BEYOND FOOD MART (INDIAN CANYON & PIERSON) TRAFFIC IMPACT ANALYSIS

City of Desert Hot Springs

February 21, 2023

gandini

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

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City of Desert Hot Springs

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prepared by

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Project No. 19543

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EXECUTIVE SUMMARY

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

Project Description

The 3.99-acre project site is located at the northwest corner of the Indian Canyon Drive and Pierson Boulevard intersection in the City of Desert Hot Springs California. The project site is currently undeveloped and zoned MU-N (Mixed Use – Neighborhood).

The proposed project involves the construction of a 7,460 square foot convenience store gas station with eight (8) dual-sided fuel pumps (i.e., 16-vehicle fueling positions), an automatic car wash tunnel, and a 2,000 square foot quick-service restaurant with drive-through window. Vehicular access is proposed to be provided by two driveways onto Indian Canyon Drive and one driveway onto Pierson Boulevard.

Project Trip Generation

Phase I of the proposed project is forecast to generate a total of approximately 4,346 new daily trips, including 155 new trips during the AM peak hour and 185 new trips during the PM peak hour.

Phase II of the proposed project is forecast to generate a total of approximately 4,834 new daily trips, including 177 new trips during the AM peak hour and 195 new trips during the PM peak hour.

Level of Service Analysis

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for the analysis scenarios. The proposed project is forecast to result in no substantial transportation effects relating to Level of Service operations for all analysis scenarios.

Summary of Improvements

Project design features, as detailed in the Site Access & On-Site Circulation (Section 7), involve improvements necessary to provide project site access, the construction along the project site frontage, and installation of a traffic signal for the Indian Canyon Drive at Pierson Boulevard intersection.

Since the proposed project is not forecast to cause any substantial adverse transportation effects relating to Level of Service 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 *Beyond Food Mart (Indian Canyon & Pierson) Vehicle Miles Traveled Assessment* (Ganddini Group, Inc., August 3, 2022).

1. INTRODUCTION

This section provides an overview of the proposed project and 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 Desert Hot Springs'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 Desert Hot Springs staff following the procedures and methodologies for assessing transportation impacts established by the City of Desert Hot Springs. 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 *Beyond Food Mart (Indian Canyon & Pierson) Vehicle Miles Traveled Assessment* (Ganddini Group, Inc., August 3, 2022).

PROJECT DESCRIPTION

The 3.99-acre project site is located at the northwest corner of the Indian Canyon Drive and Pierson Boulevard intersection in the City of Desert Hot Springs California. The project site is currently undeveloped and zoned MU-N (Mixed Use – Neighborhood). Figure 1 and Figure 2 show the regional and project location maps.

The proposed project involves the construction of a 7,460 square foot convenience store gas station with eight (8) dual-sided fuel pumps (i.e., 16-vehicle fueling positions), an automatic car wash tunnel, and a 2,000 square foot quick-service restaurant with drive-through window. Vehicular access is proposed to be provided by two driveways onto Indian Canyon Drive and one driveway onto Pierson Boulevard. Figure 3 illustrates the project site plan.

PROJECT PHASING

For the purposes of this analysis, the proposed project is anticipated to be built in two phases. For Phase I, partial completion year is Opening Year (2025), and for Phase II the project completion year is Opening Year (2027).

SCOPE OF ANALYSIS

The scope of this analysis was determined in consultation with the City of Desert Hot Springs as documented in the City-approved scoping agreement provided in Appendix B.

Study Area

Figure 4 illustrates the study area. In accordance with the City of Desert Hot Springs requirements, the study area was determined in consultation with the City of Desert Hot Springs 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 Desert Hot Springs jurisdiction:

1. Karen Avenue (NS) at Pierson Boulevard (EW) [1]
2. Indian Canyon Drive (NS) at Mission Lake Boulevard (EW)
3. Indian Canyon Drive (NS) at Pierson Boulevard (EW)
4. Little Morongo Road (NS) at Pierson Boulevard (EW)
5. Project Driveway (NS) at Pierson Boulevard (EW)
6. Indian Canyon Drive (NS) at Project North Driveway (EW)
7. Indian Canyon Drive (NS) at Project South Driveway (EW)

Analysis Scenarios

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

- Existing
- Existing Plus Project
- Opening Year (2025) Without Project Phase I
- Opening Year (2025) With Project Phase I
- Opening Year (2027) Without Project Phase II
- Opening Year (2027) With Project Phase II

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

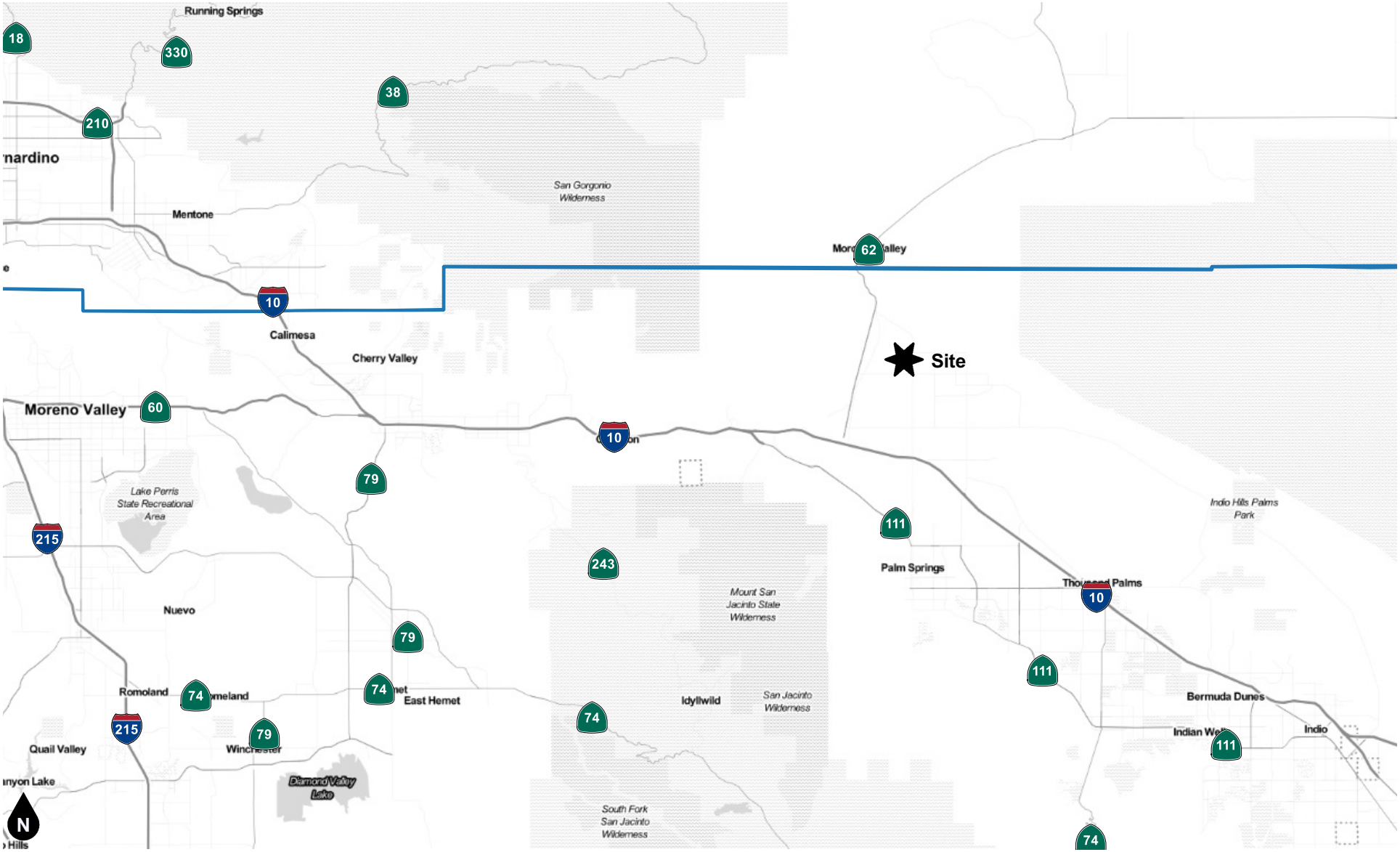


Figure 1
Regional Location Map

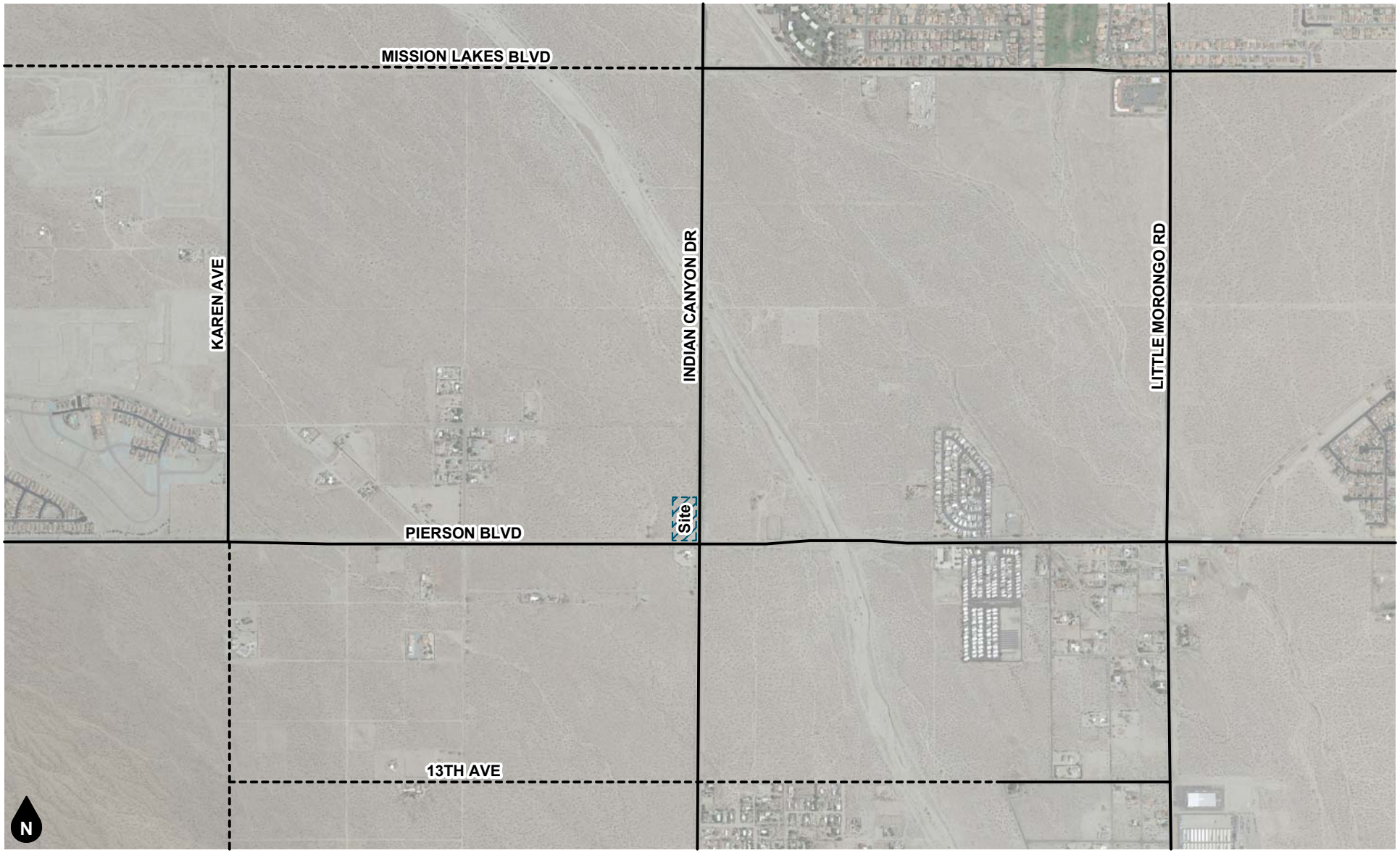


Figure 2
Project Location Map

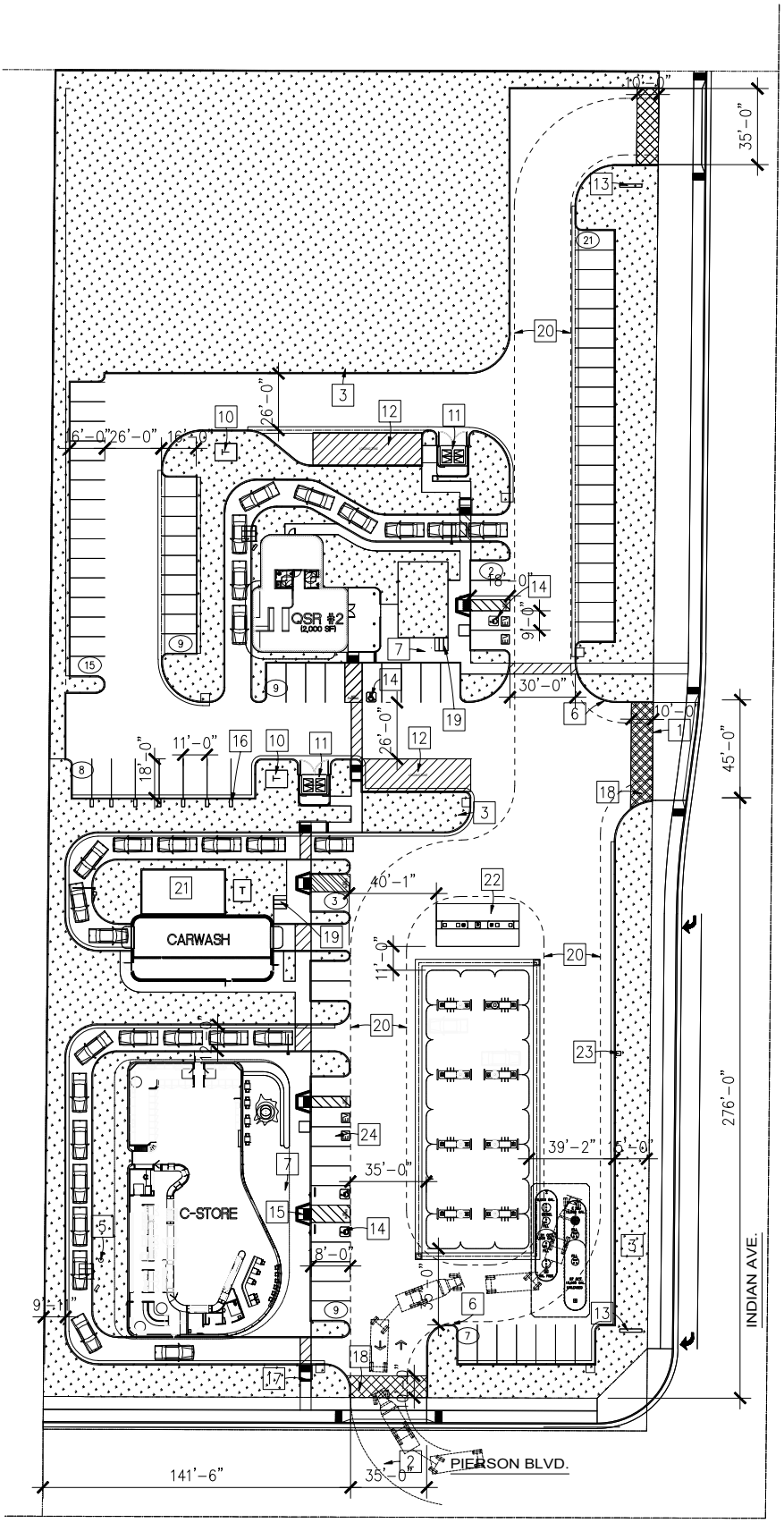


Figure 3
Site Plan

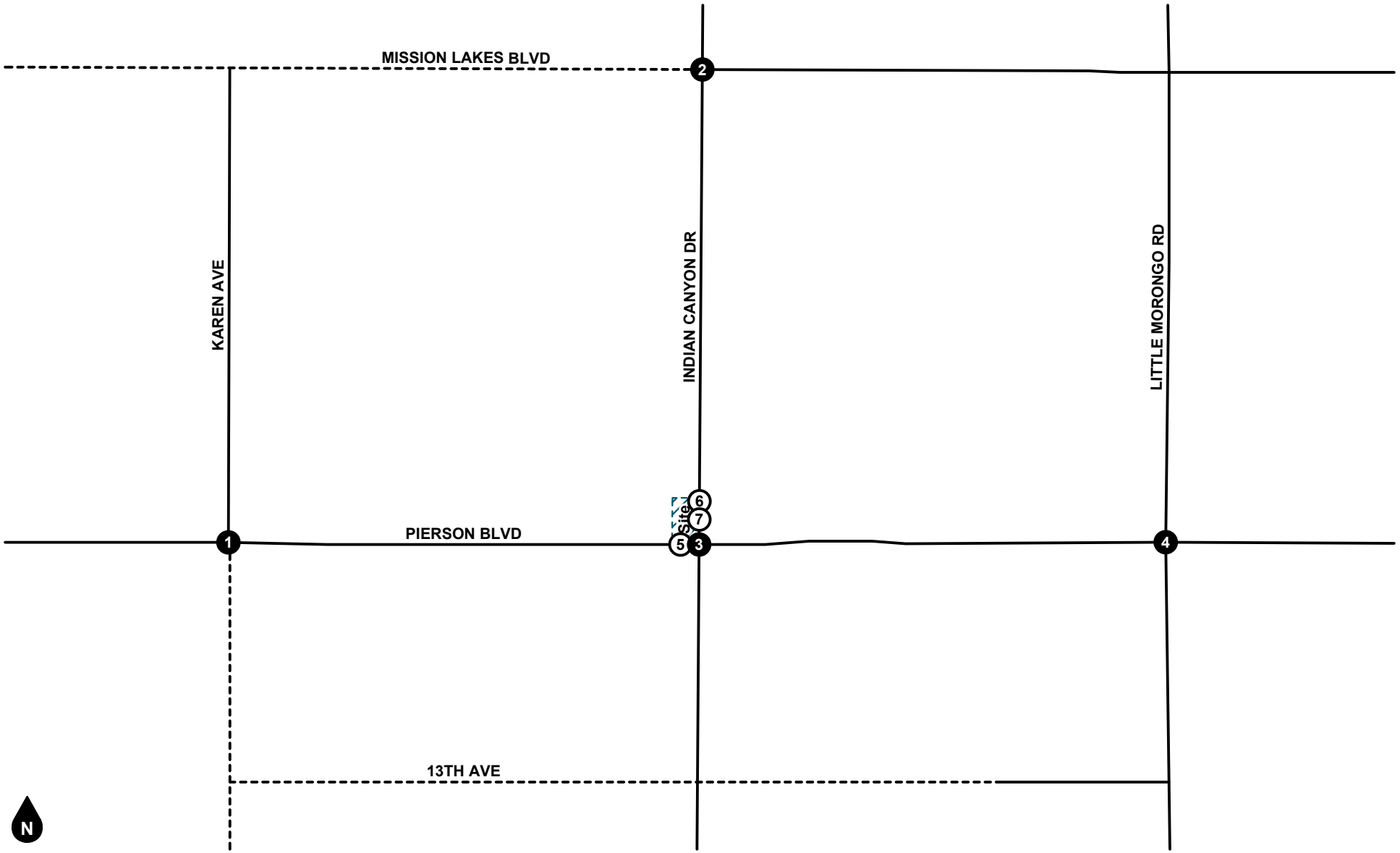


Figure 4
Study Area

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 Desert Hot Springs requirements and the County of Riverside *Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled* (December 2020) ["County TA Guidelines"].

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

Level of Service analysis is performed for assessing 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.

Intersections: Highway Capacity Manual Delay Methodology

City of Desert Hot Springs 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. At intersections with cross street stop control (i.e., one- or two-way stop control), the Level of Service is determined by the average control delay for the worst minor street approach or major street left-turn movement. Intersection delay analysis was performed with default capacity values and adjustment factors recommended in the HCM. The intersection Level of Service is based on the thresholds contained within the HCM.

Level of Service	Delay Methodology [1]	
	Signalized Intersection	Unsignalized Intersection
	Seconds per Vehicle	Seconds per Vehicle
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

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

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). Intersection analysis was performed using the Vistro software. The Level of Service analysis was performed in accordance with parameters specified in the County TA Guidelines.

At intersections with traffic signal or all way stop control, Level of Service 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), Level of Service is determined by the average control delay for the worst minor street approach or major street left-turn movement.

Transportation Effects

The City of Desert Hot Springs has established a minimum acceptable Level of Service D for peak hour intersection operations.

A substantial transportation effect is defined to occur at a signalized study intersection if the project causes intersection operations to degrade from an acceptable Level of Service (D or better) to an unacceptable Level of Service (E or F) or the project-related increase in delay is equal to or greater than 2.0 seconds at an intersection that is already operating at LOS E or F.

A substantial transportation effect is defined to occur at an unsignalized study intersection if one or more of the following conditions are met:

- The addition of project trips to a study intersection causes intersection operations to degrade from an acceptable Level of Service (D or better) to an unacceptable Level of Service (E or F).
- The project-related increase in delay is equal to or greater than 2.0 seconds at an intersection that is already operating at LOS E or F.
- The intersection meets peak hour signal warrants either caused by project volumes or project volumes are added at an intersection that meets peak hour signal warrants in the baseline scenario(s). Peak hour signal warrants should be determined based on the latest California Manual on Uniform Traffic Control Devices (CA MUTCD).

Where improvements are identified to address Level of Service deficiencies, a project fair share cost estimate is provided based on the volume of project traffic using the impacted facility divided by the total "new" traffic (i.e., ambient growth and other developments).

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. As previously noted, the project VMT assessment is documented separately in the *Beyond Food Mart (Indian Canyon & Pierson) Vehicle Miles Traveled Assessment* (Ganddini Group, Inc., August 3, 2022).

3. EXISTING CONDITIONS

This section describes the existing transportation setting of the project study area.

EXISTING ROADWAY SYSTEM

Figure 5, shows the lane geometry and intersection traffic controls for existing conditions based on a field survey of the study area. Regional access to the project site is provided by State Route 62 approximately 2.6 miles to the west and Interstate 10 approximately 3.9 miles to the south of the project site. Local north-south circulation is provided by Karen Avenue, Indian Canyon Drive, and Little Morongo Road; and east-west circulation is provided by Mission Lakes Boulevard, and Pierson Boulevard.

Karen Avenue: This two-lane undivided roadway trends in a north-south direction and is classified as a Collector (two-lane undivided with parking) on the City of Desert Hot Springs circulation system in the study area. There do not appear to be any on-street parking restrictions in the project vicinity however, parking on the east side of the roadway would be on the unpaved shoulder given the pavement width. There are currently no designated bicycle facilities in the project vicinity. Sidewalks are generally provided along the west side of the roadway and not provided on the east side along undeveloped lots. There is no posted speed in the project vicinity.

Indian Canyon Drive: This two-lane undivided roadway trends in a north-south direction and is classified as a Secondary II Arterial (four-lane undivided with parking) north of Pierson Boulevard and as a Primary II Arterial (four-lane divided without parking) south of Pierson Boulevard on the City of Desert Hot Springs General Plan Circulation Element in the study area. There do not appear to be any on-street parking restrictions in the project vicinity; however, parking would be on the unpaved shoulder given the pavement width. There are currently no designated bicycle facilities in the project vicinity. Sidewalks are not provided on both sides of the roadway along undeveloped lots. The posted speed in the project vicinity is 55 miles per hour.

Little Morongo Road: This two-lane undivided roadway trends in a north-south direction and is classified as a Secondary II Arterial (four-lane undivided with parking) on the City of Desert Hot Springs General Plan Circulation Element in the study area. There do not appear to be any on-street parking restrictions in the project vicinity; however, parking would be on the unpaved shoulder given the pavement width. There are currently no designated bicycle facilities in the project vicinity; however, off-street bike paths are shown for this roadway on the master plan. Sidewalks are not provided on either side of the roadway. The posted speed is 50 miles per hour north of Pierson Boulevard, and 55 miles per hour south of Pierson Boulevard.

Mission Lakes Boulevard: This two-lane undivided roadway trends in an east-west direction and is classified as a Collector (two-lane undivided with parking) on the City of Desert Hot Springs General Plan Circulation Element in the study area. There do not appear to be any on-street parking restrictions in the project vicinity. There are currently no designated bicycle facilities in the project vicinity; however, protected bike lanes are shown for this roadway on the master plan. Sidewalks are not provided on both sides of the roadway. The posted speed is 50 miles per hour in the project vicinity.

Pierson Boulevard: two-lane undivided roadway trends in an east-west direction and is classified as is classified as a Primary II Arterial (four-lane divided without parking) on the City of Desert Hot Springs General Plan Circulation Element in the study area. There do not appear to be any on-street parking restrictions in the project vicinity; however, parking would be on the unpaved shoulder given the pavement width. There are currently no designated bicycle facilities in the project vicinity; however, buffered bike lanes are shown for this roadway on the master plan. Sidewalks are generally not provided on either side of the roadway except along developed lots. The posted speed is 50 miles per hour in the project vicinity.

PEDESTRIAN FACILITIES

Existing pedestrian facilities in the project vicinity are shown in Figure 6. As shown in Figure 6, sidewalks are not provided along the project site frontage, currently.

TRANSIT FACILITIES

Figure 7 shows the existing Sunline Services system map in the project vicinity. There are currently no bus services in the project vicinity however, potential future bus routes are shown for Pierson Boulevard and Indian Canyon on the master plan.

GENERAL PLAN CONTEXT

Figure 8 shows the City of Desert Hot Springs General Plan Circulation Element roadway classifications map. 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 Desert Hot Springs standard roadway cross-sections are illustrated in Figure 9.

BICYCLE FACILITIES MASTER PLAN

The City of Desert Hot Springs Bicycle Master Plan is shown in Figure 10. This figure shows the bicycle facilities master plan. As shown in Figure 10, there are proposed bike facilities on Pierson Boulevard and Little Morongo Road.

EXISTING ROADWAY VOLUMES

Figure 11 shows the existing average daily traffic volumes. The existing average daily traffic volumes have been factored from peak hour intersection turning movement volumes at locations using the following formula for each intersection leg:

PM Peak Hour (Approach Volume + Exit Volume) x 12.0 = Leg Volume

Figure 12 and Figure 13 show the existing AM and PM peak hour intersection turning movement volumes. Existing peak hour intersection turning movement volumes are based upon AM peak period and PM peak period intersection turning movement counts obtained in August 2022 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 entering the intersection. Thus, the weekday PM peak hour at one intersection may be 4:45 PM to 5:45 PM and may vary at other intersections depending on the four consecutive 15-minute periods that have the highest total volume. Intersection turning movement count worksheets are provided in Appendix C.

EXISTING INTERSECTION LEVEL OF SERVICE

The study intersection Levels of Service for Existing conditions are shown in Table 1. Detailed Level of Service worksheets are provided in Appendix D.

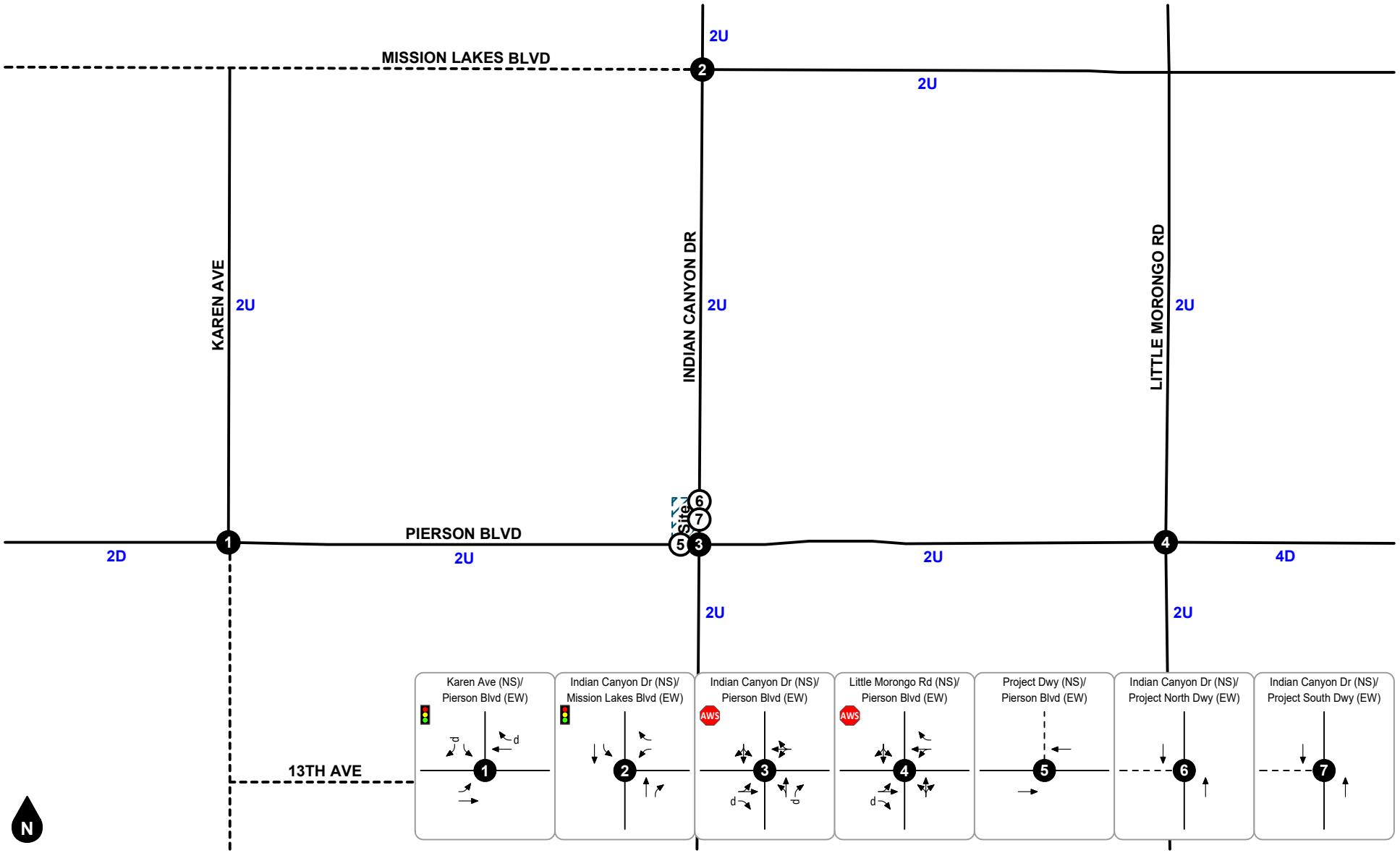
As shown in Table 1, the study intersections currently operate within acceptable Levels of Service (D or better) during peak hours.

Table 1
Existing Intersection Levels of Service

Study Intersection	Traffic Control[1]	AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS
1. Karen Avenue at Pierson Boulevard	TS	6.8	A	3.1	A
2. Indian Canyon Drive at Mission Lake Boulevard	TS	17.5	B	14.8	B
3. Indian Canyon Drive at Pierson Boulevard	AWS	13.7	B	12.2	B
4. Little Morongo Road at Pierson Boulevard	AWS	13.0	B	12.3	B

Notes:

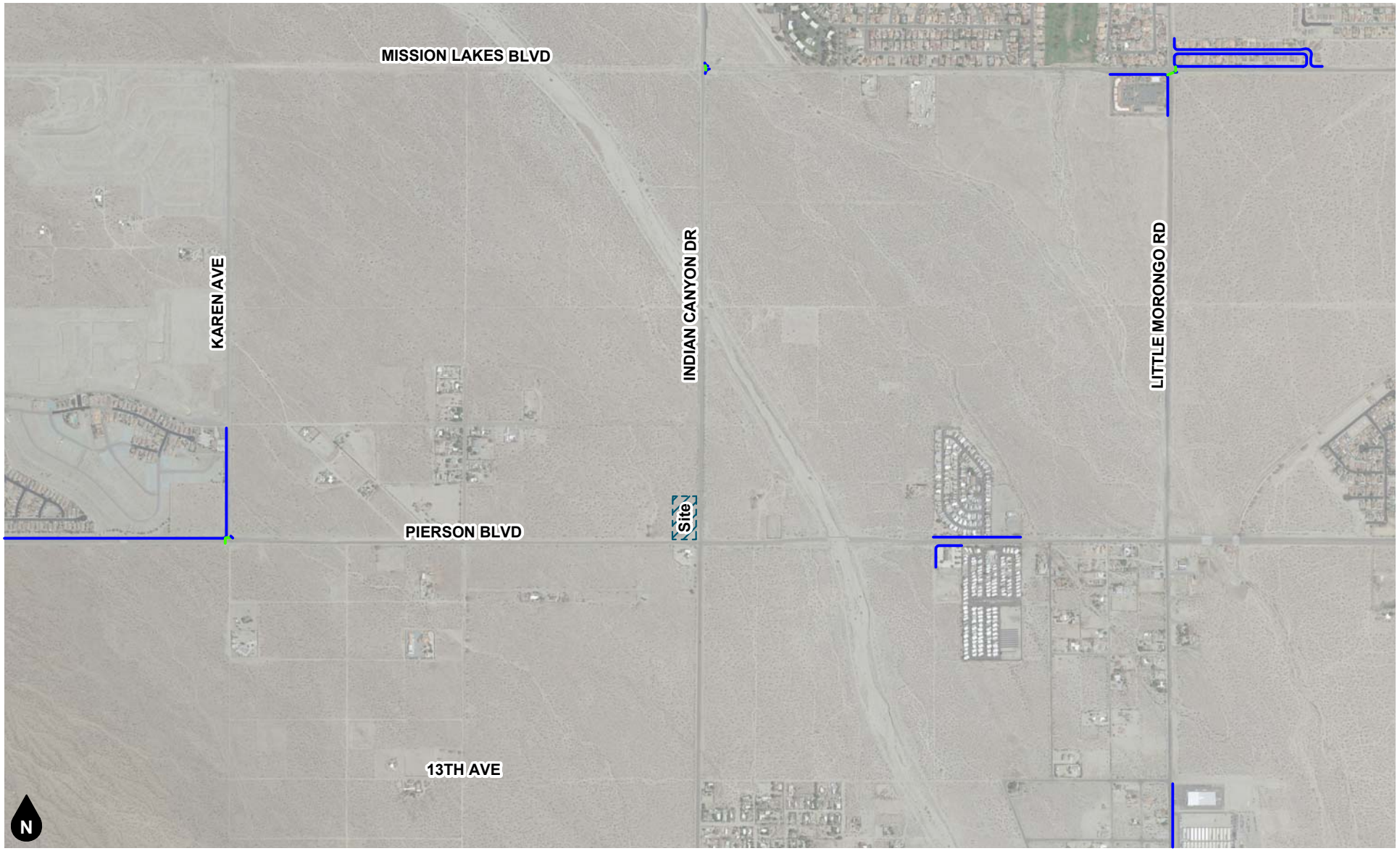
1. TS = Traffic Signal; AWS = All Way Stop CSS = Cross Street Stop
2. Delay is shown in seconds per vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst minor street approach or major street left turn movement.
3. LOS = Level of Service



Legend

- Traffic Signal
- All Way Stop
- Stop Sign
- #D #-Lane Divided Roadway
- #U #-Lane Undivided Roadway
- Existing Lane
- d De Facto Right Turn Lane
- Project Driveway

Figure 5
Existing Lane Geometry and Intersection Traffic Controls



Legend
- Sidewalk
- Cross Walk

Figure 6
Existing Pedestrian Facilities

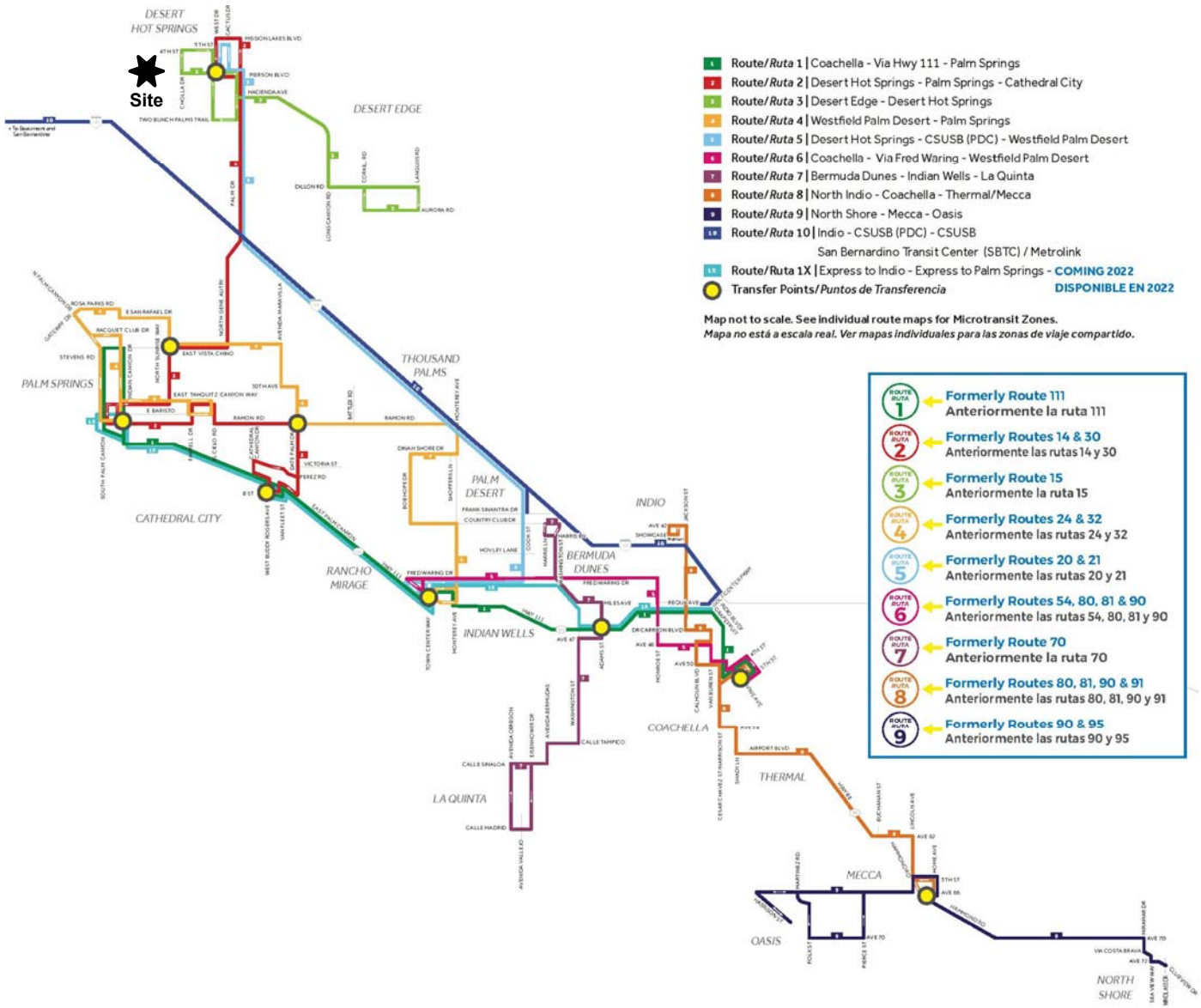


Figure 7
Existing Transite Routes

Source: SunLine Transit Agency

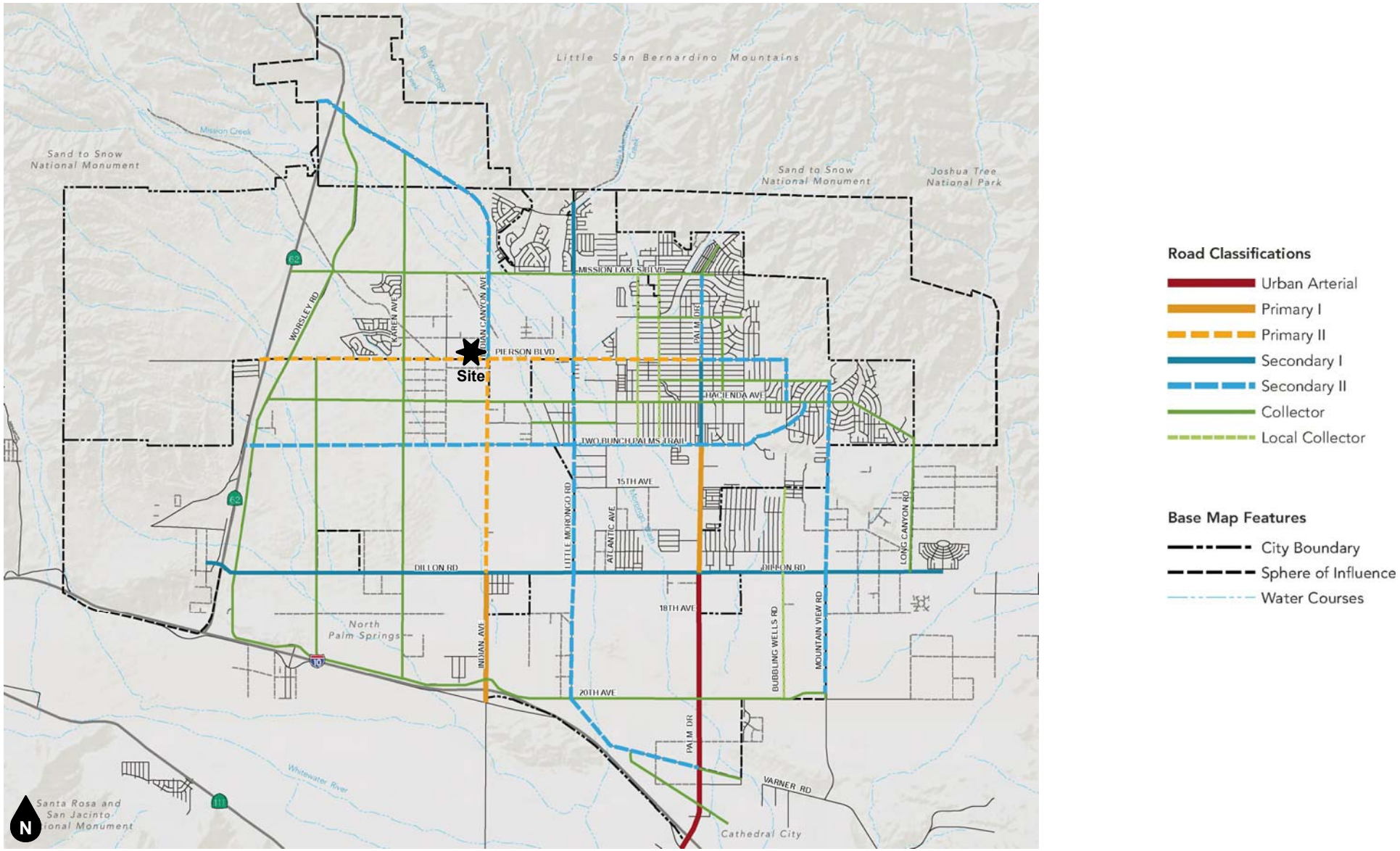


Figure 8
City of Desert Hot Springs General Plan Circulation Element

Source: City of Desert Hot Springs

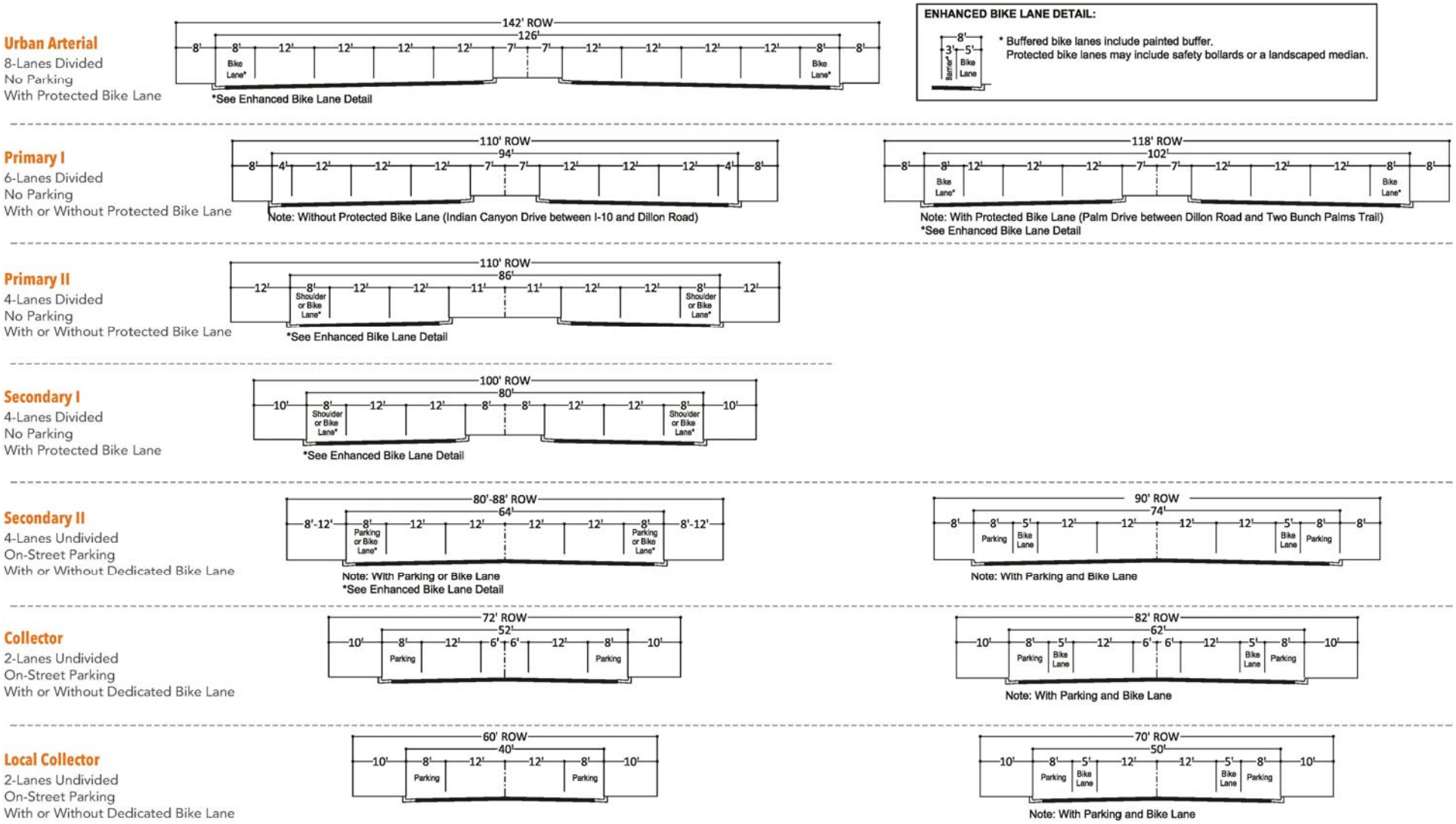


Figure 9
City of Desert Hot Springs General Plan Roaddway Cross-Sections

Source: City of Desert Hot Springs

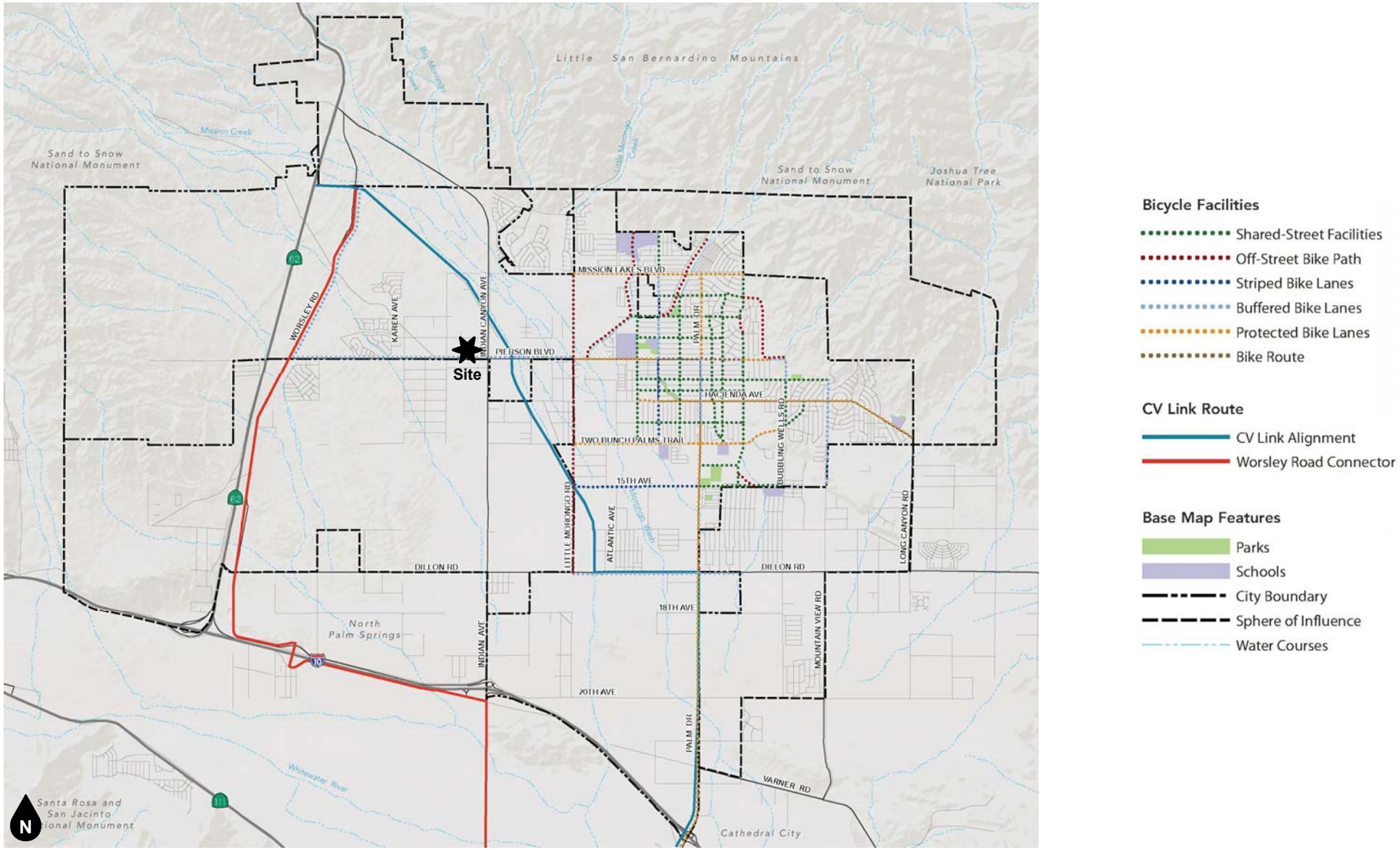


Figure 10
City of Desert Hot Springs Bicycle Facilities Master Plan

Source: City of Desert Hot Springs

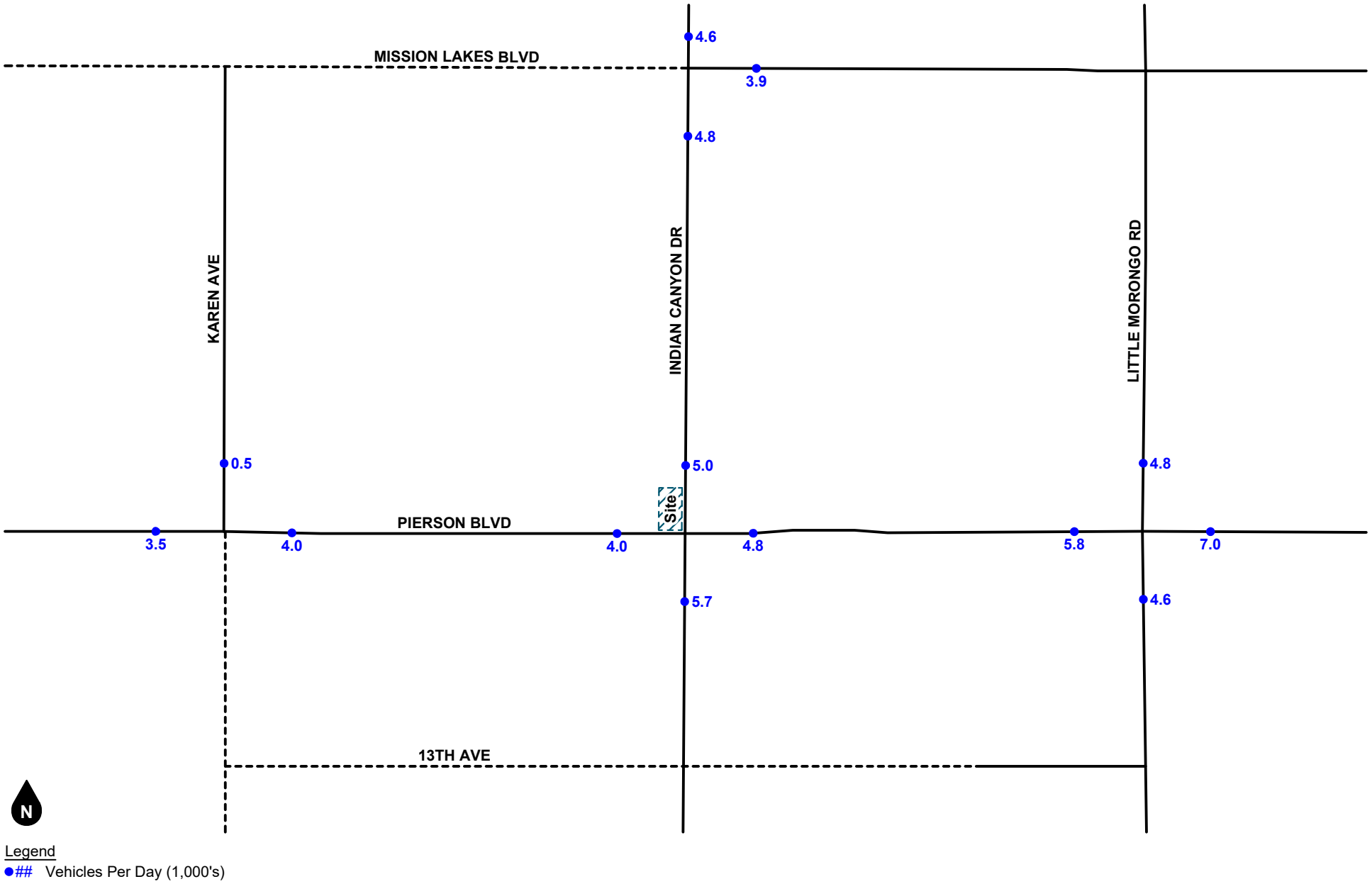


Figure 11
Existing Average Daily Traffic Volumes

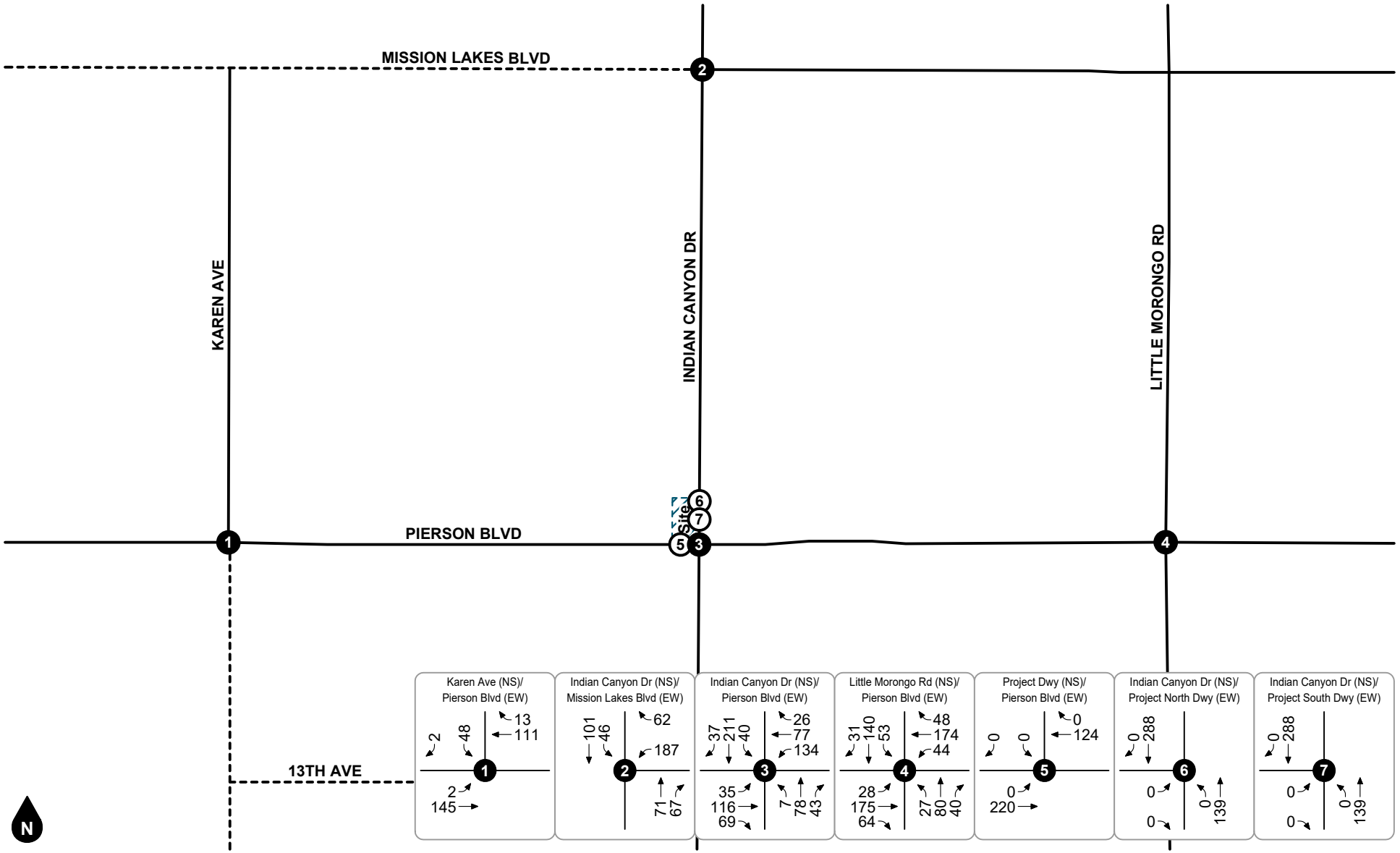
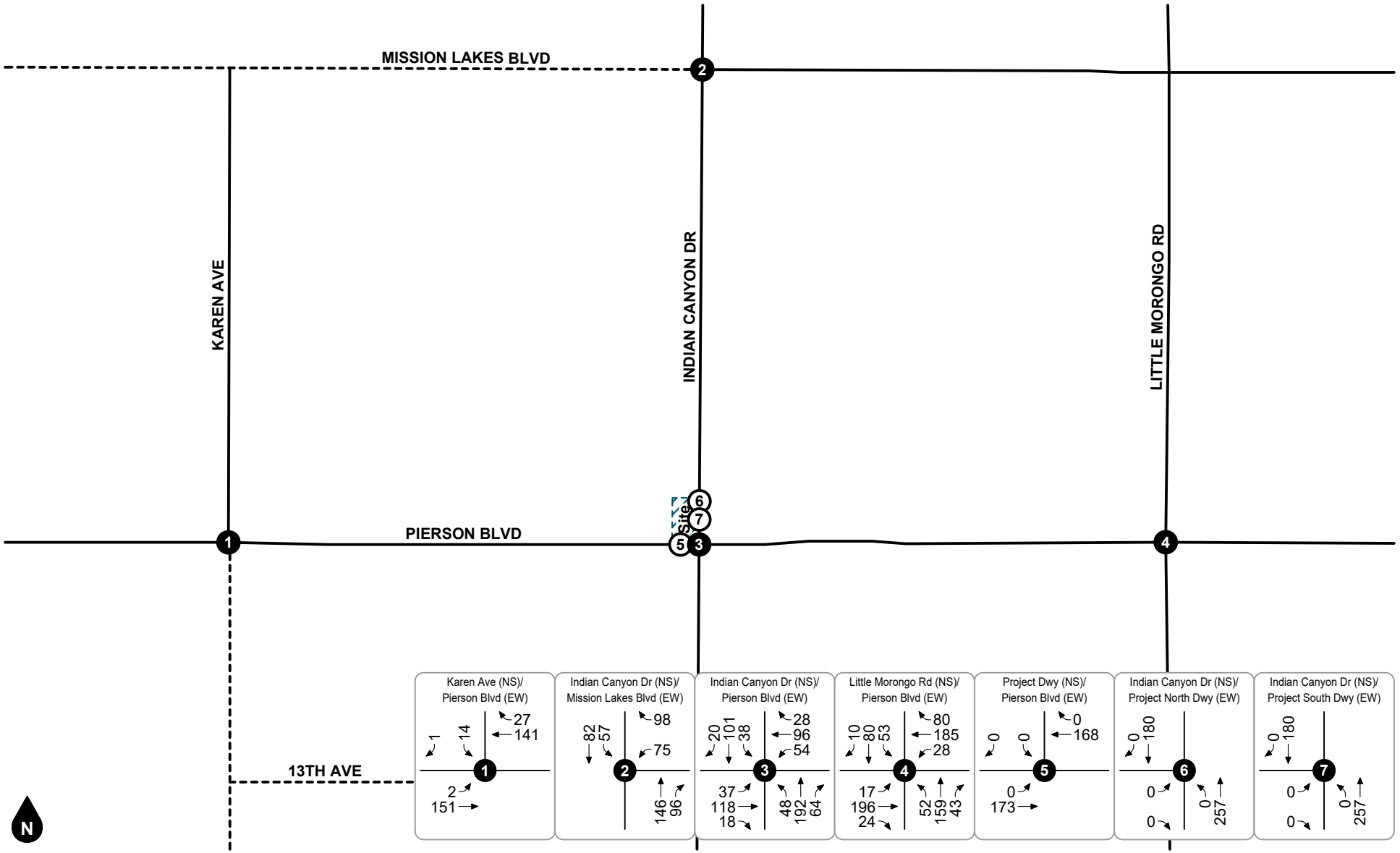


Figure 12
Existing AM Peak Hour Intersection Turning Movement Volumes



Legend

Study Intersection

(#) Project Driveway

Figure 13
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 and Table 3 show the proposed project trips are based on trip generation rates obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021) for Land Use Codes 945 (Convenience Store Gas Station) and 948 (Automated Car Wash) in Phase I, with the addition of 934 (Fast Food Restaurant with Drive-Through Window) in Phase II.

Internal Capture Adjustments

The project trip generation includes the applicable internal capture adjustments based the methodology recommended by ITE. For Phase II, the proposed project includes different types of land uses so, a portion of the trips generated by the proposed land uses are expected to remain internal to the commercial center (e.g., a patron of the gas station/car wash may also visit the on-site restaurant). Since the trip generation rates contained in the ITE *Trip Generation Manual* represent vehicles entering and exiting at the site driveway(s), it is appropriate to reduce the initial trip generation forecast by the applicable internal capture rate when calculating the new trips generated by the project and added to the external roadway network. The ITE *Trip Generation Handbook* recommends use of the Transportation Research Board (TRB) *NCHRP Report 684* (2013) estimation tool worksheet to determine internal capture rates for trips within a mixed-use development. Internal capture calculations are included in the City-approved scoping agreement provided in Appendix B.

Pass-by Trip Adjustments

The project trip generation includes include pass-by trip adjustments based on average pass-by rates obtained from the ITE *Trip Generation Manual*. Land uses such as shopping centers, restaurants, gas stations, and convenience stores will often locate next to busy roadways to attract motorists already on the street. Since the trip generation rates contained in the ITE *Trip Generation Manual* represent vehicles entering and exiting at the site driveway(s), it is appropriate to reduce the initial trip generation forecast by the applicable pass-by trip rate when calculating the net new trips that will be added to the surrounding street system. Pass-by trips are included at the project driveways and the adjacent Indian Canyon Drive and Pierson Boulevard intersection and applied after internal capture adjustments.

.

Project Trips

Phase I

As shown in Table 2, Phase I of the proposed project is forecast to generate a total of approximately 4,346 new daily trips, including 155 new trips during the AM peak hour and 185 new trips during the PM peak hour.

Phase II

As shown in Table 3, Phase II of the proposed project is forecast to generate a total of approximately 4,834 new daily trips, including 177 new trips during the AM peak hour and 195 new trips during the PM peak hour.

PROJECT TRIP DISTRIBUTION & ASSIGNMENT

Figure 14 and Figure 15 show the forecast outbound and inbound directional distribution patterns for the project generated trips, respectively. 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.

Phase I

Based on the identified project trip generation and distributions, Phase I project-generated average daily traffic volumes are shown in Figure 16. Phase I project-generated AM peak hour and PM peak hour intersection turning movement volumes are shown in Figure 17 and Figure 18 for Phase I.

Phase II

Based on the identified project trip generation and distributions, Phase II project-generated average daily traffic volumes are shown in Figure 19. Phase II project-generated AM peak hour and PM peak hour intersection turning movement volumes are shown in Figure 20 and Figure 21.

Table 2
Project Trip Generation - Phase I

Trip Generation Rates									
Land Use	Source[1]	Land Use Variable[2]	AM Peak Hour			PM Peak Hour			Daily Rate
			% In	% Out	Rate	% In	% Out	Rate	
Fast-Food Restaurant with Drive-Through Window	ITE 934	TSF	51%	49%	44.61	52%	48%	33.03	467.48
Convenience Store Gas Station (5.5-10 ksf GFA)	ITE 945	VFP	50%	50%	31.60	50%	50%	26.90	345.75
Automated Car Wash	ITE 948 [3]	CWT	50%	50%	34.44	50%	50%	77.50	*861.11*

Trips Generated									
Land Use	Source	Quantity	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Convenience Store Gas Station (5.5-10 ksf GFA)	ITE 945	16 VFP	253	253	506	215	215	430	5,532
Pass-by Trips (76%AM, 75%PM, 37%Daily)	ITE 945[4]		*-192*	*-193*	*-385*	*-161*	*-162*	*-323*	*-2,047*
Subtotal			61	60	121	54	53	107	3,485
Automated Car Wash	ITE 948	1 CWT	17	17	34	39	39	78	861
Subtotal - Gross Project Trips			270	270	540	254	254	508	6,393
Total Pass-by Trips			-192	-193	-385	-161	-162	-323	-2,047
TOTAL NEW TRIPS GENERATED			**78**	**77**	**155**	**93**	**92**	**185**	**4,346**

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. TSF = Thousand Square Feet; VFP = Vehicle Fuel Position; CWT = Car Wash Tunnel.
3. San Diego Association of Governments (SANDAG) *Vehicular Traffic Generation Rates* (April 2002). Where the daily or peak hour rate is not provided by ITE, the SANDAG percentage of peak hour to daily rate is used to calculate the missing data. Where the peak hour distribution is not provided by ITE, the SANDAG peak hour distribution is used.
4. Pass-by rates calculated in accordance with procedures in the ITE Trip Generation Handbook (11th Edition, 2021). Daily pass-by is calculated using half of the AM and PM pass-by average rates for the daily rate.

Table 3
Project Trip Generation - Phase II

Trip Generation Rates									
Land Use	Source[1]	Land Use Variable[2]	AM Peak Hour			PM Peak Hour			Daily Rate
			% In	% Out	Rate	% In	% Out	Rate	
Fast-Food Restaurant with Drive-Through Window	ITE 934	TSF	51%	49%	44.61	52%	48%	33.03	467.48
Convenience Store Gas Station (5.5-10 ksf GFA)	ITE 945	VFP	50%	50%	31.60	50%	50%	26.90	345.75
Automated Car Wash	ITE 948 [3]	CWT	50%	50%	34.44	50%	50%	77.50	*861.11*

Trips Generated									
Land Use	Source	Quantity	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Fast-Food Restaurant with Drive-Through Window	ITE 934	2.000 TSF	46	43	89	34	32	66	935
Internal Capture Trips	ITE[4]		-23	-6	-29	-10	-13	-23	-150
Pass-by Trips (50%AM, 55%PM, 26%Daily)	ITE 934[5]		-12	-18	-30	-13	-11	-24	-243
Subtotal			11	19	30	11	8	19	542
Convenience Store Gas Station (5.5-10 ksf GFA)	ITE 945	16 VFP	253	253	506	215	215	430	5,532
Internal Capture Trips	ITE[4]		-5	-23	-28	-11	-9	-20	-48
Pass-by Trips (76%AM, 75%PM, 37%Daily)	ITE 945[5]		*-188*	*-175*	*-363*	*-153*	*-155*	*-308*	*-2,047*
Subtotal			60	55	115	51	51	102	3,437
Automated Car Wash	ITE 948	1 CWT	17	17	34	39	39	78	861
Internal Capture Trips	ITE[4]		0	-2	-2	-2	-2	-4	-6
Subtotal			17	15	32	37	37	74	855
Subtotal - Gross Project Trips			316	313	629	288	286	574	7,328
Total Internal Capture Trips (9%AM, 8%PM, 4%Daily)			-28	-31	-59	-23	-24	-47	-204
Subtotal - External Project Trips			288	282	570	265	262	527	7,124
Total Pass-by Trips			-200	-193	-393	-166	-166	-332	-2,290
TOTAL NEW TRIPS GENERATED			**88**	**89**	**177**	**99**	**96**	**195**	**4,834**

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. TSF = Thousand Square Feet; VFP = Vehicle Fuel Position; CWT = Car Wash Tunnel.
3. San Diego Association of Governments (SANDAG) *Vehicular Traffic Generation Rates* (April 2002). Where the daily or peak hour rate is not provided by ITE, the SANDAG percentage of peak hour to daily rate is used to calculate the missing data. Where the peak hour distribution is not provided by ITE, the SANDAG peak hour distribution is used.
4. Internal capture rates calculated in accordance with procedures in the ITE *Trip Generation Handbook* (3rd Edition, 2017). The daily internal capture rate is equal to half of the AM and PM peak hour average rates. See Attachment B Scoping Agreement for internal capture worksheets.
5. Pass-by rates calculated in accordance with procedures in the ITE Trip Generation Handbook (11th Edition, 2021). Daily pass-by is calculated using half of the AM and PM pass-by average rates for the daily rate.

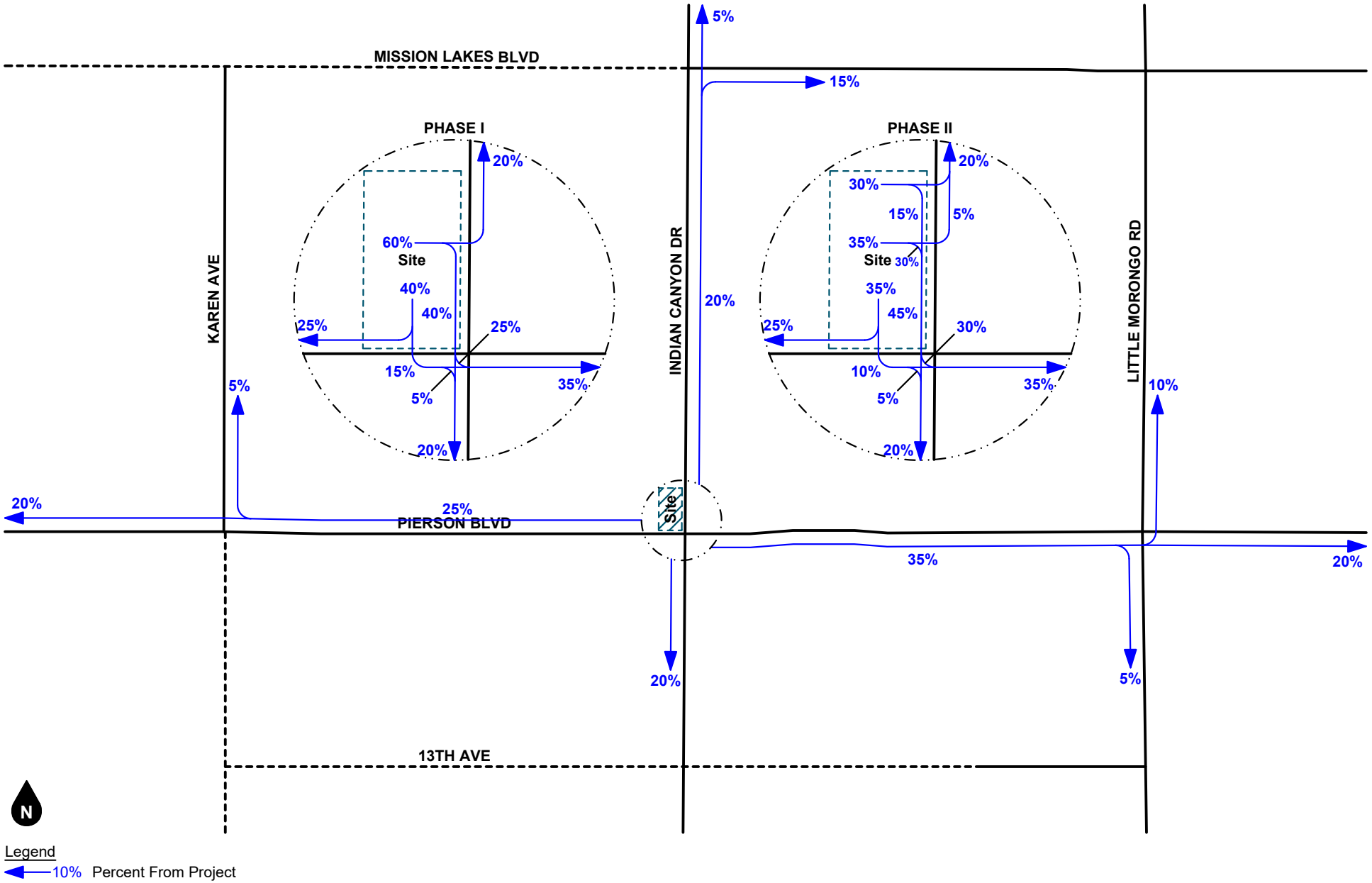


Figure 14
Project Trip Distribution (Outbound)

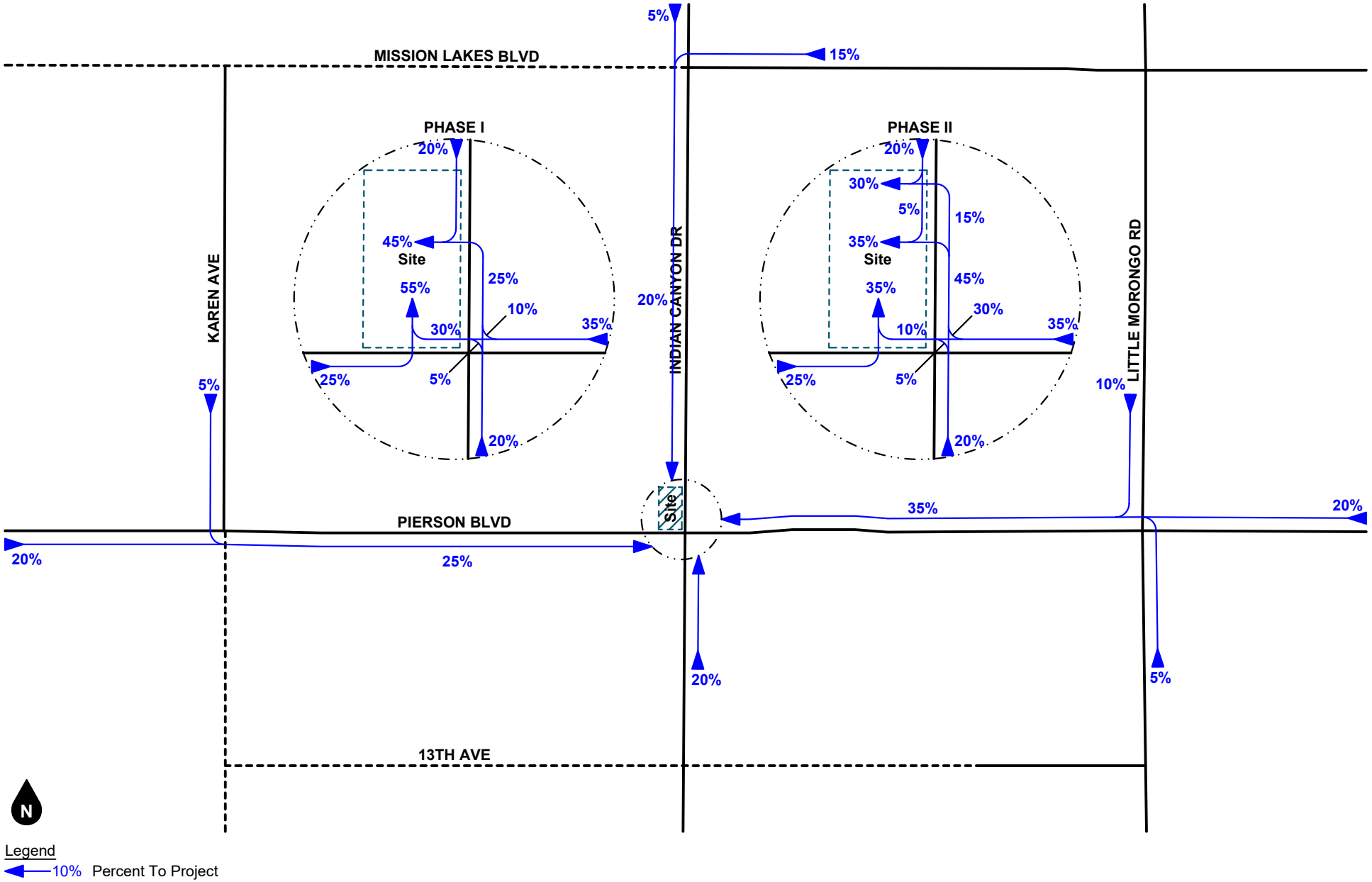


Figure 15
Project Trip Distribution (Inbound)

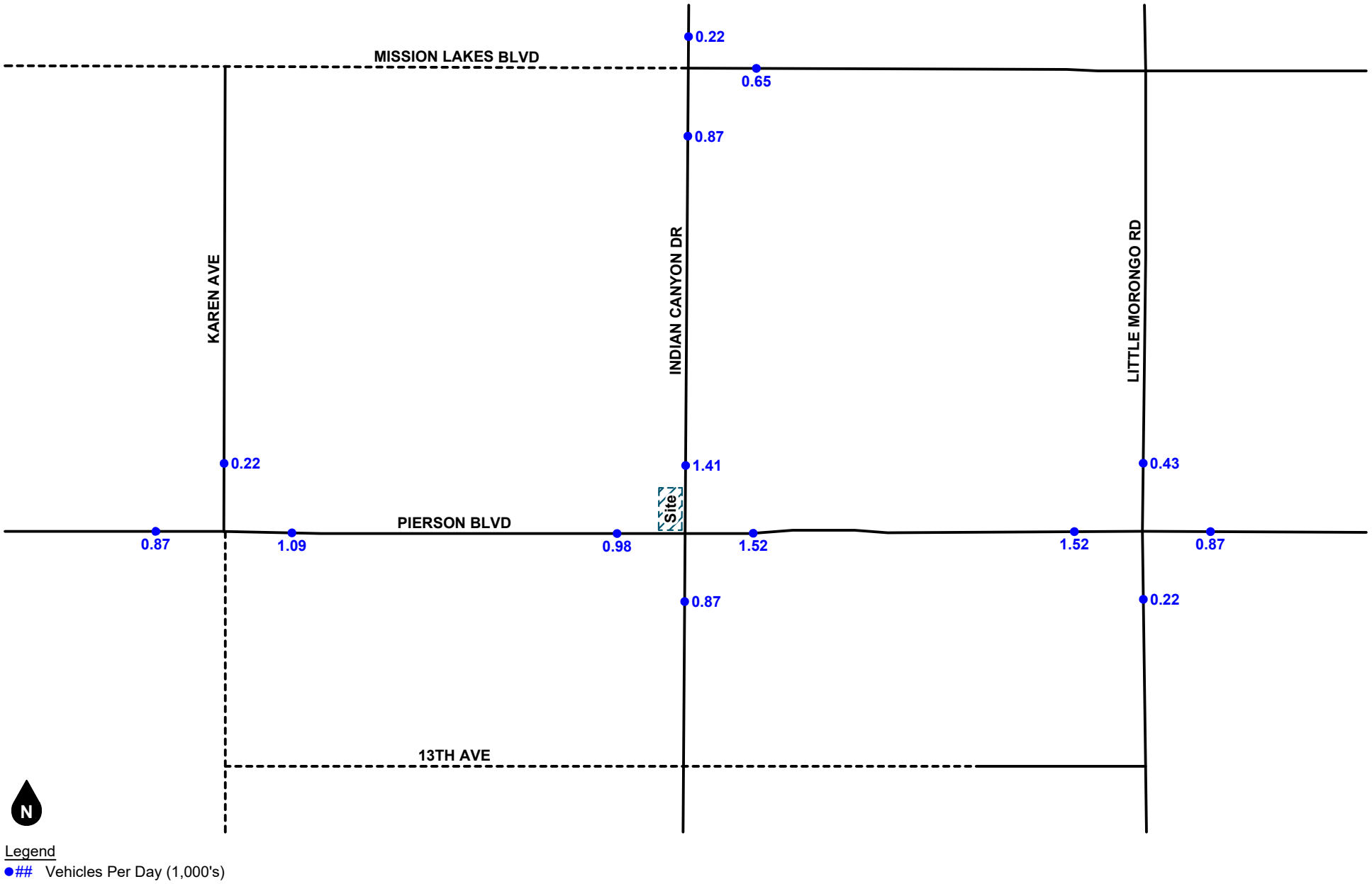
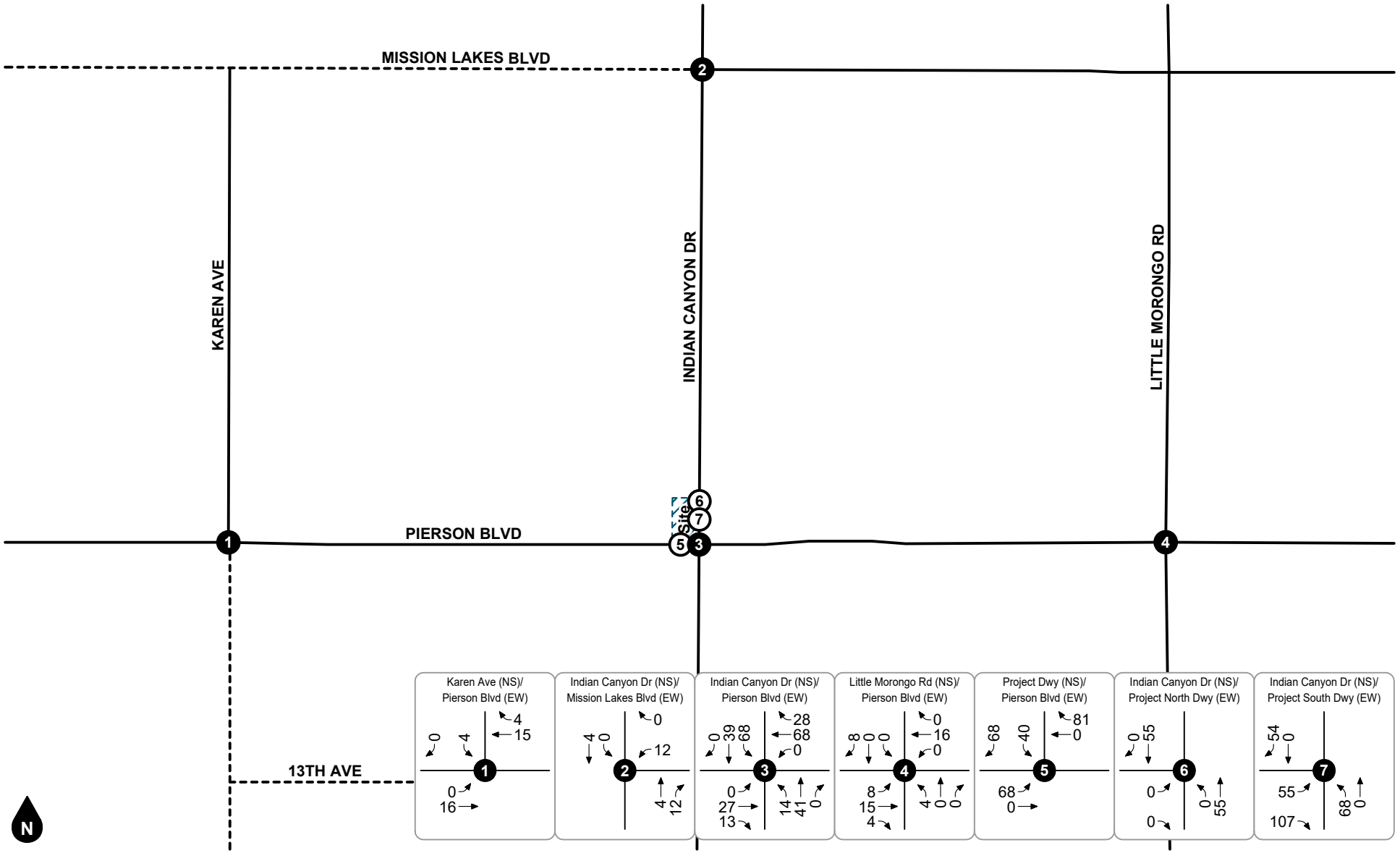


Figure 16
Project Average Daily Traffic Volumes - Phase I



Legend

Study Intersection

(#) Project Driveway

Figure 17
Project
AM Peak Hour Intersection Turning Movement Volumes - Phase I

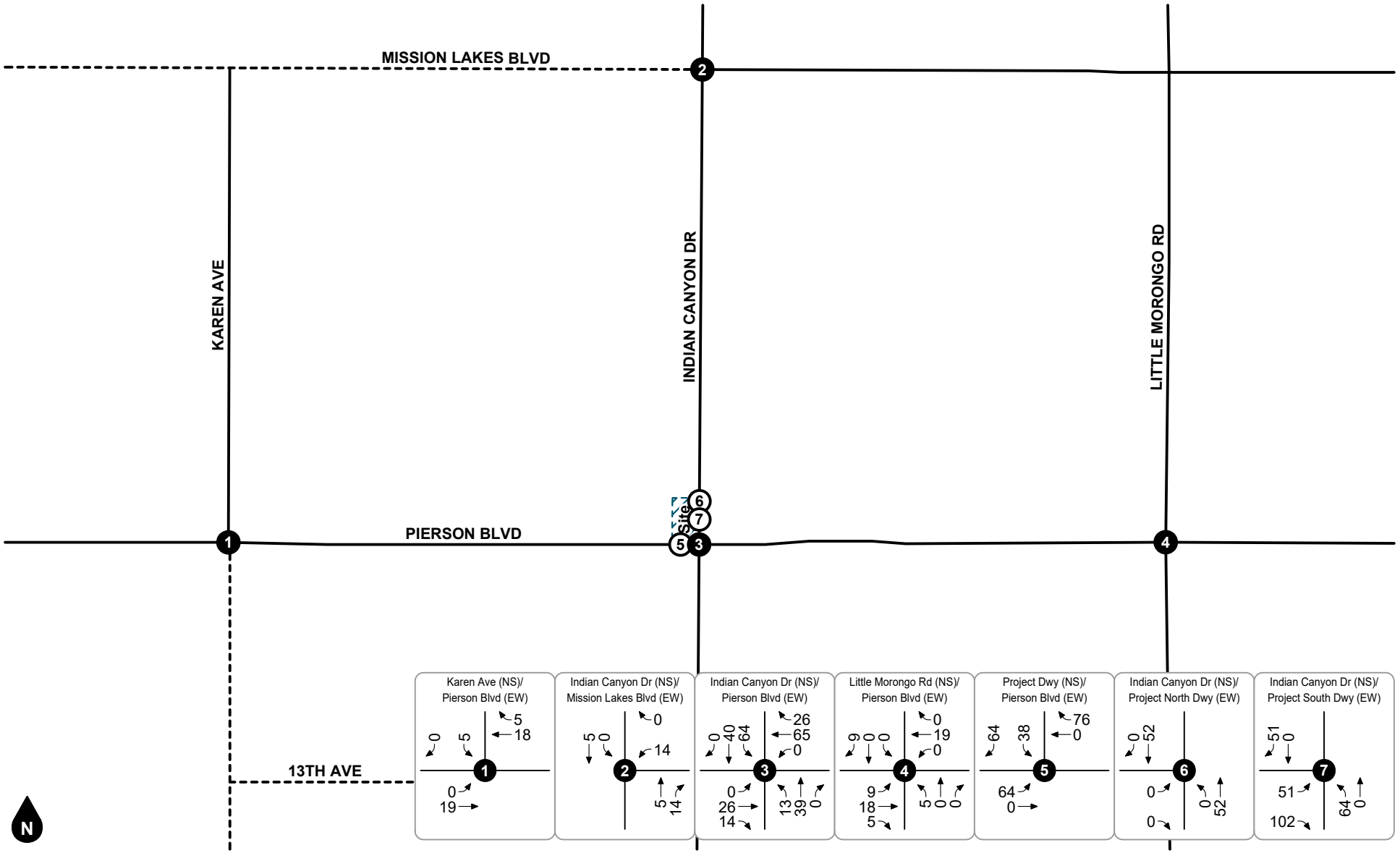


Figure 18
Project
PM Peak Hour Intersection Turning Movement Volumes - Phase I

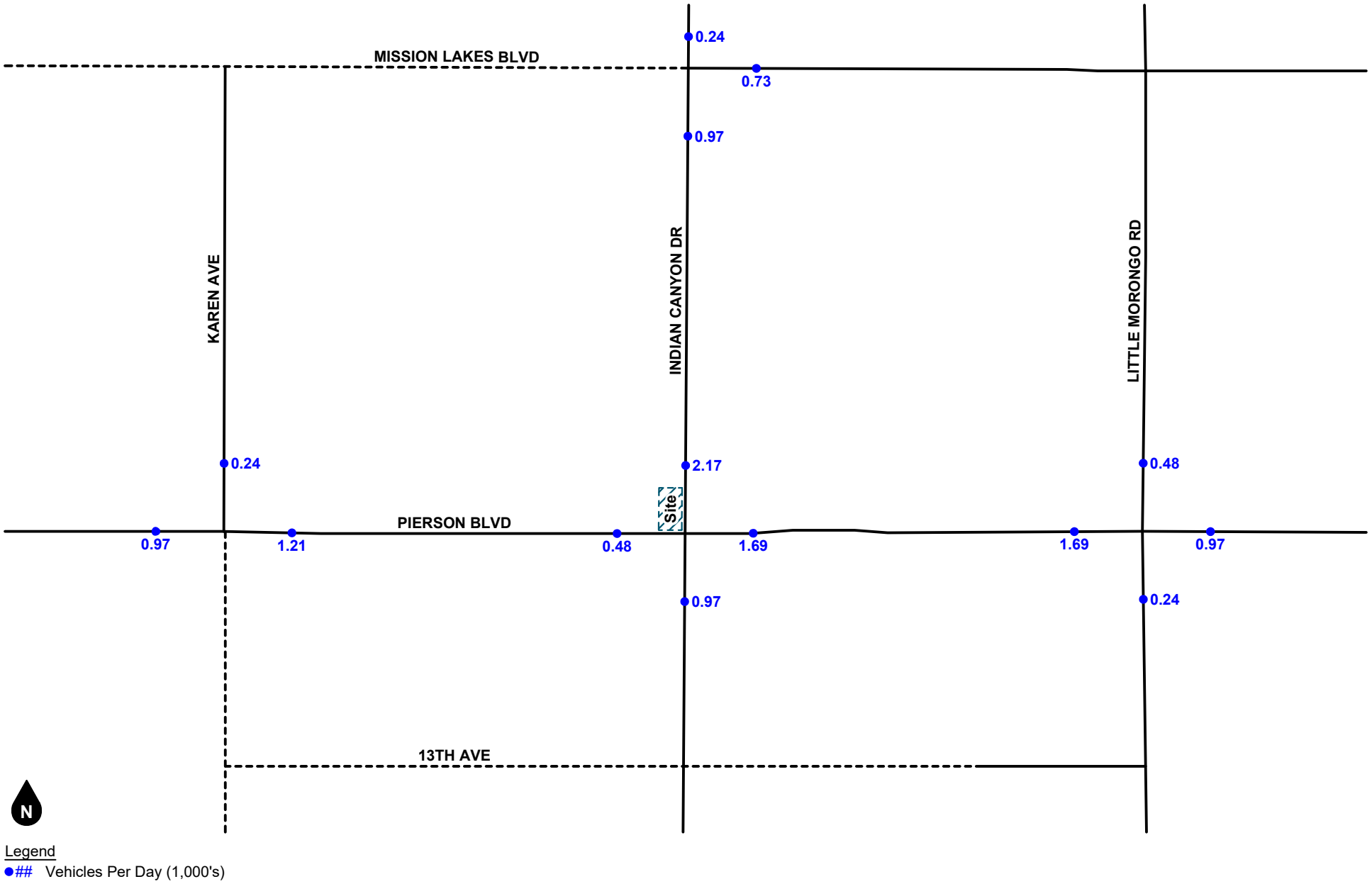


Figure 19
Project Average Daily Traffic Volumes - Phase II

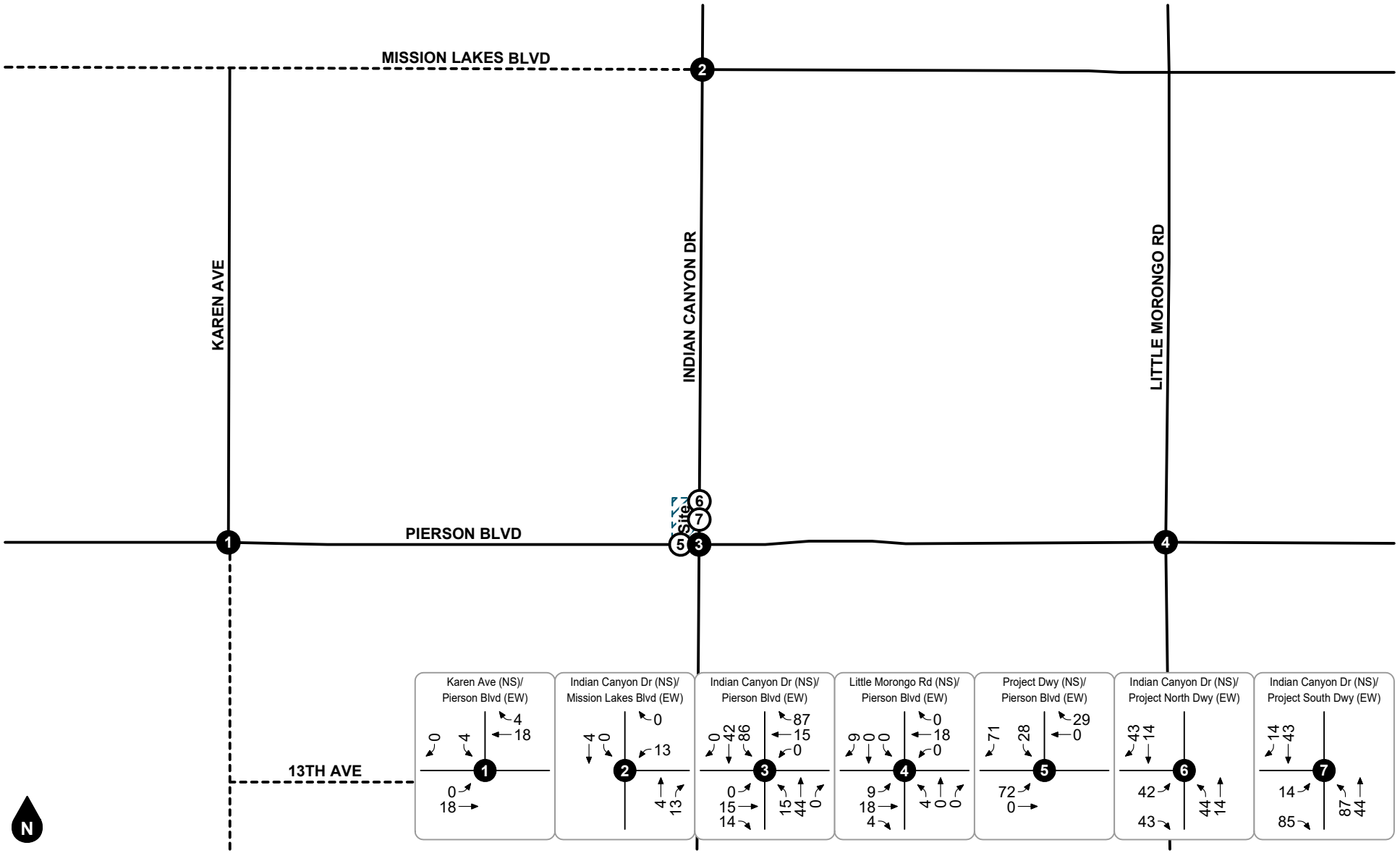


Figure 20
Project
AM Peak Hour Intersection Turning Movement Volumes - Phase II

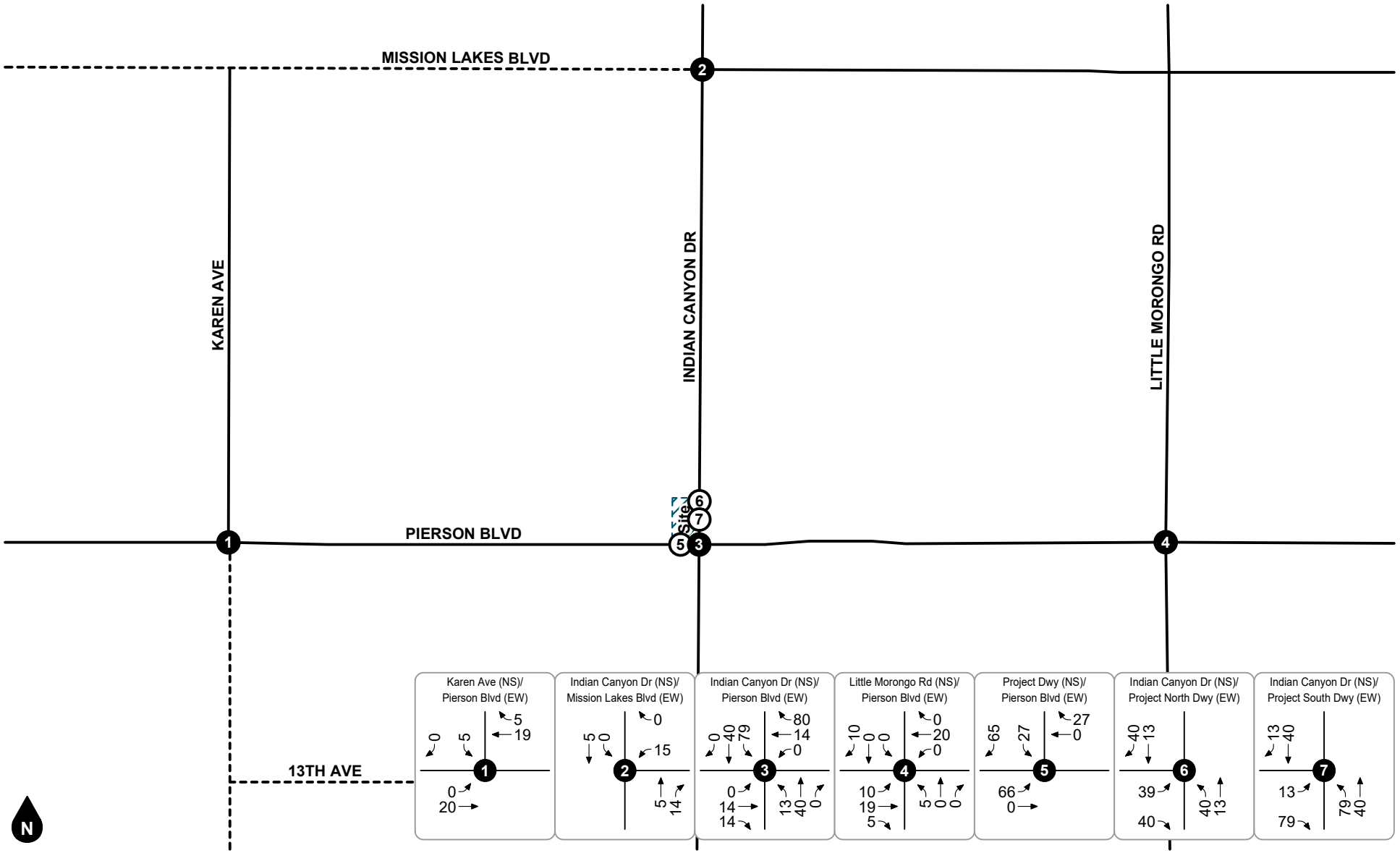


Figure 21
Project
PM Peak Hour Intersection Turning Movement Volumes - Phase II

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 year for analysis purposes in this report is 2027 with a Phase I completion date of 2025.

Ambient Growth

To account for ambient growth, Opening Year (2025) Phase I roadway volumes were developed by increasing existing (year 2022) volumes by a growth rate of one percent (1.0%) per year over a three (3) year period for a total growth factor of 1.03. Likewise, Opening Year (2027) Phase II roadway volumes were developed by increasing existing volumes by the 1% growth rate over a five (5) year period for a total growth factor of 1.05. The ambient growth was 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 but unconstructed developments in the City of Desert Hot Springs were reviewed. For this region of the City, the development report has no projects within a 2-mile radius for inclusion in this report (see Appendix E).

ANALYSIS SCENARIO VOLUMES

Existing Plus Project

The Existing Plus Project volume forecast was developed by adding project-generated trips to the Existing volumes. For this analysis, the Existing Plus Project volumes are for full development of 2027 project volumes. Existing Plus Project average daily traffic volumes are shown in Figure 22. Existing Plus Project AM peak hour and PM peak hour intersection turning movement volumes are shown in Figure 23 and Figure 24.

Opening Year (2025) Without Project Phase I

The Opening Year (2025) Without Project Phase I volume forecast was developed by applying the ambient growth factor to existing volumes and adding trips generated by other developments. Opening Year (2025) Without Project Phase I average daily traffic volumes are shown in Figure 25. Opening Year (2025) Without Project Phase I AM peak hour and PM peak hour intersection turning movement volumes are shown in Figure 26 and Figure 27.

Opening Year (2025) With Project Phase I

The Opening Year (2025) With Project Phase I volume forecast was developed by adding project-generated trips to the Opening Year (2025) Without Project Phase I volumes. Opening Year (2025) With Project Phase I average daily traffic volumes are shown in Figure 28. Opening Year (2025) With Project Phase I AM peak hour and PM peak hour intersection turning movement volumes are shown in Figure 29 and Figure 30.

Opening Year (2027) Without Project Phase II

The Opening Year (2027) Without Project Phase II volume forecast was developed by applying the ambient growth factor to existing volumes and adding trips generated by other developments. Opening Year (2027) Without Project Phase II average daily traffic volumes are shown in Figure 31. Opening Year (2027) Without Project Phase II AM peak hour and PM peak hour intersection turning movement volumes are shown in Figure 32 and Figure 33.

Opening Year (2027) With Project Phase II

The Opening Year (2027) With Project Phase II volume forecast was developed by adding project-generated trips to the Opening Year (2027) Without Project Phase II volumes. Opening Year (2027) With Project Phase II average daily traffic volumes are shown in Figure 34. Opening Year (2027) With Project Phase II AM peak hour and PM peak hour intersection turning movement volumes are shown in Figure 35 and Figure 36.

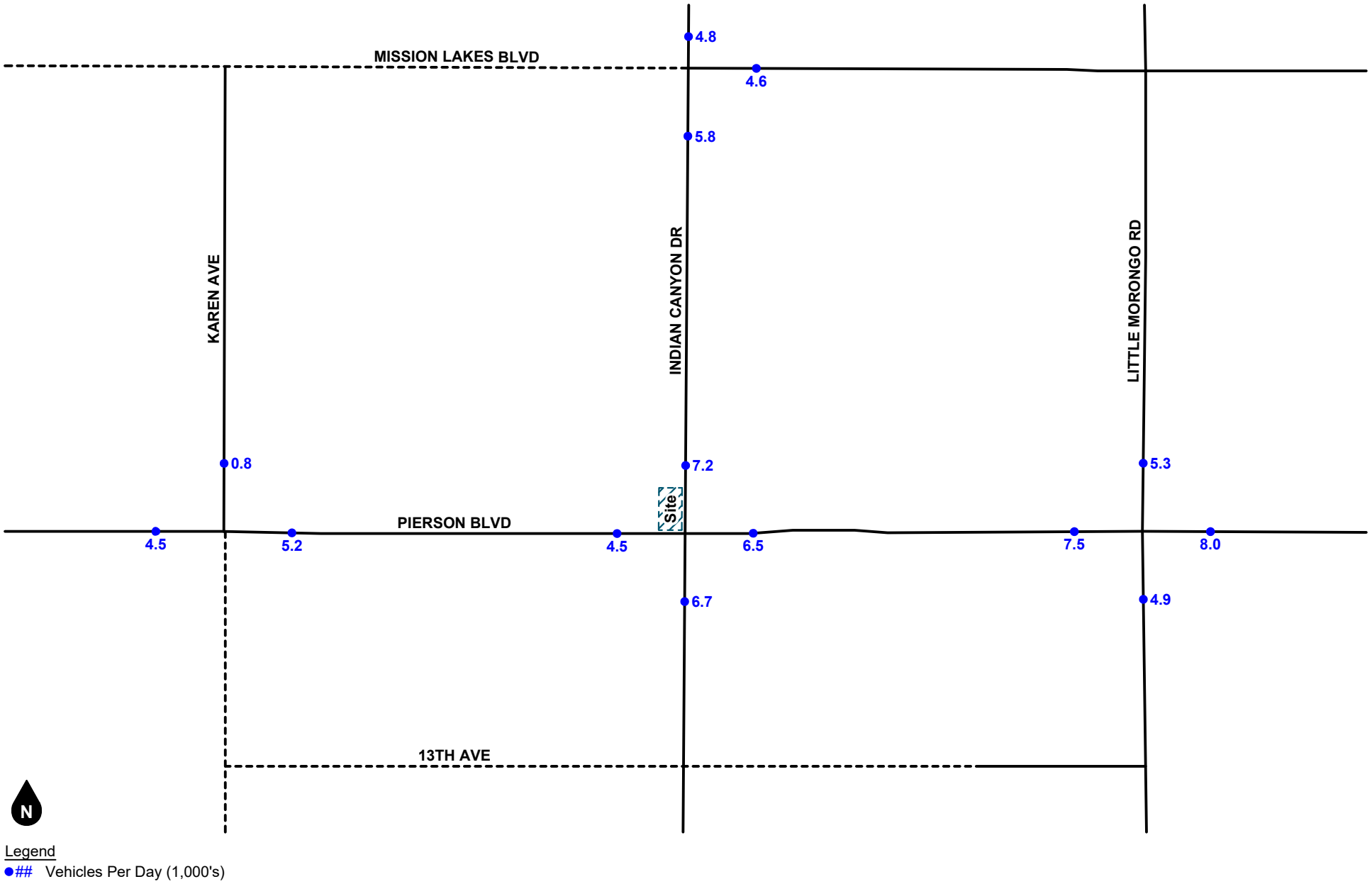
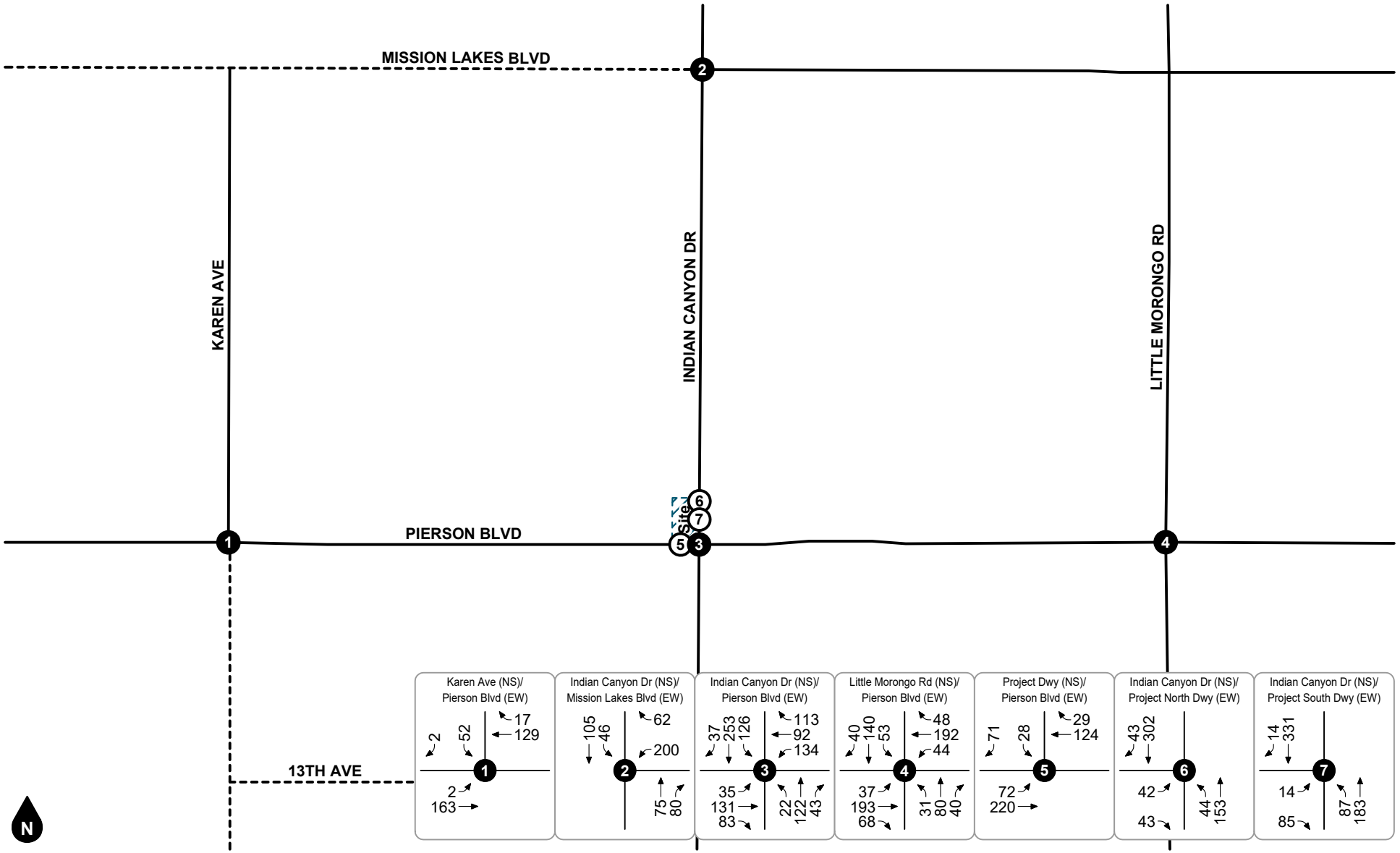


Figure 22
Existing Plus Project Average Daily Traffic Volumes

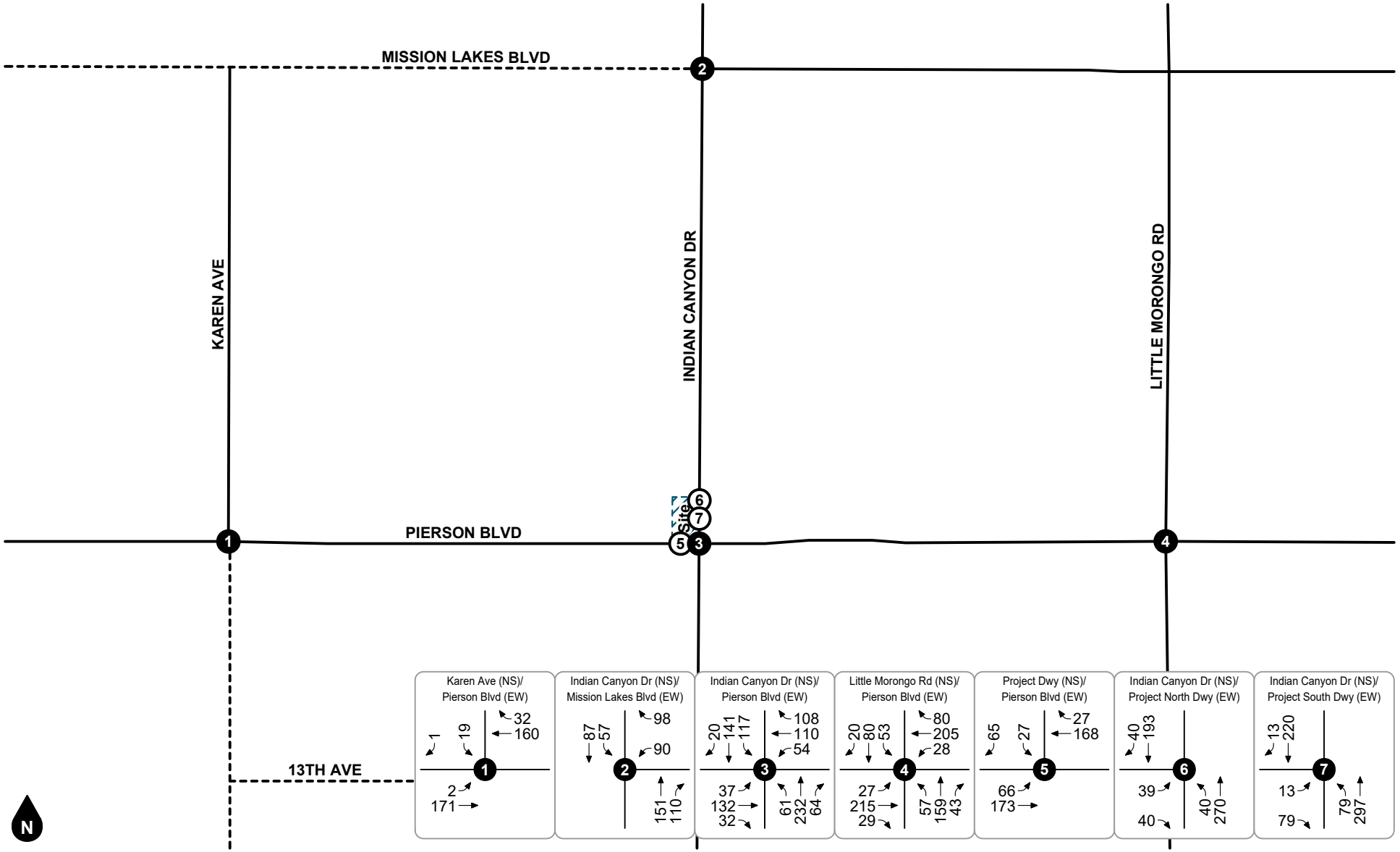


Legend

Study Intersection

(#) Project Driveway

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

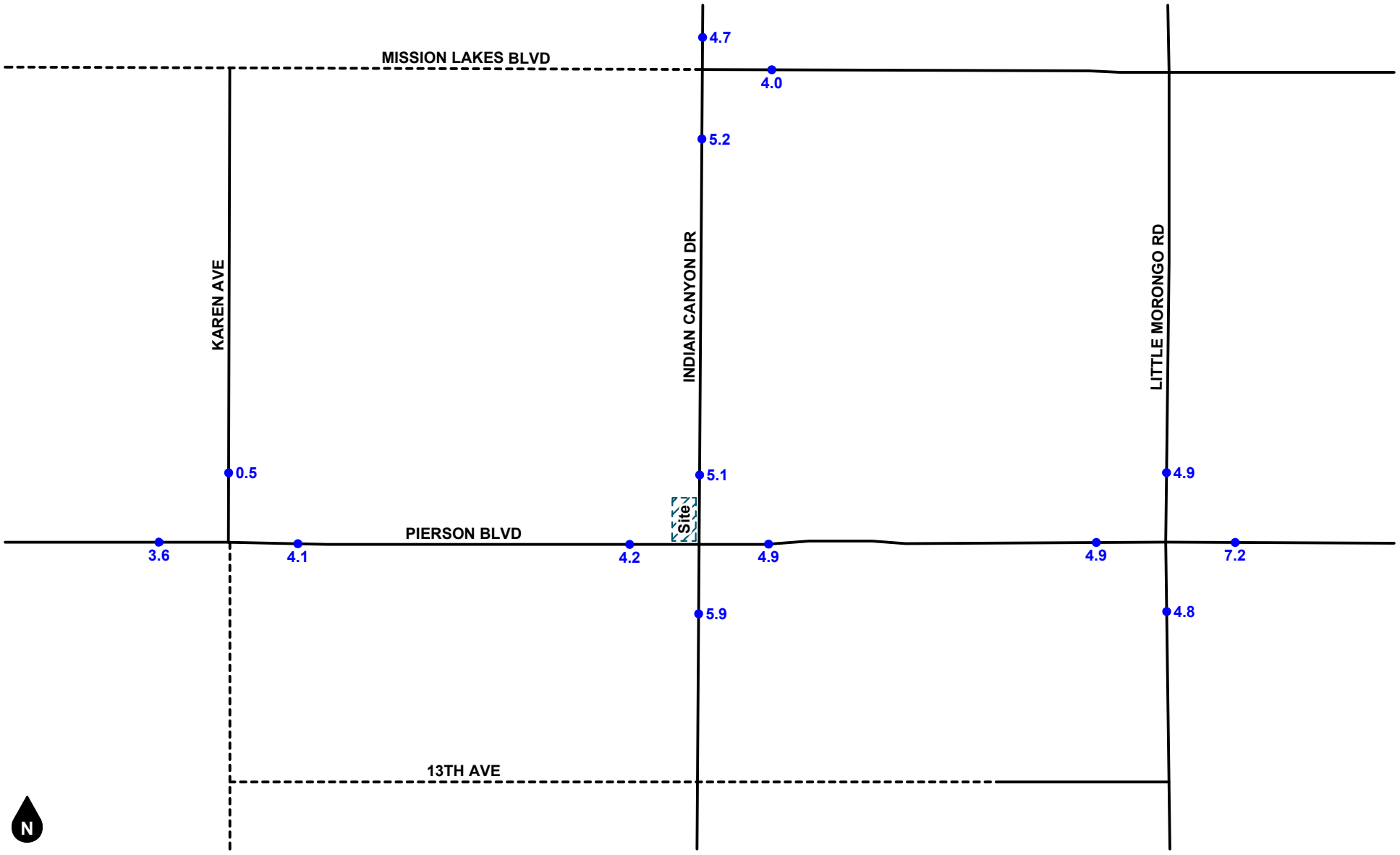


Legend

Study Intersection

(#) Project Driveway

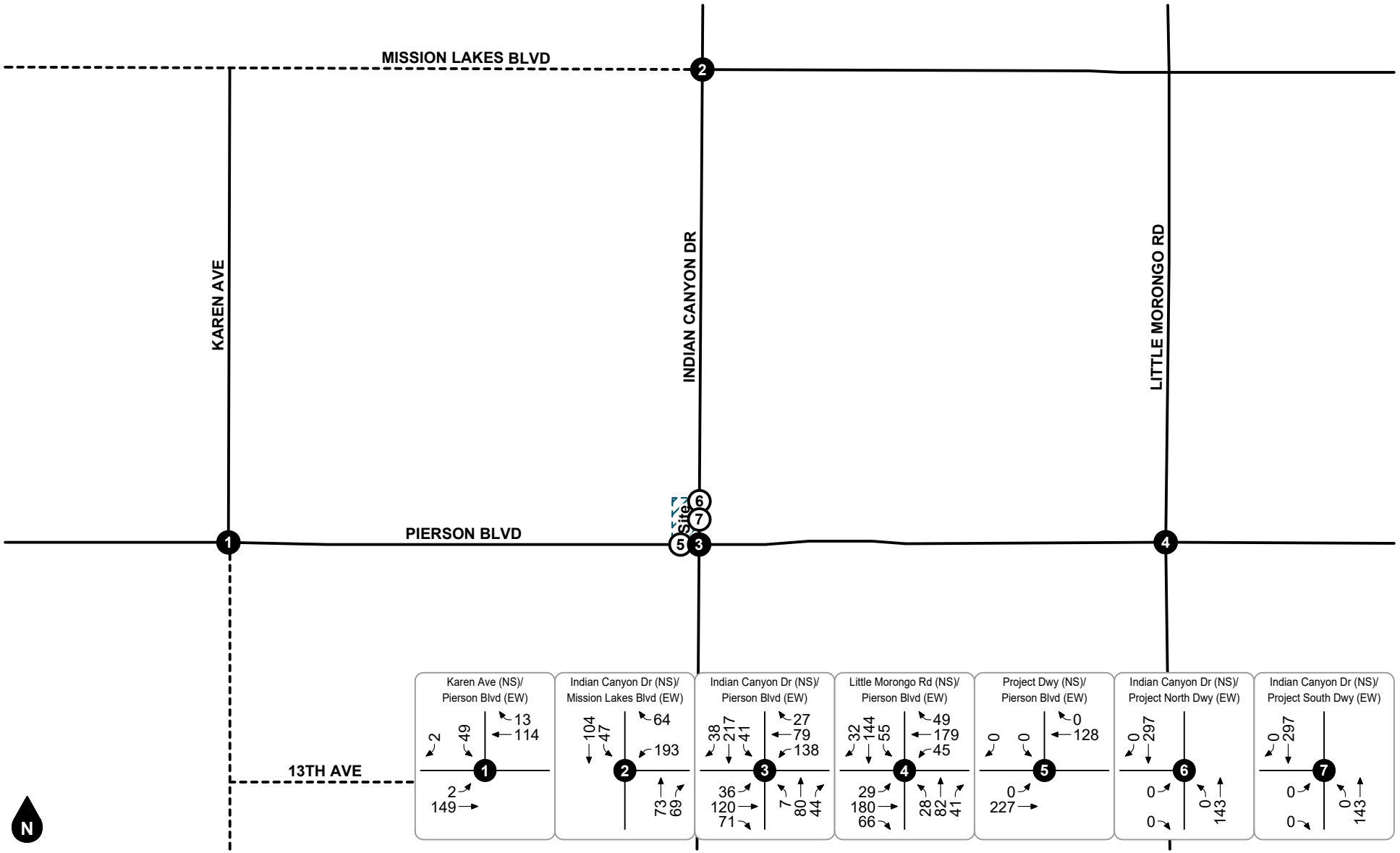
Figure 24
Existing Plus Project
PM Peak Hour Intersection Turning Movement Volumes



Legend

●## Vehicles Per Day (1,000's)

Figure 25
Opening Year (2025) Without Project Phase I
Average Daily Traffic Volumes

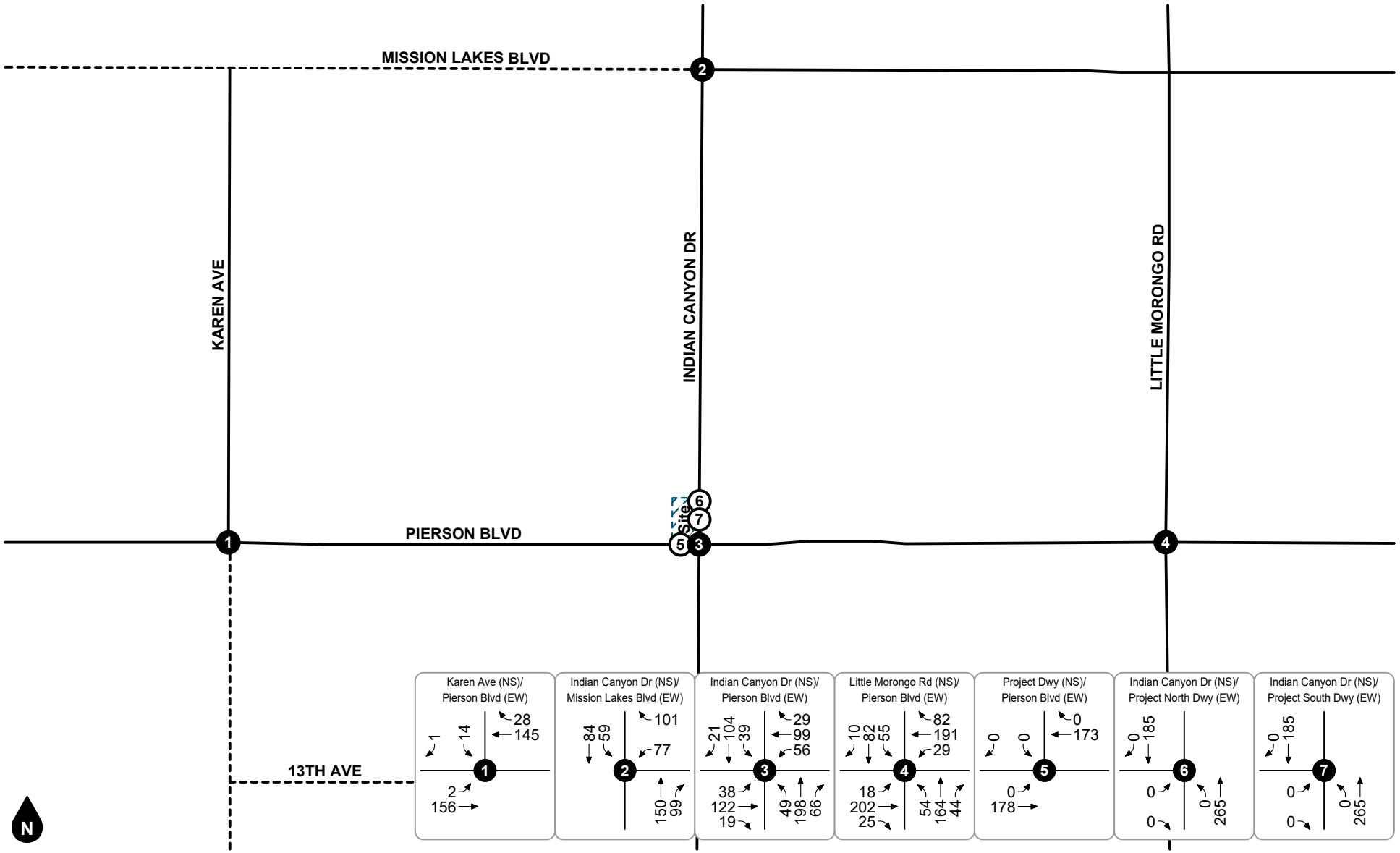


Legend

Study Intersection

(#) Project Driveway

Figure 26
Opening Year (2025) Without Project Phase I
AM Peak Hour Intersection Turning Movement Volumes

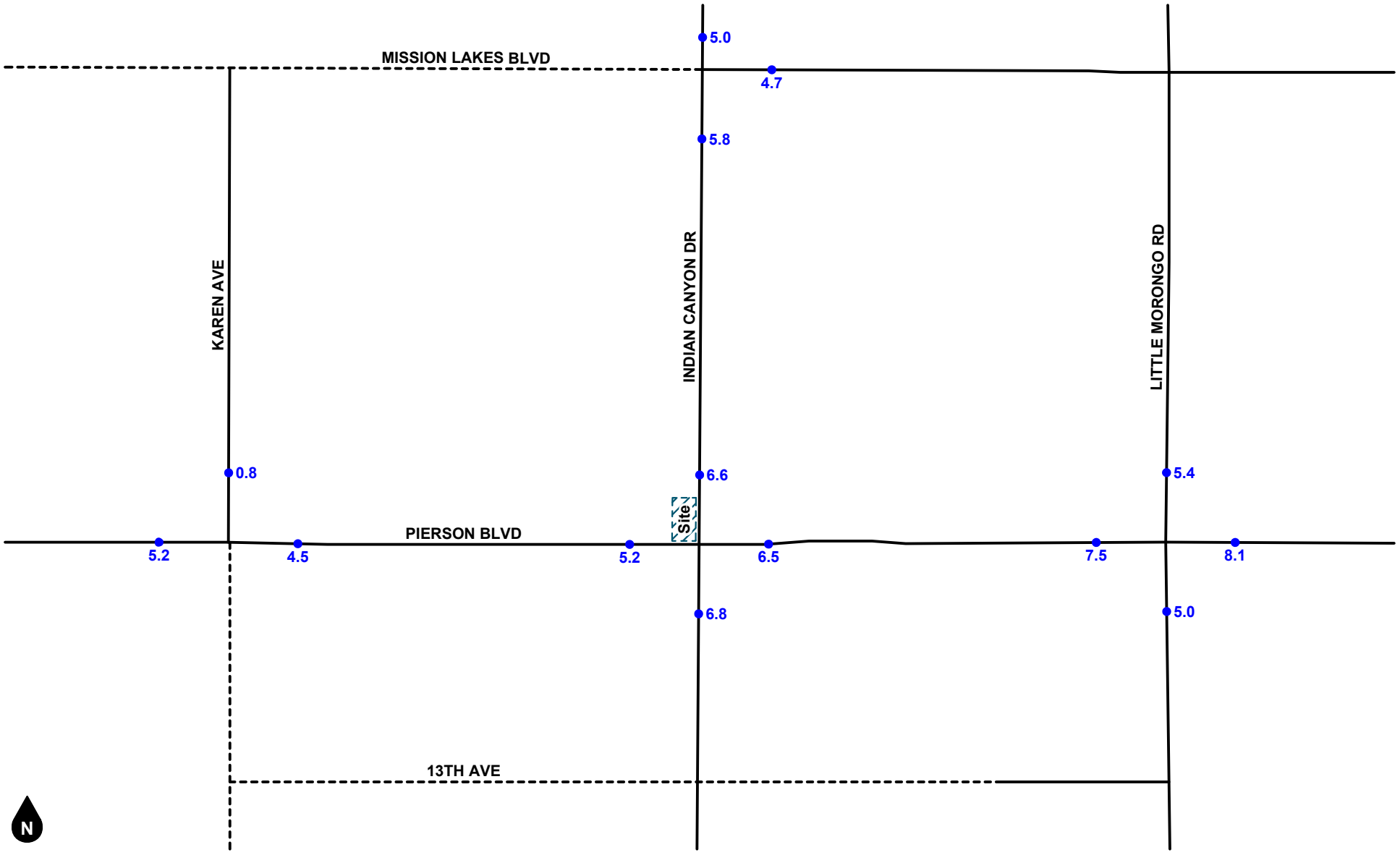


Legend

Study Intersection

(#) Project Driveway

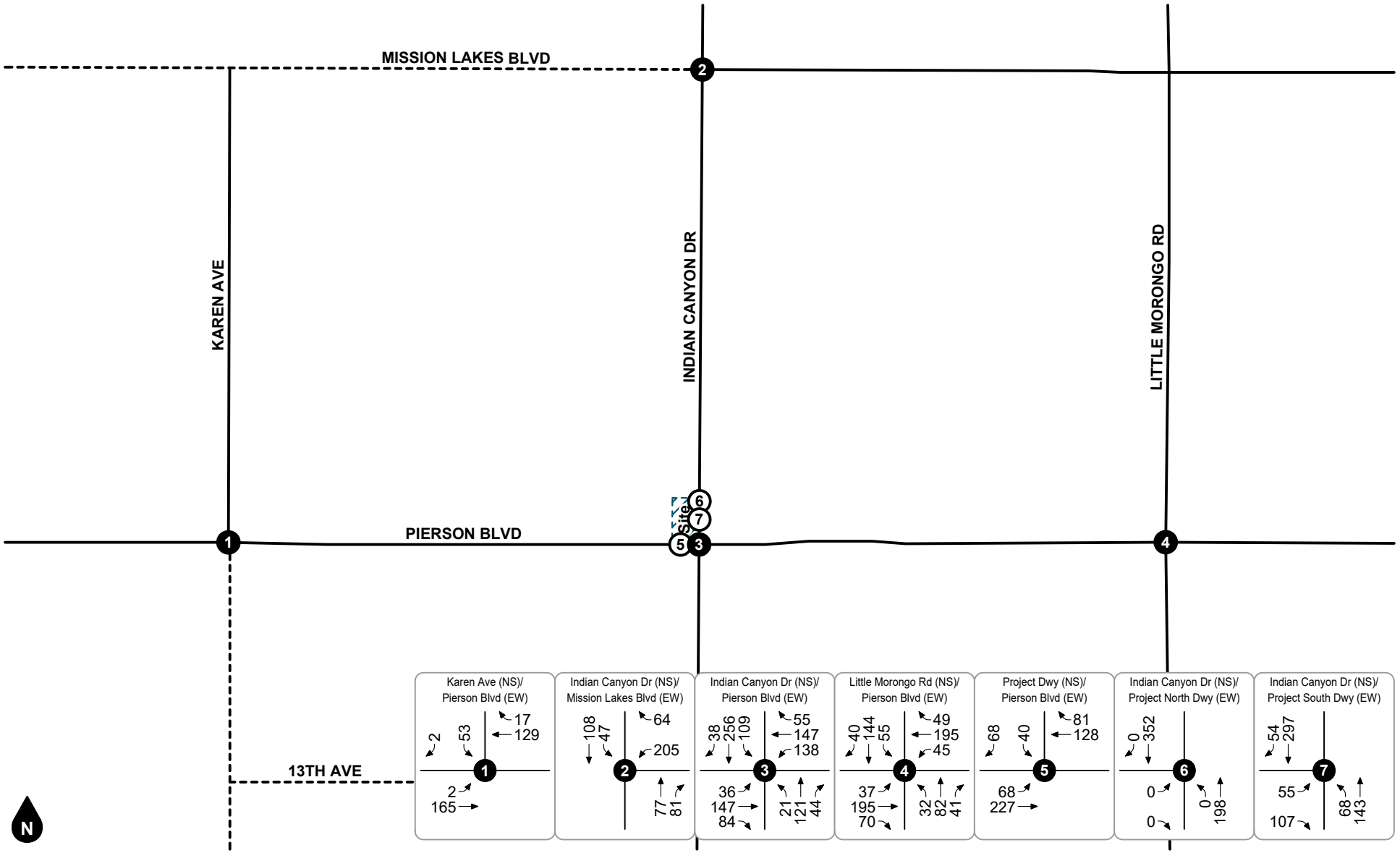
Figure 27
Opening Year (2025) Without Project Phase I
PM Peak Hour Intersection Turning Movement Volumes



Legend

●## Vehicles Per Day (1,000's)

Figure 28
Opening Year (2025) With Project Phase I
Average Daily Traffic Volumes

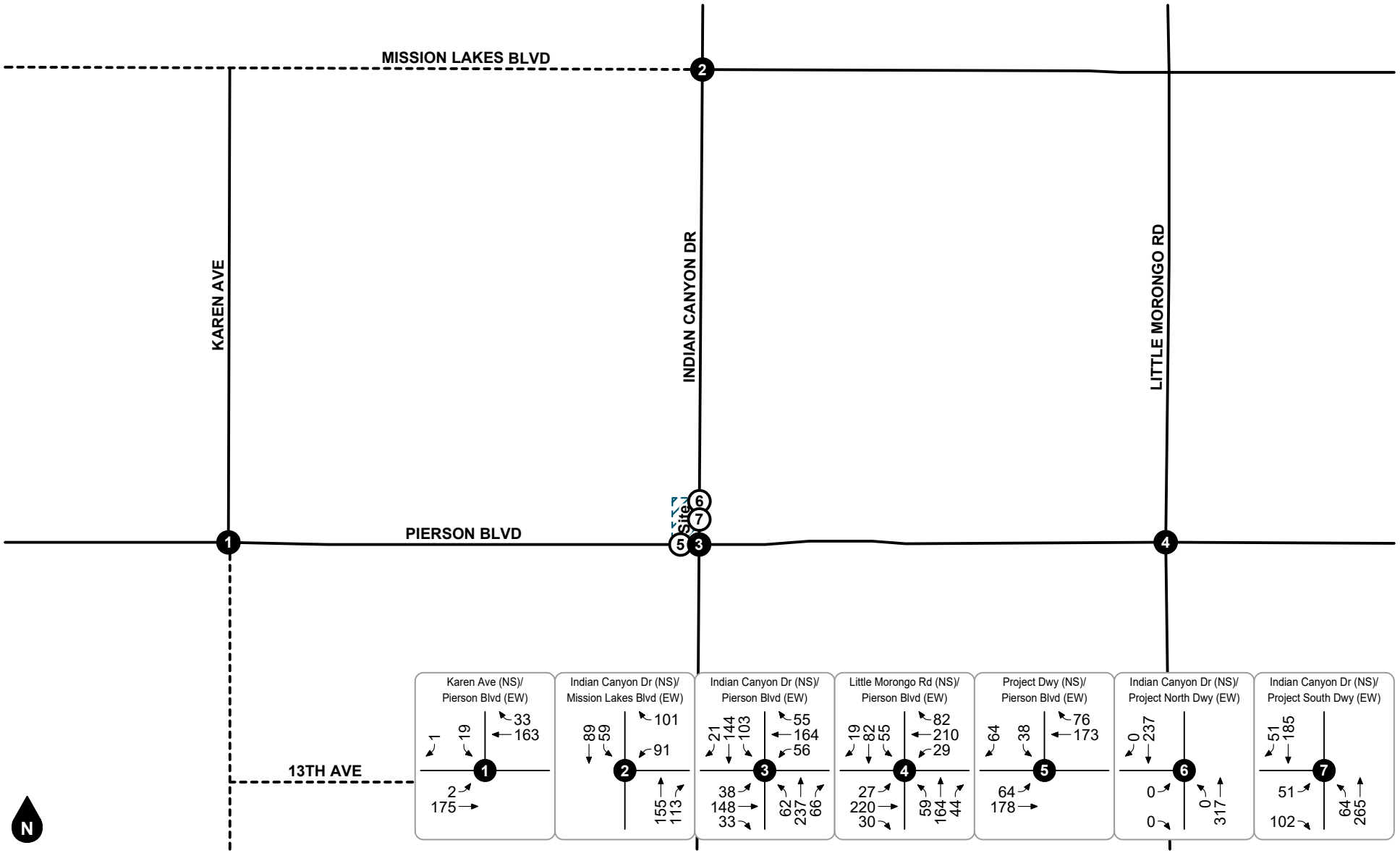


Legend

Study Intersection

(#) Project Driveway

Figure 29
Opening Year (2025) With Project Phase I
AM Peak Hour Intersection Turning Movement Volumes

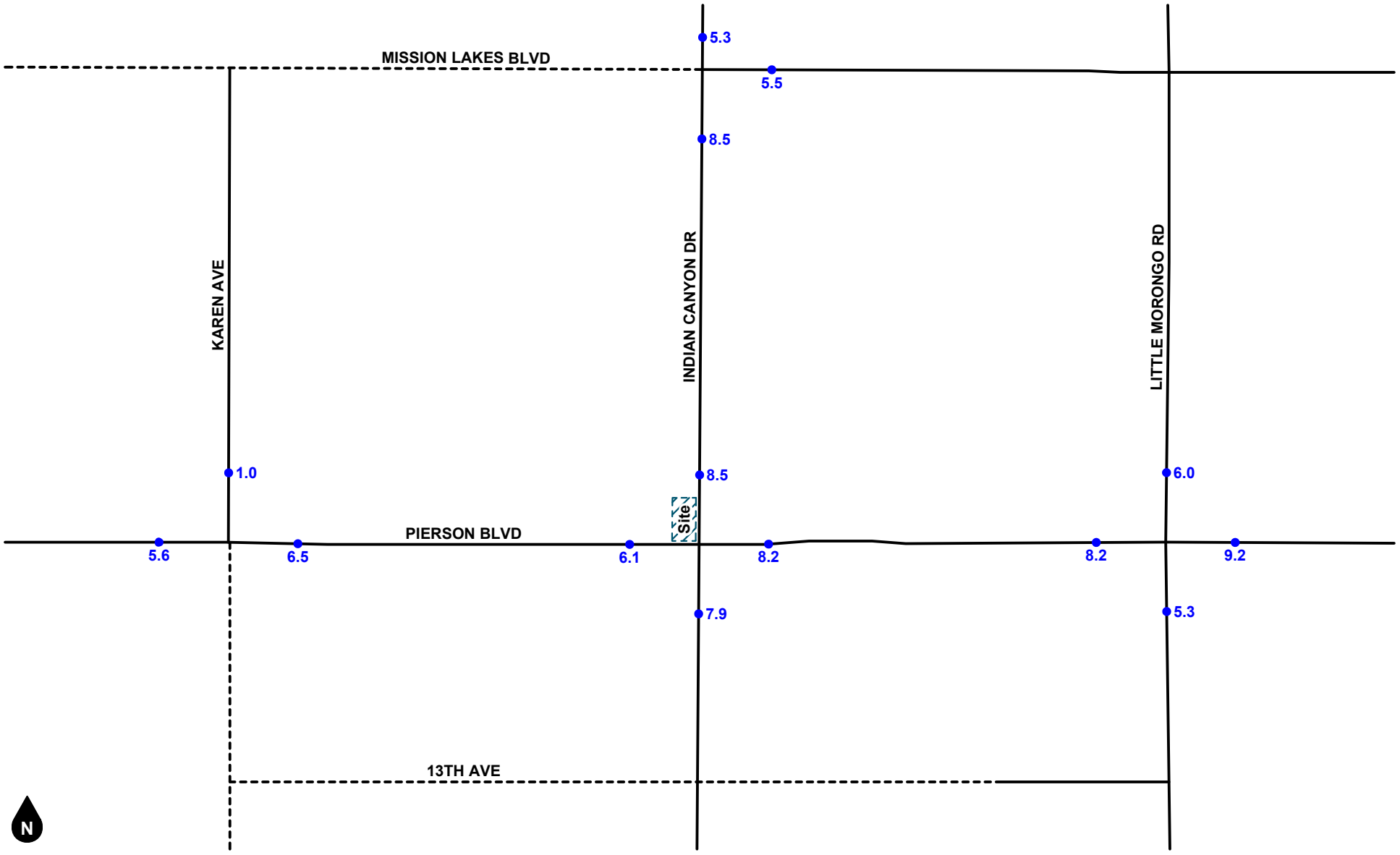


Legend

Study Intersection

(#) Project Driveway

Figure 30
Opening Year (2025) With Project Phase I
PM Peak Hour Intersection Turning Movement Volumes



Legend

●## Vehicles Per Day (1,000's)

Figure 31
Opening Year (2027) Without Project Phase II
Average Daily Traffic Volumes

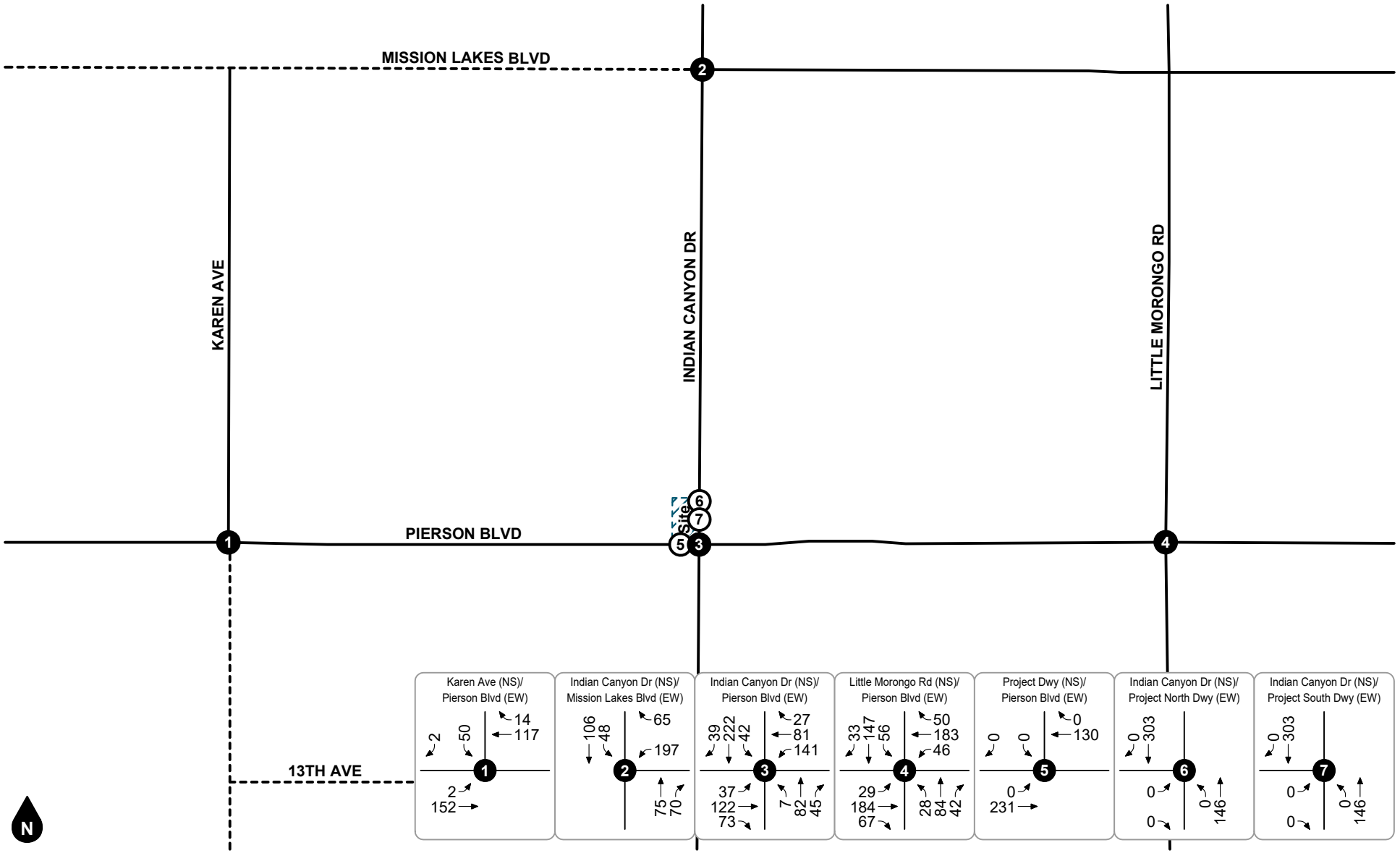
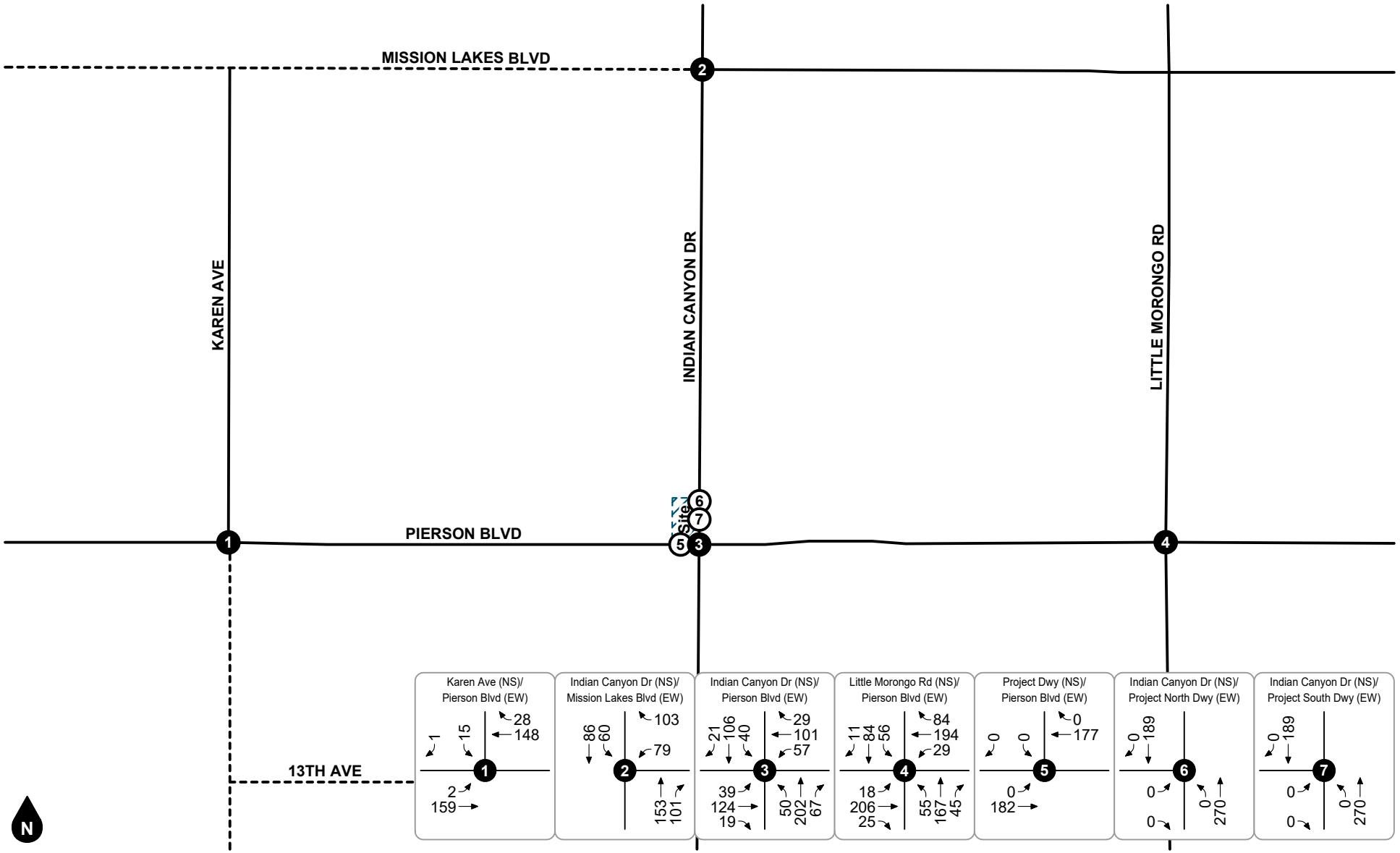


Figure 32
Opening Year (2027) Without Project Phase II
AM Peak Hour Intersection Turning Movement Volumes



Legend

Study Intersection

(#) Project Driveway

Figure 33
Opening Year (2027) Without Project Phase II
PM Peak Hour Intersection Turning Movement Volumes

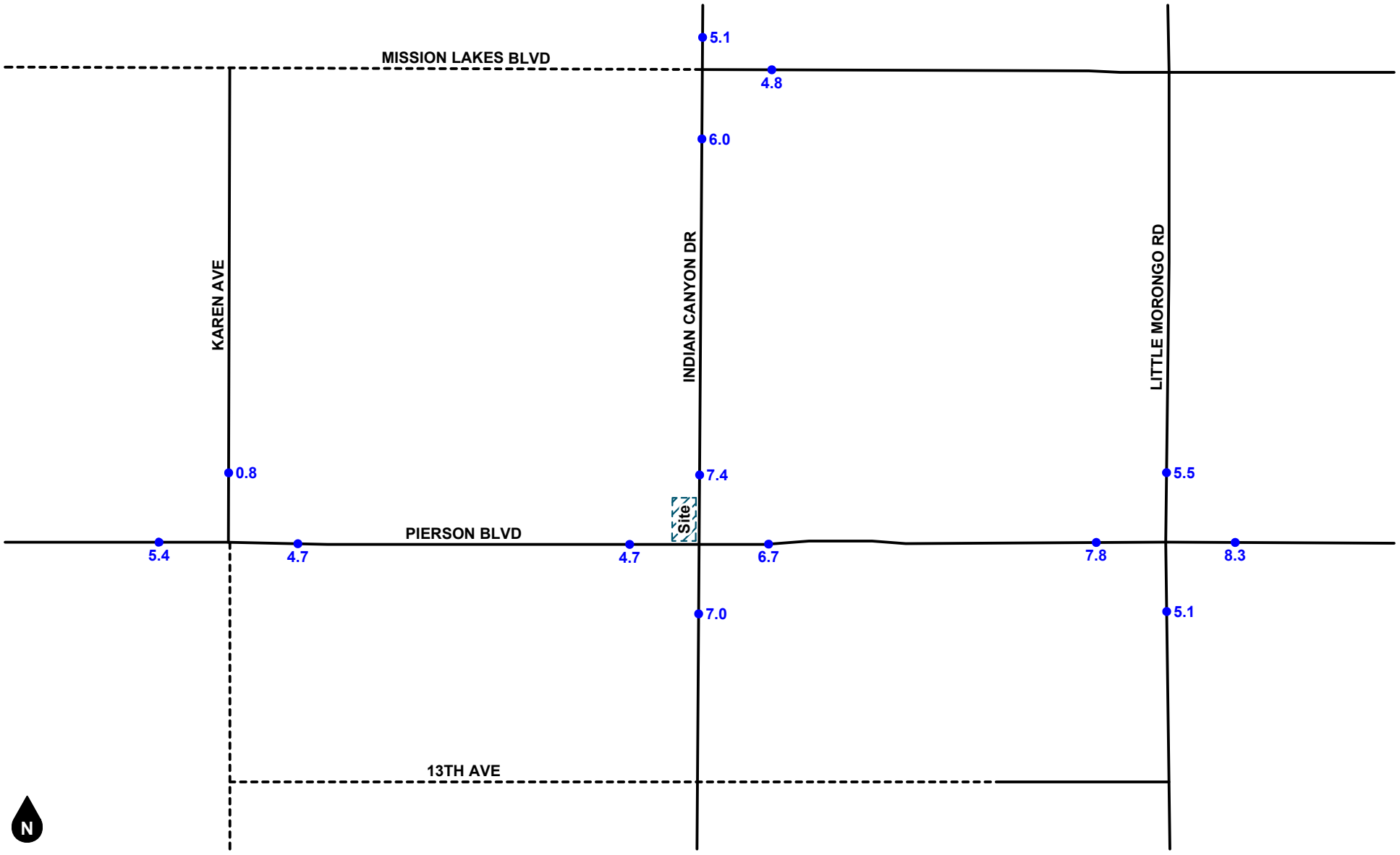


Figure 34
Opening Year (2027) With Project Phase II
Average Daily Traffic Volumes

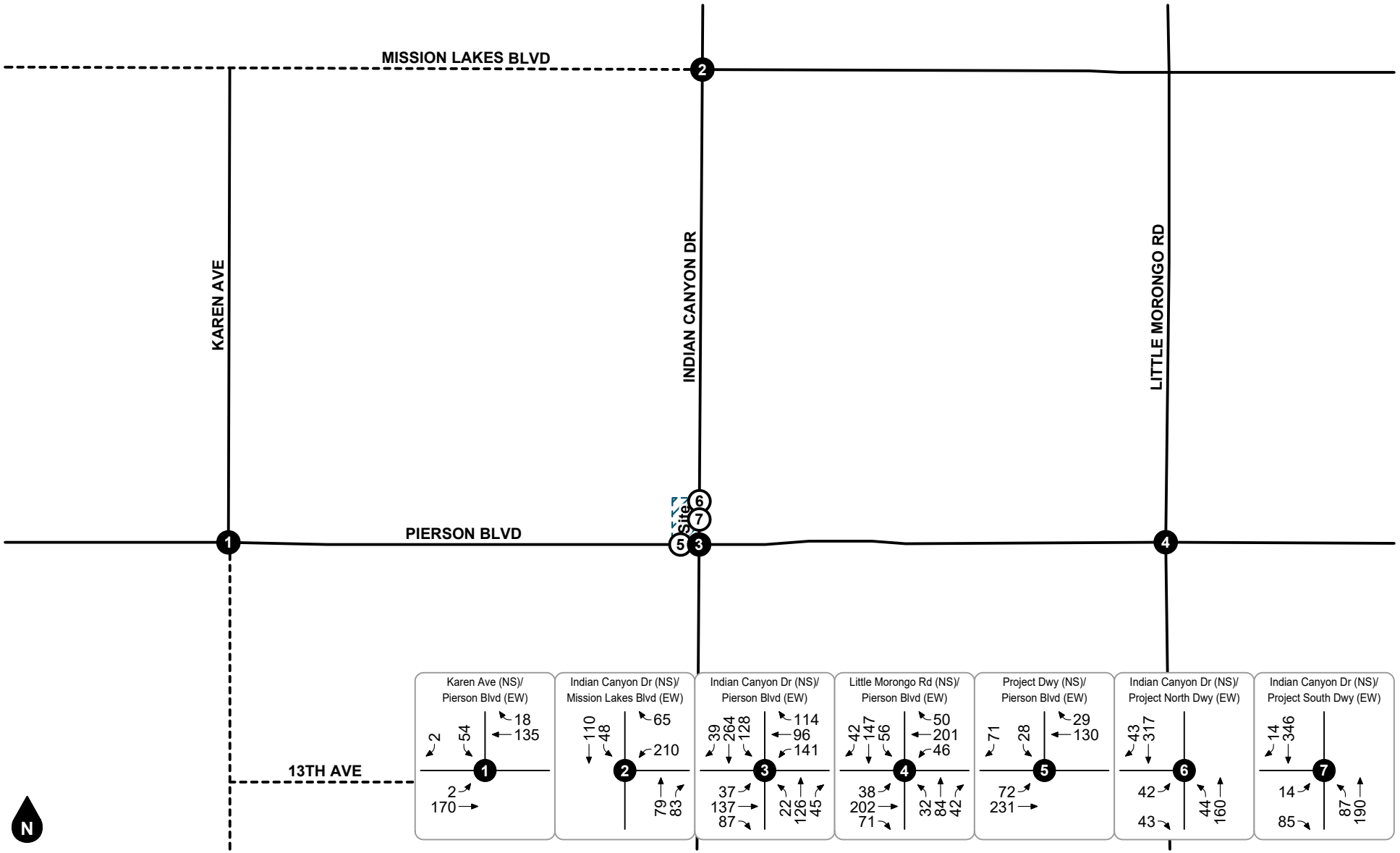
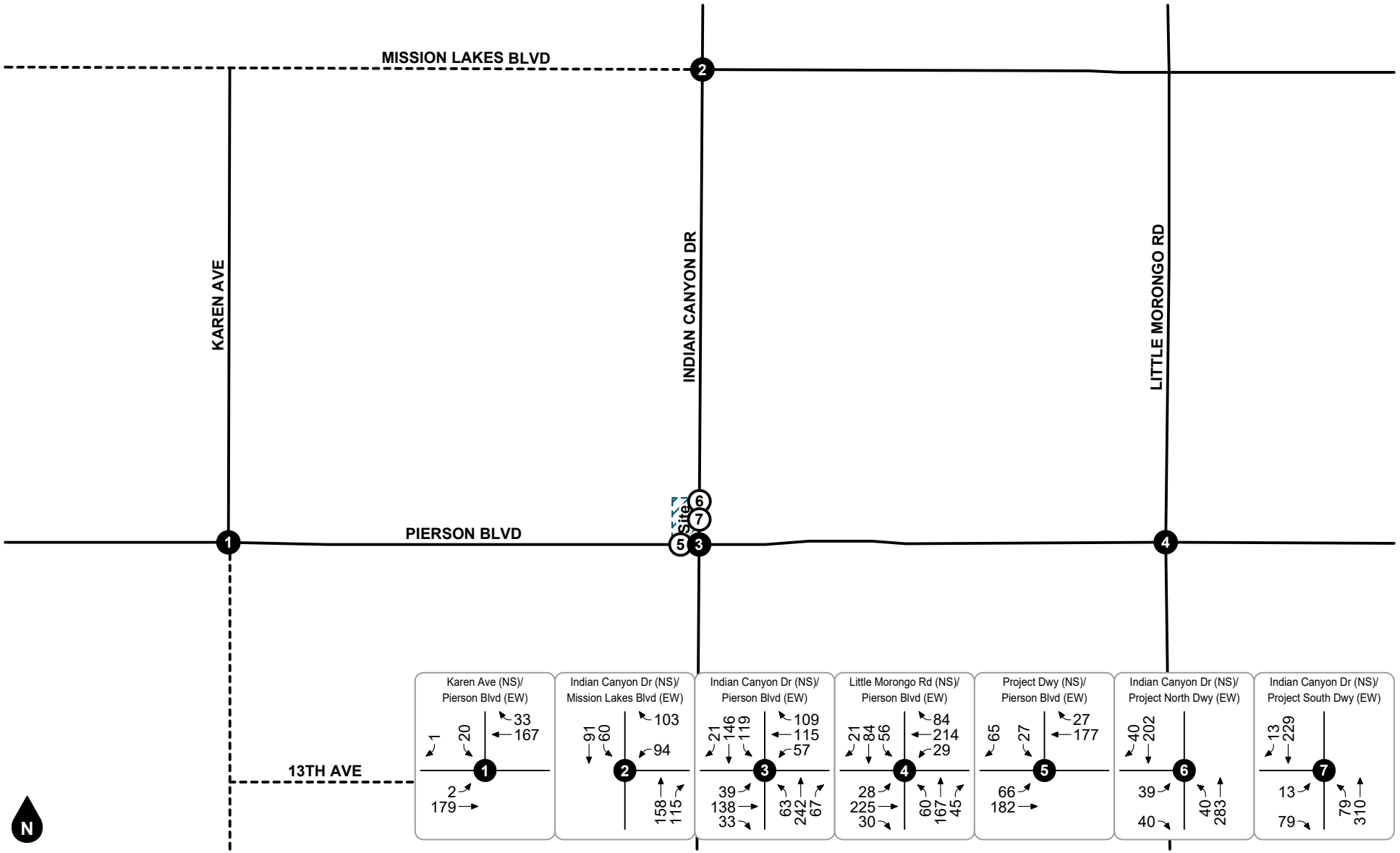


Figure 35
Opening Year (2027) With Project Phase II
AM Peak Hour Intersection Turning Movement Volumes



Legend

Study Intersection

(#) Project Driveway

Figure 36
Opening Year (2027) With Project Phase II
PM Peak Hour Intersection Turning Movement Volumes

6. FUTURE LEVELS OF SERVICE ANALYSIS

Detailed intersection Level of Service calculation worksheets for each of the following analysis scenarios are provided in Appendix D.

Project design features, such as improvements necessary to provide project site access, are assumed to be constructed by the proposed project and are described in further detail in the Site Access & Circulation section presented later in this report.

EXISTING PLUS PROJECT

The study intersection Levels of Service for Existing Plus Project conditions are shown in Table 4. As shown in Table 4, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Existing Plus Project conditions.

As shown in Table 4, the proposed project is forecast to result in no substantial transportation effects at the study intersections for Existing Plus Project conditions.

OPENING YEAR (2025) WITHOUT PROJECT PHASE I

The study intersection Levels of Service for Opening Year (2025) Without Project Phase I conditions are shown in Table 5. As shown in Table 5, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2025) Without Project Phase I conditions.

OPENING YEAR (2025) WITH PROJECT PHASE I

The study intersection Levels of Service for Opening Year (2025) With Project Phase I conditions is shown in Table 6. As shown in Table 6, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2025) With Project Phase I conditions.

As shown in Table 6, the proposed project is forecast to result in no substantial transportation effects at the study intersections for Opening Year (2025) With Project Phase I conditions.

OPENING YEAR (2027) WITHOUT PROJECT PHASE II

The study intersection Levels of Service for Opening Year (2027) Without Project Phase II conditions are shown in Table 7. As shown in Table 7, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2027) Without Project Phase II conditions.

OPENING YEAR (2027) WITH PROJECT PHASE II

The study intersection Levels of Service for Opening Year (2027) With Project Phase II conditions is shown in Table 8 As shown in Table 8, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2027) With Project Phase II conditions.

As shown in Table 8, the proposed project is forecast to result in no substantial transportation effects at the study intersections for Opening Year (2027) With Project Phase II conditions.

Table 4
Existing Plus Project Intersection Levels of Service & Project-Related Effect

Study Intersection	Traffic Control[1]	Existing				Existing Plus Project				AM Peak Hour		PM Peak Hour	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour					
		Delay[2]	LOS[3]	Delay[2]	LOS	Delay[2]	LOS[3]	Delay[2]	LOS	Change	Substantial Effect?	Change	Substantial Effect?
1. Karen Avenue at Pierson Boulevard	TS	6.8	A	3.1	A	6.6	A	3.4	A	-0.2	NO	+0.3	NO
2. Indian Canyon Drive at Mission Lake Boulevard	TS	17.5	B	14.8	B	17.3	B	14.7	B	-0.2	NO	-0.1	NO
3. Indian Canyon Drive at Pierson Boulevard	AWS	13.7	B	12.2	B	-	-	-	-	-	-	-	-
With Project	TS	-	-	-	-	13.5	B	13.4	B	-0.2	NO	*+1.2*	NO
4. Little Morongo Road at Pierson Boulevard	AWS	13.0	B	12.3	B	14.4	B	13.4	B	+1.4	NO	+1.1	NO
5. Project Driveway at Pierson Boulevard	CSS	-	-	-	-	13.4	B	13.2	B	+13.4	NO	+13.2	NO
6. Indian Canyon Drive at Project North Driveway	CSS	-	-	-	-	14.7	B	14.3	B	+14.7	NO	+14.3	NO
7. Indian Canyon Drive at Project South Driveway	CSS	-	-	-	-	16.9	C	16.1	C	+16.9	NO	+16.1	NO

Notes:

1. TS = Traffic Signal; AWS = All Way Stop; CSS = Cross Street Stop.
2. Delay is shown in seconds per 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, LOS is based on average delay of the worst minor street approach or major street left turn movement.
3. LOS = Level of Service

Table 5
Opening Year (2025) Without Project Intersection Levels of Service - Phase I

Study Intersection	Traffic Control[1]	AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS
1. Karen Avenue at Pierson Boulevard	TS	6.8	A	3.1	A
2. Indian Canyon Drive at Mission Lake Boulevard	TS	17.5	B	14.8	B
3. Indian Canyon Drive at Pierson Boulevard	AWS	14.2	B	12.6	B
4. Little Morongo Road at Pierson Boulevard	AWS	13.4	B	12.7	B

Notes:

1. TS = Traffic Signal; AWS = All Way Stop CSS = Cross Street Stop
2. Delay is shown in seconds per 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, LOS is based on average delay of the worst minor street approach or major street left turn movement.
3. LOS = Level of Service

Table 6
Opening Year (2025) Intersection Levels of Service & Project-Related Effect - Phase I

Study Intersection	Traffic Control[1]	Opening Year (2025) Without Project				Opening Year (2025) With Project				AM Peak Hour		PM Peak Hour	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour					
		Delay[2]	LOS[3]	Delay[2]	LOS	Delay[2]	LOS[3]	Delay[2]	LOS	Change	Substantial Effect?	Change	Substantial Effect?
1. Karen Avenue at Pierson Boulevard	TS	6.8	A	3.1	A	7.1	A	3.3	A	+0.3	NO	+0.2	NO
2. Indian Canyon Drive at Mission Lake Boulevard	TS	17.5	B	14.8	B	18.6	B	14.8	B	+1.1	NO	+0.0	NO
3. Indian Canyon Drive at Pierson Boulevard	AWS	14.2	B	12.6	B	-	-	-	-	-	-	-	-
With Project	TS	-	-	-	-	13.3	B	13.5	B	*-0.9*	NO	*+0.9*	NO
4. Little Morongo Road at Pierson Boulevard	AWS	13.4	B	12.7	B	14.8	B	13.9	B	+1.4	NO	+1.2	NO
5. Project Driveway at Pierson Boulevard	CSS	-	-	-	-	13.7	B	13.5	B	+13.7	NO	+13.5	NO
7. Indian Canyon Drive at Project South Driveway	CSS	-	-	-	-	17.0	C	16.2	C	+17.0	NO	+16.2	NO

Notes:

1. TS = Traffic Signal; AWS = All Way Stop; CSS = Cross Street Stop.
2. Delay is shown in seconds per 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, LOS is based on average delay of the worst minor street approach or major street left turn movement.
3. LOS = Level of Service

Table 7
Opening Year (2027) Without Project Intersection Levels of Service - Phase II

Study Intersection	Traffic Control[1]	AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS
1. Karen Avenue at Pierson Boulevard	TS	6.8	A	3.1	A
2. Indian Canyon Drive at Mission Lake Boulevard	TS	17.5	B	14.8	B
3. Indian Canyon Drive at Pierson Boulevard	AWS	14.6	B	12.8	B
4. Little Morongo Road at Pierson Boulevard	AWS	13.9	B	13.0	B

Notes:

1. TS = Traffic Signal; AWS = All Way Stop CSS = Cross Street Stop
2. Delay is shown in seconds per 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, LOS is based on average delay of the worst minor street approach or major street left turn movement.
3. LOS = Level of Service

Table 8
Opening Year (2027) Intersection Levels of Service & Project-Related Effect - Phase II

Study Intersection	Traffic Control[1]	Opening Year (2027) Without Project				Opening Year (2027) With Project				AM Peak Hour		PM Peak Hour	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour					
		Delay[2]	LOS[3]	Delay[2]	LOS	Delay[2]	LOS[3]	Delay[2]	LOS	Change	Substantial Effect?	Change	Substantial Effect?
1. Karen Avenue at Pierson Boulevard	TS	6.8	A	3.1	A	7.1	A	3.4	A	+0.3	NO	+0.3	NO
2. Indian Canyon Drive at Mission Lake Boulevard	TS	17.5	B	14.8	B	18.7	B	14.8	B	+1.2	NO	+0.0	NO
3. Indian Canyon Drive at Pierson Boulevard	AWS	14.6	B	12.8	B	-	-	-	-	-	-	-	-
With Project	TS	-	-	-	-	13.7	B	13.4	B	+13.7	*NO*	+13.4	*NO*
4. Little Morongo Road at Pierson Boulevard	AWS	13.9	B	13.0	B	15.4	C	14.3	B	+1.5	NO	+1.3	NO
5. Project Driveway at Pierson Boulevard	CSS	-	-	-	-	13.6	B	13.4	B	+13.6	NO	+13.4	NO
6. Indian Canyon Drive at Project North Driveway	CSS	-	-	-	-	15.1	C	14.6	B	+15.1	NO	+14.6	NO
7. Indian Canyon Drive at Project South Driveway	CSS	-	-	-	-	17.3	C	16.5	C	+17.3	NO	+16.5	NO

Notes:

1. TS = Traffic Signal; AWS = All Way Stop; CSS = Cross Street Stop.
2. Delay is shown in seconds per 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, LOS is based on average delay of the worst minor street approach or major street left turn movement.
3. LOS = Level of Service

7. SITE ACCESS & ON-SITE CIRCULATION

This section evaluates the project site access and on-site circulation. Vehicular access for the project site is proposed to be provided by three full access driveways. One project driveway is on Pierson Boulevard, and two project driveways are on Indian Canyon Drive. The north project driveway at Indian Canyon Drive will be constructed during Phase II.

PROJECT DESIGN FEATURES

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

3. Indian Canyon Drive (NS) at Pierson Boulevard (EW) (Phase I)
   - Install traffic signal.
   - Construct westbound lane on Pierson Boulevard adjacent to project frontage.
   - Construct southbound lane on Indian Canyon Drive adjacent to project frontage.

5. Project Driveway (NS) at Pierson Boulevard (EW) (Phase I)
   - Install outbound stop control.
   - Construct the project driveway to provide one inbound lane and one outbound lane.
   - Construct westbound lane on Pierson Boulevard and provide right-turn lane inbound.

6. Indian Canyon Drive (NS) at Project North Driveway (EW) (Phase II)
   - Install outbound stop control.
   - Construct the project driveway to provide one inbound lane and one outbound lane.
   - Construct southbound lane on Indian Canyon Drive and provide through-right-turn lane.

7. Indian Canyon Drive (NS) at Project South Driveway (EW) (Phase I)
   - Install outbound stop control.
   - Construct the project driveway to provide one inbound lane and one outbound lane.
   - Construct southbound lane on Indian Canyon Drive and provide through-right-turn lane.

This analysis also assumes the project shall comply with the following conditions as part of the City of Desert Hot Springs standard development review process to ensure adequate geometric design and emergency access:

- 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 Desert Hot Springs.

- All on-site and off-site roadway design, signing/striping, and traffic control improvements relating to the proposed project shall be submitted to the City for review and constructed following applicable State/Federal engineering standards to the satisfaction of the City of Desert Hot Springs.

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

- The project shall comply with the City of Desert Hot Springs municipal parking requirements which will be reviewed as a part of the standard development review process.

- Final project plans shall demonstrate adequate emergency vehicle access and circulation to the satisfaction of the City of Desert Hot Springs Public Works and Fire Departments.

- A construction worksite traffic control plan shall comply with applicable engineering standards outlined in the California *Manual of Uniform Traffic Control Devices* and shall be submitted to the City for review and approval before the issuance of a grading permit or start of construction. The plan shall identify any roadway, sidewalk, bike 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.

SITE ACCESS QUEUING ANALYSIS

Table 9 summarizes the results of the queue analysis for the key turn movements providing project site access:

5. Project Driveway (NS) at Pierson Boulevard (EW) (Phase I & Phase II)
   - Southbound shared left-turn/right-turn lane providing site egress
   - Eastbound shared left-turn/through lane providing site ingress
   - Westbound shared right-turn lane providing site ingress

6. Indian Canyon Drive (NS) at Project North Driveway (EW) (Phase II)
   - Northbound shared left-turn/through lane providing site ingress
   - Southbound shared through/right-turn lane providing site ingress
   - Eastbound shared left-turn/right-turn lane providing site egress

7. Indian Canyon Drive (NS) at Project South Driveway (EW) (Phase I & Phase II)
   - Northbound shared left-turn/through lane providing site ingress
   - Southbound shared through/right-turn lane providing site ingress
   - Eastbound shared left-turn/right-turn lane providing site egress

Queuing for the project driveway turning movements were evaluated to check for potential conflicts. Additionally, the storage lengths of the key movements of the adjacent Indian Canyon Drive at Pierson Boulevard intersection were evaluated for potential impacts by project trips.

The forecasted queue lengths shown in Table 9, are based on the HCM 95th-percentile back-of-queue methodology. Queuing calculations for the project driveways and the adjacent intersection are shown in the Level of Service worksheets provided in Appendix D.

As shown in Table 9, vehicle queues at for project driveways are forecast to operate within the available storage length during the peak hours for the Opening Year (2025) With Project Phase I and Opening Year (2027) With Project Phase II conditions.

TRAFFIC SIGNAL WARRANT ANALYSIS

The potential need for installation of a traffic signal at the project driveways was evaluated based on the *California Manual on Uniform Traffic Control Devices* ("*California MUTCD*," November 2014), Section 4C-04, peak hour volume warrant (Warrant 3). The *California MUTCD* Section 4C-01 states "satisfaction of one or more traffic signal warrants shall not in itself require the installation of a traffic signal" as engineering judgement should be applied to the physical considerations of the location. Traffic signal warrant worksheets are provided in Appendix F.

Installation of a traffic signal is not warranted at the project driveways based on the peak hour volume warrant (Warrant 3) for the analysis scenarios. Based on the peak hour volume warrant (Warrant 3) for existing conditions, installation of a traffic signal is warranted at the adjacent Indian Canyon Drive at Pierson Boulevard intersection.

Table 9
Site Access Queuing Analysis

Study Intersection	Approach	Lane	Storage Length (Feet)[2]	Peak Hour 95th-Percentile Queue Length (Feet)[1]				Adequate Storage Provided	
				Opening Year (2025) With Project		Opening Year (2027) With Project			
				AM	PM	AM	PM	2025	2027
3. Indian Canyon Drive at Pierson Boulevard	Northbound	Left-Thru	490	55	135	55	125	YES	YES
	Northbound	Right	100	15	30	15	25	YES	YES
	Southbound	Left	140	65	65	75	75	YES	YES
	Southbound	Through	345	100	60	100	55	YES	YES
	Southbound	Right	180	15	<10	15	<10	YES	YES
	Eastbound	Left-Thru	100	55	45	55	50	YES	YES
	Eastbound	Right	100	25	<10	25	<10	YES	YES
	Westbound	Lt-Thru-Rt	2,200	125	70	140	90	YES	YES
5. Project Driveway at Pierson Boulevard	Southbound	Shared	25	20	15	15	15	YES	YES
	Eastbound	Left-Thru	2,530	<10	<10	<10	<10	YES	YES
	Westbound	Right	100	<10	<10	<10	<10	YES	YES
6. Indian Canyon Drive at Project North Driveway	Northbound	Left-Thru	165	-	-	<10	<10	YES	YES
	Southbound	Thru-Right	940	-	-	<10	<10	YES	YES
	Eastbound	Shared	50	-	-	20	15	YES	YES
7. Indian Canyon Drive at Project South Driveway	Northbound	Left-Thru	180	<10	<10	<10	<10	YES	YES
	Southbound	Thru-Right	165	<10	<10	<10	<10	YES	YES
	Eastbound	Shared	50	35	30	20	15	YES	YES

Notes:

1. The forecast 95th-percentile queue lengths shown in the delay calculation worksheets have been rounded up to nearest 5-foot increment.
2. Length of turning lane storage or distance to the adjacent driveway.

8. CONCLUSIONS

This section summarizes the proposed project, operational findings, and identifies recommendations (if any) as specified in previous sections of this study. Figure 37 summarizes the recommended improvements.

PROJECT TRIP GENERATION

Phase I of the proposed project is forecast to generate a total of approximately 4,346 new daily trips, including 155 new trips during the AM peak hour and 185 new trips during the PM peak hour.

Phase II of the proposed project is forecast to generate a total of approximately 4,834 new daily trips, including 177 new trips during the AM peak hour and 195 new trips during the PM peak hour.

LEVEL OF SERVICE ANALYSIS

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for the analysis scenarios. The proposed project is forecast to result in no substantial transportation effects relating to Level of Service operations for all analysis scenarios.

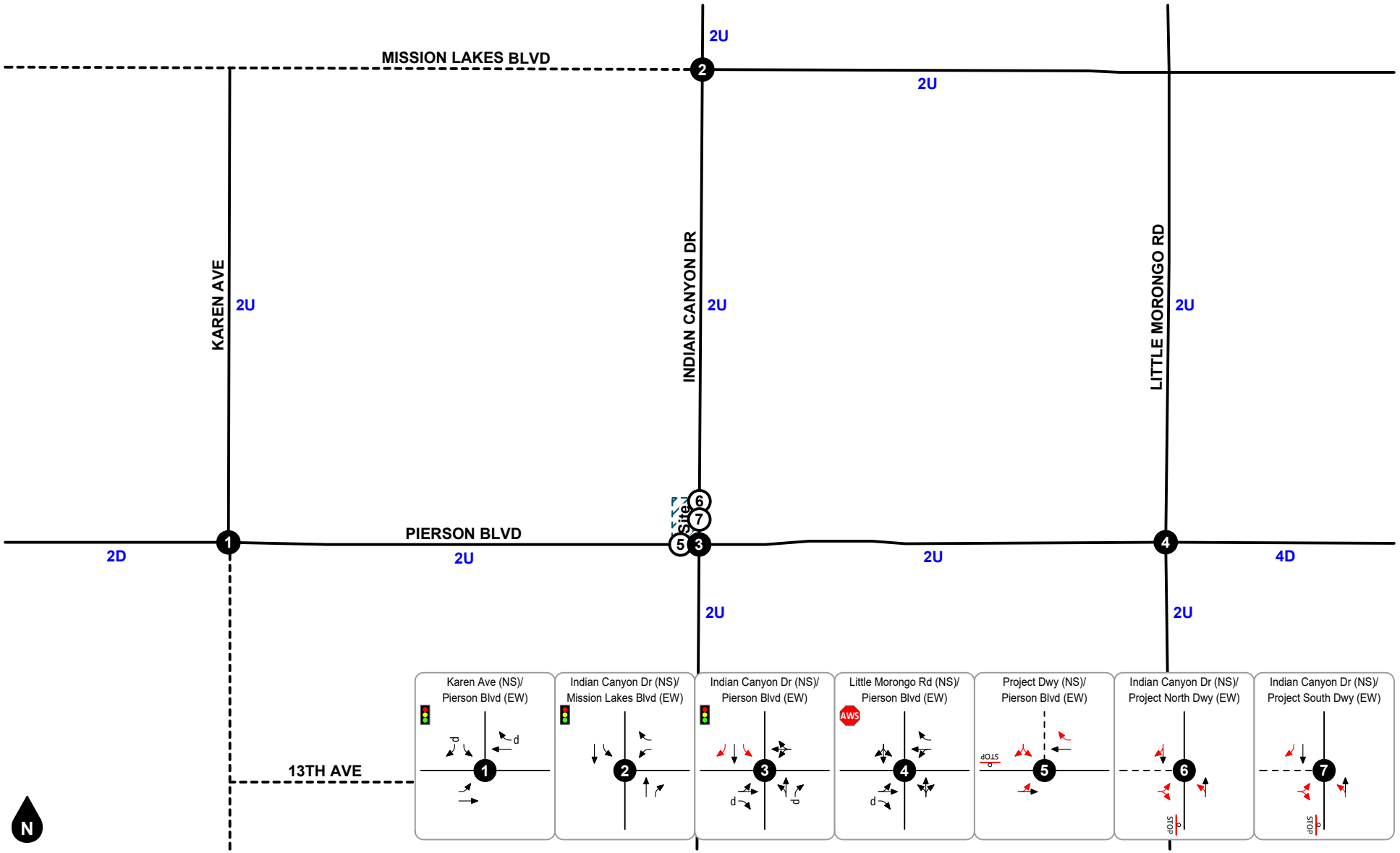
SUMMARY OF IMPROVEMENTS

Project design features (as detailed in the Site Access & On-Site Circulation section) involve improvements necessary to provide project site access, the construction along the project site frontage, and installation of a traffic signal for the Indian Canyon Drive at Pierson Boulevard intersection.

Since the proposed project is not forecast to cause any substantial adverse transportation effects relating to Level of Service 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 *Beyond Food Mart (Indian Canyon & Pierson) Vehicle Miles Traveled Assessment* (Ganddini Group, Inc., August 3, 2022).



Legend

- Traffic Signal
- All Way Stop
- Stop Sign
- #D #-Lane Divided Roadway
- #U #-Lane Undivided Roadway
- Existing Lane
- d De Facto Right Turn Lane
- Project Driveway
- Project Improvements

Figure 37
Recommended Lane Geometry and Intersection Traffic Controls

APPENDICES

Appendix A Glossary
Appendix B Scoping Agreement
Appendix C Traffic Count Data
Appendix D Intersection Level of Service Worksheets
Appendix E Other Development Information
Appendix F Traffic Signal Warrant Worksheet

APPENDIX A

GLOSSARY

ACRONYMS

AC	Acres
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
DU	Dwelling Unit
ICU	Intersection Capacity Utilization
GFA	Gross Floor Area
LOS	Level of Service
PCE	Passenger Car Equivalent
SF	Square Foot
SP	Service Population
TSF	Thousand Square Feet
V/C	Volume to Capacity Ratio
VMT	Vehicle Miles Traveled

TERMS

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 the 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

From: Jilleen Ferris
Sent: Tuesday, February 7, 2023 11:13 AM
To: Perrie Ilercil
Cc: Melissa Purcell; Joseph Zhang

Subject: RE: Beyond Food Mart (Indian Canyon & Pierson), Desert Hot Springs - Scoping agreement

Perrie,

I'm good with the scoping agreement.

Best regards,

Jilleen Ferris, P.E. | ***City Engineer***

Office: (760) 329-6411 ext. 220 Fax: (760) 288-0639
City of Desert Hot Springs
11999 Palm Drive, Desert Hot Springs, CA 92240
www.cityofdhs.org

From: Perrie Ilercil <perrie@ganddini.com>
Sent: Wednesday, February 1, 2023 12:24 PM
To: Jilleen Ferris
Cc: Melissa Purcell

Subject: Beyond Food Mart (Indian Canyon & Pierson), Desert Hot Springs - Scoping agreement

CAUTION: This email originated from outside of our organization. Do not click on links or open attachments unless you recognize the sender and know that the content is safe. Thank you.

Hi Jilleen,
The site plan has changed for this project. The second quick service restaurant has been removed.

See the attached revised Traffic Scoping Agreement for your review and approval.

Let me know if there are any questions or comments.

Sincerely,

Perrie Ilercil, **PE (AZ)**

Appendix B

PROJECT SCOPING FORM FOR TRAFFIC ANALYSIS

This letter acknowledges the Riverside County Transportation Department requirements for traffic impact analysis of the following project. The analysis must follow the Riverside County Transportation Department Transportation Analysis Guidelines *DRAFT* dated August 2020.

Case No. (i.e. TR, PM, CUP, PP)
Related Cases -
SP No. *Provide SP No. and list of other approved or active projects within the SP*.
EIR No. _____
GPA No. _____
CZ No. _____
Project Name: Beyond Food Mart (Indian Canyon & Pierson)
Project Address: NWC Indian Canyon Drive & Pierson Boulevard
Project Description: convenience store/gas station, car wash and one quick-service restaurant

	Consultant	Developer
Company	Ganddini Group, Inc	Beyond Food Mart
Name	Perrie Ilercil / 949-257-3126	Mr. Joesph Zhang
Address	555 Parkcenter Drive Ste 225	4300 Edison Avenue
City, State, Zip	Santa Ana, Ca 92705	Chino, California 91710
Phone Number	714-795-3100	909-919-5658
Email address	perrie@ganddini.com	reijvtjt@gmail.com

A. Trip Generation Source: (ITE 10th Edition or other)

Current GP Land Use vacant Proposed Land Use corner commercial
Provide General Plan Land Use Designation (e.g.: MDR, CR, etc)
Current GP Zoning MU-N (Mixed Use – Neighborhood) Proposed Zoning MU-N (Mixed Use – Neighborhood)

	In	Out	Total	In	Out	Total
AM Trips	-	-	-	88	87	175
PM Trips	-	-	-	97	94	191

Internal Trip Allowance ☑ Yes ☐ No (9% AM, 8% PM, 4 % Trip Discount)
Pass-By Trip Allowance ☑ Yes ☐ No (76%AM,75%PM,37 % Trip Discount)

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

B. Trip Geographic Distribution: N 20 % S 20 % E 40 % W 20 %

C. Background Traffic

Project Build-out Year: 2027 Annual Ambient Growth Rate: 1%
Provide realistic opening year, considering time needed for approvals and construction.
Phase Year(s) Phase I - 2025; Phase II - 2027

Other area projects to be analyzed: _____

Model/Forecast methodology ambient growth

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

1. Karen Avenue at Pierson Boulevard	6. Indian Canyon Avenue at North Project Driveway
2. Indian Canyon Avenue at Mission Lake Blvd	7. Indian Canyon Avenue at South Project Driveway
3. Indian Canyon Avenue at Pierson Boulevard	8.
4. Little Morongo Road at Pierson Boulevard	9.
5. Project Driveway at Pierson Boulevard	10.

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

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

F. Other Jurisdictional Impacts

Is this project within a **City's** Sphere of Influence or one-mile radius of City boundaries? ☑ Yes ☐ No

If so, name of City Jurisdiction: Desert Hot Springs

G. **Site Plan** (please attach reduced copy

H. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Transportation Department)

(NOTE: If the traffic study states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted," or similar statement) at an existing unsignalized intersection under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.)

I. Existing Conditions

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

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

Recommended by:		**Approved Project Scoping Form:**	
Perrie Ilercil 2023-0130			
Consultant's Representative	Date	Riverside County Transportation Department	Date

Project Scoping Form Submitted on _____

Revised on _____

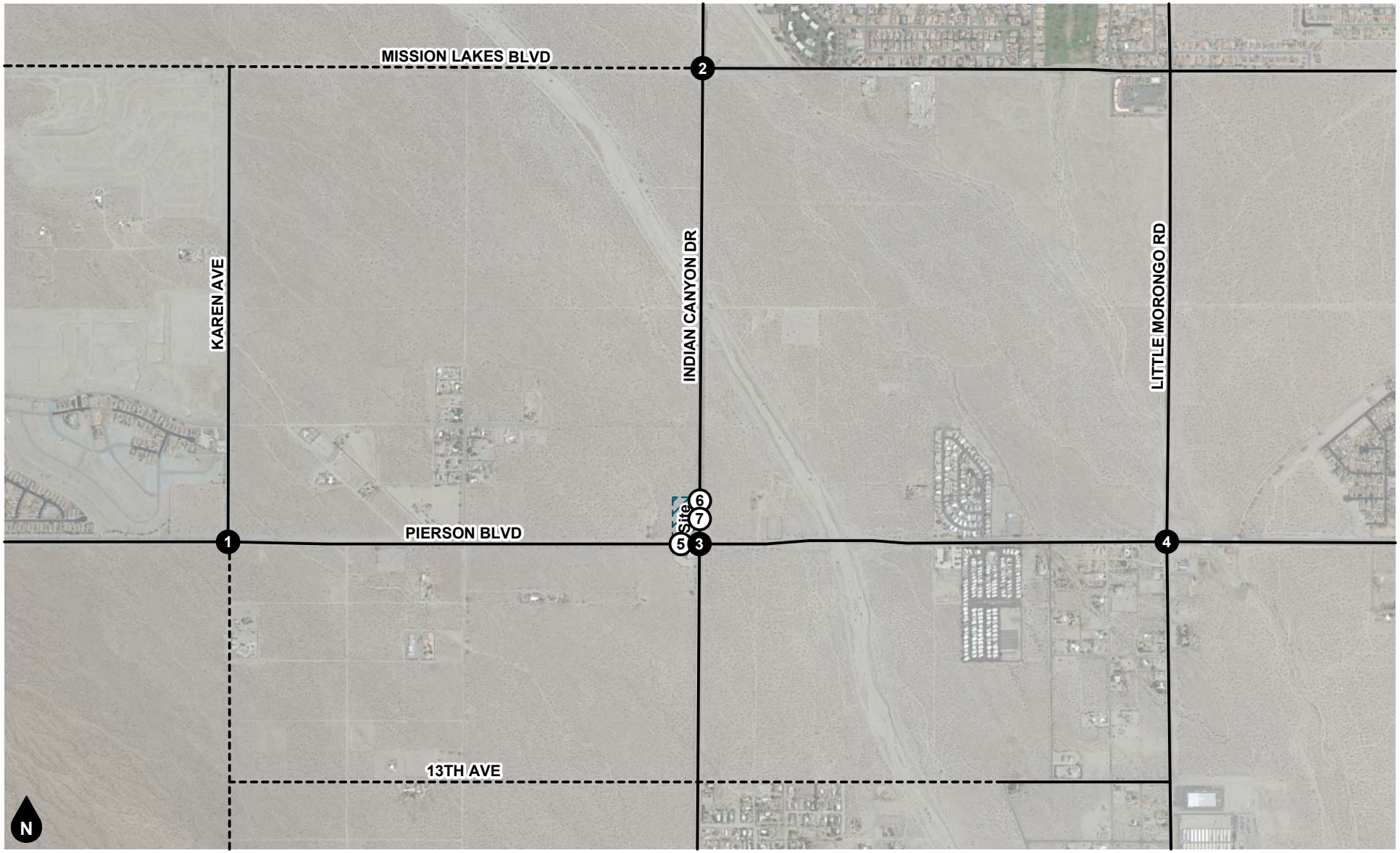
Table 1
Project Trip Generation

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
Fast-Food Restaurant without Drive-Through Window	ITE 933	TSF	58%	42%	43.18	50%	50%	33.21	450.49
Convenience Store Gas Station (5.5-10 ksf GFA)	ITE 945	VFP	50%	50%	31.60	50%	50%	26.90	345.75
Automated Car Wash	ITE 948 [3]	CWT	50%	50%	34.44	50%	50%	77.50	861.11

Trips Generated									
			AM Peak Hour			PM Peak Hour			
Land Use	Source	Quantity	In	Out	Total	In	Out	Total	Daily
Fast-Food Restaurant with Drive-Through Window	ITE 934	2.000 TSF	46	43	89	34	32	66	935
Internal Capture Trips	ITE[4]		-23	-6	-29	-10	-13	-23	-150
Pass-by Trips (50%AM, 55%PM, 26%Daily)	ITE 934[5]		-12	-18	-30	-13	-11	-24	-243
Subtotal			11	19	30	11	8	19	542
Convenience Store Gas Station (5.5-10 ksf GFA)	ITE 945	16 VFP	253	253	506	215	215	430	5,532
Internal Capture Trips	ITE[3]		-5	-23	-28	-11	-9	-20	-48
Pass-by Trips (76%AM, 75%PM, 37%Daily)	ITE 945[4]		*-188*	*-175*	*-363*	*-153*	*-155*	*-308*	*-2,047*
Subtotal			60	55	115	51	51	102	3,437
Automated Car Wash	ITE 948	1 CWT	17	17	34	39	39	78	861
Internal Capture Trips	ITE[3]		0	-2	-2	-2	-2	-4	-6
Subtotal			17	15	32	37	37	74	855
Subtotal - Gross Project Trips			316	311	627	286	284	570	7,322
Total Internal Capture Trips (9%AM, 8%PM, 4%Daily)			-28	-31	-59	-23	-24	-47	-204
Subtotal - External Project Trips			288	280	568	263	260	523	7,118
Total Pass-by Trips			-200	-193	-393	-166	-166	-332	-2,290
TOTAL NEW TRIPS GENERATED			**88**	**87**	**175**	**97**	**94**	**191**	**4,828**

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. TSF = Thousand Square Feet; VFP = Vehicle Fuel Position; CWT = Car Wash Tunnel.
3. San Diego Association of Governments (SANDAG) *Vehicular Traffic Generation Rates* (April 2002). Where the daily or peak hour rate is not provided by ITE, the SANDAG percentage of peak hour to daily rate is used to calculate the missing data. Where the peak hour distribution is not provided by ITE, the SANDAG peak hour distribution is used.
4. Internal capture rates calculated in accordance with procedures in the ITE *Trip Generation Handbook* (3rd Edition, 2017). The daily internal capture rate is equal to half of the AM and PM peak hour average rates. See Attachment A for internal capture worksheets.
5. Pass-by rates calculated in accordance with procedures in the ITE Trip Generation Handbook (11th Edition, 2021). Daily pass-by is calculated using half of the AM and PM pass-by average rates for the daily rate.



Legend

(#) Study Intersection

(#) Project Driveway

Figure 1
Project Location Map

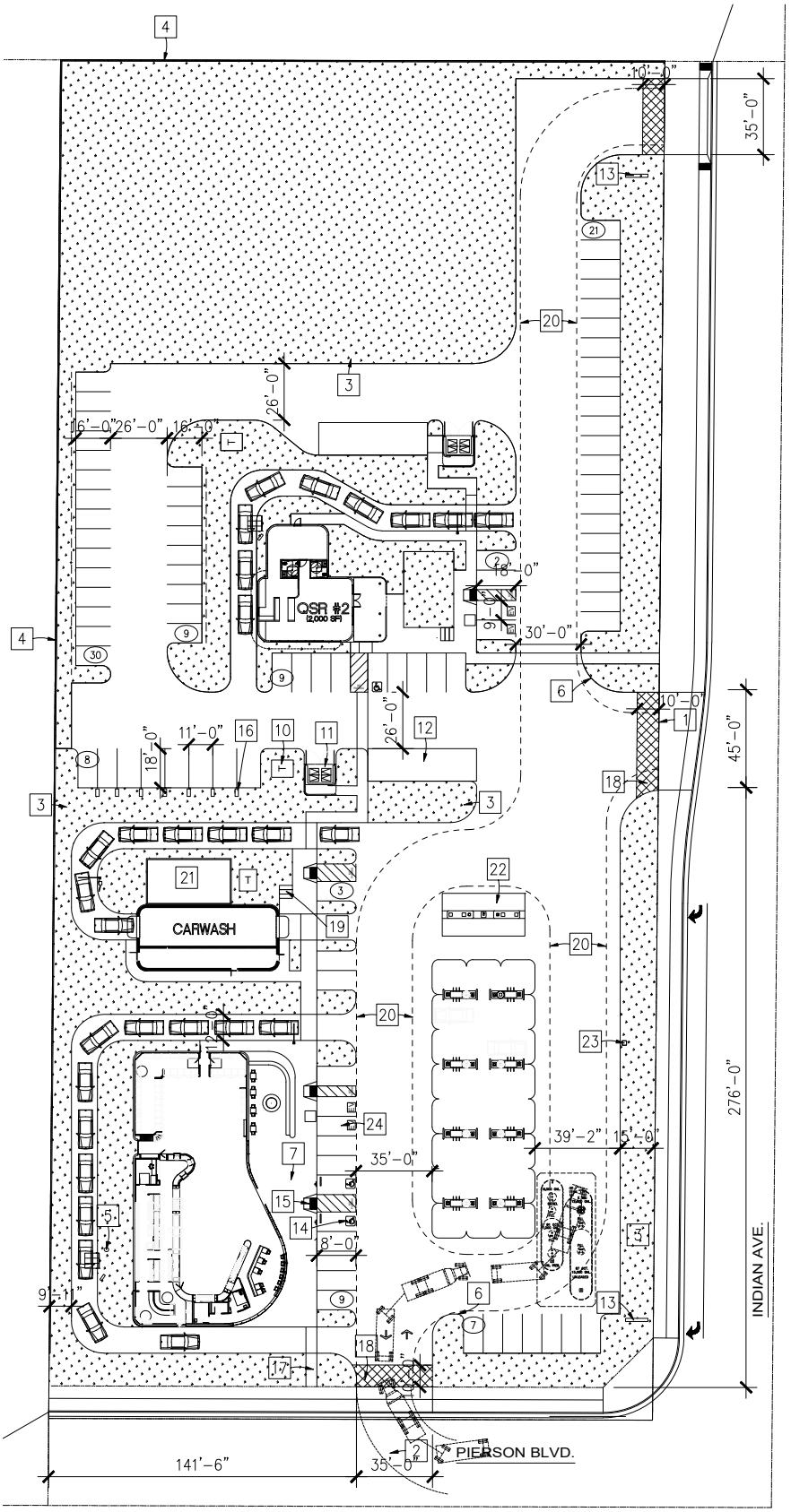


Figure 2
Site Plan

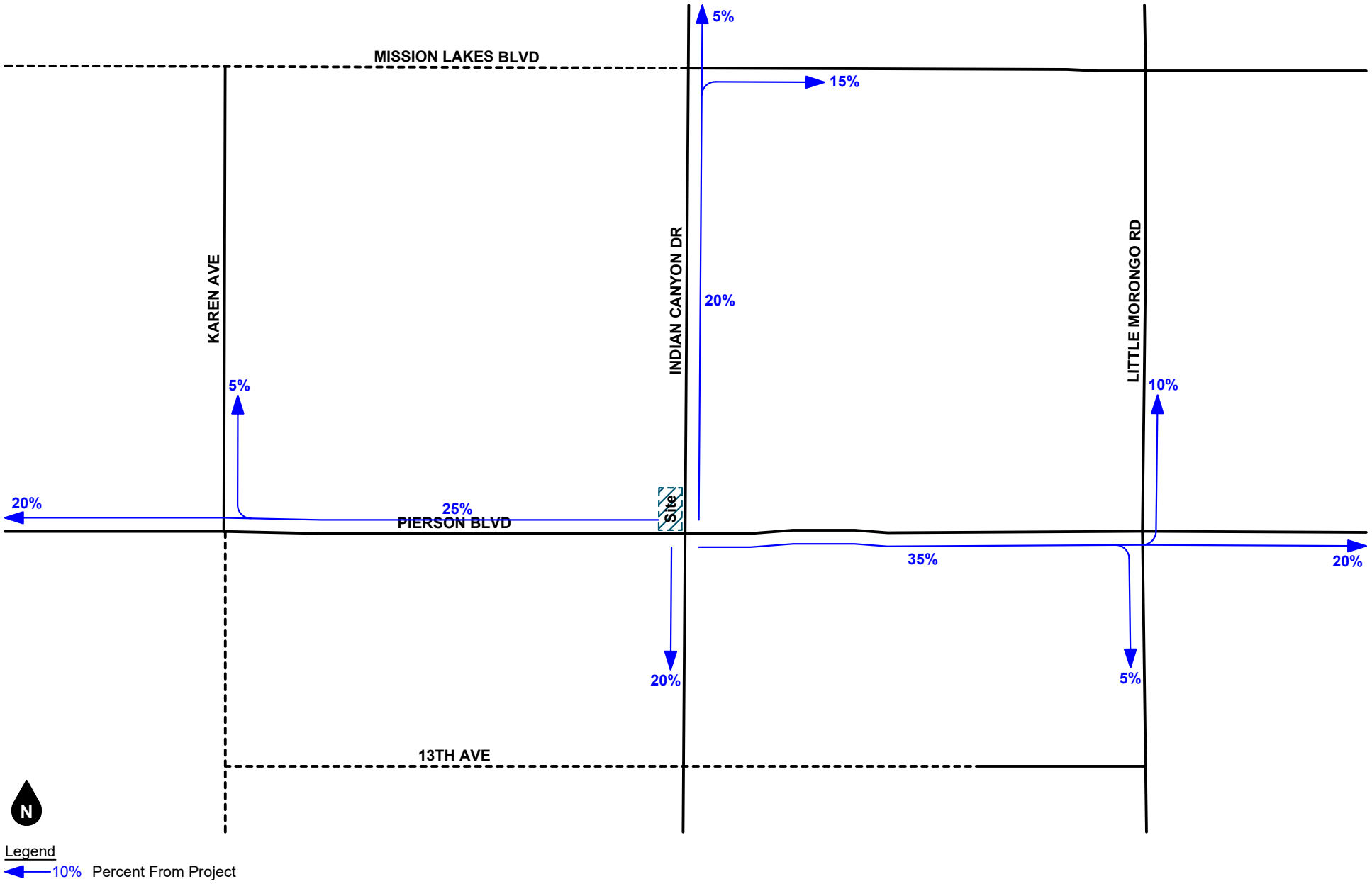


Figure 3
Project Outbound Trip Distribution

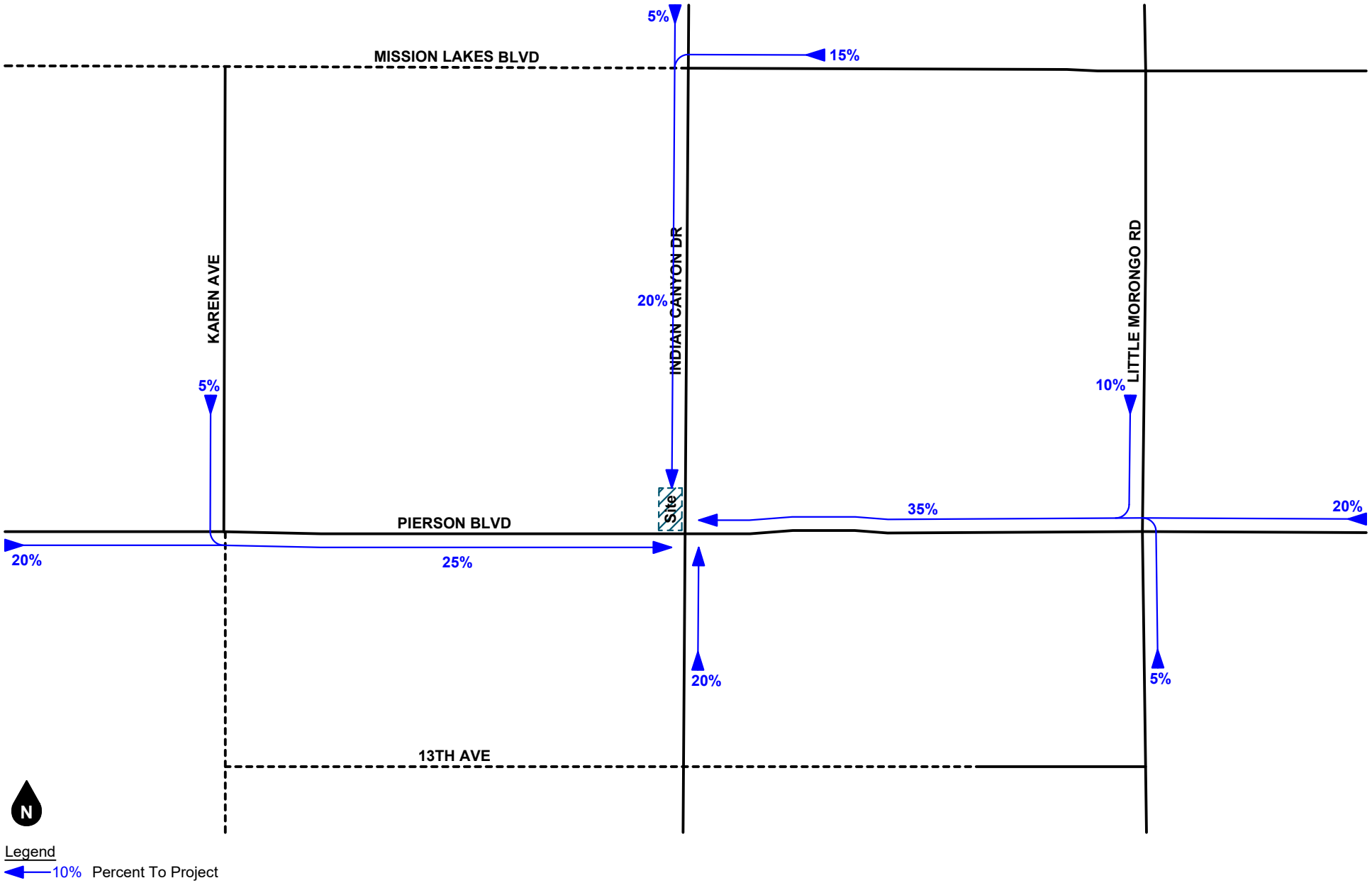
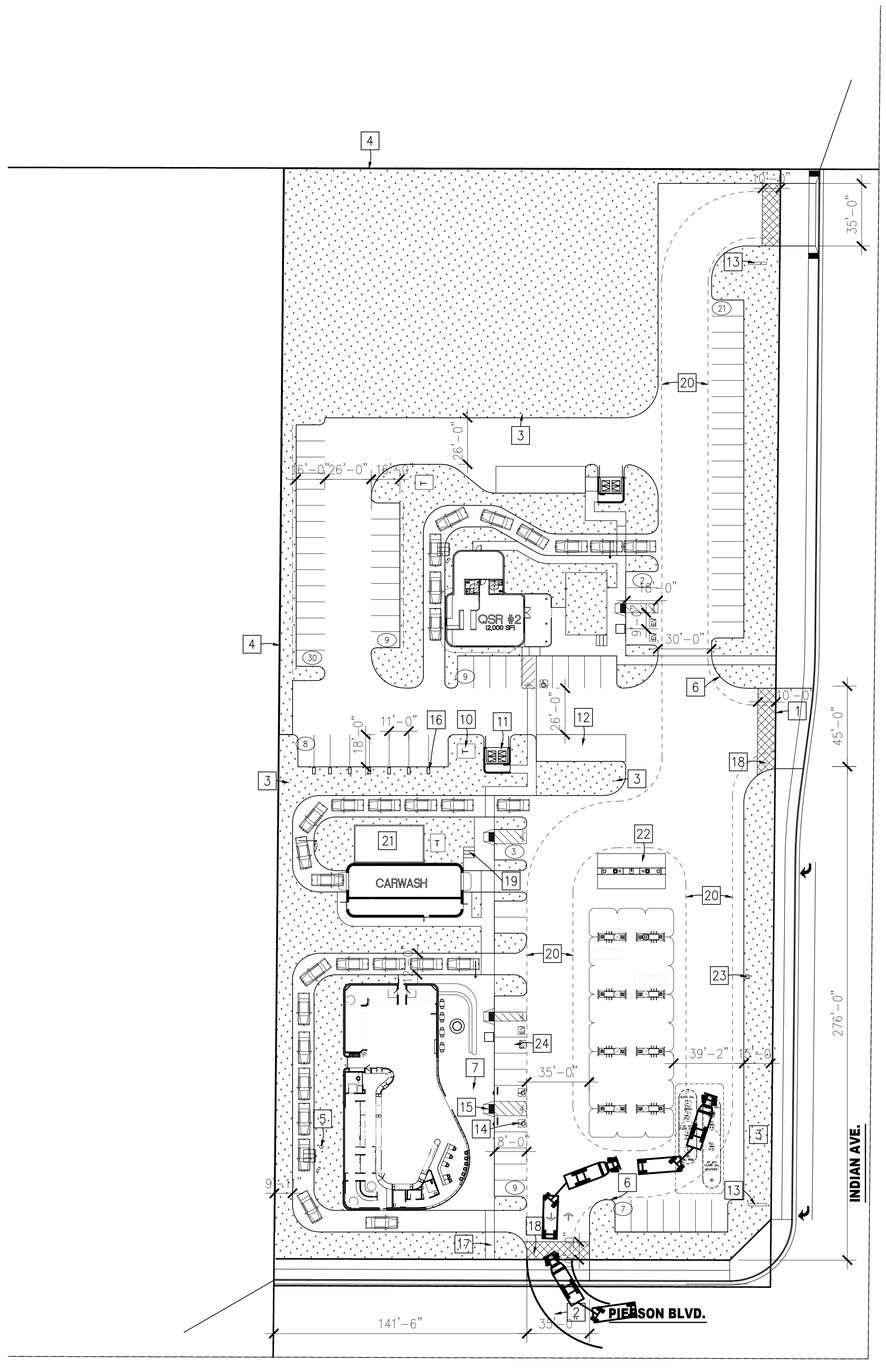


Figure 4
Project Inbound Trip Distribution

ATTACHMENT A

SITE PLAN



NORTH

Reference Notes

1. (E) PROPERTY LINES
2. (N) CURB AND GUTTER/DRIVEWAY (RIGHT IN & OUT)
3. (N) LANDSCAPE
4. (N) 6'-0" SPLIT FACE CMU FENCE WALL
5. (N) HEALY TANK
6. (N) CONCRETE CURB
7. (N) CONCRETE SIDEWALK
8. (N) CANOPY 47'-0"x128'-0" (UNDER SEPARATED PERMIT)
9. NOT IN USED
10. (N) TRANSFORMER PAD
11. (N) TRASH/RECYCLE ENCLOSURE
12. (N) LOADING/UNLOADING (10'-0"x20'-0")
13. (N) CORNER MONUMENT, SIGN BY OTHERS, UNDER SEPARATE PERMIT.
14. (N) HCP PARKING
15. (N) HCP RAMP
16. (N) VACUUM @ 7 LOCS
17. (N) 5'-0" WIDE HCP PATH OF TRAVEL PER CODE STD.
18. (N) DECORATIVE FLOOR PATTERN
19. BIKE RACK PER CITY'S STANDARD.
20. (N) 26' WIDE FIRE LANE
21. (N) HYDROGEN FACILITY/TANKS
22. (N) HYDROGEN CANOPY & PUMPS
23. (N) AIR/WATER TOWER
24. EVCS PARKING PER CITY'S STD. PROVIDE MIN. 1" CONDUIT TERMINATING IN LISTED ENCLOSURE FOR FUTURE CHARGER.

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1 Site Plan SCALE: 1"=40'-0"

PEGASUS ARCHITECTS
4300 EDISON AVE.,
CHINO, CA 91710
TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT
ADDRESS: NW CNR OF PIERSONS & N. INDIAN CANYON RD., DESERT HOT SPRINGS, CA
CLIENT: AMIR BUTT, 1461 TAHOE ST., BEAUMONT, CA 92223

SHEET TITLE: SITE PLAN

KEY MAP SEAL/STAMP

JOB NO.	SITE #1169
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
PERMIT SET	__/__/____
BID SET	__/__/____

REVISIONS

1	-	-
2	-	-
3		
4		
5		
6		
7		
8		
9		
10		

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SHEET NO:
A1.01
OF SHEETS
SHEET

ATTACHMENT B

INTERNAL CAPTURE WORKSHEETS

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Beyond Food Mart - Gas, Carwash & QSR	**Organization:**	Ganddini Group
Project Location:	City Desert Hot Springs (Indian Cyn & Pierson)	**Performed By:**	PDI
Scenario Description:	Project Trips	**Date:**	2023-0108
Analysis Year:	2023	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	ITE 945 / 948	16 / 1	VFP / CWT	540	270	270
Restaurant	ITE 934	2.000	TSF	89	46	43
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses[2]				0		
				629	316	313

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		23	0	0	0
Restaurant	0	6		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	629	316	313
Internal Capture Percentage	9%	9%	9%
External Vehicle-Trips[5]	571	287	284
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	2%	9%
Restaurant	50%	14%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Beyond Food Mart - Gas, Carwash & QSR	**Organization:**	Ganddini Group
Project Location:	City Desert Hot Springs (Indian Cyn & Pierson)	**Performed By:**	PDI
Scenario Description:	Project Trips	**Date:**	2023-0108
Analysis Year:	2023	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	ITE 945 / 948	16 / 1	VFP / CWT	508	254	254
Restaurant	ITE 934	2.000	TSF	66	34	32
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses[2]				0		
				574	288	286

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		10	0	0	0
Restaurant	0	13		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	574	288	286
Internal Capture Percentage	8%	8%	8%
External Vehicle-Trips[5]	528	265	263
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	5%	4%
Restaurant	29%	41%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

APPENDIX C

INTERSECTION TURNING MOVEMENT COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

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

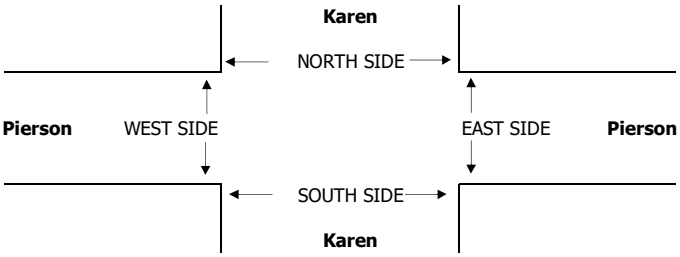
DATE:	LOCATION:	Desert Hot Springs	PROJECT #:	SC3562
Wed, Aug 17, 22	NORTH & SOUTH:	Karen	LOCATION #:	1
	EAST & WEST:	Pierson	CONTROL:	SIGNAL

NOTES:

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

☑ Add U-Turns to Left Turns

		NORTHBOUND (Karen)			SOUTHBOUND (Karen)			EASTBOUND (Pierson)			WESTBOUND (Pierson)				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	6	0	0	1	36	0	0	22	1	66	0	0	0	0	0
	7:15 AM	0	0	0	8	0	0	0	38	0	0	22	1	69	0	0	0	0	0
	7:30 AM	0	0	0	20	0	1	1	42	0	0	24	2	90	0	0	0	0	0
	7:45 AM	0	0	0	14	0	0	0	34	0	0	37	5	90	0	0	0	0	0
	8:00 AM	0	0	0	5	0	1	0	33	0	0	18	2	59	0	0	0	0	0
	8:15 AM	0	0	0	9	0	0	1	36	0	0	32	4	82	0	0	0	0	0
	8:30 AM	0	0	0	7	0	0	0	25	0	0	34	5	71	0	0	0	0	0
	8:45 AM	0	0	0	8	0	1	0	16	0	0	11	4	40	0	0	0	0	0
	VOLUMES	0	0	0	77	0	3	3	260	0	0	200	24	567	0	0	0	0	0
	APPROACH %	0%	0%	0%	96%	0%	4%	1%	99%	0%	0%	89%	11%						
	APP/DEPART	0	/	27	80	/	0	263	/	337	224	/	203	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	48	0	2	2	145	0	0	111	13	321					
	APPROACH %	0%	0%	0%	96%	0%	4%	1%	99%	0%	0%	90%	10%						
	PEAK HR FACTOR		0.000			0.595			0.855			0.738		0.892					
	APP/DEPART	0	/	15	50	/	0	147	/	193	124	/	113	0					
PM	4:00 PM	0	0	0	2	0	0	0	35	0	0	41	5	83	0	0	0	0	0
	4:15 PM	0	0	0	4	0	2	0	41	0	0	27	4	78	0	0	0	0	0
	4:30 PM	0	0	0	2	0	0	2	28	0	0	22	5	59	0	0	0	0	0
	4:45 PM	0	0	0	3	0	0	2	36	0	0	31	7	79	0	0	0	0	0
	5:00 PM	0	0	0	4	0	1	0	41	0	0	34	6	86	0	0	0	0	0
	5:15 PM	0	0	0	2	0	0	0	34	0	0	38	8	82	0	0	0	0	0
	5:30 PM	0	0	0	5	0	0	0	40	0	0	38	6	89	0	0	0	0	0
	5:45 PM	0	0	0	2	0	0	1	41	0	0	23	4	71	0	0	0	0	0
	VOLUMES	0	0	0	24	0	3	5	296	0	0	254	45	627	0	0	0	0	0
	APPROACH %	0%	0%	0%	89%	0%	11%	2%	98%	0%	0%	85%	15%						
	APP/DEPART	0	/	50	27	/	0	301	/	320	299	/	257	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	0	0	14	0	1	2	151	0	0	141	27	336					
	APPROACH %	0%	0%	0%	93%	0%	7%	1%	99%	0%	0%	84%	16%						
	PEAK HR FACTOR		0.000			0.750			0.933			0.913		0.944					
	APP/DEPART	0	/	29	15	/	0	153	/	165	168	/	142	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

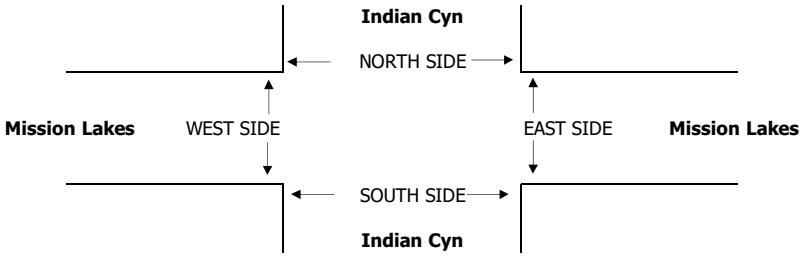
DATE:	LOCATION:	Desert Hot Springs	PROJECT #:	SC3562
Wed, Aug 17, 22	NORTH & SOUTH:	Indian Cyn	LOCATION #:	2
	EAST & WEST:	Mission Lakes	CONTROL:	SIGNAL

NOTES:

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

☑ Add U-Turns to Left Turns

		NORTHBOUND Indian Cyn			SOUTHBOUND Indian Cyn			EASTBOUND Mission Lakes			WESTBOUND Mission Lakes				U-TURNS				
	LANES:	NL X	NT 1	NR 1	SL 1	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	18	20	8	30	0	0	0	0	47	0	15	138	0	0	0	0	0
	7:15 AM	0	18	14	12	28	0	0	0	0	49	0	13	134	0	0	0	0	0
	7:30 AM	0	17	18	19	17	0	0	0	0	55	0	24	150	0	0	0	0	0
	7:45 AM	0	18	15	7	26	0	0	0	0	36	0	10	112	0	0	0	0	0
	8:00 AM	0	27	13	7	31	0	0	0	0	35	0	15	128	0	0	0	0	0
	8:15 AM	0	15	20	11	22	0	0	0	0	37	0	9	114	0	0	0	0	0
	8:30 AM	0	13	15	12	20	0	0	0	0	38	0	10	108	0	0	0	0	0
	8:45 AM	0	16	8	6	15	0	0	0	0	21	0	7	73	0	0	0	0	0
	VOLUMES	0	142	123	82	189	0	0	0	0	318	0	103	957	0	0	0	0	0
	APPROACH %	0%	54%	46%	30%	70%	0%	0%	0%	0%	76%	0%	24%						
	APP/DEPART	265	/	245	271	/	507	0	/	205	421	/	0	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	71	67	46	101	0	0	0	0	187	0	62	534					
	APPROACH %	0%	51%	49%	31%	69%	0%	0%	0%	0%	75%	0%	25%						
	PEAK HR FACTOR		0.908			0.919			0.000			0.788		0.890					
	APP/DEPART	138	/	133	147	/	288	0	/	113	249	/	0	0					
PM	4:00 PM	0	39	19	12	17	0	0	0	0	17	0	26	130	0	0	0	0	0
	4:15 PM	0	32	26	11	27	0	0	0	0	21	0	28	145	0	0	0	0	0
	4:30 PM	0	48	30	16	20	0	0	0	0	20	0	17	151	0	0	0	0	0
	4:45 PM	0	27	21	18	18	0	0	0	0	17	0	27	128	0	0	0	0	0
	5:00 PM	0	39	21	12	25	0	0	0	0	12	0	12	121	0	0	0	0	0
	5:15 PM	0	43	29	9	27	0	0	0	0	16	0	23	147	0	0	0	0	0
	5:30 PM	0	31	29	15	29	0	0	0	0	19	0	25	148	0	0	0	0	0
	5:45 PM	0	44	20	12	18	0	0	0	0	12	0	18	124	0	0	0	0	0
	VOLUMES	0	303	195	105	181	0	0	0	0	134	0	176	1,094	0	0	0	0	0
	APPROACH %	0%	61%	39%	37%	63%	0%	0%	0%	0%	43%	0%	57%						
	APP/DEPART	498	/	479	286	/	315	0	/	300	310	/	0	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	146	96	57	82	0	0	0	0	75	0	98	554					
	APPROACH %	0%	60%	40%	41%	59%	0%	0%	0%	0%	43%	0%	57%						
	PEAK HR FACTOR		0.776			0.914			0.000			0.883		0.917					
	APP/DEPART	242	/	244	139	/	157	0	/	153	173	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

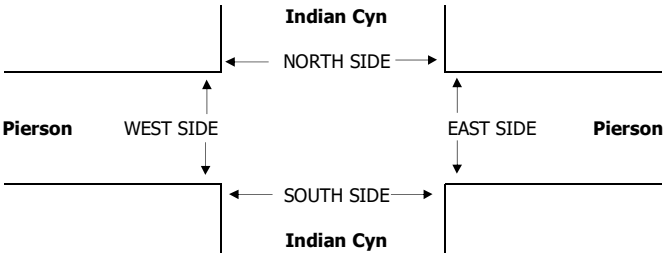
DATE:	LOCATION:	Desert Hot Springs	PROJECT #:	SC3562
Wed, Aug 17, 22	NORTH & SOUTH:	Indian Cyn	LOCATION #:	3
	EAST & WEST:	Pierson	CONTROL:	STOP ALL

NOTES:

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

☑ Add U-Turns to Left Turns

		NORTHBOUND Indian Cyn			SOUTHBOUND Indian Cyn			EASTBOUND Pierson			WESTBOUND Pierson				U-TURNS				
	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	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	1	21	8	11	53	7	9	31	17	30	20	6	214	0	0	0	0	0
	7:15 AM	2	18	19	14	59	6	6	30	16	34	14	8	226	0	0	0	0	0
	7:30 AM	2	18	6	4	50	14	12	32	24	42	25	6	235	0	0	0	0	0
	7:45 AM	2	21	10	11	49	10	8	23	12	28	18	6	198	0	0	0	0	0
	8:00 AM	6	27	7	10	45	12	1	31	7	23	15	10	194	0	0	0	0	0
	8:15 AM	6	22	6	6	46	8	9	23	9	19	28	4	186	0	0	0	0	0
	8:30 AM	5	22	6	7	43	4	6	11	10	18	16	4	152	0	0	0	0	0
	8:45 AM	2	17	11	7	28	7	5	17	6	15	12	4	131	0	0	0	0	0
	VOLUMES	26	166	73	70	373	68	56	198	101	209	148	48	1,536	0	0	0	0	0
	APPROACH %	10%	63%	28%	14%	73%	13%	16%	56%	28%	52%	37%	12%						
	APP/DEPART	265	/	270	511	/	683	355	/	341	405	/	242	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	7	78	43	40	211	37	35	116	69	134	77	26	873					
	APPROACH %	5%	61%	34%	14%	73%	13%	16%	53%	31%	57%	32%	11%						
	PEAK HR FACTOR		0.821			0.911			0.809			0.812		0.929					
	APP/DEPART	128	/	139	288	/	414	220	/	199	237	/	121	0					
PM	4:00 PM	9	36	15	3	29	6	7	33	1	28	39	15	221	0	0	0	0	0
	4:15 PM	6	40	17	6	25	9	11	28	4	12	18	4	180	0	0	0	0	0
	4:30 PM	7	59	17	9	28	6	10	24	2	16	20	6	204	0	0	0	0	0
	4:45 PM	8	41	15	6	24	8	5	27	7	19	20	8	188	0	0	0	0	0
	5:00 PM	13	44	15	5	23	4	9	27	6	21	25	4	196	0	0	0	0	0
	5:15 PM	13	51	19	14	26	9	10	26	6	11	27	8	220	0	0	0	0	0
	5:30 PM	10	45	17	12	22	5	13	29	3	13	24	7	200	0	0	0	0	0
	5:45 PM	12	52	13	7	30	2	5	36	3	9	20	9	198	0	0	0	0	0
	VOLUMES	78	368	128	62	207	49	70	230	32	129	193	61	1,607	0	0	0	0	0
	APPROACH %	14%	64%	22%	19%	65%	15%	21%	69%	10%	34%	50%	16%						
	APP/DEPART	574	/	499	318	/	368	332	/	420	383	/	320	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	48	192	64	38	101	20	37	118	18	54	96	28	814					
	APPROACH %	16%	63%	21%	24%	64%	13%	21%	68%	10%	30%	54%	16%						
	PEAK HR FACTOR		0.916			0.811			0.961			0.890		0.925					
	APP/DEPART	304	/	257	159	/	173	173	/	220	178	/	164	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

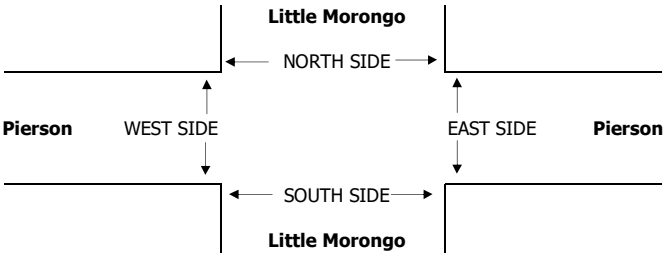
DATE:	LOCATION:	Desert Hot Springs	PROJECT #:	SC3562
Wed, Aug 17, 22	NORTH & SOUTH:	Little Morongo	LOCATION #:	4
	EAST & WEST:	Pierson	CONTROL:	STOP ALL

NOTES:

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

☑ Add U-Turns to Left Turns

		NORTHBOUND Little Morongo			SOUTHBOUND Little Morongo			EASTBOUND Pierson			WESTBOUND Pierson				U-TURNS				
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	4	20	4	12	44	4	7	36	20	6	46	8	211	0	0	0	0	0
	7:15 AM	4	19	6	17	50	4	12	46	25	17	49	14	263	0	0	0	0	0
	7:30 AM	8	23	6	13	35	11	6	36	19	7	54	8	226	0	0	0	0	0
	7:45 AM	7	16	13	11	34	7	4	45	9	11	29	11	197	0	0	0	0	0
	8:00 AM	8	22	15	12	21	9	6	48	11	9	42	15	218	0	0	0	0	0
	8:15 AM	7	18	8	10	47	13	19	23	10	6	44	13	218	0	0	0	0	0
	8:30 AM	2	17	2	15	44	12	4	25	11	8	24	17	181	0	0	0	0	0
	8:45 AM	10	23	2	14	27	7	3	27	4	3	29	6	155	0	0	0	0	0
	VOLUMES	50	158	56	104	302	67	61	286	109	67	317	92	1,669	0	0	0	0	0
	APPROACH %	19%	60%	21%	22%	64%	14%	13%	63%	24%	14%	67%	19%						
	APP/DEPART	264	/	311	473	/	478	456	/	446	476	/	434	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	27	80	40	53	140	31	28	175	64	44	174	48	904					
	APPROACH %	18%	54%	27%	24%	63%	14%	10%	66%	24%	17%	65%	18%						
	PEAK HR FACTOR		0.817			0.789			0.804			0.831		0.859					
	APP/DEPART	147	/	156	224	/	248	267	/	268	266	/	232	0					
PM	4:00 PM	19	45	20	10	21	7	6	49	5	17	67	21	287	0	0	0	0	0
	4:15 PM	15	38	13	9	22	2	4	48	10	5	40	14	220	0	0	0	0	0
	4:30 PM	14	32	8	12	19	9	3	36	6	9	38	13	199	0	0	0	0	0
	4:45 PM	7	43	19	12	19	2	2	41	2	5	47	19	218	0	0	0	0	0
	5:00 PM	11	34	9	14	22	2	6	45	12	6	44	23	228	0	0	0	0	0
	5:15 PM	15	39	9	8	16	5	7	47	6	8	51	24	235	0	0	0	0	0
	5:30 PM	19	43	6	19	23	1	2	63	4	9	43	14	246	0	0	0	0	0
	5:45 PM	13	31	1	12	15	3	6	48	10	5	34	14	192	0	0	0	0	0
	VOLUMES	113	305	85	96	157	31	36	377	55	64	364	142	1,825	0	0	0	0	0
	APPROACH %	22%	61%	17%	34%	55%	11%	8%	81%	12%	11%	64%	25%						
	APP/DEPART	503	/	483	284	/	276	468	/	558	570	/	508	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	52	159	43	53	80	10	17	196	24	28	185	80	927					
	APPROACH %	20%	63%	17%	37%	56%	7%	7%	83%	10%	10%	63%	27%						
	PEAK HR FACTOR		0.920			0.831			0.859			0.883		0.942					
	APP/DEPART	254	/	256	143	/	132	237	/	292	293	/	247	0					



APPENDIX D

LEVEL OF SERVICE WORKSHEETS

EXISTING

Beyond Food Mart Indian Canyon & Pierson

Vistro File: G:\...\AM.vistro
Report File: G:\...\AME.pdf

Scenario 1 Existing
8/26/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Karen Ave (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	EB Left	0.147	6.8	A
2	Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.243	17.5	B
3	Indian Canyon Dr (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	SB Thru	0.539	13.7	B
4	Little Morongo Rd (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	WB Thru	0.458	13.0	B

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

Intersection Level Of Service Report
Intersection 1: Karen Ave (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	6.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.147

Intersection Setup

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	210.00	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]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	48	2	2	145	111	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	2	2	145	111	13
Peak Hour Factor	0.8917	0.8917	0.8917	0.8917	0.8917	0.8917
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	1	1	41	31	4
Total Analysis Volume [veh/h]	54	2	2	163	124	15
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	10	10	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	37	28	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	3	3	0	49	45	45
g / C, Green / Cycle	0.05	0.05	0.00	0.82	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.03	0.00	0.00	0.09	0.07	0.01
s, saturation flow rate [veh/h]	1781	1589	1781	1870	1870	1589
c, Capacity [veh/h]	94	84	8	1523	1390	1181
d1, Uniform Delay [s]	27.84	27.03	29.83	1.14	2.13	2.00
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.45	0.11	13.93	0.14	0.13	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.02	0.24	0.11	0.09	0.01
d, Delay for Lane Group [s/veh]	33.28	27.14	43.76	1.28	2.25	2.02
Lane Group LOS	C	C	D	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.81	0.03	0.06	0.06	0.11	0.01
50th-Percentile Queue Length [ft/ln]	20.31	0.67	1.45	1.50	2.77	0.34
95th-Percentile Queue Length [veh/ln]	1.46	0.05	0.10	0.11	0.20	0.02
95th-Percentile Queue Length [ft/ln]	36.55	1.20	2.62	2.70	4.99	0.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.28	27.14	43.76	1.28	2.25	2.02
Movement LOS	C	C	D	A	A	A
d_A, Approach Delay [s/veh]	33.06		1.79		2.23	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	6.83					
Intersection LOS	A					
Intersection V/C	0.147					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.960	2.079	0.000
Crosswalk LOS	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	632	1098	799
d_b, Bicycle Delay [s]	14.05	6.10	10.83
l_b,int, Bicycle LOS Score for Intersection	1.560	1.832	1.789
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 2: Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	17.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.243

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
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	1	1	0	1	0
Entry Pocket Length [ft]	100.00	260.00	105.00	100.00	160.00	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]	55.00		55.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
Base Volume Input [veh/h]	71	67	46	101	187	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	67	46	101	187	62
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	19	13	28	53	17
Total Analysis Volume [veh/h]	80	75	52	113	210	70
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	9	36	24	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	18	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	36	36	3	43	9	9
g / C, Green / Cycle	0.60	0.60	0.05	0.71	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.04	0.05	0.03	0.06	0.12	0.04
s, saturation flow rate [veh/h]	1870	1589	1781	1870	1781	1589
c, Capacity [veh/h]	1113	946	90	1331	276	246
d1, Uniform Delay [s]	5.16	5.18	27.94	2.66	24.35	22.47
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.13	0.16	5.76	0.13	4.30	0.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.07	0.08	0.58	0.08	0.76	0.28
d, Delay for Lane Group [s/veh]	5.28	5.34	33.69	2.78	28.64	23.09
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.27	0.26	0.78	0.14	2.79	0.80
50th-Percentile Queue Length [ft/ln]	6.63	6.41	19.45	3.49	69.68	19.97
95th-Percentile Queue Length [veh/ln]	0.48	0.46	1.40	0.25	5.02	1.44
95th-Percentile Queue Length [ft/ln]	11.94	11.54	35.02	6.28	125.43	35.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.28	5.34	33.69	2.78	28.64	23.09
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	5.31		12.52		27.26	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	17.54					
Intersection LOS	B					
Intersection V/C	0.243					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.72
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.141
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	766	1065	666
d_b, Bicycle Delay [s]	11.44	6.56	13.37
l_b,int, Bicycle LOS Score for Intersection	1.815	1.832	1.560
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 3: Indian Canyon Dr (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.539

Intersection Setup

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
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]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	7	78	43	40	211	37	35	116	69	134	77	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth 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]	7	78	43	40	211	37	35	116	69	134	77	26
Peak Hour Factor	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287
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]	2	21	12	11	57	10	9	31	19	36	21	7
Total Analysis Volume [veh/h]	8	84	46	43	227	40	38	125	74	144	83	28
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	538	607	576	550	631	560
Degree of Utilization, x	0.17	0.08	0.54	0.30	0.12	0.46

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.61	0.25	3.20	1.23	0.40	2.36
95th-Percentile Queue Length [ft]	15.29	6.13	79.88	30.77	9.92	59.09
Approach Delay [s/veh]	10.21		16.32	11.09		14.70
Approach LOS	B		C	B		B
Intersection Delay [s/veh]	13.67					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Little Morongo Rd (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.458

Intersection Setup

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
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	1
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	836.00
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]	55.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	27	80	40	53	140	31	28	175	64	44	174	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth 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]	27	80	40	53	140	31	28	175	64	44	174	48
Peak Hour Factor	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593
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	23	12	15	41	9	8	51	19	13	51	14
Total Analysis Volume [veh/h]	31	93	47	62	163	36	33	204	74	51	202	56
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	589	602	555	631	553	632
Degree of Utilization, x	0.29	0.43	0.43	0.12	0.46	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.20	2.19	2.12	0.40	2.38	0.29
95th-Percentile Queue Length [ft]	29.94	54.69	53.11	9.91	59.56	7.27
Approach Delay [s/veh]	11.58	13.50	12.81		13.58	
Approach LOS	B	B	B		B	
Intersection Delay [s/veh]	13.00					
Intersection LOS	B					

Beyond Food Mart Indian Canyon & Pierson

Vistro File: G:\...\PM.vistro
Report File: G:\...\PME.pdf

Scenario 1 Existing
8/30/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Karen Ave (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	EB Left	0.117	3.1	A
2	Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.234	14.8	B
3	Indian Canyon Dr (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	NB Thru	0.442	12.2	B
4	Little Morongo Rd (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	EB Thru	0.430	12.3	B

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

Intersection Level Of Service Report
Intersection 1: Karen Ave (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	3.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.117

Intersection Setup

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	210.00	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]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	14	1	2	151	141	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	1	2	151	141	27
Peak Hour Factor	0.9438	0.9438	0.9438	0.9438	0.9438	0.9438
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	1	40	37	7
Total Analysis Volume [veh/h]	15	1	2	160	149	29
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	10	10	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	37	28	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	1	1	0	51	47	47
g / C, Green / Cycle	0.02	0.02	0.00	0.85	0.78	0.78
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.00	0.09	0.08	0.02
s, saturation flow rate [veh/h]	1781	1589	1781	1870	1870	1589
c, Capacity [veh/h]	39	34	8	1581	1448	1231
d1, Uniform Delay [s]	29.04	28.81	29.83	0.79	1.67	1.56
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.28	0.34	13.93	0.13	0.14	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.03	0.24	0.10	0.10	0.02
d, Delay for Lane Group [s/veh]	35.32	29.15	43.76	0.91	1.81	1.60
Lane Group LOS	D	C	D	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.26	0.02	0.06	0.06	0.06	0.01
50th-Percentile Queue Length [ft/ln]	6.43	0.39	1.45	1.41	1.43	0.30
95th-Percentile Queue Length [veh/ln]	0.46	0.03	0.10	0.10	0.10	0.02
95th-Percentile Queue Length [ft/ln]	11.57	0.71	2.62	2.53	2.58	0.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.32	29.15	43.76	0.91	1.81	1.60
Movement LOS	D	C	D	A	A	A
d_A, Approach Delay [s/veh]	34.94		1.44		1.77	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	3.11					
Intersection LOS	A					
Intersection V/C	0.117					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.946	2.090	0.000
Crosswalk LOS	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	632	1098	799
d_b, Bicycle Delay [s]	14.05	6.10	10.83
l_b,int, Bicycle LOS Score for Intersection	1.560	1.827	1.853
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 2: Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.234

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
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	1	1	0	1	0
Entry Pocket Length [ft]	100.00	260.00	105.00	100.00	160.00	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]	55.00		55.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
Base Volume Input [veh/h]	146	96	57	82	75	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	146	96	57	82	75	98
Peak Hour Factor	0.9172	0.9172	0.9172	0.9172	0.9172	0.9172
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	26	16	22	20	27
Total Analysis Volume [veh/h]	159	105	62	89	82	107
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	9	36	24	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	18	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	39	39	3	46	6	6
g / C, Green / Cycle	0.64	0.64	0.05	0.77	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.09	0.07	0.03	0.05	0.05	0.07
s, saturation flow rate [veh/h]	1870	1589	1781	1870	1781	1589
c, Capacity [veh/h]	1203	1022	99	1431	181	161
d1, Uniform Delay [s]	4.19	4.10	27.78	1.74	25.46	26.04
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.23	0.20	6.25	0.08	1.77	4.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.13	0.10	0.62	0.06	0.45	0.66
d, Delay for Lane Group [s/veh]	4.41	4.30	34.03	1.82	27.23	30.64
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.41	0.27	0.93	0.03	1.05	1.49
50th-Percentile Queue Length [ft/ln]	10.19	6.79	23.19	0.83	26.33	37.33
95th-Percentile Queue Length [veh/ln]	0.73	0.49	1.67	0.06	1.90	2.69
95th-Percentile Queue Length [ft/ln]	18.33	12.22	41.74	1.49	47.39	67.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.41	4.30	34.03	1.82	27.23	30.64
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	4.37		15.05		29.16	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	14.80					
Intersection LOS	B					
Intersection V/C	0.234					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.72
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.114
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	766	1065	666
d_b, Bicycle Delay [s]	11.44	6.56	13.37
l_b,int, Bicycle LOS Score for Intersection	1.995	1.809	1.560
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 3: Indian Canyon Dr (NS) at Pierson Blvd (EW)

Control Type:	All-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):	0.442

Intersection Setup

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
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]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	48	192	64	38	101	20	37	118	18	54	96	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth 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]	48	192	64	38	101	20	37	118	18	54	96	28
Peak Hour Factor	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250
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	52	17	10	27	5	10	32	5	15	26	8
Total Analysis Volume [veh/h]	52	208	69	41	109	22	40	128	19	58	104	30
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	588	677	574	556	638	569
Degree of Utilization, x	0.44	0.10	0.30	0.30	0.03	0.34

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.25	0.34	1.25	1.27	0.09	1.48
95th-Percentile Queue Length [ft]	56.37	8.47	31.34	31.64	2.30	37.07
Approach Delay [s/veh]	12.55		11.94	11.60		12.53
Approach LOS	B		B	B		B
Intersection Delay [s/veh]	12.22					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Little Morongo Rd (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.430

Intersection Setup

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
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	1
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	836.00
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]	55.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	52	159	43	53	80	10	17	196	24	28	185	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth 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]	52	159	43	53	80	10	17	196	24	28	185	80
Peak Hour Factor	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421
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]	14	42	11	14	21	3	5	52	6	7	49	21
Total Analysis Volume [veh/h]	55	169	46	56	85	11	18	208	25	30	196	85
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	628	593	566	642	570	651
Degree of Utilization, x	0.43	0.26	0.40	0.04	0.40	0.13

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.16	1.02	1.91	0.12	1.89	0.45
95th-Percentile Queue Length [ft]	53.99	25.38	47.74	3.03	47.18	11.20
Approach Delay [s/veh]	12.99	11.15	12.76		12.00	
Approach LOS	B	B	B		B	
Intersection Delay [s/veh]	12.33					
Intersection LOS	B					

EXISTING PLUS PROJECT

Beyond Food Mart Indian Canyon & Pierson

Vistro File: G:\...\AM_PH2.vistro
Report File: G:\...\AMEp_II.pdf

Scenario 5 Existing Plus Project Phase II
2/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Karen Ave (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	EB Left	0.163	6.6	A
2	Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.265	17.3	B
3	Indian Canyon Dr (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.466	13.5	B
4	Little Morongo Rd (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	WB Thru	0.513	14.4	B
5	Project Dwy (NS) at Pierson Blvd (EW)	Two-way stop	HCM 7th Edition	SB Left	0.063	13.4	B
6	Indian Canyon Dr (NS) at Project North Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	0.106	14.7	B
7	Indian Canyon Dr (NS) at Project South Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	0.044	16.9	C

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

Intersection Level Of Service Report
Intersection 1: Karen Ave (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	6.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.163

Intersection Setup

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	210.00	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]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	48	2	2	145	111	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	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]	4	0	0	18	18	4
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	2	2	163	129	17
Peak Hour Factor	0.8917	0.8917	0.8917	0.8917	0.8917	0.8917
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	1	1	46	36	5
Total Analysis Volume [veh/h]	58	2	2	183	145	19
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	10	10	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	37	28	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	3	3	0	49	45	45
g / C, Green / Cycle	0.05	0.05	0.00	0.81	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.03	0.00	0.00	0.10	0.08	0.01
s, saturation flow rate [veh/h]	1781	1589	1781	1870	1870	1589
c, Capacity [veh/h]	98	87	8	1519	1386	1178
d1, Uniform Delay [s]	27.78	26.91	29.83	1.18	2.19	2.04
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.65	0.10	13.93	0.16	0.15	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.02	0.24	0.12	0.10	0.02
d, Delay for Lane Group [s/veh]	33.43	27.01	43.76	1.34	2.34	2.07
Lane Group LOS	C	C	D	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.87	0.03	0.06	0.07	0.14	0.02
50th-Percentile Queue Length [ft/ln]	21.82	0.66	1.45	1.71	3.43	0.45
95th-Percentile Queue Length [veh/ln]	1.57	0.05	0.10	0.12	0.25	0.03
95th-Percentile Queue Length [ft/ln]	39.27	1.20	2.62	3.08	6.17	0.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.43	27.01	43.76	1.34	2.34	2.07
Movement LOS	C	C	D	A	A	A
d_A, Approach Delay [s/veh]	33.21		1.80		2.31	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	6.61					
Intersection LOS	A					
Intersection V/C	0.163					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.965	2.101	0.000
Crosswalk LOS	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	632	1098	799
d_b, Bicycle Delay [s]	14.05	6.10	10.83
I_b,int, Bicycle LOS Score for Intersection	1.560	1.865	1.830
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 2: Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	17.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.265

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
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	1	1	0	1	0
Entry Pocket Length [ft]	100.00	260.00	105.00	100.00	160.00	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]	55.00		55.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
Base Volume Input [veh/h]	71	67	46	101	187	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	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]	4	13	0	4	13	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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	80	46	105	200	62
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	22	13	29	56	17
Total Analysis Volume [veh/h]	84	90	52	118	225	70
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	9	36	24	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	18	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	35	35	3	42	10	10
g / C, Green / Cycle	0.59	0.59	0.05	0.70	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.04	0.06	0.03	0.06	0.13	0.04
s, saturation flow rate [veh/h]	1870	1589	1781	1870	1781	1589
c, Capacity [veh/h]	1096	932	90	1315	292	260
d1, Uniform Delay [s]	5.39	5.46	27.94	2.83	24.08	22.01
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.14	0.21	5.76	0.13	4.33	0.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	0.10	0.58	0.09	0.77	0.27
d, Delay for Lane Group [s/veh]	5.53	5.66	33.69	2.96	28.41	22.56
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.29	0.33	0.78	0.17	2.97	0.79
50th-Percentile Queue Length [ft/ln]	7.31	8.15	19.45	4.13	74.30	19.63
95th-Percentile Queue Length [veh/ln]	0.53	0.59	1.40	0.30	5.35	1.41
95th-Percentile Queue Length [ft/ln]	13.17	14.66	35.02	7.43	133.74	35.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.53	5.66	33.69	2.96	28.41	22.56
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	5.60		12.36		27.02	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	17.29					
Intersection LOS	B					
Intersection V/C	0.265					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.72
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.158
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	766	1065	666
d_b, Bicycle Delay [s]	11.44	6.56	13.37
l_b,int, Bicycle LOS Score for Intersection	1.847	1.840	1.560
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 3: Indian Canyon Dr (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	13.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.466

Intersection Setup

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
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	1	0	0	1	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	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	7	78	43	40	211	37	35	116	69	134	77	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	5	14	0	27	14	0	0	5	5	0	5	27
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	10	30	0	59	28	0	0	10	9	0	10	60
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]	22	122	43	126	253	37	35	131	83	134	92	113
Peak Hour Factor	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287
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]	6	33	12	34	68	10	9	35	22	36	25	30
Total Analysis Volume [veh/h]	24	131	46	136	272	40	38	141	89	144	99	122
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	33	0	0	33	0	0	27	0	0	27	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	14	0	0	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22	22	22	22	30	30	30
g / C, Green / Cycle	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.09	0.03	0.11	0.15	0.03	0.10	0.06	0.26
s, saturation flow rate [veh/h]	1703	1589	1207	1870	1589	1731	1589	1411
c, Capacity [veh/h]	704	592	304	697	592	928	785	781
d1, Uniform Delay [s]	12.87	12.16	24.29	13.81	12.11	8.50	8.14	10.41
k, delay calibration	0.11	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	0.16	0.06	1.03	0.36	0.05	0.46	0.29	2.01
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.22	0.08	0.45	0.39	0.07	0.19	0.11	0.47
d, Delay for Lane Group [s/veh]	13.03	12.21	25.32	14.17	12.16	8.96	8.43	12.42
Lane Group LOS	B	B	C	B	B	A	A	B
Critical Lane Group	No	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.12	0.31	1.64	2.12	0.27	1.04	0.50	2.77
50th-Percentile Queue Length [ft/ln]	27.94	7.85	40.90	52.92	6.79	25.96	12.54	69.19
95th-Percentile Queue Length [veh/ln]	2.01	0.56	2.94	3.81	0.49	1.87	0.90	4.98
95th-Percentile Queue Length [ft/ln]	50.30	14.12	73.61	95.25	12.23	46.72	22.57	124.54

Movement, Approach, & Intersection Results

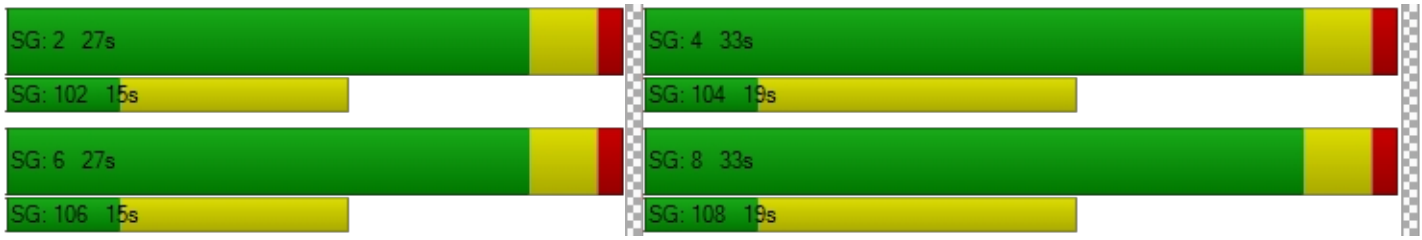
d_M, Delay for Movement [s/veh]	13.03	13.03	12.21	25.32	14.17	12.16	8.96	8.96	8.43	12.42	12.42	12.42
Movement LOS	B	B	B	C	B	B	A	A	A	B	B	B
d_A, Approach Delay [s/veh]	12.84			17.37			8.78			12.42		
Approach LOS	B			B			A			B		
d_I, Intersection Delay [s/veh]	13.46											
Intersection LOS	B											
Intersection V/C	0.466											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
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]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.546	2.496	2.321	2.487
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]	967	967	767	767
d_b, Bicycle Delay [s]	8.01	8.01	11.41	11.41
l_b,int, Bicycle LOS Score for Intersection	1.891	2.299	2.002	2.162
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Little Morongo Rd (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	14.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.513

Intersection Setup

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
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	1
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	836.00
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]	55.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	27	80	40	53	140	31	28	175	64	44	174	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth 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]	4	0	0	0	0	9	9	18	4	0	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	80	40	53	140	40	37	193	68	44	192	48
Peak Hour Factor	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593
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	23	12	15	41	12	11	56	20	13	56	14
Total Analysis Volume [veh/h]	36	93	47	62	163	47	43	225	79	51	223	56
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	560	578	537	609	535	608
Degree of Utilization, x	0.31	0.47	0.50	0.13	0.51	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.34	2.51	2.76	0.44	2.90	0.30
95th-Percentile Queue Length [ft]	33.39	62.63	69.10	11.10	72.46	7.58
Approach Delay [s/veh]	12.33	14.65	14.44		15.11	
Approach LOS	B	B	B		C	
Intersection Delay [s/veh]	14.36					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Project Dwy (NS) at Pierson Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.063

Intersection Setup

Name			Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
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		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name			Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	0	0	0	220	124	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth 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]	9	22	22	0	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	19	49	50	0	0	20
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]	28	71	72	220	124	29
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	19	20	60	34	8
Total Analysis Volume [veh/h]	30	77	78	239	135	32
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	0.06	0.08	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.40	9.79	7.64	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.51	0.51	0.14	0.14	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.86	12.86	3.40	3.40	0.00	0.00
d_A, Approach Delay [s/veh]	10.80		1.88		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.96					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Indian Canyon Dr (NS) at Project North Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.106

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Project North Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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	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]	55.00		55.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Project North Dwy	
Base Volume Input [veh/h]	0	139	288	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth 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]	14	4	4	13	13	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	30	10	10	30	29	29
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]	44	153	302	43	42	43
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	42	82	12	11	12
Total Analysis Volume [veh/h]	48	166	328	47	46	47
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	0.04	0.00	0.00	0.00	0.11	0.07
d_M, Delay for Movement [s/veh]	8.10	0.00	0.00	0.00	14.68	11.61
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.62	0.62
95th-Percentile Queue Length [ft/ln]	2.05	2.05	0.00	0.00	15.58	15.58
d_A, Approach Delay [s/veh]	1.82		0.00		13.13	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.36					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 7: Indian Canyon Dr (NS) at Project South Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Project South Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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	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	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Project South Dwy	
Base Volume Input [veh/h]	0	139	288	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth 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]	27	14	14	4	4	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	60	30	29	10	10	58
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]	87	183	331	14	14	85
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	50	90	4	4	23
Total Analysis Volume [veh/h]	95	199	360	15	15	92
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	0.08	0.00	0.00	0.00	0.04	0.14
d_M, Delay for Movement [s/veh]	8.15	0.00	0.00	0.00	16.85	11.63
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.00	0.00	0.65	0.65
95th-Percentile Queue Length [ft/ln]	4.18	4.18	0.00	0.00	16.25	16.25
d_A, Approach Delay [s/veh]	2.63		0.00		12.36	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.70					
Intersection LOS	C					

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Scenario 5 Existing Plus Project Phase II
2/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Karen Ave (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	EB Left	0.135	3.4	A
2	Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.238	14.7	B
3	Indian Canyon Dr (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.422	13.4	B
4	Little Morongo Rd (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	EB Thru	0.467	13.4	B
5	Project Dwy (NS) at Pierson Blvd (EW)	Two-way stop	HCM 7th Edition	SB Left	0.059	13.2	B
6	Indian Canyon Dr (NS) at Project North Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	0.096	14.3	B
7	Indian Canyon Dr (NS) at Project South Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	0.040	16.1	C

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

Intersection Level Of Service Report
Intersection 1: Karen Ave (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	3.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.135

Intersection Setup

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	210.00	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]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	14	1	2	151	141	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	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]	5	0	0	20	19	5
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	1	2	171	160	32
Peak Hour Factor	0.9438	0.9438	0.9438	0.9438	0.9438	0.9438
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	1	45	42	8
Total Analysis Volume [veh/h]	20	1	2	181	170	34
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	10	10	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	37	28	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	2	2	0	51	46	46
g / C, Green / Cycle	0.03	0.03	0.00	0.84	0.77	0.77
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.00	0.10	0.09	0.02
s, saturation flow rate [veh/h]	1781	1589	1781	1870	1870	1589
c, Capacity [veh/h]	48	43	8	1571	1438	1222
d1, Uniform Delay [s]	28.82	28.51	29.83	0.85	1.76	1.64
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.76	0.22	13.93	0.15	0.17	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.02	0.24	0.12	0.12	0.03
d, Delay for Lane Group [s/veh]	34.58	28.73	43.76	1.00	1.93	1.68
Lane Group LOS	C	C	D	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.33	0.02	0.06	0.07	0.07	0.02
50th-Percentile Queue Length [ft/ln]	8.21	0.38	1.45	1.63	1.82	0.39
95th-Percentile Queue Length [veh/ln]	0.59	0.03	0.10	0.12	0.13	0.03
95th-Percentile Queue Length [ft/ln]	14.78	0.68	2.62	2.93	3.28	0.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.58	28.73	43.76	1.00	1.93	1.68
Movement LOS	C	C	D	A	A	A
d_A, Approach Delay [s/veh]	34.30		1.47		1.89	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	3.37					
Intersection LOS	A					
Intersection V/C	0.135					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.952	2.113	0.000
Crosswalk LOS	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	632	1098	799
d_b, Bicycle Delay [s]	14.05	6.10	10.83
l_b,int, Bicycle LOS Score for Intersection	1.560	1.862	1.896
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 2: Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	14.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.238

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
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	1	1	0	1	0
Entry Pocket Length [ft]	100.00	260.00	105.00	100.00	160.00	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]	55.00		55.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
Base Volume Input [veh/h]	146	96	57	82	75	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	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]	5	14	0	5	15	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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	110	57	87	90	98
Peak Hour Factor	0.9172	0.9172	0.9172	0.9172	0.9172	0.9172
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	30	16	24	25	27
Total Analysis Volume [veh/h]	165	120	62	95	98	107
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	9	36	24	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	18	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	39	39	3	46	6	6
g / C, Green / Cycle	0.64	0.64	0.05	0.76	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.09	0.08	0.03	0.05	0.06	0.07
s, saturation flow rate [veh/h]	1870	1589	1781	1870	1781	1589
c, Capacity [veh/h]	1200	1020	99	1429	183	164
d1, Uniform Delay [s]	4.24	4.18	27.78	1.76	25.61	25.95
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	0.24	6.25	0.09	2.41	4.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.12	0.62	0.07	0.53	0.65
d, Delay for Lane Group [s/veh]	4.47	4.41	34.03	1.85	28.02	30.31
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.43	0.32	0.93	0.04	1.28	1.48
50th-Percentile Queue Length [ft/ln]	10.73	7.93	23.19	0.89	32.08	37.06
95th-Percentile Queue Length [veh/ln]	0.77	0.57	1.67	0.06	2.31	2.67
95th-Percentile Queue Length [ft/ln]	19.31	14.28	41.74	1.60	57.75	66.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.47	4.41	34.03	1.85	28.02	30.31
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	4.45		14.56		29.22	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	14.75					
Intersection LOS	B					
Intersection V/C	0.238					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.72
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.131
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	766	1065	666
d_b, Bicycle Delay [s]	11.44	6.56	13.37
l_b,int, Bicycle LOS Score for Intersection	2.030	1.819	1.560
Bicycle LOS	B	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 3: Indian Canyon Dr (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	13.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.422

Intersection Setup

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
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	1	0	0	1	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	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	48	192	64	38	101	20	37	118	18	54	96	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	5	15	0	29	14	0	0	5	5	0	5	30
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	8	25	0	50	26	0	0	9	9	0	9	50
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	232	64	117	141	20	37	132	32	54	110	108
Peak Hour Factor	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250
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	63	17	32	38	5	10	36	9	15	30	29
Total Analysis Volume [veh/h]	66	251	69	126	152	22	40	143	35	58	119	117
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	33	0	0	33	0	0	27	0	0	27	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	14	0	0	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	21	21	21	21	31	31	31
g / C, Green / Cycle	0.35	0.35	0.35	0.35	0.35	0.51	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.18	0.04	0.12	0.08	0.01	0.11	0.02	0.18
s, saturation flow rate [veh/h]	1715	1589	1059	1870	1589	1696	1589	1627
c, Capacity [veh/h]	677	561	281	660	561	945	817	908
d1, Uniform Delay [s]	15.20	13.15	24.47	13.69	12.75	7.86	7.25	8.52
k, delay calibration	0.11	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	0.50	0.10	1.11	0.18	0.03	0.46	0.10	0.95
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.12	0.45	0.23	0.04	0.19	0.04	0.32
d, Delay for Lane Group [s/veh]	15.70	13.25	25.59	13.87	12.78	8.31	7.35	9.47
Lane Group LOS	B	B	C	B	B	A	A	A
Critical Lane Group	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.67	0.50	1.53	1.15	0.16	1.00	0.18	1.77
50th-Percentile Queue Length [ft/ln]	66.86	12.56	38.28	28.76	3.88	24.92	4.43	44.16
95th-Percentile Queue Length [veh/ln]	4.81	0.90	2.76	2.07	0.28	1.79	0.32	3.18
95th-Percentile Queue Length [ft/ln]	120.34	22.62	68.90	51.77	6.98	44.85	7.97	79.48

Movement, Approach, & Intersection Results

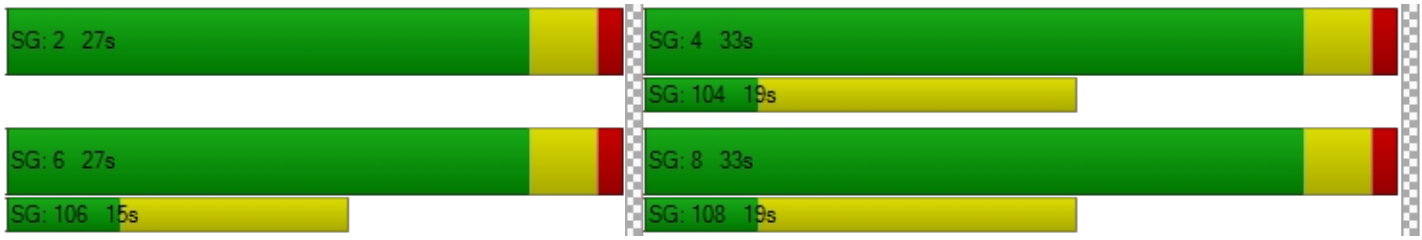
d_M, Delay for Movement [s/veh]	15.70	15.70	13.25	25.59	13.87	12.78	8.31	8.31	7.35	9.47	9.47	9.47
Movement LOS	B	B	B	C	B	B	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	15.26			18.71			8.16			9.47		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	13.41											
Intersection LOS	B											
Intersection V/C	0.422											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.485	2.378	2.442
Crosswalk LOS	F	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]	966	966	766	766
d_b, Bicycle Delay [s]	8.01	8.01	11.41	11.41
l_b,int, Bicycle LOS Score for Intersection	2.197	2.055	1.919	2.045
Bicycle LOS	B	B	A	B

Sequence

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



Intersection Level Of Service Report

Intersection 4: Little Morongo Rd (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
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	1
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	836.00
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]	55.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	52	159	43	53	80	10	17	196	24	28	185	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth 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]	5	0	0	0	0	10	10	19	5	0	20	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]	57	159	43	53	80	20	27	215	29	28	205	80
Peak Hour Factor	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421
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]	15	42	11	14	21	5	7	57	8	7	54	21
Total Analysis Volume [veh/h]	61	169	46	56	85	21	29	228	31	30	218	85
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	602	573	550	624	554	630
Degree of Utilization, x	0.46	0.28	0.47	0.05	0.45	0.14

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.40	1.16	2.46	0.16	2.29	0.47
95th-Percentile Queue Length [ft]	59.98	28.95	61.59	3.91	57.30	11.63
Approach Delay [s/veh]	13.94	11.75	14.19		13.06	
Approach LOS	B	B	B		B	
Intersection Delay [s/veh]	13.40					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Project Dwy (NS) at Pierson Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.059

Intersection Setup

Name			Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
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		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name			Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	0	0	0	173	168	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth 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]	10	24	25	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	17	41	41	0	0	17
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]	27	65	66	173	168	27
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	18	18	47	46	7
Total Analysis Volume [veh/h]	29	71	72	188	183	29
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	0.06	0.08	0.05	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.20	10.03	7.73	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.49	0.49	0.12	0.12	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.32	12.32	3.12	3.12	0.00	0.00
d_A, Approach Delay [s/veh]	10.95		2.14		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.89					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Indian Canyon Dr (NS) at Project North Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.096

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Project North Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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	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]	55.00		55.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Project North Dwy	
Base Volume Input [veh/h]	0	257	180	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth 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]	15	5	5	15	14	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	25	8	8	25	25	25
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]	40	270	193	40	39	40
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	73	52	11	11	11
Total Analysis Volume [veh/h]	43	293	210	43	42	43
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	0.03	0.00	0.00	0.00	0.10	0.05
d_M, Delay for Movement [s/veh]	7.79	0.00	0.00	0.00	14.29	10.56
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.52	0.52
95th-Percentile Queue Length [ft/ln]	1.83	1.83	0.00	0.00	13.00	13.00
d_A, Approach Delay [s/veh]	1.00		0.00		12.40	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.06					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 7: Indian Canyon Dr (NS) at Project South Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.040

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Project South Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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	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	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Project South Dwy	
Base Volume Input [veh/h]	0	257	180	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth 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]	30	15	15	5	5	29
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	49	25	25	8	8	50
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]	79	297	220	13	13	79
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	81	60	4	4	21
Total Analysis Volume [veh/h]	86	323	239	14	14	86
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	0.07	0.00	0.00	0.00	0.04	0.11
d_M, Delay for Movement [s/veh]	7.84	0.00	0.00	0.00	16.12	10.47
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.00	0.00	0.52	0.52
95th-Percentile Queue Length [ft/ln]	3.76	3.76	0.00	0.00	12.95	12.95
d_A, Approach Delay [s/veh]	1.65		0.00		11.26	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.36					
Intersection LOS	C					

OPENING YEAR (2025) WITHOUT PROJECT

PHASE I

Beyond Food Mart Indian Canyon & Pierson

Vistro File: G:\...\AM_PHI.vistro
Report File: G:\...\AMOY_I.pdf

Scenario 3 Opening Year Without Project
10/26/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Karen Ave (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	EB Left	0.150	6.8	A
2	Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.251	17.5	B
3	Indian Canyon Dr (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	SB Thru	0.561	14.2	B
4	Little Morongo Rd (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	WB Thru	0.477	13.4	B

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

Intersection Level Of Service Report
Intersection 1: Karen Ave (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	6.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.150

Intersection Setup

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	210.00	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]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	48	2	2	145	111	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	2	2	149	114	13
Peak Hour Factor	0.8917	0.8917	0.8917	0.8917	0.8917	0.8917
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	1	1	42	32	4
Total Analysis Volume [veh/h]	55	2	2	167	128	15
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	10	10	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	37	28	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	3	3	0	49	45	45
g / C, Green / Cycle	0.05	0.05	0.00	0.81	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.03	0.00	0.00	0.09	0.07	0.01
s, saturation flow rate [veh/h]	1781	1589	1781	1870	1870	1589
c, Capacity [veh/h]	95	85	8	1522	1389	1180
d1, Uniform Delay [s]	27.82	27.00	29.83	1.15	2.14	2.01
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.49	0.11	13.93	0.15	0.13	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.02	0.24	0.11	0.09	0.01
d, Delay for Lane Group [s/veh]	33.32	27.11	43.76	1.29	2.27	2.03
Lane Group LOS	C	C	D	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.83	0.03	0.06	0.06	0.12	0.01
50th-Percentile Queue Length [ft/ln]	20.68	0.67	1.45	1.54	2.90	0.34
95th-Percentile Queue Length [veh/ln]	1.49	0.05	0.10	0.11	0.21	0.02
95th-Percentile Queue Length [ft/ln]	37.23	1.20	2.62	2.77	5.22	0.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.32	27.11	43.76	1.29	2.27	2.03
Movement LOS	C	C	D	A	A	A
d_A, Approach Delay [s/veh]	33.10		1.79		2.25	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	6.81					
Intersection LOS	A					
Intersection V/C	0.150					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.961	2.083	0.000
Crosswalk LOS	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	632	1098	799
d_b, Bicycle Delay [s]	14.05	6.10	10.83
I_b,int, Bicycle LOS Score for Intersection	1.560	1.838	1.796
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 2: Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	17.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.251

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
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	1	1	0	1	0
Entry Pocket Length [ft]	100.00	260.00	105.00	100.00	160.00	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]	55.00		55.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
Base Volume Input [veh/h]	71	67	46	101	187	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	69	47	104	193	64
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	19	13	29	54	18
Total Analysis Volume [veh/h]	82	78	53	117	217	72
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	9	36	24	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	18	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	36	36	3	43	10	10
g / C, Green / Cycle	0.59	0.59	0.05	0.71	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.04	0.05	0.03	0.06	0.12	0.05
s, saturation flow rate [veh/h]	1870	1589	1781	1870	1781	1589
c, Capacity [veh/h]	1104	938	91	1324	284	253
d1, Uniform Delay [s]	5.28	5.31	27.92	2.74	24.22	22.27
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.13	0.17	5.79	0.13	4.30	0.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.07	0.08	0.58	0.09	0.77	0.28
d, Delay for Lane Group [s/veh]	5.41	5.48	33.71	2.87	28.51	22.88
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.28	0.27	0.79	0.15	2.87	0.82
50th-Percentile Queue Length [ft/ln]	6.98	6.85	19.82	3.85	71.81	20.41
95th-Percentile Queue Length [veh/ln]	0.50	0.49	1.43	0.28	5.17	1.47
95th-Percentile Queue Length [ft/ln]	12.57	12.34	35.68	6.92	129.26	36.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.41	5.48	33.71	2.87	28.51	22.88
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	5.45		12.49		27.11	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	17.50					
Intersection LOS	B					
Intersection V/C	0.251					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.72
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.148
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	766	1065	666
d_b, Bicycle Delay [s]	11.44	6.56	13.37
l_b,int, Bicycle LOS Score for Intersection	1.824	1.840	1.560
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 3: Indian Canyon Dr (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.561

Intersection Setup

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
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]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	7	78	43	40	211	37	35	116	69	134	77	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
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]	7	80	44	41	217	38	36	120	71	138	79	27
Peak Hour Factor	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287
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]	2	22	12	11	58	10	10	32	19	37	21	7
Total Analysis Volume [veh/h]	8	86	47	44	234	41	39	129	76	149	85	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	531	598	569	544	621	553
Degree of Utilization, x	0.18	0.08	0.56	0.31	0.12	0.48

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.64	0.26	3.45	1.31	0.42	2.54
95th-Percentile Queue Length [ft]	15.95	6.38	86.20	32.64	10.39	63.52
Approach Delay [s/veh]	10.37		17.10	11.34		15.26
Approach LOS	B		C	B		C
Intersection Delay [s/veh]	14.16					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Little Morongo Rd (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.477

Intersection Setup

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
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	1
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	836.00
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]	55.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	27	80	40	53	140	31	28	175	64	44	174	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
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]	28	82	41	55	144	32	29	180	66	45	179	49
Peak Hour Factor	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593
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	24	12	16	42	9	8	52	19	13	52	14
Total Analysis Volume [veh/h]	33	95	48	64	168	37	34	209	77	52	208	57
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	580	593	547	622	545	622
Degree of Utilization, x	0.30	0.45	0.44	0.12	0.48	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.27	2.35	2.26	0.42	2.55	0.30
95th-Percentile Queue Length [ft]	31.85	58.84	56.56	10.54	63.81	7.53
Approach Delay [s/veh]	11.88	14.01	13.20		14.08	
Approach LOS	B	B	B		B	
Intersection Delay [s/veh]	13.44					
Intersection LOS	B					

Beyond Food Mart Indian Canyon & Pierson

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Report File: G:\...\PMOY_I.pdf

Scenario 3 Opening Year Without Project
10/26/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Karen Ave (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	EB Left	0.121	3.1	A
2	Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.241	14.8	B
3	Indian Canyon Dr (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	NB Thru	0.460	12.6	B
4	Little Morongo Rd (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	EB Thru	0.449	12.7	B

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

Intersection Level Of Service Report
Intersection 1: Karen Ave (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	3.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.121

Intersection Setup

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	210.00	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]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	14	1	2	151	141	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	1	2	156	145	28
Peak Hour Factor	0.9438	0.9438	0.9438	0.9438	0.9438	0.9438
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	1	41	38	7
Total Analysis Volume [veh/h]	15	1	2	165	154	30
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	10	10	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	37	28	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	1	1	0	51	47	47
g / C, Green / Cycle	0.02	0.02	0.00	0.85	0.78	0.78
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.00	0.09	0.08	0.02
s, saturation flow rate [veh/h]	1781	1589	1781	1870	1870	1589
c, Capacity [veh/h]	39	34	8	1581	1448	1231
d1, Uniform Delay [s]	29.04	28.81	29.83	0.79	1.67	1.56
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.28	0.34	13.93	0.13	0.15	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.03	0.24	0.10	0.11	0.02
d, Delay for Lane Group [s/veh]	35.32	29.15	43.76	0.92	1.82	1.60
Lane Group LOS	D	C	D	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.26	0.02	0.06	0.06	0.06	0.01
50th-Percentile Queue Length [ft/ln]	6.43	0.39	1.45	1.46	1.49	0.31
95th-Percentile Queue Length [veh/ln]	0.46	0.03	0.10	0.10	0.11	0.02
95th-Percentile Queue Length [ft/ln]	11.57	0.71	2.62	2.62	2.68	0.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.32	29.15	43.76	0.92	1.82	1.60
Movement LOS	D	C	D	A	A	A
d_A, Approach Delay [s/veh]	34.94		1.43		1.78	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	3.07					
Intersection LOS	A					
Intersection V/C	0.121					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.947	2.095	0.000
Crosswalk LOS	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	632	1098	799
d_b, Bicycle Delay [s]	14.05	6.10	10.83
l_b,int, Bicycle LOS Score for Intersection	1.560	1.835	1.863
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 2: Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.241

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
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	1	1	0	1	0
Entry Pocket Length [ft]	100.00	260.00	105.00	100.00	160.00	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]	55.00		55.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
Base Volume Input [veh/h]	146	96	57	82	75	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	99	59	84	77	101
Peak Hour Factor	0.9172	0.9172	0.9172	0.9172	0.9172	0.9172
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	27	16	23	21	28
Total Analysis Volume [veh/h]	164	108	64	92	84	110
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	9	36	24	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	18	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	39	39	3	46	6	6
g / C, Green / Cycle	0.64	0.64	0.06	0.76	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.09	0.07	0.04	0.05	0.05	0.07
s, saturation flow rate [veh/h]	1870	1589	1781	1870	1781	1589
c, Capacity [veh/h]	1197	1017	101	1427	185	165
d1, Uniform Delay [s]	4.27	4.18	27.76	1.77	25.36	25.96
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	0.21	6.38	0.09	1.74	4.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.11	0.63	0.06	0.45	0.67
d, Delay for Lane Group [s/veh]	4.51	4.39	34.14	1.86	27.10	30.54
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.43	0.29	0.96	0.03	1.07	1.53
50th-Percentile Queue Length [ft/ln]	10.79	7.16	23.96	0.86	26.87	38.28
95th-Percentile Queue Length [veh/ln]	0.78	0.52	1.73	0.06	1.93	2.76
95th-Percentile Queue Length [ft/ln]	19.43	12.89	43.13	1.55	48.37	68.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.51	4.39	34.14	1.86	27.10	30.54
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	4.47		15.10		29.05	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	14.80					
Intersection LOS	B					
Intersection V/C	0.241					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.72
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.119
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	766	1065	666
d_b, Bicycle Delay [s]	11.44	6.56	13.37
l_b,int, Bicycle LOS Score for Intersection	2.008	1.817	1.560
Bicycle LOS	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 3: Indian Canyon Dr (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.460

Intersection Setup

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
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]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	48	192	64	38	101	20	37	118	18	54	96	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
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]	49	198	66	39	104	21	38	122	19	56	99	29
Peak Hour Factor	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250
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	54	18	11	28	6	10	33	5	15	27	8
Total Analysis Volume [veh/h]	53	214	71	42	112	23	41	132	21	61	107	31
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	581	668	566	550	629	562
Degree of Utilization, x	0.46	0.11	0.31	0.31	0.03	0.35

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.40	0.36	1.33	1.34	0.10	1.59
95th-Percentile Queue Length [ft]	60.09	8.88	33.20	33.50	2.59	39.75
Approach Delay [s/veh]	12.94		12.22	11.84		12.88
Approach LOS	B		B	B		B
Intersection Delay [s/veh]	12.55					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Little Morongo Rd (NS) at Pierson Blvd (EW)

Control Type:	All-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):	0.449

Intersection Setup

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
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	1
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	836.00
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]	55.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	52	159	43	53	80	10	17	196	24	28	185	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
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]	54	164	44	55	82	10	18	202	25	29	191	82
Peak Hour Factor	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421
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]	14	44	12	15	22	3	5	54	7	8	51	22
Total Analysis Volume [veh/h]	57	174	47	58	87	11	19	214	27	31	203	87
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	619	583	558	632	563	641
Degree of Utilization, x	0.45	0.27	0.42	0.04	0.42	0.14

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.32	1.07	2.05	0.13	2.03	0.47
95th-Percentile Queue Length [ft]	58.03	26.84	51.15	3.34	50.85	11.70
Approach Delay [s/veh]	13.48	11.41	13.16		12.38	
Approach LOS	B	B	B		B	
Intersection Delay [s/veh]	12.73					
Intersection LOS	B					

OPENING YEAR (2025) WITH PROJECT

PHASE I

Beyond Food Mart Indian Canyon & Pierson

Vistro File: G:\...\AM_PHI.vistro
Report File: G:\...\AMOYp_I.pdf

Scenario 6 Opening Year With Project Phase I
2/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Karen Ave (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	EB Left	0.162	7.1	A
2	Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.265	18.6	B
3	Indian Canyon Dr (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.470	13.3	B
4	Little Morongo Rd (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	WB Thru	0.528	14.8	B
5	Project Dwy (NS) at Pierson Blvd (EW)	Two-way stop	HCM 7th Edition	SB Left	0.091	13.7	B
6	Indian Canyon Dr (NS) at Project North Dwy (EW)	Two-way stop	HCM 7th Edition	SB Thru	0.004	0.0	A
7	Indian Canyon Dr (NS) at Project South Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	0.150	17.0	C

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

Intersection Level Of Service Report
Intersection 1: Karen Ave (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.162

Intersection Setup

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	210.00	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]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	48	2	2	145	111	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	16	15	4
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	53	2	2	165	129	17
Peak Hour Factor	0.8917	0.8917	0.8917	0.8917	0.8917	0.8917
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	1	1	46	36	5
Total Analysis Volume [veh/h]	59	2	2	185	145	19
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	10	10	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	25	0	12	40	28	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	3	0	54	49	49
g / C, Green / Cycle	0.05	0.05	0.00	0.82	0.76	0.76
(v / s)_i Volume / Saturation Flow Rate	0.03	0.00	0.00	0.10	0.08	0.01
s, saturation flow rate [veh/h]	1781	1589	1781	1870	1870	1589
c, Capacity [veh/h]	95	85	8	1541	1417	1205
d1, Uniform Delay [s]	30.20	29.23	32.31	1.12	2.07	1.93
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.50	0.11	15.04	0.16	0.14	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.02	0.25	0.12	0.10	0.02
d, Delay for Lane Group [s/veh]	36.70	29.34	47.36	1.28	2.21	1.95
Lane Group LOS	D	C	D	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.99	0.03	0.06	0.07	0.14	0.02
50th-Percentile Queue Length [ft/ln]	24.63	0.73	1.56	1.71	3.59	0.47
95th-Percentile Queue Length [veh/ln]	1.77	0.05	0.11	0.12	0.26	0.03
95th-Percentile Queue Length [ft/ln]	44.33	1.32	2.81	3.07	6.47	0.84

Movement, Approach, & Intersection Results

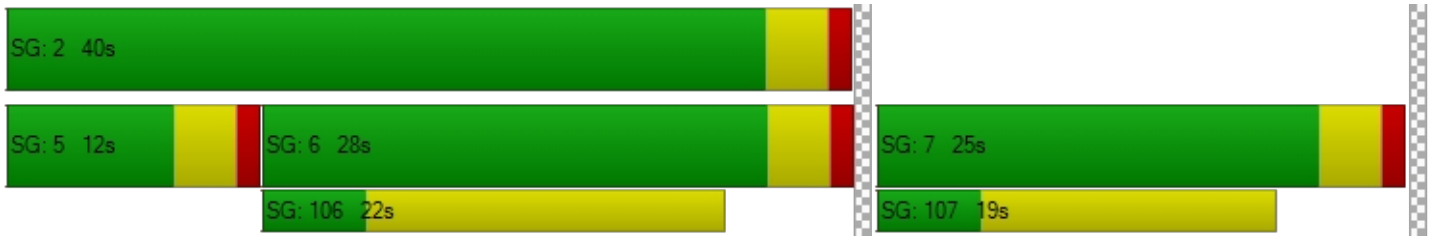
d_M, Delay for Movement [s/veh]	36.70	29.34	47.36	1.28	2.21	1.95
Movement LOS	D	C	D	A	A	A
d_A, Approach Delay [s/veh]	36.45		1.77		2.18	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	7.07					
Intersection LOS	A					
Intersection V/C	0.162					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.16	24.16	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.970	2.106	0.000
Crosswalk LOS	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	645	1106	738
d_b, Bicycle Delay [s]	14.92	6.49	12.96
I_b,int, Bicycle LOS Score for Intersection	1.560	1.868	1.830
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 2: Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.265

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
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	1	1	0	1	0
Entry Pocket Length [ft]	100.00	260.00	105.00	100.00	160.00	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]	55.00		55.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
Base Volume Input [veh/h]	71	67	46	101	187	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	12	0	4	12	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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	81	47	108	205	64
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	23	13	30	58	18
Total Analysis Volume [veh/h]	87	91	53	121	230	72
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	12	39	26	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	18	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	39	39	3	46	11	11
g / C, Green / Cycle	0.60	0.60	0.05	0.71	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.05	0.06	0.03	0.06	0.13	0.05
s, saturation flow rate [veh/h]	1870	1589	1781	1870	1781	1589
c, Capacity [veh/h]	1126	957	88	1333	293	261
d1, Uniform Delay [s]	5.40	5.47	30.34	2.87	26.13	23.83
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.13	0.20	6.50	0.13	4.67	0.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	0.10	0.60	0.09	0.79	0.28
d, Delay for Lane Group [s/veh]	5.54	5.66	36.85	3.00	30.79	24.40
Lane Group LOS	A	A	D	A	C	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.33	0.36	0.88	0.20	3.37	0.90
50th-Percentile Queue Length [ft/ln]	8.22	8.90	21.97	4.99	84.27	22.38
95th-Percentile Queue Length [veh/ln]	0.59	0.64	1.58	0.36	6.07	1.61
95th-Percentile Queue Length [ft/ln]	14.79	16.01	39.54	8.98	151.68	40.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.54	5.66	36.85	3.00	30.79	24.40
Movement LOS	A	A	D	A	C	C
d_A, Approach Delay [s/veh]	5.60		13.31		29.27	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	18.58					
Intersection LOS	B					
Intersection V/C	0.265					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	24.16
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.167
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	707	1076	676
d_b, Bicycle Delay [s]	13.60	6.95	14.26
l_b,int, Bicycle LOS Score for Intersection	1.853	1.847	1.560
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 3: Indian Canyon Dr (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	13.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.470

Intersection Setup

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
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	1	0	0	1	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	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	7	78	43	40	211	37	35	116	69	134	77	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	12	0	19	11	0	0	8	4	0	20	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	10	29	0	49	28	0	0	19	9	0	48	20
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]	21	121	44	109	256	38	36	147	84	138	147	55
Peak Hour Factor	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287
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]	6	33	12	29	69	10	10	40	23	37	40	15
Total Analysis Volume [veh/h]	23	130	47	117	276	41	39	158	90	149	158	59
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	33	0	0	33	0	0	27	0	0	27	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	14	0	0	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22	22	22	22	30	30	30
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.36	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.09	0.03	0.10	0.15	0.03	0.11	0.06	0.26
s, saturation flow rate [veh/h]	1701	1589	1207	1870	1589	1740	1589	1410
c, Capacity [veh/h]	685	575	285	677	575	950	802	796
d1, Uniform Delay [s]	13.30	12.58	24.77	14.32	12.53	8.23	7.80	10.09
k, delay calibration	0.11	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	0.16	0.06	0.95	0.39	0.05	0.50	0.28	1.91
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.22	0.08	0.41	0.41	0.07	0.21	0.11	0.46
d, Delay for Lane Group [s/veh]	13.47	12.64	25.72	14.72	12.59	8.72	8.09	12.00
Lane Group LOS	B	B	C	B	B	A	A	B
Critical Lane Group	No	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.13	0.33	1.42	2.21	0.29	1.12	0.49	2.71
50th-Percentile Queue Length [ft/ln]	28.29	8.24	35.44	55.31	7.16	27.88	12.24	67.86
95th-Percentile Queue Length [veh/ln]	2.04	0.59	2.55	3.98	0.52	2.01	0.88	4.89
95th-Percentile Queue Length [ft/ln]	50.91	14.82	63.80	99.56	12.88	50.19	22.04	122.15

Movement, Approach, & Intersection Results

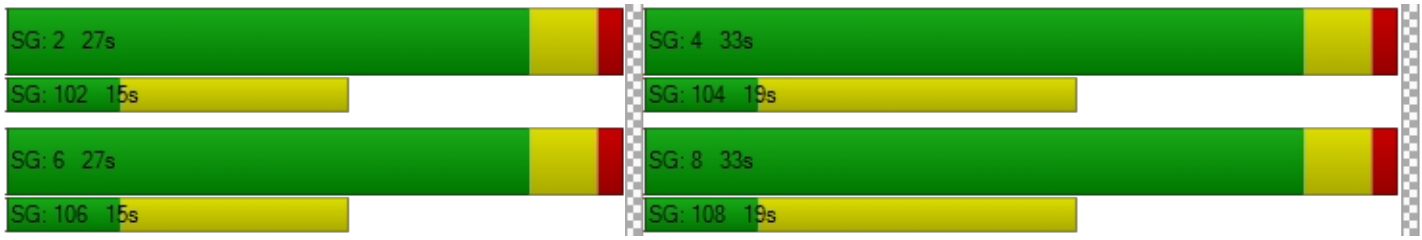
d_M, Delay for Movement [s/veh]	13.47	13.47	12.64	25.72	14.72	12.59	8.72	8.72	8.09	12.00	12.00	12.00
Movement LOS	B	B	B	C	B	B	A	A	A	B	B	B
d_A, Approach Delay [s/veh]	13.27			17.48			8.52			12.00		
Approach LOS	B			B			A			B		
d_I, Intersection Delay [s/veh]	13.27											
Intersection LOS	B											
Intersection V/C	0.470											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
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]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.559	2.463	2.351	2.460
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]	967	967	767	767
d_b, Bicycle Delay [s]	8.01	8.01	11.41	11.41
l_b,int, Bicycle LOS Score for Intersection	1.890	2.276	2.033	2.164
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Little Morongo Rd (NS) at Pierson Blvd (EW)

Control Type:	All-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):	0.528

Intersection Setup

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
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	1
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	836.00
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]	55.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	27	80	40	53	140	31	28	175	64	44	174	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	0	0	8	8	15	4	0	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	82	41	55	144	40	37	195	70	45	195	49
Peak Hour Factor	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593
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	24	12	16	42	12	11	57	20	13	57	14
Total Analysis Volume [veh/h]	37	95	48	64	168	47	43	227	81	52	227	57
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	554	572	531	601	529	600
Degree of Utilization, x	0.32	0.49	0.51	0.13	0.53	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.40	2.67	2.86	0.46	3.05	0.31
95th-Percentile Queue Length [ft]	35.05	66.65	71.42	11.59	76.34	7.83
Approach Delay [s/veh]	12.59	15.15	14.76		15.59	
Approach LOS	B	C	B		C	
Intersection Delay [s/veh]	14.76					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Project Dwy (NS) at Pierson Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.091

Intersection Setup

Name			Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
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		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name			Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	0	0	0	220	124	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	19	20	0	0	24
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	28	49	48	0	0	57
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]	40	68	68	227	128	81
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	18	18	62	35	22
Total Analysis Volume [veh/h]	43	74	74	247	139	88
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	0.09	0.08	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.69	10.06	7.77	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.62	0.62	0.13	0.13	0.00	0.00
95th-Percentile Queue Length [ft/ln]	15.45	15.45	3.21	3.21	0.00	0.00
d_A, Approach Delay [s/veh]	11.39		1.79		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.87					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 6: Indian Canyon Dr (NS) at Project North 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 Canyon Dr		Indian Canyon Dr		Project North Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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	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]	55.00		55.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Project North Dwy	
Base Volume Input [veh/h]	0	139	288	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	39	39	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	198	352	0	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	54	96	0	0	0
Total Analysis Volume [veh/h]	0	215	383	0	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]	8.06	0.00	0.00	0.00	12.74	10.42
Movement LOS	A	A	A	A	B	B
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		11.58	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 7: Indian Canyon Dr (NS) at Project South Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	17.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.150

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Project South Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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	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	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Project South Dwy	
Base Volume Input [veh/h]	0	139	288	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	0	0	16	16	30
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	48	0	0	38	39	77
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]	68	143	297	54	55	107
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	39	81	15	15	29
Total Analysis Volume [veh/h]	74	155	323	59	60	116
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	0.06	0.00	0.00	0.00	0.15	0.17
d_M, Delay for Movement [s/veh]	8.15	0.00	0.00	0.00	16.97	13.20
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	1.36	1.36
95th-Percentile Queue Length [ft/ln]	3.21	3.21	0.00	0.00	33.92	33.92
d_A, Approach Delay [s/veh]	2.63		0.00		14.49	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS	C					

Beyond Food Mart Indian Canyon & Pierson

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Report File: G:\...\PMOYp_I.pdf

Scenario 6 Opening Year With Project Phase I
2/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Karen Ave (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	EB Left	0.138	3.3	A
2	Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.244	14.8	B
3	Indian Canyon Dr (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.423	13.5	B
4	Little Morongo Rd (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	EB Thru	0.486	13.9	B
5	Project Dwy (NS) at Pierson Blvd (EW)	Two-way stop	HCM 7th Edition	SB Left	0.085	13.5	B
6	Indian Canyon Dr (NS) at Project North Dwy (EW)	Two-way stop	HCM 7th Edition	NB Thru	0.003	0.0	A
7	Indian Canyon Dr (NS) at Project South Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	0.137	16.2	C

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

Intersection Level Of Service Report
Intersection 1: Karen Ave (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	3.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.138

Intersection Setup

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	210.00	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]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	14	1	2	151	141	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	19	18	5
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	1	2	175	163	33
Peak Hour Factor	0.9438	0.9438	0.9438	0.9438	0.9438	0.9438
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	1	46	43	9
Total Analysis Volume [veh/h]	20	1	2	185	173	35
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	10	10	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	37	28	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	2	2	0	51	46	46
g / C, Green / Cycle	0.03	0.03	0.00	0.84	0.77	0.77
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.00	0.10	0.09	0.02
s, saturation flow rate [veh/h]	1781	1589	1781	1870	1870	1589
c, Capacity [veh/h]	48	43	8	1571	1438	1222
d1, Uniform Delay [s]	28.82	28.51	29.83	0.85	1.77	1.64
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.76	0.22	13.93	0.15	0.17	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.02	0.24	0.12	0.12	0.03
d, Delay for Lane Group [s/veh]	34.58	28.73	43.76	1.00	1.94	1.68
Lane Group LOS	C	C	D	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.33	0.02	0.06	0.07	0.07	0.02
50th-Percentile Queue Length [ft/ln]	8.21	0.38	1.45	1.67	1.86	0.40
95th-Percentile Queue Length [veh/ln]	0.59	0.03	0.10	0.12	0.13	0.03
95th-Percentile Queue Length [ft/ln]	14.78	0.68	2.62	3.00	3.35	0.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.58	28.73	43.76	1.00	1.94	1.68
Movement LOS	C	C	D	A	A	A
d_A, Approach Delay [s/veh]	34.30		1.46		1.90	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	3.34					
Intersection LOS	A					
Intersection V/C	0.138					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.952	2.116	0.000
Crosswalk LOS	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	632	1098	799
d_b, Bicycle Delay [s]	14.05	6.10	10.83
I_b,int, Bicycle LOS Score for Intersection	1.560	1.868	1.903
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 2: Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.244

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
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	1	1	0	1	0
Entry Pocket Length [ft]	100.00	260.00	105.00	100.00	160.00	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]	55.00		55.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
Base Volume Input [veh/h]	146	96	57	82	75	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	14	0	5	14	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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	113	59	89	91	101
Peak Hour Factor	0.9172	0.9172	0.9172	0.9172	0.9172	0.9172
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	31	16	24	25	28
Total Analysis Volume [veh/h]	169	123	64	97	99	110
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	9	36	24	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	18	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	38	38	3	46	6	6
g / C, Green / Cycle	0.64	0.64	0.06	0.76	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.09	0.08	0.04	0.05	0.06	0.07
s, saturation flow rate [veh/h]	1870	1589	1781	1870	1781	1589
c, Capacity [veh/h]	1194	1015	101	1425	187	167
d1, Uniform Delay [s]	4.32	4.26	27.76	1.80	25.51	25.88
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.25	0.24	6.38	0.09	2.31	4.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.12	0.63	0.07	0.53	0.66
d, Delay for Lane Group [s/veh]	4.57	4.50	34.14	1.89	27.82	30.25
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.45	0.33	0.96	0.04	1.29	1.52
50th-Percentile Queue Length [ft/ln]	11.27	8.33	23.96	0.91	32.24	38.03
95th-Percentile Queue Length [veh/ln]	0.81	0.60	1.73	0.07	2.32	2.74
95th-Percentile Queue Length [ft/ln]	20.28	14.99	43.13	1.64	58.04	68.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.57	4.50	34.14	1.89	27.82	30.25
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	4.54		14.71		29.10	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	14.77					
Intersection LOS	B					
Intersection V/C	0.244					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.72
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.135
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	766	1065	666
d_b, Bicycle Delay [s]	11.44	6.56	13.37
l_b,int, Bicycle LOS Score for Intersection	2.041	1.825	1.560
Bicycle LOS	B	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 3: Indian Canyon Dr (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	13.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.423

Intersection Setup

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
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	1	0	0	1	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	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	48	192	64	38	101	20	37	118	18	54	96	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	14	0	23	14	0	0	9	5	0	23	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	8	25	0	41	26	0	0	17	9	0	42	16
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	237	66	103	144	21	38	148	33	56	164	55
Peak Hour Factor	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250
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	64	18	28	39	6	10	40	9	15	44	15
Total Analysis Volume [veh/h]	67	256	71	111	156	23	41	160	36	61	177	59
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	33	0	0	33	0	0	27	0	0	27	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	14	0	0	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	19	19	19	19	33	33	33
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.32	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.19	0.04	0.11	0.08	0.01	0.12	0.02	0.18
s, saturation flow rate [veh/h]	1734	1589	1053	1870	1589	1720	1589	1648
c, Capacity [veh/h]	620	502	268	591	502	1020	876	980
d1, Uniform Delay [s]	17.03	14.70	24.77	15.32	14.25	6.78	6.19	7.24
k, delay calibration	0.11	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	0.68	0.13	1.02	0.24	0.04	0.43	0.09	0.80
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.14	0.41	0.26	0.05	0.20	0.04	0.30
d, Delay for Lane Group [s/veh]	17.71	14.83	25.79	15.56	14.29	7.21	6.28	8.04
Lane Group LOS	B	B	C	B	B	A	A	A
Critical Lane Group	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.00	0.57	1.35	1.29	0.18	0.96	0.16	1.53
50th-Percentile Queue Length [ft/ln]	74.94	14.15	33.84	32.36	4.43	23.89	3.94	38.28
95th-Percentile Queue Length [veh/ln]	5.40	1.02	2.44	2.33	0.32	1.72	0.28	2.76
95th-Percentile Queue Length [ft/ln]	134.89	25.47	60.92	58.24	7.98	43.00	7.09	68.91

Movement, Approach, & Intersection Results

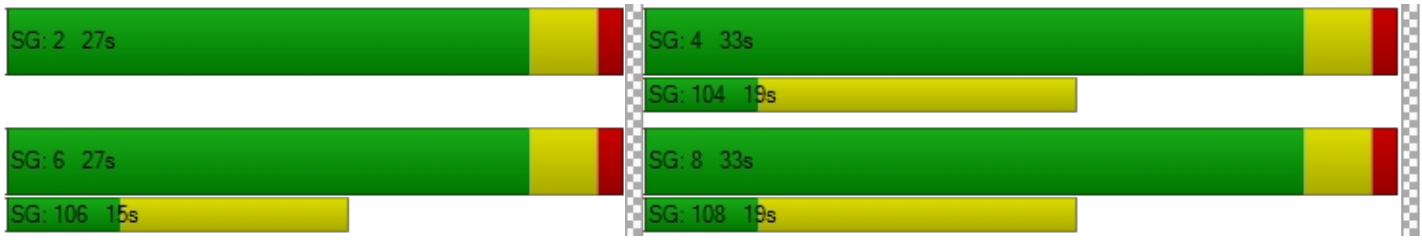
d_M, Delay for Movement [s/veh]	17.71	17.71	14.83	25.79	15.56	14.29	7.21	7.21	6.28	8.04	8.04	8.04
Movement LOS	B	B	B	C	B	B	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	17.19			19.37			7.07			8.04		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	13.51											
Intersection LOS	B											
Intersection V/C	0.423											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.459	2.412	2.425
Crosswalk LOS	F	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]	967	967	767	767
d_b, Bicycle Delay [s]	8.01	8.01	11.41	11.41
l_b,int, Bicycle LOS Score for Intersection	2.210	2.038	1.951	2.050
Bicycle LOS	B	B	A	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Little Morongo Rd (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.486

Intersection Setup

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
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	1
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	836.00
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]	55.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	52	159	43	53	80	10	17	196	24	28	185	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
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	9	9	18	5	0	19	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]	59	164	44	55	82	19	27	220	30	29	210	82
Peak Hour Factor	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421
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	44	12	15	22	5	7	58	8	8	56	22
Total Analysis Volume [veh/h]	63	174	47	58	87	20	29	234	32	31	223	87
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	592	561	541	612	545	618
Degree of Utilization, x	0.48	0.29	0.49	0.05	0.47	0.14

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.59	1.22	2.64	0.17	2.45	0.49
95th-Percentile Queue Length [ft]	64.86	30.54	65.93	4.13	61.34	12.21
Approach Delay [s/veh]	14.57	12.08	14.77		13.55	
Approach LOS	B	B	B		B	
Intersection Delay [s/veh]	13.93					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Project Dwy (NS) at Pierson Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.085

Intersection Setup

Name			Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
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		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name			Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	0	0	0	173	168	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	23	24	0	0	28
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	24	41	40	0	0	48
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]	38	64	64	178	173	76
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	17	17	48	47	21
Total Analysis Volume [veh/h]	41	70	70	193	188	83
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	0.08	0.08	0.05	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.51	10.29	7.87	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.59	0.59	0.12	0.12	0.00	0.00
95th-Percentile Queue Length [ft/ln]	14.87	14.87	3.03	3.03	0.00	0.00
d_A, Approach Delay [s/veh]	11.48		2.09		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.83					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Indian Canyon Dr (NS) at Project North 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 Canyon Dr		Indian Canyon Dr		Project North Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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	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]	55.00		55.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Project North Dwy	
Base Volume Input [veh/h]	0	257	180	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	19	19	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	33	33	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	317	237	0	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	86	64	0	0	0
Total Analysis Volume [veh/h]	0	345	258	0	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]	7.76	0.00	0.00	0.00	12.79	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		11.20	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 7: Indian Canyon Dr (NS) at Project South Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.137

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Project South Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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	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	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Project South Dwy	
Base Volume Input [veh/h]	0	257	180	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0303	1.0303	1.0303	1.0303	1.0303	1.0303
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	19	19	37
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	40	0	0	32	32	65
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]	64	265	185	51	51	102
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	72	50	14	14	28
Total Analysis Volume [veh/h]	70	288	201	55	55	111
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	0.05	0.00	0.00	0.00	0.14	0.14
d_M, Delay for Movement [s/veh]	7.83	0.00	0.00	0.00	16.16	11.66
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	1.11	1.11
95th-Percentile Queue Length [ft/ln]	3.03	3.03	0.00	0.00	27.68	27.68
d_A, Approach Delay [s/veh]	1.53		0.00		13.15	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.50					
Intersection LOS	C					

OPENING YEAR (2027) WITHOUT PROJECT

PHASE II

Beyond Food Mart Indian Canyon & Pierson

Vistro File: G:\...\AM.vistro
Report File: G:\...\AMOY_II.pdf

Scenario 3 Opening Year Without Project
10/26/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Karen Ave (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	EB Left	0.153	6.8	A
2	Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.255	17.5	B
3	Indian Canyon Dr (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	SB Thru	0.578	14.6	B
4	Little Morongo Rd (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	WB Thru	0.497	13.9	B

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

Intersection Level Of Service Report
Intersection 1: Karen Ave (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	6.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.153

Intersection Setup

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	210.00	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]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	48	2	2	145	111	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	2	2	152	117	14
Peak Hour Factor	0.8917	0.8917	0.8917	0.8917	0.8917	0.8917
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	1	1	43	33	4
Total Analysis Volume [veh/h]	56	2	2	170	131	16
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	10	10	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	37	28	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	3	3	0	49	45	45
g / C, Green / Cycle	0.05	0.05	0.00	0.81	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.03	0.00	0.00	0.09	0.07	0.01
s, saturation flow rate [veh/h]	1781	1589	1781	1870	1870	1589
c, Capacity [veh/h]	96	86	8	1521	1388	1179
d1, Uniform Delay [s]	27.81	26.97	29.83	1.15	2.15	2.02
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.54	0.11	13.93	0.15	0.14	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.02	0.24	0.11	0.09	0.01
d, Delay for Lane Group [s/veh]	33.35	27.07	43.76	1.30	2.29	2.04
Lane Group LOS	C	C	D	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.84	0.03	0.06	0.06	0.12	0.01
50th-Percentile Queue Length [ft/ln]	21.06	0.67	1.45	1.57	3.00	0.37
95th-Percentile Queue Length [veh/ln]	1.52	0.05	0.10	0.11	0.22	0.03
95th-Percentile Queue Length [ft/ln]	37.90	1.20	2.62	2.83	5.41	0.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.35	27.07	43.76	1.30	2.29	2.04
Movement LOS	C	C	D	A	A	A
d_A, Approach Delay [s/veh]	33.13		1.80		2.26	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	6.80					
Intersection LOS	A					
Intersection V/C	0.153					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.962	2.086	0.000
Crosswalk LOS	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	632	1098	799
d_b, Bicycle Delay [s]	14.05	6.10	10.83
l_b,int, Bicycle LOS Score for Intersection	1.560	1.843	1.802
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 2: Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	17.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.255

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
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	1	1	0	1	0
Entry Pocket Length [ft]	100.00	260.00	105.00	100.00	160.00	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]	55.00		55.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
Base Volume Input [veh/h]	71	67	46	101	187	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	70	48	106	197	65
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	20	13	30	55	18
Total Analysis Volume [veh/h]	84	79	54	119	221	73
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	9	36	24	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	18	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	35	35	3	42	10	10
g / C, Green / Cycle	0.59	0.59	0.05	0.71	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.04	0.05	0.03	0.06	0.12	0.05
s, saturation flow rate [veh/h]	1870	1589	1781	1870	1781	1589
c, Capacity [veh/h]	1098	934	92	1319	288	257
d1, Uniform Delay [s]	5.36	5.39	27.90	2.79	24.14	22.17
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.14	0.18	5.83	0.14	4.30	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	0.08	0.59	0.09	0.77	0.28
d, Delay for Lane Group [s/veh]	5.50	5.57	33.74	2.92	28.44	22.77
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.29	0.28	0.81	0.16	2.92	0.82
50th-Percentile Queue Length [ft/ln]	7.28	7.05	20.19	4.05	73.02	20.61
95th-Percentile Queue Length [veh/ln]	0.52	0.51	1.45	0.29	5.26	1.48
95th-Percentile Queue Length [ft/ln]	13.10	12.70	36.34	7.28	131.44	37.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.50	5.57	33.74	2.92	28.44	22.77
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	5.53		12.54		27.03	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	17.49					
Intersection LOS	B					
Intersection V/C	0.255					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.72
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.152
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	766	1065	666
d_b, Bicycle Delay [s]	11.44	6.56	13.37
l_b,int, Bicycle LOS Score for Intersection	1.829	1.845	1.560
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 3: Indian Canyon Dr (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.578

Intersection Setup

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
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]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	7	78	43	40	211	37	35	116	69	134	77	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
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]	7	82	45	42	222	39	37	122	73	141	81	27
Peak Hour Factor	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287
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]	2	22	12	11	60	10	10	33	20	38	22	7
Total Analysis Volume [veh/h]	8	88	48	45	239	42	40	131	79	152	87	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	526	591	564	538	614	548
Degree of Utilization, x	0.18	0.08	0.58	0.32	0.13	0.49

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.66	0.26	3.66	1.36	0.44	2.67
95th-Percentile Queue Length [ft]	16.57	6.61	91.45	33.92	10.99	66.73
Approach Delay [s/veh]	10.50		17.75	11.51		15.70
Approach LOS	B		C	B		C
Intersection Delay [s/veh]	14.56					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Little Morongo Rd (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

Intersection Setup

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
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	1
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	836.00
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]	55.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	27	80	40	53	140	31	28	175	64	44	174	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
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]	28	84	42	56	147	33	29	184	67	46	183	50
Peak Hour Factor	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593
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	24	12	16	43	10	8	54	19	13	53	15
Total Analysis Volume [veh/h]	33	98	49	65	171	38	34	214	78	54	213	58
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	570	584	539	611	537	612
Degree of Utilization, x	0.32	0.47	0.46	0.13	0.50	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.35	2.50	2.40	0.44	2.74	0.31
95th-Percentile Queue Length [ft]	33.72	62.43	60.03	10.92	68.62	7.82
Approach Delay [s/veh]	12.21	14.52	13.64		14.67	
Approach LOS	B	B	B		B	
Intersection Delay [s/veh]	13.93					
Intersection LOS	B					

Beyond Food Mart Indian Canyon & Pierson

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Scenario 3 Opening Year Without Project
10/26/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Karen Ave (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	EB Left	0.123	3.1	A
2	Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.245	14.8	B
3	Indian Canyon Dr (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	NB Thru	0.471	12.8	B
4	Little Morongo Rd (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	EB Thru	0.461	13.0	B

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

Intersection Level Of Service Report
Intersection 1: Karen Ave (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	3.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.123

Intersection Setup

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	210.00	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]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	14	1	2	151	141	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1	2	159	148	28
Peak Hour Factor	0.9438	0.9438	0.9438	0.9438	0.9438	0.9438
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	1	42	39	7
Total Analysis Volume [veh/h]	16	1	2	168	157	30
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	10	10	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	37	28	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	1	1	0	51	47	47
g / C, Green / Cycle	0.02	0.02	0.00	0.85	0.77	0.77
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.00	0.09	0.08	0.02
s, saturation flow rate [veh/h]	1781	1589	1781	1870	1870	1589
c, Capacity [veh/h]	40	36	8	1579	1446	1229
d1, Uniform Delay [s]	28.99	28.75	29.83	0.80	1.69	1.58
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.16	0.31	13.93	0.14	0.15	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.03	0.24	0.11	0.11	0.02
d, Delay for Lane Group [s/veh]	35.15	29.06	43.76	0.94	1.84	1.61
Lane Group LOS	D	C	D	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.27	0.02	0.06	0.06	0.06	0.01
50th-Percentile Queue Length [ft/ln]	6.79	0.39	1.45	1.49	1.52	0.31
95th-Percentile Queue Length [veh/ln]	0.49	0.03	0.10	0.11	0.11	0.02
95th-Percentile Queue Length [ft/ln]	12.22	0.70	2.62	2.68	2.74	0.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.15	29.06	43.76	0.94	1.84	1.61
Movement LOS	D	C	D	A	A	A
d_A, Approach Delay [s/veh]	34.79		1.44		1.81	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	3.14					
Intersection LOS	A					
Intersection V/C	0.123					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.947	2.099	0.000
Crosswalk LOS	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	632	1098	799
d_b, Bicycle Delay [s]	14.05	6.10	10.83
l_b,int, Bicycle LOS Score for Intersection	1.560	1.840	1.868
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 2: Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.245

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
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	1	1	0	1	0
Entry Pocket Length [ft]	100.00	260.00	105.00	100.00	160.00	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]	55.00		55.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
Base Volume Input [veh/h]	146	96	57	82	75	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	153	101	60	86	79	103
Peak Hour Factor	0.9172	0.9172	0.9172	0.9172	0.9172	0.9172
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	28	16	23	22	28
Total Analysis Volume [veh/h]	167	110	65	94	86	112
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	9	36	24	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	18	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	38	38	3	46	6	6
g / C, Green / Cycle	0.64	0.64	0.06	0.76	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.09	0.07	0.04	0.05	0.05	0.07
s, saturation flow rate [veh/h]	1870	1589	1781	1870	1781	1589
c, Capacity [veh/h]	1193	1014	102	1424	188	167
d1, Uniform Delay [s]	4.33	4.24	27.75	1.80	25.30	25.91
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.25	0.22	6.45	0.09	1.74	4.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.11	0.64	0.07	0.46	0.67
d, Delay for Lane Group [s/veh]	4.57	4.45	34.20	1.89	27.05	30.46
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.45	0.30	0.97	0.04	1.10	1.56
50th-Percentile Queue Length [ft/ln]	11.17	7.41	24.35	0.88	27.47	38.90
95th-Percentile Queue Length [veh/ln]	0.80	0.53	1.75	0.06	1.98	2.80
95th-Percentile Queue Length [ft/ln]	20.11	13.34	43.83	1.59	49.44	70.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.57	4.45	34.20	1.89	27.05	30.46
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	4.53		15.10		28.98	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	14.81					
Intersection LOS	B					
Intersection V/C	0.245					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.72
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.123
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	766	1065	666
d_b, Bicycle Delay [s]	11.44	6.56	13.37
l_b,int, Bicycle LOS Score for Intersection	2.017	1.822	1.560
Bicycle LOS	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 3: Indian Canyon Dr (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.471

Intersection Setup

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
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]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	48	192	64	38	101	20	37	118	18	54	96	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
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]	50	202	67	40	106	21	39	124	19	57	101	29
Peak Hour Factor	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250
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]	14	55	18	11	29	6	11	34	5	15	27	8
Total Analysis Volume [veh/h]	54	218	72	43	115	23	42	134	21	62	109	31
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	578	663	562	546	624	558
Degree of Utilization, x	0.47	0.11	0.32	0.32	0.03	0.36

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.51	0.36	1.39	1.39	0.10	1.64
95th-Percentile Queue Length [ft]	62.70	9.09	34.63	34.70	2.61	41.11
Approach Delay [s/veh]	13.20		12.42	12.02		13.09
Approach LOS	B		B	B		B
Intersection Delay [s/veh]	12.77					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Little Morongo Rd (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.461

Intersection Setup

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
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	1
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	836.00
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]	55.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	52	159	43	53	80	10	17	196	24	28	185	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
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]	55	167	45	56	84	11	18	206	25	29	194	84
Peak Hour Factor	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421
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]	15	44	12	15	22	3	5	55	7	8	51	22
Total Analysis Volume [veh/h]	58	177	48	59	89	12	19	219	27	31	206	89
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	613	579	554	627	558	635
Degree of Utilization, x	0.46	0.28	0.43	0.04	0.42	0.14

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.43	1.12	2.15	0.13	2.10	0.49
95th-Percentile Queue Length [ft]	60.69	28.09	53.64	3.37	52.61	12.14
Approach Delay [s/veh]	13.80	11.59	13.48		12.59	
Approach LOS	B	B	B		B	
Intersection Delay [s/veh]	12.99					
Intersection LOS	B					

OPENING YEAR (2027) WITH PROJECT

PHASE II

Beyond Food Mart Indian Canyon & Pierson

Vistro File: G:\...\AM_PH2.vistro
Report File: G:\...\AMOYp_II.pdf

Scenario 6 Opening Year With Project Phase II
2/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Karen Ave (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	EB Left	0.167	7.1	A
2	Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.271	18.7	B
3	Indian Canyon Dr (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.490	13.7	B
4	Little Morongo Rd (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	WB Thru	0.553	15.4	C
5	Project Dwy (NS) at Pierson Blvd (EW)	Two-way stop	HCM 7th Edition	SB Left	0.064	13.6	B
6	Indian Canyon Dr (NS) at Project North Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	0.109	15.1	C
7	Indian Canyon Dr (NS) at Project South Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	0.045	17.3	C

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

Intersection Level Of Service Report
Intersection 1: Karen Ave (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.167

Intersection Setup

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	210.00	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]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	48	2	2	145	111	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	18	18	4
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	2	2	170	135	18
Peak Hour Factor	0.8917	0.8917	0.8917	0.8917	0.8917	0.8917
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	1	1	48	38	5
Total Analysis Volume [veh/h]	61	2	2	191	151	20
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	10	10	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	25	0	10	40	30	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	3	0	54	49	49
g / C, Green / Cycle	0.05	0.05	0.00	0.82	0.76	0.76
(v / s)_i Volume / Saturation Flow Rate	0.03	0.00	0.00	0.10	0.08	0.01
s, saturation flow rate [veh/h]	1781	1589	1781	1870	1870	1589
c, Capacity [veh/h]	96	86	8	1539	1416	1203
d1, Uniform Delay [s]	30.17	29.18	32.31	1.14	2.09	1.95
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.67	0.11	15.04	0.17	0.15	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.02	0.25	0.12	0.11	0.02
d, Delay for Lane Group [s/veh]	36.84	29.28	47.36	1.30	2.24	1.97
Lane Group LOS	D	C	D	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.02	0.03	0.06	0.07	0.15	0.02
50th-Percentile Queue Length [ft/ln]	25.50	0.73	1.56	1.77	3.83	0.50
95th-Percentile Queue Length [veh/ln]	1.84	0.05	0.11	0.13	0.28	0.04
95th-Percentile Queue Length [ft/ln]	45.90	1.32	2.81	3.19	6.89	0.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.84	29.28	47.36	1.30	2.24	1.97
Movement LOS	D	C	D	A	A	A
d_A, Approach Delay [s/veh]	36.60		1.78		2.21	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	7.09					
Intersection LOS	A					
Intersection V/C	0.167					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.16	24.16	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.971	2.113	0.000
Crosswalk LOS	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	645	1106	799
d_b, Bicycle Delay [s]	14.92	6.49	11.73
l_b,int, Bicycle LOS Score for Intersection	1.560	1.878	1.842
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 2: Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	18.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.271

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
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	1	1	0	1	0
Entry Pocket Length [ft]	100.00	260.00	105.00	100.00	160.00	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]	55.00		55.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
Base Volume Input [veh/h]	71	67	46	101	187	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	13	0	4	13	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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	83	48	110	210	65
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	23	13	31	59	18
Total Analysis Volume [veh/h]	89	93	54	124	236	73
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	16	39	22	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	18	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	39	39	3	46	11	11
g / C, Green / Cycle	0.60	0.60	0.05	0.71	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.05	0.06	0.03	0.07	0.13	0.05
s, saturation flow rate [veh/h]	1870	1589	1781	1870	1781	1589
c, Capacity [veh/h]	1121	953	89	1329	296	264
d1, Uniform Delay [s]	5.48	5.54	30.33	2.92	26.10	23.73
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.14	0.20	6.56	0.14	4.89	0.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	0.10	0.61	0.09	0.80	0.28
d, Delay for Lane Group [s/veh]	5.62	5.75	36.89	3.05	30.99	24.29
Lane Group LOS	A	A	D	A	C	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.34	0.37	0.90	0.21	3.47	0.91
50th-Percentile Queue Length [ft/ln]	8.53	9.23	22.38	5.25	86.85	22.63
95th-Percentile Queue Length [veh/ln]	0.61	0.66	1.61	0.38	6.25	1.63
95th-Percentile Queue Length [ft/ln]	15.35	16.61	40.29	9.45	156.33	40.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.62	5.75	36.89	3.05	30.99	24.29
Movement LOS	A	A	D	A	C	C
d_A, Approach Delay [s/veh]	5.69		13.32		29.41	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	18.67					
Intersection LOS	B					
Intersection V/C	0.271					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	24.16
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.172
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	707	1076	553
d_b, Bicycle Delay [s]	13.60	6.95	17.03
l_b,int, Bicycle LOS Score for Intersection	1.860	1.853	1.560
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 3: Indian Canyon Dr (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	13.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
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	1	0	0	1	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	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	7	78	43	40	211	37	35	116	69	134	77	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	14	0	27	14	0	0	5	5	0	5	27
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	10	30	0	59	28	0	0	10	9	0	10	60
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]	22	126	45	128	264	39	37	137	87	141	96	114
Peak Hour Factor	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287	0.9287
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]	6	34	12	34	71	10	10	37	23	38	26	31
Total Analysis Volume [veh/h]	24	136	48	138	284	42	40	148	94	152	103	123
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	33	0	0	33	0	0	27	0	0	27	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	14	0	0	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	23	23	23	23	29	29	29
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.49	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.09	0.03	0.12	0.15	0.03	0.11	0.06	0.27
s, saturation flow rate [veh/h]	1704	1589	1200	1870	1589	1727	1589	1387
c, Capacity [veh/h]	718	606	305	712	606	912	772	758
d1, Uniform Delay [s]	12.58	11.85	24.24	13.55	11.81	8.82	8.43	11.06
k, delay calibration	0.11	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	0.16	0.06	1.05	0.36	0.05	0.51	0.32	2.34
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.22	0.08	0.45	0.40	0.07	0.21	0.12	0.50
d, Delay for Lane Group [s/veh]	12.73	11.91	25.29	13.92	11.86	9.33	8.76	13.40
Lane Group LOS	B	B	C	B	B	A	A	B
Critical Lane Group	No	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.13	0.32	1.66	2.18	0.28	1.13	0.55	3.05
50th-Percentile Queue Length [ft/ln]	28.30	8.02	41.47	54.46	6.99	28.24	13.68	76.37
95th-Percentile Queue Length [veh/ln]	2.04	0.58	2.99	3.92	0.50	2.03	0.98	5.50
95th-Percentile Queue Length [ft/ln]	50.93	14.43	74.65	98.03	12.58	50.83	24.62	137.47

Movement, Approach, & Intersection Results

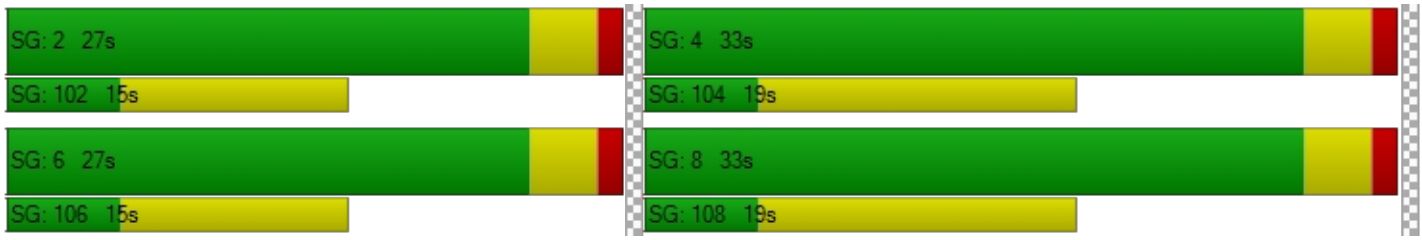
d_M, Delay for Movement [s/veh]	12.73	12.73	11.91	25.29	13.92	11.86	9.33	9.33	8.76	13.40	13.40	13.40
Movement LOS	B	B	B	C	B	B	A	A	A	B	B	B
d_A, Approach Delay [s/veh]	12.54			17.11			9.14			13.40		
Approach LOS	B			B			A			B		
d_I, Intersection Delay [s/veh]	13.66											
Intersection LOS	B											
Intersection V/C	0.490											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
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]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.577	2.510	2.329	2.503
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]	967	967	767	767
d_b, Bicycle Delay [s]	8.01	8.01	11.41	11.41
l_b,int, Bicycle LOS Score for Intersection	1.903	2.325	2.025	2.183
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Little Morongo Rd (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.553

Intersection Setup

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
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	1
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	836.00
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]	55.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	27	80	40	53	140	31	28	175	64	44	174	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	0	0	9	9	18	4	0	18	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]	32	84	42	56	147	42	38	202	71	46	201	50
Peak Hour Factor	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593	0.8593
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	24	12	16	43	12	11	59	21	13	58	15
Total Analysis Volume [veh/h]	37	98	49	65	171	49	44	235	83	54	234	58
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	544	563	524	592	521	591
Degree of Utilization, x	0.34	0.51	0.53	0.14	0.55	0.10

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.49	2.85	3.11	0.49	3.33	0.33
95th-Percentile Queue Length [ft]	37.13	71.22	77.74	12.14	83.15	8.13
Approach Delay [s/veh]	12.97	15.80	15.47		16.41	
Approach LOS	B	C	C		C	
Intersection Delay [s/veh]	15.43					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 5: Project Dwy (NS) at Pierson Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.064

Intersection Setup

Name			Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
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		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name			Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	0	0	0	220	124	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	22	22	0	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	19	49	50	0	0	20
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]	28	71	72	231	130	29
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	19	20	63	35	8
Total Analysis Volume [veh/h]	30	77	78	251	141	32
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	0.06	0.08	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.62	9.85	7.66	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.52	0.52	0.14	0.14	0.00	0.00
95th-Percentile Queue Length [ft/ln]	13.08	13.08	3.40	3.40	0.00	0.00
d_A, Approach Delay [s/veh]	10.91		1.81		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.90					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Indian Canyon Dr (NS) at Project North Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.109

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Project North Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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	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]	55.00		55.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Project North Dwy	
Base Volume Input [veh/h]	0	139	288	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	4	4	13	13	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	30	10	10	30	29	29
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]	44	160	317	43	42	43
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	43	86	12	11	12
Total Analysis Volume [veh/h]	48	174	345	47	46	47
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	0.04	0.00	0.00	0.00	0.11	0.07
d_M, Delay for Movement [s/veh]	8.14	0.00	0.00	0.00	15.06	11.82
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.65	0.65
95th-Percentile Queue Length [ft/ln]	2.05	2.05	0.00	0.00	16.14	16.14
d_A, Approach Delay [s/veh]	1.76		0.00		13.42	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.32					
Intersection LOS	C					

Intersection Level Of Service Report

Intersection 7: Indian Canyon Dr (NS) at Project South Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	17.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.045

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Project South Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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	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	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Project South Dwy	
Base Volume Input [veh/h]	0	139	288	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	14	14	4	4	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	60	30	29	10	10	58
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]	87	190	346	14	14	85
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	52	94	4	4	23
Total Analysis Volume [veh/h]	95	207	376	15	15	92
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	0.08	0.00	0.00	0.00	0.05	0.14
d_M, Delay for Movement [s/veh]	8.19	0.00	0.00	0.00	17.29	11.81
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.00	0.00	0.67	0.67
95th-Percentile Queue Length [ft/ln]	4.18	4.18	0.00	0.00	16.72	16.72
d_A, Approach Delay [s/veh]	2.58		0.00		12.58	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.66					
Intersection LOS	C					

Beyond Food Mart Indian Canyon & Pierson

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Scenario 6 Opening Year With Project Phase II
2/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Karen Ave (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	EB Left	0.142	3.4	A
2	Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.249	14.8	B
3	Indian Canyon Dr (NS) at Pierson Blvd (EW)	Signalized	HCM 7th Edition	SB Left	0.438	13.4	B
4	Little Morongo Rd (NS) at Pierson Blvd (EW)	All-way stop	HCM 7th Edition	EB Thru	0.503	14.3	B
5	Project Dwy (NS) at Pierson Blvd (EW)	Two-way stop	HCM 7th Edition	SB Left	0.061	13.4	B
6	Indian Canyon Dr (NS) at Project North Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	0.099	14.6	B
7	Indian Canyon Dr (NS) at Project South Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	0.041	16.5	C

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

Intersection Level Of Service Report
Intersection 1: Karen Ave (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	3.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	210.00	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]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Karen Ave		Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	14	1	2	151	141	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	20	19	5
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	1	2	179	167	33
Peak Hour Factor	0.9438	0.9438	0.9438	0.9438	0.9438	0.9438
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	1	47	44	9
Total Analysis Volume [veh/h]	21	1	2	190	177	35
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	10	10	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	37	28	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	2	2	0	50	46	46
g / C, Green / Cycle	0.03	0.03	0.00	0.84	0.77	0.77
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.00	0.10	0.09	0.02
s, saturation flow rate [veh/h]	1781	1589	1781	1870	1870	1589
c, Capacity [veh/h]	49	44	8	1569	1436	1221
d1, Uniform Delay [s]	28.77	28.45	29.83	0.86	1.79	1.65
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.69	0.20	13.93	0.16	0.18	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.02	0.24	0.12	0.12	0.03
d, Delay for Lane Group [s/veh]	34.46	28.66	43.76	1.02	1.96	1.70
Lane Group LOS	C	C	D	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.34	0.01	0.06	0.07	0.08	0.02
50th-Percentile Queue Length [ft/ln]	8.57	0.37	1.45	1.72	1.99	0.41
95th-Percentile Queue Length [veh/ln]	0.62	0.03	0.10	0.12	0.14	0.03
95th-Percentile Queue Length [ft/ln]	15.42	0.67	2.62	3.10	3.59	0.74

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.46	28.66	43.76	1.02	1.96	1.70
Movement LOS	C	C	D	A	A	A
d_A, Approach Delay [s/veh]	34.20		1.47		1.92	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	3.38					
Intersection LOS	A					
Intersection V/C	0.142					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.953	2.121	0.000
Crosswalk LOS	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	632	1098	799
d_b, Bicycle Delay [s]	14.05	6.10	10.83
l_b,int, Bicycle LOS Score for Intersection	1.560	1.876	1.909
Bicycle LOS	A	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 2: Indian Canyon Dr (NS) at Mission Lakes Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.249

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
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	1	1	0	1	0
Entry Pocket Length [ft]	100.00	260.00	105.00	100.00	160.00	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]	55.00		55.00		50.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Mission Lakes Blvd	
Base Volume Input [veh/h]	146	96	57	82	75	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	14	0	5	15	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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	158	115	60	91	94	103
Peak Hour Factor	0.9172	0.9172	0.9172	0.9172	0.9172	0.9172
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	31	16	25	26	28
Total Analysis Volume [veh/h]	172	125	65	99	102	112
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

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

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	9	36	24	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	18	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	38	38	3	46	6	6
g / C, Green / Cycle	0.64	0.64	0.06	0.76	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.09	0.08	0.04	0.05	0.06	0.07
s, saturation flow rate [veh/h]	1870	1589	1781	1870	1781	1589
c, Capacity [veh/h]	1190	1012	102	1422	190	170
d1, Uniform Delay [s]	4.37	4.31	27.75	1.82	25.47	25.83
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	0.25	6.45	0.09	2.35	4.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.12	0.64	0.07	0.54	0.66
d, Delay for Lane Group [s/veh]	4.63	4.56	34.20	1.92	27.81	30.17
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.47	0.34	0.97	0.04	1.33	1.55
50th-Percentile Queue Length [ft/ln]	11.66	8.60	24.35	0.94	33.21	38.64
95th-Percentile Queue Length [veh/ln]	0.84	0.62	1.75	0.07	2.39	2.78
95th-Percentile Queue Length [ft/ln]	20.98	15.48	43.83	1.68	59.77	69.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.63	4.56	34.20	1.92	27.81	30.17
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	4.60		14.71		29.05	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	14.81					
Intersection LOS	B					
Intersection V/C	0.249					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.72
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.140
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	766	1065	666
d_b, Bicycle Delay [s]	11.44	6.56	13.37
l_b,int, Bicycle LOS Score for Intersection	2.050	1.830	1.560
Bicycle LOS	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 3: Indian Canyon Dr (NS) at Pierson Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	13.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.438

Intersection Setup

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
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	1	0	0	1	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	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Indian Canyon Dr			Indian Canyon Dr			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	48	192	64	38	101	20	37	118	18	54	96	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	15	0	29	14	0	0	5	5	0	5	30
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	8	25	0	50	26	0	0	9	9	0	9	50
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]	63	242	67	119	146	21	39	138	33	57	115	109
Peak Hour Factor	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250
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	65	18	32	39	6	11	37	9	15	31	29
Total Analysis Volume [veh/h]	68	262	72	129	158	23	42	149	36	62	124	118
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	33	0	0	33	0	0	27	0	0	27	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	14	0	0	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22	22	22	22	30	30	30
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.36	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.19	0.05	0.12	0.08	0.01	0.11	0.02	0.19
s, saturation flow rate [veh/h]	1715	1589	1046	1870	1589	1696	1589	1623
c, Capacity [veh/h]	694	576	287	678	576	928	801	890
d1, Uniform Delay [s]	14.86	12.77	24.19	13.32	12.37	8.22	7.55	8.93
k, delay calibration	0.11	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	0.51	0.10	1.10	0.17	0.03	0.50	0.11	1.04
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.12	0.45	0.23	0.04	0.21	0.04	0.34
d, Delay for Lane Group [s/veh]	15.37	12.87	25.29	13.49	12.40	8.72	7.66	9.98
Lane Group LOS	B	B	C	B	B	A	A	A
Critical Lane Group	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.75	0.51	1.56	1.17	0.16	1.08	0.19	1.90
50th-Percentile Queue Length [ft/ln]	68.69	12.85	38.99	29.35	3.97	26.99	4.70	47.54
95th-Percentile Queue Length [veh/ln]	4.95	0.93	2.81	2.11	0.29	1.94	0.34	3.42
95th-Percentile Queue Length [ft/ln]	123.64	23.14	70.19	52.83	7.15	48.58	8.46	85.57

Movement, Approach, & Intersection Results

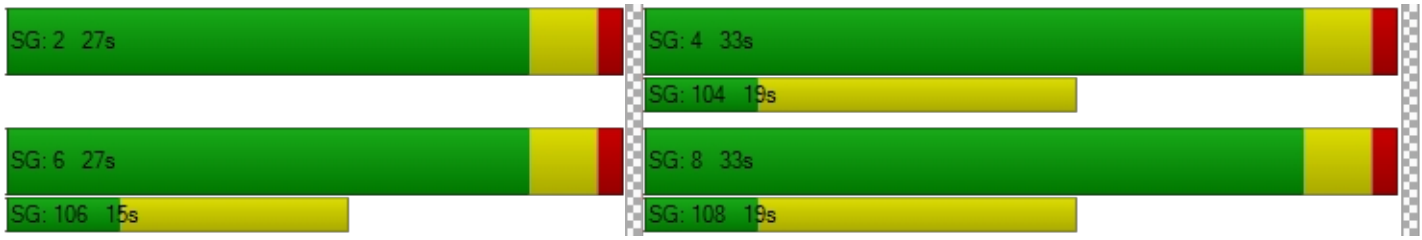
d_M, Delay for Movement [s/veh]	15.37	15.37	12.87	25.29	13.49	12.40	8.72	8.72	7.66	9.98	9.98	9.98
Movement LOS	B	B	B	C	B	B	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	14.92			18.32			8.56			9.98		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	13.40											
Intersection LOS	B											
Intersection V/C	0.438											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.499	2.388	2.459
Crosswalk LOS	F	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]	966	966	766	766
d_b, Bicycle Delay [s]	8.01	8.01	11.41	11.41
l_b,int, Bicycle LOS Score for Intersection	2.223	2.071	1.934	2.061
Bicycle LOS	B	B	A	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Little Morongo Rd (NS) at Pierson Blvd (EW)

Control Type:	All-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.503

Intersection Setup

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
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	1
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	836.00
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]	55.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Little Morongo Rd			Little Morongo Rd			Pierson Blvd			Pierson Blvd		
Base Volume Input [veh/h]	52	159	43	53	80	10	17	196	24	28	185	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
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	10	10	19	5	0	20	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]	60	167	45	56	84	21	28	225	30	29	214	84
Peak Hour Factor	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421	0.9421
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	44	12	15	22	6	7	60	8	8	57	22
Total Analysis Volume [veh/h]	64	177	48	59	89	22	30	239	32	31	227	89
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	585	554	535	605	539	610
Degree of Utilization, x	0.49	0.31	0.50	0.05	0.48	0.15

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.73	1.29	2.80	0.17	2.57	0.51
95th-Percentile Queue Length [ft]	68.22	32.31	69.91	4.18	64.16	12.71
Approach Delay [s/veh]	15.02	12.34	15.28		13.88	
Approach LOS	C	B	C		B	
Intersection Delay [s/veh]	14.32					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Project Dwy (NS) at Pierson Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.061

Intersection Setup

Name			Pierson Blvd		Pierson Blvd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
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		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name			Pierson Blvd		Pierson Blvd	
Base Volume Input [veh/h]	0	0	0	173	168	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	24	25	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	17	41	41	0	0	17
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]	27	65	66	182	177	27
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	18	18	49	48	7
Total Analysis Volume [veh/h]	29	71	72	198	192	29
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	0.06	0.08	0.05	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.43	10.11	7.75	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.50	0.50	0.12	0.12	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.58	12.58	3.12	3.12	0.00	0.00
d_A, Approach Delay [s/veh]	11.08		2.07		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.82					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Indian Canyon Dr (NS) at Project North Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.099

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Project North Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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	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]	55.00		55.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Project North Dwy	
Base Volume Input [veh/h]	0	257	180	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	5	5	15	14	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	25	8	8	25	25	25
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]	40	283	202	40	39	40
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	77	55	11	11	11
Total Analysis Volume [veh/h]	43	308	220	43	42	43
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	0.03	0.00	0.00	0.00	0.10	0.05
d_M, Delay for Movement [s/veh]	7.82	0.00	0.00	0.00	14.64	10.68
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.54	0.54
95th-Percentile Queue Length [ft/ln]	1.83	1.83	0.00	0.00	13.41	13.41
d_A, Approach Delay [s/veh]	0.96		0.00		12.64	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.02					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 7: Indian Canyon Dr (NS) at Project South Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.041

Intersection Setup

Name	Indian Canyon Dr		Indian Canyon Dr		Project South Dwy	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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	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	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Indian Canyon Dr		Indian Canyon Dr		Project South Dwy	
Base Volume Input [veh/h]	0	257	180	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0510	1.0510	1.0510	1.0510	1.0510	1.0510
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	30	15	15	5	5	29
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	49	25	25	8	8	50
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]	79	310	229	13	13	79
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	84	62	4	4	21
Total Analysis Volume [veh/h]	86	337	249	14	14	86
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	0.07	0.00	0.00	0.00	0.04	0.11
d_M, Delay for Movement [s/veh]	7.87	0.00	0.00	0.00	16.52	10.56
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.00	0.00	0.53	0.53
95th-Percentile Queue Length [ft/ln]	3.76	3.76	0.00	0.00	13.23	13.23
d_A, Approach Delay [s/veh]	1.60		0.00		11.40	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.31					
Intersection LOS	C					

APPENDIX E

OTHER DEVELOPMENT INFORMATION

Perrie Ilercil

From: Melissa Purcell
Sent: Monday, October 17, 2022 6:00 PM
To: Perrie Ilercil
Cc:

Subject: RE: Beyond Food Mart (Indian Canyon/Pierson) - RFI cumulative projects listing

Hello and Good evening Perrie,

I hope you're having a lovely day and this message finds you in the best of spirits.

After speaking with the Planning Department regarding your request, it has been determined that there aren't any new or on-going projects within a 2-mile radius of the NWC of Indian Canyon Drive and Pierson Boulevard. The only project taking place is homes being built by Lennar, but that is outside of the 2-mile radius you requested.

Please do not hesitate to contact me with any questions. I hope the rest of your week is wonderful.

Best Regards,

Melissa Purcell | ***Administrative Assistant II***

Office: (760) 329-6411 ext. 263 Cell: (760) 835-4404
City of Desert Hot Springs
11999 Palm Drive, Desert Hot Springs, CA 92240
www.cityofdhs.org

From: Perrie Ilercil <perrie@ganddini.com>
Sent: Friday, October 14, 2022 8:44 AM
To: Melissa Purcell <mpurcell@cityofdhs.org>
Cc: Jilleen Ferris <jferris@cityofdhs.org>; Cheryl Tubbs (cheryl@lilburncorp.com) <cheryl@lilburncorp.com>
Subject: RE: Beyond Food Mart (Indian Canyon/Pierson) - RFI cumulative projects listing

CAUTION: This email originated from outside of our organization. Do not click on links or open attachments unless you recognize the sender and know that the content is safe. Thank you.

Good Morning Melissa,

APPENDIX F

TRAFFIC SIGNAL WARRANT WORKSHEETS

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Opening Year (2027) With Project - AM

Major Street Name = **Pierson Boulevad**

Total of Both Approaches (VPH) = **462**

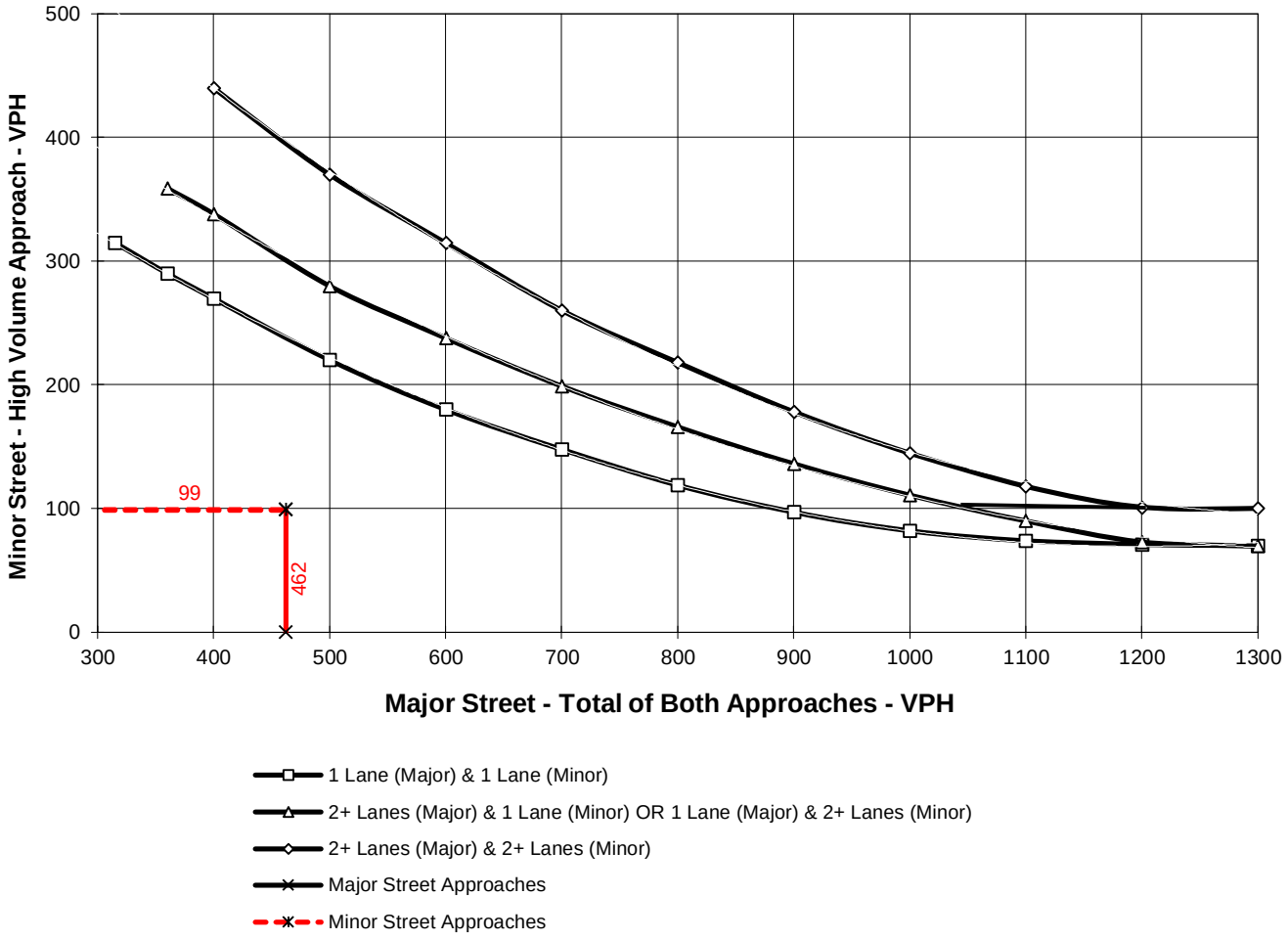
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Project Driveway**

High Volume Approach (VPH) = **99**

Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



** NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Opening Year (2027) With Project - PM

Major Street Name = **Pierson Boulevad**

Total of Both Approaches (VPH) = **452**

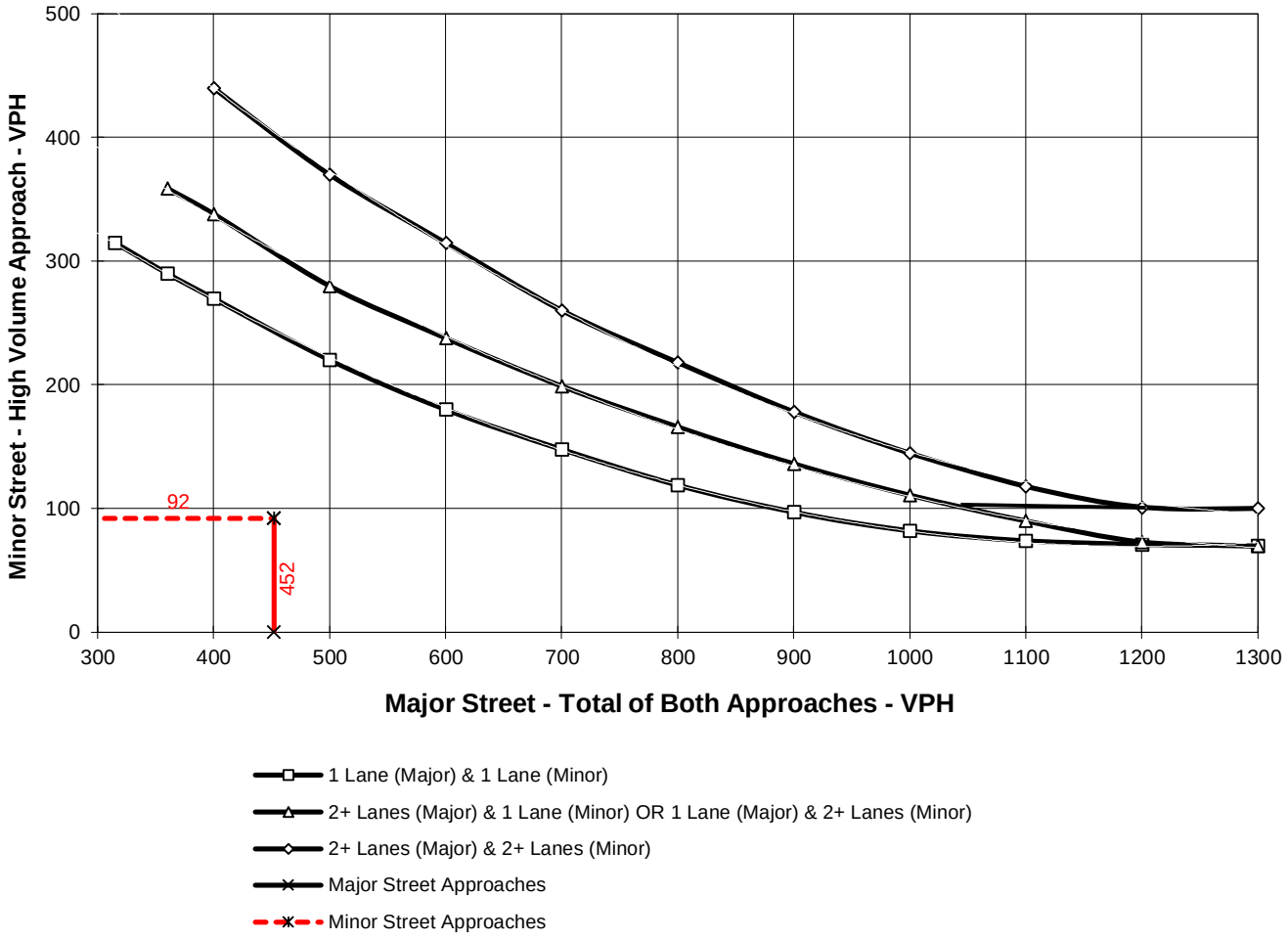
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Project Driveway**

High Volume Approach (VPH) = **92**

Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



** NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

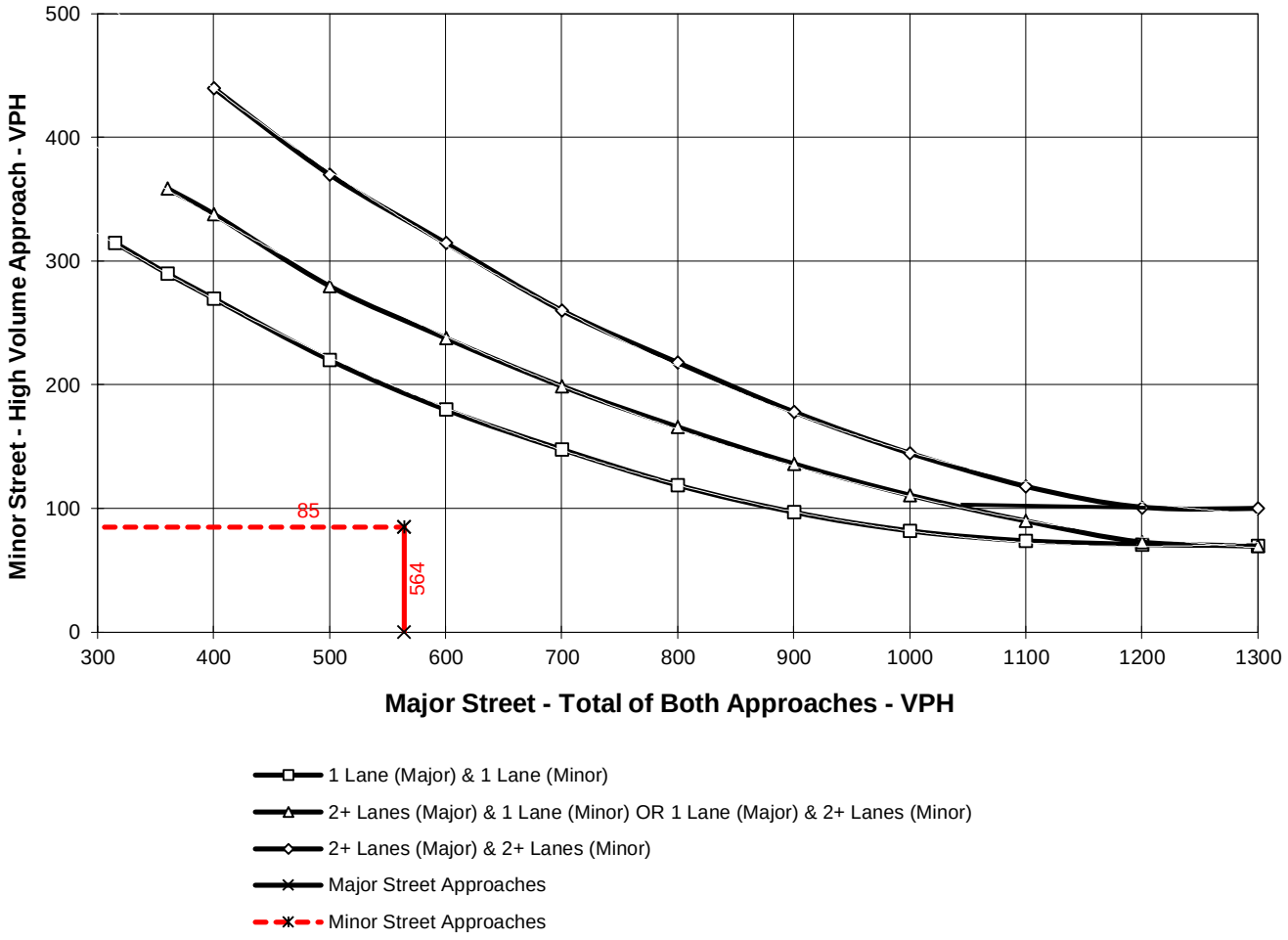
PEAK HOUR VOLUME WARRANT
(Rural Areas)

Opening Year (2027) With Project - AM

Major Street Name = **Indian Caynon Drive** Total of Both Approaches (VPH) = **564**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Project North Driveway** High Volume Approach (VPH) = **85**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

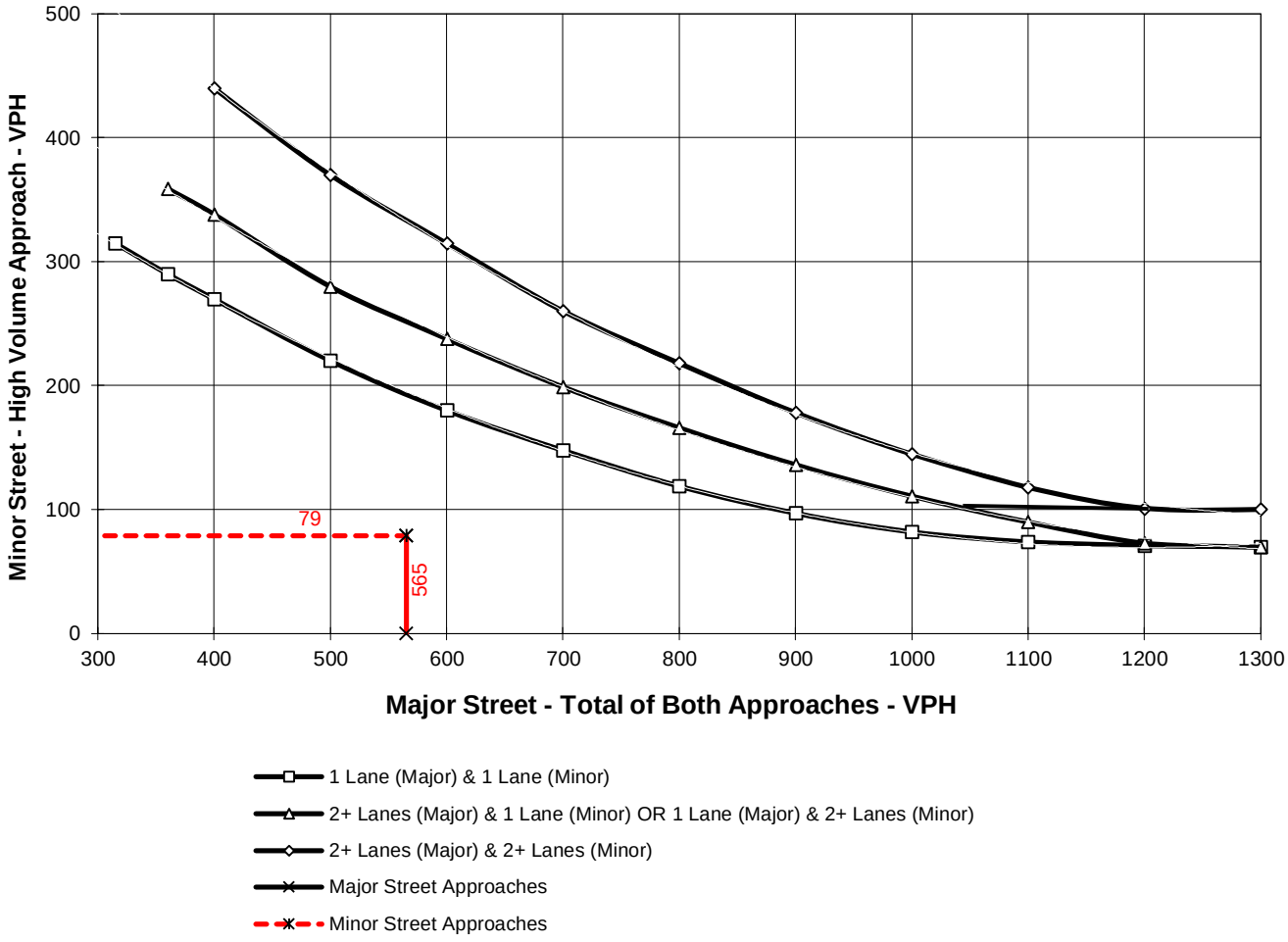
PEAK HOUR VOLUME WARRANT
(Rural Areas)

Opening Year (2027) With Project - PM

Major Street Name = **Indian Caynon Drive** Total of Both Approaches (VPH) = **565**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Project North Driveway** High Volume Approach (VPH) = **79**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Opening Year (2027) With Project - AM

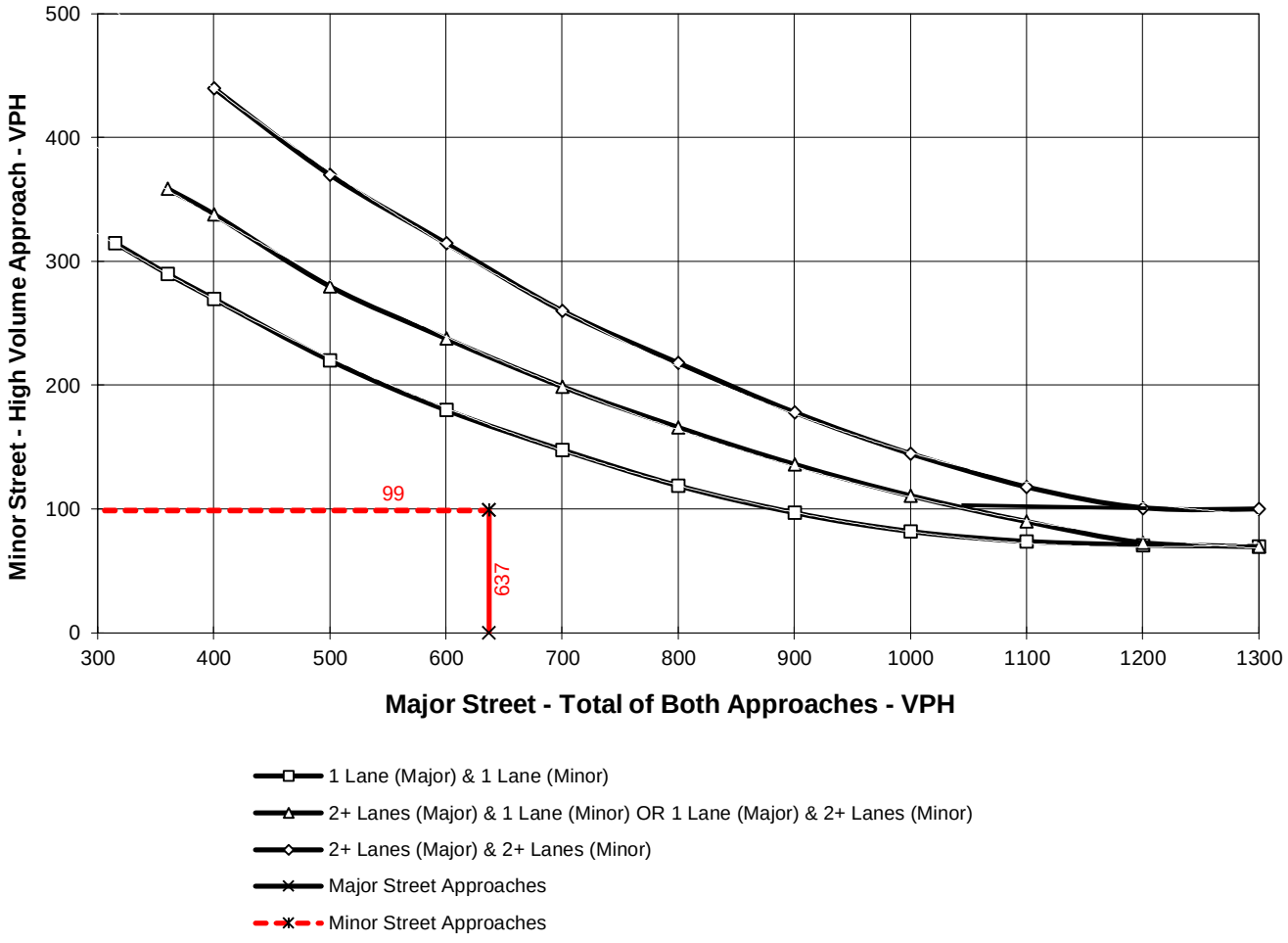
Major Street Name = **Indian Caynon Drive** Total of Both Approaches (VPH) = **637**

Number of Approach Lanes Major Street = **1**

Minor Street Name = **Project South Driveway** High Volume Approach (VPH) = **99**

Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



** NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Opening Year (2027) With Project - PM

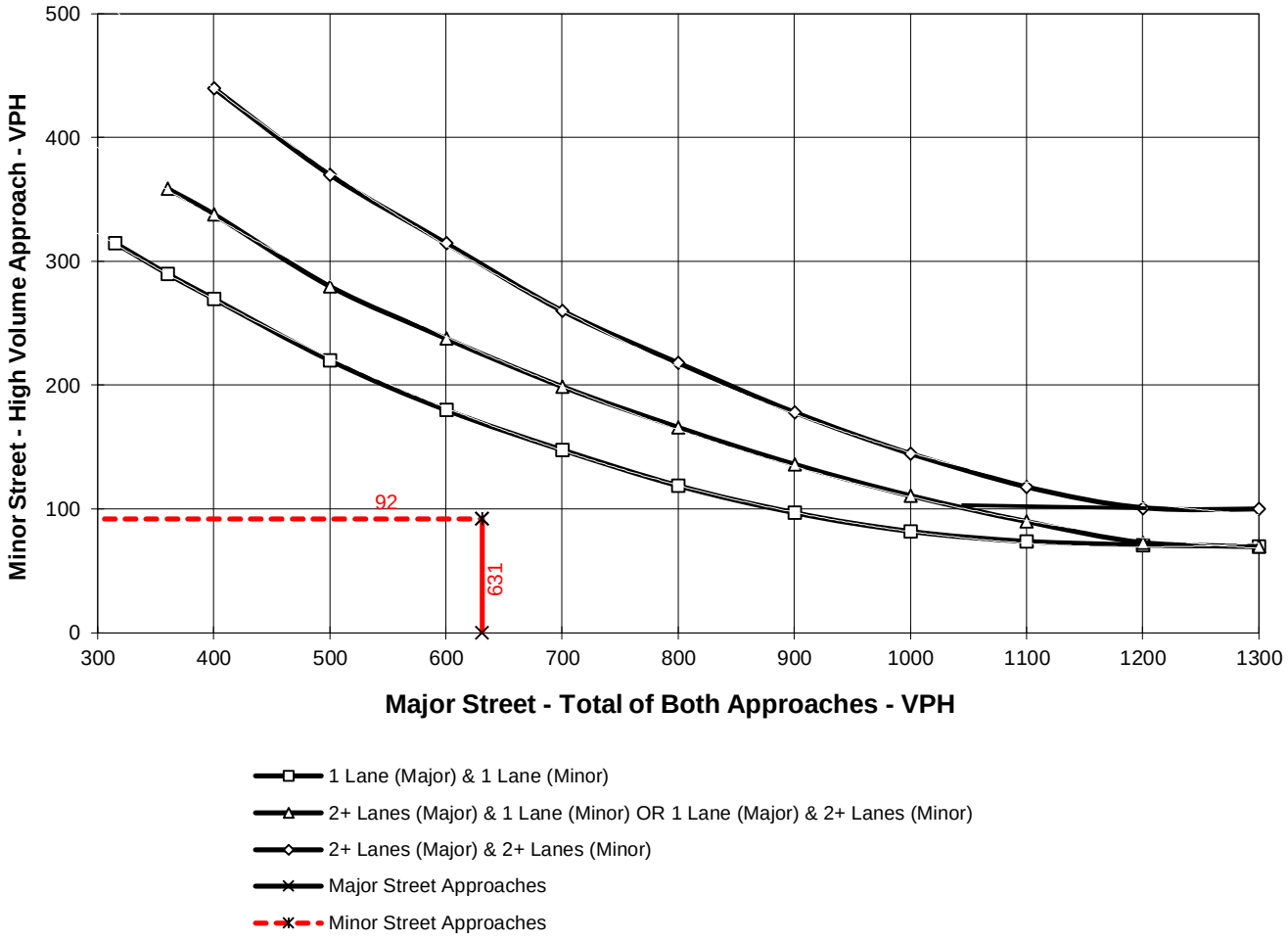
Major Street Name = **Indian Caynon Drive** Total of Both Approaches (VPH) = **631**

Number of Approach Lanes Major Street = **1**

Minor Street Name = **Project South Driveway** High Volume Approach (VPH) = **92**

Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



** NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.



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