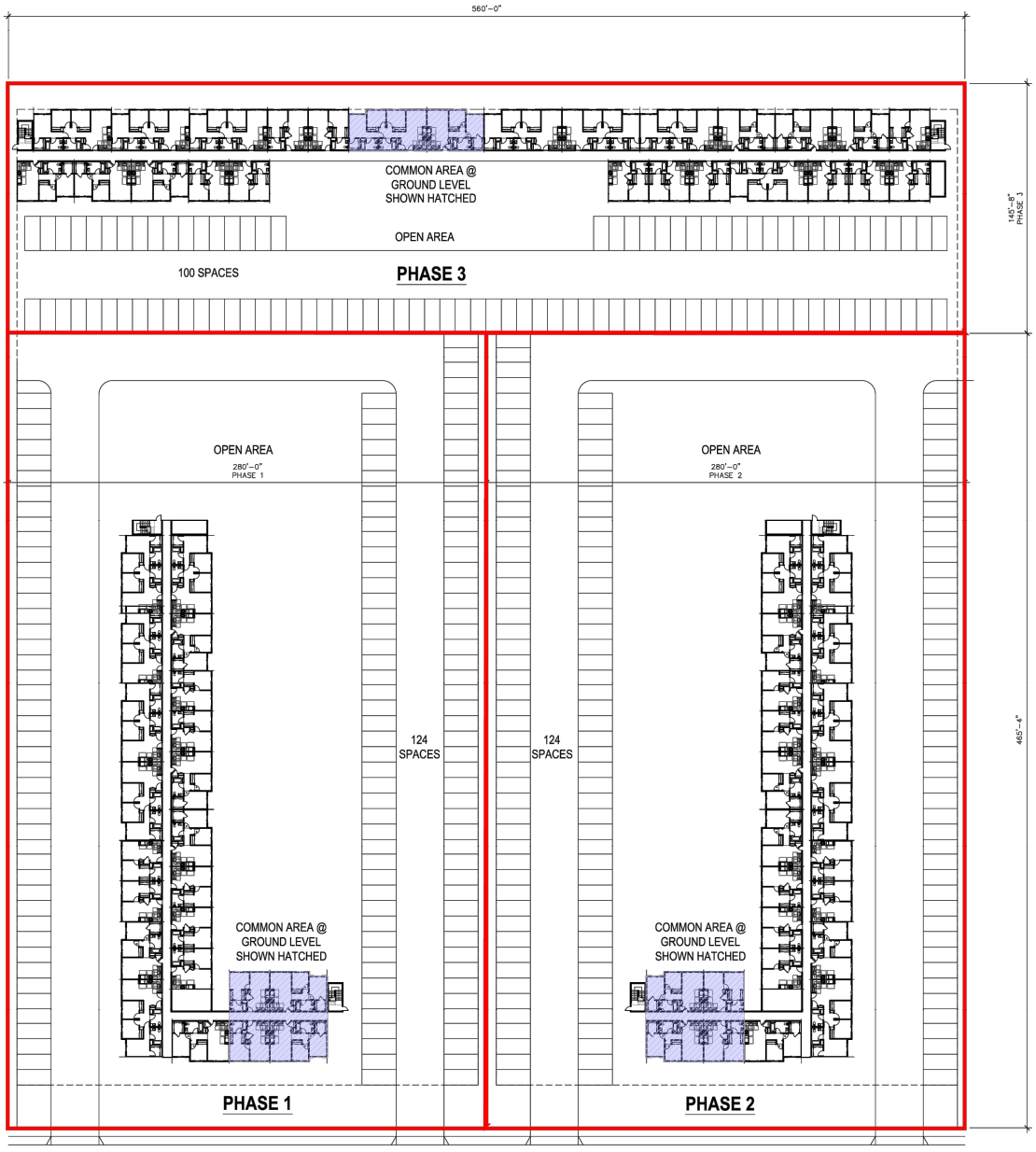
NEC BIRCH STREET AND LOS ANGELES AVENUE
MULTI-FAMILY RESIDENTIAL PROJECT
TRAFFIC IMPACT STUDY
City of Shafter, California



NEC BIRCH STREET AND LOS ANGELES AVENUE MULTI-FAMILY RESIDENTIAL PROJECT TRAFFIC IMPACT STUDY City of Shafter, California

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1.0 Introduction

1.1 Purpose of Report & Study Objectives

The purpose of this traffic impact analysis and report is to evaluate and assess the proposed NEC Birch Street and Los Angeles Avenue Multi-Family Residential Project from a traffic and circulation standpoint. Furthermore, this analysis will determine whether the proposed project will have an adverse impact on traffic operations.

This traffic study has been conducted pursuant to the City of Shafter and the California Environmental Quality Act (CEQA) requirements.

This study is prepared in accordance with the scope of work that has been approved by the City of Shafter, which is contained in Appendix A.

1.2 Site Location & Project Description

The project site is located along the northeast corner of Birch Street and Los Angeles Avenue in the City of Shafter, CA.

The project site is currently vacant. The proposed project consists of the construction of 62 affordable apartment dwelling units in Phase 1, 62 affordable apartment dwelling units in Phase 2, and 50 affordable apartment dwelling units in Phase 3 for a total of 174 affordable apartment dwelling units.

Access to the project is proposed via two (2) full-access driveways along Birch Street, two (2) full-access driveways along S. Mannel Avenue, and four (4) full-access driveways along Los Angeles Avenue. Due to the close spacing of these driveways (specifically those along Los Angeles Avenue), the City shall review and confirm any access restrictions.

It is RK's understanding that the Project will construct the following roadway segments to their ultimate half width, which will be improved as necessary to meet the City of Shafter requirements.

- Birch Street from the northerly extent of the Project to Los Angeles Avenue
- S. Mannel Street from the northerly extent of the Project to Los Angeles Avenue

The project is planned to open in 2025 and has been evaluated in one (1) single phase.

Exhibit 1-1 presents a satellite aerial of the existing project site. Exhibit 1-2 presents the proposed site plan.

Exhibit 1-1

Location Map

Legend:

— = Project Site Boundary

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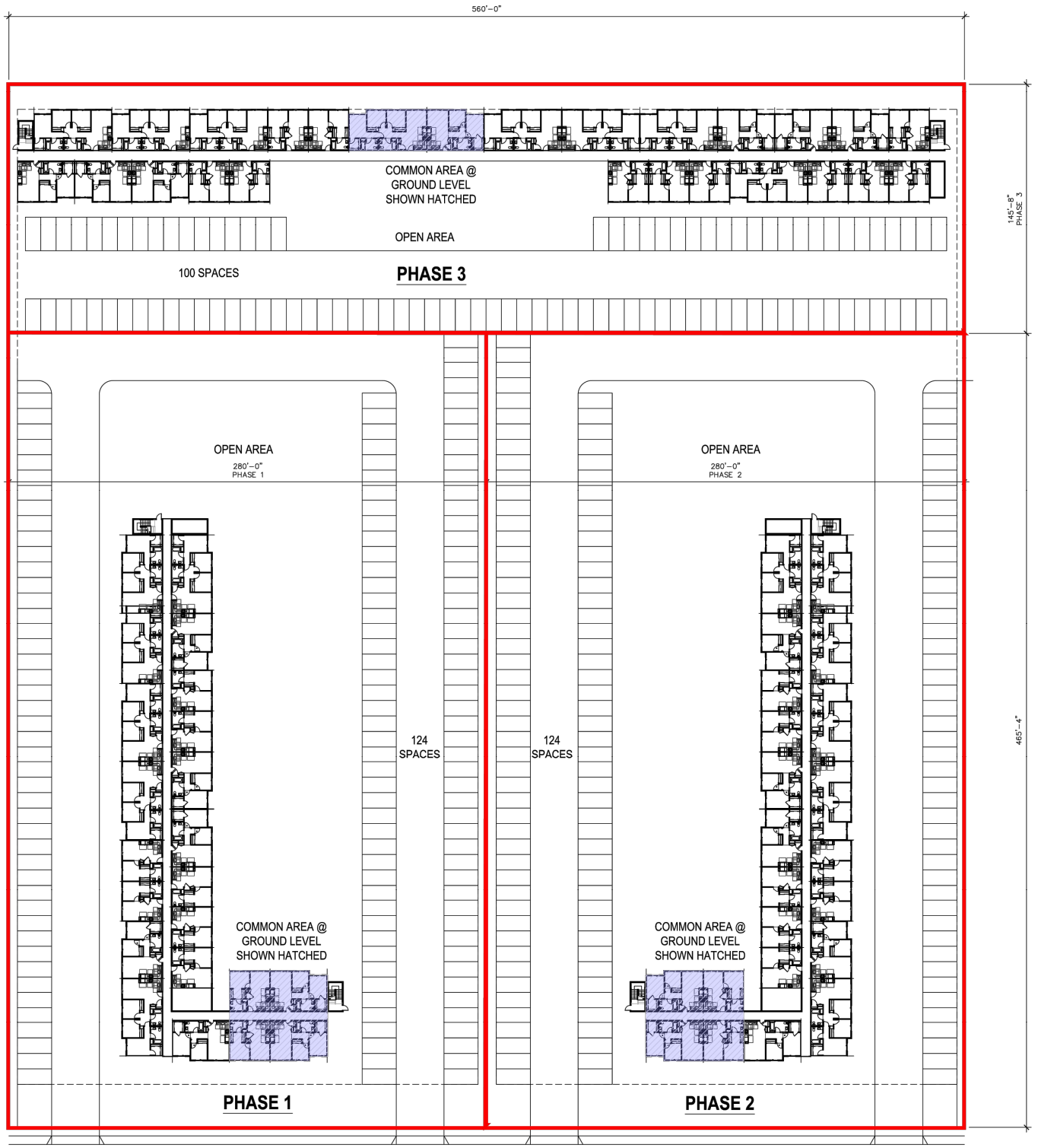
RK engineering group, inc.

Exhibit 1-2

Site Plan



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1.3 Traffic Study Area & Analysis Scenarios

The following six (6) study intersections have been selected for evaluation based on discussions with City staff and the approved scope of work. It should be noted that all six (6) intersections are located within the City of Shafter and none are currently existing.

1. Birch Street (N/S) at Los Angeles Avenue (E/W);
2. Project Access 1 (N/S) at Los Angeles Avenue (E/W);
3. Project Access 2 (N/S) at Los Angeles Avenue (E/W);
4. Project Access 3 (N/S) at Los Angeles Avenue (E/W);
5. Project Access 4 (N/S) at Los Angeles Avenue (E/W); and
6. S. Mannel Street (N/S) at Los Angeles Avenue (E/W).

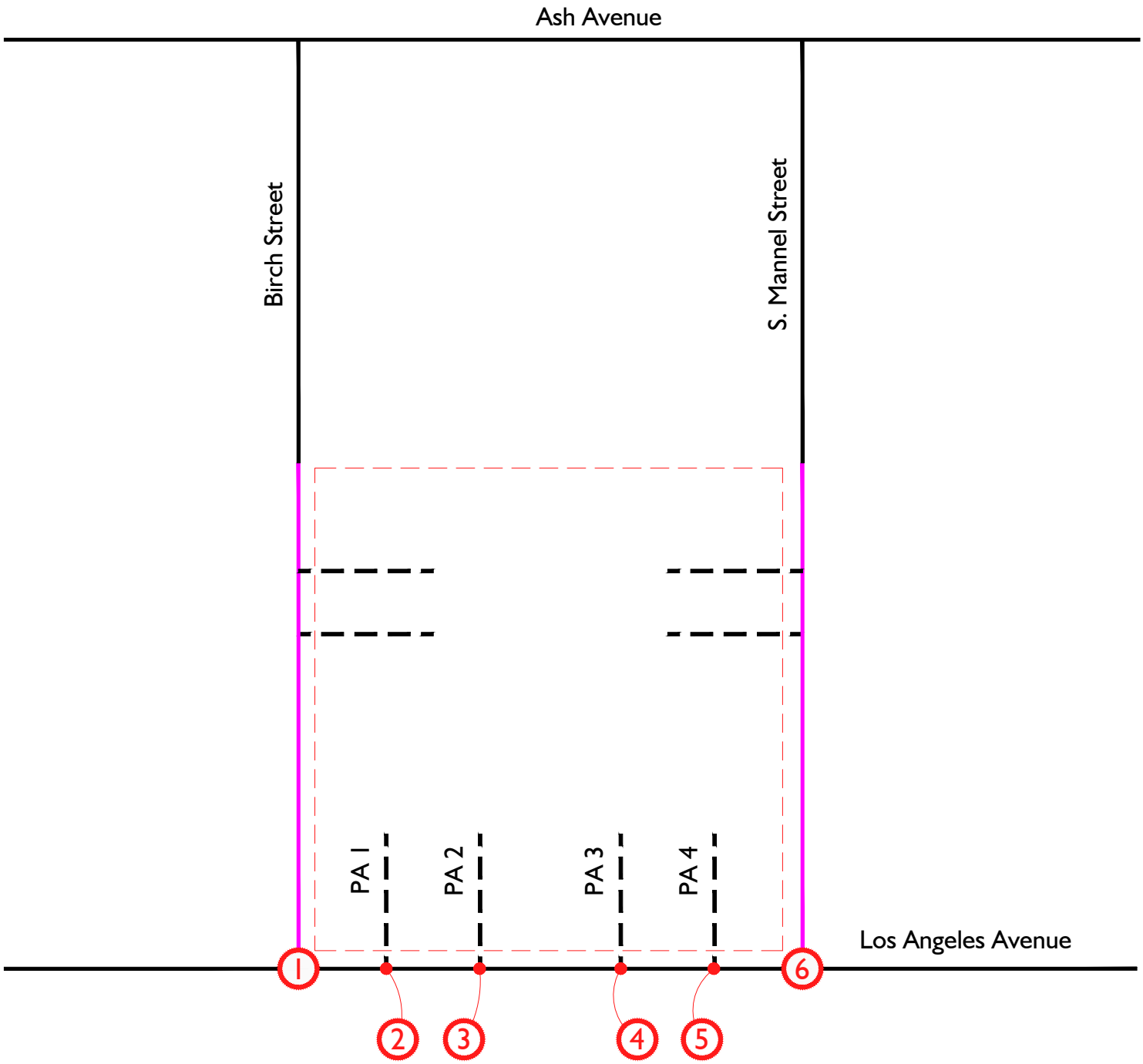
Exhibit 1-3 illustrates the locations of these six (6) study intersections.

The analysis evaluates traffic conditions of the study area under the following scenarios during the weekday AM (7:00 AM to 9:00 AM) and weekday PM (4:00 PM to 6:00 PM) peak hour conditions:

- Existing Conditions;
- Existing Plus Project Conditions;
- Project Opening Year (2025) Without Project Conditions; and
- Project Opening Year (2025) With Project Conditions.

Exhibit 1-3

Study Area



Legend:

1 = Study Area Intersection

= Project Site Boundary

= Project Access Driveways

= Proposed Roadway Extension

N

2.0 Analysis Methodologies, Performance Criteria, & Thresholds of Significance

This section of the report presents the methodologies utilized to perform the traffic analyses summarized in this report in accordance with the City of Shafter requirements. This section also discusses the agency-established applicable performance criteria and thresholds of significance for the study facilities.

2.1 Study Intersection Peak Hour Level of Service Analysis Methodology

Per City of Shafter criteria, the Highway Capacity Manual Seventh Edition (HCM 7) is utilized as the technical guide in the evaluation of traffic operations.

The HCM defines level of service as a qualitative measure which describes operational conditions within a traffic stream, generally in terms of factors such as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate LOS (Level of Service) conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted.

The definitions of level of service for interrupted flow (flow regulated by the existence of traffic control devices) are:

- **LOS A** (Free Flow / Insignificant Delays) describes traffic operations in which progression is exceptionally favorable or the cycle length is extremely short. Generally, LOS A operations for signalized intersections tend to result in most vehicles arriving during the green phase and traveling through the intersection without stopping.

- **LOS B** (Stable Operation / Minimal Delays) describes traffic operations in which progression slightly diminishes but is still considered highly favorable and the cycle length is short. Vehicles stop more often causing a marginal increase in average delay.

- **LOS C** (Stable Operation / Acceptable Delays) describes traffic operations in which progression is favorable and the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Many vehicles still pass through the intersection, but a significant number of vehicles are stopping. Average delay is fair.

- **LOS D** (Approaching Unstable / Tolerable Delays) describes traffic operations in which progression is ineffective and/or cycle length is long. Considerable amount of vehicles stop and individual cycle failures are noticeable. Average delay is adequate.

- **LOS E** (Unstable Operation / Significant Delays) describes traffic operations in which progression is unfavorable and the cycle length is exceedingly long. Individual cycle failures are frequent. Average delay is high.

- **LOS F** (Forced Flow / Excessive Delays) describes traffic operations in which progression is extremely poor and the cycle length is extremely long. Most cycles fail to clear the queue. Average delay is vast.

2.1.1 HCM (7th Edition) Methodology

Level of service is typically dependent on the quality of traffic flow at the intersection along a roadway. The Highway Capacity Manual 7th Edition (HCM 7) expresses the level of service at an intersection in terms of delay time for various intersection approaches. The HCM 7 uses different procedures depending on the type of intersection control. The levels of service determined in this study are calculated using the HCM 7 methodology.

For signalized intersections, average control delay per vehicle is used to determine the level of service. Levels of service at signalized study intersections have been evaluated using the HCM 7 intersection analysis program.

For all-way stop-controlled intersections, average control delay per vehicle is used to determine the level of service.

For intersections with stop control on the minor approach only, the calculation of level of service is dependent on the occurrence of gaps occurring in the free-flow traffic movement of the major street, and the level of service is determined based on the worst stop-controlled approach from the minor street or an individual movement from the major street, whichever is worse.

Table 2-1 shows the level of service criteria based on the HCM 7 methodology.

Table 2-1
HCM Intersection LOS & Delay Ranges

LOS	Average Control Delay Per Vehicle (Seconds)	
	Signalized	Unsignalized
A	0.00 - 10.00	0.00 - 10.00
B	10.01 - 20.00	10.01 - 15.00
C	20.01 - 35.00	15.01 - 25.00
D	35.01 - 55.00	25.01 - 35.00
E	55.01 - 80.00	35.01 - 50.00
F	>80.00	>50.00

2.1.2 Analysis Parameters

For this study, the HCM level of service grades will be determined utilizing the HCM 7 methodology and the PTV Vistro analysis software. Since all study intersections do not currently exist, a peak hour factor (PHF) of 0.95 has been utilized for all study scenarios.

2.2 LOS Performance Criteria & Thresholds for Requiring LOS Improvements

Per Section 3.2 of the *City of Shafter Draft General Plan*, dated April 2005, the minimum acceptable LOS for the six (6) study intersections is LOS C or better.

For study intersections that are forecast to operate at LOS D, E or F, improvements will be identified to achieve LOS C or better.

3.0 Circulation System & Existing Conditions

This section of the report provides a discussion on existing study area conditions and traffic volumes.

3.1 Existing Traffic Controls & Intersection Geometrics

A field review of Los Angeles Avenue within the vicinity of the project was conducted. As previously mentioned, all six (6) study intersections do not currently exist.

3.2 Existing Traffic Volumes

Since none of the six (6) study intersections are currently existing, a single 24-hour roadway count along Los Angeles Avenue (within the vicinity of the project) was collected in September 2023 during "typical" weekday conditions. The traffic counts were collected during typical dry weather conditions and typical non-holiday times. The specific peak hour (4 consecutive 15-minute intervals) eastbound and westbound through volumes along Los Angeles Avenue were determined by counting each two-hour peak period and using the highest hour within each two-hour peak period.

The traffic count worksheets are included in Appendix B.

4.0 Project Traffic Volumes

This section of the report provides a discussion on methodologies utilized to derive future traffic volumes for the study area.

4.1 Project Traffic Conditions

4.1.1 Project Trip Generation

Trip generation represents the amount of traffic that is attracted and produced by a development. The trip generation for the project is based upon the specific land uses that have been planned for this development.

The project is proposing to construct 174 affordable apartment dwelling units. As such, ITE Land Use 223: Affordable Housing trip rates are the most appropriate for this land use.

Table 4-1 shows the ITE trip generation rates utilized for the trip generation analysis of the proposed project and existing entitled land uses.

Table 4-1
ITE Trip Generation Rates[1]

Land Use	ITE Code	Units[2]	Peak Hour						ADT
			AM			PM			
			In	Out	Total	In	Out	Total	
Affordable Housing	223	DU	29%	71%	0.50	59%	41%	0.46	4.81

[1] *Source: ITE Trip Generation Manual* (11th Edition, 2021).
[2] DU = Dwelling Unit

Table 4-2 shows the trip generation for the proposed project and the entitled land use utilizing the trip generation rates shown in Table 4-1.

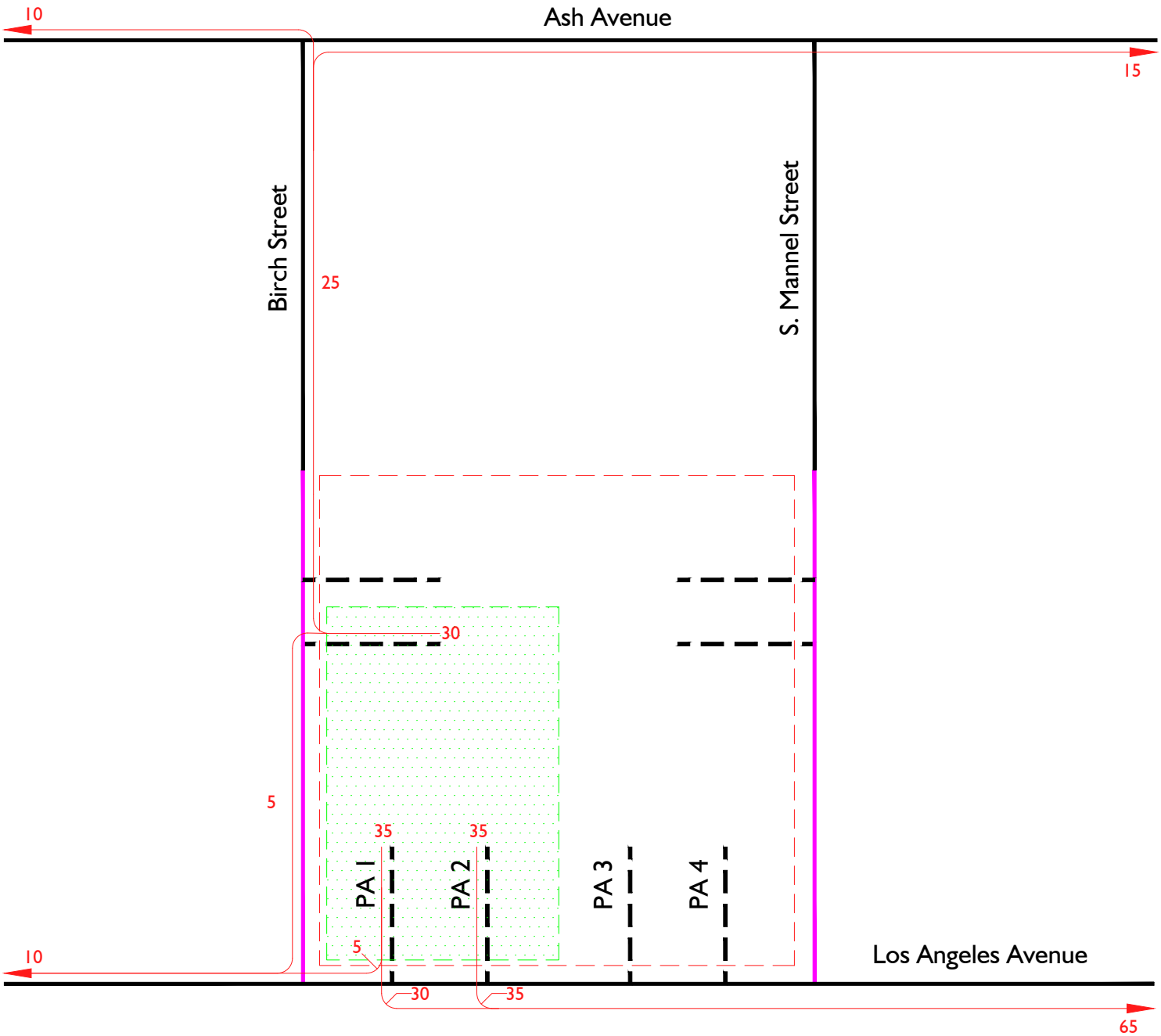
4.1.2 Project Trip Distribution & Assignment

Trip distribution represents the directional orientation of traffic to and from the project site. Trip distribution is heavily influenced by the geographical location of the site, the location of residential, employment and recreational opportunities, and the proximity to the regional freeway system. The directional orientation of traffic was determined by evaluating existing and proposed land uses, highways within the community, and existing traffic volumes.

The project trip distribution pattern for Phase 1, Phase 2, and Phase 3 of the proposed project are shown in Exhibit 4-1, Exhibit 4-2, and Exhibit 4-3, respectively.

Exhibit 4-1

Phase 1 Project Trip Distribution



Legend:

10 = Percent to/from Project

= Project Site Boundary

= Project Access Driveways

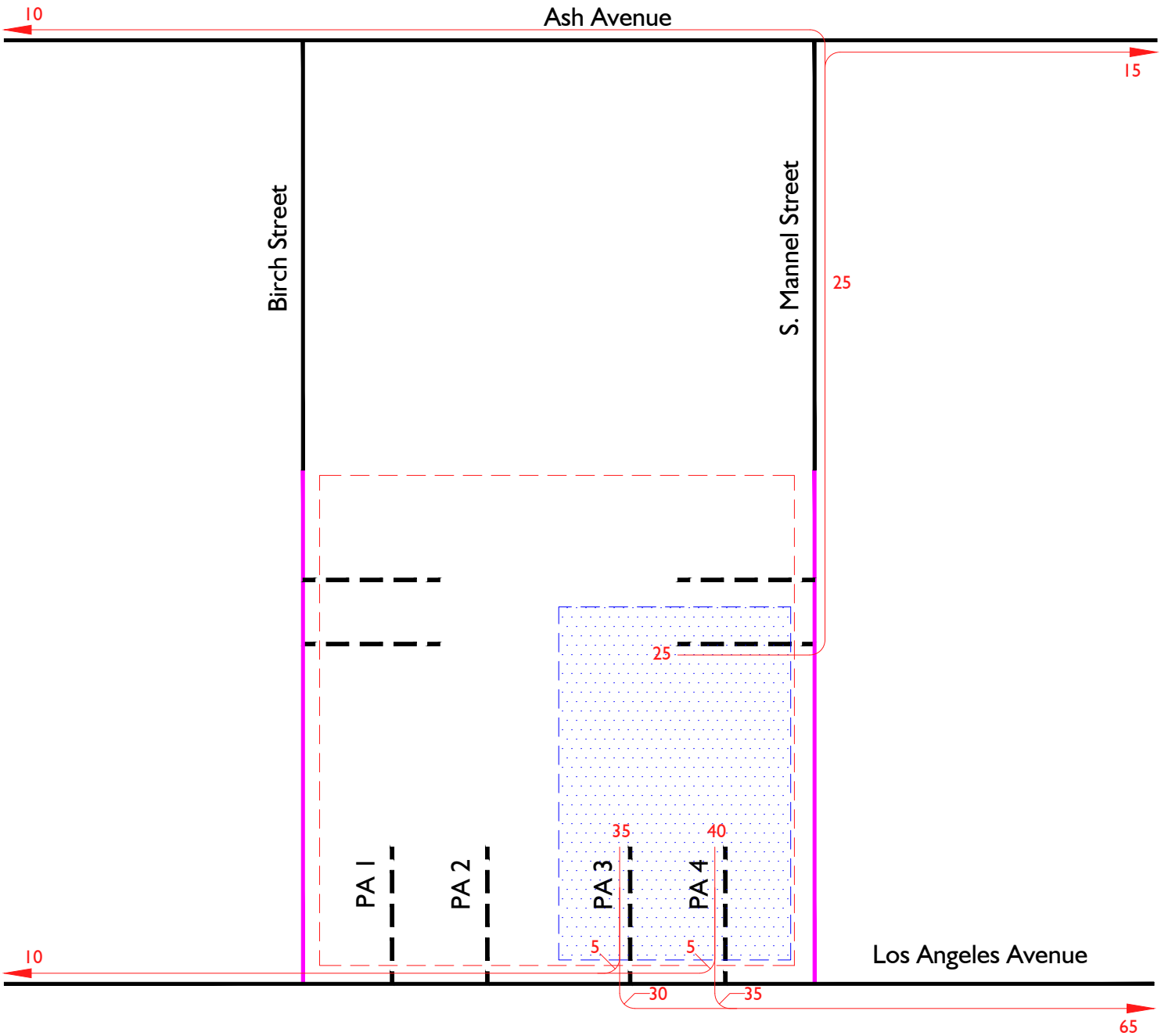
= Proposed Roadway Extension

= Phase 1 Site Boundary

N

Exhibit 4-2

Phase 2 Project Trip Distribution



Legend:

10 = Percent to/from Project

= Project Site Boundary

= Project Access Driveways

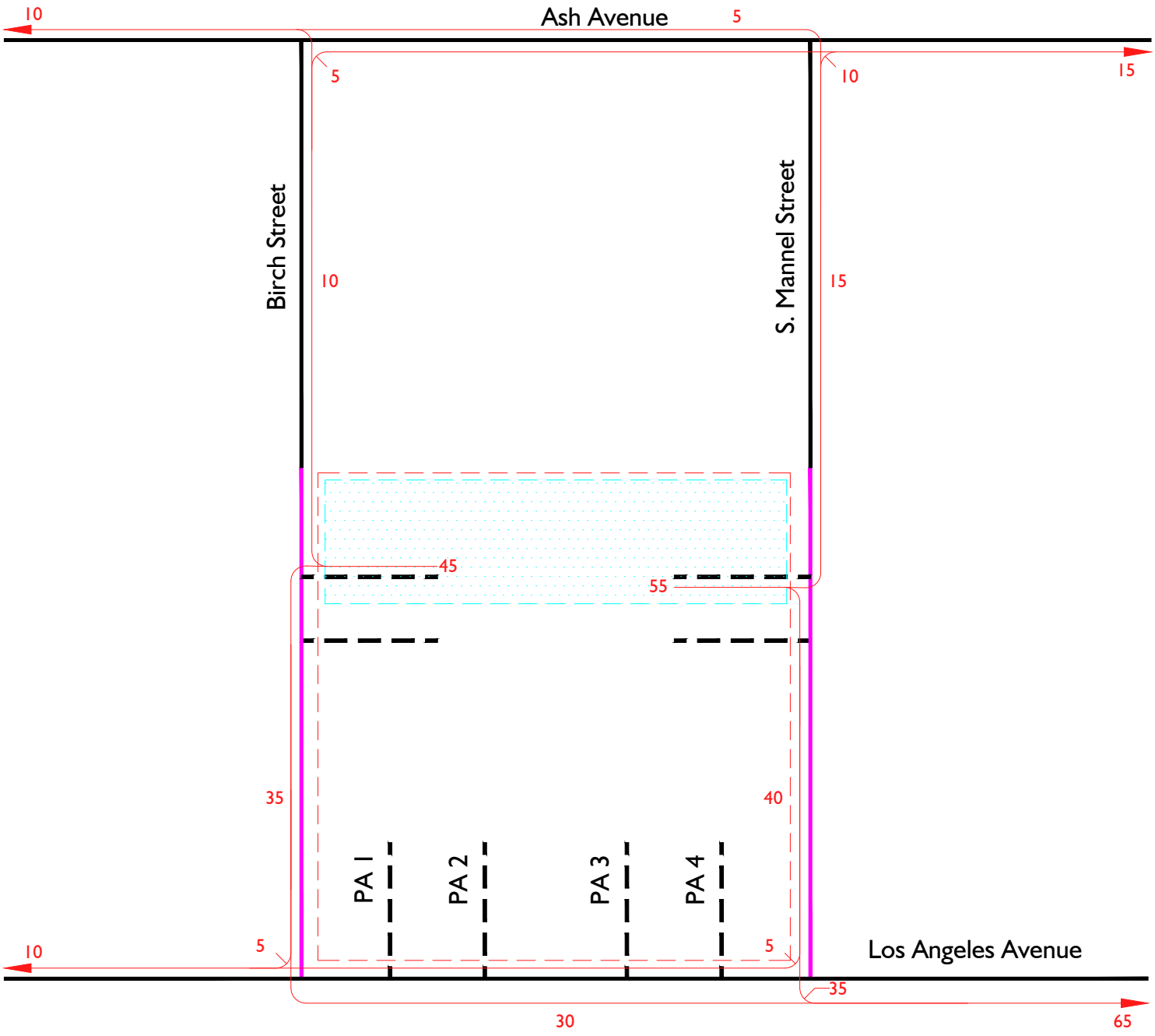
= Proposed Roadway Extension

= Phase 2 Site Boundary

N

Exhibit 4-3

Phase 3 Project Trip Distribution



Legend:

10 = Percent to/from Project

= Project Site Boundary

= Project Access Driveways

= Proposed Roadway Extension

= Phase 3 Site Boundary

N

4.1.3 Modal Split

Modal split denotes the proportion of traffic generated by a project that would use any of the transportation modes, namely buses, cars, bicycles, motorcycles, trains, carpools, etc. The traffic-reducing potential of public transit and other modes is significant. However, the traffic projections in this study are conservative as modal split reductions to the traffic volumes via the use of public transit and alternative transportation are not applied to the projections. With the implementation of transit services and provision of alternative transportation ideas and incentives, the automobile traffic demand can be reduced significantly.

4.1.4 Project Peak Hour Traffic Volumes

The assignment of project traffic to the adjoining roadway system is based upon the project's trip generation, trip distribution, and arterial highway and local street systems that would be in place by the time of initial occupancy of the site.

Project peak hour and daily traffic volumes have been calculated throughout the study area. The project's AM and PM peak hour intersection turning movement volumes are shown on Exhibit 4-4.

4.2 Existing Plus Project Conditions Traffic Volumes

Existing Plus Project Conditions traffic volumes consist of the summation of existing traffic volumes and project traffic volumes. Existing Plus Project Conditions AM and PM peak hour traffic volumes at the study intersections are shown on Exhibit 4-5.

4.3 Background Traffic

To assess future conditions, project traffic is combined with existing traffic and area-wide/ambient growth. Information on future projects in the vicinity of the study area has been researched, but no projects were identified by City of Shafter staff.

Typically, to account for area-wide/ambient growth in the study area, a linear annual growth rate of two percent (2%) per year would be applied to the existing (2023) traffic volumes over a 2-year period to opening year (2025) conditions (i.e., 4% total growth). However, since there were no cumulative projects identified within the area, RK conservatively utilized a linear annual growth rate of four percent (4%) per year (i.e., 8% total growth).

Exhibit 4-4

Project Peak Hour Traffic Volumes

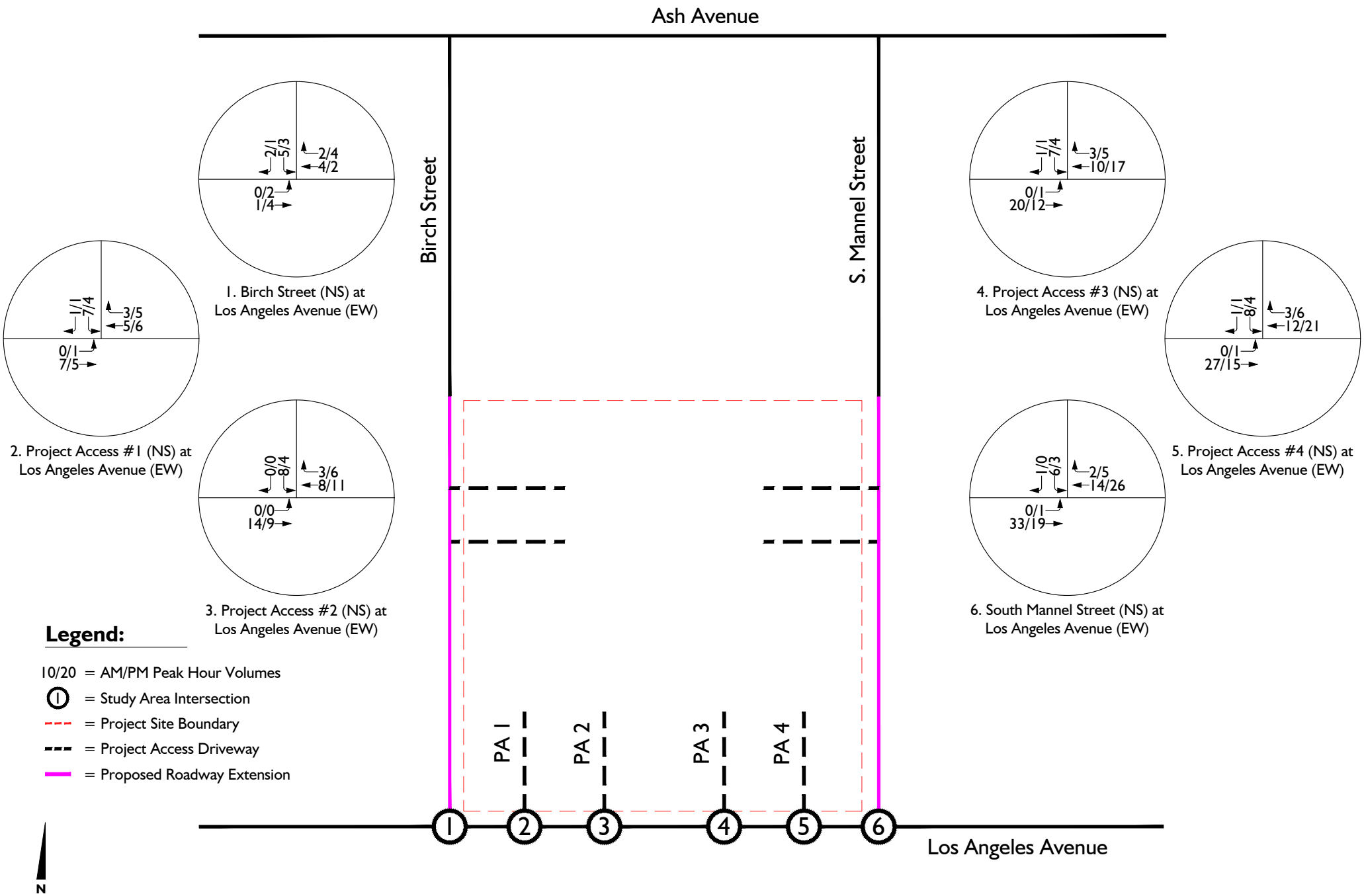
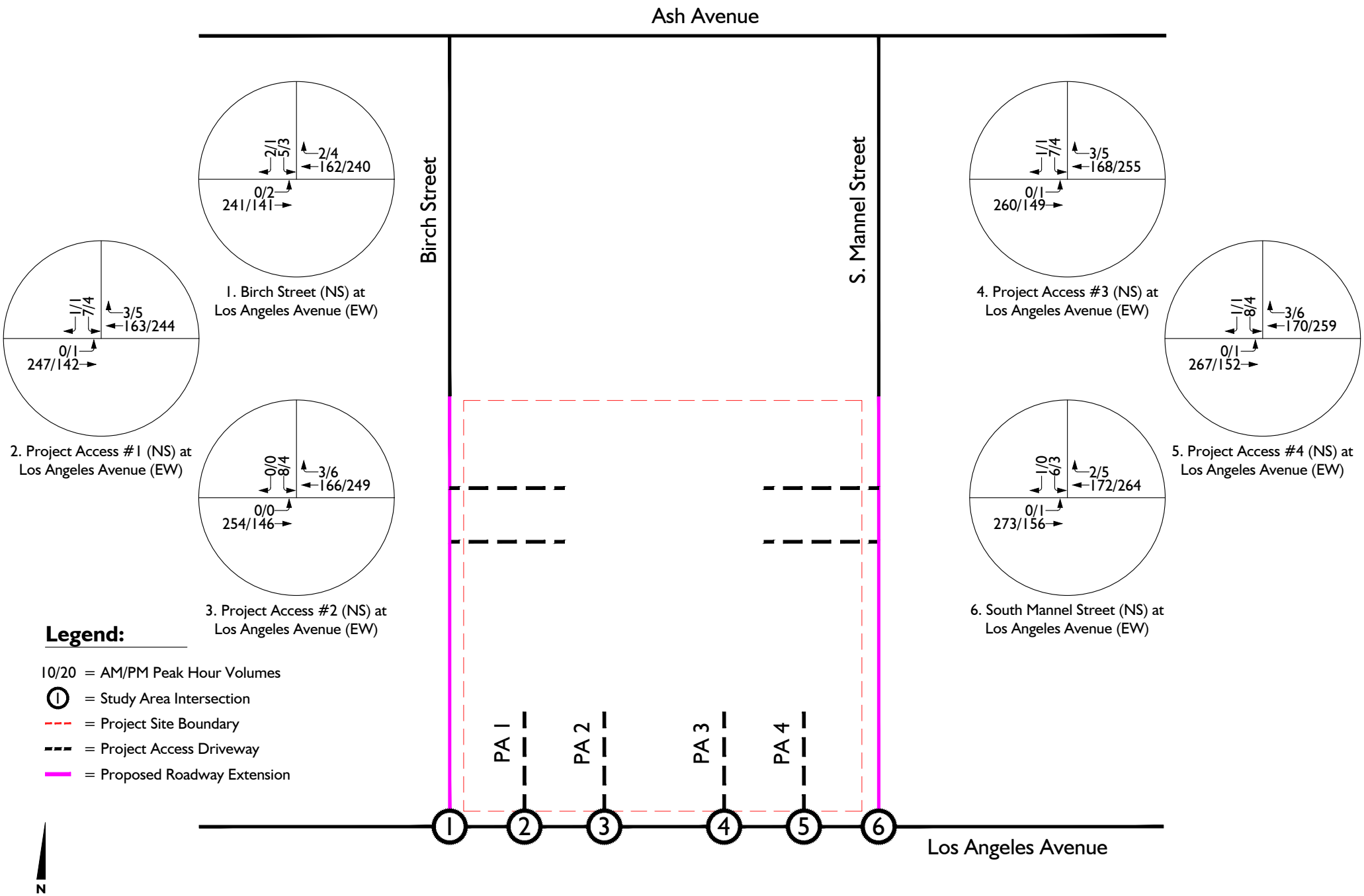


Exhibit 4-5

Existing Plus Project Peak Hour Traffic Volumes



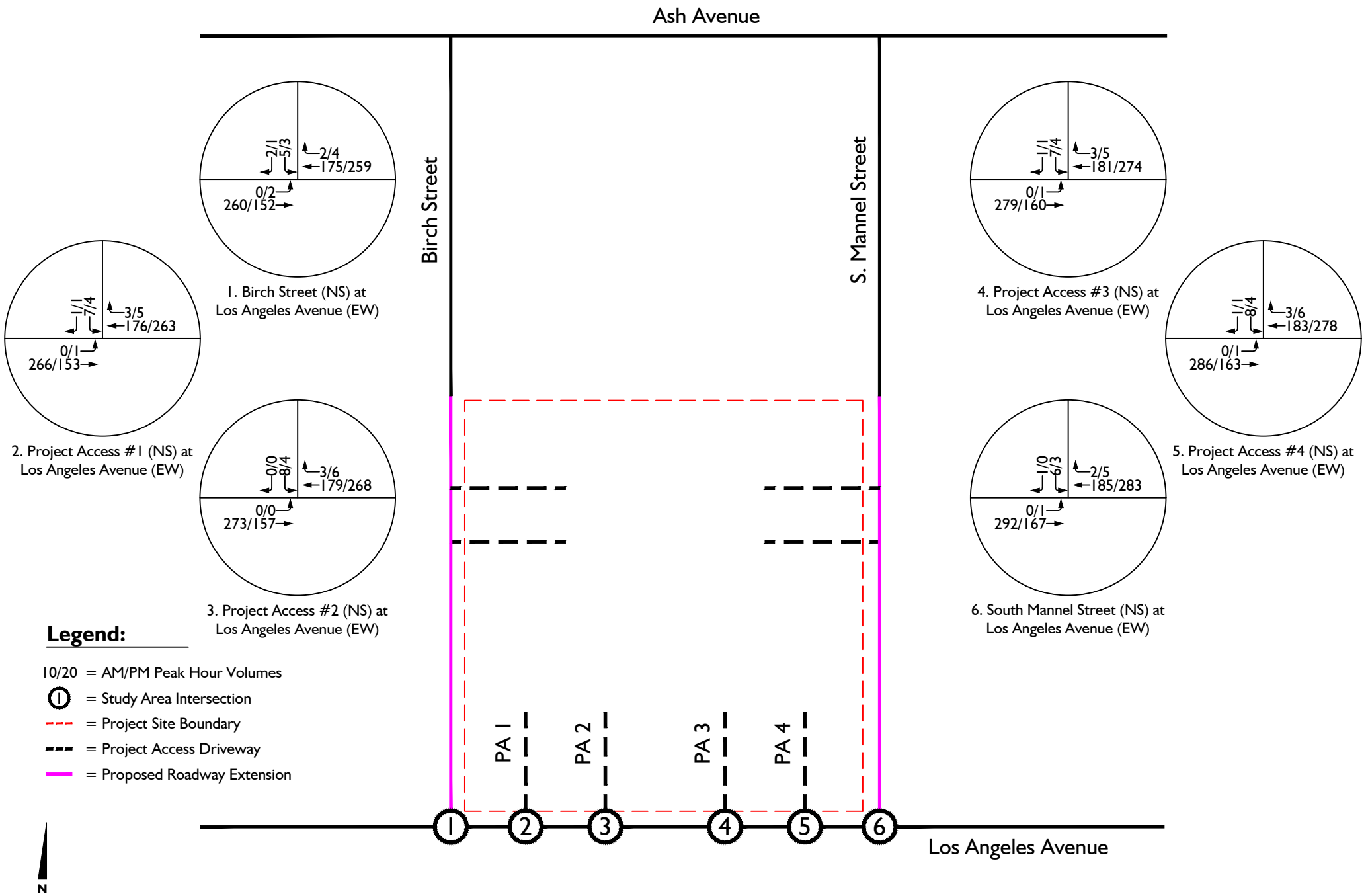
4.4 Project Opening Year (2025) With Project Conditions Traffic Volumes

Project Opening Year (2025) With Project Conditions traffic volumes consist of two (2) years of linear annual growth on top of existing (2023) traffic volumes at four percent (4%) per year (i.e., 8% total growth) plus traffic generated by the project.

Project Opening Year (2025) With Project Conditions AM and PM peak hour traffic volumes at the study intersections are shown on Exhibit 4-6.

Exhibit 4-6

Project Opening Year (2025) With Project Conditions Traffic Volumes



5.0 Study Intersection Peak Hour LOS Analysis

This section of the report provides a discussion on the study intersection peak hour level of service (LOS) analysis and findings.

5.1 Existing Traffic Conditions Level of Service

Since all six (6) study intersections currently do not exist, this report does not provide LOS calculations for Existing Conditions.

5.2 Existing Plus Project Conditions Level of Service

Existing Plus Project Conditions LOS calculations for the study intersections are shown on Table 5-1 and are based on the Existing Plus Project AM and PM peak hour traffic volumes shown on Exhibit 4-5. As shown in Table 5-1, the study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours under Existing Plus Project Conditions.

Detailed LOS analysis worksheets for Existing Plus Project Conditions are contained in Appendix C.

5.3 Opening Year (2025) Without Project Conditions Level of Service

Since all six (6) study intersections currently do not exist, this report does not provide LOS calculations for Opening Year (2025) Without Project Conditions.

5.4 Opening Year (2025) With Project Conditions Level of Service

Opening Year (2025) With Project Conditions LOS calculations for the study intersections are shown on Table 5-2 and are based on the Opening Year (2025) With Project Conditions AM and PM peak hour traffic volumes shown on Exhibit 4-6. As shown in Table 5-2, the study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours under Opening Year (2025) With Project Conditions.

Detailed LOS analysis worksheets for Opening Year (2025) With Project Conditions are contained in Appendix D.

Table 5-1

Study Intersection LOS Analysis Summary

Existing Plus Project Conditions

	Study Intersection	Traffic Control[1]	Methodology	Existing Plus Project Conditions				Requires LOS Improvement?	
				Delay (sec/veh)[2,3]		Level of Service			
				AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1.	Birch Street at Los Angeles Avenue	CSS	HCM 7	10.7	10.7	B	B	No	No
2.	Project Access #1 at Los Angeles Avenue	CSS	HCM 7	11.0	10.8	B	B	No	No
3.	Project Access #2 at Los Angeles Avenue	CSS	HCM 7	11.4	11.1	B	B	No	No
4.	Project Access #3 at Los Angeles Avenue	CSS	HCM 7	11.2	10.9	B	B	No	No
5.	Project Access #4 at Los Angeles Avenue	CSS	HCM 7	11.3	11.0	B	B	No	No
6.	South Mannel Street at Los Angeles Avenue	CSS	HCM 7	11.3	11.4	B	B	No	No

[1] TS = Traffic Signal;
CSS = Cross-Street Stop.

[2] Deficient operation shown in **Bold**.

[3] HCM 7 Analysis Software: PTV Vistro, Version 2023.
Per the Highway Capacity Manual 7th Edition, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown for intersections with cross-street stop control.

Table 5-2

Study Intersection LOS Analysis Summary

Opening Year (2025) Plus Project Conditions

	Study Intersection	Traffic Control[1]	Methodology	Opening Year (2025) Plus Project Conditions				Requires LOS Improvement?	
				Delay (sec/veh)[2,3]		Level of Service			
				AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1.	Birch Street at Los Angeles Avenue	CSS	HCM 7	10.9	10.9	B	B	No	No
2.	Project Access #1 at Los Angeles Avenue	CSS	HCM 7	11.3	11.0	B	B	No	No
3.	Project Access #2 at Los Angeles Avenue	CSS	HCM 7	11.7	11.4	B	B	No	No
4.	Project Access #3 at Los Angeles Avenue	CSS	HCM 7	11.5	11.2	B	B	No	No
5.	Project Access #4 at Los Angeles Avenue	CSS	HCM 7	11.6	11.2	B	B	No	No
6.	South Mannel Street at Los Angeles Avenue	CSS	HCM 7	11.5	11.6	B	B	No	No

[1] TS = Traffic Signal;
CSS = Cross-Street Stop.

[2] Deficient operation shown in **Bold**.

[3] HCM 7 Analysis Software: PTV Vistro, Version 2023.
Per the Highway Capacity Manual 7th Edition, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown for intersections with cross-street stop control.

6.0 CEQA Vehicle Miles Traveled (VMT) Analysis

The following section provides a discussion of the vehicle miles traveled (VMT) analysis and findings.

The California Governor's Office of Planning and Research (OPR) issued a Technical Advisory in December 2018 which described their recommended procedures and methodology for VMT analysis. A key element of SB 743, signed in 2013, is the elimination of automobile delay and LOS as the sole basis of determining California Environmental Quality Act (CEQA) impacts. Pursuant to CEQA Guidelines, Section 15064.3, VMT is now the most appropriate measure of transportation impacts.

The City of Shafter has not finalized or adopted any policies or methodologies for VMT analysis. As such, the California Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*, dated April 2018, will be used as the basis for this project's VMT analysis and provides screening criteria that lead agencies can apply to effectively screen projects from project-level assessment.

As previously stated, the project proposes to consist of the construction of 174 affordable apartment dwelling units. The OPR Advisory recognizes that affordable housing projects typically generate lower VMT than market-rate housing, and a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less than significant impact on VMT. Adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT. Evidence supports a presumption of less than significant impact for a 100% affordable residential development in infill locations.

Therefore, because the project consists of 100% affordable housing, the project may be presumed to have a less than significant impact on VMT and no further VMT analysis would be required.

7.0 Findings and Recommendations

7.1 Site Location & Project Description

The project site is located along the northeast corner of Birch Street and Los Angeles Avenue in the City of Shafter, CA.

The project site is currently vacant. The proposed project consists of the construction of 62 affordable apartment dwelling units in Phase 1, 62 affordable apartment dwelling units in Phase 2, and 50 affordable apartment dwelling units in Phase 3 for a total of 174 affordable apartment dwelling units.

Access to the project is proposed via two (2) full-access driveways along Birch Street, two (2) full-access driveways along S. Mannel Avenue, and four (4) full-access driveways along Los Angeles Avenue. Due to the close spacing of these driveways (specifically those along Los Angeles Avenue), the City shall review and confirm any access restrictions.

It is RK's understanding that the Project will construct the following roadway segments to their ultimate half width, which will be improved as necessary to meet the City of Shafter requirements.

- Birch Street from the northerly extent of the Project to Los Angeles Avenue
- S. Mannel Street from the northerly extent of the Project to Los Angeles Avenue

The project is planned to open in 2025 and has been evaluated in one (1) single phase.

7.2 Traffic Study Area & Analysis Scenarios

The following six (6) study intersections have been selected for evaluation based on discussions with City staff and the approved scope of work. It should be noted that all six (6) intersections are located within the City of Shafter and none are currently existing.

1. Birch Street (N/S) at Los Angeles Avenue (E/W);
2. Project Access 1 (N/S) at Los Angeles Avenue (E/W);
3. Project Access 2 (N/S) at Los Angeles Avenue (E/W);
4. Project Access 3 (N/S) at Los Angeles Avenue (E/W);
5. Project Access 4 (N/S) at Los Angeles Avenue (E/W); and
6. S. Mannel Street (N/S) at Los Angeles Avenue (E/W).

7.3 Project Trip Generation

The project is forecast to generate approximately 836 daily trips with approximately 87 trips during the AM peak hour and approximately 81 trips during the PM peak hour.

7.4 Study Intersection Peak Hour LOS Analysis Summary

All six (6) study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours under Existing Plus Project and Opening Year (2025) With Project Conditions.

7.5 CEQA Vehicle Miles Traveled (VMT) Analysis Summary

The OPR Advisory recognizes that affordable housing projects typically generate lower VMT than market-rate housing, and a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less than significant impact on VMT. Adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT. Evidence supports a presumption of less than significant impact for a 100% affordable residential development in infill locations.

Therefore, because the project consists of 100% affordable housing, the project may be presumed to have a less than significant impact on VMT and no further VMT analysis would be required.

Appendices

Appendix A

Scope of Work

NEC Birch Street and Los Angeles Avenue Residential Project
Traffic Impact Study Scoping Agreement

July 21, 2023

The following provides information on the proposed project, summarizes the analysis scope, parameters, and assumptions for review and approval, and also includes request for information on items related to the study.

A. Project Description: The project site is located along the northeast corner of Birch Street and Los Angeles Avenue in the City of Shafter, CA.

The project site is currently vacant. The proposed project consists of the construction of 62 affordable apartment dwelling units in Phase 1, 62 affordable apartment dwelling units in Phase 2, and 50 affordable apartment dwelling units in Phase 3 for a total of 174 affordable apartment dwelling units.

Access to the project is proposed via two (2) full access driveways along Birch Street, two (2) full access driveways along S. Mannel Avenue, and four (4) full access driveways along Los Angeles Avenue.

It is RK's understanding that the Project will construct the following roadway segments to their ultimate half width, which will be improved as necessary to meet the City of Shafter requirements.

- Birch Street from the northerly extent of the Project to Los Angeles Avenue
- S. Mannel Street from the northerly extent of the Project to Los Angeles Avenue

The project is planned to open in 2025 and will be evaluated in one (1) single phase.

Exhibit A shows the location of the proposed project. Exhibit B shows the proposed site plan.

B. Project Trip Generation: Trip generation represents the amount of traffic that is attracted and produced by a development.

Trip generation is typically estimated based on the trip generation rates from the latest *Institute of Transportation Engineers (ITE) Trip Generation Manual.* The latest and most recent version (11th Edition, 2021) ITE Manual has been utilized for this scoping agreement. This publication provides a comprehensive evaluation of trip generation rates for a variety of land uses.

The project is proposing to construct 174 affordable apartment dwelling units. As such, ITE Land Use 223: Affordable Housing trip rates are the most appropriate for this land use. Table 1 shows the ITE trip generation rates (11th Edition) utilized for the trip generation analysis of the proposed project land use.

Table 1 shows the referenced ITE trip generation rates for the proposed project.

Table 1
ITE Trip Generation Rates[1]

Land Use	ITE Code	Units[2]	Peak Hour						ADT
			AM			PM			
			In	Out	Total	In	Out	Total	
Affordable Housing	223	DU	29%	71%	0.50	59%	41%	0.46	4.81

[1] *Source: ITE Trip Generation Manual* (11th Edition, 2021).
[2] DU = Dwelling Unit

Table 2 shows the total estimated trip generation for the project.

Table 2
Project Trip Generation

Project Phase (ITE Code)	Quantity	Units[2]	Peak Hour						ADT
			AM			PM			
			In	Out	Total	In	Out	Total	
Phase 1 (223)	62	DU	9	22	31	17	12	29	298
Phase 2 (223)	62	DU	9	22	31	17	12	29	298
Phase 3 (223)	50	DU	7	18	25	14	9	23	240
Total Project Trip Generation	**174**	**DU**	**25**	**62**	**87**	**48**	**23**	**81**	**836**

[1] *Source: ITE Trip Generation Manual* (11th Edition, 2021).
[2] DU = Dwelling Unit

As shown in Table 2, the project is forecast to generate approximately 836 daily trips with approximately 87 trips during the AM peak hour and approximately 81 trips during the PM peak hour.

C. Project Trip Distribution: Exhibit C-2, Exhibit C-2, and Exhibit C-3 show the trip distribution for each phase of the Project.

D. Study Intersections: The analysis will evaluate the following four (4) study intersections:

1. Birch Street (N/S) at Los Angeles Avenue (E/W);
2. Project Access 1 (N/S) at Los Angeles Avenue (E/W);
3. Project Access 2 (N/S) at Los Angeles Avenue (E/W);
4. Project Access 3 (N/S) at Los Angeles Avenue (E/W);
5. Project Access 4 (N/S) at Los Angeles Avenue (E/W); and
6. S. Mannel Street (N/S) at Los Angeles Avenue (E/W).

Please note that the project access driveways along Birch Street and S. Mannel Street will ***not*** be analyzed because these driveways are not expected to generate greater than 50 peak hour trips.

E. Analysis Scenarios: The analysis will evaluate traffic conditions for the following scenarios during the weekday AM (7:00 AM to 9:00 AM) and weekday PM (4:00 PM to 6:00 PM) peak hour conditions:

- Existing Conditions;
- Existing Plus Project Conditions;
- Project Opening Year Without Project Conditions; and
- Project Opening Year With Project Conditions.

F. Traffic Analysis Parameters: The analysis will utilize the following parameters:

- PTV Vistro software and the Highway Capacity Manual 7th Editions (HCM 7) methodology.
- Optimized signal timing.

G. Existing Traffic Counts: The analysis will utilize new traffic counts. The counts will ***not*** be collected by vehicle classification.

- AM peak period counts will be collected during one typical weekday from 7:00 AM to 9:00 AM.

- PM peak period counts will be collected during one typical weekday from 4:00 PM to 6:00 PM.

H. Forecast Opening Year (2025) Conditions Traffic Volumes: Opening Year (2025) background traffic volumes will be derived by applying a linear annual growth rate of two percent (2%) per year to existing traffic volumes and addition of traffic associated with specific cumulative projects in the area provided by the City.

I. VMT Analysis: The California Governor's Office of Planning and Research (OPR) issued a Technical Advisory in December 2018 which described their recommended procedures and methodology for VMT analysis. A key element of SB 743, signed in 2013, is the elimination of automobile delay and LOS as the sole basis of determining California Environmental Quality Act (CEQA) impacts. Pursuant to CEQA Guidelines, Section 15064.3, VMT is now the most appropriate measure of transportation impacts.

The City of Shafter has not finalized or adopted any policies or methodologies for VMT analysis. As such, the California Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*, dated April 2018, will be used as the basis for this project's VMT analysis and provides screening criteria that lead agencies can apply to effectively screen projects from project-level assessment.

As previously stated, the project proposes to consist of the construction of 174 affordable apartment dwelling units. The OPR Advisory recognizes that affordable housing projects typically generate lower VMT than market-rate housing, and a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less than significant impact on VMT. Adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT. Evidence supports a presumption of less than significant impact for a 100% affordable residential development in infill locations.

Therefore, because the project consists of 100% affordable housing, the project may be presumed to have a less than significant impact on VMT.

J. Performance Criteria: Acceptable LOS of D or better.

K. Significant Impact Criteria: For study intersections that are forecast to operate at LOS E or F, improvements will be identified to achieve LOS D or better.

L. Request for Information: Please provide information on the following for use in the traffic study:

- Information on cumulative projects that need to be included in the traffic analysis (location, land use type(s), and land use quantities); and

- Information on future roadway and circulation system modifications/improvements that are planned within the study area and would potentially affect the analysis.

If you have any questions, or would like further review, please call us at (949) 474-0809.

Sincerely,

RK ENGINEERING GROUP, INC.

Justin Tucker, P.E.
Principal Engineer

Attachments

Approved by:

_____

City of Shafter

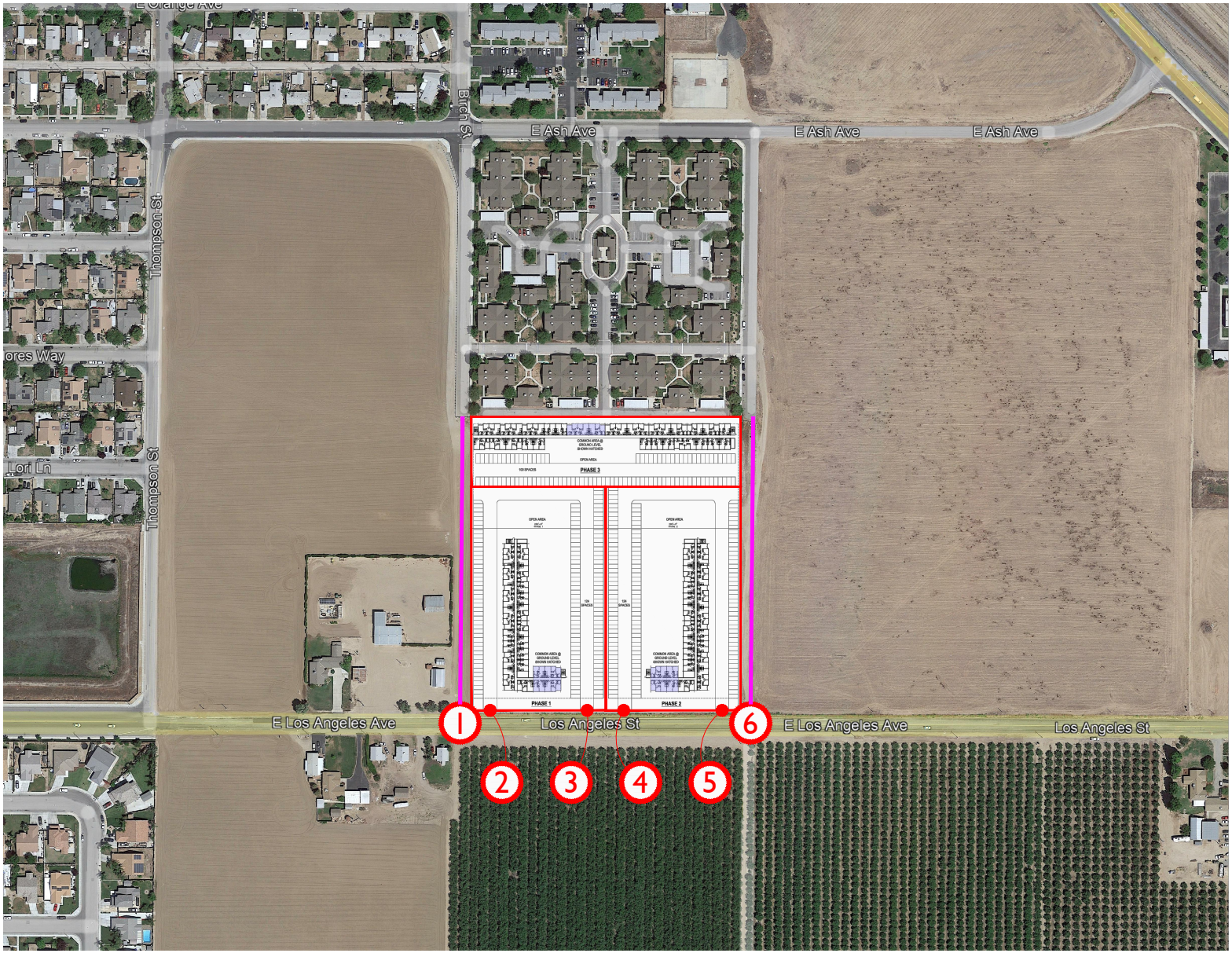
_____

Date

Attachments

Exhibit A

Location Map



Legend:

1 = Study Area Intersection

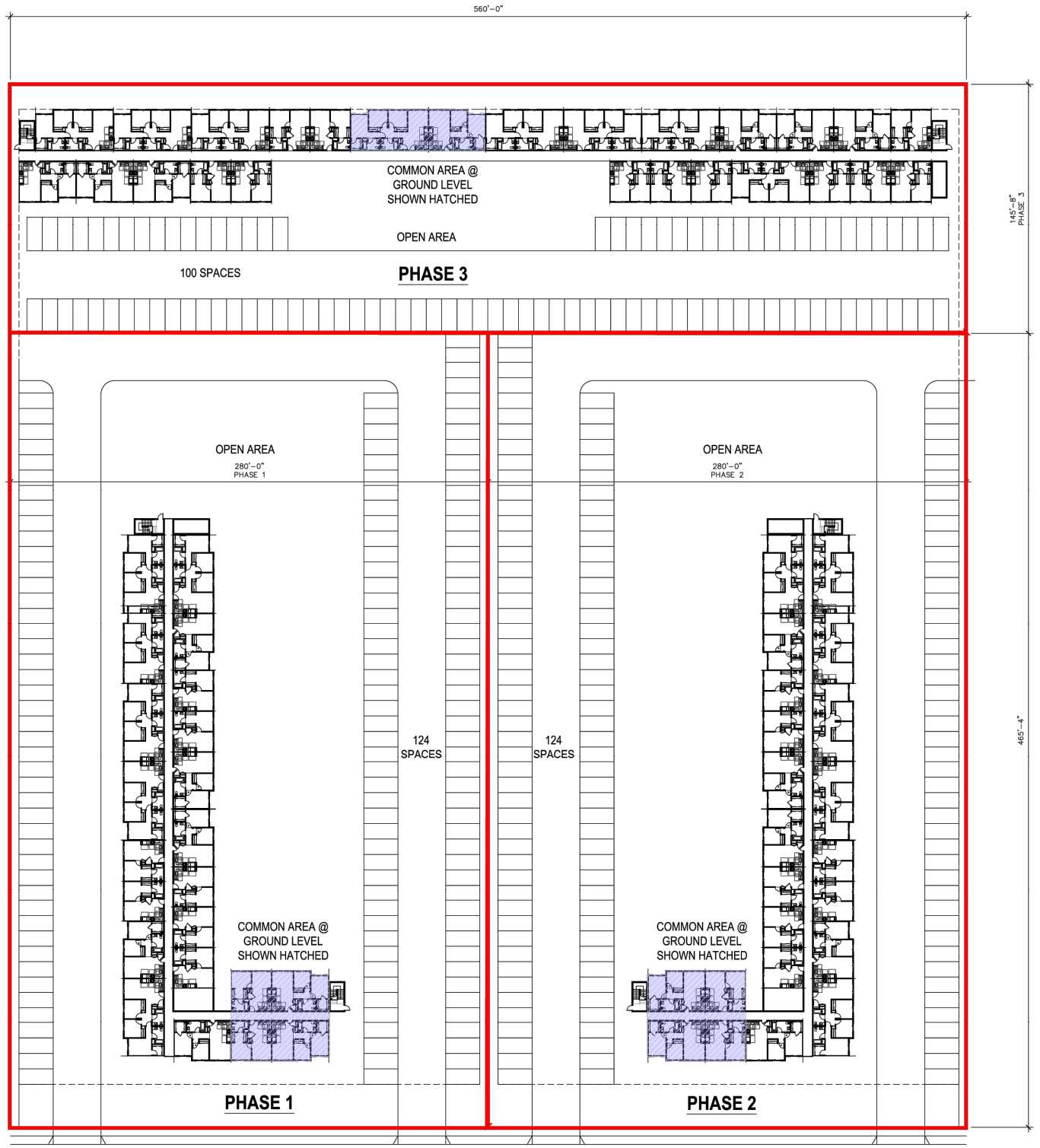
— = Project Site Boundary

— = Proposed Roadway Extension

N

Exhibit B

Site Plan

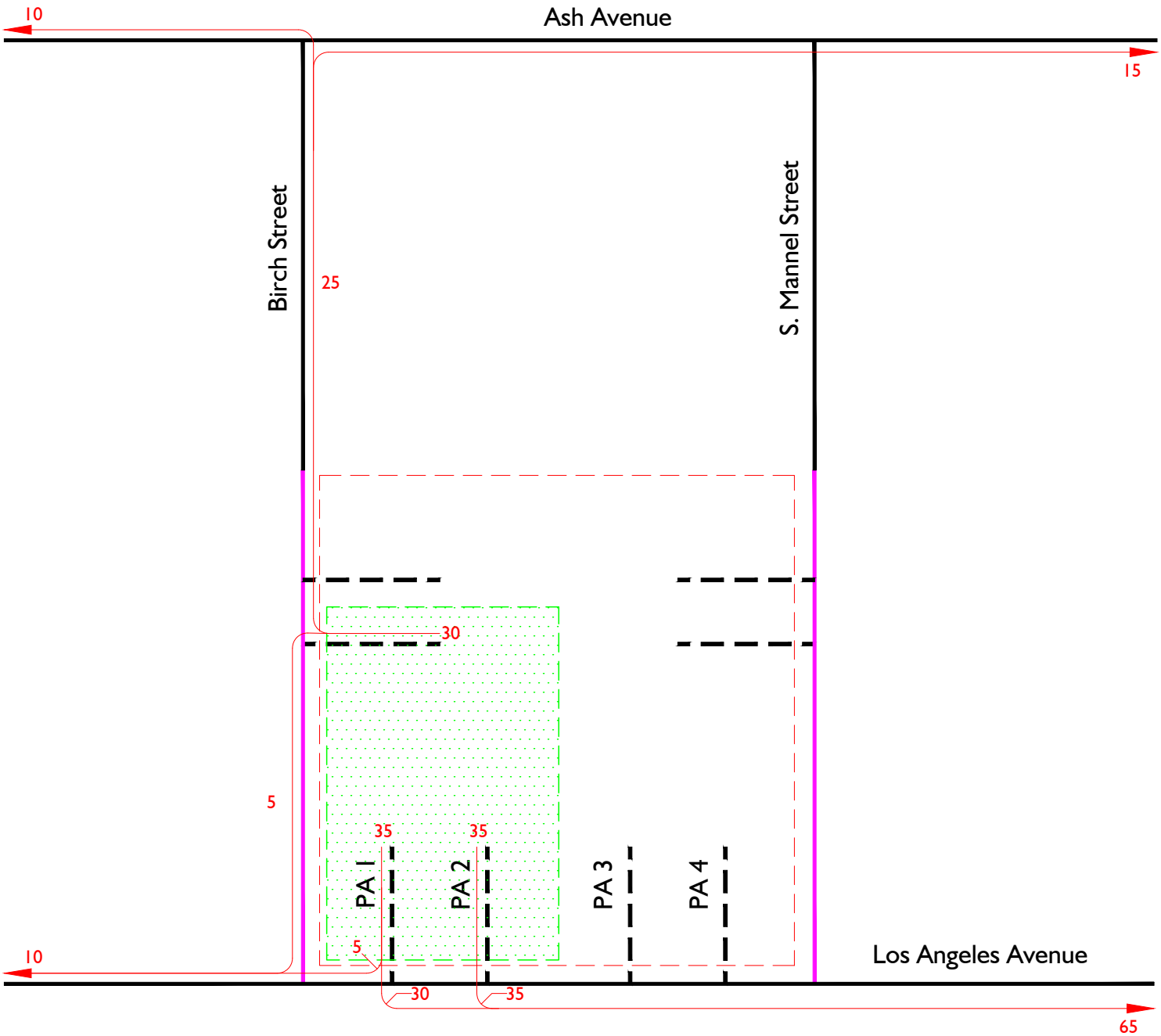


E. LOS ANGELES AVE.

N

Exhibit C-1

Phase 1 Project Trip Distribution



Legend:

10 = Percent to/from Project

= Project Site Boundary

= Project Access Driveways

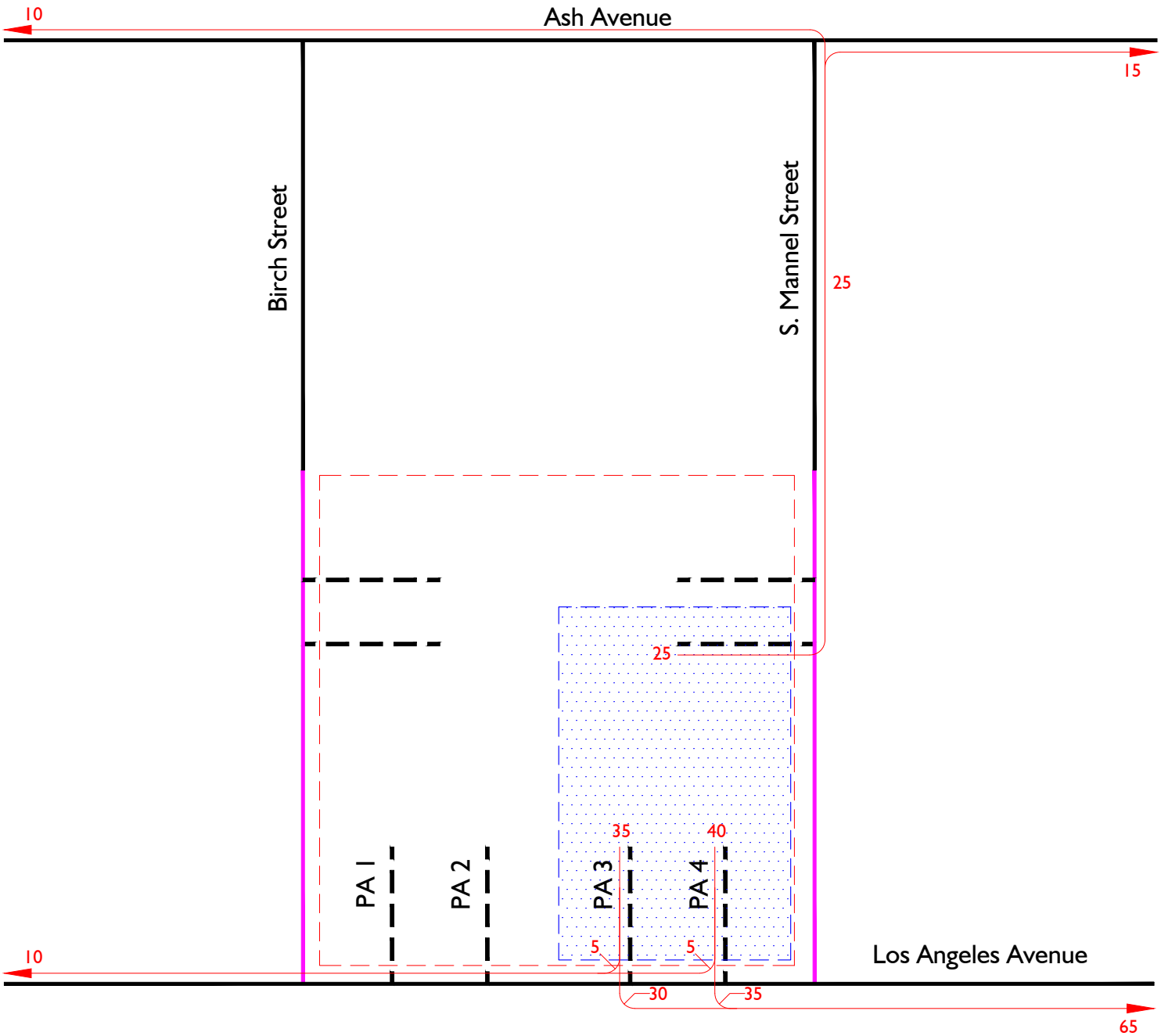
= Proposed Roadway Extension

= Phase 1 Site Boundary

N

Exhibit C-2

Phase 2 Project Trip Distribution



Legend:

10 = Percent to/from Project

= Project Site Boundary

= Project Access Driveways

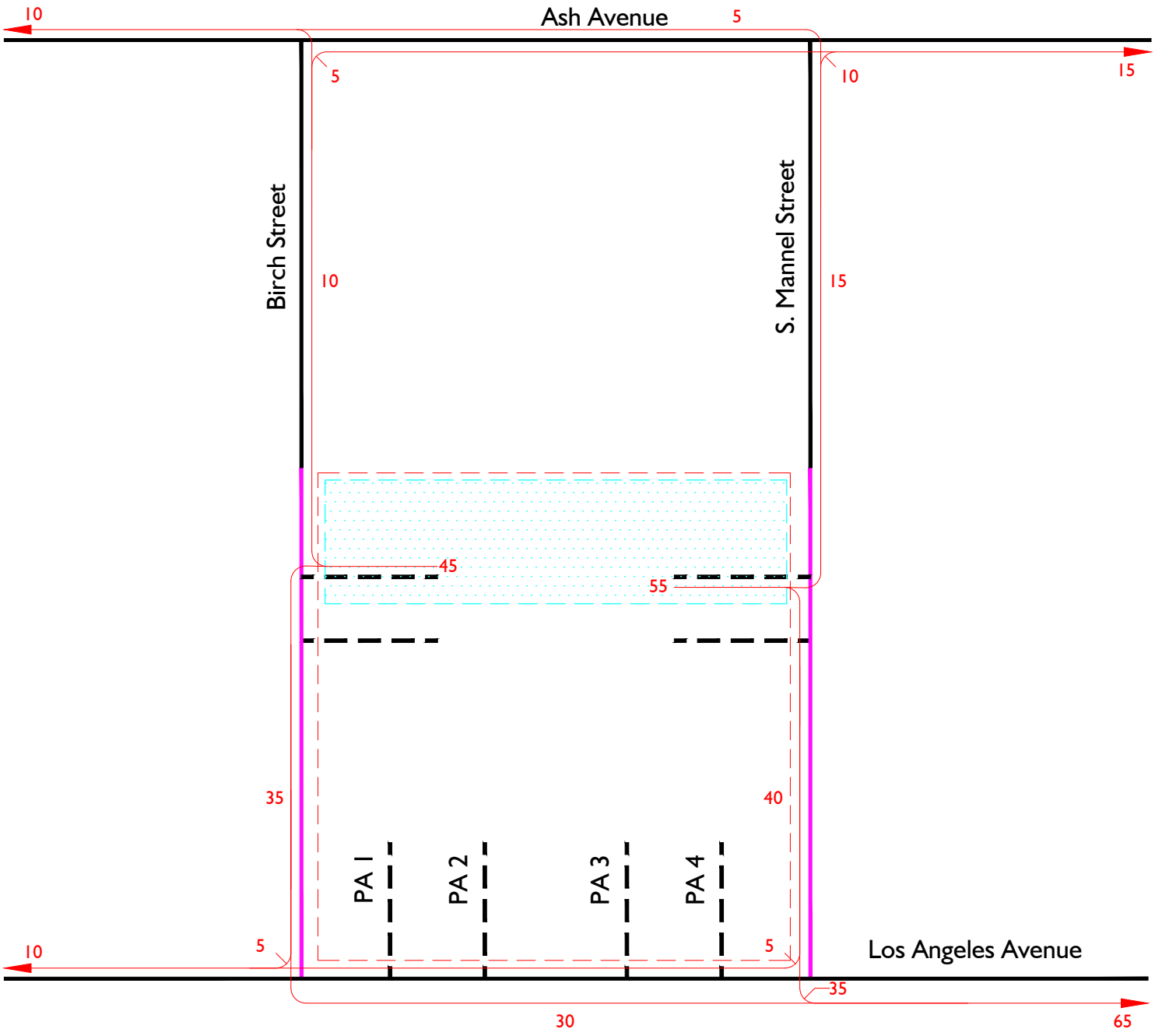
= Proposed Roadway Extension

= Phase 2 Site Boundary

N

Exhibit C-3

Phase 3 Project Trip Distribution



Legend:

10 = Percent to/from Project

= Project Site Boundary

= Project Access Driveways

= Proposed Roadway Extension

= Phase 3 Site Boundary

N

Appendix B

Traffic Count Worksheets

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Shafter
Los Angeles Avenue
E/ Thompson Street
24 Hour Directional Volume Count

SFR001
Site Code: 105-23892

Start Time	9/21/23 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		4	16			7	28				
12:15		3	16			13	19				
12:30		3	17			15	21				
12:45		2	23	12	72	2	40	37	108	49	180
01:00		2	14			1	46				
01:15		0	39			2	30				
01:30		1	47			3	26				
01:45		0	28	3	128	3	32	9	134	12	262
02:00		1	34			2	37				
02:15		1	36			1	26				
02:30		1	21			3	35				
02:45		1	41	4	132	2	44	8	142	12	274
03:00		4	42			2	49				
03:15		7	**47**			2	37				
03:30		13	**32**			5	56				
03:45		9	**44**	33	165	1	51	10	193	43	358
04:00		7	**52**			3	53				
04:15		16	32			1	44				
04:30		24	37			12	54				
04:45		24	24	71	145	6	42	22	193	93	338
05:00		25	40			8	**55**				
05:15		26	26			7	**48**				
05:30		33	33			7	**59**				
05:45		37	38	121	137	8	**76**	30	238	151	375
06:00		25	23			35	43				
06:15		39	33			55	42				
06:30		28	19			20	24				
06:45		30	17	122	92	17	40	127	149	249	241
07:00		47	27			**26**	28				
07:15		**62**	16			**46**	34				
07:30		**68**	23			**48**	24				
07:45		**59**	8	236	74	**41**	23	161	109	397	183
08:00		**51**	22			23	28				
08:15		32	6			24	25				
08:30		37	15			20	24				
08:45		28	6	148	49	13	26	80	103	228	152
09:00		13	11			26	11				
09:15		17	9			19	17				
09:30		18	5			13	16				
09:45		22	6	70	31	17	15	75	59	145	90
10:00		18	4			24	8				
10:15		13	2			11	11				
10:30		14	4			10	16				
10:45		23	3	68	13	16	9	61	44	129	57
11:00		17	1			18	7				
11:15		17	2			28	5				
11:30		10	4			18	18				
11:45		20	3	64	10	27	9	91	39	155	49
Total		952	1048	952	1048	711	1511	711	1511	1663	2559
Combined Total		2000		2000		2222		2222		4222	
AM Peak	-	07:15	-	-	-	07:00	-	-	-	-	-
Vol.	-	240	-	-	-	161	-	-	-	-	-
P.H.F.		0.882				0.839					
PM Peak	-	-	03:15	-	-	-	05:00	-	-	-	-
Vol.	-	-	175	-	-	-	238	-	-	-	-
P.H.F.			0.841				0.783				
Percentage		47.6%	52.4%			32.0%	68.0%				
ADT/AADT		ADT 4,222		AADT 4,222							

Appendix C

Existing Plus Project Peak Hour Level of Service
Calculation Worksheets

Intersection Level Of Service Report
Intersection 1: Birch Street (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Birch Street		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Birch Street		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	5	2	0	241	162	2
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	2	0	241	162	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	63	43	1
Total Analysis Volume [veh/h]	5	2	0	254	171	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.21	9.19	7.56	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.82	0.82	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.63		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Project Access #1 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Project Access #1		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #1		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	7	1	0	247	163	3
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	1	0	247	163	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	65	43	1
Total Analysis Volume [veh/h]	7	1	0	260	172	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.29	9.22	7.57	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.01	1.01	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.03		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.20					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Project Access #2 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Project Access #2		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #2		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	8	0	0	254	166	3
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	254	166	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	67	44	1
Total Analysis Volume [veh/h]	8	0	0	267	175	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.39	9.24	7.58	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.06	1.06	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.39		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.20					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Project Access #3 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Project Access #3		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #3		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	7	1	0	260	168	3
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	1	0	260	168	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	68	44	1
Total Analysis Volume [veh/h]	7	1	0	274	177	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.46	9.25	7.58	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.03	1.03	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.18		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Project Access #4 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Project Access #4		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #4		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	8	1	0	267	170	3
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	1	0	267	170	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	70	45	1
Total Analysis Volume [veh/h]	8	1	0	281	179	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.55	9.27	7.58	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.18	1.18	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.29		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: South Mannel Street (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	South Mannel Street		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	South Mannel Street		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	6	1	0	273	172	2
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	1	0	273	172	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	72	45	1
Total Analysis Volume [veh/h]	6	1	0	287	181	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.59	9.26	7.59	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.91	0.91	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.26		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Birch Street (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Birch Street		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Birch Street		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	3	1	2	141	240	4
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	1	2	141	240	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	37	63	1
Total Analysis Volume [veh/h]	3	1	2	148	253	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.04	9.63	7.75	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.47	0.47	0.08	0.08	0.00	0.00
d_A, Approach Delay [s/veh]	10.69		0.10		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Project Access #1 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Project Access #1		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #1		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	4	1	1	142	244	5
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	1	142	244	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	37	64	1
Total Analysis Volume [veh/h]	4	1	1	149	257	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.08	9.67	7.77	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.60	0.60	0.04	0.04	0.00	0.00
d_A, Approach Delay [s/veh]	10.80		0.05		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Project Access #2 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Project Access #2		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #2		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	4	0	0	146	249	6
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	0	146	249	6
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	38	66	2
Total Analysis Volume [veh/h]	4	0	0	154	262	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.14	9.69	7.78	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.14		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Project Access #3 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Project Access #3		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #3		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	4	1	1	149	255	5
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	1	149	255	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	39	67	1
Total Analysis Volume [veh/h]	4	1	1	157	268	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.23	9.73	7.79	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.62	0.62	0.04	0.04	0.00	0.00
d_A, Approach Delay [s/veh]	10.93		0.05		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Project Access #4 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Project Access #4		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #4		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	4	1	1	152	259	6
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	1	152	259	6
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	40	68	2
Total Analysis Volume [veh/h]	4	1	1	160	273	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.31	9.77	7.81	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.62	0.62	0.04	0.04	0.00	0.00
d_A, Approach Delay [s/veh]	11.00		0.05		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: South Mannel Street (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	South Mannel Street		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	South Mannel Street		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	3	0	1	156	264	5
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	1	156	264	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	41	69	1
Total Analysis Volume [veh/h]	3	0	1	164	278	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.36	9.78	7.82	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.40	0.40	0.04	0.04	0.00	0.00
d_A, Approach Delay [s/veh]	11.36		0.05		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	B					

Appendix D

Opening Year (2025) With Project Peak Hour Level of Service Calculation Worksheets

Intersection Level Of Service Report
Intersection 1: Birch Street (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Birch Street		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Birch Street		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	5	2	0	260	175	2
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	2	0	260	175	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	68	46	1
Total Analysis Volume [veh/h]	5	2	0	274	184	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.49	9.27	7.59	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.85	0.85	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.86		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Project Access #1 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Project Access #1		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #1		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	7	1	0	266	176	3
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	1	0	266	176	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	70	46	1
Total Analysis Volume [veh/h]	7	1	0	280	185	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.58	9.29	7.60	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.05	1.05	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.29		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Project Access #2 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Project Access #2		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #2		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	8	0	0	273	179	3
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	273	179	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	72	47	1
Total Analysis Volume [veh/h]	8	0	0	287	188	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.68	9.32	7.60	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.11	1.11	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.68		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Project Access #3 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Project Access #3		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #3		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	7	1	0	279	181	3
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	1	0	279	181	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	73	48	1
Total Analysis Volume [veh/h]	7	1	0	294	191	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.76	9.33	7.61	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.08	1.08	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.45		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Project Access #4 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Project Access #4		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #4		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	8	1	0	286	183	3
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	1	0	286	183	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	75	48	1
Total Analysis Volume [veh/h]	8	1	0	301	193	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.85	9.36	7.61	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.23	1.23	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.58		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.21					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: South Mannel Street (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	South Mannel Street		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	South Mannel Street		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	6	1	0	292	185	2
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	1	0	292	185	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	77	49	1
Total Analysis Volume [veh/h]	6	1	0	307	195	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.90	9.34	7.62	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.95	0.95	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.53		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Birch Street (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Birch Street		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Birch Street		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	3	1	2	152	259	4
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	1	2	152	259	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	40	68	1
Total Analysis Volume [veh/h]	3	1	2	160	273	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.31	9.75	7.80	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.49	0.49	0.08	0.08	0.00	0.00
d_A, Approach Delay [s/veh]	10.92		0.10		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Project Access #1 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Project Access #1		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #1		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	4	1	1	153	263	5
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	1	153	263	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	40	69	1
Total Analysis Volume [veh/h]	4	1	1	161	277	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.34	9.79	7.81	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.63	0.63	0.04	0.04	0.00	0.00
d_A, Approach Delay [s/veh]	11.03		0.05		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Project Access #2 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Project Access #2		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #2		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	4	0	0	157	268	6
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	0	157	268	6
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	41	71	2
Total Analysis Volume [veh/h]	4	0	0	165	282	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.40	9.82	7.83	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.53	0.53	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.40		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Project Access #3 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Project Access #3		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #3		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	4	1	1	160	274	5
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	1	160	274	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	42	72	1
Total Analysis Volume [veh/h]	4	1	1	168	288	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.50	9.86	7.84	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.64	0.64	0.04	0.04	0.00	0.00
d_A, Approach Delay [s/veh]	11.17		0.05		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Project Access #4 (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Project Access #4		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access #4		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	4	1	1	163	278	6
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	1	163	278	6
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	43	73	2
Total Analysis Volume [veh/h]	4	1	1	172	293	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.58	9.90	7.85	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.65	0.65	0.04	0.04	0.00	0.00
d_A, Approach Delay [s/veh]	11.24		0.05		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: South Mannel Street (N/S) at Los Angeles Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	South Mannel Street		Los Angeles Avenue		Los Angeles Avenue	
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	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]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	South Mannel Street		Los Angeles Avenue		Los Angeles Avenue	
Base Volume Input [veh/h]	3	0	1	167	283	5
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]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	1	167	283	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	44	74	1
Total Analysis Volume [veh/h]	3	0	1	176	298	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.64	9.91	7.86	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.41	0.41	0.04	0.04	0.00	0.00
d_A, Approach Delay [s/veh]	11.64		0.04		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	B					