	1.979	2.217	2.142
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Indian St (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Indian St		Indian St		Goya Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Goya Ave	
Base Volume Input [veh/h]	88	0	0	277	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.0000	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	49	0	16	53	0	9
Diverted Trips [veh/h]	0	5	48	0	3	28
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	146	5	64	359	3	37
Peak Hour Factor	0.8946	0.8946	0.9500	0.8946	0.8946	0.8946
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	1	17	100	1	10
Total Analysis Volume [veh/h]	163	6	67	401	3	41
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.05	0.00	0.01	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	7.66	0.00	12.69	8.94
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.15	0.00	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.71	0.00	3.84	3.84
d_A, Approach Delay [s/veh]	0.00		1.10		9.19	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.35					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Indian St (NS) at Westerly Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Indian St		Indian St		Westerly Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian St		Indian St		Westerly Project Dwy	
Base Volume Input [veh/h]	88	0	0	277	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.0000	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	40	4	16	37	2	9
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	137	4	16	343	2	9
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	1	4	90	1	2
Total Analysis Volume [veh/h]	144	4	17	361	2	9
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.52	0.00	10.95	8.73
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.89	0.00	0.95	0.95
d_A, Approach Delay [s/veh]	0.00		0.34		9.13	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.43					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Northerly Project Dwy (NS) at Goya Ave (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northerly Project Dwy		Goya Ave		Goya Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	26	0	16	43	0
Diverted Trips [veh/h]	0	0	53	0	0	31
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	26	53	16	43	31
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	7	14	4	11	8
Total Analysis Volume [veh/h]	9	27	56	17	45	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	9.76	8.73	0.00	0.00	7.39	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	2.99	2.99	0.00	0.00	1.92	1.92
d_A, Approach Delay [s/veh]	8.99		0.00		4.26	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.51					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Emma Ln (NS) at Goya Ave (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.169

Intersection Setup

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Emma Ln			Emma Ln			Goya Ave			Goya Ave		
Base Volume Input [veh/h]	0	10	4	42	15	2	1	0	0	1	3	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	10	0	0	10	27	17	0	9	0	0	0
Diverted Trips [veh/h]	12	0	0	0	0	19	32	0	21	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	21	4	46	27	48	50	0	30	1	3	18
Peak Hour Factor	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103	0.8103
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	6	1	14	8	15	15	0	9	0	1	6
Total Analysis Volume [veh/h]	35	26	5	57	33	59	62	0	37	1	4	22
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	819	879	837	900
Degree of Utilization, x	0.08	0.17	0.12	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.26	0.61	0.40	0.09
95th-Percentile Queue Length [ft]	6.56	15.20	10.02	2.32
Approach Delay [s/veh]	7.78	7.93	7.88	7.13
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.82			
Intersection LOS	A			

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