

# TECHNICAL MEMORANDUM

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July 30, 2026

Project# 32816

To: City of Signal Hill  
2175 Cherry Ave  
Signal Hill, CA 90755

From: Kittelson & Associates, Inc

CC: Gurinderjit Kehr, Dutch Bros

RE: Dutch Bros in Signal Hill, CA (CA7803) – Traffic Operations Memorandum

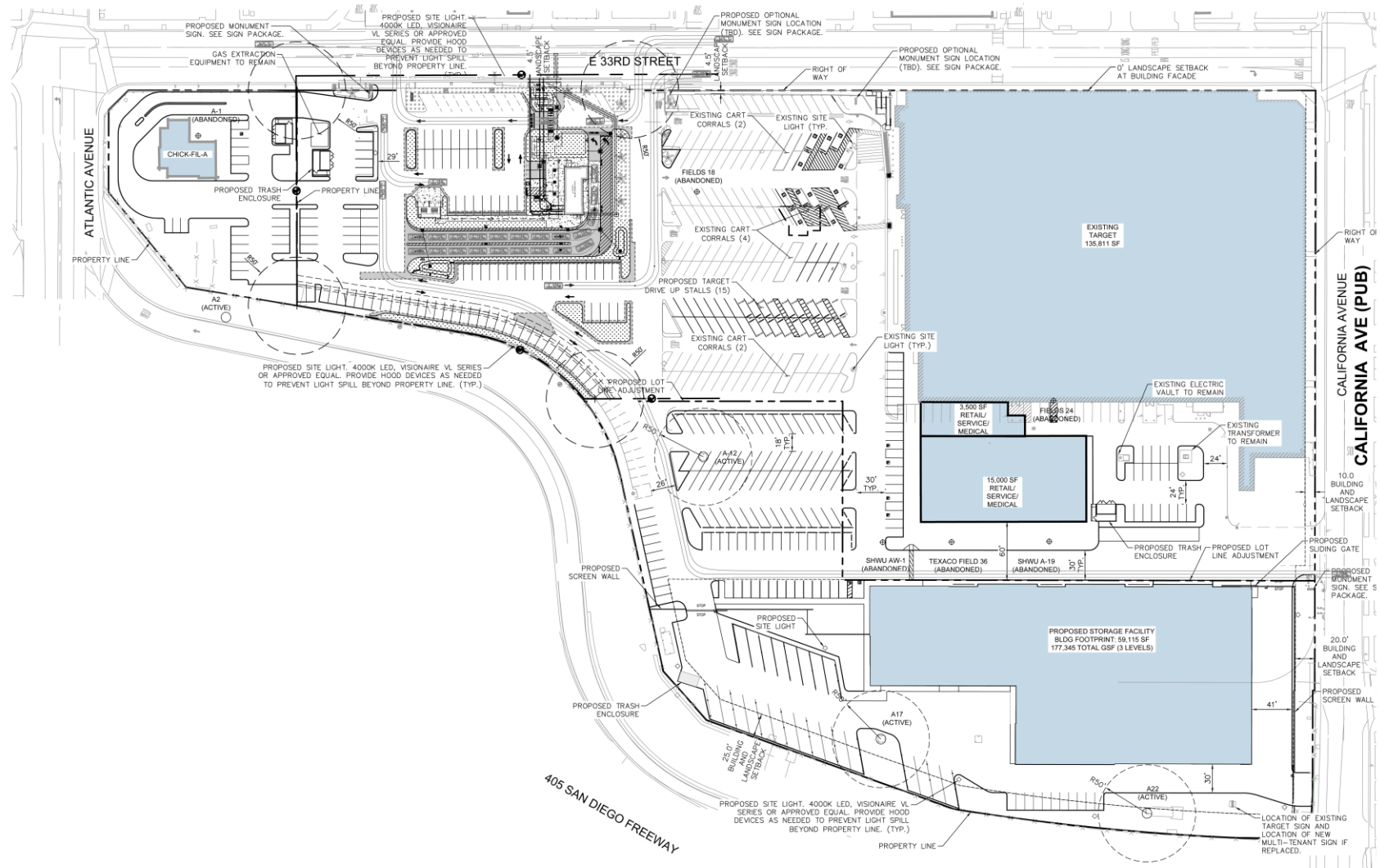
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Dutch Bros is proposing to develop a new 1,025-square-foot (sf) drive-through coffee shop at the northeast corner of the I-405 freeway and Atlantic Avenue in Signal Hill, California. The project represents the first development within Phase 2 of a larger commercial development. **Figure 1** shows the overall site plan for the entire commercial development at the site and **Figure 2** shows the enlarged site plan for the Dutch Bros coffee shop.

A traffic study for the overall development has already been prepared and approved by the City. However, this technical memorandum provides a more localized analysis focused on the unique land use characteristics and trip generation associated with the proposed Dutch Bros development. The study scope was developed in coordination with Dutch Bros, Core States Group, and the City of Signal Hill during a scoping meeting held on December 16, 2025.

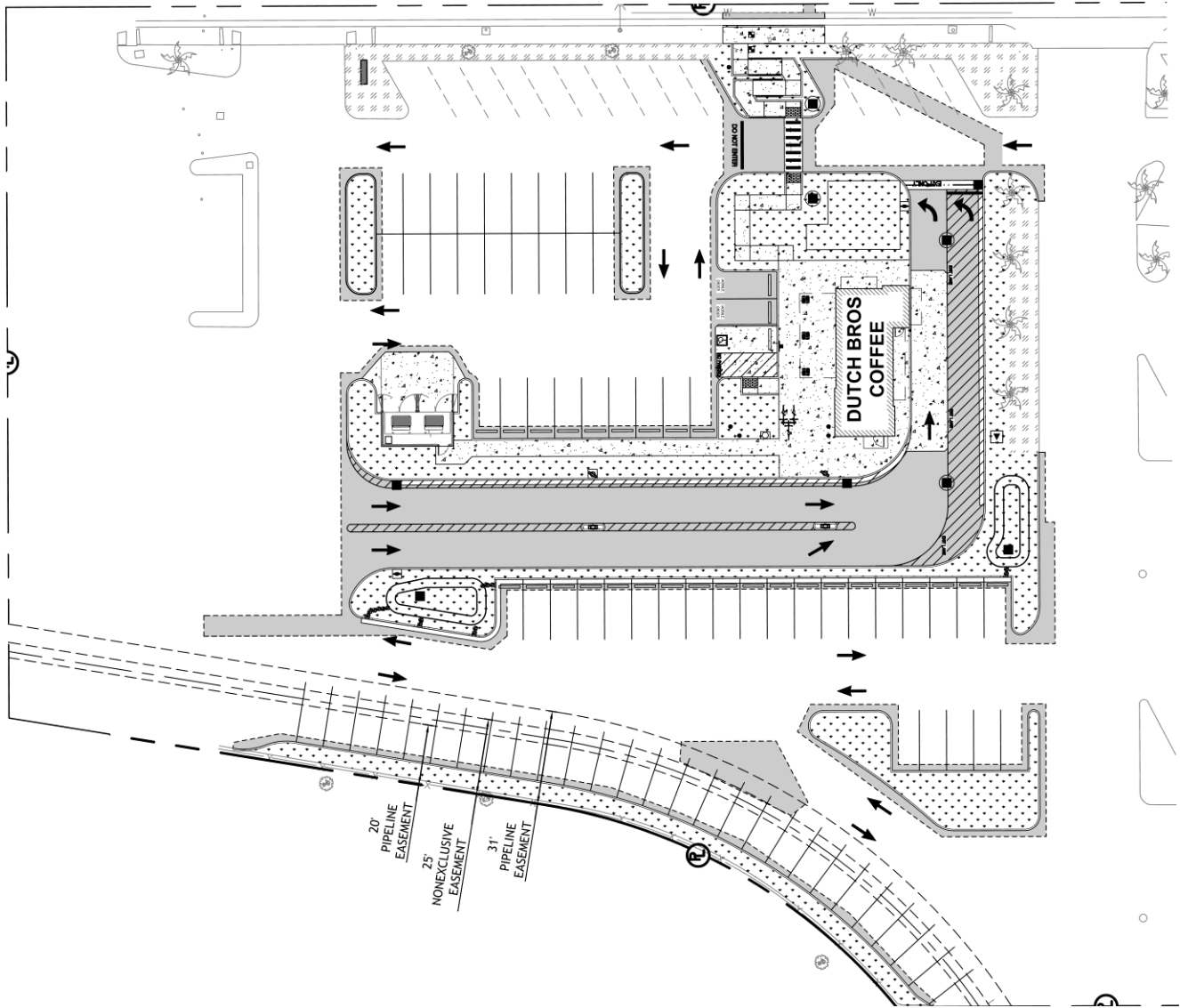
In conjunction with this memorandum, Kittelson & Associates, Inc. has prepared supplemental trip generation and parking compliance memoranda to confirm the proposed project development would still meet City development requirements for the overall development. Both memoranda are included as attachments.

### Figure 1: Overall Site Plan



SOURCE: CORE STATES GROUP (2026)

Figure 2: Enlarged Site Plan - Dutch Bros Coffee CA 7803, Signal Hill, CA



SOURCE: CORE STATES GROUP (2026)

## INTERSECTION OPERATIONS ANALYSIS

To assess how the proposed project affects local traffic operations, an intersection operations analysis was conducted using Level of Service (LOS). LOS provides a standardized way to describe traffic conditions based on average control delay, allowing for consistent comparison of intersection performance under various conditions.

### Level of Service (LOS) Regulatory Standards

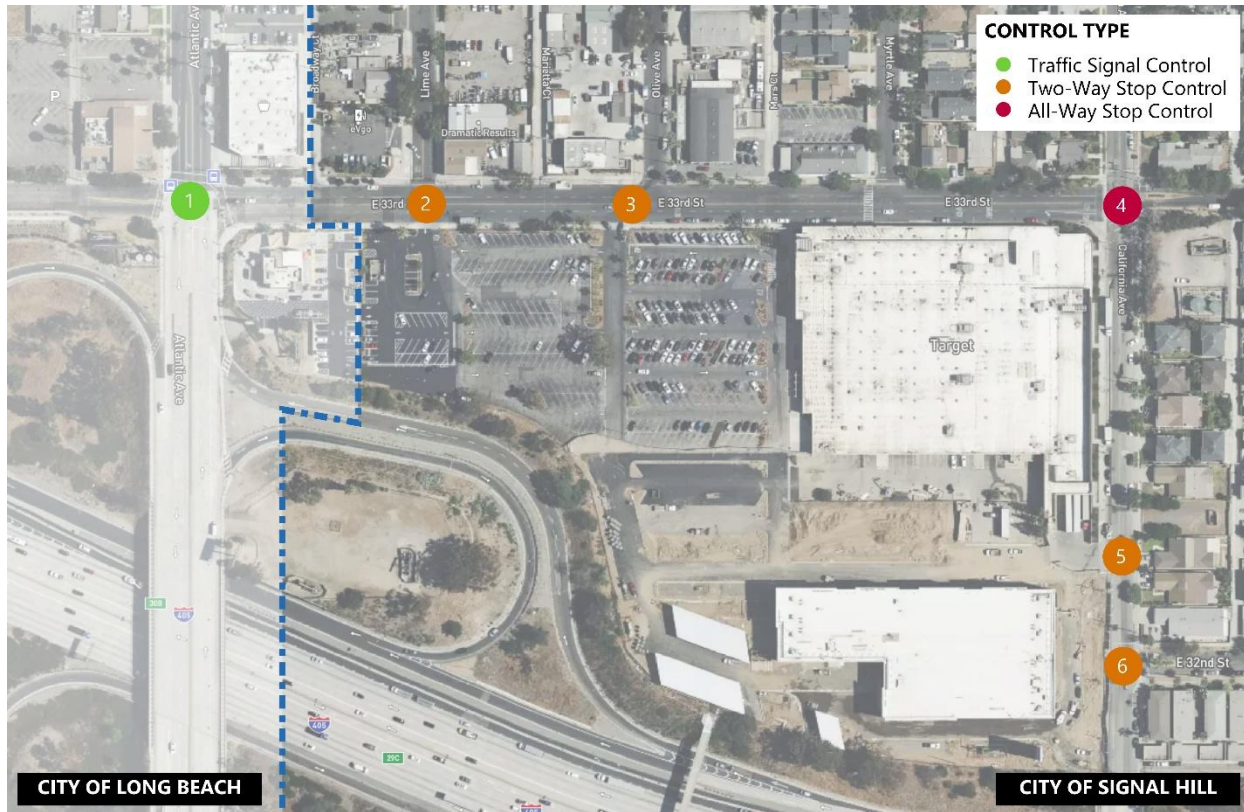
The concept of LOS describes the operating conditions experienced by motorists. LOS is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions and delay, freedom to maneuver, driving comfort, and convenience. LOS A through LOS F covers the entire range of traffic operations that might occur. Motorists using a facility that operates at a LOS A experience very little delay, while those using a facility that operates at a LOS F will experience long delays.

According to the Cities of Signal Hill and Long Beach, LOS D is the minimum acceptable condition that should be maintained during the peak commute hours, or the current LOS if the existing LOS is worse than LOS D (i.e. LOS E or F).

### Study Intersections

**Figure 3** visualizes the study intersections evaluated to understand the project's effects on the traffic operations of the local street network. The study area was developed in coordination with the City of Signal Hill. As shown in the figure, one of the intersections falls within the jurisdiction of City of Long Beach and is also the only signalized intersection for the project's study area.

**Figure 3: Study Intersections**



SOURCE: KITTELSON & ASSOCIATES, INC (2026)

## Analysis Methodology

Consistent with the methodology adopted in the overall traffic study, the signalized and unsignalized intersections in the study area will be evaluated using the Highway Capacity Manual (HCM) methodology. Although the City of Signal Hill requires the use of Intersection Capacity Utilization (ICU) for signalized intersections, the signalized intersection within the study area falls under the jurisdiction of the City of Long Beach (as shown in Figure 3). Therefore, all six study area intersections, including both signalized and unsignalized locations, will be analyzed using the HCM method, calculated with the Vistro software.

For signalized intersections, LOS is determined based on the weighted average control delay per vehicle (measured in seconds) using signal timing data provided by the City. For unsignalized intersections, LOS is based on the weighted average control delay for each controlled approach and for the intersection overall. Specifically, at two-way stop-controlled intersections, LOS is reported for the approach with the greatest control delay.

**Table 1** presents the relationship of delay to LOS for both signalized and unsignalized intersections per the HCM methodology.

**Table 1: Level-of-Service Definition for Intersections**

| Level of Service | Delay Per Vehicle (Seconds) |                           |
|------------------|-----------------------------|---------------------------|
|                  | Signalized Intersection     | Unsignalized Intersection |
| A                | < 10.0                      | < 10.0                    |
| B                | > 10.0 to 20.0              | > 10.0 to 15.0            |
| C                | > 20.0 to 35.0              | > 15.0 to 25.0            |
| D                | > 35.0 to 55.0              | > 25.0 to 35.0            |
| E                | > 55.0 to 80.0              | > 35.0 to 50.0            |
| F                | > 80.0                      | > 50.0                    |

SOURCE: HIGHWAY CAPACITY MANUAL

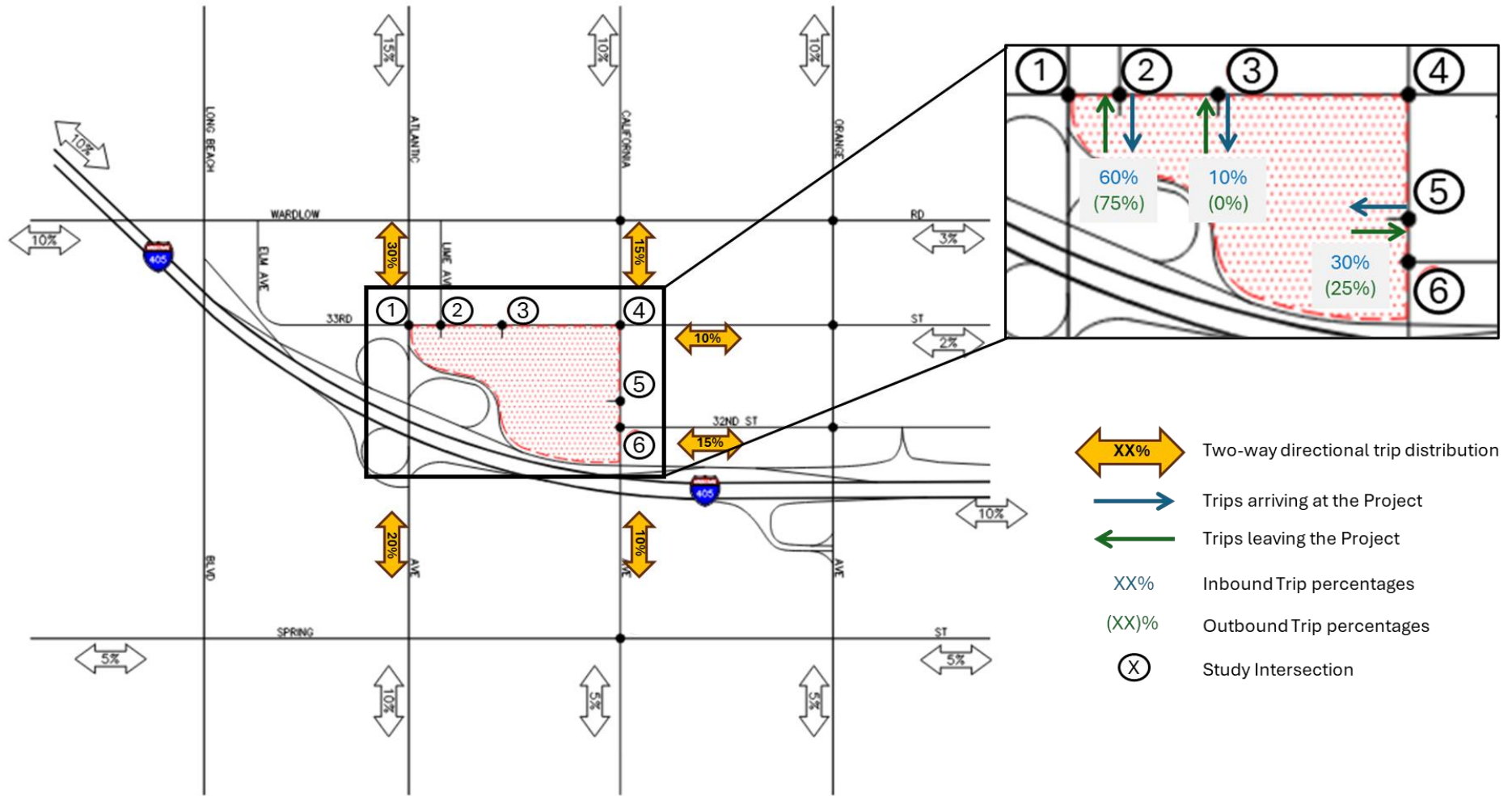
## Project Trip Distribution and Assignment

While the project's trip distribution is generally consistent with the assumptions from the approved overall traffic study, adjustments were made to account for the drive-through-oriented nature of the coffee shop, including higher pass-by and diverted link percentages. **Figure 4** shows the trip distribution from the shopping center study with the driveway-specific distribution for the project.

Based on the refined trip distribution, primary and pass-by trips were assigned separately to the roadway network to estimate the number of new trips generated at each intersection. Trip generation estimates used for the trip assignment were obtained from the trip generation compliance memorandum. These volumes are shown in **Figure 5** and **Figure 6** for AM and PM, respectively.

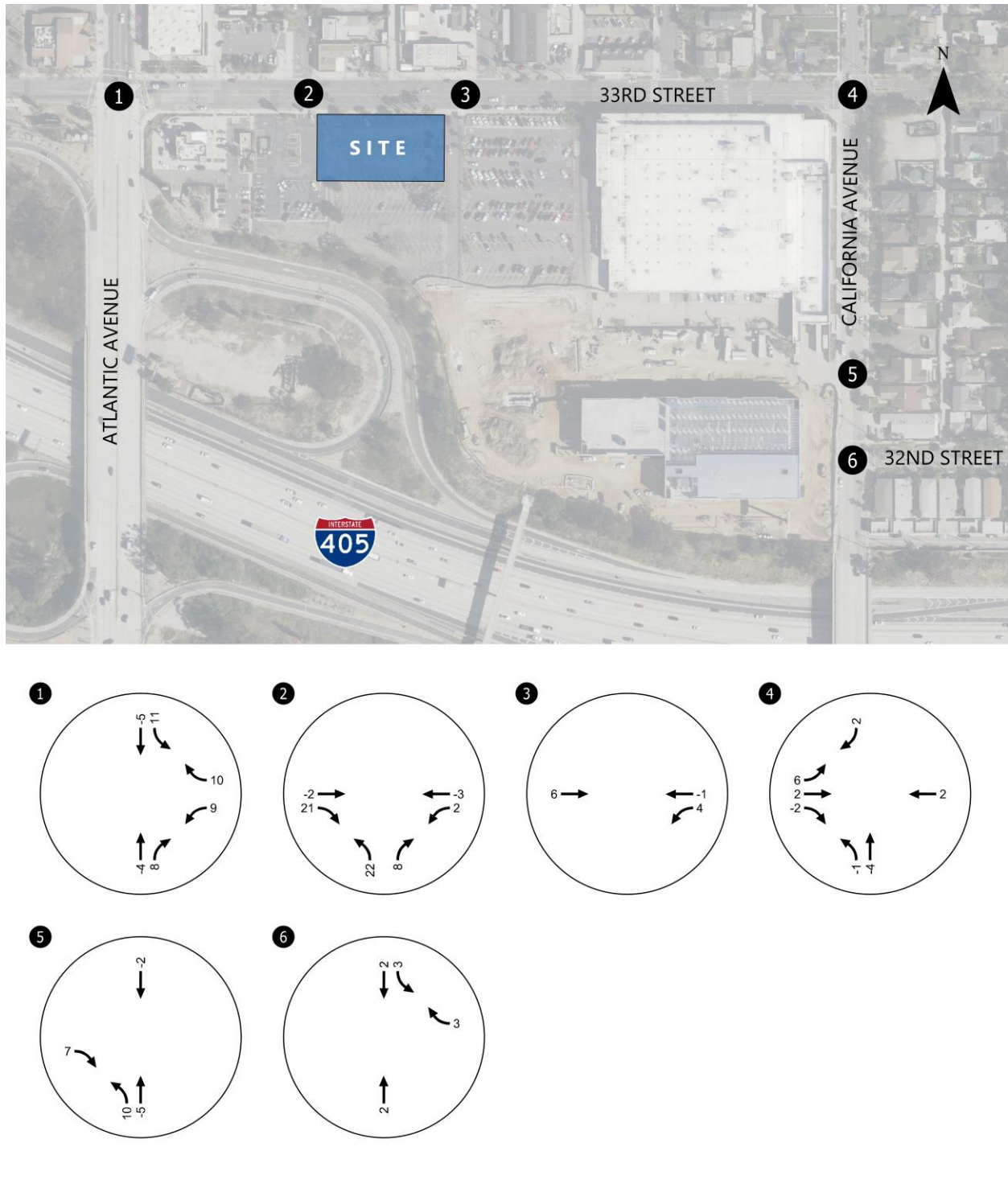
*Detailed trip assignment figures (primary, pass-by, and project) are available for reference in Appendix A.*

Figure 4: Trip Distribution



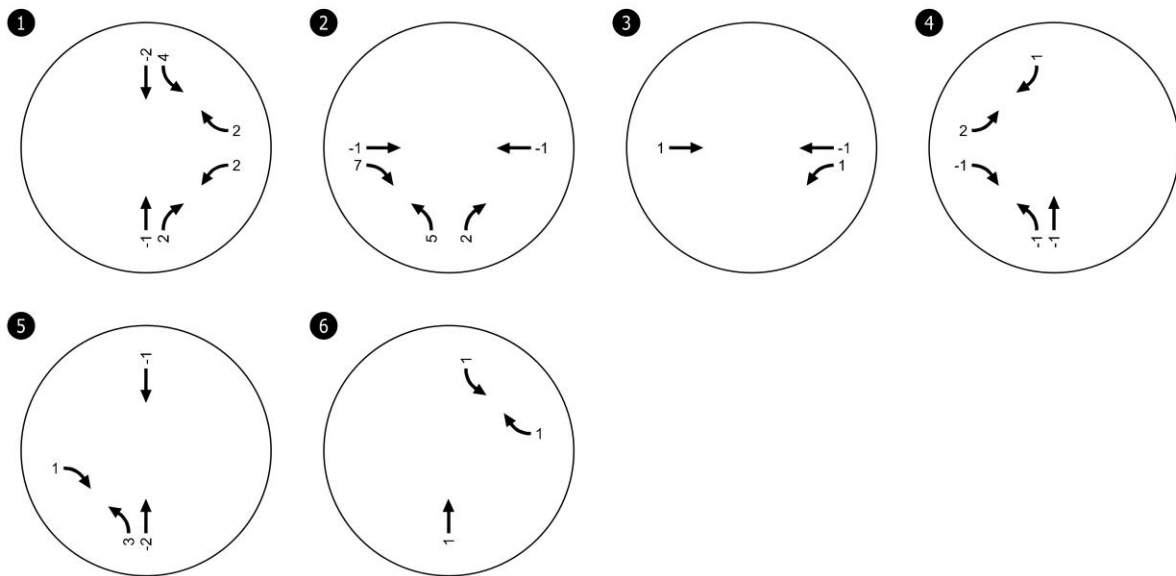
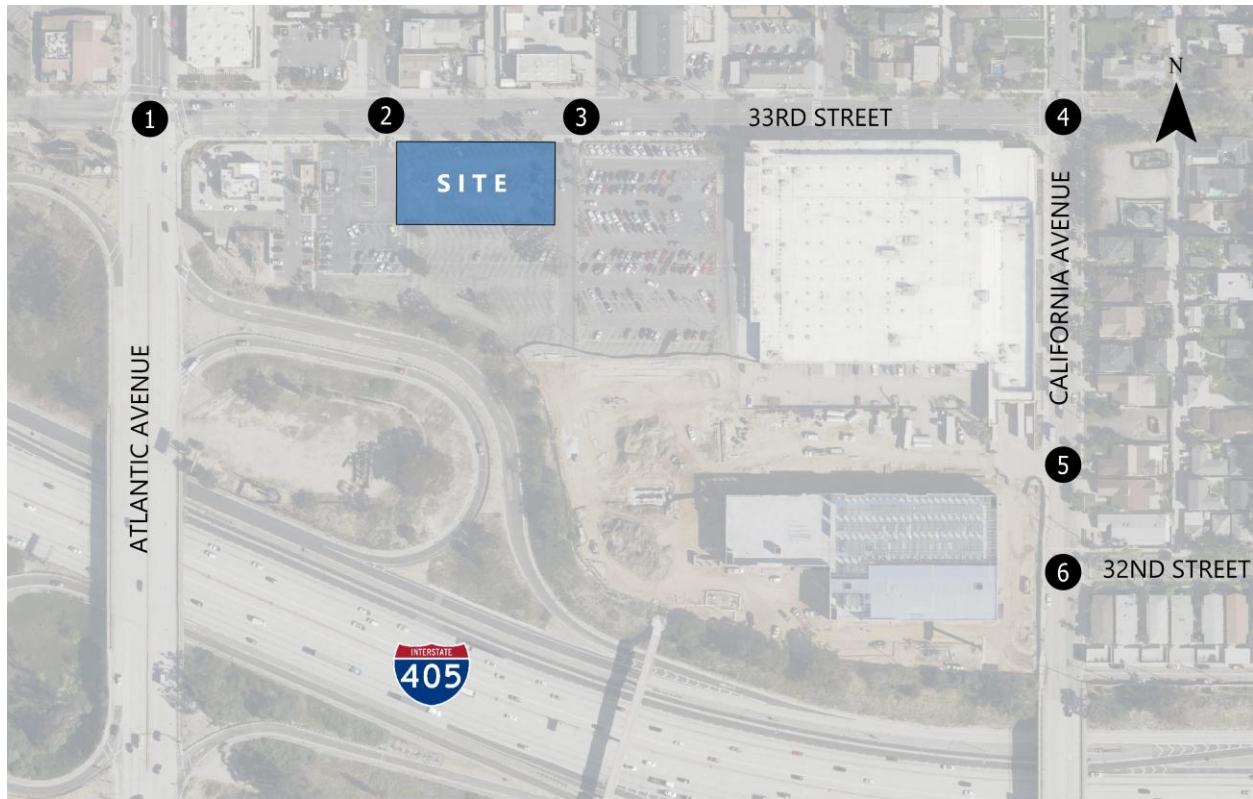
COMPILED BY: KITTELSON & ASSOCIATES, INC (2026)

**Figure 5: Net Project Trips – AM Peak Hour**



SOURCE: KITTELSON & ASSOCIATES, INC (2026)

**Figure 6: Net Project Trips – PM Peak Hour**



SOURCE: KITTELSON & ASSOCIATES, INC (2026)

## Data Collection

Intersection turning movement counts were collected at all study intersections for the analysis time periods on January 22, 2026, when schools within the project vicinity were in session.

Based on the collected counts, the peak traffic hours for the study area is at 7:50 AM to 8:50 AM during the weekday AM peak and 4:40 PM to 5:40 PM during the weekday PM peak period.

*The intersection turning movement counts are attached in Appendix B.*

## Analysis Results

The intersection operations were analyzed for the following scenarios during weekday AM (7-9 AM) and weekday PM (4-6 PM) peak periods to determine potential project effects to the local roadway network:

- **Existing Conditions:** Volumes under this condition were based on the collected intersection turning movement counts.
- **Existing Plus Project Conditions:** Volumes under this condition were developed from the Existing Conditions volumes with the net project trip assignments added accordingly.

The intersections operations results for the weekday AM and weekday PM peak periods are shown in **Table 2** and **Table 3**, respectively. The intersection operations results presented in the tables indicate that during both the weekday AM and PM peak periods, all study intersections operate at LOS C or better which is within the minimum acceptable LOS D standard of the City of Signal Hill and the City of Long Beach. In the Existing plus Project scenario, delay at all study intersections during the weekday AM and PM peak periods increases by less than one second compared to the Existing no project scenario, and the LOS at each intersection remains unchanged.

*Detailed Vistro reports are available for reference in Appendix C.*

**Table 2: Intersection Operations - Weekday AM Peak**

| # | Intersection                                  | Control      | Existing |     | Existing Plus Project |     |
|---|-----------------------------------------------|--------------|----------|-----|-----------------------|-----|
|   |                                               |              | Delay    | LOS | Delay                 | LOS |
| 1 | Atlantic Avenue & E 33 <sup>rd</sup> Street   | Signalized   | 19.6     | B   | 19.6                  | B   |
| 2 | Lime Avenue & Project Driveway                | Two-way Stop | 11.6     | B   | 12.1                  | B   |
| 3 | Olive Avenue & Project Driveway               | Two-way Stop | 11.3     | B   | 11.5                  | B   |
| 4 | California Avenue & E 33 <sup>rd</sup> Street | All-way Stop | 9.9      | A   | 10.0                  | A   |
| 5 | California Avenue & Project Driveway          | Two-way Stop | 13.7     | B   | 14.0                  | B   |
| 6 | California Avenue & E 32 <sup>nd</sup> Street | Two-way Stop | 14.1     | B   | 14.2                  | B   |

Notes:

Delay is shown in seconds per vehicle

SOURCE: KITTELSON & ASSOCIATES, INC (2026)

**Table 3: Intersection Operations - Weekday PM Peak**

| # | Intersection                                  | Control      | Existing |     | Existing Plus Project |     |
|---|-----------------------------------------------|--------------|----------|-----|-----------------------|-----|
|   |                                               |              | Delay    | LOS | Delay                 | LOS |
| 1 | Atlantic Avenue & E 33 <sup>rd</sup> Street   | Signalized   | 25.7     | C   | 25.6                  | C   |
| 2 | Lime Avenue & Project Driveway                | Two-way Stop | 20.8     | C   | 21.3                  | C   |
| 3 | Olive Avenue & Project Driveway               | Two-way Stop | 19.0     | C   | 19.0                  | C   |
| 4 | California Avenue & E 33 <sup>rd</sup> Street | All-way Stop | 10.8     | B   | 10.8                  | B   |
| 5 | California Avenue & Project Driveway          | Two-way Stop | 16.9     | C   | 16.9                  | C   |
| 6 | California Avenue & E 32 <sup>nd</sup> Street | Two-way Stop | 15.2     | C   | 15.2                  | C   |

Notes:

Delay is shown in seconds per vehicle

SOURCE: KITTELSON & ASSOCIATES, INC (2026)

## SITE OPERATIONS

The existing roadway conditions and proposed site plan were assessed to determine if improvements are recommended to improve safety or operations within the project site or at access points. This section discusses the site access and on-site circulation elements including the drive-through queuing analysis for the project.

### On-Site Queueing Estimates

Drive-through queuing at coffee shops is often where the greatest potential for impacts to the surrounding roadway network may occur. To estimate potential queuing conditions and evaluate how frequently queues could affect the adjacent public right-of-way, a time-dependent queuing model was developed. The model evaluates how queues form and dissipate over time by incorporating different arrival and service rates during off-peak and on-peak demand periods, allowing for estimation of peak queue lengths under oversaturated conditions.

The model relies on hourly arrival volumes derived from historical transaction data collected at comparable Dutch Bros Coffee locations. Although ITE trip generation rates are commonly used to estimate site traffic, a comparison between the ITE rates and observed transaction data (using a 1.4-to-1 transaction-to-vehicle ratio) indicated that the ITE rates may underestimate drive-through demand for this land use type. A comparison between historical transaction data and trip generation estimates from the trip generation compliance memo is provided in **Table 4**.

**Table 4: Hourly Demand Estimates<sup>1 2</sup>**

| Dutch Bros Site                         | AM Peak Hour | PM Peak Hour | Daily      |
|-----------------------------------------|--------------|--------------|------------|
| Fontana (8010 Cherry Avenue)            | 59           | 43           | 693        |
| Covina (980 Azusa Avenue)               | 41           | 30           | 456        |
| Fountain Valley (17954 Magnolia Street) | 51           | 52           | 839        |
| Garden Grove (9901 Westminster Avenue)  | 47           | 44           | 735        |
| <b>Project (Average of Sites)</b>       | <b>53</b>    | <b>46</b>    | <b>754</b> |
| <b>ITE Trip Generation Estimates</b>    | <b>40</b>    | <b>15</b>    | <b>179</b> |

Notes:

<sup>1</sup> For each analyzed time period, hourly demand estimates were based on the highest average historical transaction volumes observed among the comparable Dutch Bros sites.

<sup>2</sup> A 1.4-to-1 transaction-to-vehicle ratio was used to convert transaction volumes to vehicle volumes. This ratio was developed based on a separate data collection effort conducted at existing Dutch Bros locations in Fountain Valley, Riverside, Escondido, Laguna Hills, La Habra, La Mirada, and Covina, where both transaction counts and arriving vehicle volumes were collected and compared.

SOURCE: KITTELSON & ASSOCIATES, INC (2026)

These comparable sites were selected in coordination with the City based on similarities in market characteristics, site layout, and surrounding traffic conditions, and are summarized in **Table 5**. The observed transaction data from comparable Dutch Bros sites during the AM and PM peak periods was found to be higher than ITE estimates and used for the hourly arrival volume inputs for the time-dependent queuing model.

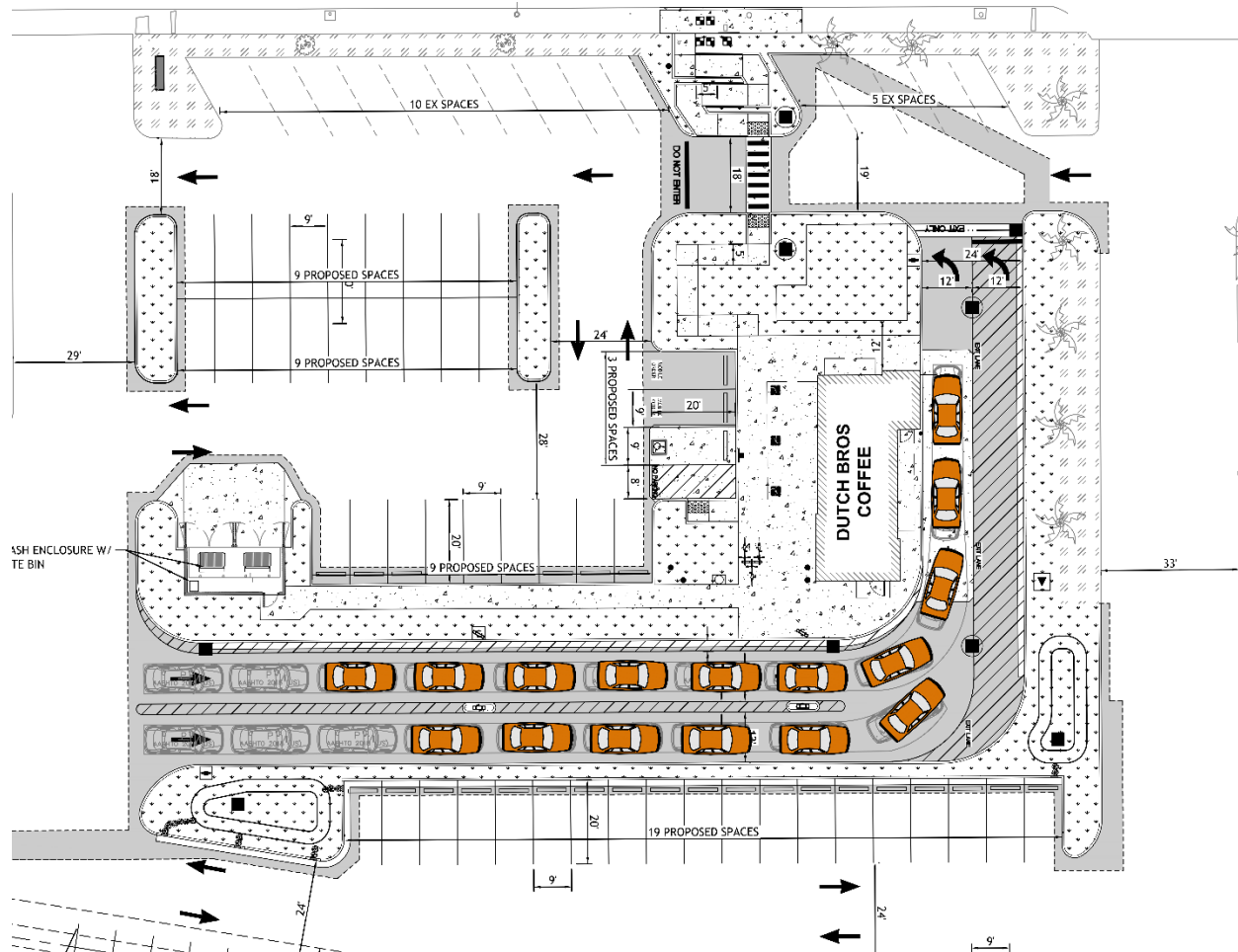
**Table 5: Comparable Dutch Bros Sites**

| <b>Site Characteristic</b> | <b>Project Site</b><br><i>I-405 Freeway and Atlantic Avenue</i>                                             | <b>Fontana</b><br><i>8010 Cherry Avenue</i>                                                                                           | <b>Covina</b><br><i>980 Azusa Avenue</i>                                                              | <b>Fountain Valley</b><br><i>17954 Magnolia Street</i>                                                      | <b>Garden Grove</b><br><i>9901 Westminster Avenue</i>                                                                      |
|----------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Land use context           | Part of a medium-large commercial parcel surrounded by other commercial uses and residential neighborhoods. | Part of a medium commercial parcel surrounded by other commercial uses and residential neighborhoods as well as industrial complexes. | Part of a medium commercial parcel surrounded by other commercial uses and residential neighborhoods. | Part of a small-medium commercial parcel surrounded by other commercial uses and residential neighborhoods. | Part of a medium-large commercial parcel surrounded by other medium-large commercial plazas and residential neighborhoods. |
| Roadway context            | Corner of intersection of 4-lane arterials, near a highway                                                  | Corner of intersection of 6-lane arterials                                                                                            | Along a 4-lane highway                                                                                | Corner of intersection of 4-lane arterials                                                                  | Along a 6-lane arterial                                                                                                    |
| Site features              | Two drive-through lanes that merge at the drive-through window, walk-up window, no indoor seating           | Two drive-through lanes that merge at the drive-through window, walk-up window, no indoor seating                                     | Two drive-through lanes that merge at the drive-through window, walk-up window, no indoor seating     | Two drive-through lanes that merge at the drive-through window, walk-up window, no indoor seating           | Two drive-through lanes that merge at the drive-through window, walk-up window, no indoor seating                          |
| Approximate building size  | 1,000 square feet                                                                                           | 1,000 square feet                                                                                                                     | 1,000 square feet                                                                                     | 1,000 square feet                                                                                           | 1,000 square feet                                                                                                          |
| Approximate queue storage  | 450 feet                                                                                                    | 300 feet                                                                                                                              | 350 feet                                                                                              | 400 feet                                                                                                    | 400 feet                                                                                                                   |
| Additional Considerations  | -                                                                                                           | -                                                                                                                                     | Opened in September 2025, so transaction data is heightened and reflects peak period operations       | -                                                                                                           | Opened in June 2025, so transaction data is heightened and reflects peak period operations                                 |

SOURCE: KITTELSON AND ASSOCIATES (2026)

From the model, it was determined that there is approximately a 5% probability that the number of vehicles waiting to be served will be longer than 16 vehicles, as shown in **Figure 7**. Since the drive-through can accommodate up to 18 to 21 vehicles,<sup>1</sup> queues are not expected to affect the public right-of-way or circulation within the commercial shopping center.

**Figure 7: 95th Percentile Queuing Scenario**



SOURCE: KITTELSON AND ASSOCIATES (2026); SITE PLAN IS DRAWN BY CORE STATES GROUP (2026)

While the model operates at an aggregate level, it is designed to reasonably approximate field conditions and provide a planning-level assessment of higher-end queuing conditions to help inform site design and identify potential on-site constraints. Drive-through operations can vary substantially based on site-specific characteristics and day-to-day operational factors, including staffing levels, order processing efficiency, customer behavior, promotional activity, seasonal demand fluctuations, and traffic management practices. As such, queue estimates should be considered approximate and intended to represent a reasonable planning-level estimate rather than a precise prediction of future conditions.

<sup>1</sup> The number of vehicles that can be accommodated depends on the assumed storage length per vehicle and traffic management strategies, which ranges from 22 to 25 feet.

Based on the project's location, driveway access points, and surrounding traffic patterns, most vehicles are expected to enter via the driveways along 33<sup>rd</sup> Street. On-site queueing that extends beyond the drive-through could affect operations at the shopping center's parking lot. Therefore, it is recommended that Dutch Bros implement the following strategies once the drive-through reaches approximately 75% of its capacity (about 13 vehicles) to manage queues as efficiently and effectively as possible:

- Dutch Bros staff takes orders and payments from and makes deliveries to the queued drive-through lanes to minimize the wait time at the service window. The site plan also includes an exit adjacent to the drive-through lane exit. This is an important queue length management feature because it allows vehicles that receive their fulfilled orders prior to reaching the drive-through lane to exit out of the queue early, thereby reducing the overall length of the queue.
- Dutch Bros staff can place signage to guide non-Dutch Bros customer vehicles away from the drive-through entrance and act as temporary traffic control personnel who can effectively manage queues and prevent blockage situations.
- Dutch Bros staff to direct queued vehicles to minimize space between vehicles in order to maximize the drive through storage space. Because Dutch Bros staff takes orders for vehicles in the drive through, this would be an active queue management strategy that does not require additional resources.

*The queuing management plan for this project is provided as reference in Appendix D.*

Based on previous site visits from existing Dutch Bros locations (separate project efforts), sites commonly operate with at least two "line runners" managing the drive-through queue and taking orders directly from vehicles. Sites may also use traffic cones to redirect drivers or delineate the drive-through lane from adjacent parking areas, allowing parking areas to primarily serve mobile order pick-up customers and employees.

Observed weekday 95th percentile queues from existing sites ranged from approximately 11 to 21 vehicles. It should be noted that the site with a 95th percentile queue of 21 vehicles had been open for less than one year at the time of data collection and therefore likely reflected elevated demand associated with early operational conditions. Queue lengths were also observed to increase during special promotional events, such as merchandise or sticker giveaway days. However, these conditions are not considered representative of typical daily operations.

**Table 6** summarizes the observed 95<sup>th</sup> percentile queues from other sites.

**Table 6: Summary of Weekday Observed 95<sup>th</sup> Percentile Queues from Existing Dutch Bros Sites**

| Dutch Bros Site                   | Weekday Observed 95 <sup>th</sup> Percentile Queue |
|-----------------------------------|----------------------------------------------------|
| Covina (511 S Citrus Ave)         | 11                                                 |
| Escondido (2365 E Valley Pkwy)    | 11                                                 |
| Fountain Valley (9067 Warner Ave) | 11                                                 |
| La Habra (2060 W Lambert Rd)      | 19                                                 |
| La Mirada (14840 Beach Blvd)      | 21                                                 |
| Laguna Hills (24791 Alicia Pkwy)  | 17                                                 |
| Riverside (9604 Magnolia Ave)     | 11                                                 |

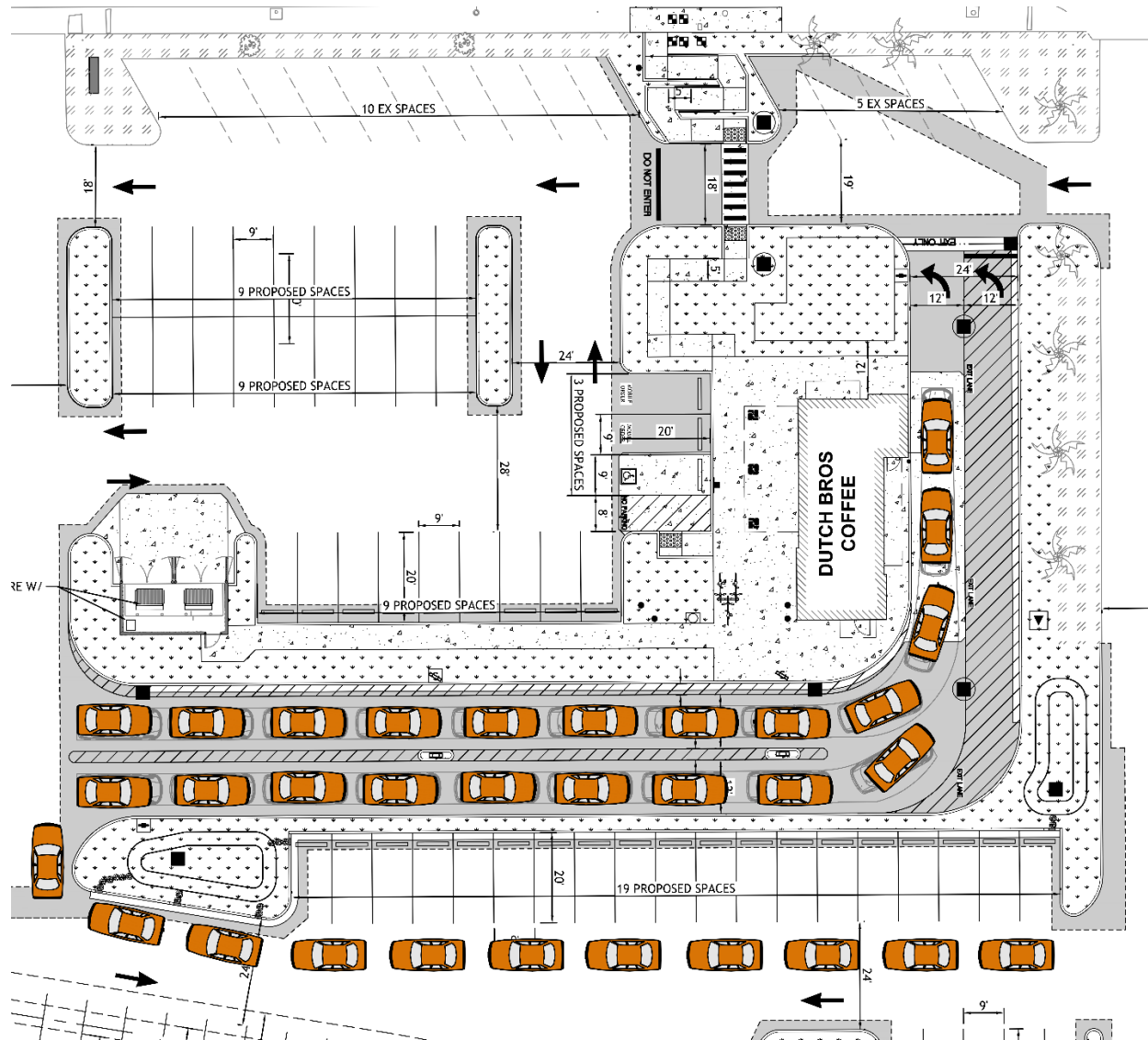
SOURCE: KITTELSON AND ASSOCIATES (2026)

## On-Site Circulation and Access

When reviewing the proposed site access and on-site circulation, the following details were noted:

- **Parking.** Generally, customer parking is not expected to be regularly needed because the operation is primarily drive-through. The proposed project would include 30 new on-site parking spaces, including one accessible space. In addition, the site is located within a larger commercial plaza where shared parking is available for customers of the surrounding retail stores. Therefore, the combined on-site and shared parking supply is expected to adequately accommodate parking demand for walk-up customers and employees.
- **Chick-fil-A Operational Considerations:** A Chick-fil-A is located near the project site within the same commercial shopping center. Since it is not anticipated for Dutch Bros queues to extend beyond the drive-through capacity as noted in the previous section, conflicts with Chick-fil-A is not anticipated to be a frequent occurrence. In the event that Dutch Bros queues extend beyond the drive-through capacity, it is recommended for Dutch Bros to wrap their queues around the lot to provide additional queuing capacity for up to 11 vehicles and minimize conflicts with Chick-fil-A queues, as shown in **Figure 8**. Should queues exceed this supplemental storage capacity, staff should implement the remaining measures identified in the queue management plan to maintain safe and efficient circulation within the commercial plaza.
- **Adequacy of Pedestrian Facilities.** Pedestrian access to the site would include new walkways, ramps, and crosswalks along the project frontage on E 33<sup>rd</sup> Street. Additionally, the site can be accessed from adjacent parking aisles through crosswalks and the City's existing sidewalk network.
- **Bicycle Accessibility.** There are limited bicyclist facilities in the project vicinity. Atlantic Avenue, E 33<sup>rd</sup> Street and California Avenue do not feature bicycle facilities in the project vicinity. Therefore, bicyclists would need to share facilities with pedestrians or motor vehicles to access the project site.
- **Accessibility from Adjacent Transit Stops.** The nearest bus stop to the project site is located approximately 400 feet west at the intersection of Atlantic Avenue and 33<sup>rd</sup> Street NE and is served by Long Beach Transit Routes 61, 101, and 103. Transit riders can access the project site via the existing sidewalk network along 33<sup>rd</sup> Street. Access requires crossing at the signalized intersection of

### Figure 8: Dutch Bros Wrap Around Queuing Scenario



SOURCE: KITTELSON AND ASSOCIATES (2026); SITE PLAN IS DRAWN BY CORE STATES GROUP (2026)

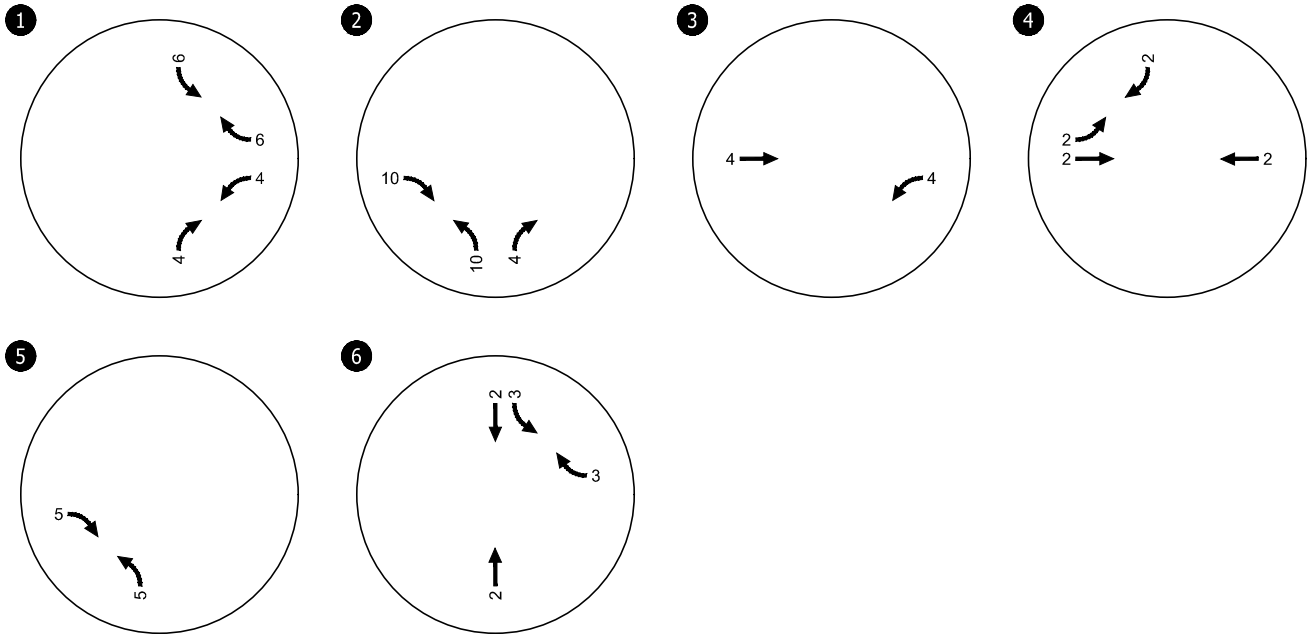
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# **APPENDIX A**

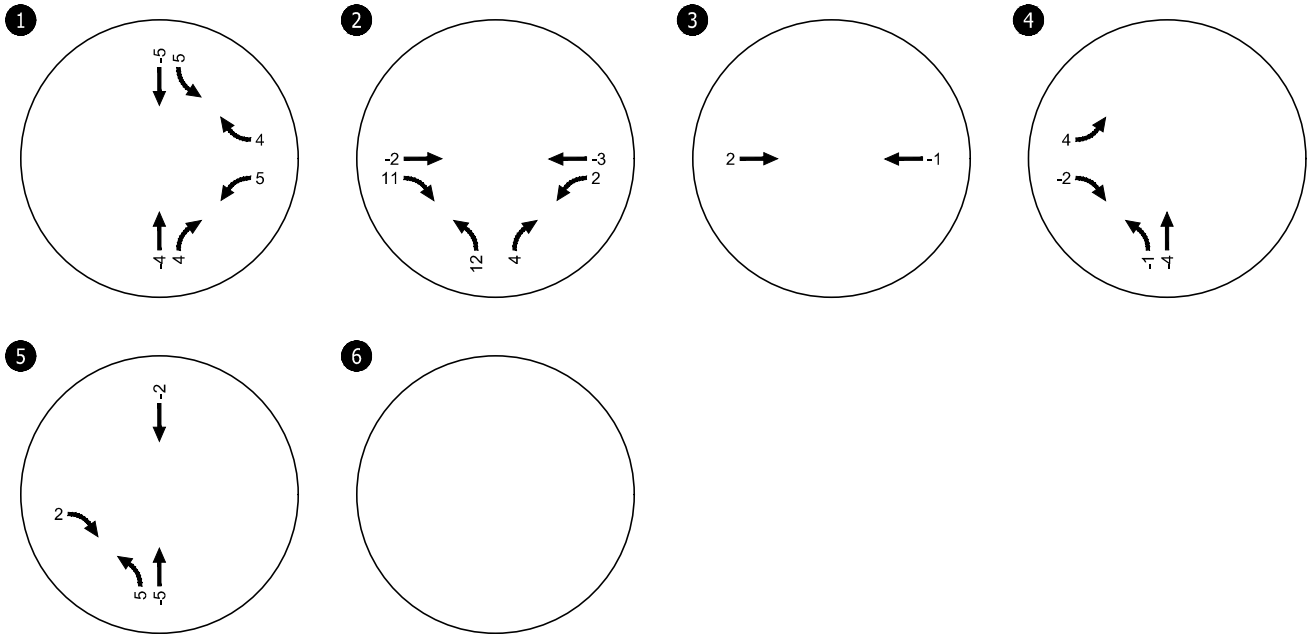
## Trip Distribution and Assignment

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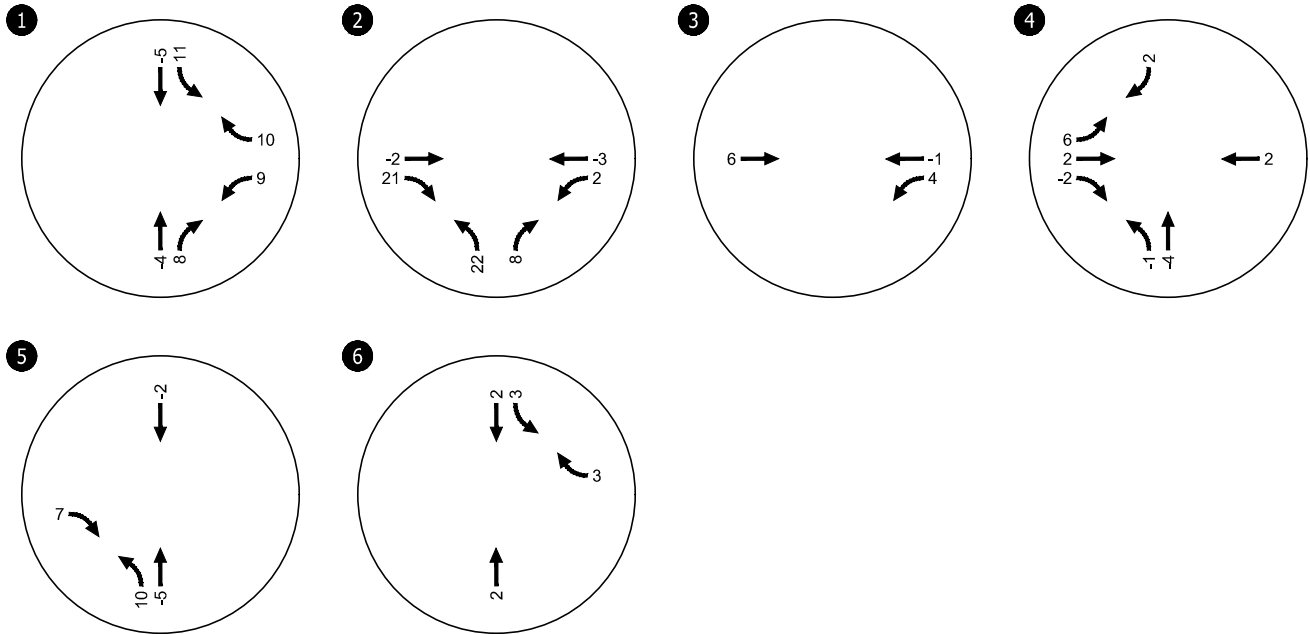
Detailed Trip Assignment Figures  
Primary AM Trips  
Signal Hill, CA

Figure  
1



Detailed Trip Assignment Figures  
Pass-by AM Trips  
Signal Hill, CA

Figure  
2



Detailed Trip Assignment Figures  
Project AM Trips  
Signal Hill, CA

Figure  
3

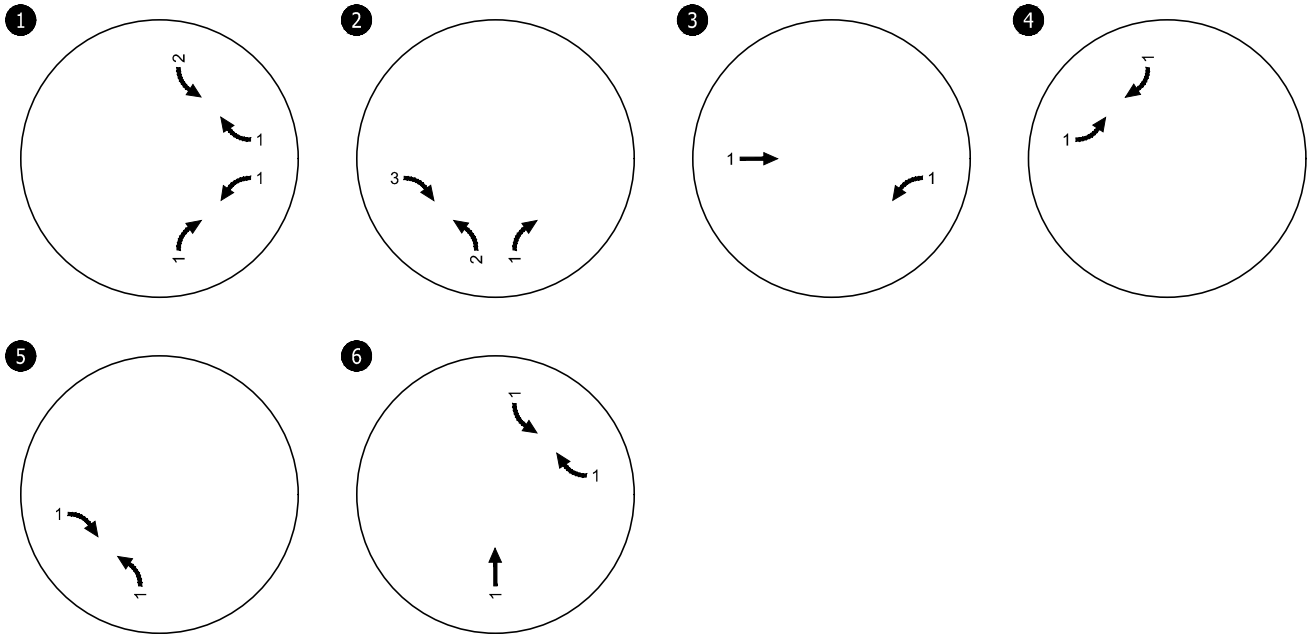
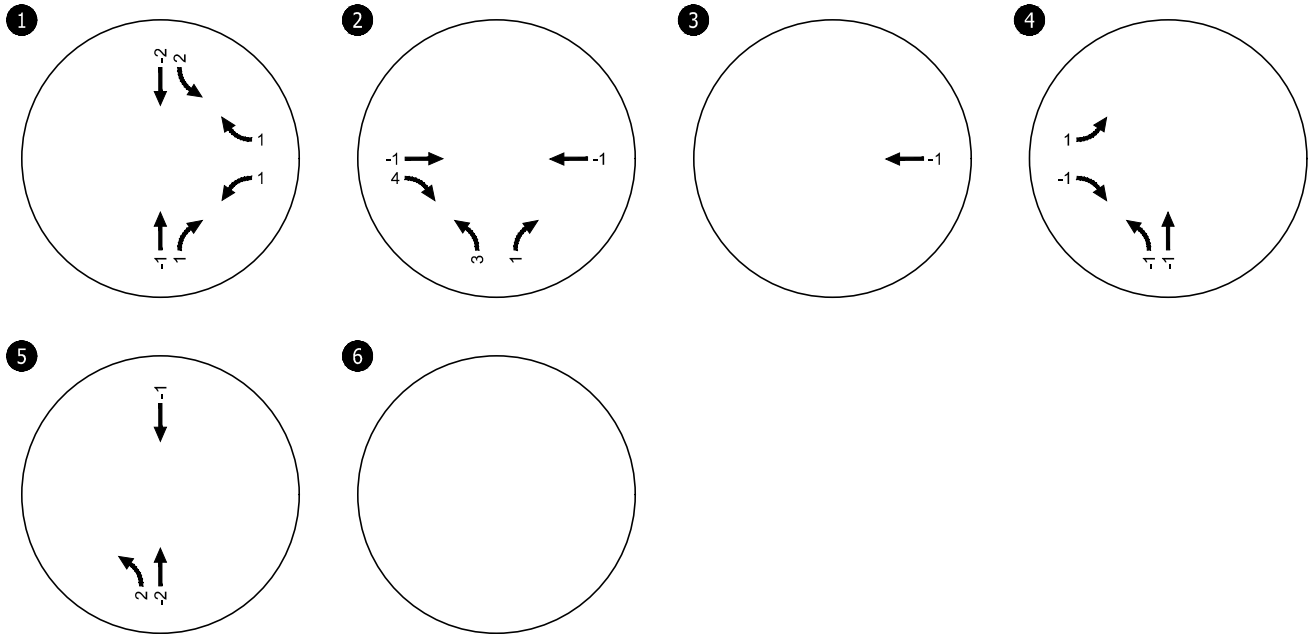
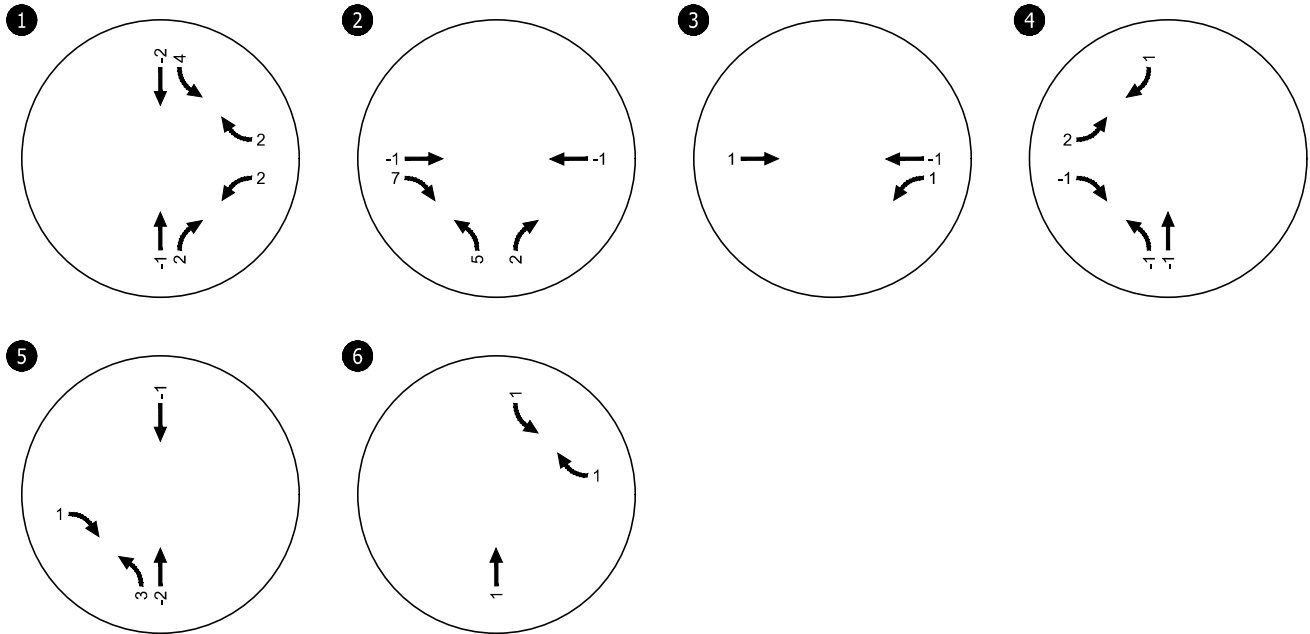


Figure  
4



Detailed Trip Assignment Figures  
Pass-by PM Trips  
Signal Hill, CA

Figure  
5



Detailed Trip Assignment Figures  
Project PM Trips  
Signal Hill, CA

Figure  
6

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## **APPENDIX B**

### Turning Movement Counts

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# Traffic Management Plan

CA7803  
NEC 405 Fwy & Atlantic Blvd,  
Signal Hill, CA, 90807

Operator  
TBD

Business Coach  
TBD

Regional Activation Coach:  
TBD

Site & Traffic Plan Administrator  
Dutch Bros. HQ | Tempe, AZ  
C: 602.525.8737  
E: dbdesignnteam@DutchBros.com





# Who We Are

Dutch Bros Inc. (NYSE: BROS) is a high-growth operator and franchisor of drive-thru shops that focus on serving high **QUALITY**, hand-crafted beverages with unparalleled **SPEED** and superior **SERVICE**.

Founded in 1992 by brothers Dane and Travis Boersma, Dutch Bros began with a double-head espresso machine and a pushcart in Grants Pass, Oregon. While espresso-based beverages are still at the core of what we do, Dutch Bros now offers a wide variety of unique, customizable cold and hot beverages that delight a broad array of customers.

We believe Dutch Bros is more than just the products we serve—we are dedicated to making a massive difference in the lives of our employees, customers and communities. This combination of hand-crafted and high-quality beverages, our unique drive-thru experience and our community-driven, people-first culture has allowed us to successfully open new shops and continue to share the “Dutch Luv” at 1,043 locations across 19 states as of June 30, 2025.



# Traffic Management Plan Overview

1

The Site & Traffic Plan Administrator creates a custom traffic management plan that is tailored to each unique site.

Each plan identifies paths of travel for customers, points of ingress/egress, crew parking, directional sign placement, and suggested staffing placement.

City ordinances, CC&Rs, easements agreements, etc., are reviewed when a traffic management plan is created to ensure compliance.

2

Once the plan is completed, it is then shared with the field leadership team for the subject shop and market area (i.e. Regional Operator, Business Coach, and Regional Activation Coach).

Field leadership provides feedback on the traffic management plan and can request revisions, if needed.

Once the plan is approved, directional a-frame/cone topper signs are ordered to be sent to the shop.

3

Field leadership and crew setup the traffic management plan by placing temporary signs, cones, and readying staff for placement.

All cones and temporary signs are removed at the end of each business day.

If third party traffic control is needed, the field leadership team will identify dates, times, and number of controllers needed approximately one (1) to two (2) weeks prior to the grand opening date.

\*All traffic management plans are subject to change depending on operational need and external factors as determined by Dutch Bros. HQ and the regional field leadership team.\*

# Traffic Management Positions

## Line Buster

Dutch Bros. Crew Member

This position primarily obtains drink orders from customers that are lined up in the queue behind the ordering window. They are equipped with iPad's, card readers, and some with cash bags for cash transactions. Their objective is to quickly and accurately obtain customer orders down the line to expedite time spent at the window. In some cases, a Line Buster may also run drinks out to cars as orders are completed.

## Drink Runner

Dutch Bros. Crew Member

More commonly staffed during the grand opening period; this position's responsibility is to run completed drink orders out to cars in the queue. They may also help customers coordinate exiting the line using the escape lane and allowing customers to pull forward and shorten the queue.

## DB Traffic Controller

Dutch Bros. Crew Member

Dutch Bros. crew members may also direct on-site traffic to ensure traffic flow remains unhindered at key points within drive aisles. Traffic Controllers are briefed on the traffic plan to ensure properly coordinated execution. They also will setup and take down cones and a-frame signs as needed.

## Third Party Traffic Controller

Third Party Contracted

**\*Described on page 5\***



# Third Party Traffic Control

## Hired by Third Party Broker

Dutch Bros. works with a national broker that recruits off-duty police officers from city, county, and state jurisdictions.

## Off-Site Traffic Management

Third party traffic controllers work primarily off-site to manage overflow traffic. They provide direction to customers and keep public roadways and primary drive aisles clear.

## Order Time-frame

Dutch Bros. HQ and the regional field leadership team determine the need for third party traffic control (dates, times, and number of officers). An order is submitted to our broker one to two weeks prior to the grand opening date. Traffic controllers orders are usually submitted in one to two week blocks.

## Alternative

If there are not any available off-duty officers to fill the traffic control roles, our broker then reaches out to national security companies (i.e. Securitas, GardaWorld) to obtain security guards to fill the vacant positions.

## Consistent Coverage Evaluation

The regional field leadership team evaluates toward the end of each order period if the need for third party traffic control is still existent or if it can be adjusted or eliminated. Queue times, number of customer visits, and additional data are gathered regularly to determine coverage needs.

## Special Occasions

From time-to-time, Dutch Bros. has community giveback days (i.e. Dutch Luv, Drink one for Dane) or other marketing campaigns that cause an influx of customers to visit their local shop. Regional leadership teams plan ahead for these days and can request third party traffic control as needed based on historical, shop specific trends.



# A-Frame Directional Sign Example

**A-Frame Dimensions:**  
"Sandwich Board"  
24 Inches Wide  
36 Inches Tall

\*Signs shown are only examples. Custom a-frames and cone-toppers can be made upon request.\*



# Traffic Management Plan

## Sign Key

|                                                                                                                                                                                                  |                                                                                                                                                                                                 |                                                                                                                                                                                               |                                                                                                                                                                                               |                                                                                                                                                                                               |                                                                                                                                                                                                    |                                                                                                                                                                                                 |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E1<br>ENTRANCE<br>                                                                                              | E2<br>ENTRANCE<br>                                                                                             | E3<br>ENTRANCE<br>                                                                                           | E4<br>USE NEXT ENTRANCE AHEAD<br>                                                                            | E5<br><br>                  | E6<br><br>                       | E7<br><br>ENTRANCE NEXT RIGHT                                                                                 | E8<br><br>ENTRANCE NEXT LEFT                                                                                   | B1<br><br>DO NOT BLOCK                                                                                         | B2<br><br>DO NOT BLOCK<br> |
| L1<br><br>LINE FORMS RIGHT<br> | L2<br><br>LINE FORMS LEFT<br> | L3<br><br>LINE STARTS HERE                                                                                   | L4<br><br>LINE FULL                                                                                          | L5<br><br>LINE FULL PLEASE USE WALK-UP                                                                       | L6<br><br>PICK SHORTEST LINE<br> | L7<br><br>LANE CLOSED                                                                                         | L8<br><br>PLEASE WAIT HERE                                                                                     | L9<br><br>PLEASE CLOSE GAP BETWEEN VEHICLES                                                                    | P1<br><br>CUSTOMER PARKING ONLY                                                                               |
| P2<br><br>NO DUTCH BROS CUSTOMER PARKING                                                                       | EX1<br><br>EXIT HERE<br>   | EX2<br><br>EXIT HERE<br> | EX3<br><br>EXIT HERE<br> | EX4<br><br>EXIT ONLY<br> | M1<br><br>MERGE<br>           | M2<br><br>MERGE HERE<br> | M3<br><br>MERGE HERE<br> | M4<br><br>MERGE HERE<br> | CN<br>                                                                                                       |
| CS1<br>Custom Sign Placeholder                                                                                                                                                                   | CS2<br>Custom Sign Placeholder                                                                                                                                                                  | CS3<br>Custom Sign Placeholder                                                                                                                                                                | CS4<br>Custom Sign Placeholder                                                                                                                                                                | CS5<br>Custom Sign Placeholder                                                                                                                                                                |                                                                                                                                                                                                    |                                                                                                                                                                                                 |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                  |

### Examples as Portrayed on Plan

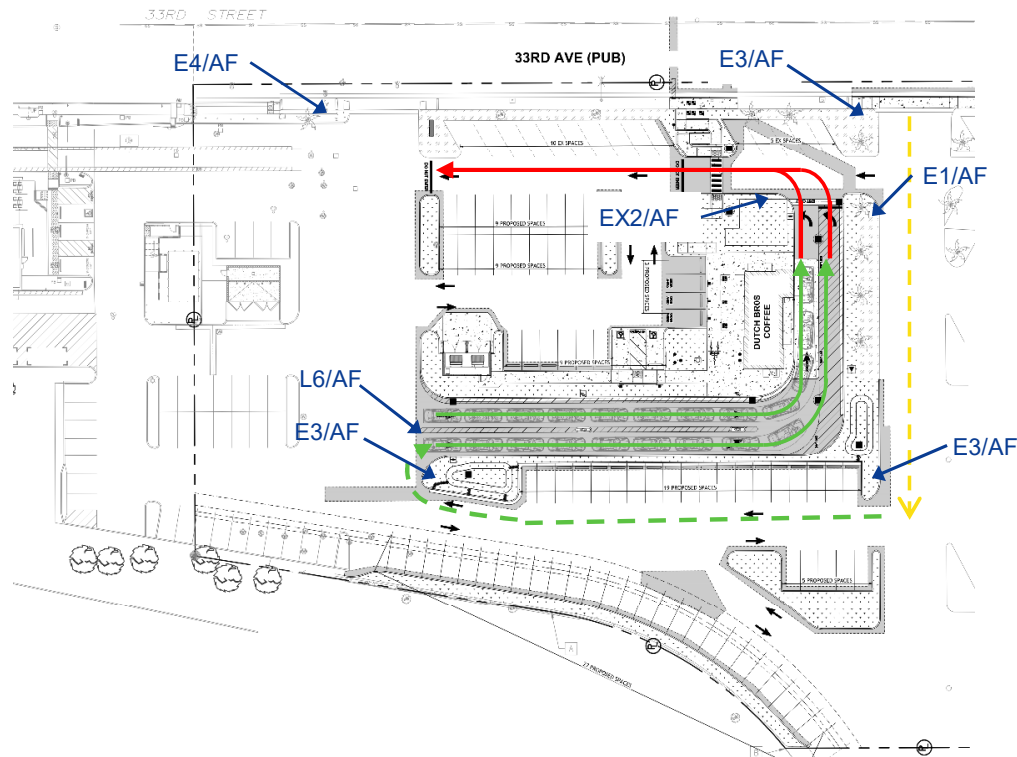
#### E2/AF

1. **Letter(s)/Number** identifies specific sign placed (i.e. **E2** would be an entrance sign with a left arrow).
1. **AF** stands for **A-Frame**.
1. **CT** stands for **Cone-Topper**.
1. **Custom Signs** will be marked as **CS** (i.e. **CS1/AF**) and will have specific verbiage notated directly on the plan.



# Traffic Management Plan

## Sign Placement



 Ingress/Queue  
\*Stopped Cars\*

 Egress

**Map Key**

 Overflow Queue  
\*Stopped Cars\*

 Path of Travel  
\*No Stopped Cars\*



## Staffing Key

**LB**

Line Buster

**DR**

Drink Runner

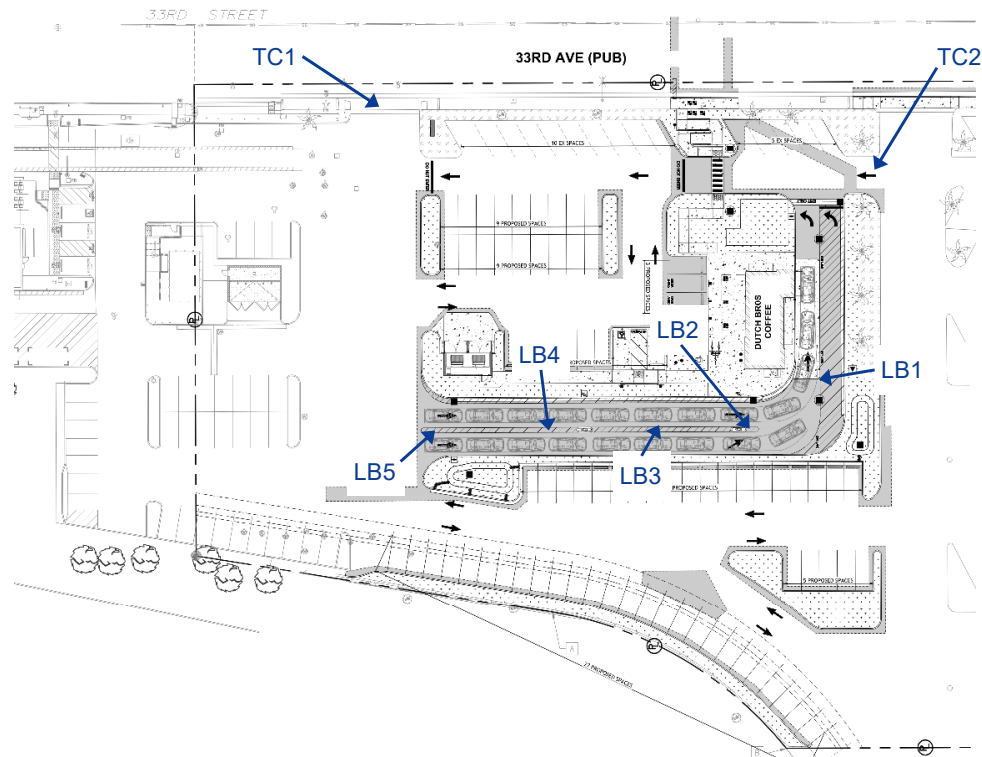
**DBTC**

Dutch Bros. Traffic Controller

**TC**

Third Party Traffic Controller  
(Off-Duty Officer/Security Guard)

# Traffic Management Plan Staffing Placement



 Ingress/Queue  
\*Stopped Cars\*

 Egress

## Map Key

 Overflow Queue  
\*Stopped Cars\*

 Path of Travel  
\*No Stopped Cars\*



# **APPENDIX C**

## Operations Analysis Reports

32816 Signal Hill Dutch Bros

Vistro File: H:\...\32816\_DB Signal Hill.vistro  
Report File: H:\...\1 Existing.pdf

Scenario 1 Existing AM  
3/6/2026

**Intersection Analysis Summary**

| ID | Intersection Name               | Control Type | Method          | Worst Mvmt | V/C   | Delay (s/veh) | LOS |
|----|---------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1  | Atlantic Ave/E 33rd Street      | Signalized   | HCM 7th Edition | NB Right   | 0.636 | 19.6          | B   |
| 2  | Lime Ave/Project Driveway       | Two-way stop | HCM 7th Edition | NB Thru    | 0.005 | 11.6          | B   |
| 3  | Olive Ave/Project Driveway      | Two-way stop | HCM 7th Edition | NB Thru    | 0.010 | 11.3          | B   |
| 4  | California Ave/E 33rd Street    | All-way stop | HCM 7th Edition | SB Thru    | 0.380 | 9.9           | A   |
| 5  | California Ave/Project Driveway | Two-way stop | HCM 7th Edition | EB Left    | 0.009 | 13.7          | B   |
| 6  | California Ave/E 32nd Street    | Two-way stop | HCM 7th Edition | WB Left    | 0.043 | 14.0          | B   |

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

**Intersection Level Of Service Report**  
**Intersection 1: Atlantic Ave/E 33rd Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 19.6  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | B     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.636 |

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |        |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 11.00                                                                             | 11.00  | 11.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 1                                                                                 | 0      | 0      | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 40.00                                                                             | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 1      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 75.00  | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 30.00                                                                             |        |        | 30.00                                                                             |        |        | 30.00                                                                               |        |        | 30.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Curb Present                 | No                                                                                |        |        | No                                                                                |        |        | No                                                                                  |        |        | No                                                                                  |        |        |
| Crosswalk                    | No                                                                                |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | Yes                                                                                 |        |        |

**Volumes**

| Name                                        |        |        |        |        |        |        |        |        |        |        |        |        |
|---------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]                   | 28     | 755    | 148    | 64     | 993    | 13     | 5      | 10     | 36     | 73     | 14     | 94     |
| Base Volume Adjustment Factor               | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 0.00   | 4.00   | 3.00   | 2.00   | 3.00   | 8.00   | 0.00   | 0.00   | 0.00   | 1.00   | 0.00   | 6.00   |
| Proportion of CAVs [%]                      | 0.00   |        |        |        |        |        |        |        |        |        |        |        |
| Growth Factor                               | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]                 | 28     | 755    | 148    | 64     | 993    | 13     | 5      | 10     | 36     | 73     | 14     | 94     |
| Peak Hour Factor                            | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor                     | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 7      | 197    | 39     | 17     | 259    | 3      | 1      | 3      | 9      | 19     | 4      | 24     |
| Total Analysis Volume [veh/h]               | 29     | 786    | 154    | 67     | 1034   | 14     | 5      | 10     | 38     | 76     | 15     | 98     |
| Presence of On-Street Parking               | No     |        | No     | No     |        | No     | No     |        | No     | No     |        | No     |
| On-Street Parking Maneuver Rate [/h]        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| Bicycle Volume [bicycles/h]                 | 1      |        |        | 3      |        |        | 0      |        |        | 0      |        |        |

### Intersection Settings

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | Yes                                   |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Pattern 1                             |
| Coordination Type         | Time of Day Pattern Coordinated       |
| Actuation Type            | Fully actuated                        |
| Offset [s]                | 43.0                                  |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 4.00                                  |

### Phasing & Timing (Basic)

| Control Type                    | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           | No      |         |         | No      |         |         |         |         |         |         |         |         |
| Signal Group                    | 0       | 4       | 0       | 0       | 2       | 0       | 0       | 8       | 0       | 0       | 6       | 0       |
| Auxiliary Signal Groups         |         |         |         |         |         |         |         |         |         |         |         |         |
| Maximum Green [s]               | 0.0     | 30.0    | 0.0     | 0.0     | 50.0    | 0.0     | 0.0     | 30.0    | 0.0     | 0.0     | 50.0    | 0.0     |
| Amber [s]                       | 0.0     | 3.2     | 0.0     | 0.0     | 3.9     | 0.0     | 0.0     | 3.2     | 0.0     | 0.0     | 3.9     | 0.0     |
| All red [s]                     | 0.0     | 1.0     | 0.0     | 0.0     | 1.0     | 0.0     | 0.0     | 1.0     | 0.0     | 0.0     | 1.0     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 7.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 14.0    | 0.0     | 0.0     | 16.0    | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 16.0    | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 4.0     | 0.0     | 0.0     | 5.0     | 0.0     | 0.0     | 4.0     | 0.0     | 0.0     | 5.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | Yes     |         |         | No      |         |         | Yes     |         |
| I1, Start-Up Lost Time [s]      | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 25.0    | 0.0     | 0.0     | 25.0    | 0.0     | 0.0     | 25.0    | 0.0     | 0.0     | 25.0    | 0.0     |
| Detector Length [ft]            | 0.0     | 100.0   | 0.0     | 0.0     | 100.0   | 0.0     | 0.0     | 100.0   | 0.0     | 0.0     | 100.0   | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

### Phasing & Timing: Pattern 1

|                       |     |      |     |     |      |     |     |      |     |     |      |     |
|-----------------------|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|
| Split [s]             | 0.0 | 35.0 | 0.0 | 0.0 | 55.0 | 0.0 | 0.0 | 35.0 | 0.0 | 0.0 | 55.0 | 0.0 |
| Lead / Lag            | -   | -    | -   | -   | -    | -   | -   | -    | -   | -   | -    | -   |
| Minimum Green [s]     | 0.0 | 8.0  | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 8.0  | 0.0 | 0.0 | 20.0 | 0.0 |
| Vehicle Extension [s] | 0.0 | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 |
| Minimum Recall        |     | No   |     |     | Yes  |     |     | No   |     |     | Yes  |     |
| Maximum Recall        |     | No   |     |     | No   |     |     | No   |     |     | No   |     |
| Pedestrian Recall     |     | No   |     |     | Yes  |     |     | No   |     |     | Yes  |     |

### Exclusive Pedestrian Phase

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

**Lane Group Calculations**

| Lane Group                              | L     | C     | C     | L    | C    | C    | C     | C     | C    |
|-----------------------------------------|-------|-------|-------|------|------|------|-------|-------|------|
| C, Calculated Cycle Length [s]          | 90    | 90    | 90    | 90   | 90   | 90   | 90    | 90    | 90   |
| L, Total Lost Time per Cycle [s]        | 2.00  | 2.00  | 2.00  | 2.00 | 2.00 | 2.00 | 2.00  | 2.00  | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s]  | 2.00  | 0.00  | 0.00  | 2.00 | 0.00 | 0.00 | 2.00  | 2.00  | 0.00 |
| l2, Clearance Lost Time [s]             | 0.00  | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00 |
| g_i, Effective Green Time [s]           | 33.2  | 33.2  | 33.2  | 61.7 | 61.7 | 61.7 | 33.2  | 61.7  | 61.7 |
| g / C, Green / Cycle                    | 0.37  | 0.37  | 0.37  | 0.69 | 0.69 | 0.69 | 0.37  | 0.69  | 0.69 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02  | 0.29  | 0.29  | 0.05 | 0.31 | 0.31 | 0.05  | 0.13  | 0.07 |
| s, saturation flow rate [veh/h]         | 1241  | 1656  | 1555  | 1152 | 1669 | 1661 | 1085  | 606   | 1325 |
| c, Capacity [veh/h]                     | 509   | 611   | 574   | 840  | 1145 | 1139 | 444   | 489   | 908  |
| d1, Uniform Delay [s]                   | 18.38 | 25.35 | 25.35 | 5.52 | 6.49 | 6.49 | 18.95 | 13.80 | 4.81 |
| k, delay calibration                    | 0.04  | 0.50  | 0.50  | 0.50 | 0.50 | 0.50 | 0.04  | 0.50  | 0.50 |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |
| d2, Incremental Delay [s]               | 0.02  | 10.22 | 10.82 | 0.19 | 1.33 | 1.33 | 0.04  | 0.83  | 0.24 |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00 |
| Rp, platoon ratio                       | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |
| PF, progression factor                  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |

**Lane Group Results**

|                                       |       |        |        |       |        |        |       |       |       |
|---------------------------------------|-------|--------|--------|-------|--------|--------|-------|-------|-------|
| X, volume / capacity                  | 0.06  | 0.79   | 0.79   | 0.08  | 0.46   | 0.46   | 0.12  | 0.18  | 0.11  |
| d, Delay for Lane Group [s/veh]       | 18.40 | 35.57  | 36.16  | 5.70  | 7.82   | 7.82   | 18.99 | 14.63 | 5.05  |
| Lane Group LOS                        | B     | D      | D      | A     | A      | A      | B     | B     | A     |
| Critical Lane Group                   | No    | No     | Yes    | No    | No     | Yes    | No    | No    | No    |
| 50th-Percentile Queue Length [veh/ln] | 0.39  | 10.57  | 10.02  | 0.44  | 4.23   | 4.22   | 0.71  | 0.77  | 0.59  |
| 50th-Percentile Queue Length [ft/ln]  | 9.64  | 264.29 | 250.60 | 11.06 | 105.87 | 105.40 | 17.84 | 19.29 | 14.83 |
| 95th-Percentile Queue Length [veh/ln] | 0.69  | 15.90  | 15.22  | 0.80  | 7.61   | 7.58   | 1.28  | 1.39  | 1.07  |
| 95th-Percentile Queue Length [ft/ln]  | 17.36 | 397.60 | 380.41 | 19.91 | 190.25 | 189.59 | 32.11 | 34.72 | 26.70 |

### Movement, Approach, & Intersection Results

|                                 |       |       |       |      |      |      |       |       |       |       |       |      |
|---------------------------------|-------|-------|-------|------|------|------|-------|-------|-------|-------|-------|------|
| d_M, Delay for Movement [s/veh] | 18.40 | 35.79 | 36.16 | 5.70 | 7.82 | 7.82 | 18.99 | 18.99 | 18.99 | 14.63 | 14.00 | 5.05 |
| Movement LOS                    | B     | D     | D     | A    | A    | A    | B     | B     | B     | B     | B     | A    |
| d_A, Approach Delay [s/veh]     | 35.33 |       |       | 7.69 |      |      | 18.99 |       |       | 9.61  |       |      |
| Approach LOS                    | D     |       |       | A    |      |      | B     |       |       | A     |       |      |
| d_I, Intersection Delay [s/veh] | 19.62 |       |       |      |      |      |       |       |       |       |       |      |
| Intersection LOS                | B     |       |       |      |      |      |       |       |       |       |       |      |
| Intersection V/C                | 0.636 |       |       |      |      |      |       |       |       |       |       |      |

### Emissions

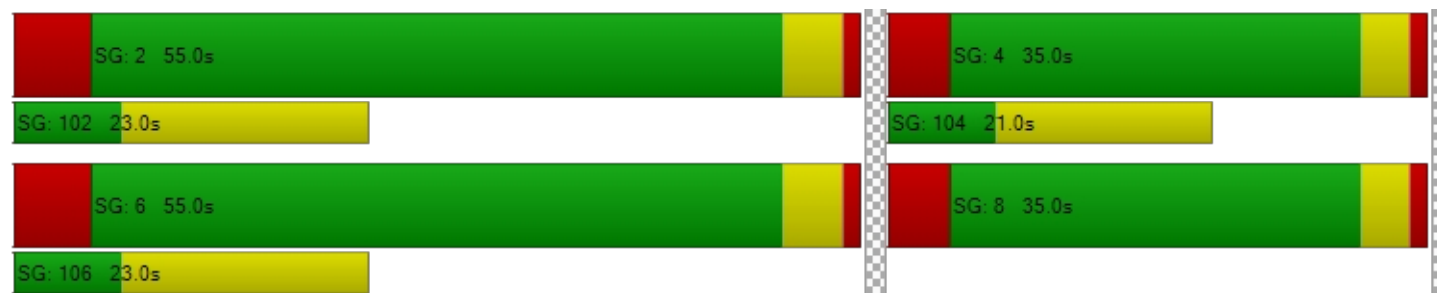
|                              |       |        |        |       |        |        |       |       |       |
|------------------------------|-------|--------|--------|-------|--------|--------|-------|-------|-------|
| Vehicle Miles Traveled [mph] | 1.50  | 25.10  | 23.57  | 4.08  | 32.02  | 31.86  | 3.35  | 5.61  | 6.17  |
| Stops [stops/h]              | 15.43 | 422.86 | 400.96 | 17.70 | 169.40 | 168.64 | 28.55 | 30.86 | 23.73 |
| Fuel consumption [US gal/h]  | 0.26  | 6.88   | 6.54   | 0.34  | 3.09   | 3.08   | 0.50  | 0.67  | 0.49  |
| CO [g/h]                     | 17.87 | 480.76 | 456.86 | 24.02 | 215.96 | 214.97 | 34.97 | 46.79 | 34.02 |
| NOx [g/h]                    | 3.48  | 93.54  | 88.89  | 4.67  | 42.02  | 41.82  | 6.80  | 9.10  | 6.62  |
| VOC [g/h]                    | 4.14  | 111.42 | 105.88 | 5.57  | 50.05  | 49.82  | 8.11  | 10.84 | 7.88  |

### Other Modes

|                                                          |       |       |       |       |
|----------------------------------------------------------|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 0.0   | 18.0  | 18.0  | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 0.00  | 0.00  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00  | 0.00  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 0.00  | 28.80 | 28.80 | 34.67 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 0.000 | 2.690 | 2.010 | 2.328 |
| Crosswalk LOS                                            |       | B     | B     | B     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000  | 2000  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 596   | 1002  | 596   | 1002  |
| d_b, Bicycle Delay [s]                                   | 22.20 | 11.22 | 22.19 | 11.20 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.359 | 2.479 | 1.647 | 1.716 |
| Bicycle LOS                                              | B     | B     | A     | A     |

### Sequence

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



**Intersection Level Of Service Report**  
**Intersection 2: Lime Ave/Project Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| 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): | 0.005 |

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |       |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|-------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |       | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |       |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 1     | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 40.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0     | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 15.00                                                                             |        |        | 25.00                                                                             |        |       | 30.00                                                                               |        |        | 30.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |       | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | No                                                                                |        |        | No                                                                                |        |       | No                                                                                  |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 52     | 3      | 16     | 10     | 0      | 6      | 11     | 122    | 68     | 11     | 77     | 8      |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 0.00   | 0.00   | 2.00   | 0.00   | 9.00   | 3.00   | 0.00   | 9.00   | 3.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 52     | 3      | 16     | 10     | 0      | 6      | 11     | 122    | 68     | 11     | 77     | 8      |
| Peak Hour Factor                        | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 1.0000 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 14     | 1      | 4      | 3      | 0      | 2      | 3      | 32     | 18     | 3      | 20     | 2      |
| Total Analysis Volume [veh/h]           | 55     | 3      | 17     | 11     | 0      | 6      | 12     | 130    | 72     | 12     | 82     | 9      |
| Pedestrian Volume [ped/h]               | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |

### Intersection Settings

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

### Movement, Approach, & Intersection Results

[illegible]

**Intersection Level Of Service Report**  
**Intersection 3: Olive Ave/Project Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| 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): | 0.010 |

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |        |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 15.00                                                                             |        |        | 25.00                                                                             |        |        | 30.00                                                                               |        |        | 30.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | No                                                                                |        |        | No                                                                                |        |        | No                                                                                  |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 35     | 5      | 21     | 2      | 2      | 2      | 14     | 68     | 62     | 23     | 59     | 8      |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 3.00   | 0.00   | 0.00   | 50.00  | 0.00   | 0.00   | 14.00  | 3.00   | 2.00   | 0.00   | 3.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 35     | 5      | 21     | 2      | 2      | 2      | 14     | 68     | 62     | 23     | 59     | 8      |
| Peak Hour Factor                        | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 10     | 1      | 6      | 1      | 1      | 1      | 4      | 19     | 18     | 7      | 17     | 2      |
| Total Analysis Volume [veh/h]           | 40     | 6      | 24     | 2      | 2      | 2      | 16     | 77     | 70     | 26     | 67     | 9      |
| Pedestrian Volume [ped/h]               | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |

### Intersection Settings

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

### Movement, Approach, & Intersection Results

[illegible]

**Intersection Level Of Service Report**  
**Intersection 4: California Ave/E 33rd Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | All-way stop    | Delay (sec / veh):        | 9.9   |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | A     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.380 |

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |        |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 35.00                                                                             |        |        | 35.00                                                                             |        |        | 30.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 37     | 162    | 13     | 11     | 224    | 22     | 17     | 12     | 58     | 22     | 27     | 7      |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 5.00   | 2.00   | 8.00   | 9.00   | 1.00   | 0.00   | 0.00   | 0.00   | 5.00   | 0.00   | 4.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 37     | 162    | 13     | 11     | 224    | 22     | 17     | 12     | 58     | 22     | 27     | 7      |
| Peak Hour Factor                        | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 11     | 47     | 4      | 3      | 64     | 6      | 5      | 3      | 17     | 6      | 8      | 2      |
| Total Analysis Volume [veh/h]           | 43     | 186    | 15     | 13     | 257    | 25     | 20     | 14     | 67     | 25     | 31     | 8      |
| Pedestrian Volume [ped/h]               | 3      |        |        | 2      |        |        | 2      |        |        | 0      |        |        |

**Intersection Settings****Lanes**

|                                 |      |      |      |      |      |
|---------------------------------|------|------|------|------|------|
| Capacity per Entry Lane [veh/h] | 757  | 777  | 583  | 685  | 654  |
| Degree of Utilization, x        | 0.32 | 0.38 | 0.06 | 0.10 | 0.10 |

**Movement, Approach, & Intersection Results**

|                                    |       |       |      |      |      |
|------------------------------------|-------|-------|------|------|------|
| 95th-Percentile Queue Length [veh] | 1.40  | 1.78  | 0.19 | 0.32 | 0.32 |
| 95th-Percentile Queue Length [ft]  | 34.93 | 44.61 | 4.63 | 8.10 | 8.10 |
| Approach Delay [s/veh]             | 10.01 | 10.45 | 8.77 |      | 9.10 |
| Approach LOS                       | B     | B     | A    |      | A    |
| Intersection Delay [s/veh]         | 9.93  |       |      |      |      |
| Intersection LOS                   | A     |       |      |      |      |

**Intersection Level Of Service Report**  
**Intersection 5: California Ave/Project Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 13.7  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | B     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.009 |

**Intersection Setup**

| Name                         |                                                                                   |        |                                                                                     |        |                                                                                     |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |        | Southbound                                                                          |        | Eastbound                                                                           |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Left                                                                              | Thru   | Thru                                                                                | Right  | Left                                                                                | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                               | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00                                                                              | 100.00 | 100.00                                                                              | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00                                                                                | 0.00   | 0.00                                                                                | 0.00   |
| Speed [mph]                  | 35.00                                                                             |        | 35.00                                                                               |        | 15.00                                                                               |        |
| Grade [%]                    | 0.00                                                                              |        | 0.00                                                                                |        | 0.00                                                                                |        |
| Crosswalk                    | No                                                                                |        | No                                                                                  |        | Yes                                                                                 |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 34     | 210    | 295    | 10     | 4      | 27     |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 2.00   | 1.00   | 20.00  | 0.00   | 11.00  |
| 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]             | 34     | 210    | 295    | 10     | 4      | 27     |
| Peak Hour Factor                        | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 9      | 58     | 81     | 3      | 1      | 7      |
| Total Analysis Volume [veh/h]           | 37     | 231    | 324    | 11     | 4      | 30     |
| Pedestrian Volume [ped/h]               | 0      |        | 0      |        | 3      |        |

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |      |       |       |
|---------------------------------------|------|------|------|------|-------|-------|
| V/C, Movement V/C Ratio               | 0.03 | 0.00 | 0.00 | 0.00 | 0.01  | 0.04  |
| d_M, Delay for Movement [s/veh]       | 7.97 | 0.00 | 0.00 | 0.00 | 13.73 | 10.55 |
| Movement LOS                          | A    | A    | A    | A    | B     | B     |
| 95th-Percentile Queue Length [veh/ln] | 0.06 | 0.06 | 0.00 | 0.00 | 0.17  | 0.17  |
| 95th-Percentile Queue Length [ft/ln]  | 1.57 | 1.57 | 0.00 | 0.00 | 4.19  | 4.19  |
| d_A, Approach Delay [s/veh]           | 1.10 |      | 0.00 |      | 10.93 |       |
| Approach LOS                          | A    |      | A    |      | B     |       |
| d_I, Intersection Delay [s/veh]       | 1.05 |      |      |      |       |       |
| Intersection LOS                      | B    |      |      |      |       |       |

**Intersection Level Of Service Report**  
**Intersection 6: California Ave/E 32nd Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 14.0  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | B     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.043 |

**Intersection Setup**

| Name                         | Northbound                                                                        |        | Southbound                                                                          |        | Westbound                                                                           |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |        | Southbound                                                                          |        | Westbound                                                                           |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Thru                                                                              | Right  | Left                                                                                | Thru   | Left                                                                                | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                               | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 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]                  | 35.00                                                                             |        | 35.00                                                                               |        | 25.00                                                                               |        |
| Grade [%]                    | 0.00                                                                              |        | 0.00                                                                                |        | 0.00                                                                                |        |
| Crosswalk                    | No                                                                                |        | Yes                                                                                 |        | Yes                                                                                 |        |

**Volumes**

| Name                                    | Northbound |        | Southbound |        | Westbound |        |
|-----------------------------------------|------------|--------|------------|--------|-----------|--------|
| Base Volume Input [veh/h]               | 243        | 18     | 10         | 311    | 16        | 2      |
| Base Volume Adjustment Factor           | 1.0000     | 1.0000 | 1.0000     | 1.0000 | 1.0000    | 1.0000 |
| Heavy Vehicles Percentage [%]           | 2.00       | 6.00   | 0.00       | 2.00   | 12.00     | 0.00   |
| Growth Factor                           | 1.0000     | 1.0000 | 1.0000     | 1.0000 | 1.0000    | 1.0000 |
| In-Process Volume [veh/h]               | 0          | 0      | 0          | 0      | 0         | 0      |
| Site-Generated Trips [veh/h]            | 0          | 0      | 0          | 0      | 0         | 0      |
| Diverted Trips [veh/h]                  | 0          | 0      | 0          | 0      | 0         | 0      |
| Pass-by Trips [veh/h]                   | 0          | 0      | 0          | 0      | 0         | 0      |
| Existing Site Adjustment Volume [veh/h] | 0          | 0      | 0          | 0      | 0         | 0      |
| Other Volume [veh/h]                    | 0          | 0      | 0          | 0      | 0         | 0      |
| Total Hourly Volume [veh/h]             | 243        | 18     | 10         | 311    | 16        | 2      |
| Peak Hour Factor                        | 0.9100     | 0.9100 | 0.9100     | 0.9100 | 0.9100    | 0.9100 |
| Other Adjustment Factor                 | 1.0000     | 1.0000 | 1.0000     | 1.0000 | 1.0000    | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 67         | 5      | 3          | 85     | 4         | 1      |
| Total Analysis Volume [veh/h]           | 267        | 20     | 11         | 342    | 18        | 2      |
| Pedestrian Volume [ped/h]               | 0          |        | 0          |        | 3         |        |

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |      |       |       |
|---------------------------------------|------|------|------|------|-------|-------|
| V/C, Movement V/C Ratio               | 0.00 | 0.00 | 0.01 | 0.00 | 0.04  | 0.00  |
| d_M, Delay for Movement [s/veh]       | 0.00 | 0.00 | 7.83 | 0.00 | 14.05 | 10.12 |
| Movement LOS                          | A    | A    | A    | A    | B     | B     |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.02 | 0.02 | 0.14  | 0.14  |
| 95th-Percentile Queue Length [ft/ln]  | 0.00 | 0.00 | 0.46 | 0.46 | 3.60  | 3.60  |
| d_A, Approach Delay [s/veh]           | 0.00 |      | 0.24 |      | 13.65 |       |
| Approach LOS                          | A    |      | A    |      | B     |       |
| d_I, Intersection Delay [s/veh]       | 0.54 |      |      |      |       |       |
| Intersection LOS                      | B    |      |      |      |       |       |

32816 Signal Hill Dutch Bros

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Report File: H:\...\3 Existing PM.pdf

Scenario 3 Existing PM  
3/6/2026

**Intersection Analysis Summary**

| ID | Intersection Name               | Control Type | Method          | Worst Mvmt | V/C   | Delay (s/veh) | LOS |
|----|---------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1  | Atlantic Ave/E 33rd Street      | Signalized   | HCM 7th Edition | NB Right   | 0.654 | 25.7          | C   |
| 2  | Lime Ave/Project Driveway       | Two-way stop | HCM 7th Edition | NB Thru    | 0.025 | 20.7          | C   |
| 3  | Olive Ave/Project Driveway      | Two-way stop | HCM 7th Edition | NB Thru    | 0.016 | 18.8          | C   |
| 4  | California Ave/E 33rd Street    | All-way stop | HCM 7th Edition | NB Thru    | 0.457 | 10.8          | B   |
| 5  | California Ave/Project Driveway | Two-way stop | HCM 7th Edition | EB Left    | 0.055 | 16.9          | C   |
| 6  | California Ave/E 32nd Street    | Two-way stop | HCM 7th Edition | WB Left    | 0.032 | 15.2          | C   |

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

**Intersection Level Of Service Report**  
**Intersection 1: Atlantic Ave/E 33rd Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 25.7  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.654 |

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |        |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 11.00                                                                             | 11.00  | 11.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 1                                                                                 | 0      | 0      | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 40.00                                                                             | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 1      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 75.00  | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 30.00                                                                             |        |        | 30.00                                                                             |        |        | 30.00                                                                               |        |        | 30.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Curb Present                 | No                                                                                |        |        | No                                                                                |        |        | No                                                                                  |        |        | No                                                                                  |        |        |
| Crosswalk                    | No                                                                                |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | Yes                                                                                 |        |        |

**Volumes**

| Name                                        |        |        |        |        |        |        |        |        |        |        |        |        |
|---------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]                   | 28     | 923    | 264    | 100    | 772    | 18     | 4      | 23     | 44     | 136    | 13     | 163    |
| Base Volume Adjustment Factor               | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 0.00   | 1.00   | 1.00   | 0.00   | 1.00   | 0.00   | 0.00   | 0.00   | 0.00   | 1.00   | 0.00   | 0.00   |
| Proportion of CAVs [%]                      | 0.00   |        |        |        |        |        |        |        |        |        |        |        |
| Growth Factor                               | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]                 | 28     | 923    | 264    | 100    | 772    | 18     | 4      | 23     | 44     | 136    | 13     | 163    |
| Peak Hour Factor                            | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor                     | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 7      | 240    | 69     | 26     | 201    | 5      | 1      | 6      | 11     | 35     | 3      | 42     |
| Total Analysis Volume [veh/h]               | 29     | 961    | 275    | 104    | 804    | 19     | 4      | 24     | 46     | 142    | 14     | 170    |
| Presence of On-Street Parking               | No     |        | No     | No     |        | No     | No     |        | No     | No     |        | No     |
| On-Street Parking Maneuver Rate [/h]        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| Bicycle Volume [bicycles/h]                 | 2      |        |        | 1      |        |        | 1      |        |        | 0      |        |        |

### Intersection Settings

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | Yes                                   |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Pattern 1                             |
| Coordination Type         | Time of Day Pattern Coordinated       |
| Actuation Type            | Fully actuated                        |
| Offset [s]                | 43.0                                  |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 4.00                                  |

### Phasing & Timing (Basic)

| Control Type                    | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           | No      |         |         | No      |         |         |         |         |         |         |         |         |
| Signal Group                    | 0       | 4       | 0       | 0       | 2       | 0       | 0       | 8       | 0       | 0       | 6       | 0       |
| Auxiliary Signal Groups         |         |         |         |         |         |         |         |         |         |         |         |         |
| Maximum Green [s]               | 0.0     | 30.0    | 0.0     | 0.0     | 50.0    | 0.0     | 0.0     | 30.0    | 0.0     | 0.0     | 50.0    | 0.0     |
| Amber [s]                       | 0.0     | 3.2     | 0.0     | 0.0     | 3.9     | 0.0     | 0.0     | 3.2     | 0.0     | 0.0     | 3.9     | 0.0     |
| All red [s]                     | 0.0     | 1.0     | 0.0     | 0.0     | 1.0     | 0.0     | 0.0     | 1.0     | 0.0     | 0.0     | 1.0     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 7.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 14.0    | 0.0     | 0.0     | 16.0    | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 16.0    | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 4.0     | 0.0     | 0.0     | 5.0     | 0.0     | 0.0     | 4.0     | 0.0     | 0.0     | 5.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | Yes     |         |         | No      |         |         | Yes     |         |
| I1, Start-Up Lost Time [s]      | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 25.0    | 0.0     | 0.0     | 25.0    | 0.0     | 0.0     | 25.0    | 0.0     | 0.0     | 25.0    | 0.0     |
| Detector Length [ft]            | 0.0     | 100.0   | 0.0     | 0.0     | 100.0   | 0.0     | 0.0     | 100.0   | 0.0     | 0.0     | 100.0   | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

### Phasing & Timing: Pattern 1

|                       |     |      |     |     |      |     |     |      |     |     |      |     |
|-----------------------|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|
| Split [s]             | 0.0 | 35.0 | 0.0 | 0.0 | 55.0 | 0.0 | 0.0 | 35.0 | 0.0 | 0.0 | 55.0 | 0.0 |
| Lead / Lag            | -   | -    | -   | -   | -    | -   | -   | -    | -   | -   | -    | -   |
| Minimum Green [s]     | 0.0 | 8.0  | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 8.0  | 0.0 | 0.0 | 20.0 | 0.0 |
| Vehicle Extension [s] | 0.0 | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 |
| Minimum Recall        |     | No   |     |     | Yes  |     |     | No   |     |     | Yes  |     |
| Maximum Recall        |     | No   |     |     | No   |     |     | No   |     |     | No   |     |
| Pedestrian Recall     |     | No   |     |     | Yes  |     |     | No   |     |     | Yes  |     |

### Exclusive Pedestrian Phase

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

**Lane Group Calculations**

| Lane Group                              | L     | C     | C     | L    | C    | C    | C     | C     | C    |
|-----------------------------------------|-------|-------|-------|------|------|------|-------|-------|------|
| C, Calculated Cycle Length [s]          | 90    | 90    | 90    | 90   | 90   | 90   | 90    | 90    | 90   |
| L, Total Lost Time per Cycle [s]        | 2.00  | 2.00  | 2.00  | 2.00 | 2.00 | 2.00 | 2.00  | 2.00  | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s]  | 2.00  | 0.00  | 0.00  | 2.00 | 0.00 | 0.00 | 2.00  | 2.00  | 0.00 |
| l2, Clearance Lost Time [s]             | 0.00  | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00 |
| g_i, Effective Green Time [s]           | 37.7  | 37.7  | 37.7  | 57.2 | 57.2 | 57.2 | 37.7  | 57.2  | 57.2 |
| g / C, Green / Cycle                    | 0.42  | 0.42  | 0.42  | 0.64 | 0.64 | 0.64 | 0.42  | 0.64  | 0.64 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02  | 0.38  | 0.38  | 0.09 | 0.24 | 0.24 | 0.06  | 0.20  | 0.13 |
| s, saturation flow rate [veh/h]         | 1217  | 1696  | 1558  | 1097 | 1696 | 1682 | 1167  | 688   | 1323 |
| c, Capacity [veh/h]                     | 554   | 711   | 653   | 718  | 1078 | 1068 | 531   | 514   | 840  |
| d1, Uniform Delay [s]                   | 15.58 | 24.44 | 24.55 | 8.70 | 7.91 | 7.91 | 16.34 | 17.95 | 6.86 |
| k, delay calibration                    | 0.04  | 0.50  | 0.50  | 0.50 | 0.50 | 0.50 | 0.04  | 0.50  | 0.50 |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |
| d2, Incremental Delay [s]               | 0.01  | 16.98 | 18.96 | 0.42 | 1.03 | 1.04 | 0.04  | 1.52  | 0.54 |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00 |
| Rp, platoon ratio                       | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |
| PF, progression factor                  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |

**Lane Group Results**

|                                       |       |        |        |       |        |        |       |       |       |
|---------------------------------------|-------|--------|--------|-------|--------|--------|-------|-------|-------|
| X, volume / capacity                  | 0.05  | 0.90   | 0.91   | 0.14  | 0.38   | 0.38   | 0.14  | 0.30  | 0.20  |
| d, Delay for Lane Group [s/veh]       | 15.59 | 41.42  | 43.50  | 9.12  | 8.94   | 8.95   | 16.38 | 19.47 | 7.41  |
| Lane Group LOS                        | B     | D      | D      | A     | A      | A      | B     | B     | A     |
| Critical Lane Group                   | No    | No     | Yes    | No    | No     | Yes    | No    | No    | No    |
| 50th-Percentile Queue Length [veh/ln] | 0.35  | 15.38  | 14.61  | 0.95  | 3.71   | 3.68   | 0.91  | 1.63  | 1.34  |
| 50th-Percentile Queue Length [ft/ln]  | 8.71  | 384.42 | 365.28 | 23.86 | 92.86  | 92.12  | 22.79 | 40.67 | 33.55 |
| 95th-Percentile Queue Length [veh/ln] | 0.63  | 21.81  | 20.88  | 1.72  | 6.69   | 6.63   | 1.64  | 2.93  | 2.42  |
| 95th-Percentile Queue Length [ft/ln]  | 15.68 | 545.20 | 522.00 | 42.95 | 167.15 | 165.81 | 41.02 | 73.21 | 60.39 |

### Movement, Approach, & Intersection Results

|                                 |       |       |       |      |      |      |       |       |       |       |       |      |
|---------------------------------|-------|-------|-------|------|------|------|-------|-------|-------|-------|-------|------|
| d_M, Delay for Movement [s/veh] | 15.59 | 42.11 | 43.50 | 9.12 | 8.95 | 8.95 | 16.38 | 16.38 | 16.38 | 19.47 | 19.47 | 7.41 |
| Movement LOS                    | B     | D     | D     | A    | A    | A    | B     | B     | B     | B     | B     | A    |
| d_A, Approach Delay [s/veh]     | 41.81 |       |       | 8.97 |      |      | 16.38 |       |       | 13.18 |       |      |
| Approach LOS                    | D     |       |       | A    |      |      | B     |       |       | B     |       |      |
| d_I, Intersection Delay [s/veh] | 25.73 |       |       |      |      |      |       |       |       |       |       |      |
| Intersection LOS                | C     |       |       |      |      |      |       |       |       |       |       |      |
| Intersection V/C                | 0.654 |       |       |      |      |      |       |       |       |       |       |      |

### Emissions

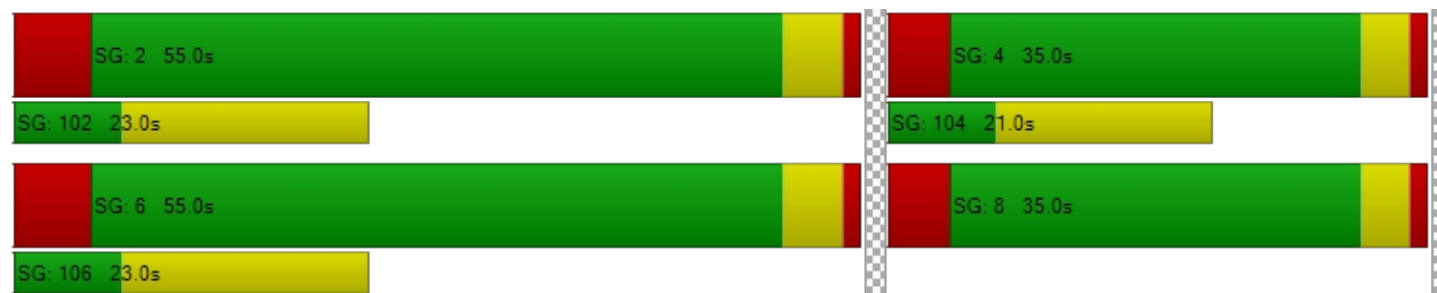
|                              |       |        |        |       |        |        |       |       |       |
|------------------------------|-------|--------|--------|-------|--------|--------|-------|-------|-------|
| Vehicle Miles Traveled [mph] | 1.50  | 33.24  | 30.76  | 6.34  | 25.19  | 24.97  | 4.67  | 9.72  | 10.59 |
| Stops [stops/h]              | 13.94 | 615.08 | 584.45 | 38.18 | 148.58 | 147.39 | 36.47 | 65.07 | 53.68 |
| Fuel consumption [US gal/h]  | 0.23  | 10.18  | 9.75   | 0.66  | 2.61   | 2.59   | 0.64  | 1.38  | 0.99  |
| CO [g/h]                     | 16.14 | 711.45 | 681.75 | 46.48 | 182.45 | 180.95 | 44.77 | 96.30 | 69.12 |
| NOx [g/h]                    | 3.14  | 138.42 | 132.64 | 9.04  | 35.50  | 35.21  | 8.71  | 18.74 | 13.45 |
| VOC [g/h]                    | 3.74  | 164.89 | 158.00 | 10.77 | 42.29  | 41.94  | 10.38 | 22.32 | 16.02 |

### Other Modes

|                                                          |       |       |       |       |
|----------------------------------------------------------|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 0.0   | 18.0  | 18.0  | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 0.00  | 0.00  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00  | 0.00  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 0.00  | 28.80 | 28.80 | 34.67 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 0.000 | 2.700 | 2.018 | 2.456 |
| Crosswalk LOS                                            |       | B     | B     | B     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000  | 2000  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 596   | 1002  | 596   | 1002  |
| d_b, Bicycle Delay [s]                                   | 22.21 | 11.21 | 22.20 | 11.20 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.603 | 2.324 | 1.682 | 1.829 |
| Bicycle LOS                                              | B     | B     | A     | A     |

### Sequence

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



**Intersection Level Of Service Report**  
**Intersection 2: Lime Ave/Project Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 20.7  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.025 |

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |       |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|-------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |       | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |       |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 1     | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 40.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0     | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 15.00                                                                             |        |        | 25.00                                                                             |        |       | 30.00                                                                               |        |        | 30.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |       | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | No                                                                                |        |        | No                                                                                |        |       | No                                                                                  |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 81     | 7      | 23     | 15     | 0      | 11     | 29     | 286    | 104    | 17     | 205    | 14     |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 0.00   | 7.00   | 2.00   | 0.00   | 0.00   | 0.00   | 1.00   | 0.00   | 1.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 81     | 7      | 23     | 15     | 0      | 11     | 29     | 286    | 104    | 17     | 205    | 14     |
| Peak Hour Factor                        | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 1.0000 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 24     | 2      | 7      | 4      | 0      | 3      | 9      | 84     | 31     | 5      | 60     | 4      |
| Total Analysis Volume [veh/h]           | 95     | 8      | 27     | 18     | 0      | 13     | 34     | 336    | 122    | 20     | 241    | 16     |
| Pedestrian Volume [ped/h]               | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |

### Intersection Settings

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

### Movement, Approach, & Intersection Results

[illegible]

**Intersection Level Of Service Report**  
**Intersection 3: Olive Ave/Project Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 18.8  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.016 |

**Intersection Setup**

| Name                         |            |        |        |            |        |        |           |        |        |           |        |        |
|------------------------------|------------|--------|--------|------------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| Approach                     | Northbound |        |        | Southbound |        |        | Eastbound |        |        | Westbound |        |        |
| Lane Configuration           | +          |        |        | +          |        |        | +         |        |        | +         |        |        |
| Turning Movement             | Left       | Thru   | Right  | Left       | Thru   | Right  | Left      | Thru   | Right  | Left      | Thru   | Right  |
| Lane Width [ft]              | 12.00      | 12.00  | 12.00  | 12.00      | 12.00  | 12.00  | 12.00     | 12.00  | 12.00  | 12.00     | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0          | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      | 0         | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00     | 100.00 | 100.00 | 100.00     | 100.00 | 100.00 | 100.00    | 100.00 | 100.00 | 100.00    | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0          | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      | 0         | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00       | 0.00   | 0.00   | 0.00       | 0.00   | 0.00   | 0.00      | 0.00   | 0.00   | 0.00      | 0.00   | 0.00   |
| Speed [mph]                  | 15.00      |        |        | 25.00      |        |        | 30.00     |        |        | 30.00     |        |        |
| Grade [%]                    | 0.00       |        |        | 0.00       |        |        | 0.00      |        |        | 0.00      |        |        |
| Crosswalk                    | No         |        |        | No         |        |        | No        |        |        | No        |        |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 148    | 6      | 70     | 6      | 3      | 12     | 10     | 133    | 181    | 50     | 84     | 9      |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 1.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 10.00  | 0.00   | 1.00   | 0.00   | 0.00   | 11.00  |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 148    | 6      | 70     | 6      | 3      | 12     | 10     | 133    | 181    | 50     | 84     | 9      |
| Peak Hour Factor                        | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 42     | 2      | 20     | 2      | 1      | 3      | 3      | 38     | 51     | 14     | 24     | 3      |
| Total Analysis Volume [veh/h]           | 168    | 7      | 80     | 7      | 3      | 14     | 11     | 151    | 206    | 57     | 95     | 10     |
| Pedestrian Volume [ped/h]               | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |

### Intersection Settings

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

### Movement, Approach, & Intersection Results

[illegible]

**Intersection Level Of Service Report**  
**Intersection 4: California Ave/E 33rd Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | All-way stop    | Delay (sec / veh):        | 10.8  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | B     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.457 |

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |        |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 35.00                                                                             |        |        | 35.00                                                                             |        |        | 30.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 45     | 224    | 32     | 3      | 127    | 28     | 50     | 72     | 56     | 35     | 53     | 12     |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 0.00   | 0.00   | 2.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 45     | 224    | 32     | 3      | 127    | 28     | 50     | 72     | 56     | 35     | 53     | 12     |
| Peak Hour Factor                        | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 12     | 62     | 9      | 1      | 35     | 8      | 14     | 20     | 15     | 10     | 15     | 3      |
| Total Analysis Volume [veh/h]           | 49     | 246    | 35     | 3      | 140    | 31     | 55     | 79     | 62     | 38     | 58     | 13     |
| Pedestrian Volume [ped/h]               | 5      |        |        | 3      |        |        | 1      |        |        | 0      |        |        |

**Intersection Settings****Lanes**

|                                 |      |      |      |      |      |
|---------------------------------|------|------|------|------|------|
| Capacity per Entry Lane [veh/h] | 721  | 695  | 582  | 683  | 635  |
| Degree of Utilization, x        | 0.46 | 0.25 | 0.23 | 0.09 | 0.17 |

**Movement, Approach, & Intersection Results**

|                                    |       |       |       |      |       |
|------------------------------------|-------|-------|-------|------|-------|
| 95th-Percentile Queue Length [veh] | 2.41  | 0.99  | 0.88  | 0.30 | 0.62  |
| 95th-Percentile Queue Length [ft]  | 60.27 | 24.64 | 22.09 | 7.46 | 15.41 |
| Approach Delay [s/veh]             | 12.13 | 9.89  | 10.02 |      | 9.84  |
| Approach LOS                       | B     | A     | B     |      | A     |
| Intersection Delay [s/veh]         | 10.83 |       |       |      |       |
| Intersection LOS                   | B     |       |       |      |       |

**Intersection Level Of Service Report**  
**Intersection 5: California Ave/Project Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 16.9  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.055 |

**Intersection Setup**

| Name                         |                                                                                   |        |                                                                                     |        |                                                                                     |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |        | Southbound                                                                          |        | Eastbound                                                                           |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Left                                                                              | Thru   | Thru                                                                                | Right  | Left                                                                                | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                               | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00                                                                              | 100.00 | 100.00                                                                              | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00                                                                                | 0.00   | 0.00                                                                                | 0.00   |
| Speed [mph]                  | 35.00                                                                             |        | 35.00                                                                               |        | 15.00                                                                               |        |
| Grade [%]                    | 0.00                                                                              |        | 0.00                                                                                |        | 0.00                                                                                |        |
| Crosswalk                    | No                                                                                |        | No                                                                                  |        | Yes                                                                                 |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 92     | 284    | 201    | 20     | 17     | 111    |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 1.00   | 5.00   | 0.00   | 1.00   |
| 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]             | 92     | 284    | 201    | 20     | 17     | 111    |
| Peak Hour Factor                        | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 26     | 79     | 56     | 6      | 5      | 31     |
| Total Analysis Volume [veh/h]           | 102    | 316    | 223    | 22     | 19     | 123    |
| Pedestrian Volume [ped/h]               | 0      |        | 0      |        | 1      |        |

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |      |       |       |
|---------------------------------------|------|------|------|------|-------|-------|
| V/C, Movement V/C Ratio               | 0.08 | 0.00 | 0.00 | 0.00 | 0.06  | 0.15  |
| d_M, Delay for Movement [s/veh]       | 7.83 | 0.00 | 0.00 | 0.00 | 16.85 | 10.85 |
| Movement LOS                          | A    | A    | A    | A    | C     | B     |
| 95th-Percentile Queue Length [veh/ln] | 0.18 | 0.18 | 0.00 | 0.00 | 0.78  | 0.78  |
| 95th-Percentile Queue Length [ft/ln]  | 4.50 | 4.50 | 0.00 | 0.00 | 19.46 | 19.46 |
| d_A, Approach Delay [s/veh]           | 1.91 |      | 0.00 |      | 11.65 |       |
| Approach LOS                          | A    |      | A    |      | B     |       |
| d_I, Intersection Delay [s/veh]       | 3.05 |      |      |      |       |       |
| Intersection LOS                      | C    |      |      |      |       |       |

**Intersection Level Of Service Report**  
**Intersection 6: California Ave/E 32nd Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 15.2  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.032 |

**Intersection Setup**

| Name                         |                                                                                   |        |                                                                                    |        |                                                                                     |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |        | Southbound                                                                         |        | Westbound                                                                           |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Thru                                                                              | Right  | Left                                                                               | Thru   | Left                                                                                | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                              | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 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]                  | 35.00                                                                             |        | 35.00                                                                              |        | 25.00                                                                               |        |
| Grade [%]                    | 0.00                                                                              |        | 0.00                                                                               |        | 0.00                                                                                |        |
| Crosswalk                    | No                                                                                |        | Yes                                                                                |        | Yes                                                                                 |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 359    | 25     | 14     | 297    | 11     | 15     |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 0.00   | 1.00   | 0.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 359    | 25     | 14     | 297    | 11     | 15     |
| Peak Hour Factor                        | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 98     | 7      | 4      | 81     | 3      | 4      |
| Total Analysis Volume [veh/h]           | 390    | 27     | 15     | 323    | 12     | 16     |
| Pedestrian Volume [ped/h]               | 0      |        | 0      |        | 2      |        |

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |      |       |       |
|---------------------------------------|------|------|------|------|-------|-------|
| V/C, Movement V/C Ratio               | 0.00 | 0.00 | 0.01 | 0.00 | 0.03  | 0.02  |
| d_M, Delay for Movement [s/veh]       | 0.00 | 0.00 | 8.15 | 0.00 | 15.15 | 10.99 |
| Movement LOS                          | A    | A    | A    | A    | C     | B     |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.03 | 0.03 | 0.18  | 0.18  |
| 95th-Percentile Queue Length [ft/ln]  | 0.00 | 0.00 | 0.63 | 0.63 | 4.52  | 4.52  |
| d_A, Approach Delay [s/veh]           | 0.00 |      | 0.36 |      | 12.78 |       |
| Approach LOS                          | A    |      | A    |      | B     |       |
| d_I, Intersection Delay [s/veh]       | 0.61 |      |      |      |       |       |
| Intersection LOS                      | C    |      |      |      |       |       |

32816 Signal Hill Dutch Bros

Vistro File: H:\...\32816\_DB Signal Hill.vistro  
Report File: H:\...\2 Existing AM + Proj.pdf

Scenario 2 Existing AM + Proj  
3/6/2026

**Intersection Analysis Summary**

| ID | Intersection Name               | Control Type | Method          | Worst Mvmt | V/C   | Delay (s/veh) | LOS |
|----|---------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1  | Atlantic Ave/E 33rd Street      | Signalized   | HCM 7th Edition | NB Right   | 0.635 | 19.6          | B   |
| 2  | Lime Ave/Project Driveway       | Two-way stop | HCM 7th Edition | NB Thru    | 0.005 | 12.0          | B   |
| 3  | Olive Ave/Project Driveway      | Two-way stop | HCM 7th Edition | NB Thru    | 0.010 | 11.5          | B   |
| 4  | California Ave/E 33rd Street    | All-way stop | HCM 7th Edition | SB Thru    | 0.385 | 10.0          | A   |
| 5  | California Ave/Project Driveway | Two-way stop | HCM 7th Edition | EB Left    | 0.010 | 14.0          | B   |
| 6  | California Ave/E 32nd Street    | Two-way stop | HCM 7th Edition | WB Left    | 0.044 | 14.1          | B   |

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

**Intersection Level Of Service Report**  
**Intersection 1: Atlantic Ave/E 33rd Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 19.6  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | B     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.635 |

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |        |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 11.00                                                                             | 11.00  | 11.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 1                                                                                 | 0      | 0      | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 40.00                                                                             | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 1      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 75.00  | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 30.00                                                                             |        |        | 30.00                                                                             |        |        | 30.00                                                                               |        |        | 30.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Curb Present                 | No                                                                                |        |        | No                                                                                |        |        | No                                                                                  |        |        | No                                                                                  |        |        |
| Crosswalk                    | No                                                                                |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | Yes                                                                                 |        |        |

**Volumes**

| Name                                        |        |        |        |        |        |        |        |        |        |        |        |        |
|---------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]                   | 28     | 751    | 156    | 75     | 988    | 13     | 5      | 10     | 36     | 82     | 14     | 104    |
| Base Volume Adjustment Factor               | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 0.00   | 4.00   | 3.00   | 2.00   | 3.00   | 8.00   | 0.00   | 0.00   | 0.00   | 1.00   | 0.00   | 6.00   |
| Proportion of CAVs [%]                      | 0.00   |        |        |        |        |        |        |        |        |        |        |        |
| Growth Factor                               | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]                 | 28     | 751    | 156    | 75     | 988    | 13     | 5      | 10     | 36     | 82     | 14     | 104    |
| Peak Hour Factor                            | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor                     | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 7      | 196    | 41     | 20     | 257    | 3      | 1      | 3      | 9      | 21     | 4      | 27     |
| Total Analysis Volume [veh/h]               | 29     | 782    | 163    | 78     | 1029   | 14     | 5      | 10     | 38     | 85     | 15     | 108    |
| Presence of On-Street Parking               | No     |        | No     | No     |        | No     | No     |        | No     | No     |        | No     |
| On-Street Parking Maneuver Rate [/h]        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| Bicycle Volume [bicycles/h]                 | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |

#### Intersection Settings

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | Yes                                   |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Pattern 1                             |
| Coordination Type         | Time of Day Pattern Coordinated       |
| Actuation Type            | Fully actuated                        |
| Offset [s]                | 43.0                                  |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 4.00                                  |

#### Phasing & Timing (Basic)

| Control Type                    | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           | No      |         |         | No      |         |         |         |         |         |         |         |         |
| Signal Group                    | 0       | 4       | 0       | 0       | 2       | 0       | 0       | 8       | 0       | 0       | 6       | 0       |
| Auxiliary Signal Groups         |         |         |         |         |         |         |         |         |         |         |         |         |
| Maximum Green [s]               | 0.0     | 30.0    | 0.0     | 0.0     | 50.0    | 0.0     | 0.0     | 30.0    | 0.0     | 0.0     | 50.0    | 0.0     |
| Amber [s]                       | 0.0     | 3.2     | 0.0     | 0.0     | 3.9     | 0.0     | 0.0     | 3.2     | 0.0     | 0.0     | 3.9     | 0.0     |
| All red [s]                     | 0.0     | 1.0     | 0.0     | 0.0     | 1.0     | 0.0     | 0.0     | 1.0     | 0.0     | 0.0     | 1.0     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 7.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 14.0    | 0.0     | 0.0     | 16.0    | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 16.0    | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 4.0     | 0.0     | 0.0     | 5.0     | 0.0     | 0.0     | 4.0     | 0.0     | 0.0     | 5.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | Yes     |         |         | No      |         |         | Yes     |         |
| I1, Start-Up Lost Time [s]      | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 25.0    | 0.0     | 0.0     | 25.0    | 0.0     | 0.0     | 25.0    | 0.0     | 0.0     | 25.0    | 0.0     |
| Detector Length [ft]            | 0.0     | 100.0   | 0.0     | 0.0     | 100.0   | 0.0     | 0.0     | 100.0   | 0.0     | 0.0     | 100.0   | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

#### Phasing & Timing: Pattern 1

|                       |     |      |     |     |      |     |     |      |     |     |      |     |
|-----------------------|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|
| Split [s]             | 0.0 | 35.0 | 0.0 | 0.0 | 55.0 | 0.0 | 0.0 | 35.0 | 0.0 | 0.0 | 55.0 | 0.0 |
| Lead / Lag            | -   | -    | -   | -   | -    | -   | -   | -    | -   | -   | -    | -   |
| Minimum Green [s]     | 0.0 | 8.0  | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 8.0  | 0.0 | 0.0 | 20.0 | 0.0 |
| Vehicle Extension [s] | 0.0 | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 |
| Minimum Recall        |     | No   |     |     | Yes  |     |     | No   |     |     | Yes  |     |
| Maximum Recall        |     | No   |     |     | No   |     |     | No   |     |     | No   |     |
| Pedestrian Recall     |     | No   |     |     | Yes  |     |     | No   |     |     | Yes  |     |

#### Exclusive Pedestrian Phase

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

**Lane Group Calculations**

| Lane Group                              | L     | C     | C     | L    | C    | C    | C     | C     | C    |
|-----------------------------------------|-------|-------|-------|------|------|------|-------|-------|------|
| C, Calculated Cycle Length [s]          | 90    | 90    | 90    | 90   | 90   | 90   | 90    | 90    | 90   |
| L, Total Lost Time per Cycle [s]        | 2.00  | 2.00  | 2.00  | 2.00 | 2.00 | 2.00 | 2.00  | 2.00  | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s]  | 2.00  | 0.00  | 0.00  | 2.00 | 0.00 | 0.00 | 2.00  | 2.00  | 0.00 |
| l2, Clearance Lost Time [s]             | 0.00  | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00 |
| g_i, Effective Green Time [s]           | 33.3  | 33.3  | 33.3  | 61.6 | 61.6 | 61.6 | 33.3  | 61.6  | 61.6 |
| g / C, Green / Cycle                    | 0.37  | 0.37  | 0.37  | 0.68 | 0.68 | 0.68 | 0.37  | 0.68  | 0.68 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02  | 0.29  | 0.29  | 0.06 | 0.31 | 0.31 | 0.05  | 0.14  | 0.08 |
| s, saturation flow rate [veh/h]         | 1241  | 1656  | 1558  | 1141 | 1669 | 1662 | 1082  | 602   | 1325 |
| c, Capacity [veh/h]                     | 511   | 613   | 576   | 829  | 1143 | 1137 | 444   | 486   | 907  |
| d1, Uniform Delay [s]                   | 18.31 | 25.31 | 25.31 | 5.71 | 6.52 | 6.52 | 18.89 | 14.42 | 4.88 |
| k, delay calibration                    | 0.04  | 0.50  | 0.50  | 0.50 | 0.50 | 0.50 | 0.04  | 0.50  | 0.50 |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |
| d2, Incremental Delay [s]               | 0.02  | 10.25 | 10.83 | 0.23 | 1.32 | 1.33 | 0.04  | 0.94  | 0.27 |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00 |
| Rp, platoon ratio                       | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |
| PF, progression factor                  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |

**Lane Group Results**

|                                       |       |        |        |       |        |        |       |       |       |
|---------------------------------------|-------|--------|--------|-------|--------|--------|-------|-------|-------|
| X, volume / capacity                  | 0.06  | 0.79   | 0.79   | 0.09  | 0.46   | 0.46   | 0.12  | 0.20  | 0.12  |
| d, Delay for Lane Group [s/veh]       | 18.33 | 35.55  | 36.13  | 5.94  | 7.84   | 7.85   | 18.93 | 15.36 | 5.15  |
| Lane Group LOS                        | B     | D      | D      | A     | A      | A      | B     | B     | A     |
| Critical Lane Group                   | No    | No     | Yes    | No    | No     | Yes    | No    | No    | No    |
| 50th-Percentile Queue Length [veh/ln] | 0.38  | 10.62  | 10.08  | 0.53  | 4.23   | 4.21   | 0.71  | 0.86  | 0.66  |
| 50th-Percentile Queue Length [ft/ln]  | 9.62  | 265.44 | 252.09 | 13.25 | 105.65 | 105.22 | 17.80 | 21.44 | 16.59 |
| 95th-Percentile Queue Length [veh/ln] | 0.69  | 15.96  | 15.29  | 0.95  | 7.60   | 7.57   | 1.28  | 1.54  | 1.19  |
| 95th-Percentile Queue Length [ft/ln]  | 17.32 | 399.04 | 382.29 | 23.86 | 189.94 | 189.33 | 32.04 | 38.58 | 29.87 |

### Movement, Approach, & Intersection Results

|                                 |       |       |       |      |      |      |       |       |       |       |       |      |
|---------------------------------|-------|-------|-------|------|------|------|-------|-------|-------|-------|-------|------|
| d_M, Delay for Movement [s/veh] | 18.33 | 35.77 | 36.13 | 5.94 | 7.84 | 7.85 | 18.93 | 18.93 | 18.93 | 15.36 | 14.54 | 5.15 |
| Movement LOS                    | B     | D     | D     | A    | A    | A    | B     | B     | B     | B     | B     | A    |
| d_A, Approach Delay [s/veh]     | 35.31 |       |       | 7.71 |      |      | 18.93 |       |       | 10.00 |       |      |
| Approach LOS                    | D     |       |       | A    |      |      | B     |       |       | A     |       |      |
| d_I, Intersection Delay [s/veh] | 19.58 |       |       |      |      |      |       |       |       |       |       |      |
| Intersection LOS                | B     |       |       |      |      |      |       |       |       |       |       |      |
| Intersection V/C                | 0.635 |       |       |      |      |      |       |       |       |       |       |      |

### Emissions

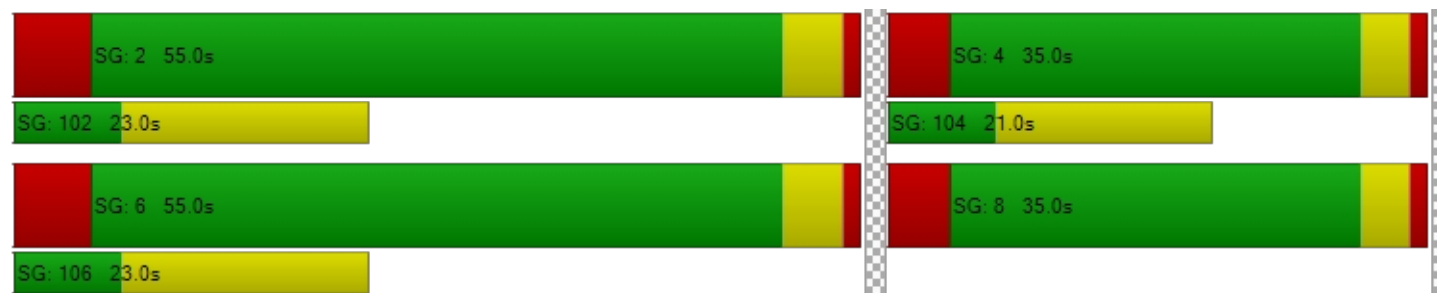
|                              |       |        |        |       |        |        |       |       |       |
|------------------------------|-------|--------|--------|-------|--------|--------|-------|-------|-------|
| Vehicle Miles Traveled [mph] | 1.50  | 25.21  | 23.72  | 4.75  | 31.86  | 31.71  | 3.35  | 6.16  | 6.80  |
| Stops [stops/h]              | 15.40 | 424.71 | 403.35 | 21.21 | 169.04 | 168.35 | 28.48 | 34.30 | 26.55 |
| Fuel consumption [US gal/h]  | 0.26  | 6.91   | 6.57   | 0.41  | 3.08   | 3.07   | 0.50  | 0.75  | 0.54  |
| CO [g/h]                     | 17.83 | 482.77 | 459.48 | 28.46 | 215.26 | 214.35 | 34.91 | 52.54 | 37.84 |
| NOx [g/h]                    | 3.47  | 93.93  | 89.40  | 5.54  | 41.88  | 41.70  | 6.79  | 10.22 | 7.36  |
| VOC [g/h]                    | 4.13  | 111.89 | 106.49 | 6.60  | 49.89  | 49.68  | 8.09  | 12.18 | 8.77  |

### Other Modes

|                                                          |       |       |       |       |
|----------------------------------------------------------|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 0.0   | 18.0  | 18.0  | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 0.00  | 0.00  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00  | 0.00  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 0.00  | 28.80 | 28.80 | 34.67 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 0.000 | 2.692 | 2.010 | 2.353 |
| Crosswalk LOS                                            |       | B     | B     | B     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000  | 2000  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 596   | 1002  | 596   | 1002  |
| d_b, Bicycle Delay [s]                                   | 22.19 | 11.20 | 22.19 | 11.20 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.363 | 2.484 | 1.647 | 1.731 |
| Bicycle LOS                                              | B     | B     | A     | A     |

### Sequence

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



**Intersection Level Of Service Report**  
**Intersection 2: Lime Ave/Project Driveway**

Control Type: Two-way stop  
Analysis Method: HCM 7th Edition  
Analysis Period: 15 minutes

Delay (sec / veh): 12.0  
Level Of Service: B  
Volume to Capacity (v/c): 0.005

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |       |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|-------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |       | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |       |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 1     | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 40.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0     | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 15.00                                                                             |        |        | 25.00                                                                             |        |       | 30.00                                                                               |        |        | 30.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |       | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | No                                                                                |        |        | No                                                                                |        |       | No                                                                                  |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 74     | 3      | 24     | 10     | 0      | 6      | 11     | 120    | 89     | 13     | 74     | 8      |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 0.00   | 0.00   | 2.00   | 0.00   | 9.00   | 3.00   | 0.00   | 9.00   | 3.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 74     | 3      | 24     | 10     | 0      | 6      | 11     | 120    | 89     | 13     | 74     | 8      |
| Peak Hour Factor                        | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 1.0000 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 20     | 1      | 6      | 3      | 0      | 2      | 3      | 32     | 24     | 3      | 20     | 2      |
| Total Analysis Volume [veh/h]           | 79     | 3      | 26     | 11     | 0      | 6      | 12     | 128    | 95     | 14     | 79     | 9      |
| Pedestrian Volume [ped/h]               | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |

### Intersection Settings

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

### Movement, Approach, & Intersection Results

[illegible]

**Intersection Level Of Service Report**  
**Intersection 3: Olive Ave/Project Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| 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): | 0.010 |

**Intersection Setup**

| Name                         |            |        |        |            |        |        |           |        |        |           |        |        |
|------------------------------|------------|--------|--------|------------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| Approach                     | Northbound |        |        | Southbound |        |        | Eastbound |        |        | Westbound |        |        |
| Lane Configuration           | ⬆          |        |        | ⬆          |        |        | ⬆⬆        |        |        | ⬆⬆        |        |        |
| Turning Movement             | Left       | Thru   | Right  | Left       | Thru   | Right  | Left      | Thru   | Right  | Left      | Thru   | Right  |
| Lane Width [ft]              | 12.00      | 12.00  | 12.00  | 12.00      | 12.00  | 12.00  | 12.00     | 12.00  | 12.00  | 12.00     | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0          | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      | 0         | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00     | 100.00 | 100.00 | 100.00     | 100.00 | 100.00 | 100.00    | 100.00 | 100.00 | 100.00    | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0          | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      | 0         | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00       | 0.00   | 0.00   | 0.00       | 0.00   | 0.00   | 0.00      | 0.00   | 0.00   | 0.00      | 0.00   | 0.00   |
| Speed [mph]                  | 15.00      |        |        | 25.00      |        |        | 30.00     |        |        | 30.00     |        |        |
| Grade [%]                    | 0.00       |        |        | 0.00       |        |        | 0.00      |        |        | 0.00      |        |        |
| Crosswalk                    | No         |        |        | No         |        |        | No        |        |        | No        |        |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 35     | 5      | 21     | 2      | 2      | 2      | 14     | 74     | 62     | 27     | 58     | 8      |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 3.00   | 0.00   | 0.00   | 50.00  | 0.00   | 0.00   | 14.00  | 3.00   | 2.00   | 0.00   | 3.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 35     | 5      | 21     | 2      | 2      | 2      | 14     | 74     | 62     | 27     | 58     | 8      |
| Peak Hour Factor                        | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 10     | 1      | 6      | 1      | 1      | 1      | 4      | 21     | 18     | 8      | 16     | 2      |
| Total Analysis Volume [veh/h]           | 40     | 6      | 24     | 2      | 2      | 2      | 16     | 84     | 70     | 31     | 66     | 9      |
| Pedestrian Volume [ped/h]               | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |

### Intersection Settings

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

### Movement, Approach, & Intersection Results

[illegible]

**Intersection Level Of Service Report**  
**Intersection 4: California Ave/E 33rd Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | All-way stop    | Delay (sec / veh):        | 10.0  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | A     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.385 |

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |        |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 35.00                                                                             |        |        | 35.00                                                                             |        |        | 30.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 36     | 158    | 13     | 11     | 224    | 24     | 23     | 14     | 56     | 22     | 29     | 7      |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 5.00   | 2.00   | 8.00   | 9.00   | 1.00   | 0.00   | 0.00   | 0.00   | 5.00   | 0.00   | 4.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 36     | 158    | 13     | 11     | 224    | 24     | 23     | 14     | 56     | 22     | 29     | 7      |
| Peak Hour Factor                        | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 10     | 45     | 4      | 3      | 64     | 7      | 7      | 4      | 16     | 6      | 8      | 2      |
| Total Analysis Volume [veh/h]           | 41     | 182    | 15     | 13     | 257    | 28     | 26     | 16     | 64     | 25     | 33     | 8      |
| Pedestrian Volume [ped/h]               | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |

**Intersection Settings****Lanes**

|                                 |      |      |      |      |      |
|---------------------------------|------|------|------|------|------|
| Capacity per Entry Lane [veh/h] | 752  | 775  | 582  | 685  | 653  |
| Degree of Utilization, x        | 0.32 | 0.38 | 0.07 | 0.09 | 0.10 |

**Movement, Approach, & Intersection Results**

|                                    |       |       |      |      |      |
|------------------------------------|-------|-------|------|------|------|
| 95th-Percentile Queue Length [veh] | 1.36  | 1.82  | 0.23 | 0.31 | 0.34 |
| 95th-Percentile Queue Length [ft]  | 33.97 | 45.48 | 5.82 | 7.70 | 8.39 |
| Approach Delay [s/veh]             | 9.98  | 10.52 | 8.84 |      | 9.13 |
| Approach LOS                       | A     | B     | A    |      | A    |
| Intersection Delay [s/veh]         | 9.96  |       |      |      |      |
| Intersection LOS                   | A     |       |      |      |      |

**Intersection Level Of Service Report**  
**Intersection 5: California Ave/Project Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 14.0  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | B     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.010 |

**Intersection Setup**

| Name                         | Northbound                                                                        |        | Southbound                                                                          |        | Eastbound                                                                           |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |        | Southbound                                                                          |        | Eastbound                                                                           |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Left                                                                              | Thru   | Thru                                                                                | Right  | Left                                                                                | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                               | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00                                                                              | 100.00 | 100.00                                                                              | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00                                                                                | 0.00   | 0.00                                                                                | 0.00   |
| Speed [mph]                  | 35.00                                                                             |        | 35.00                                                                               |        | 15.00                                                                               |        |
| Grade [%]                    | 0.00                                                                              |        | 0.00                                                                                |        | 0.00                                                                                |        |
| Crosswalk                    | No                                                                                |        | No                                                                                  |        | Yes                                                                                 |        |

**Volumes**

| Name                                    | Northbound |        | Southbound |        | Eastbound |        |
|-----------------------------------------|------------|--------|------------|--------|-----------|--------|
| Base Volume Input [veh/h]               | 44         | 205    | 293        | 10     | 4         | 34     |
| Base Volume Adjustment Factor           | 1.0000     | 1.0000 | 1.0000     | 1.0000 | 1.0000    | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00       | 2.00   | 1.00       | 20.00  | 0.00      | 11.00  |
| 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]             | 44         | 205    | 293        | 10     | 4         | 34     |
| Peak Hour Factor                        | 0.9100     | 0.9100 | 0.9100     | 0.9100 | 0.9100    | 0.9100 |
| Other Adjustment Factor                 | 1.0000     | 1.0000 | 1.0000     | 1.0000 | 1.0000    | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 12         | 56     | 80         | 3      | 1         | 9      |
| Total Analysis Volume [veh/h]           | 48         | 225    | 322        | 11     | 4         | 37     |
| Pedestrian Volume [ped/h]               | 0          |        | 0          |        | 0         |        |

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |      |       |       |
|---------------------------------------|------|------|------|------|-------|-------|
| V/C, Movement V/C Ratio               | 0.04 | 0.00 | 0.00 | 0.00 | 0.01  | 0.05  |
| d_M, Delay for Movement [s/veh]       | 7.96 | 0.00 | 0.00 | 0.00 | 13.97 | 10.56 |
| Movement LOS                          | A    | A    | A    | A    | B     | B     |
| 95th-Percentile Queue Length [veh/ln] | 0.08 | 0.08 | 0.00 | 0.00 | 0.20  | 0.20  |
| 95th-Percentile Queue Length [ft/ln]  | 2.05 | 2.05 | 0.00 | 0.00 | 5.02  | 5.02  |
| d_A, Approach Delay [s/veh]           | 1.40 |      | 0.00 |      | 10.89 |       |
| Approach LOS                          | A    |      | A    |      | B     |       |
| d_I, Intersection Delay [s/veh]       | 1.28 |      |      |      |       |       |
| Intersection LOS                      | B    |      |      |      |       |       |

**Intersection Level Of Service Report**  
**Intersection 6: California Ave/E 32nd Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 14.1  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | B     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.044 |

**Intersection Setup**

| Name                         | Northbound                                                                        |        | Southbound                                                                          |        | Westbound                                                                           |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     |                                                                                   |        |                                                                                     |        |                                                                                     |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Thru                                                                              | Right  | Left                                                                                | Thru   | Left                                                                                | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                               | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 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]                  | 35.00                                                                             |        | 35.00                                                                               |        | 25.00                                                                               |        |
| Grade [%]                    | 0.00                                                                              |        | 0.00                                                                                |        | 0.00                                                                                |        |
| Crosswalk                    | No                                                                                |        | Yes                                                                                 |        | Yes                                                                                 |        |

**Volumes**

| Name                                    | Northbound |        | Southbound |        | Westbound |        |
|-----------------------------------------|------------|--------|------------|--------|-----------|--------|
| Base Volume Input [veh/h]               | 245        | 18     | 13         | 313    | 16        | 5      |
| Base Volume Adjustment Factor           | 1.0000     | 1.0000 | 1.0000     | 1.0000 | 1.0000    | 1.0000 |
| Heavy Vehicles Percentage [%]           | 2.00       | 6.00   | 0.00       | 2.00   | 12.00     | 0.00   |
| Growth Factor                           | 1.0000     | 1.0000 | 1.0000     | 1.0000 | 1.0000    | 1.0000 |
| In-Process Volume [veh/h]               | 0          | 0      | 0          | 0      | 0         | 0      |
| Site-Generated Trips [veh/h]            | 0          | 0      | 0          | 0      | 0         | 0      |
| Diverted Trips [veh/h]                  | 0          | 0      | 0          | 0      | 0         | 0      |
| Pass-by Trips [veh/h]                   | 0          | 0      | 0          | 0      | 0         | 0      |
| Existing Site Adjustment Volume [veh/h] | 0          | 0      | 0          | 0      | 0         | 0      |
| Other Volume [veh/h]                    | 0          | 0      | 0          | 0      | 0         | 0      |
| Total Hourly Volume [veh/h]             | 245        | 18     | 13         | 313    | 16        | 5      |
| Peak Hour Factor                        | 0.9100     | 0.9100 | 0.9100     | 0.9100 | 0.9100    | 0.9100 |
| Other Adjustment Factor                 | 1.0000     | 1.0000 | 1.0000     | 1.0000 | 1.0000    | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 67         | 5      | 4          | 86     | 4         | 1      |
| Total Analysis Volume [veh/h]           | 269        | 20     | 14         | 344    | 18        | 5      |
| Pedestrian Volume [ped/h]               | 0          |        | 0          |        | 0         |        |

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |      |       |       |
|---------------------------------------|------|------|------|------|-------|-------|
| V/C, Movement V/C Ratio               | 0.00 | 0.00 | 0.01 | 0.00 | 0.04  | 0.01  |
| d_M, Delay for Movement [s/veh]       | 0.00 | 0.00 | 7.82 | 0.00 | 14.15 | 10.12 |
| Movement LOS                          | A    | A    | A    | A    | B     | B     |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.02 | 0.02 | 0.16  | 0.16  |
| 95th-Percentile Queue Length [ft/ln]  | 0.00 | 0.00 | 0.59 | 0.59 | 3.95  | 3.95  |
| d_A, Approach Delay [s/veh]           | 0.00 |      | 0.31 |      | 13.27 |       |
| Approach LOS                          | A    |      | A    |      | B     |       |
| d_I, Intersection Delay [s/veh]       | 0.62 |      |      |      |       |       |
| Intersection LOS                      | B    |      |      |      |       |       |

32816 Signal Hill Dutch Bros

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Report File: H:\...4 Existing PM + Proj.pdf

Scenario 4 Existing PM + Proj  
3/6/2026

**Intersection Analysis Summary**

| ID | Intersection Name               | Control Type | Method          | Worst Mvmt | V/C   | Delay (s/veh) | LOS |
|----|---------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1  | Atlantic Ave/E 33rd Street      | Signalized   | HCM 7th Edition | NB Right   | 0.652 | 25.6          | C   |
| 2  | Lime Ave/Project Driveway       | Two-way stop | HCM 7th Edition | NB Thru    | 0.025 | 21.2          | C   |
| 3  | Olive Ave/Project Driveway      | Two-way stop | HCM 7th Edition | NB Thru    | 0.016 | 18.9          | C   |
| 4  | California Ave/E 33rd Street    | All-way stop | HCM 7th Edition | NB Thru    | 0.455 | 10.8          | B   |
| 5  | California Ave/Project Driveway | Two-way stop | HCM 7th Edition | EB Left    | 0.056 | 16.9          | C   |
| 6  | California Ave/E 32nd Street    | Two-way stop | HCM 7th Edition | WB Left    | 0.032 | 15.2          | C   |

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

**Intersection Level Of Service Report**  
**Intersection 1: Atlantic Ave/E 33rd Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 25.6  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.652 |

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |        |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 11.00                                                                             | 11.00  | 11.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 1                                                                                 | 0      | 0      | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 40.00                                                                             | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 1      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 75.00  | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 30.00                                                                             |        |        | 30.00                                                                             |        |        | 30.00                                                                               |        |        | 30.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Curb Present                 | No                                                                                |        |        | No                                                                                |        |        | No                                                                                  |        |        | No                                                                                  |        |        |
| Crosswalk                    | No                                                                                |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | Yes                                                                                 |        |        |

**Volumes**

| Name                                        |        |        |        |        |        |        |        |        |        |        |        |        |
|---------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]                   | 28     | 922    | 266    | 104    | 770    | 18     | 4      | 23     | 44     | 138    | 13     | 165    |
| Base Volume Adjustment Factor               | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 0.00   | 1.00   | 1.00   | 0.00   | 1.00   | 0.00   | 0.00   | 0.00   | 0.00   | 1.00   | 0.00   | 0.00   |
| Proportion of CAVs [%]                      | 0.00   |        |        |        |        |        |        |        |        |        |        |        |
| Growth Factor                               | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]                 | 28     | 922    | 266    | 104    | 770    | 18     | 4      | 23     | 44     | 138    | 13     | 165    |
| Peak Hour Factor                            | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor                     | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 7      | 240    | 69     | 27     | 201    | 5      | 1      | 6      | 11     | 36     | 3      | 43     |
| Total Analysis Volume [veh/h]               | 29     | 960    | 277    | 108    | 802    | 19     | 4      | 24     | 46     | 144    | 14     | 172    |
| Presence of On-Street Parking               | No     |        | No     | No     |        | No     | No     |        | No     | No     |        | No     |
| On-Street Parking Maneuver Rate [/h]        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |
| Bicycle Volume [bicycles/h]                 | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |

### Intersection Settings

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | Yes                                   |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Pattern 1                             |
| Coordination Type         | Time of Day Pattern Coordinated       |
| Actuation Type            | Fully actuated                        |
| Offset [s]                | 43.0                                  |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 4.00                                  |

### Phasing & Timing (Basic)

| Control Type                    | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           | No      |         |         | No      |         |         |         |         |         |         |         |         |
| Signal Group                    | 0       | 4       | 0       | 0       | 2       | 0       | 0       | 8       | 0       | 0       | 6       | 0       |
| Auxiliary Signal Groups         |         |         |         |         |         |         |         |         |         |         |         |         |
| Maximum Green [s]               | 0.0     | 30.0    | 0.0     | 0.0     | 50.0    | 0.0     | 0.0     | 30.0    | 0.0     | 0.0     | 50.0    | 0.0     |
| Amber [s]                       | 0.0     | 3.2     | 0.0     | 0.0     | 3.9     | 0.0     | 0.0     | 3.2     | 0.0     | 0.0     | 3.9     | 0.0     |
| All red [s]                     | 0.0     | 1.0     | 0.0     | 0.0     | 1.0     | 0.0     | 0.0     | 1.0     | 0.0     | 0.0     | 1.0     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 7.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 14.0    | 0.0     | 0.0     | 16.0    | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 16.0    | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 4.0     | 0.0     | 0.0     | 5.0     | 0.0     | 0.0     | 4.0     | 0.0     | 0.0     | 5.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | Yes     |         |         | No      |         |         | Yes     |         |
| I1, Start-Up Lost Time [s]      | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 25.0    | 0.0     | 0.0     | 25.0    | 0.0     | 0.0     | 25.0    | 0.0     | 0.0     | 25.0    | 0.0     |
| Detector Length [ft]            | 0.0     | 100.0   | 0.0     | 0.0     | 100.0   | 0.0     | 0.0     | 100.0   | 0.0     | 0.0     | 100.0   | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

### Phasing & Timing: Pattern 1

|                       |     |      |     |     |      |     |     |      |     |     |      |     |
|-----------------------|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|
| Split [s]             | 0.0 | 35.0 | 0.0 | 0.0 | 55.0 | 0.0 | 0.0 | 35.0 | 0.0 | 0.0 | 55.0 | 0.0 |
| Lead / Lag            | -   | -    | -   | -   | -    | -   | -   | -    | -   | -   | -    | -   |
| Minimum Green [s]     | 0.0 | 8.0  | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 8.0  | 0.0 | 0.0 | 20.0 | 0.0 |
| Vehicle Extension [s] | 0.0 | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 |
| Minimum Recall        |     | No   |     |     | Yes  |     |     | No   |     |     | Yes  |     |
| Maximum Recall        |     | No   |     |     | No   |     |     | No   |     |     | No   |     |
| Pedestrian Recall     |     | No   |     |     | Yes  |     |     | No   |     |     | Yes  |     |

### Exclusive Pedestrian Phase

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

**Lane Group Calculations**

| Lane Group                              | L     | C     | C     | L    | C    | C    | C     | C     | C    |
|-----------------------------------------|-------|-------|-------|------|------|------|-------|-------|------|
| C, Calculated Cycle Length [s]          | 90    | 90    | 90    | 90   | 90   | 90   | 90    | 90    | 90   |
| L, Total Lost Time per Cycle [s]        | 2.00  | 2.00  | 2.00  | 2.00 | 2.00 | 2.00 | 2.00  | 2.00  | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s]  | 2.00  | 0.00  | 0.00  | 2.00 | 0.00 | 0.00 | 2.00  | 2.00  | 0.00 |
| l2, Clearance Lost Time [s]             | 0.00  | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00 |
| g_i, Effective Green Time [s]           | 37.7  | 37.7  | 37.7  | 57.2 | 57.2 | 57.2 | 37.7  | 57.2  | 57.2 |
| g / C, Green / Cycle                    | 0.42  | 0.42  | 0.42  | 0.64 | 0.64 | 0.64 | 0.42  | 0.64  | 0.64 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02  | 0.38  | 0.38  | 0.10 | 0.24 | 0.24 | 0.06  | 0.20  | 0.13 |
| s, saturation flow rate [veh/h]         | 1217  | 1696  | 1568  | 1095 | 1696 | 1683 | 1176  | 689   | 1323 |
| c, Capacity [veh/h]                     | 554   | 711   | 657   | 716  | 1078 | 1069 | 535   | 514   | 840  |
| d1, Uniform Delay [s]                   | 15.58 | 24.41 | 24.51 | 8.76 | 7.90 | 7.90 | 16.33 | 18.00 | 6.88 |
| k, delay calibration                    | 0.04  | 0.50  | 0.50  | 0.50 | 0.50 | 0.50 | 0.04  | 0.50  | 0.50 |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |
| d2, Incremental Delay [s]               | 0.01  | 16.78 | 18.58 | 0.45 | 1.03 | 1.04 | 0.04  | 1.54  | 0.55 |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00 |
| Rp, platoon ratio                       | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |
| PF, progression factor                  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 |

**Lane Group Results**

|                                       |       |        |        |       |        |        |       |       |       |
|---------------------------------------|-------|--------|--------|-------|--------|--------|-------|-------|-------|
| X, volume / capacity                  | 0.05  | 0.90   | 0.91   | 0.15  | 0.38   | 0.38   | 0.14  | 0.31  | 0.20  |
| d, Delay for Lane Group [s/veh]       | 15.59 | 41.18  | 43.09  | 9.21  | 8.93   | 8.94   | 16.37 | 19.55 | 7.43  |
| Lane Group LOS                        | B     | D      | D      | A     | A      | A      | B     | B     | A     |
| Critical Lane Group                   | No    | No     | Yes    | No    | No     | Yes    | No    | No    | No    |
| 50th-Percentile Queue Length [veh/ln] | 0.35  | 15.30  | 14.59  | 1.00  | 3.70   | 3.67   | 0.91  | 1.65  | 1.36  |
| 50th-Percentile Queue Length [ft/ln]  | 8.71  | 382.43 | 364.78 | 24.95 | 92.52  | 91.83  | 22.78 | 41.26 | 34.01 |
| 95th-Percentile Queue Length [veh/ln] | 0.63  | 21.71  | 20.86  | 1.80  | 6.66   | 6.61   | 1.64  | 2.97  | 2.45  |
| 95th-Percentile Queue Length [ft/ln]  | 15.68 | 542.79 | 521.40 | 44.91 | 166.54 | 165.30 | 41.00 | 74.27 | 61.22 |

### Movement, Approach, & Intersection Results

|                                 |       |       |       |      |      |      |       |       |       |       |       |      |
|---------------------------------|-------|-------|-------|------|------|------|-------|-------|-------|-------|-------|------|
| d_M, Delay for Movement [s/veh] | 15.59 | 41.82 | 43.09 | 9.21 | 8.94 | 8.94 | 16.37 | 16.37 | 16.37 | 19.55 | 19.55 | 7.43 |
| Movement LOS                    | B     | D     | D     | A    | A    | A    | B     | B     | B     | B     | B     | A    |
| d_A, Approach Delay [s/veh]     | 41.50 |       |       | 8.97 |      |      | 16.37 |       |       | 13.23 |       |      |
| Approach LOS                    | D     |       |       | A    |      |      | B     |       |       | B     |       |      |
| d_I, Intersection Delay [s/veh] | 25.56 |       |       |      |      |      |       |       |       |       |       |      |
| Intersection LOS                | C     |       |       |      |      |      |       |       |       |       |       |      |
| Intersection V/C                | 0.652 |       |       |      |      |      |       |       |       |       |       |      |

### Emissions

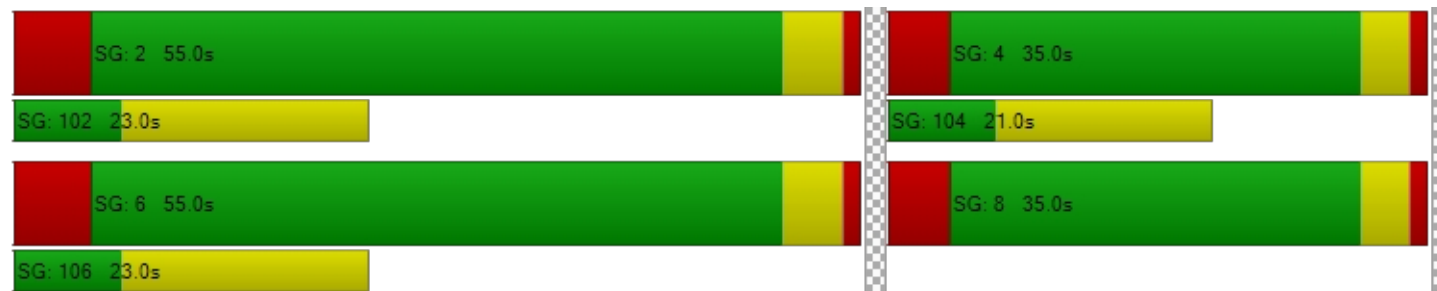
|                              |       |        |        |       |        |        |       |       |       |
|------------------------------|-------|--------|--------|-------|--------|--------|-------|-------|-------|
| Vehicle Miles Traveled [mph] | 1.50  | 33.18  | 30.88  | 6.58  | 25.12  | 24.92  | 4.67  | 9.84  | 10.72 |
| Stops [stops/h]              | 13.94 | 611.89 | 583.65 | 39.92 | 148.03 | 146.93 | 36.45 | 66.02 | 54.41 |
| Fuel consumption [US gal/h]  | 0.23  | 10.12  | 9.72   | 0.69  | 2.60   | 2.58   | 0.64  | 1.40  | 1.00  |
| CO [g/h]                     | 16.14 | 707.11 | 679.72 | 48.51 | 181.83 | 180.44 | 44.76 | 97.75 | 70.02 |
| NOx [g/h]                    | 3.14  | 137.58 | 132.25 | 9.44  | 35.38  | 35.11  | 8.71  | 19.02 | 13.62 |
| VOC [g/h]                    | 3.74  | 163.88 | 157.53 | 11.24 | 42.14  | 41.82  | 10.37 | 22.65 | 16.23 |

### Other Modes

|                                                          |       |       |       |       |
|----------------------------------------------------------|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 0.0   | 18.0  | 18.0  | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 0.00  | 0.00  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00  | 0.00  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 0.00  | 28.80 | 28.80 | 34.67 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 0.000 | 2.700 | 2.018 | 2.464 |
| Crosswalk LOS                                            |       | B     | B     | B     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000  | 2000  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 596   | 1002  | 596   | 1002  |
| d_b, Bicycle Delay [s]                                   | 22.19 | 11.20 | 22.19 | 11.20 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.604 | 2.326 | 1.682 | 1.832 |
| Bicycle LOS                                              | B     | B     | A     | A     |

### Sequence

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



**Intersection Level Of Service Report**  
**Intersection 2: Lime Ave/Project Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 21.2  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.025 |

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |       |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|-------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |       | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |       |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 1     | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 40.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0     | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 15.00                                                                             |        |        | 25.00                                                                             |        |       | 30.00                                                                               |        |        | 30.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |       | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | No                                                                                |        |        | No                                                                                |        |       | No                                                                                  |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 86     | 7      | 25     | 15     | 0      | 11     | 29     | 285    | 111    | 17     | 204    | 14     |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 0.00   | 7.00   | 2.00   | 0.00   | 0.00   | 0.00   | 1.00   | 0.00   | 1.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 86     | 7      | 25     | 15     | 0      | 11     | 29     | 285    | 111    | 17     | 204    | 14     |
| Peak Hour Factor                        | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 1.0000 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 25     | 2      | 7      | 4      | 0      | 3      | 9      | 84     | 33     | 5      | 60     | 4      |
| Total Analysis Volume [veh/h]           | 101    | 8      | 29     | 18     | 0      | 13     | 34     | 335    | 131    | 20     | 240    | 16     |
| Pedestrian Volume [ped/h]               | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |

### Intersection Settings

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

### Movement, Approach, & Intersection Results

[illegible]

**Intersection Level Of Service Report**  
**Intersection 3: Olive Ave/Project Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 18.9  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.016 |

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |        |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 15.00                                                                             |        |        | 25.00                                                                             |        |        | 30.00                                                                               |        |        | 30.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | No                                                                                |        |        | No                                                                                |        |        | No                                                                                  |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 148    | 6      | 70     | 6      | 3      | 12     | 10     | 134    | 181    | 51     | 83     | 9      |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 1.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 10.00  | 0.00   | 1.00   | 0.00   | 0.00   | 11.00  |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 148    | 6      | 70     | 6      | 3      | 12     | 10     | 134    | 181    | 51     | 83     | 9      |
| Peak Hour Factor                        | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 42     | 2      | 20     | 2      | 1      | 3      | 3      | 38     | 51     | 14     | 24     | 3      |
| Total Analysis Volume [veh/h]           | 168    | 7      | 80     | 7      | 3      | 14     | 11     | 152    | 206    | 58     | 94     | 10     |
| Pedestrian Volume [ped/h]               | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |

### Intersection Settings

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

### Movement, Approach, & Intersection Results

[illegible]

**Intersection Level Of Service Report**  
**Intersection 4: California Ave/E 33rd Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | All-way stop    | Delay (sec / veh):        | 10.8  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | B     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.455 |

**Intersection Setup**

| Name                         |                                                                                   |        |        |                                                                                   |        |        |                                                                                     |        |        |                                                                                     |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 35.00                                                                             |        |        | 35.00                                                                             |        |        | 30.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 44     | 223    | 32     | 3      | 127    | 29     | 52     | 72     | 55     | 35     | 53     | 12     |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 0.00   | 0.00   | 2.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 44     | 223    | 32     | 3      | 127    | 29     | 52     | 72     | 55     | 35     | 53     | 12     |
| Peak Hour Factor                        | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 12     | 61     | 9      | 1      | 35     | 8      | 14     | 20     | 15     | 10     | 15     | 3      |
| Total Analysis Volume [veh/h]           | 48     | 245    | 35     | 3      | 140    | 32     | 57     | 79     | 60     | 38     | 58     | 13     |
| Pedestrian Volume [ped/h]               | 0      |        |        | 0      |        |        | 0      |        |        | 0      |        |        |

**Intersection Settings****Lanes**

|                                 |      |      |      |      |      |
|---------------------------------|------|------|------|------|------|
| Capacity per Entry Lane [veh/h] | 722  | 696  | 582  | 684  | 635  |
| Degree of Utilization, x        | 0.45 | 0.25 | 0.23 | 0.09 | 0.17 |

**Movement, Approach, & Intersection Results**

|                                    |       |       |       |      |       |
|------------------------------------|-------|-------|-------|------|-------|
| 95th-Percentile Queue Length [veh] | 2.39  | 0.99  | 0.90  | 0.29 | 0.62  |
| 95th-Percentile Queue Length [ft]  | 59.68 | 24.80 | 22.52 | 7.19 | 15.40 |
| Approach Delay [s/veh]             | 12.09 | 9.90  | 10.07 |      | 9.84  |
| Approach LOS                       | B     | A     | B     |      | A     |
| Intersection Delay [s/veh]         | 10.82 |       |       |      |       |
| Intersection LOS                   | B     |       |       |      |       |

**Intersection Level Of Service Report**  
**Intersection 5: California Ave/Project Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 16.9  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.056 |

**Intersection Setup**

| Name                         |                                                                                   |        |                                                                                     |        |                                                                                     |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |        | Southbound                                                                          |        | Eastbound                                                                           |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Left                                                                              | Thru   | Thru                                                                                | Right  | Left                                                                                | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                               | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00                                                                              | 100.00 | 100.00                                                                              | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00                                                                                | 0.00   | 0.00                                                                                | 0.00   |
| Speed [mph]                  | 35.00                                                                             |        | 35.00                                                                               |        | 15.00                                                                               |        |
| Grade [%]                    | 0.00                                                                              |        | 0.00                                                                                |        | 0.00                                                                                |        |
| Crosswalk                    | No                                                                                |        | No                                                                                  |        | Yes                                                                                 |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 95     | 282    | 200    | 20     | 17     | 112    |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 1.00   | 5.00   | 0.00   | 1.00   |
| 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]             | 95     | 282    | 200    | 20     | 17     | 112    |
| Peak Hour Factor                        | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 26     | 78     | 56     | 6      | 5      | 31     |
| Total Analysis Volume [veh/h]           | 106    | 313    | 222    | 22     | 19     | 124    |
| Pedestrian Volume [ped/h]               | 0      |        | 0      |        | 0      |        |

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |      |       |       |
|---------------------------------------|------|------|------|------|-------|-------|
| V/C, Movement V/C Ratio               | 0.08 | 0.00 | 0.00 | 0.00 | 0.06  | 0.15  |
| d_M, Delay for Movement [s/veh]       | 7.82 | 0.00 | 0.00 | 0.00 | 16.93 | 10.84 |
| Movement LOS                          | A    | A    | A    | A    | C     | B     |
| 95th-Percentile Queue Length [veh/ln] | 0.19 | 0.19 | 0.00 | 0.00 | 0.78  | 0.78  |
| 95th-Percentile Queue Length [ft/ln]  | 4.69 | 4.69 | 0.00 | 0.00 | 19.59 | 19.59 |
| d_A, Approach Delay [s/veh]           | 1.98 |      | 0.00 |      | 11.65 |       |
| Approach LOS                          | A    |      | A    |      | B     |       |
| d_I, Intersection Delay [s/veh]       | 3.10 |      |      |      |       |       |
| Intersection LOS                      | C    |      |      |      |       |       |

**Intersection Level Of Service Report**  
**Intersection 6: California Ave/E 32nd Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 15.2  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.032 |

**Intersection Setup**

| Name                         |                                                                                   |        |                                                                                    |        |                                                                                     |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |        | Southbound                                                                         |        | Westbound                                                                           |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Thru                                                                              | Right  | Left                                                                               | Thru   | Left                                                                                | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                              | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 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]                  | 35.00                                                                             |        | 35.00                                                                              |        | 25.00                                                                               |        |
| Grade [%]                    | 0.00                                                                              |        | 0.00                                                                               |        | 0.00                                                                                |        |
| Crosswalk                    | No                                                                                |        | Yes                                                                                |        | Yes                                                                                 |        |

**Volumes**

| Name                                    |        |        |        |        |        |        |
|-----------------------------------------|--------|--------|--------|--------|--------|--------|
| Base Volume Input [veh/h]               | 360    | 25     | 15     | 297    | 11     | 16     |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 0.00   | 1.00   | 0.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0      | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0      | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0      | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0      | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0      | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0      | 0      | 0      |
| Total Hourly Volume [veh/h]             | 360    | 25     | 15     | 297    | 11     | 16     |
| Peak Hour Factor                        | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 98     | 7      | 4      | 81     | 3      | 4      |
| Total Analysis Volume [veh/h]           | 391    | 27     | 16     | 323    | 12     | 17     |
| Pedestrian Volume [ped/h]               | 0      |        | 0      |        | 0      |        |

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |      |       |       |
|---------------------------------------|------|------|------|------|-------|-------|
| V/C, Movement V/C Ratio               | 0.00 | 0.00 | 0.01 | 0.00 | 0.03  | 0.03  |
| d_M, Delay for Movement [s/veh]       | 0.00 | 0.00 | 8.14 | 0.00 | 15.16 | 10.98 |
| Movement LOS                          | A    | A    | A    | A    | C     | B     |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.03 | 0.03 | 0.19  | 0.19  |
| 95th-Percentile Queue Length [ft/ln]  | 0.00 | 0.00 | 0.67 | 0.67 | 4.65  | 4.65  |
| d_A, Approach Delay [s/veh]           | 0.00 |      | 0.38 |      | 12.71 |       |
| Approach LOS                          | A    |      | A    |      | B     |       |
| d_I, Intersection Delay [s/veh]       | 0.63 |      |      |      |       |       |
| Intersection LOS                      | C    |      |      |      |       |       |