



**AGENDA  
MEETINGS OF THE PLANNING COMMISSION**

**MONDAY, JUNE 8, 2026  
AT 6:00 P.M.**

**CITY HALL COUNCIL CHAMBERS  
11710 TELEGRAPH ROAD  
SANTA FE SPRINGS, CA 90670**

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**PLANNING COMMISSION**

Gabriel Jimenez, Chairperson  
David Ayala, Vice Chairperson  
Joseph Flores, Commissioner  
Isabel Cervantes, Commissioner  
Jay Sarno, Commissioner

**DIRECTOR OF COMMUNITY DEVELOPMENT**

Cuong Nguyen

**ASSISTANT CITY ATTORNEY**

Lloyd Pilchen

**CITY STAFF**

Assistant Director  
Economic Development Specialist  
Associate Planner  
Assistant Planner  
Planning Consultant  
Administrative Intern  
Administrative Intern  
Planning Commission Secretary

Vince Velasco  
Claudia Jimenez  
Alejandro De Loera  
Cynthia Alvarez  
Kaden Likins  
Jasmine Reyes  
Pieter Wielenga  
Esmeralda Elise

## NOTICES

This Planning Commission Meeting (“Planning”) will be held in person and will meet at City Hall – City Council Chambers, 11710 E. Telegraph Road, Santa Fe Springs, California. The meeting will be live streamed on the City’s YouTube Channel and can be accessed on the City’s website via the following link:

[https://www.santafesprings.gov/city\\_council/city\\_council\\_commissions\\_\\_committees/planning\\_commission/index.php](https://www.santafesprings.gov/city_council/city_council_commissions__committees/planning_commission/index.php)

**Americans with Disabilities Act:** In compliance with the ADA, if you need special assistance to participate in a city meeting or other services offered by this City, please contact the Planning Commission Secretary’s Office. Notification of at least 48 hours prior to the meeting or time when services are needed will assist the City staff in assuring that reasonable arrangements can be made to provide accessibility to the meeting or service.

**SB 1439:** Effective January 1, 2025 Planning Commission Members are subject to SB 1439 and cannot participate in certain decisions for a year after accepting campaign contributions of more than \$500 from an interested person. The Planning Commission would need to disclose the donation and abstain from voting.

**Public Comments:** The public is encouraged to address Planning Commission on any matter listed on the agenda or on any other matter within its jurisdiction. If you wish to address the Planning Commission on the day of the meeting, please fill out a speaker card provided at the door and submit it to the Planning Commission Secretary. You may also submit comments in writing by sending them to the Planning Commission Secretary at [esmeraldaelise@santafesprings.gov](mailto:esmeraldaelise@santafesprings.gov). All written comments received by 12:00 p.m. the day of the Planning Commission Meeting will be distributed to the Planning Commission and made a part of the official record of the meeting. Written comments will not be read at the meeting, only the name of the person submitting the comment will be announced. Pursuant to provisions of the Brown Act, no action may be taken on a matter unless it is listed on the agenda, or unless certain emergency or special circumstances exist. The Planning Commission may direct staff to investigate and/or schedule certain matters for consideration at a future Planning Commission meeting.

**Please Note:** Staff reports and supplemental attachments are available for inspection at the office of the Planning Commission Secretary in City Hall during regular business hours 7:30 a.m. – 5:30 p.m., Monday – Thursday. Telephone: (562) 868-0511.

**CALL TO ORDER****ROLL CALL****PLEDGE OF ALLEGIANCE****EX PARTE COMMUNICATIONS****BOTH AGENDA AND NON-AGENDA ITEMS, EXCEPT PUBLIC HEARING ITEMS**

At this time, the general public may address the Planning Commission on both non-agenda and non-public hearing agenda items. Please be aware that the maximum time allotted for members of the public to speak shall not exceed three (3) minutes per speaker. State Law prohibits the Planning Commission from taking action or entertaining extended discussion on a topic not listed on the agenda. Please show courtesy to others and direct all of your comments to the Planning Commission.

**CONSENT CALENDAR**

All matters listed under the Consent Calendar are considered to be routine. Any items a Planning Commissioner wishes to discuss should be designated at this time. All other items may be approved in a single motion. Such approval will also waive the reading of any ordinance.

**1. MINUTES OF THE MAY 11, 2026 REGULAR MEETING**

**RECOMMENDATION:** That the Planning Commission:

1) Approve the minutes as submitted.

**2. CONDITIONAL USE PERMIT ("CUP") CASE NO. 559-5 - A COMPLIANCE REVIEW TO ALLOW THE CONTINUED OPERATION AND MAINTENANCE OF A USE INVOLVING THE MANUFACTURING, STORAGE, AND DISTRIBUTION OF SODIUM HYPOCHLORITE AT 9028 DICE ROAD, WITHIN THE M-2, HEAVY MANUFACTURING, ZONE. (KIK CUSTOM PRODUCTS)**

**RECOMMENDATION:** That the Planning Commission:

1) Find that the continued operation and maintenance of the use involving the manufacturing, storage, and distribution of sodium hypochlorite, if conducted in strict compliance with the conditions of approval, will be harmonious with adjoining properties and surrounding uses in the area and will be in conformance with the overall purposes and objectives of the City's Zoning Ordinance and consistent with the goals, policies, and programs of the City's General Plan; and

2) Require that CUP Case No. 559-5 be subject to a compliance review in three (3) years on, or before, June 8, 2029, to ensure that the use is still operating in strict compliance with the conditions of approval as contained within this staff report; and

3) Take such additional, related action that may be desirable.

**PUBLIC HEARING****3. DEVELOPMENT PLAN APPROVAL (“DPA”) CASE NO.1019, CONDITIONAL USE PERMIT (“CUP”) CASE NO. 859, AND ZONE VARIANCES (“ZV”) CASE NOS. 94 AND 95 – TO CONSTRUCT, OPERATE AND MAINTAIN A NEW 1,025 SQUARE FOOT DRIVE-THROUGH BEVERAGE ESTABLISHMENT WITHIN THE MIXED USE-DESIGN, MU-D, ZONE AND TO DEVIATE FROM THE MU ZONE DESIGN STANDARDS AT 11701 TELEGRAPH ROAD. (DUTCH BROS LLC)****RECOMMENDATION:** That the Planning Commission:

- 1) Open the Public Hearing and receive the written and oral staff report and any comments from the public regarding DPA Case No. 1019, CUP 859, ZV 94 and ZV 95 and thereafter, close the Public Hearing; and
- 2) Find and determine that pursuant to Section 15303, Class 3 (New Construction or Conversion of Small Structures) of the California Environmental Quality Act (CEQA), the project is Categorically Exempt; and
- 3) Find and determine that the proposed project will not be detrimental to persons or properties in the surrounding area or to the City in general, and will be in conformance with the overall purpose and objective of the Zoning Code and consistent with the goals, policies, and programs of the City’s General Plan; and
- 4) Find that the applicant’s DPA request meets the criteria set forth in §155.349 and §155.739 of the City’s Zoning Code, for the granting of a DPA; and
- 5) Find that the applicant’s CUP request meets the criteria set forth in §155.716 of the City’s Zoning Code, for the granting of a CUP; and
- 6) Find that the applicant’s ZV requests (ZV Case Nos. 94 and 95) meet the criteria set forth in §155.675 of the City’s Zoning Code, for the granting of a ZV; and
- 7) Approve the requested DPA Case No. 1019, CUP 859, ZV 94 and ZV 95, subject to the conditions of approval as contained within Resolution No. 322-2026; and
- 8) Adopt Resolution No. 322-2026, which incorporates the Planning Commission’s findings and actions regarding this matter; and
- 9) Take such additional, related action that may be desirable.

**NEW BUSINESS**

**4. PARKWAY TREE REMOVAL APPEAL DECISION - RESIDENT REQUEST FOR REMOVAL OF PARKWAY TREE AT 10812 FLALLON AVENUE**

**RECOMMENDATION:** That the Planning Commission:

- 1) Reaffirm the decision of the Director of Public Works to deny the request by the property owner to have the City remove the parkway tree in front of 10812 Flallon Avenue; and
- 2) Determine if the property owner at 10812 Flallon Avenue shall be granted a permit to remove the parkway tree at his or her own expense; and
- 3) Take such additional, related action that may be desirable.

**STAFF COMMUNICATIONS ON ITEMS OF COMMUNITY INTEREST**

**COMMISSIONER AB1234 COUNCIL CONFERENCE REPORTING**

Members of the Planning Commission will provide a brief report on meetings attended at the expense of the local agency as required by Government Code Section 53232.3(d).

**ADJOURNMENT**

I, Esmeralda Elise, Planning Commission Secretary for the City of Santa Fe Springs hereby certify that a copy of this agenda has been posted no less than 72 hours at the following locations; City's website at [www.santafesprings.gov](http://www.santafesprings.gov); Santa Fe Springs City Hall, 11710 Telegraph Road; Santa Fe Springs City Library, 11700 Telegraph Road; and the Town Center Plaza (Kiosk), 11740 Telegraph Road.



**PLANNING COMMISSION AGENDA STAFF REPORT**

**TO:** Members of the Planning Commission  
**FROM:** Cuong Nguyen, Director of Community Development  
**BY:** Esmeralda Elise, Executive Assistant  
**SUBJECT:** **CONSENT CALENDAR – MINUTES OF THE MAY 11, 2026 MEETING**  
**DATE:** June 8, 2026

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**RECOMMENDATION:**

It is recommended that the Planning Commission:

- 1. Approve the minutes as submitted.

**FISCAL IMPACT**

N/A

**BACKGROUND**

Staff has prepared minutes for the following meeting:

- May 11, 2026 Planning Commission Meeting

**ANALYSIS**

N/A

**ENVIRONMENTAL**

N/A

**DISCUSSION**

N/A

**SUMMARY/NEXT STEPS**

N/A

**ATTACHMENT(S):**

A. Minutes of the May 11, 2026 Planning Commission Meeting

**ITEM STATUS:**

APPROVED:

DENIED:

TABLED:

DIRECTION GIVEN:

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Planning Commission  
Secretary, Esmeralda Elise



APPROVED:

## MINUTES OF THE REGULAR MEETING OF THE SANTA FE SPRINGS PLANNING COMMISSION

May 11, 2026

### 1. CALL TO ORDER

Chairperson Jimenez called the meeting to order at 6:00 p.m.

### 2. ROLL CALL

**Members present:** Chairperson Jimenez  
Vice Chairperson Ayala  
Commissioner Flores  
Commissioner Cervantes  
Commissioner Sarno

**Staff:** Ken Trumkul, Assistant City Attorney  
Vince Velasco, Assistant Director  
Claudia Jimenez, Economic Development Specialist  
Cynthia Alvarez, Assistant Planner  
Pieter Wielenga, Administrative Intern  
Esmeralda Elise, Planning Commission Secretary

### 3. PLEDGE OF ALLEGIANCE

Chairperson Jimenez called upon Commissioner Sarno to lead everyone in the Pledge of Allegiance.

### 4. EX PARTE COMMUNICATIONS

Commissioner Sarno mentioned that 6 months ago, he went to see the Property Owner of Item #4.

### 5. PUBLIC COMMENT

None.

### 6. CONSENT ITEM

Consent Agenda items are considered routine matters, which may be enacted, by one motion and roll call vote. Any item may be removed from the Consent Agenda and considered separately by the Planning Commission.

#### 1. MINUTES OF THE APRIL 13, 2026 REGULAR MEETING

Chairperson Jimenez requested a motion and a second for Consent Item No 1.

It was moved by Commissioner Sarno and seconded by Vice Chair Ayala to approve Consent Item No 1 and the recommendations regarding this matter, which passed by

the following roll call vote:

Ayes: Ayala, Cervantes, Flores, Jimenez, Sarno  
Nays: None  
Absent: None

Chairperson Jimenez read the City's appeal process.

**7. PUBLIC HEARING**

ALCOHOL SALES CONDITIONAL USE PERMIT (“ASCUP”) CASE NO. 95 – TO ALLOW THE ON-SALE OF BEER AND WINE IN CONJUNCTION WITH A BONA FIDE PUBLIC EATING ESTABLISHMENT AT 8039 NORWALK BLVD, WITHIN MU ZONE (MIXED-USE), AND ADOPT A NOTICE OF EXEMPTION UNDER CEQA SECTION 15301 (EXISTING FACILITIES). (TACOS LA WERA, LLC, DBA: PURO GUANATOS 100%)

**Recommendation:**

Chair Jimenez called upon Administrative Intern Pieter Wielenga to present this item.

Chair Jimenez opened the Public Hearing at 6:03 p.m. and inquired if any comments were received via email. Planning Commission Secretary Esmeralda Elise responded no comments were received.

Commissioner Flores had a question for staff. Having no further questions or comments, Chair Jimenez closed the Public Hearing at 6:11 p.m. and requested a motion.

It was moved by Commissioner Cervantes, seconded by Vice Chair Ayala to approve Alcohol Sales Conditional Use Permit Case No. 95 and adopt Resolution No. 320-2026, which incorporates the Planning Commission’s findings and actions regarding this matter, which passed by the following roll call vote:

Ayes: Ayala, Cervantes, Flores, Jimenez, Sarno  
Nays: None  
Absent: None

Chairperson Jimenez read the City's appeal process.

**8. PUBLIC HEARING**

DEVELOPMENT PLAN APPROVAL (“DPA”) CASE NO.1018 – TO CONSTRUCT A NEW 9,943 SQUARE-FOOT CONCRETE INDUSTRIAL BUILDING LOCATED AT 13772 FIRESTONE BOULEVARD. (LEFIELL MANUFACTURING COMPANY)

**Recommendation:**

Chair Jimenez called upon Assistant Planner Cynthia Alvarez to present this item.

Chair Jimenez opened the Public Hearing at 6:12 p.m. and inquired if any comments

were received via email. Planning Commission Secretary Esmeralda Elise responded no comments were received.

Having no questions or comments, Chair Jimenez closed the Public Hearing at 6:23 p.m. and requested a motion.

It was moved by Commissioner Sarno, seconded by Vice Chair Ayala to approve DPA Case No. 1018 and adopt Resolution No. 321-2026, which incorporates the Planning Commission's findings and actions regarding this matter, which passed by the following roll call vote:

Ayes: Ayala, Cervantes, Flores, Jimenez, Sarno  
Nays: None  
Absent: None

Chairperson Jimenez read the City's appeal process.

**9. NEW BUSINESS**

MODIFICATION PERMIT CASE NO. 1377 - A REQUEST TO TEMPORARILY RESERVE AND NOT PROVIDE 10 OF THE REQUIRED ON-SITE PARKING STALLS TO ALLOW OUTDOOR STORAGE, AND MODIFICATION CASE NO. 1378 – A REQUEST TO TEMPORARILY ALLOW THE ENCROACHMENT OF A PROPOSED 8'-6" FOOT HIGH FENCE AND GATE WITHIN THE REQUIRED FRONT YARD SETBACK, AND TO ADOPT A NOTICE OF EXEMPTION UNDER SECTION 15301, CLASS 1 (EXISTING FACILITIES) (*CONTINUED FROM APRIL 13, 2026 PLANNING COMMISSION MEETING*)

Commissioner Sarno recused himself from the vote for this item.

Chair Jimenez called upon Economic Development Specialist Claudia Jimenez to present this item.

Commissioner Flores had some questions.

Having no speakers for questions or comments, Chair Jimenez requested a motion.

It was moved by Vice Chair Ayala, seconded by Commissioner Cervantes to approve MOD Case No. 1377 and 1378 and adopt Resolution No. 319-2026, which incorporates the Planning Commission's findings and actions regarding this matter, which passed by the following roll call vote:

Ayes: Ayala, Cervantes, Flores, Jimenez  
Nays: None  
Absent: Sarno

**10. ANNOUNCEMENTS**

- Staff

Assistant Director Vince Velasco introduced the new Administrative Intern Pieter Wielenga to the Planning Commission.

- Commissioners

None.

**11. ADJOURNMENT**

Chair Jimenez adjourned the meeting at 6:37 p.m.

**ATTEST:**

\_\_\_\_\_  
Esmeralda Elise  
Planning Commission Secretary

\_\_\_\_\_  
Chair Jimenez

\_\_\_\_\_  
Date



## PLANNING COMMISSION AGENDA STAFF REPORT

**TO:** Members of the Planning Commission

**FROM:** Cuong Nguyen, Director of Community Development

**BY:** Pieter Wielenga, Administrative Intern

**SUBJECT:** **CONDITIONAL USE PERMIT (“CUP”) CASE NO. 559-5 - A COMPLIANCE REVIEW TO ALLOW THE CONTINUED OPERATION AND MAINTENANCE OF A USE INVOLVING THE MANUFACTURING, STORAGE, AND DISTRIBUTION OF SODIUM HYPOCHLOPRITE AT 9028 DICE ROAD, WITHIN THE M-2, HEAVY MANUFACTURING, ZONE. (KIK CUSTOM PRODUCTS)**

**DATE:** June 8, 2026

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### **RECOMMENDATION:**

It is recommended that the Planning Commission:

1. Find that the continued operation and maintenance of the use involving the manufacturing, storage, and distribution of sodium hypochlorite, if conducted in strict compliance with the conditions of approval, will be harmonious with adjoining properties and surrounding uses in the area and will be in conformance with the overall purposes and objectives of the City’s Zoning Ordinance and consistent with the goals, policies, and programs of the City’s General Plan; and
2. Require that CUP Case No. 559-5 be subject to a compliance review in three (3) years on, or before, June 8, 2029, to ensure that the use is still operating in strict compliance with the conditions of approval as contained within this staff report; and
3. Take such additional, related action that may be desirable.

### **FISCAL IMPACT**

Aside from the processing fee collected from the application, there is no ongoing fiscal impact.

### **BACKGROUND**

On January 28<sup>th</sup>, 2026, KIK Custom Products (“Applicant”) filed a Compliance Review request for CUP Case No. 559 to allow the continued operation and maintenance of the use involving the manufacturing, storage, and distribution of sodium hypochlorite at 9028 Dice Road (APN: 8168-007-029) (“Subject Site”).

Project/Applicant Information

Subject Site: 9028 Dice Road (APN: 8168-007-029)

Applicant: KIK Custom Products

Property Owner: KIK Custom Products

General Plan Designation: Industrial

Zoning Designation: M-2, Heavy Manufacturing

Existing Use in Property/Unit: Manufacturing of Cleaning Products

In accordance with Section 155.243(A)(30) of the City’s Zoning Ordinance, the manufacturing of sodium hypochlorite shall be permitted only after a valid CUP has first been obtained.

Code Section:	Conditional Uses:
§155.243	The following uses shall be permitted in the M-2 Zone only after a valid Conditional Use Permit has first been issued:  (A) Manufacturing of: (30) Sodium hypochlorite.

KIK Custom Products has been one of the leading manufacturers of cleaning products in the United States. KIK produces laundry, household cleaners, pharmaceuticals, and beauty care products using sodium hypochlorite, a pale greenish liquid commonly referred to as “soda bleach” or “liquid bleach.” KIK initially obtained a Conditional Use Permit (CUP Case No. 559) to operate and maintain a use involving the manufacturing, storage, and distribution of sodium hypochlorite in November of 2001. The use was subsequently reviewed for compliance by the Planning Commission in April of 2003, May of 2009, August of 2014, and May of 2024.

**ANALYSIS**

As standard practice for all CUP compliance reviews, an inspection of the Subject Site was performed by City staff to ensure continued compliance with the conditions of approval prior to bringing the matter back to the Planning Commission.

An initial inspection of the property conducted on February 25, 2026, revealed that the business was operating in violation of several City Municipal Codes. During the inspection, staff explained the violations to the Applicant and requested that the violations be corrected immediately. Specifically, the Applicant was directed to comply with the following:

- Remove all unpermitted outdoor storage blocking required parking spaces.

- Ensure employees and contractors are parking in designated parking spaces.
- Remove temporary emergency chiller as soon as existing permanent chiller is repaired.

The Applicant has worked to rectify and correct the issue concerning the subject site since the visit. Follow-up photos and pass by, conducted on May 6, 2026, confirmed that the corrections have been completed. As such, the Applicant is now operating in compliance with CUP Case No. 559.

**ENVIRONMENTAL**

N/A

**DISCUSSION**

N/A

**SUMMARY/NEXT STEPS**

Staff finds that if the subject use continues to operate in compliance with the required conditions of approval, it will continue to be harmonious with adjoining properties and surrounding uses in the area and, therefore, will not be detrimental to persons or property in the immediate vicinity and will not adversely affect the city in general. Staff is recommending that CUP Case No. 559 be subject to a compliance review in three (3) years, on or before, June 8, 2029, to ensure the use is still operating in compliance with the conditions of approval (see Attachment E).

**ATTACHMENT(S):**

- A. Ariel Photograph
- B. February 25 Inspection Photos
- C. Follow Up Photos
- D. Compliance Request Letter
- E. Conditions of Approval

<b><u>ITEM STATUS:</u></b>	
APPROVED:	<input type="checkbox"/>
DENIED:	<input type="checkbox"/>
TABLED:	<input type="checkbox"/>
DIRECTION GIVEN:	<input type="checkbox"/>
<hr/> Planning Commission Secretary, Esmeralda Elise	

**ATTACHMENT A:**  
**Aerial Photograph**



**9028 Dice Road**  
Conditional Use Permit (CUP) Case No. 559

**ATTACHMENT B:**  
**February 25 Inspection Photos**





**ATTACHMENT C:**  
**Follow Up Photos**









**ATTACHMENT D:**  
**Compliance Request Letter**

January 15, 2026

**Subject:** Request for Permit Compliance Review

To Whom It May Concern,

KIK Consumer Products respectfully submits this letter to request a compliance review of the subject permit.

KIK Consumer Products manufactures and distributes household cleaning products. Our operations include the mixing and blending of chemicals to produce finished goods, including various concentrations of bleach, ammonia, and drain cleaner formulations. Some materials are received from vendors as pre-mixed solutions delivered via approximately 5,000-gallon tanker trucks.

The primary raw material received on-site is chlorine, which is delivered in approximately 180,000-gallon rail cars. Other raw materials include 50% caustic soda, which is diluted and used in the mixing process to manufacture bleach. Additional activities at the facility include the packaging, palletizing, and loading of finished products for distribution.

KIK Consumer Products also manufactures its own plastic bottles on-site. Bottle sizes vary, and the facility currently operates five blow molding machines, each producing various bottle sizes.

Since the City's last inspection or review, there have been **no major changes** to facility operations, processes, or permitted use.

Please let us know if any additional information or documentation is required as part of this compliance review.

Sincerely,  
George Castillo



General Manager  
KIK Consumer Products, SoCal Plant

**ATTACHMENT E:**

Conditions of Approval

CUP Case No. 559

(9028 Dice Road)

## **CONDITIONS OF APPROVAL – CUP 559-5**

**NOTE: Changes to existing conditions are provided as a strike-through or bold.**

1. That the loading and unloading of tank cars shall comply with the requirements of Uniform Fire Code (UFC) 7904.5, including the installation of foam/water sprinkler protection systems. ***(Ongoing)***
2. That the Applicant shall maintain the manual and automatic fire suppression systems for structures that provide coverage for all tank cars that contain Class I flammable or Class II combustible liquids, flammable gasses, toxic or highly toxic liquids or gases, extremely hazardous substances as defined by 40 CFR, Part 355, Appendix A, and any other chemicals deemed hazardous by the City of Santa Fe Springs Fire Department that are plumbed for off-loading and/or filling. Areas that are covered by weather protection structures used for processing the above listed chemicals shall also be provided with an approved fire suppression system. In certain instances, manually activated monitor nozzles connected to the underground water supply may be provided in lieu of an automatic fire suppression system for rail siding protection. An adequate number of nozzles shall be provided such that all tank cars that are connected for the unloading shall be protected. Nozzles shall be capable of remote activation from a safe location. Automatic fire protection for the tank cars is not required provided that tank cars are not loaded on-site and that unloading is only conducted from the top of the tank car using suction methods. The chlorine unloading operation at KIK Custom Products shall be exempted from this requirement provided the unloading is performed within the railcar containment housing. ***(Ongoing)***
3. That the Applicant shall not load or unload tanks cars through pressurizing the car, pumping the liquid under pressure or using the bottom connection unless automatic and manual shut-off valves and secondary containment are provided. ***(Ongoing)***
4. That the Applicant shall use seismically activated automatic shut-off valves for all in-use tank cars plumbed for off-loading and/or filling. ***(Ongoing)***
5. That the Applicant shall provide and maintain secondary containment for all in-use tank cars (rail cars), piping, pumps and related storage and use vessels. Containment shall be provided for all hazardous and industrial grade liquids. Fire suppression water and foam runoff shall also be contained. Piping utilized for unloading tank cars and extending beyond the limits of areas provided with secondary containment or drainage shall be provided with liquid receptors that will capture leakage and re-route to an area provided with secondary containment or drainage. Flexible connections used to connect to tank cars shall be mounted at a level above fixed piping and above the top of tank cars so that if a leak in such a connection occurs, liquid will drain from the connecting line into the tank car upon loss of suction. Drainage shall be to an approved location. ***(Ongoing)***

6. That the Applicant ensures that all non-emergency vents from tank cars shall be connected into an approved scrubber or vapor recovery system. Such systems shall be provided with ORP, pH, combustible or other appropriate sensors and those sensors shall be connected into an alarm system where applicable. Where a scrubber or vapor recovery system is not required by Code, the Applicant may perform an engineering analysis to show that the operation of tank cars will not produce vapors, mists or fumes that exceed the short term exposure limit (STEL) for any in-use or stored materials. With this documentation, the requirement for a scrubber or vapor recovery system may be waived provided all vents from tank cars are fitted with normally closed vent devices. **(Ongoing)**
7. That the Applicant shall ensure that any connections for rail car chlorine transfer are made in an exhausted enclosure that is connected to an emergency scrubber engineered to handle a release of the entire contents of the railcar. **(Ongoing)**
8. That loading and unloading of tank vehicles shall comply with the requirements of UFC 7904.5 including the installation of foam/water sprinkler protection systems. **(Ongoing)**
9. That the Applicant shall provide manual and automatic fire suppression systems for structures that provide coverage for all tank vehicles (trucks) that contain Class I flammable or Class II combustible liquids; flammable gases; toxic or highly toxic liquids or gases, extremely hazardous substances as defined by 40 CFR Part 355 Appendix A; and any other chemicals deemed hazardous by the City of Santa Fe Springs Fire Department that are plumbed for off loading and/or filling. Areas that are covered by weather protection structures used for processing the above listed chemicals be provided with an approved fire suppression system. Ammonium hydroxide unloading by KIK Custom Products shall be exempted from this requirement provided that the facility has the capability to expeditiously remove the spilled material from the site drainage system and into holding tanks. **(Ongoing)**
10. That tank vehicles shall be loaded and unloaded only in approved locations. **(Ongoing)**
11. That the Applicant shall provide secondary containment for all in-use tank vehicles, piping, pumps and related storage and use vessels. Containment shall be provided for all hazardous and industrial grade liquids. Fire suppression water and foam runoff shall also be contained. Drainage shall be route to an approved location. **(Ongoing)**
12. That the Applicant ensures that all non-emergency vents from tank vehicles shall be connected into an approved scrubber or vapor recovery system. Such systems shall be provided with ORP, pH, combustible or other appropriate sensors and such

sensors shall be connected to an alarm system where applicable. Where a scrubber or vapor recovery system is not required by Code, the Applicant may perform an engineering analysis to show the operation of tank vehicles will not produce vapors, mists or fumes that exceed the short term exposure limit (STEL) for any in-use or stored materials. With this documentation, the requirement for a scrubber or vapor recovery system may be waived provided all vents from tank vehicles are fitted with normally closed vent devices. **(Ongoing)**

13. That the Applicant shall ensure that any connections for tank vehicle chlorine transfer are made in an exhausted enclosure connected to an emergency scrubber sized to handle a release of the entire contents of the tank vehicle. **(Ongoing)**
14. That the Applicant shall install manual and automatic fire suppression systems for structures that provide coverage for all tanks that contain Class I flammable or Class II combustible liquids, flammable gasses, toxic or highly toxic liquids or gases, extremely hazardous substances as defined by 40 CFR, Part 355, Appendix A, and any other chemicals deemed hazardous by the City of Santa Fe Springs Fire Department that are plumbed for off-loading and/or filling. Areas that are covered by weather protection structures used for processing the above listed chemicals shall also be provided with a fire suppression system. **(Ongoing)**
15. That the applicant shall provide secondary containment for all in-use tanks, drums, tote bins, piping, pumps and related storage and in-use vessels. Containment shall be provided for all hazardous and industrial grade liquids. Fire suppression water and foam runoff shall also be contained. Drainage shall be to an approved location. **(Ongoing)**
16. That the Applicant shall ensure that all non-emergency vents from stationary tanks and other related vents shall be connected into an approved scrubber or vapor recovery system. Such systems shall be provided with ORP, pH, combustible or other appropriate sensors and that such sensors or vapor recovery system where applicable. Where a scrubber or vapor recovery system is not required by Code, the Applicant may perform an engineering analysis to show the operation of stationary tanks and other related vessels will not produce vapors, mists or fumes that exceed the short term exposure limit (STEL) for any in-use or stored materials. With the documentation, a scrubber or vapor recovery system will not be required provided all vents from stationary tanks are fitted with normally closed vents devices. **(Ongoing)**
17. That the Applicant shall complete a Spill Prevention Control and Countermeasure (SPCC) Plan within six-months of facility operation if the quantity of petroleum containing products in above ground tanks on site exceeds 1,320 gallons. **(Ongoing)**

18. That the Applicant shall obtain approved plans for any Underground Storage Tank installation prior to tanks being brought on-site. **(Ongoing)**
19. That the Applicant shall provide high level alarms and automatic shut-off devices on all tanks that exceed 500 gallons. Alarms shall sound at 90 percent capacity and shut-off devices shall initiate at 95 percent tank capacity. **(Ongoing)**
20. That all tanks shall be seismically anchored in accordance with the Uniform Building Code. **(Ongoing)**
21. That the Applicant shall provide an in-house emergency response system that includes the following:
  - a. Visual and audible alarms connected to fire detection, hazardous gas detection, leak detection, liquid level limit detection, seismic event detection, fire protection systems and to manual emergency stations.
  - b. Liquid level limit alarms on stationary tanks.
  - c. Automatic shut-off valves on stationary tanks.
  - d. Back-up electrical power for emergency alarm systems and required safety systems with a duration in accordance with NFPA 70, Section 701-11.
  - e. Adequately trained manpower and equipment.
  - f. Ammonia detectors at the ammonium hydroxide tank on the fence line and at the other approved locations.
  - g. A chlorine and at the outlet of the chlorine scrubber system and at other approved locations.
  - h. Remote cameras (when applicable) at approved locations.
  - i. A U.L. Listed central station shall monitor all alarms. Gas detection sensors shall have a minimum of two set points. Initial alarms shall be internal to KIK Custom Products, and secondary alarms shall be to the Central Station. Sensor alarms set points shall be approved by the Fire Department. **(Ongoing)**
22. That the Applicant install and maintain windsocks and placards as required. **(Ongoing)**
23. The Applicant shall submit an industrial wastewater discharge permit; said permit shall include plans showing all proposed modifications to the wastewater pretreatment system. **(Ongoing)**
24. The Applicant shall obtain permits for any current and/or future proposed facility modifications and for the storage and use of materials that have physical and/or health hazards as defined in the Uniform Fire Code. All storage and use of hazardous chemicals shall meet the requirements of the current Uniform Fire and Uniform Building Codes. **(Ongoing)**

25. That the Applicant shall ensure that all drums of hazardous materials that are stored in excess of 6 feet in height shall be secured together and to the pallet on which they are stored. **(Ongoing)**
26. That the Applicant label piping conveying hazardous materials noting their contents and direction of flow. **(Ongoing)**
27. That the Applicant retain the services of an approved consultant to obtain a fire department permit for high pile combustible storage per the 1994 Uniform Fire Code. **(Ongoing)**
28. That the Applicant shall obtain a permit for the storage of liquefied petroleum gas (LPG). **(Ongoing)**
29. That the Applicant shall maintain the services of an approved consultant to review the adequacy and coverage of the existing fire sprinkler system. **(Ongoing)**
30. That the Applicant shall have a licensed contractor perform a five-year sprinkler certification per Title 19 of the California Code of Regulations. **(Ongoing)**
31. That no portion of the required off-street parking area shall be used for any purpose other than vehicle parking and circulation, unless such alternate use is granted prior written approval by the Director of ~~Planning and Development~~ **Community Development**. **(Ongoing)**
32. That the subject property and use shall continuously be maintained in a neat and orderly manner. **(Ongoing)**
33. That Conditional Use Permit Case No. 559 shall be valid for a period of ~~one (1) year~~ **three (3) years**, until ~~May 13, 2025~~ **June 8, 2029**. Thirty days prior to the expiration date, the applicant may request in writing that the Planning Commission review the circumstances of this case to determine whether an extension of the privileges granted under this permit are warranted. **(Revised – Ongoing)**
34. That Conditional Use Permit Case No. 559 shall not be effective for any purpose until the applicant has filed with the City of Santa Fe Springs an affidavit stating he is aware of and accepts the conditions of this approval. **(Ongoing)**
35. That all other applicable requirements of the City Zoning Ordinance, Uniform Building Code, Uniform Fire Code, and the determination of the City and State Fire Marshall, and all other applicable regulations shall be strictly complied with. **(Ongoing)**



## PLANNING COMMISSION AGENDA STAFF REPORT

**TO:** Members of the Planning Commission

**FROM:** Cuong Nguyen, Director of Community Development

**BY:** Alejandro De Loera, Associate Planner

**SUBJECT:** **PUBLIC HEARING – DEVELOPMENT PLAN APPROVAL (“DPA”) CASE NO.1019, CONDITIONAL USE PERMIT (“CUP”) CASE NO. 859, AND ZONE VARIANCES (“ZV”) CASE NOS. 94 AND 95 – TO CONSTRUCT, OPERATE AND MAINTAIN A NEW 1,025 SQUARE FOOT DRIVE-THROUGH BEVERAGE ESTABLISHMENT WITHIN THE MIXED USE-DESIGN, MU-D, ZONE AND TO DEVIATE FROM THE MU ZONE DESIGN STANDARDS AT 11701 TELEGRAPH ROAD. (DUTCH BROS LLC)**

**DATE:** June 8, 2026

### RECOMMENDATION:

It is recommended that the Planning Commission:

1. Open the Public Hearing and receive the written and oral staff report and any comments from the public regarding DPA Case No. 1019, CUP 859, ZV 94 and ZV 95 and thereafter, close the Public Hearing; and
2. Find and determine that pursuant to Section 15303, Class 3 (New Construction or Conversion of Small Structures) of the California Environmental Quality Act (CEQA), the project is Categorical Exempt; and
3. Find and determine that the proposed project will not be detrimental to persons or properties in the surrounding area or to the City in general, and will be in conformance with the overall purpose and objective of the Zoning Code and consistent with the goals, policies, and programs of the City’s General Plan; and
4. Find that the applicant’s DPA request meets the criteria set forth in §155.349 and §155.739 of the City’s Zoning Code, for the granting of a DPA; and
5. Find that the applicant’s CUP request meets the criteria set forth in §155.716 of the City’s Zoning Code, for the granting of a CUP; and
6. Find that the applicant’s ZV requests (ZV Case Nos. 94 and 95) meet the criteria set forth in §155.675 of the City’s Zoning Code, for the granting of a ZV; and

7. Approve the requested DPA Case No. 1019, CUP 859, ZV 94 and ZV 95, subject to the conditions of approval as contained within Resolution No. 322-2026; and
8. Adopt Resolution No. 322-2026, which incorporates the Planning Commission’s findings and actions regarding this matter; and
9. Take such additional, related action as may be desired.

**FISCAL IMPACT**

Aside from the processing fees collected for the subject project, there is no ongoing fiscal impact.

**BACKGROUND**

On January 15, 2026, CoreStates, Inc. on behalf of Dutch Bros Coffee submitted a request for a Development Plan Approval (DPA Case No. 1019), Conditional Use Permit (CUP Case No. 859), and Zone Variances (ZV Case Nos. 94 and 95) to construct and operate a 1,025 square foot drive-through beverage establishment and to deviate from the MU Zone design standards ("Project") on property located at 11701 Telegraph Road ("Project Site").

**Project/Applicant Information:**

- Project Site: 11701 Telegraph Road (APN: 8005-008-035)
- Project Applicant: Core States Group on behalf of Dutch Bros LLC
- Property Owner: Hillandale Drive Properties LLC
- General Plan Designation: Mixed Use
- Zoning Designation: MU-D, Mixed-Use-Design
- Existing Use on Property: Commercial (former bank use)

**Project Description:**

Founded in 1992 by a pair of brothers, Dutch Bros Coffee is now one of the country's largest drive-through coffee companies with more than 900 locations across eighteen states. The company's three main values are speed, quality, and service.

The company seeks to expand its operations and services to the City, with the construction of a new 1,025 square foot drive-through-only building located at 11701 Telegraph Road. The site is comprised of one (1) parcel measuring 0.75 acres. The project site currently has an existing commercial building (former Wells Fargo) that is proposed to be demolished as part of the project.

**Surrounding Land Uses:**

The Project Site is located on the northeast corner of Telegraph Road and Alburdis Avenue. The Circulation Element of the City’s General Plan designates Telegraph Road as a major arterial street and Alburdis Avenue as a local street.

Direction	Zone District	General Plan	Land Use
West	MU-D, Mixed-Use-Design	Mixed Use	Gas Station
East	MU-D, Mixed-Use-Design	Mixed Use	Office
North	MU-D, Mixed-Use-Design	Mixed Use	Multi-tenant Commercial
South	PF-Design, Public Use Facilities-Design	Public Facilities	City Hall / Civic Center

**ANALYSIS**

**Development Plan Approval (DPA Case No. 1019)**

**Site Plan**

The proposed 1,025-square-foot building is located on the southern portion of the property adjacent to Telegraph Road. The drive-through queue begins along the northern portion of the site, with vehicles circulating south along the western property line adjacent to Alburdis Avenue before reaching the pickup window along Telegraph Road. The dual-lane drive-through configuration accommodates queuing for up to 23 vehicles while maintaining internal site circulation.

The Applicant proposes a canopy extending from the drive-through pickup window toward the Telegraph Road property line. In addition, a pedestrian walk-up order and pickup window is proposed along the northern elevation facing the interior of the site. A separate canopy structure is proposed to provide shade and weather protection for pedestrians utilizing the walk-up service area.

The proposed canopy structure along Telegraph Road has an approximate setback of 2 feet 6 inches, while the building setback is approximately 31 feet. Along Alburdis Avenue, the building setback is approximately 78 feet 7 inches. These setbacks are the subject of ZV Case No. 94.

The site will continue to be accessible via two (2) shared driveways, including one (1) driveway along Telegraph Road and one (1) driveway along Alburdis Avenue. Existing access easements associated with the driveways will remain in place.

**Floor Plan**

Consistent with other Dutch Bros locations, the interior of the proposed building will not be accessible to customers. Rather, orders will be placed via the drive-through or pedestrian walk-up window. A majority of the interior floor area is dedicated to beverage preparation stations and employee circulation. The floor plan also includes a small office, employee restroom, and walk-in cooler.

Elevations

The proposed building has a maximum height of 24 feet and incorporates a contemporary architectural style featuring Dutch Bros’ signature blue “tower” element and associated signage. Building materials include stucco, brick, metal accents, and spandrel glass elements that create articulated street-facing facades.

The southern elevation facing Telegraph Road includes a canopy extending from the drive-through pickup window toward the property line. Along Alburdis Avenue, a large spandrel glass window and awning element visually anchor the elevation between the canopy structures and blue tower feature. The northern elevation incorporates the pedestrian walk-up window beneath an additional canopy structure supported by brick columns to provide weather protection for customers.

The MU Zone includes additional design standards applicable to developments with street frontages that the Applicant does not fully meet. These deviations are the subject of ZV Case No. 95.

Parking Requirements

The Project is required to provide a total of five (5) parking spaces. As shown on the site plan, the Project provides 22 parking spaces, including 20 standard spaces and two (2) accessible spaces. The parking calculation is summarized below.

Use	Calculation (sq. ft.)	Required	Provided
Take-out only establishment	1,025 sq. ft. ÷ 200	5 stalls	22 stalls

The Project, therefore, meets and exceeds the minimum requirements set forth in the City’s Zoning Code.

Landscape Requirements

Existing landscaping is concentrated along Telegraph Road and Alburdis Avenue to maximize the visual quality of the site from the public right-of-way. As part of the Project, six (6) new 24-inch box trees are proposed within the parking and drive-through landscaped areas.

The Project proposes a total of 8,739 square feet of landscaping. As shown in the table below, the Zoning Code requires a minimum of 3,805 square feet of landscaped area.

Area	Calculation	Required (sq. ft.)	Total Provided (sq. ft)
Frontage	333 feet x 10 sq. ft.	3,330	8,739
Parking	9,490 sq. ft. x 5%	475	
	Total	3,805	

The Project, therefore, meets and exceeds the minimum requirements set forth in the City's Zoning Code.

### **Conditional Use Permit (CUP Case No. 859)**

#### **Operations**

Dutch Bros Coffee will operate with approximately seven (7) to eight (8) employees per shift across three (3) to four (4) daily shifts. The proposed facility will implement Dutch Bros' "runner system," in which employees circulate through the drive-through queue to greet customers, take orders using handheld devices, and process payments prior to vehicles reaching the service window. This system is intended to improve operational efficiency and reduce customer wait times.

Staff will attend monthly operational meetings and pre-shift briefings to review traffic management procedures. Additionally, approximately three (3) to four (4) employees will be assigned to order taking and payment collection within the parking area, while one (1) employee will be dedicated to traffic control duties, including directing vehicles through the queue and ensuring circulation remains unobstructed. Operational procedures are designed to reduce service times at the pickup window to approximately 30 to 45 seconds.

#### **Hours of Operations**

The Applicant is requesting 24-hour operations, seven days per week. Although overnight operations are not anticipated immediately upon opening, the Applicant intends to transition to full 24-hour operations thereafter.

#### **Drive-Through**

The proposed project includes dual drive-through lanes and a dedicated bypass lane designed to accommodate vehicle stacking while maintaining on-site circulation. Approximately 460 feet of stacking space is provided behind the drive-through window, accommodating up to 23 vehicles without impacting internal drive aisles. The site layout and directional signage are designed to facilitate efficient vehicle circulation throughout the site.

The drive-through will not include speaker boxes or traditional menu boards. Instead, all orders will be taken in person, either at the service window or by employees using handheld ordering devices within the queue. This operational model is intended to reduce noise impacts and decrease vehicle idling commonly associated with traditional drive-through facilities. Additionally, the bypass lane allows vehicles to exit the queue without reaching the service window when orders are delivered directly to customers by staff.

### **Zone Variance (Case Nos. 94 & 95)**

Each of the requested Zone Variances is the result of the operational characteristics associated with the proposed drive-through use conflicting with certain MU Zone development standards. Staff recognizes that drive-through establishments permitted through a Conditional Use Permit possess unique site design and circulation requirements that make strict compliance with certain MU Zone standards operationally challenging.

### Zone Variance Case No. 94 – Setbacks

Pursuant to Zoning Code Section 155.175.5, “Buildings shall be located within five feet of the minimum setback for at least 70 percent of the building frontage along the primary right-of-way and 50 percent along any secondary right-of-way, excluding alleys.” The minimum setback within the MU Zone is 10 feet.

This setback requirement is intended to promote pedestrian-oriented development within the MU Zone. However, strict compliance with the standard is operationally difficult for drive-through developments that must accommodate vehicle maneuvering, queuing, and circulation areas.

To partially satisfy the intent of the standard, the Applicant proposes a canopy structure extending from the drive-through pickup window toward the Telegraph Road property line, creating a visual connection between the development and public right-of-way. The canopy setback along Telegraph Road is approximately 2 feet 6 inches, while the building setback is approximately 31 feet. Along Alburdis Avenue, the building setback is approximately 78 feet 7 inches.

The additional setback along Alburdis Avenue accommodates the dual-lane drive-through configuration and landscape buffer, maximizing vehicle stacking while maintaining separation between vehicle circulation and the public right-of-way.

### Zone Variance Case No. 95 – Frontages

Pursuant to Zoning Code Section 155.175.14, MU Zone ground-floor and street-facing façades are required to incorporate design enhancements intended to create an active and pedestrian-oriented environment. The Applicant proposes to deviate from the following standards:

- 155.175.14 (A) (3): Entrances. Street-facing façades shall provide a minimum of one entrance per 100 feet of frontage that opens directly onto the sidewalk or another public open space.
- 155.175.14 (A) (4): Transparency. Street-facing façades shall incorporate glazing for a certain percentage of the building frontage between two and ten feet in height from sidewalk elevation. Windows shall provide views into display, lobby, sales, work, or similar active areas.
  - Subsection(a): For non-residential and residential common space uses, at least 60 percent of the frontage shall be transparent.
- 155.175.14 (B) (2): Transparency. Street-facing façades shall incorporate glazing for at least 30 percent of the façade, including ground floor transparency.
- 155.175.14 (D): Minimum window area required for nonresidential buildings.
  - (1): Building façades facing a street must have windows, display areas, or glass doorways for at least 40 percent of the area of the ground level wall area.
  - (2): Building façades facing a primary street must have windows, display areas, or glass doorways for at least 60 percent of the area of the ground level wall area.
  - (3): The ground level wall area is the wall area above two feet and below ten feet, as measured from the finished grade (see Figure 1 below).
  - (4): The window and door openings counting toward meeting this transparency requirement shall consist of glass that is relatively clear and non-reflective, with a minimum visible light transmittance of 0.65 and maximum visible light reflectance of 0.20.

The requested deviations relate primarily to entrance, glazing, and transparency standards that are incompatible with the proposed drive-through-only use. Traditional MU Zone developments are generally designed as pedestrian-oriented storefronts with publicly accessible interior spaces and display areas visible from the street. Because the proposed building is not open to the public, the project cannot provide a public entrance directly facing the street.

Although the building is not publicly accessible, the project incorporates pedestrian-oriented features consistent with the intent of the MU Zone, including a walk-up ordering window, weather-protected pedestrian area, and enhanced landscaping adjacent to the walk-up service area. While the project cannot provide transparent glazing into active public interior spaces, the Applicant proposes large spandrel glass elements along the street-facing elevations to provide architectural articulation and maintain consistency with the visual intent of the MU Zone design standards.

## **ENVIRONMENTAL**

### **CEQA**

After staff review and analysis, staff made a preliminary determination that the project qualifies for a categorical exemption from CEQA. The specific exemption is Class 3, Section 15303 (New Construction or Conversion of Small Structures). The project consists of the construction of a 1,025-square-foot drive-through beverage establishment, which falls within the scope of the exemption as “a store, motel, office, restaurant, or similar structure not involving the use of significant amounts of hazardous substances, and not exceeding 2,500 square feet in floor area.” Staff intends to file a Notice of Exemption (NOE) with the Los Angeles County Clerk (if the Planning Commission agrees), finding that the proposed project is Categorically Exempt pursuant to Sections 15303, Class 3 (New Construction or Conversion of Small Structures) of the CEQA Guidelines.

Lastly, the project site is not included on a Cortese list and is not identified on the EPA’s database (Environfacts).

### **Traffic**

The City of Santa Fe Springs Transportation Study Guidelines (February 2023) provide details on appropriate screening thresholds that can be used to identify when a proposed land use project is anticipated to result in a less-than-significant impact without conducting a more detailed level analysis. Screening criteria are broken down into the following criteria: 1) Project size; 2) Locally serving retail; 3) Project located in a low VMT area; 4) transit proximity; 5) Affordable housing; and 6) Transportation facilities. Development projects that meet one or more of the previously mentioned screening thresholds may be presumed to create a less-than-significant impact on transportation and circulation.

A Vehicle Miles Traveled (VMT) screening assessment was prepared for the project in accordance with Senate Bill (SB) 743 and the City of Santa Fe Springs Transportation Study Guidelines. The proposed Dutch Bros is a 1,025 square-foot drive-through coffee shop, which qualifies as a locally serving retail use. Per the City’s VMT Screening Guidance (Table 1 of the Transportation Study Guidelines), locally serving retail uses that are 50,000 square feet or less (including restaurants and cafés) are presumed to result in a less-than-significant VMT impact under CEQA and may be screened

from further VMT analysis. Accordingly, the project qualifies for the Locally Serving Retail screening criterion and a detailed VMT analysis is not required.

In addition to the VMT screening, a Traffic Study (Attachment E Exhibit B) submitted by the Applicant further analyzed potential traffic impacts. Intersection operations were evaluated under Existing, Existing Plus Cumulative, and Existing Plus Cumulative Plus Project conditions. The analysis indicated that all six study intersections are anticipated to continue operating at acceptable levels of service (LOS) conditions during both the weekday AM and PM peak hours under all analyzed scenarios. The addition of project-generated traffic does not cause any study intersection to exceed the City's minimum acceptable LOS D threshold. It should be noted that the City's Traffic Engineer reviewed and accepted the Traffic Study and determined that no additional studies or detailed analysis are required.

## **DISCUSSION**

### Authority of the Planning Commission

#### Development Plan Approval

The Planning Commission has the authority, subject to the procedures set forth in the City's Zoning Code, to grant a DPA when it has been found that said approval is consistent with the requirements, intent, and purpose of the City's Zoning Code. The Commission may grant, conditionally grant, or deny approval of a proposed development plan based on the evidence submitted and upon its own study and knowledge of the circumstances involved, or it may require submission of a revised development plan.

#### Criteria for Granting a Development Plan Approval

The Commission should note that in accordance with Section 155.739 of the City's Zoning Code, before granting a DPA, the Commission shall give consideration to the following:

- (A) That the proposed development is in conformance with the overall objectives of this chapter.
- (B) That the architectural design of the proposed structures is such that it will enhance the general appearance of the area and be in harmony with the intent of this chapter.
- (C) That the proposed structures be considered on the basis of their suitability for their intended purpose and on the appropriate use of materials and on the principles of proportion and harmony of the various elements of the buildings or structures.
- (D) That consideration be given to landscaping, fencing and other elements of the proposed development to ensure that the entire development is in harmony with the objectives of this chapter.
- (E) That it is not the intent of this subchapter to require any particular style or type of architecture other than that necessary to harmonize with the general area.

- (F) That it is not the intent of this subchapter to interfere with architectural design except to the extent necessary to achieve the overall objectives of this chapter.
- (G) As a means of encouraging residential development projects to incorporate units affordable to extremely low income households and consistent with the city's housing element, the city will waive Planning Department entitlement fees for projects with a minimum of 10% extremely low income units. For purposes of this section, extremely low income households are households whose income does not exceed the extremely low-income limits applicable to Los Angeles County, as published and periodically updated by the state's Department of Housing and Community Development Pursuant to Cal. Health and Safety Code § 50106.

#### Criteria for Granting a DPA within the D, Design, Zone

In addition to the aforementioned DPA consideration, in accordance with Section 155.349 of the City's Zoning Code, the Planning Commission shall also take into consideration the following:

- (A) The general exterior appearance of the buildings, including height, bulk, size, and shape.
- (B) The color and texture of surface material and exterior construction.
- (C) The size and spacing of windows, doors, and other openings.
- (D) The type and pitch of roofs, towers, chimneys, and other roof structures.
- (E) The relationship to existing buildings and structures in the area.
- (F) Consideration should also be given to probable future uses and structures in the area, based on the master plan, precise plans or redevelopment plans for the area.
- (H) The setback and landscaping of yard areas.
- (I) The illumination of buildings, grounds, parking areas, and signs.
- (J) Any other feature or item having a direct relationship to the general appearance of the buildings and premises.

#### Conditional Use Permit

The Planning Commission has the authority, subject to the procedures set forth in the City's Zoning Code, to grant a Conditional Use Permit when it has been found that said approval is consistent with the requirements, intent, and purpose of the City's Zoning Code. The Commission may grant, conditionally grant, or deny a conditional use permit based on the evidence submitted and upon its study and knowledge of the circumstances involved, or it may require submission of a revised

development plan if deemed necessary to preserve the general appearance and welfare of the community.

#### Criteria for Granting a Conditional Use Permit

The Commission should note that in accordance with Section 155.716 of the City's Zoning Code, before granting a CUP, the Commission shall give consideration to the following:

- (A) That the proposed use will not be detrimental to persons or property in the immediate vicinity, and will not adversely affect the city in general.
- (B) Give due consideration to the appearance of any proposed structure and may require revised architectural treatment if deemed necessary to preserve the general appearance and welfare of the community.

#### Zone Variance

The Planning Commission shall have the authority, subject to the procedures set forth in the City's Zoning Code, to grant variances from any provision of the City's Zoning Code relating to the use and development of land when it is found that the strict and literal interpretation of such provisions would cause undue difficulties and unnecessary hardships inconsistent with the intent and general purpose of the City's Zoning Code.

#### Criteria for Granting a Zone Variance

The Commission should note that in accordance with Section 155.675 of the City's Zoning Code, before granting a ZV, the Commission shall give consideration to the following:

- (A) That there are exceptional or extraordinary circumstances or conditions applicable to the property or to the intended use that do not apply generally to other properties or uses in the same vicinity and zone.
- (B) That such variance is necessary for the preservation and enjoyment of a substantial property right possessed by other properties in the same vicinity and zone district, but which is denied to the property in question.
- (C) That the granting of such variance will not be detrimental to the public welfare or injurious to the property or improvements of others in the vicinity.
- (D) That the granting of such variance will not adversely affect the master plan of the city.

**SUMMARY/NEXT STEPS**

Conditions of Approval

On April 14, 2026, the Community Development Department (“CDD”) circulated a project summary and all application materials to various city departments for their review, comments, and input on the conditions of approval. In addition to the CDD’s conditions, the Public Works (Engineering), Fire (Environmental & Rescue), Police Services, and Waste Management Departments provide additional and modified conditions. A detailed list of these conditions is provided in Exhibit A of Attachment E.

Public Notification

This matter was set for Public Hearing in accordance with the requirements of Sections 65090 and 65091 of the State Planning, Zoning, and Development Laws and the requirements of Sections 155.860 through 155.864 of the City’s Municipal Code.

Legal notice of the Public Hearing for the proposed project was sent by first-class mail to all property owners whose names and addresses appear on the latest County Assessor’s Roll within 500 feet of the exterior boundaries of the subject property on May 28, 2026. The legal notice was also posted in Santa Fe Springs City Hall, the City’s Town Center Kiosk, and the City’s library on May 28, 2026, and published in a newspaper of general circulation (Los Cerritos Community Newspaper) on May 29, 2026, as required by the State Zoning and Development Laws and by the City’s Zoning Code.

**ATTACHMENT(S):**

1. Attachment A – Aerial Photograph
2. Attachment B – Public Hearing Notice
3. Attachment C – Radius Map of Public Hearing
4. Attachment D – Development Plans
5. Attachment E – Resolution No. 322-2026
  - a. Exhibit A – Conditions of Approval
  - b. Exhibit B – Traffic Study

**ITEM STATUS:**

APPROVED:

DENIED:

TABLED:

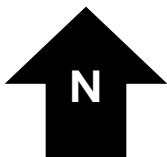
DIRECTION GIVEN:

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Planning Commission  
Secretary, Esmeralda Elise

**Attachment A**

Aerial Photograph



**11701 Telegraph Road**

Development Plan Approval (DPA) Case No. 1019


Conditional Use Permit (CUP) Case No. 859

Zone Variance (ZV) Case No. 94 and 95

**Attachment B**

Public Hearing Notice

**FILE COPY**



DEPARTMENT OF COMMUNITY DEVELOPMENT

11710 Telegraph Road  
Santa Fe Springs, CA 90670

(562) 868-0511

**\$000.01**

05/28/2026 ZIP 90670  
043M31 santafesprings.gov

**NOTICE OF PUBLIC HEARING  
DEVELOPMENT PLAN APPROVAL CASE NO. 1019  
CONDITIONAL USE PERMIT CASE NO. 859  
ZONE VARIANCE CASE NOS. 94 & 95**

**NOTICE IS HEREBY GIVEN** that the Planning Commission of the City of Santa Fe Springs will hold a Public Hearing to consider the following:

**DEVELOPMENT PLAN APPROVAL CASE NO. 1019:** To construct a new 1,025 square-foot drive-through building within the MU-D, Mixed Use-Design, Zone

**CONDITIONAL USE PERMIT CASE NO. 859:** To establish, operate and maintain a drive-through beverage establishment

**ZONE VARIANCE CASE NOS. 94 AND 95:** To deviate from the MU Zone development standards for setbacks and frontages, respectively

**PROJECT LOCATION:** 11701 Telegraph Road, Santa Fe Springs, CA, 90670

**APPLICANT:** Core States Group on behalf of Dutch Bros LLC

**CEQA STATUS:** The Planning Commission will determine whether the project qualifies for a categorical exemption from the California Environmental Quality Act (CEQA) pursuant to Section 15303 – Class 3 (New Construction or Conversion of Small Structures) of the CEQA Guidelines.

**THE HEARING** will be held before the Planning Commission of the City of Santa Fe Springs in the Council Chambers of the City Hall, 11710 Telegraph Road, Santa Fe Springs, on **Monday, June 8, 2026 at 6:00 p.m.**

**ALL INTERESTED PERSONS** are invited to participate in the Public Hearing and express their opinion on the item listed above. Please note that if you challenge the aforementioned item in court, you may be limited to raising only those issues raised at the Public Hearing, or in written correspondence to the office of the Commission at, or prior to the Public Hearing.

**PUBLIC COMMENTS** may be submitted in writing to the Community Development Department at City Hall, 11710 Telegraph Road, Santa Fe Springs CA 90670 or e-mail the Planning Commission Secretary, Esmeralda Elise, at [esmeraldaelise@santafesprings.gov](mailto:esmeraldaelise@santafesprings.gov). Please submit your written comments by 12:00 p.m. on the day of the Planning Commission meeting. You may also contact the Community Development Department at (562) 868-0511 ext. 7550.

**FURTHER INFORMATION** on this item may be obtained from Alejandro De Loera, Associate Planner, via e-mail at [alejandrodeloera@santafesprings.gov](mailto:alejandrodeloera@santafesprings.gov) or by phone at: (562) 868-0511 ext. 7358.

**Mayor**  
Joe Angel Zamora

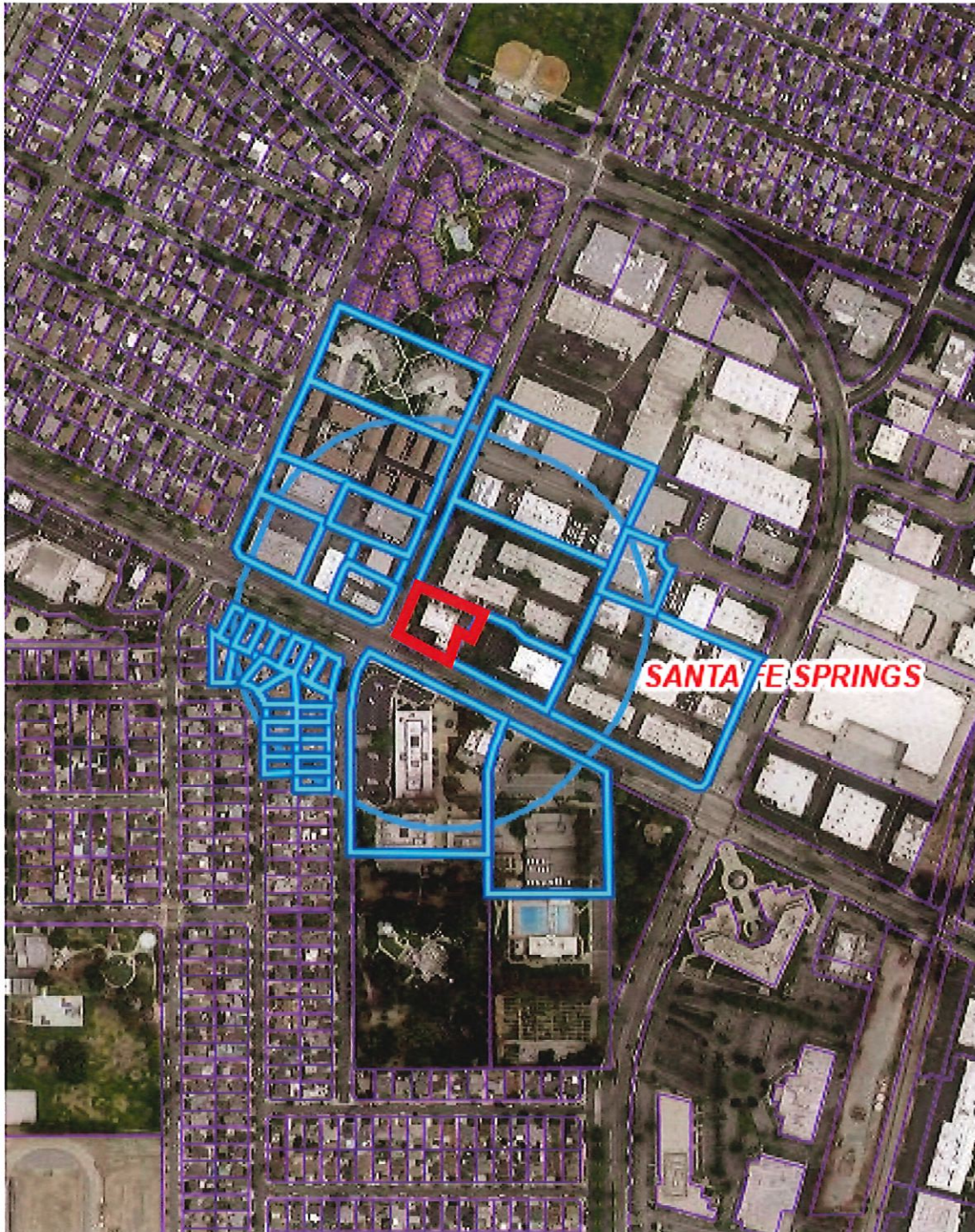
**Mayor Pro Tem**  
Annette Rodriguez

**City Council**  
Juanita Martin • John M. Mora • William K. Rounds

**City Manager**  
René Bobadilla, PE

**Attachment C**

Radius Map of Public Hearing



# CORE STATES

GROUP

500-FOOT PARCEL BUFFER  
Dutch Bros Coffee  
CSG #24472  
11709 Telegraph Rd, Santa Fe  
Springs, CA 90670

**Attachment D**

Development Plan





LOOKING NORTH WEST



LOOKING NORTH EAST

**Attachment E**

Resolution No. 322-2026

- A. Exhibit A – Conditions of Approval
- B. Exhibit B – Traffic Study

**CITY OF SANTA FE SPRINGS**  
**RESOLUTION NO. 322-2026**

**A RESOLUTION OF THE PLANNING COMMISSION OF  
THE CITY OF SANTA FE SPRINGS REGARDING  
DEVELOPMENT PLAN APPROVAL (DPA) CASE NO. 1019  
CONDITIONAL USE PERMIT (CUP) CASE NO. 859  
ZONE VARIANCE (ZV) CASE NOS. 94 & 95**

WHEREAS, a request was filed for DPA Case No. 1019, CUP Case No. 859, and ZV Case Nos. 94 and 95 to construct, operate, and maintain a new 1,025 square foot drive-through beverage establishment within the Mixed-Use-Design, MU-D, Zone and to deviate from the MU Zone design standards; and

WHEREAS, the subject property is located at 11701 Telegraph Road, with Assessor Parcel Numbers of 8005-008-035, as shown in the latest rolls of the Los Angeles County Office of the Assessor; and

WHEREAS, the property owner is Hillandale Drive Properties LLC, 1930 West Rio Salado Parkway, Tempe, Arizona 85281; and

WHEREAS, the applicant is Core States Group, on behalf of Dutch Bros LLC; and

WHEREAS, the proposed development, which includes DPA Case No. 1019, CUP Case No. 859, and ZV Case Nos. 94 and 95 is considered a project as defined by the California Environmental Quality Act (CEQA), Article 20, Section 15378(a); and

WHEREAS, based on the information received from the applicant and staff's assessment, it was found and determined that the proposed project will not have a significant adverse effect on the environment, and that the project qualifies for a categorical exemption from CEQA. The specific exemption is Class 3, Section 15303 (New Construction or Conversion of Small Structures); and

WHEREAS, the City of Santa Fe Springs Community Development Department on May 29, 2026 published a legal notice in the *Los Cerritos Community Newspaper*, a local paper of general circulation, indicating the date and time of the public hearing, and also mailed said public hearing notice on May 28, 2026 to each property owner within a 500-foot radius of the project site in accordance with state law; and

WHEREAS, the City of Santa Fe Springs Planning Commission has considered the application, the written and oral staff report, the General Plan, and zoning of the subject property, the testimony, written comments, or other materials presented at the Planning Commission meeting on June 8, 2026, concerning DPA Case No. 1019, CUP Case No. 859, and ZV Case Nos. 94 and 95.

NOW, THEREFORE, be it RESOLVED that the PLANNING COMMISSION of the CITY OF SANTA FE SPRINGS does hereby RESOLVE, DETERMINE, and ORDER AS FOLLOWS:

## SECTION I. ENVIRONMENTAL FINDINGS AND DETERMINATION

The proposed development is considered a project under the California Environmental Quality Act (CEQA); and as a result, the project is subject to the City's environmental review process. After staff review and analysis, staff made a preliminary determination that the project qualifies for a categorical exemption from CEQA. The specific exemption is Class 3, Section 15303 (New Construction or Conversion of Small Structures). The project consists of the construction of a 1,025-square-foot drive-through beverage establishment, which falls within the scope of the exemption as "a store, motel, office, restaurant, or similar structure not involving the use of significant amounts of hazardous substances and not exceeding 2,500 square feet in floor area."

The City of Santa Fe Springs Transportation Study Guidelines (February 2023) provide details on appropriate screening thresholds that can be used to identify when a proposed land use project is anticipated to result in a less-than-significant impact without conducting a more detailed level analysis.

A Vehicle Miles Traveled (VMT) screening assessment was prepared for the project in accordance with Senate Bill (SB) 743 and the City of Santa Fe Springs Transportation Study Guidelines. The proposed Dutch Bros is a 1,025 square-foot drive-through coffee shop, which qualifies as a locally serving retail use. Per the City's VMT Screening Guidance (Table 1 of the Transportation Study Guidelines), locally serving retail uses that are 50,000 square feet or less (including restaurants and cafés) are presumed to result in a less-than-significant VMT impact under CEQA and may be screened from further VMT analysis. The proposed project falls below this 50,000 square-foot threshold, and no substantial unique or regional-draw characteristics have been identified that would require additional evidence of local-serving status. Accordingly, the project qualifies for the Locally Serving Retail screening criterion and a detailed VMT analysis is not required.

Lastly, the project site is not included on a Cortese list and is not identified on the EPA's database (Environfacts).

## SECTION II: DEVELOPMENT PLAN APPROVAL FINDINGS

Pursuant to Section 155.739 of the City of Santa Fe Springs Zoning Code, the Planning Commission shall consider the following findings in its review and determination of the subject Development Plan Approval. Based on the available information, the City of Santa Fe Springs Planning Commission hereby makes the following findings:

- (A) *That the proposed development is in conformance with the overall objectives of this chapter.*

The proposed project is located within the MU-D, Mixed-Use-Design, Zone. Pursuant to Section 155.175.1, the purpose of the MU Zone is to provide “opportunities to create mixed use corridors, such as Telegraph Road. The zone encourages mixed-use development along key frontages, with landscaped street edges designed to protect pedestrians and buildings from automobile and truck traffic. A mix of uses is permitted, including multi-family residential (up to 40 units per acre), retail and service commercial, office, dining, and small-scale entertainment”

The proposed project is consistent with the purpose of the MU-D Zone in the following manner:

1. The Project Site is appropriate for food and beverage establishment uses based on its zoning of MU-D and its General Plan Land Use Designation of Mixed-Use.
2. A drive-through restaurant is listed as a conditional permitted use in the MU-D Zone.
3. The proposed project will result in a new drive-through establishment and associated improvements; therefore, the proposed use is consistent with the existing General Plan and zoning designation.
4. The project involves the construction of a new commercial building, which will maximize the value of a prominent corner property along the Telegraph Road corridor.
5. The proposed drive-through beverage establishment will complement existing and future commercial uses along the Telegraph Road mixed-use corridor by providing an additional dining and beverage amenity serving employees, residents, and visitors within the surrounding area.

The proposed building and site improvements will significantly enhance the appearance of the Project Site through the replacement of an aging commercial structure with a contemporary commercial development incorporating upgraded architecture, landscaping, and pedestrian-oriented features.

The building incorporates a contemporary architectural design with materials including stucco, brick, metal accents, and spandrel glass elements that contribute to an attractive and cohesive development.

(B) *That the architectural design of the proposed structures is such that it will enhance the general appearance of the area and be in harmony with the intent of this chapter.*

The Applicant is proposing to demolish an existing commercial building and replace it with a new drive-through building. The new building will be contemporary in design and include various materials, including stucco, brick, metal accents, and spandrel glass. The proposed building will enhance the general appearance of the area and therefore will be in harmony with the intent of the chapter.

- (C) *That the proposed structures be considered on the basis of their suitability for their intended purpose and on the appropriate use of materials and on the principles of proportion and harmony of the various elements of the buildings or structures.*

The proposed building is appropriately designed for the intended Dutch Bros operations while balancing operational efficiency, vehicle circulation, pedestrian accessibility, and compatibility with surrounding development. The 1,025-square-foot building reflects the operational efficiency and circulation needs associated with the proposed drive-through beverage establishment. The site design includes dual drive-through lanes, a bypass lane, and a pedestrian walk-up ordering window to accommodate customer circulation and operational demands.

The single-story structure incorporates contemporary architectural elements and purpose-built canopy structures serving both the drive-through and pedestrian ordering areas. The proposed materials and building features create a cohesive architectural design that reflects appropriate proportions and harmony among the various elements of the development.

- (D) *That consideration be given to landscaping, fencing and other elements of the proposed development to ensure that the entire development is in harmony with the objectives of this chapter.*

Considerable attention has been given to landscaping, screening, and other site design elements throughout the planning of the proposed project to ensure consistency with the objectives of the MU-D Zone. Landscaping is concentrated along Telegraph Road and Alburdis Avenue to enhance the appearance of the site from the public right-of-way and strengthen the pedestrian environment. The Project includes six (6) new 24-inch box trees throughout the site, in addition to substantial landscaped areas surrounding the drive-through lanes and pedestrian walk-up area. A landscaped buffer is also provided between the drive-through circulation area and the pedestrian ordering area to improve pedestrian comfort and safety.

Additionally, the development will include a 3-foot 6-inch tall hedge screen, as permitted by the City's Zoning Code, to reduce direct headlight impacts onto adjacent properties. No additional fencing is proposed on-site. The Planning Commission therefore finds that the proposed landscaping, screening, and related site improvements contribute to an attractive and cohesive development that is harmonious with the objectives of this chapter.

- (E) *That it is not the intent of this subchapter to require any particular style or type of architecture other than that necessary to harmonize with the general area.*

As stated previously, the proposed building is specifically designed for a drive-through Dutch Bros establishment and incorporates a contemporary architectural style consisting of stucco, brick, metal accents, and spandrel glass elements. The

Planning Commission therefore finds that the proposed architectural design and building materials will harmonize with the surrounding area while remaining consistent with the objectives of the MU-D Zone.

- (F) *That it is not the intent of this subchapter to interfere with architectural design except to the extent necessary to achieve the overall objectives of this chapter.*

Pursuant to Section 155.736 of the Zoning Ordinance, “The purpose of the development plan approval is to ensure compliance with the provisions of this chapter and to give proper attention to the siting of new structures or additions or alterations to existing structures, particularly in regard to unsightly and undesirable appearance, which would have an adverse effect on surrounding properties and the community in general.”

As detailed in the previous findings, the Planning Commission finds that proper consideration has been given to the location, scale, architectural design, landscaping, and operational characteristics of the proposed project. The proposed development incorporates appropriate site planning and architectural enhancements that are consistent with the overall objectives of this chapter.

- (G) *As a means of encouraging residential development projects to incorporate units affordable to extremely low income households and consistent with the city's housing element, the city will waive Planning Department entitlement fees for projects with a minimum of 10% extremely low income units. For purposes of this section, extremely low income households are households whose income does not exceed the extremely low-income limits applicable to Los Angeles County, as published and periodically updated by the state's Department of Housing and Community Development Pursuant to Cal. Health and Safety Code § 50106.*

The Planning Commission finds that the proposed project is not a residential development; therefore, the requirements pertaining to low-income units do not apply.

In addition to the aforementioned DPA findings, in accordance with Section 155.349 of the City's Zoning Code, the Planning Commission also took into consideration the following:

- (A) *The general exterior appearance of the buildings, including height, bulk, size, and shape.*

The proposed project consists of a new 1,025-square-foot single-story drive-through beverage establishment with a maximum height of 24 feet. The building has been designed with a contemporary architectural style that incorporates articulated facades, canopy structures, and varying materials to reduce visual massing and create an attractive appearance from adjacent public streets. The overall size, bulk, and scale of the building are compatible with the surrounding

commercial development pattern and appropriate for the prominent corner location adjacent to the City Hall and Civic Center area.

(B) *The color and texture of surface material and exterior construction.*

The proposed building incorporates a coordinated palette of materials and finishes including stucco, brick, metal accents, and spandrel glass elements. The variation in textures and materials provides architectural articulation and visual interest along all street-facing elevations. The proposed materials and exterior construction are contemporary in design and contribute positively to the visual quality of the surrounding area.

(C) *The size and spacing of windows, doors, and other openings.*

The proposed building incorporates windows, canopy openings, and pedestrian-oriented features designed to complement the operational characteristics of the drive-through beverage establishment. While the building is not open to the public, the project includes a walk-up ordering and pickup window, spandrel glass elements, and architectural openings that create visual articulation along the street-facing elevations. The size and placement of these elements are proportionate to the building design and contribute to the overall architectural character of the development.

(D) *The type and pitch of roofs, towers, chimneys, and other roof structures.*

The proposed building incorporates a contemporary roof design with parapet elements, multiple canopy structures, and Dutch Bros' signature blue tower feature, which serves as a prominent architectural element for the development. The roof forms and canopy structures are integrated into the overall architectural design and provide visual interest while supporting the operational needs of the drive-through and walk-up service areas. No chimneys or incompatible roof structures are proposed.

(E) *The relationship to existing buildings and structures in the area.*

The proposed project is compatible with the surrounding mix of commercial, office, public facility, and service-oriented uses within the Telegraph Road corridor. The redevelopment of the existing site with a contemporary commercial building, enhanced landscaping, and pedestrian improvements will improve the appearance of the property and contribute positively to the surrounding area, including the adjacent Civic Center and City Hall uses.

(F) *Consideration should also be given to probable future uses and structures in the area, based on the master plan, precise plans or redevelopment plans for the area.*

The City's General Plan designates the Project Site as Mixed Use, with the intent of creating an attractive and pedestrian-oriented corridor consisting of a variety of commercial, retail, dining, entertainment, office, and residential uses. The project incorporates contemporary architecture, enhanced landscaping, pedestrian improvements, and an expanded public sidewalk along Telegraph Road, all of which support the General Plan's vision for an attractive and cohesive mixed-use corridor.

(H) *The setback and landscaping of yard areas.*

The project incorporates enhanced landscaping throughout the site, including substantial landscaped areas along Telegraph Road and Alburto Avenue, six (6) new 24-inch box trees, and landscape buffers adjacent to the drive-through circulation areas. Although the proposed setbacks deviate from certain MU standards, the additional setback areas accommodate landscaped buffers and pedestrian improvements that enhance the appearance of the site and improve separation between vehicle circulation and the public right-of-way. Additionally, the existing sidewalk along Telegraph Road will be widened from approximately four feet to ten feet, improving pedestrian accessibility and the streetscape environment.

(I) *The illumination of buildings, grounds, parking areas, and signs.*

All proposed building, parking area, and site lighting will be required to comply with the City's Zoning Code and applicable performance standards. Lighting associated with the development will be designed and directed to adequately illuminate the site for operational and public safety purposes while minimizing glare and spillover onto adjacent properties and public rights-of-way.

(J) *Any other feature or item having a direct relationship to the general appearance of the buildings and premises.*

Additional site improvements including decorative paving, canopy structures, coordinated signage, pedestrian walk-up service areas, and enhanced landscaping contribute to the overall visual quality of the development. The project also includes operational features intended to reduce vehicle queuing impacts, noise, and vehicle idling, including dual drive-through lanes, a bypass lane, and handheld ordering devices in lieu of traditional speaker boxes. Collectively, these features contribute to an orderly, attractive, and well-designed development that is consistent with the purpose and intent of the Design Zone.

SECTION III. CONDITIONAL USE PERMIT FINDINGS

Pursuant to Section 155.716 of the City of Santa Fe Springs Zoning Code, the Planning Commission shall consider the following findings in its review and determination of the subject Conditional Use Permit. Based on the available information, the City of Santa Fe Springs Planning Commission hereby makes the following findings:

- (A) That the proposed use will not be detrimental to persons or property in the immediate vicinity, and will not adversely affect the city in general.

The Project Site is located within the MU-D, Mixed-Use-Design Zone and has a General Plan land use designation of Mixed-Use. A drive-through beverage establishment, subject to approval of a Conditional Use Permit, is consistent with the site's zoning and General Plan land use designation.

A primary operational consideration associated with drive-through developments is ensuring that vehicle queuing does not spill onto adjacent public streets, including Telegraph Road and Alburdis Avenue. To address this concern, the Applicant proposes a dual-lane drive-through configuration capable of accommodating up to 23 vehicles on-site without impacting internal circulation. The project also incorporates a dedicated bypass lane, directional signage, and operational procedures intended to facilitate efficient vehicle circulation throughout the site.

Additionally, Dutch Bros utilizes handheld ordering and payment devices within the drive-through queue, reducing customer wait times and improving operational efficiency compared to traditional drive-through facilities utilizing menu boards and speaker systems. The Applicant will also maintain on-site staff responsible for monitoring and directing traffic circulation as necessary.

Additional operational measures are included within the proposed Traffic Management Plan to address potential queuing, circulation, and customer demand concerns associated with high-volume drive-through operations, including the use of cones, signage, coordination with adjacent properties, and the potential use of off-duty police officers during periods of high customer demand. Furthermore, conditions of approval have been imposed to ensure compliance with all applicable operational and performance standards of the City's Zoning Code, including standards related to traffic circulation, noise, lighting, and site maintenance.

Therefore, the Planning Commission finds that, subject to compliance with all conditions of approval, the proposed drive-through beverage establishment will not be detrimental to surrounding properties or the City in general.

- (B) Give due consideration to the appearance of any proposed structure and may require revised architectural treatment if deemed necessary to preserve the general appearance and welfare of the community.

Extensive consideration has been given to the architectural design and overall

appearance of the proposed project. The proposed building incorporates a contemporary architectural design featuring a variety of materials, including stucco, brick, metal accents, and spandrel glass elements.

The project also includes enhanced landscaping, pedestrian improvements, and coordinated site design features that contribute positively to the appearance of the property and surrounding area. The Planning Commission therefore finds that the proposed architectural design and associated site improvements will preserve and enhance the general appearance and welfare of the community.

#### SECTION IV. ZONE VARIANCE FINDINGS

Pursuant to Section 155.675 of the City of Santa Fe Springs Zoning Code, the Planning Commission shall consider the following findings in its review and determination of the subject Zone Variances. Based on the available information, the City of Santa Fe Springs Planning Commission hereby makes the following findings:

- (A) *That there are exceptional or extraordinary circumstances or conditions applicable to the property or to the intended use that do not apply generally to other properties or uses in the same vicinity and zone.*

Drive-through uses face extraordinary conditions within the MU-D Zone, because the operational characteristics of drive-through facilities differ substantially from traditional pedestrian-oriented storefront development patterns contemplated by certain MU-D development standards.

##### ZV Case No. 94

The physical and operational characteristics associated with drive-through developments create unique site design constraints that do not generally apply to other commercial uses within the MU-D Zone. Unlike traditional storefront developments, drive-through uses must accommodate vehicle maneuvering areas, queuing lanes, bypass lanes, and circulation aisles in order to function safely and efficiently.

The proposed project incorporates dual drive-through lanes capable of accommodating up to 23 vehicles on-site, which requires additional setbacks from the public right-of-way to maintain adequate circulation and stacking capacity. Strict compliance with the MU-D setback standards would substantially limit the functionality of the proposed drive-through use and reduce the site's ability to safely accommodate vehicle circulation without spillover onto adjacent streets.

##### ZV Case No. 95

The purpose of the various window, glazing, and transparency requirements within the MU-D Zone is to promote pedestrian-level engagement with traditional commercial storefronts. Unlike conventional retail establishments, drive-through-only beverage uses generally do not contain active display areas, publicly accessible interiors, or storefront-oriented customer activity. The proposed building will primarily consist of beverage preparation stations, employee

circulation areas, storage space, and other operational components that are not intended for public access or viewing.

Additionally, because the proposed Dutch Bros building is not open to the public, the project cannot reasonably provide public-facing entrances consistent with traditional storefront developments. Nevertheless, the Applicant proposes spandrel glass elements, pedestrian-oriented landscaping, and a walk-up ordering window to further the visual and pedestrian-oriented intent of the MU-D Zone standards.

- (B) *That such variance is necessary for the preservation and enjoyment of substantial property right possessed by other properties in the same vicinity and zone district, but which is denied to the property in question.*

ZV Case Nos. 94 and 95

The granting of the requested variances is necessary to preserve substantial property rights enjoyed by other commercially zoned properties that are permitted to develop with drive-through uses and modern commercial site configurations. The proposed drive-through beverage establishment is a conditionally permitted use within the MU-D Zone; however, strict application of the MU-D development standards related to setbacks, entrances, and transparency would effectively prevent the reasonable development and operation of the property with a drive-through component.

The requested variances allow the property to be developed in a manner consistent with the operational characteristics of contemporary drive-through establishments while still substantially advancing the intent of the MU-D Zone through enhanced landscaping, pedestrian improvements, contemporary architecture, and a walk-up ordering component. Therefore, the requested variances are necessary to preserve the reasonable use and development potential of the property.

- (C) *That the granting of such variance will not be detrimental to the public welfare or injurious to the property or improvements of others in the vicinity.*

ZV Case Nos. 94 and 95

The granting of the requested variances will not be detrimental to the public welfare or injurious to nearby properties or improvements. The proposed project has been designed with operational and site planning features intended to minimize potential impacts associated with the drive-through use, including dual drive-through lanes, a dedicated bypass lane, on-site vehicle stacking capacity for up to 23 vehicles, directional signage, and employee-managed traffic circulation procedures.

Additionally, the project incorporates enhanced landscaping, pedestrian improvements, architectural enhancements, and screening elements that will improve the visual appearance of the site and maintain compatibility with surrounding development. Conditions of approval have also been imposed to ensure the project operates in compliance with all applicable City standards. The Planning Commission therefore finds that the granting of the requested variances

will not be detrimental to the public welfare or injurious to surrounding properties.

- (D) *That the granting of such variance will not adversely affect the master plan of the city.*

The City's General Plan designates the Project Site as Mixed Use, with the intent of creating an attractive and pedestrian-oriented corridor consisting of a variety of commercial, retail, dining, entertainment, and residential uses.

#### ZV Case No. 94

The requested setback variance will not adversely affect the City's General Plan or the intent of the Mixed-Use designation. Although the proposed building setbacks deviate from MU-D development standards, the project incorporates substantial pedestrian-oriented and streetscape improvements consistent with the objectives of the Mixed-Use corridor. These improvements include enhanced landscaping along Telegraph Road and Alburto Avenue, a pedestrian walk-up ordering window, and an expanded public sidewalk along Telegraph Road increasing the existing sidewalk width from approximately four feet to ten feet.

Additionally, the increased setback along Alburto Avenue accommodates the dual-lane drive-through configuration and associated landscape buffer necessary to maintain safe and efficient on-site vehicle circulation. The proposed drive-through beverage establishment is complementary to the existing and planned commercial character of the Telegraph Road corridor. Therefore, the Planning Commission finds that the requested setback variance will not adversely affect the master plan of the City.

#### ZV Case No. 95

The requested frontage-related variances will not adversely affect the City's General Plan or the intent of the Mixed-Use designation. While the MU-D frontage standards are intended to promote pedestrian-oriented storefronts with active display windows and publicly accessible entrances, such standards are not fully compatible with the operational characteristics of a drive-through-only beverage establishment.

Although the proposed project does not fully comply with the frontage transparency and entrance requirements, the project incorporates pedestrian-oriented design features including enhanced landscaping, architectural articulation, spandrel glass elements, canopy structures, and a walk-up ordering window intended to support the visual and pedestrian-oriented character of the corridor. Furthermore, the proposed drive-through beverage establishment contributes to the General Plan's vision for a vibrant mixed-use corridor containing a variety of complementary commercial uses. Therefore, the Planning Commission finds that the requested frontage-related variances will not adversely affect the master plan of the City.

## SECTION V. PLANNING COMMISSION ACTION

The Planning Commission hereby adopts Resolution No. 322-2026 to find and determine that the proposed project is Categorical Exempt pursuant to the California Environmental Quality Act, Section 15303 – Class 3 (New Construction or Conversion of Small Structures) and approve Development Plan Approval Case No. 1019, Conditional Use Permit Case No. 859, and Zone Variance Case Nos. 94 and 95 to construct, operate, and maintain a new 1,025 square foot drive-through beverage establishment within the Mixed-Use-Design, MU-D, Zone and to deviate from the MU Zone design standards, at 11701 Telegraph Road, subject to the conditions attached hereto as Exhibit A.

ADOPTED and APPROVED this 8th day of JUNE 2026 BY THE PLANNING COMMISSION OF THE CITY OF SANTA FE SPRINGS.

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Gabriel Jimenez, Chairperson

ATTEST:

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Esmeralda Elise, Planning Commission Secretary

Resolution No. 322-2026 – Attachments:

Exhibit A – Conditions of Approval

Exhibit B – Traffic Study

**CONDITIONS OF APPROVAL**  
**Dutch Bros Drive-Through Development**  
Development Plan Approval Case No. 1019  
Conditional Use Permit Case No. 859  
Zone Variance Case Nos. 94 & 95  
11701 Telegraph Road  
APN: 8005-008-035

**ENGINEERING / PUBLIC WORKS DEPARTMENT:**  
**(Contact: Alex Flores 562-868-0511 x7507)**

1. The Applicant shall pay for, and cause construction for the removal and replacement of the existing driveways on Alburdis Ave and Telegraph Road. The applicant shall construct new driveways per City standard plan R-6.4C, including any necessary adjacent sidewalk or curb and gutter per City Standard Plan R-2.1 & R-7.
2. The Applicant shall pay for, and cause construction for the removal and construction of a full width sidewalk along the Telegraph Road and Alburdis Ave property frontages (width will be from the existing curb to the property line/right-of-way, 10-feet). Replacements and new construction shall be new Portland cement concrete per City standard plan R-2.1. The work shall be shown on the development's offsite improvement plan.
3. The Applicant shall pay for, and cause construction for the removal and replacement of any curb & gutter that is damaged during construction per City Standard Plan R-7.
4. That Civil Offsite street improvement plans shall be submitted to the Public Works Engineering Department by the applicant for review and approval. The applicant shall pay review fees in conjunction with this submittal. A professional Civil Engineer registered in the State of California shall prepare the plans.
5. All abandoned oil wells, pipelines, tanks, and related lines in conflict with the development and within the public right-of-way shall be removed from the right-of-way by the applicant unless otherwise approved by the City Engineer.
6. That adequate "on-site" parking shall be provided per City requirements, and all streets abutting the development shall be posted with (CA) R-26, "No Stopping Any Time" traffic signs. The Applicant shall pay for the replacement, or installation of four (4) offsite signs. Signs to be per City Standard Detail "T-7" or "T-8", as directed by City Public Works Inspector.
7. The applicant shall pay for, and cause construction for the installation, inspection, replacement, or modification of street name signs, traffic control signs, striping,

and pavement markings required in conjunction with, or caused by the development.

8. Storm drains, catch basins, connector pipes, retention basin and appurtenances built for this project shall be constructed in accordance with City specifications in Alburdis Ave and Telegraph Road. Storm drain plans shall be approved by the City Engineer.
9. Fire hydrants shall be installed as required by the Fire Department. Existing public fire hydrants adjacent to the site, if any, shall be upgraded to current City Standard. That the applicant shall pay for, and cause construction for the installation of the upgraded fire hydrant and inspection fees.
10. That sanitary sewer laterals shall be constructed in accordance with current LA County Building Code. Engineered Plans stamped by a California Licensed Civil Engineer are required for any new sanitary sewer infrastructure for the development. Onsite private sewer lateral infrastructure shall be reviewed by the City Building Department. Any connection to the public sewer mainline shall be reviewed and approved by the City Public Works Engineering Department.
11. All new buildings shall have separate connections to the sanitary sewers.
12. The applicant shall have an overall public site utility master plan prepared by a Registered Civil Engineer showing proposed locations of all public water mains, reclaimed water mains, sanitary sewers and storm drains with connections from the private development. This plan shall be approved by the City Engineer prior to the preparation of any construction plans for the aforementioned improvements.
13. The applicant shall submit a traffic study prepared by a current California Registered, Professional Engineer. Any improvements or mitigation measures as specified by the study and as directed by the City Traffic Engineer, that are warranted based on the submitted Traffic study, shall be made as a condition of approval. The applicant and/or developer shall submit construction plans that show said improvements and shall be prepared using City standards. The applicant will pay for and cause construction of said improvements. The applicant and/or developer will pay associated plan check & inspection fees.
14. That the applicant shall have staff monitor the Telegraph driveway to prevent entry during peak hour traffic in an effort to discourage back up on Telegraph Road. Peak hours shall be from 7:00AM – 9:00AM and 3:30PM – 5:00PM.
15. That a grading plan shall be submitted for drainage approval to the City Engineer. The applicant shall pay drainage review fees in conjunction with this submittal. A professional civil engineer registered in the State of California shall prepare the grading plan.
16. That a hydrology study shall be submitted to the Building Department and the Engineering Department. The study shall be prepared by a Professional Civil

Engineer. A Low Impact Development Plan shall be submitted to the Engineering Department for review and approval, as required. All associated review and inspection fees shall be paid for by the applicant.

17. That upon completion of public improvements constructed by developers, the developer's civil engineer shall submit signed digital As-Built drawings and an electronic CAD file (AutoCAD Version 2019 or higher) to the office of the City Engineer.
18. That the applicant shall comply with the National Pollutant Discharge Elimination System (NPDES) program and shall require the general contractor to implement storm water/urban runoff pollution prevention controls and Best Management Practices (BMPs) on all construction sites in accordance with the current MS4 Permit. The applicant will also submit a Certification for the project and prepare a Storm Water Pollution Prevention Plan (SWPPP), if required.
19. That the applicant replaces existing water services to have a backflow device installed after the water meter, per SFSMC Chapter 53 standards. Backflow device to be installed close to the meter but on private property.
20. That the applicant installs a new above ground DCDA for fire line, per SFSMC Chapter 53 standards. DCDA device to be installed close to the public sidewalk but on private property.
21. All backflows or DCDA assemblies must be tested prior to establishing water service. This must be done through the BSI online portal. Please contact Water Manager regarding any questions. Assembly must be approved by Water Manager.
22. That the fire protection plan that shows any proposed new double-check valve detector assembly location, shall have a stamp approval from the Planning Department and Public Works Department prior to the Fire Department's review for approval. If a new fire water connection is needed, that a disinfection, pressure and bacteriological testing on the line between the street and detector assembly shall be performed in the presence of authorized City personnel. The valve on the water main line shall only be operated by authorized City personnel, and only upon the City's approval of the test results. The applicant shall pay for, design and cause construction for any new fire service lines from the public water main to the meter. The service line shall be reviewed, inspected and approved by the City's Water Department and Fire Department. New service lines shall follow all City and Fire Department standards and requirements.
23. Water accounts must be established prior to the water service being turned on for use.

**DEPARTMENT OF POLICE AND COMMUNITY SERVICES:**  
**(Contact: Kristen Haining 562-409-1850 x3302)**

24. That the Applicant shall submit and obtain approval of a proposed lighting (photometric) plan for the property from the City's Community Development Department. The photometric plan shall be designed to provide adequate lighting (minimum of 1-foot candle power) throughout the subject property. Further, all exterior lighting shall be designed/installed in such a manner that light and glare are not transmitted onto adjoining properties in such concentration/quantity as to create a hardship to adjoining property owners or a public nuisance. The photometric plan shall be submitted to the Community Development Department no later than sixty (60) days from the date of approval by the Planning Commission.
25. That the Applicant shall submit and obtain approval of a proposed security plan for the property from the City's Department of Police and Community Services. The security plan shall be submitted to the Director of Police and Community Services no later than sixty (60) days from the date of approval by the Planning Commission.
26. That the Applicant shall submit an Emergency Notification Form to the Department of Police and Community Services no later than sixty (60) days from the date of approval by the Planning Commission.
27. That in order to facilitate the removal of unauthorized vehicles parked on the property, the Applicant shall post, in plain view and at each entry to the property, a sign not less than 17" wide by 22" long. The sign shall prohibit the public parking of unauthorized vehicles and indicate that unauthorized vehicles will be removed at the owner's expense and also contain the California Vehicle Code that permits this action. The sign shall also contain the telephone number of the local law enforcement agency. The lettering within the sign shall not be less than one inch in height. The Applicant shall contact the Police Services Center for an inspection no later than thirty (30) days after the project has been completed and prior to the occupancy permit being issued.
28. That the proposed building, including any lighting, fencing, walls, cabinets, and poles shall be maintained in good repair and free from any trash, debris, litter, graffiti, and any other forms of vandalism. Any damage sustained shall be repaired within 72-hours of occurrence, weather permitting, to minimize occurrences of dangerous conditions or visual blight. Ensure paint, utilized in covering graffiti, matches the existing color of the existing and/or adjacent surfaces.
29. Parking facilities, including parking lot, parking stalls, and driveways, shall be properly maintained at all times. The paving on the site shall be maintained free of pot-holes or other similar damage. The Applicant shall make repairs within 72-hours of identifying any pavement deficiencies, wear, or deterioration. All parking markings (striping and directional arrows, etc.) shall be legible at all times. Should any markings become faded or illegible, Applicant must re-paint and/or repair

- accordingly. Ensure off-street parking areas are not reduced or encroached upon at any time.
30. Property must be properly maintained at all times. Applicant shall submit plans and obtain approval to build a trash enclosure onsite. Ensure trash enclosure is secured, and trash container lids are closed at all times. All trash must be disposed of in approved containers.
  31. That the Applicant shall not allow outdoor storage or any outside staging of merchandise. All storage shall be screened out of public view at all times.
  32. That the Applicant shall be responsible for maintaining control of litter, debris, boxes, pallets and trash on the subject property, and shall implement a daily clean-up program to maintain the property clean and orderly.
  33. Maintain landscaping on the property at all times. Perform routine maintenance to ensure all landscaped areas are in compliance with SFSMC §155.549.
  34. That the Applicant and/or his employees shall not allow person to loiter on the subject premises and shall immediately report all instances to the Police Department. Applicant shall maintain a current Trespass Arrest Authorization form with the Police Department and Department of Police Services at all times.
  35. The Applicant and/or lease agent shall notify any potential tenants and/or customers that they are mandated to comply with the ambient noise requirements as required by SFSMC §155.424.
  36. That delivery trucks are not to back-in from the street or block traffic at any time; drivers are subject to citations. Delivery trucks shall also not block any driveway or aisles at any time.
  37. That during the construction phase of the proposed project, the contractor/project supervisor shall provide an identification number (i.e. address number) at each building and/or entry gate to direct emergency responders in case of an emergency.
  38. That during the construction phase of the proposed project, the contractor/project supervisor shall maintain the job site in a clean and orderly manner. All trash, debris, and graffiti shall be removed immediately. Overgrown vegetation and weeds shall be cut and maintained on a regular basis. All dirt, dust, and debris that has migrated to the street shall be immediately cleaned. Portable toilets shall not be visible from the public street and maintained properly.
  39. That during the construction phase of the proposed project, the contractor/project supervisor shall ensure proper BMPs are in place to reduce any run-off from the construction site. The contractor/project supervisor will be responsible for any NPDES violations.

40. That the Applicant shall paint “STOP” lettering at the end of the drive-through driveway. In addition, a “Stop” sign and/or other signage as deemed necessary, shall be installed at the end of the drive-through lane.
41. That the Applicant shall install and maintain operating video surveillance equipment capable of monitoring register areas and exterior areas of the building and parking lot. That the recorded video shall be accessible to law enforcement personnel during any investigation.
42. That all signs installed or displayed shall first be permitted by the Community Development Department and shall be properly maintained at all times.
43. That the Applicant shall ensure that menu boards are properly maintained at all times.
44. That the Applicant shall maintain access for emergency vehicles at all times.
45. Employees shall be trained to facilitate traffic management and ensure vehicle queuing does not create road congestion or extend into public rights-of-way. In addition, Applicant shall provide an alternative queuing plan to prevent road congestion or back-up onto Telegraph Road or Alburdis Ave in the form of a Traffic Management Plan.
46. That the Applicant shall provide a detailed drive-through queuing assessment report to the Departments of Community Development and Police and Community Services within 120 days of opening to evaluate if queuing adjustments and traffic flow patterns need to be amended. The results of the assessment shall be presented to the Planning Commission. All proposed queuing adjustments and traffic flow patterns shall be to the satisfaction of the Director of Police and Community Services.
47. During peak hours (7:00 AM – 9:00 AM; 3:30 PM – 5:00 PM), the Applicant shall place signage at the Telegraph Road driveway directing drive-through traffic to access the site via the Alburdis Avenue driveway.
48. That the Applicant shall adhere to the Traffic Management Plan. The Applicant shall ensure that COA No. 45 and COA No. 47 are implemented as part of their daily traffic management mitigation strategies. In the event the Traffic Management Plan is amended, an amended copy shall be provided to the Director of Police and Community Services.

**WASTE MANAGEMENT:**

**(Contact: Joe Barrios 562-868-0511 x7342)**

49. The applicant shall comply with Section 50.51 of the Municipal Code which prohibits any business or residents from contracting any solid waste disposal company that does not hold a current permit from the City.
50. All projects are subject to the requirements of Chapter 50 to reuse or recycle 75% of the project waste. For more information, please contact the City's Environmental Consultant, MuniEnvironmental at (562) 432-3700.
51. The applicant shall comply with Public Resource Code, Section 42900 et seq. (California Solid Waste Reuse and Recycling Access Act of 1991) as amended, which requires each development project to provide adequate storage area for the collection/storage and removal of recyclable and green waste materials.

**DEPARTMENT OF FIRE-RESCUE (FIRE PREVENTION DIVISION):**

**(Contact: Kevin Yang 562.868.0511 x3811)**

52. That the standard aisle width for onsite emergency vehicle maneuvering shall be 26 feet with a minimum clear height of 13 feet 6 inches. Internal driveways shall have a turning radius of not less than 52 feet. The final location and design of this 26 feet shall be subject to the approval of the City's Fire Chief as established by the California Fire Code. A request to provide emergency vehicle aisle width less than 26 feet shall be considered upon the installation/provision of mitigation improvements approved by the City's Fire Chief.
53. That interior gates or fences are not permitted across required access roadways unless otherwise granted prior approval by the Santa Fe Springs Department of Fire-Rescue.
54. That the applicant shall comply with the requirements of Section 117.131 of the Santa Fe Springs Municipal Code, Requirement for a Soil Gas Study or Methane Mitigation System, prior to issuance of building permits.
55. When applicable, abandoned oil wells must be exposed and inspected under the oversight of a registered engineer, registered geologist or other Fire-Rescue approved technical expert. The wells must be monitored for methane leaks and the precise location of each abandoned well shall be surveyed. A report of findings, along with a description of any recommended remedial actions (if necessary), signed by a registered engineer, registered geologist or Fire-Rescue approved technical expert, must be provided to the Santa Fe Springs Department of Fire-Rescue.

56. That a methane gas protection system designed in accordance with the standards established by the County of Los Angeles shall be required for all habitable structures. Plans for the proposed methane gas protection system shall be submitted to the Santa Fe Springs Department of Fire-Rescue prior to construction. An alternative to the County of Los Angeles standards may be acceptable if approved by the Santa Fe Springs Department of Fire-Rescue.
57. That all inactive oil wells located beneath or within 10 feet of the proposed building footprint are abandoned to current California Geological Energy Management Division (CALGEM) standards.
58. That all abandoned oil wells located beneath or within 10 feet of the proposed building footprint shall be equipped with a concrete vent cone. The installation of the vent cone and associated vent piping shall be approved by the Santa Fe Springs Department of Fire-Rescue prior to installation.

**DEPARTMENT OF FIRE - RESCUE (ENVIRONMENTAL DIVISION)**  
**(Contact: Eric Scott 562.868-0511 x3812)**

59. That prior to issuance of building permits, the applicant shall comply with the applicable conditions below and obtain notification in writing from the Santa Fe Springs Department of Fire-Rescue Environmental Protection Division (EPD) that all applicable conditions have been met:
  - a. At a minimum, the applicant must conduct an All Appropriate Inquiries (AAI) Investigation (formerly called a Phase I Environmental Site Assessment) in accordance with ASTM Standard E1527-05. The applicant shall provide the EPD with a copy of the AAI investigation report for review and approval. If the AAI investigation identifies a release, or potential release at the site, the applicant must comply with part b.
  - b. An environmental site assessment may be required based on the information presented in the AAI investigation report. The environmental site assessment report must be reviewed and approved by the EPD in writing. Should the report indicate that contaminate levels exceed recognized regulatory screening levels, remedial action will be required. A remedial action work plan must be approved by the authorized oversight agency before implementation. Once remedial action is complete, a final remedial action report must be submitted and approved by the oversight agency.
  - c. Soil Management Plan & Report. A Soils Management Plan (SMP) which addresses site monitoring and a contingency plan for addressing previously unidentified contamination discovered during site development activities may be required. If required, the SMP shall be submitted to the EPD for review and approval before grading activities begin. Once grading is

complete, a SMP report must be submitted to the EPD for final written approval. Building plans will not be approved until the SMP report has been approved by the EPD in writing.

## **PERMITS AND APPROVALS**

60. That the applicant shall, at its own expense, secure or cause to be secured any and all permits or other approvals which may be required by the City and any other governmental agency prior to conducting environmental assessment or remediation on the property. Permits shall be secured prior to beginning work related to the permitted activity.
61. That all abandoned pipelines, tanks and related facilities shall be removed unless approved by the City Engineer and Fire Chief. Appropriate permits for such work shall be secured before abandonment work begins.
62. That the applicant shall comply with all Federal, State and local requirements and regulations included, but not limited to, the Santa Fe Springs City Municipal Code, California Fire Code, Certified Unified Program Agency (CUPA) programs, the Air Quality Management District's Rules and Regulations and all other applicable codes and regulations.

## **COMMUNITY DEVELOPMENT DEPARTMENT: (Contact: Alejandro De Loera 562.868.0511 x7358)**

### **ENTITLEMENT APPROVAL**

63. This approval shall allow the applicant to construct, operate, and maintain a new 1,025 square foot drive-through beverage establishment within the Mixed-Use-Design, Zone and to deviate from the MU Zone design standards located at 11701 Telegraph Road.
64. The uses shall be limited to the type of operation as described in the staff report and conditions of approval. Any change in the operational characteristics of any use including, but not limited to, the hours of operation and additional services provided, shall require review by the Director of Community Development and may require an amendment subject to approval of the Planning Commission.

### **ENVIRONMENTAL (CEQA)**

65. The applicant shall submit a \$25 check made out to "L.A. County Registrar-Recorder/County Clerk" to the Planning Department to file a Categorical Exemption from California Environmental Quality Act prior to or within two (2) days of Planning Commission approval.

## **HERITAGE ARTWORK IN PUBLIC PLACES**

66. The applicant shall comply with the City's "Heritage Artwork in Public Places Program" in conformance with City Ordinance No. 1054.

## **OPERATIONS**

67. Business operations shall occur in substantial conformance with the plans and project description approved by the Planning Commission on June 8, 2026, on file with the Community Development Department.
68. All activities, (except for deliveries, outdoor dining, drive-through operations, and required monitoring by attendants), shall occur inside the building(s). No portion of the required off-street parking and driveway areas shall be used for outdoor storage of any type or for special-event activities, unless prior written approval is obtained from the Community Development Department.
69. All vehicles associated with the businesses on the subject property shall be parked on the subject site at all times. Off-site parking on public roadways or adjacent properties without prior written permission from adjacent property owners and in full compliance with all applicable zoning laws is not permitted and would result in the restriction or revocation of privileges granted under this Permit. In addition, any vehicles entering or exiting the property shall not obstruct or impede any traffic.
70. The subject use shall comply with Section 155.420 of the City's Zoning Code regarding the generation of objectionable odors. If there is a violation of this aforementioned Section, the applicant shall take whatever measures necessary to eliminate the objectionable odors from the operation in a timely manner.
71. The subject drive-through use shall operate within the noise limitations established within Section 155.424 of the City's Zoning Ordinance.

## **QUEUING/STACKING**

72. The restaurant operator shall not allow customers to queue on Telegraph Road or Alburdis Avenue.
73. The City and applicant shall work together to create a comprehensive ingress/egress traffic circulation and queuing management plan (Traffic Management Plan). This plan would include clear guidelines on when the applicant would be required to modify operations to accommodate additional on-site queuing, deploy temporary traffic monitors, and when the City could step in to enforce those guidelines. The applicant shares the City's goal to prevent vehicle queues from spilling onto surrounding public Right-of-Way.
74. Operation of the drive-through shall not result in stacking of vehicles in such a manner that would result in obstruction to any access aisle or parking spaces. If

the drive-through operation affects traffic on the public street, design alternatives to remedy the issue shall be presented to the Departments of Community Development, Public Works, Fire-Rescue, and Police and Community Services for their review and approval.

75. An attendant shall monitor the drive-through lane when more than twenty-three (23) vehicles are stacked in the drive-through lane to facilitate the safe and efficient movement of traffic within the parking lot area. Monitoring during nighttime hours shall be at the discretion of the store manager if there is potential for unsafe working conditions for restaurant employees. If there are no attendants during such nighttime hours, the store manager shall use alternative measures to help mitigate the potential for vehicles to queue into the street.
76. In the event that the drive-through queuing exceeds the twenty-three (23) vehicle capacity and extends beyond the drive aisles in the parking lot, the overflow of drive-through queuing vehicles shall continue to the north of the property. Under no circumstances shall the drive-through queuing travel south towards Telegraph Road.
77. Directional signage shall be placed at the drive-through entrance and at the exit to direct customers.
78. The applicant shall not allow commercial vehicles, trucks, and/or truck tractors to queue on Telegraph Road or Alburtis Avenue, use street(s) as a staging area, or back up onto the street from the subject property.

## **CONSTRUCTION**

79. In addition to a Construction Maintenance Plan, the owner/developer shall submit a maintenance deposit in the amount of \$.10 cents per square foot of the property. This deposit will serve as security for the ongoing maintenance of the development site, including the prevention and removal of graffiti, trash, and debris, throughout the duration of the project. The deposit may be used to cover the costs of any necessary maintenance activities on the development site if the developer fails to fulfill their obligations. The maintenance deposit shall be maintained until final approval is granted.
80. Prior to the issuance of Building Permits, the applicant shall obtain an Office Trailer Permit for any use of mobile office trailers during the construction process.
81. During construction, the following information shall be made available on a sign posted at the main entrance(s) to the site:
  - a. Name of the development/project.
  - b. Name of the development company.
  - c. Address or address range for the subject site.
  - d. 24-hour telephone number where someone can leave a message on a particular complaint (dust, noise, odor, etc.)

82. The applicant shall implement a dust control program for air quality control. The program shall ensure that a water vehicle for dust control operations is kept readily available at all times during construction. The developer shall provide the City Engineer and Building Official with the name, telephone number, and e-mail address of the person directly responsible for dust control and operation of the vehicle.
83. Secure fencing around the construction site with locking gates and appropriate lighting shall be installed during construction to prevent trespassing and theft.
84. It shall be unlawful for any person to operate equipment or perform any outside construction or repair work on buildings, structures, or projects, other than emergency work, between 7:00 p.m. on one day and 7:00 a.m. of the following day, if such maintenance activity produces noise above the ambient levels as identified in the City's Zoning Code.
85. The applicant shall be responsible for reviewing and/or providing copies of the required conditions of approval to his/her architect, engineer, contractor, tenants, etc. Additionally, the conditions of approval contained herein shall be made part of the construction drawings for the proposed development. Construction drawings shall not be accepted for Plan Check without the conditions of approval incorporated into the construction drawings.
86. The applicant shall submit Mechanical plans that include a roof plan that shows the location of all roof-mounted equipment. All roof-mounted mechanical equipment and/or ductwork that projects above the roof or roof parapet of the proposed development and is visible from the adjacent property or a public street shall be screened by an enclosure that is consistent with the architecture of the building and approved by the Director of Planning or designee.
- a. To illustrate the visibility of equipment and/or ductwork, the following shall be submitted along with the Mechanical Plans:
    - i. A roof plan showing the location of all roof-mounted equipment;
    - ii. Elevations of all existing and proposed mechanical equipment; and
    - iii. A line-of-sight drawing or a building cross-section drawing that shows the roof-mounted equipment and its relation to the roof and parapet lines.
- NOTE: line-of-sight drawing and/or building cross section must be scaled.
87. Applicant shall provide for appropriate cable television systems and for communication systems, including but not limited to, telephone and internet services to the subject property. The applicant is responsible for complying with these requirements and shall make necessary arrangements with each of the

serving utilities, including licensed cable television operators and other video service providers for the installation of these facilities.

88. All fences, walls, gates, and similar improvements for the proposed development shall be subject to the prior approval of the Departments Community Development and Fire-Rescue.
89. Approved suite numbers/letters or address numbers shall be placed on the proposed building in such a position as to be plainly visible and legible from the street fronting the property. Said numbers shall contrast with their background. The size recommendation shall be 12” minimum. Approved suite numbers/letters or address numbers shall be placed on the proposed building in such a position as to be plainly visible and legible from the street fronting the property.
90. The proposed development shall be constructed of quality material and any material shall be replaced when and if the material becomes deteriorated, warped, discolored, or rusted.
91. Where feasibly possible, the applicant shall utilize green building strategies, energy-efficient equipment, and support renewable energy systems.
92. Prior to the issuance of the Certificate of Occupancy, the applicant shall contact the Community Development Department to arrange a Planning inspection of the site prior to commencement of the business. This inspection is to confirm that the conditions of approval and Zoning Code have been complied with.
93. Prior to the issuance of building permits, the applicant shall comply with the following conditions to the satisfaction of the City of Santa Fe Springs:
  - a. Covenants.
    1. The applicant shall provide a written covenant to the Planning Department that, except as the applicant may have otherwise disclosed to the City, Commission, Planning Commission, or their employees, in writing, the applicant has investigated the environmental condition of the property and does not know, or have reasonable cause to believe, that (a) any crude oil, hazardous substances or hazardous wastes, as defined in state and federal law, have been released, as that term is defined in 42 U.S.C. Section 9601 (22), on, under or about the Property, or that (b) any material has been discharged on, under or about the Property that could affect the quality of ground or surface water on the Property within the meaning of the California Porter-Cologne Water Quality Act, as amended, Water Code Section 13000, et seq
    2. The applicant shall provide a written covenant to the City that, based on reasonable investigation and inquiry, to the best of the applicant’s knowledge, it does not know or have reasonable cause

to believe that it is in violation of any notification, remediation or other requirements of any federal, state or local agency having jurisdiction concerning the environmental conditions of the Property.

- b. The applicant understands and agrees that it is the responsibility of the applicant to investigate and remedy, pursuant to applicable federal, state and local law, any and all contamination on or under any land or structure affected by this approval and issuance of related building permits. The City, Commission, Planning Commission or their employees, by this approval and by issuing related building permits, in no way warrants that said land or structures are free from contamination or health hazards.
- c. The applicant understands and agrees that any representations, actions, or approvals by the City, Commission, Planning Commission, or their employees do not indicate any representation that regulatory permits, approvals, or requirements of any other federal, state, or local agency have been obtained or satisfied by the applicant and, therefore, the City, Commission, Planning Commission or their employees do not release or waive any obligations the applicant may have to obtain all necessary regulatory permits and comply with all other federal, state or other local agency regulatory requirements. The applicant, not the City, Commission, Planning Commission, or their employees will be responsible for any and all penalties, liabilities, response costs, and expenses arising from any failure of the applicant to comply with such regulatory requirements.

## **BUSINESS LICENSE**

- 94. The applicant shall require and verify that all contractors and sub-contractors have successfully obtained a Business License with the City of Santa Fe Springs prior to beginning any work associated with the subject project. A business license application may be completed online at <https://santafesprings.hdlgov.com>. A late fee and penalty will be assessed to any contractor or sub-contractor that fails to obtain a Business License and a Building Permit final or Certificate of Occupancy will not be issued until all fees and penalties are paid in full. For answers to questions or inquiries surrounding the business license process, please call (562) 264-5219 to speak to a customer service representative.
- 95. Prior to occupancy of the property/building, the applicant, and/or their tenant(s), shall obtain a valid business license (AKA Business Operation Tax Certificate), and submit a Statement of Intended Use. Both forms and other required accompanying forms, may be obtained on the City's website (<https://santafesprings.hdlgov.gov/>).

## **LANDSCAPING**

- 96. The Community Development Department requires that the double-check detector

assembly be placed as far back from the property line as practical, screened by shrubs or other materials, and painted forest green. All shrubs shall be planted a minimum distance of two (2) feet surrounding the detector assembly; however, the area in front of the OS and Y valves shall not be screened. The screening shall also only be applicable to the double-check detector assembly and shall not include the fire department connector (FDC). Notwithstanding, the Fire Marshall shall have discretionary authority to require the FDC to be located a minimum distance from the double-check detector assembly. The bottom of the valve shut-off wheel shall be located a maximum of two (2) feet above ground.

97. That all Reduced Pressure Backflow preventer shall be installed in a backflow prevention cage on a concrete pad. The backflow preventer shall be painted "forest green." Please see All-Spec Enclosure Inc., stainless steel tubular backflow preventer. The enclosure shall be lockable, weather-resistant, and vandal-proof. The location shall be near the water meter in the landscape area. Note: See Public Works Backflow Prevention Enclosure standard W-20.
98. The applicant shall submit for approval a detailed landscape and automatic irrigation plan pursuant to the Landscaping Guidelines of the City. Said landscape plan shall indicate the location and type of all plant materials, existing and proposed, shrubs designed to fully screen the interior yard and parking areas from public view, and a minimum of 24" box trees along the street frontage. *Said plans shall be consistent with AB 1881 (Model Water Efficient Landscape Ordinance).*  
*NOTE: Staff shall not approve the landscaping and irrigation plan without first reviewing and approving the civil drawings, specifically as it pertains to the landscaping and irrigation plan (i.e., location and size of riprap, bio-swales, areas of infiltration trenches, etc.)*
99. The landscaped areas shall be provided with a suitable, fixed, permanent, and automatically controlled method for watering and sprinkling plants. This operating sprinkler system shall consist of an electrical time clock, control valves, and piped water lines terminating in an appropriate number of sprinklers to ensure proper watering periods and to provide water for all plants within the landscaped area. Sprinklers used to satisfy the requirements of this section shall be spaced to ensure complete coverage of all landscaped areas. *Said plan shall be consistent with AB 1881 (Model Water Efficient Landscape Ordinance).*
100. Upon completion of the landscaping improvements, said landscaped areas shall be maintained in a neat, clean, orderly, and healthful condition. This is meant to include proper pruning, mowing of lawns, weeding, and removal of litter, fertilizing, and replacement of plants when necessary, and the regular watering of all plantings.
101. Screen hedges shall be installed between the drive-through lane and Alburdis Avenue and between the drive-through lane and Telegraph Road for headlight buffering purposes. The hedging shall under now circumstances

102. The applicant shall submit a lighting program that is integrated into the overall site, landscape design, and building design. Lighting shall be used to highlight prominent building features such as entries and other focal points. Up-lighting should also be used as a way to enhance the texture of plants and structures, to create a sense of height in a landscape design.
103. Transformers shall not be located within the front yard setback area. The location of the transformer(s) shall be subject to the prior approval of the Director of Community Development or designee. The electrical transformer shall be screened with shrubs consistent with Southern California Edison's Guidelines which require three-foot clearance on the sides and back of the equipment, and eight-foot clearance in front of the equipment.
104. Prior to the issuance of the Certificate of Occupancy, the applicant shall provide certification from the Landscape Architect of record that the plant installation on the Site is in accordance with the approved landscape and irrigation plan.

## **SIGNAGE**

105. The Community Development Department shall first review and approve all signage proposals for the development. The sign proposal (plan) shall include a site plan, the building elevation on which the sign will be located, size, style, and color of the proposed sign. All drawings shall be properly dimensioned and drawn to scale. All signs shall be installed in accordance with the sign standards of the City's Zoning Code and the Sign Guidelines of the City.

## **APPROVED PLANS**

106. All parking stalls shall be legibly marked on the pavement. Additionally, all compact spaces shall be further identified by having the words "Compact" or comparable wording legibly written on the pavement, wheel stop, or on a clearly visible sign.
107. The development shall be built substantially in accordance with the plot plan, floor plan, and elevations submitted by the applicant and on file with the case. Any modification shall be subject to the review and approval of the Director of Community Development or his/her designee.
108. The final site plan, floor plan, and elevations of the proposed development and all other appurtenant improvements, textures, and color schemes shall be subject to the final approval of the Director of Community Development.
109. Pursuant to Zoning Code Section 155.175.6, the Director of Community Development may condition development approvals on the construction of wider sidewalks, pedestrian-scale lighting, safety enhancements (e.g. bollards) and textured paving surfaces.

110. The applicant understands and agrees that if changes to the original plans (submitted and on file with the subject case) are required during construction, revised plans shall be provided to the Community Development Department for review and approval prior to the implementation of such changes. Please note that certain changes may also require approvals from other departments.

### **PRIVILEGES GRANTED**

111. Unless otherwise specified in the action granting a Development Plan Approval (DPA), Conditional Use Permit (CUP) and Zone Variances (ZVs), said DPA, CUP, and ZVs which has not been utilized or where some form of construction pursuant to the issuance of a building permit has not commenced within 12 months from the effective date (Approval Date), shall become null and void. Also, the abandonment or nonuse of a DPA, CUP, and ZVs for a period of 12 consecutive months shall terminate said DPA, CUP, and ZVs and any privileges granted thereunder shall become null and void. However, an extension of time may be granted by Commission or Council action. The Planning Commission may extend this period for one (1) year upon receipt of an application for a Time Extension request submitted by the applicant at least thirty days before the expiration date of this approval.

### **COMPLIANCE REVIEW**

112. Conditional Use Permit Case No. 859 shall be subject to a compliance review one (1) year after receiving a Certificate of Occupancy to ensure that the drive-through use is still operating in strict compliance with these conditions of approval. Approximately three (3) months before the one (1) year anniversary of receiving a Certificate of Occupancy, the applicant shall request, in writing, an extension of the privileges granted herein, provided that the use has been continuously maintained in strict compliance with these conditions of approval.

### **INDEMNITY**

113. The applicant understands and agrees that if any term or condition of this approval is determined in whole or in part to be invalid or unenforceable, such determination shall not affect the validity or enforceability of any other term or condition contained herein.
114. The applicant understands and agrees that this approval is subject to modification or revocation as set forth in the Santa Fe Springs Municipal Code. Grounds for modification or revocation include but are not limited to, Applicant's failure to comply with any condition of approval contained herein.
115. All other requirements of the City's Zoning Code, Building Code, Property Maintenance Ordinance, State and City Fire Code, and all other applicable County, State, and Federal regulations and codes shall be complied with.

116. Unless otherwise specified in the action granting Development Plan Approval, said approval which has not been utilized within a period of 12 consecutive months from the effective date shall become null and void. Also, the abandonment or nonuse of a development plan approval and any privileges granted thereunder shall become null and void. However, an extension of time may be granted by Commission or Council action.
  
117. The applicant shall indemnify, protect, defend, and hold harmless, the City, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, from any and all claims, demands, law suits, writs of mandamus, and other actions and proceedings (whether legal, equitable, declaratory, administrative or adjudicatory in nature), and alternative dispute resolutions procedures (including, but not limited to arbitrations, mediations, and other such procedures), (collectively "Actions"), brought against the City, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, that challenge, attack, or seek to modify, set aside, void, or annul, the any action of, or any permit or approval issued by, the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof (including actions approved by the voters of the City), for or concerning the project, whether such Actions are brought under the California Environmental Quality Act, the Planning and Zoning Law, the Subdivisions Map Act, Code of Civil Procedure Section 1085 or 1094.5, or any other state, federal, or local statute, law, ordinance, rule, regulation, or any decision of a court of competent jurisdiction. In addition, the applicant shall reimburse the City, its officials, officers, employees, agents, departments, agencies, for any Court costs and attorney's fees which the City, its agents, officers, or employees may be required by a court to pay as a result of such action. It is expressly agreed that the City shall have the right to approve, which approval will not be unreasonably withheld, the legal counsel providing the City's defense, and that applicant shall reimburse City for any costs and expenses directly and necessarily incurred by the City in the course of the defense. City shall promptly notify the applicant of any such claim, action or proceeding, and shall cooperate fully in the defense thereof.

# TRANSPORTATION STUDY FOR DUTCH BROS

**Santa Fe Springs, CA**

May 26, 2026



# Transportation Study for Dutch Bros Santa Fe Springs, CA

**Prepared for:**

Dutch Bros, LLC  
1930 Rio Salado Pkwy  
Tempe, AZ 852841

**Prepared by:**

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Project Number 33077

May 26, 2026



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The background of the page is a light gray map of a city street grid. The grid is composed of thin, light gray lines representing streets. The map is oriented vertically, with the top of the page showing a more irregular street pattern and the bottom showing a more regular grid. The word "APPENDICES" is printed in a bold, black, sans-serif font in the upper left quadrant of the page.

# APPENDICES

Appendix A. Provisional Site Plan

Appendix B. Hourly Transaction Data

Appendix C. Detailed Trip Assignment Figures

Appendix D. Existing Turning Movement Counts

Appendix E. Vistro Analysis Reports

Appendix F. Queueing Data

# EXECUTIVE SUMMARY

This Transportation Study has been prepared for the proposed Dutch Bros Coffee drive-through located at 11701 Telegraph Road in Santa Fe Springs, California. The proposed project involves the redevelopment of an existing 0.74-acre parcel with a 1,025-square-foot drive-through coffee shop (no indoor seating) featuring two drive-through lanes and associated site improvements.

The study was prepared in accordance with the City of Santa Fe Springs Transportation Study Guidelines (February 2023) and evaluates the project’s potential effects on transportation facilities in the surrounding area.

Key findings of this study include:

- **VMT Screening:** The proposed Dutch Bros qualifies as a locally serving retail use of less than 50,000 square feet per the City’s VMT Screening Guidance (Table 1 of the Transportation Study Guidelines). Accordingly, a detailed VMT analysis is not required, and the project is presumed to result in a less-than-significant VMT impact under CEQA.
- **Trip Generation:** The project is estimated to generate approximately 164 total trips during the weekday AM peak hour (82 in, 82 out) and 136 total trips during the weekday PM peak hour (68 in, 68 out). 75 percent of these total trips are assumed to be categorized as pass-by trips.
- **Intersection Operations:** As show in **ES-1**, all six study intersections operate at LOS D or better during both the AM and PM peak hours across all three analysis scenarios – Existing, Existing Plus Cumulative, and Existing Plus Cumulative Plus Project. Project-generated traffic does not cause any intersection to exceed the City’s LOS D standard, and no degradation of intersection operations is identified.

## ES-1. Intersection Level of Service Summary

Intersection	Control	Existing		Existing Plus Cumulative		Existing Plus Cumulative Plus Project	
		AM	PM	AM	PM	AM	PM
Telegraph Rd / Orr and Day Rd	Signal	C	D	C	D	C	D
Telegraph Rd / Jersey Ave	Signal	B	B	B	B	B	B
Telegraph Rd / Alburdis Ave	Signal	A	A	A	A	A	B
Telegraph Rd / Project Driveway	Stop-Controlled	B	A	C	A	C	C
Telegraph Rd / Pioneer Blvd	Signal	C	C	C	C	C	C
Alburdis Avenue / Project Driveway	Stop-Controlled	B	B	B	B	B	B

SOURCE: KITTELSON AND ASSOCIATES, INC (2026)

- **On-Site Queuing and Circulation:** During the Established operational period, the 95th percentile drive-through queue is estimated at 16 vehicles and the maximum potential queue at 19 vehicles, both within the proposed 21-vehicle (approximately 450-foot) on-site queue storage capacity. During the Opening period, the 95th percentile queue reaches 23 vehicles, and maximum potential reaches 25 vehicles, modestly exceeding on-site storage under peak demand. Queues are expected to normalize within capacity as operations stabilize. Empirical queue observations at three comparable Dutch Bros sites yielded an average maximum queue of 14 vehicles during the AM peak period. On-site circulation is well-designed, with dual-lane drive-through entry, active employee traffic management during peak hours, and perimeter parking separated from the drive-through path.

No transportation impacts or roadway modifications are required. The project is consistent with the City of Santa Fe Springs Transportation Study Guidelines and CEQA transportation thresholds. Staff-directed traffic management during peak periods and clear driveway wayfinding signage are recommended as operational best practices.



# Section 1

## Project Background

# Introduction

This Transportation Study has been prepared on behalf of Dutch Bros Coffee for a proposed drive-through coffee shop at 11701 Telegraph Road in the City of Santa Fe Springs, California. The project involves the redevelopment of an existing lot for a 1,025-square-foot Dutch Bros Coffee drive-through facility. This report was prepared by Kittelson & Associates, Inc. in accordance with the City of Santa Fe Springs Transportation Study Guidelines (February 2023).

The report covers the following:

- Existing Conditions
- Project Trip Generation, Trip Distribution and Trip Assignment
- Vehicle Miles Traveled Assessment
- Intersection Operations Analysis
- On-Site Queueing and Circulation

## PROJECT DESCRIPTION

The proposed project is a 1,025-square-foot Dutch Bros Coffee drive-through facility with no indoor seating, located at 11701 Telegraph Road, Santa Fe Springs, CA 90670 (Parcel No. 8005-008-035). The 0.74-acre site is currently developed as a commercial parcel and will be redeveloped with the new drive-through coffee shop.

Key project features include:

- 1,025 square feet building with no indoor seating
- Two drive-through lanes that merge at a single pick-up window
- Approximately 450 feet of drive-through queue storage (corresponds to approximately 20 vehicles)
- 22 on-site parking spaces (10 regular, 1 ADA, 1 EV van accessible, 1 EV, 2 EV capable, 7 existing to remain)
- 2 bicycle parking spaces
- One driveway access point along Telegraph Road and one along Albutis Avenue
- 20 feet by 12 feet proposed trash enclosure

*A provisional site plan is provided in Appendix A.*



## Section 2

# Existing Conditions

# Existing Conditions

This section describes the existing transportation network, including roadway characteristics, intersection controls, pedestrian and bicycle facilities, and transit services in the vicinity of the project site.

## SITE LOCATION AND LAND USE CONTEXT

The project site is located at 11701 Telegraph Road, at the corner of Telegraph Road and Alburdis Avenue in the City of Santa Fe Springs. As shown in **Figure 1**, the site is part of a medium commercial parcel surrounded by other commercial uses along Telegraph Road and residential neighborhoods to the north and south. The I-605 freeway is located to the west, providing regional access to the corridor.

**Figure 1. Project Area**



SOURCE: KITTELSON & ASSOCIATES, INC (2026)

## EXISTING ROADWAY NETWORK

The following roadways serve the project site and study area:

- **Telegraph Road** – A six-lane principal arterial running diagonally (northwest-southeast) through the project area. Telegraph Road serves as the primary commercial corridor in this portion of Santa Fe Springs and provides regional connectivity.
- **Alburtis Avenue** – A two-lane local street running north-south, intersecting Telegraph Road adjacent to the project site. Alburtis Avenue serves adjacent residential neighborhoods and a school to the north.
- **Orr and Day Road** – A four-lane arterial roadway intersecting Telegraph Road to the west of the project site.
- **Jersey Avenue** – A local street intersecting Telegraph Road between Orr and Day Road and Alburtis Avenue.
- **Pioneer Boulevard** – A four-lane arterial roadway intersecting Telegraph Road to the east of the project site.

## STUDY INTERSECTIONS

Six locations were identified for intersection operations analysis, consistent with the City of Santa Fe Springs Transportation Study Guidelines and as confirmed with City staff:

1. Telegraph Road / Orr and Day Road (Signalized)
2. Telegraph Road / Jersey Avenue (Signalized)
3. Telegraph Road / Alburtis Avenue (Signalized)
4. Telegraph Road / Project Driveway (Stop-Controlled)
5. Telegraph Road / Pioneer Boulevard (Signalized)
6. Alburtis Avenue / Project Driveway (Stop-Controlled)

## PEDESTRIAN, BICYCLE, AND TRANSIT FACILITIES

The project area is served by a mix of pedestrian, bicycle, and transit facilities. Telegraph Road is a major transit corridor in the area. The following summarizes the existing active transportation and transit infrastructure within one-quarter mile of the project site:

- **Pedestrian Facilities:** Sidewalks are present along Telegraph Road on both sides of the street in the vicinity of the project site. Marked crosswalks are provided at the signalized intersections in the study area.
- **Bicycle Facilities:** No existing bike facilities exist within the vicinity of the project site.
- **Transit:** The project site is accessible via two bus stops located along Telegraph Road at Jersey Avenue and Pioneer Boulevard. Both stops are served by Metro Route 62.



## Section 3

# Project Trip Generation

# Project Trip Generation

This section presents the trip generation methodology, trip generation estimates, trip distribution, and trip assignment for the proposed Dutch Bros project. This information was developed by Kittelson & Associates and is consistent with the Trip Generation Memorandum prepared for this project (Kittelson & Associates, April 24, 2026).

## TRIP GENERATION METHODOLOGY

Trip generation for the Dutch Bros project uses a combination of the Institute of Transportation Engineers (ITE) Trip Generation Manual 12<sup>th</sup> Edition and historical drive-through transaction data of three existing similar Dutch Bros.

The ITE Trip Generation Manual was used to develop the proportional traffic inflow and outflow rates experienced during weekday morning (AM) and afternoon (PM) peak hours and pass-by rate assumptions. Pass-by trips are a crucial aspect in trip generation for coffee shops since they are likely to receive similar or more pass-by trips than primary trips. A pass-by/diverted link trip reduction of 75% was applied, which is based off of the pass-by trip rate observations from ITE Trip Generation Manual for the following land uses<sup>1</sup>:

- Land Use 934: Fast-Food Restaurant with Drive-Through Window
- Land Use 938: Coffee/Donut Shop with Drive-Through Window and No Indoor Seating.

Dutch Bros historical drive-through transaction data from five comparable sites were used to approximate the total inbound and outbound trips throughout an average weekday and determine the weekday AM and PM peak hours. Comparable Dutch Bros sites were selected based on coordination with the City, market characteristics, site layout, and surrounding traffic conditions. The selected locations are summarized in **Table 1**.

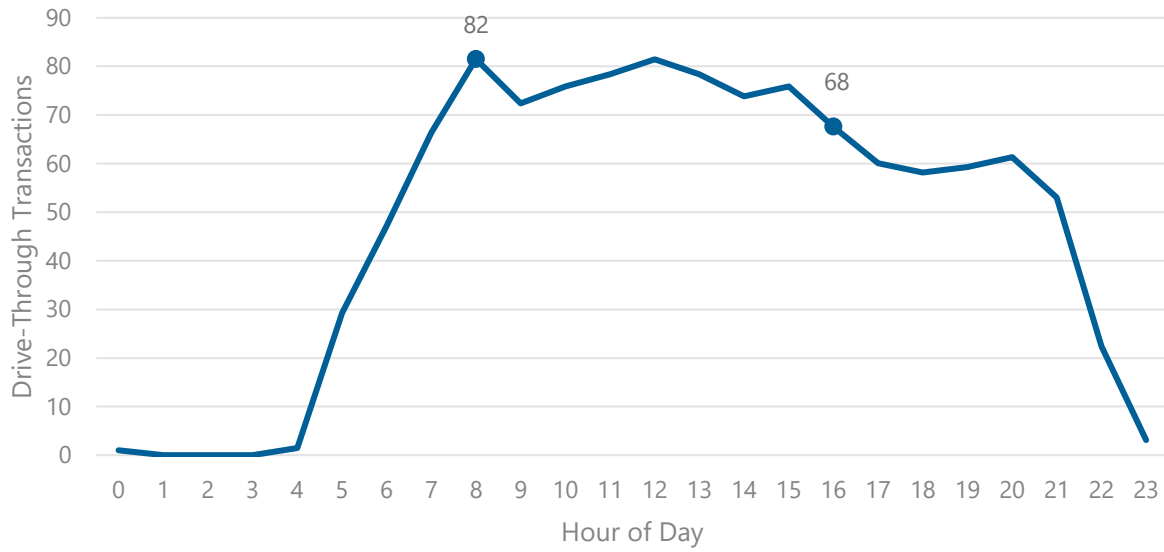
*The hourly historical transaction data for each location is provided in Appendix B.*

**Figure 2** visualizes the average historical transaction data between January 1, 2025, and March 15, 2026 across the comparable Dutch Bros sites mentioned prior. As shown in the figure, the peak number of average transactions between the stores during the AM network peak period between 7:00 – 9:00 AM is 82, and the average during the PM network peak period between 4:00 – 6:00 PM is 68 transactions. It was assumed that each transaction represents one vehicle, although multiple transactions could occur within one vehicle.

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<sup>1</sup> The 75% rate was selected based on the range of observed pass-by percentages for Land Use 934 (average 49–50%) and Land Use 938 (average 83–95%) reported in the ITE Trip Generation Handbook, 3rd Edition (pp. 213–216), and what is anticipated by Dutch Bros and their drive-through-only format.

**Figure 2. Dutch Bros Weekday Drive-Through Transactions Averaged Across All Locations**



SOURCE: DUTCH BROS (2026)

The site anticipates having eight to ten employees on site throughout the day. At peak times, four of the employees are expected to be outside with one controlling traffic. These employees are on a shift schedule assumed to commute to the site outside of typical AM and PM peak hours so they are not represented in the peak hour but are represented in the daily calculations.

**Table 1. Comparable Dutch Bros Sites**

Site Characteristic	Project Site <i>11701 Telegraph Road</i>	Covina <i>511 Citrus Avenue</i>	Covina <i>980 Azusa Avenue</i>	Baldwin Park <i>14521 Ramona Blvd</i>	La Mirada <i>14840 Beach Blvd</i>	La Habra <i>2060 W Lambert Road</i>
Land use context	Part of a medium commercial parcel surrounded by other commercial uses and residential neighborhoods.	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.	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.	Stand-alone site surrounded by commercial and residential neighborhoods.
Roadway context	Along 6-lane arterial	Along 4-lane arterial	Along 4-lane arterial	Corner of intersection of 4-lane arterial and 2-lane residential collector street, near a railroad	Corner of intersection of 4 to 6-lane arterials	Along 4-lane arterial
Site features	Two drive-through lanes that merge at pick-up window, walk-up window, no indoor seating	Two drive-through lanes that merge at pick-up window, walk-up window, no indoor seating	Two drive-through lanes that merge at pick-up window, walk-up window, no indoor seating	Two drive-through lanes that merge at pick-up window, walk-up window, no indoor seating	Two drive-through lanes that merge at pick-up window, walk-up window, no indoor seating	Two drive-through lanes that merge at pick-up 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	1,000 square feet
Approximate queue storage	450 feet	250 feet	350 feet	425 feet	300 feet	350 feet
Additional Considerations	-	-	Opened September 2025 so transaction data includes heightened operations	-	Opened July 2025 so transaction data includes heightened operations	Opened January 2025 so transaction data includes heightened operations

SOURCE: KITTELSON AND ASSOCIATES (2026)

**Table 2** presents the inbound/outbound patterns and **Table 3** presents the resulting trip generation estimates.

**Table 2. Weekday Inbound and Outbound Rates for Trip Generation**

Land Use	AM Peak Hour		PM Peak Hour		Daily	
	In	Out	In	Out	In	Out
Coffee/Donut Shop with Drive-Through Window and No Indoor Seating	50%	50%	50%	50%	50%	50%

SOURCE: INSTITUTE OF TRAFFIC ENGINEERS TRIP GENERATION MANUAL, 12<sup>TH</sup> EDITION.

**Table 3. Weekday Project Trip Generation Estimates**

Trip Type <sup>1 2</sup>	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
Primary Trips	20	20	40	17	17	34	287	287	574
Pass-By Trips	62	62	124	51	51	102	860	860	1,720
<b>Trip Generation</b>	<b>82</b>	<b>82</b>	<b>164</b>	<b>68</b>	<b>68</b>	<b>136</b>	<b>1,147</b>	<b>1,147</b>	<b>2,294</b>

Note:

<sup>1</sup> Total inbound/outbound trip generation estimates are based on the highest average historical transaction data observed during the peak period at comparable Dutch Bros sites.

<sup>2</sup> A pass-by trip rate of 75% was used for AM Peak Hour, PM Peak Hour, and Daily Traffic.

SOURCE: KITTELSON & ASSOCIATES, INC (2026)

## TRIP DISTRIBUTION

The proposed project's trip distribution was developed based on a review of the adjacent roadway network and surrounding land uses, and an analysis of regional travel patterns using Replica, a big-data travel demand platform that synthesizes GPS, mobile device, and census data to characterize origin-destination patterns to determine anticipated origins and paths of travel. Vehicle trips are separated between primary and pass-by trips.

### Primary Trips

Primary trips to and from the site were distributed based on Replica origin-destination data, which was used to identify the predominant travel corridors and directional patterns serving the project area. Inbound and outbound trip patterns are assumed to consist of the following distribution:

- 60% of trips to and from the west via Telegraph Avenue,
- 30% of trips to and from the east via Telegraph Avenue,
- 10% of trips to and from the north via Alburty Avenue.

The higher eastbound share reflects the project's local-serving nature and the concentration of residential land uses to the west along the Telegraph Avenue corridor. Telegraph Avenue functions as a primary arterial in this area, meaning a substantial portion of trips are expected to originate from and return to the surrounding residential neighborhoods to the west. Additionally, regional access from I-605 to the west contributes to the higher inbound demand from that direction. The 30% westbound share accounts for trips originating from commercial areas to the east along Telegraph Avenue.

A 10% trip allocation is assigned to Albutis Avenue to the north, reflecting adjacent land uses, including residential neighborhoods and a nearby school, which are expected to generate a modest but notable share of site trips. Trips approaching from the south via Albutis Avenue are anticipated to be limited, given existing connectivity and surrounding land use patterns, and therefore are not expected to represent a substantial share of overall site traffic.

### Pass-by Trips

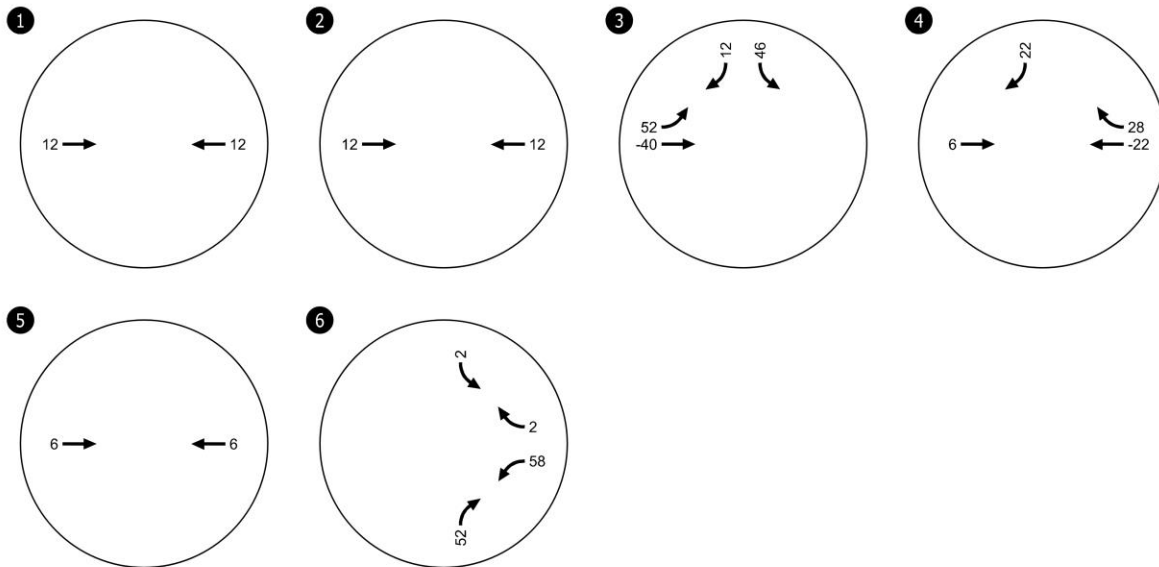
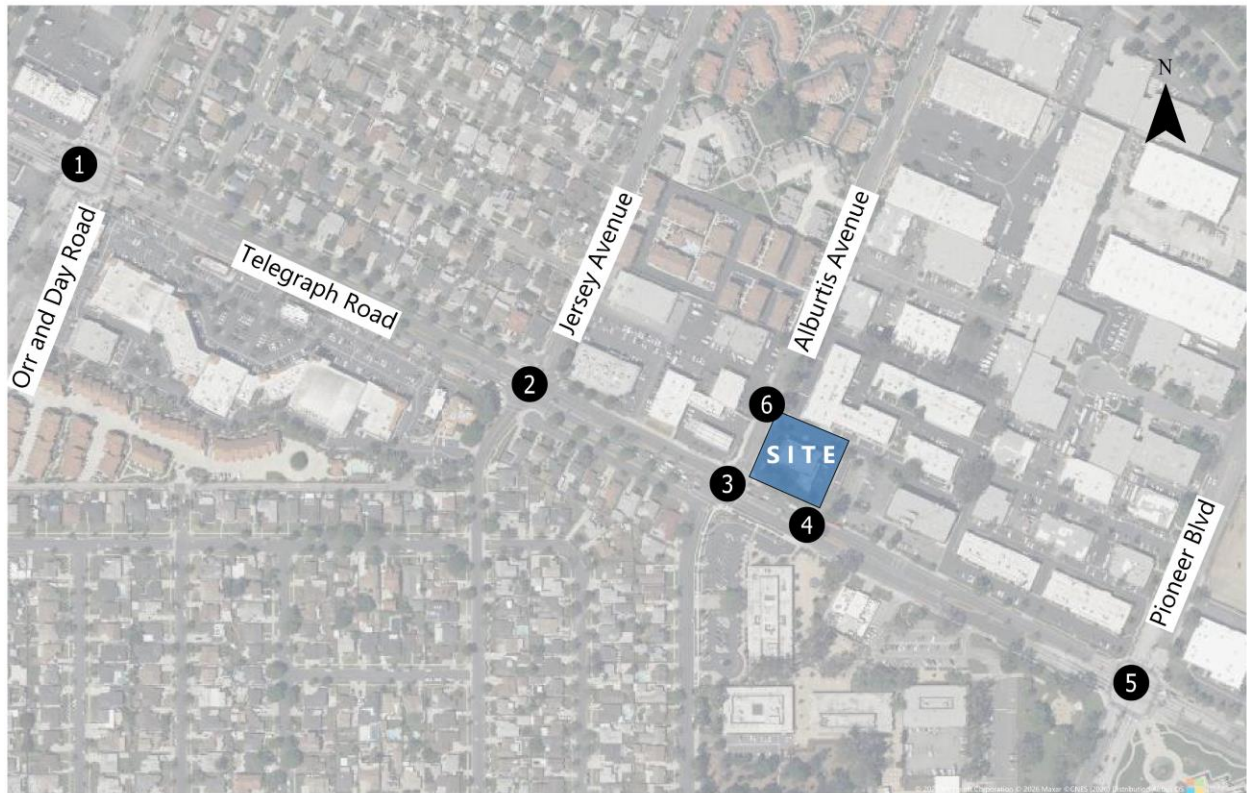
Pass-by trips to and from the site account for attracting trips already occurring along Telegraph Avenue that now would divert their original path to stop at the proposed project site. It is assumed that 75% of the total project trips would be pass-by trips. Of the pass-by trips, consistent with information used for primary trips based on Replica, 65% would be eastbound traffic and 35% would be westbound traffic along Telegraph Avenue.

## PROJECT TRIP ASSIGNMENT

Trip generation volumes were applied to the trip distribution to calculate the number of vehicle-trips the project would add to the surrounding roadway network. The total net new project trip assignment for the study area intersections during the weekday AM and PM peak hours are shown in **Figure 3** and **Figure 4**, respectively.

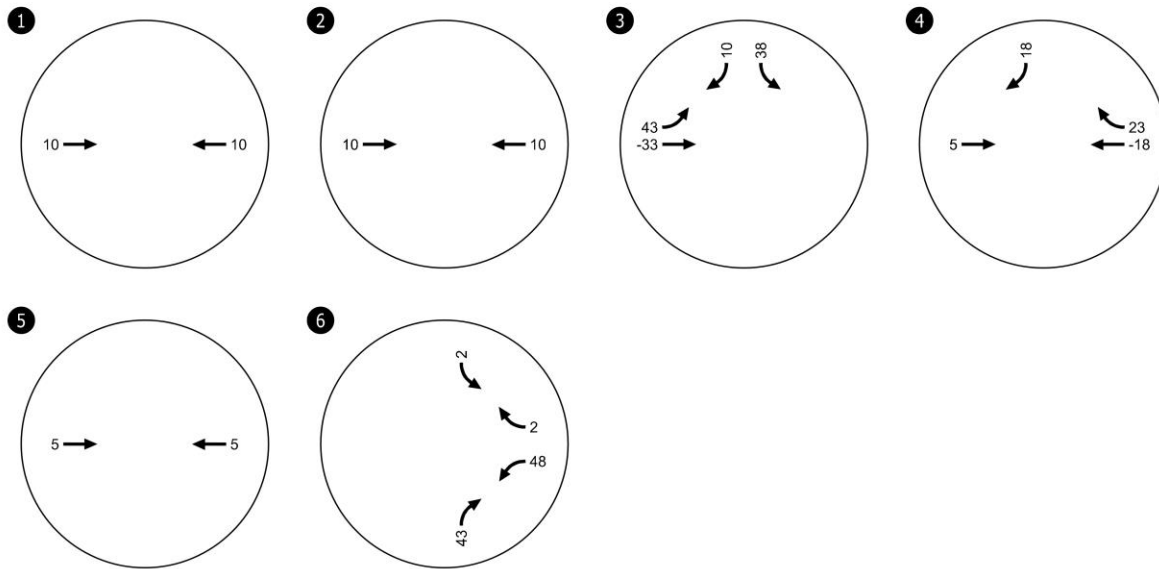
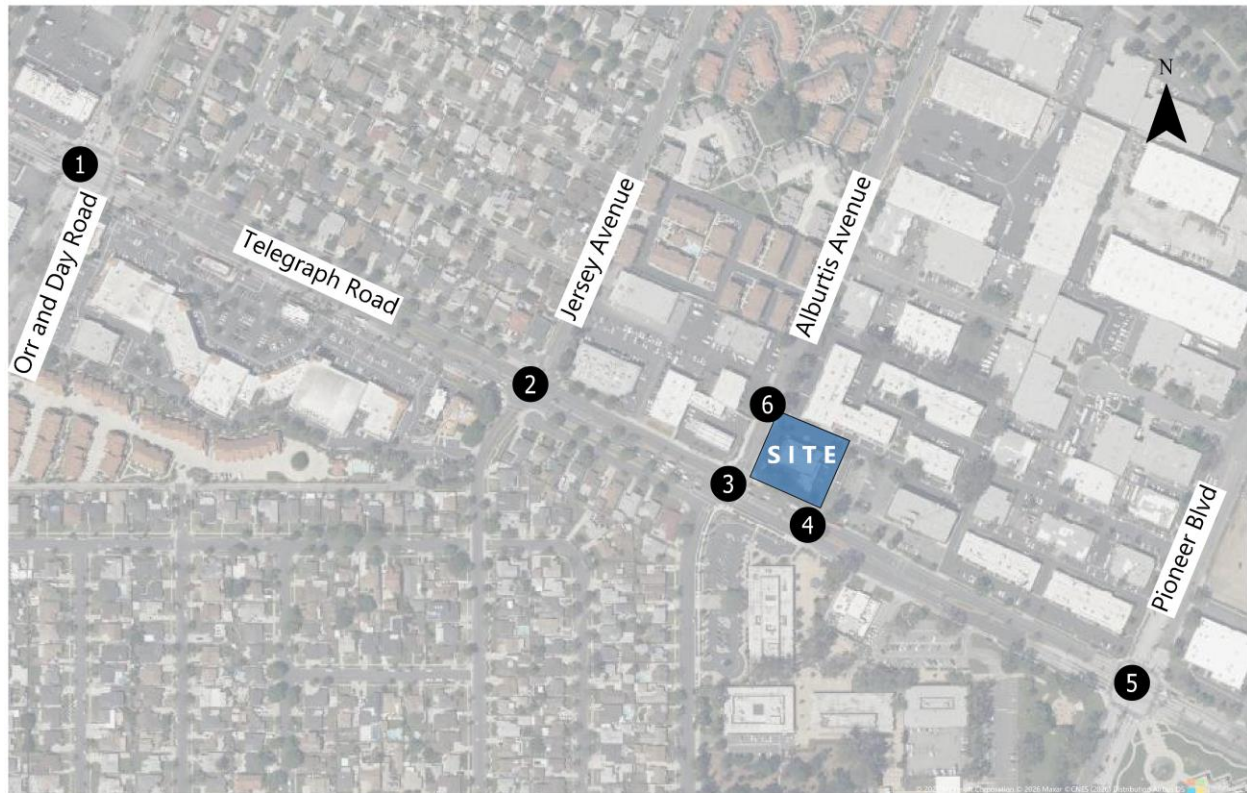
*Detailed trip assignment figures (including primary and pass-by trip assignments) are provided in Appendix C.*

Figure 3. Net New Project Trips – Weekday AM Peak



SOURCE: KITTELSON & ASSOCIATES, INC (2026)

Figure 4. Net New Project Trips – Weekday PM Peak



SOURCE: KITTELSON & ASSOCIATES, INC (2026)



## Section 4 VMT Screening Assessment

# Vehicle Miles Traveled Assessment

A Vehicle Miles Traveled (VMT) screening assessment was prepared for the project in accordance with Senate Bill (SB) 743 and the City of Santa Fe Springs Transportation Study Guidelines (February 2023).

## SCREENING CRITERIA

The City of Santa Fe Springs VMT Screening Guidance (Table 1 of the Transportation Study Guidelines) identifies several project types that are presumed to result in a less-than-significant VMT impact and are therefore screened from further VMT analysis. A project needs to only satisfy one of the following screening criterion to be exempt:

- **Project Site:** A Project that generates 110 or fewer daily trips
- **Locally Serving Retail:** A project that has locally serving retail uses that are 50,000 square feet or less, including specialty retail, shopping center, grocery store, pharmacy, financial services/banks, fitness center or health club, restaurant, and café.
- **Project Located in a Low VMT Area:** A residential or office project that is located in a Traffic Analysis Zone (TAZ) that is already 15% below the City and Sphere of Influence (SOI) Baseline VMT.
- **Transit Proximity:** For existing baseline projects that are located within a ½ mile of where two or more 15-minute (during commute hours) bus routes intersect or within a ½ mile of a corridor served by 15-minute (during commute hours) bus service may be eligible. Future baseline conditions would also include the area located within a ½ mile of the Eastside Transit Corridor Phase 2 Project.
- **Affordable Housing:** A residential project that provides affordable housing units; if parts of a larger development only those units that meet the definition of affordable housing satisfy the screening criteria.
- **Transportation Facilities:** Transportation projects that promote non-auto travel, improve safety, or improve traffic operations at current bottlenecks, such as transit, bicycle and pedestrian facilities, intersection traffic control (e.g., traffic signals or roundabouts), or widening at intersection to provide new turn lanes.

## SCREENING DETERMINATION

The proposed Dutch Bros Coffee project screens out of a detailed VMT analysis through the **Locally Serving Retail** screening criterion.

Under the City's screening criteria, the project consists of a 1,025-square-foot drive-through coffee shop, which qualifies as a locally serving retail use (café/coffee shop) less than 50,000 square feet. Therefore, the project is presumed to result in a less-than-significant VMT impact under CEQA, and a detailed VMT analysis is not required.



## Section 5 Intersection Operations Analysis

# Intersection Operations Analysis

This section presents the results of the intersection operations analysis for the study intersections under existing and future conditions. The analysis evaluates whether the proposed project results in any adverse degradation of intersection operations relative to the City of Santa Fe Springs standards.

## ANALYSIS METHODOLOGY

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. Intersection analyses for the five study intersections were conducted using the operational methodologies outlined in the Highway Capacity Manual (HCM) methodology (Transportation Research Board, Washington, D.C., 2016), calculated with Vistro software.

Using the HCM procedure, the level of service designation for a signalized intersection is determined by calculating a weighted average control delay in seconds per vehicle, based on signal timings obtained from the County. For unsignalized intersections, the HCM methodology is also used to calculate the weighted average control delay for each controlled intersection leg and for the intersection as a whole. In the case of two-way stop-controlled intersections, the LOS for the worst approach is used as the performance measure for the level of service.

**Table 4** presents the relationship of average delay to level of service for both signalized and unsignalized intersections.

**Table 4: 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

## REGULATORY STANDARDS

According to Santa Fe Spring's Transportation Study Guidelines, the minimum acceptable operation level for its roadway and intersections to be LOS "D" or better. For intersections not meeting the required LOS, feasible improvements to avoid or substantially reduce the project's adverse effects would be explored.

## DATA COLLECTION

Turning movement counts (TMCs) were collected at all six study intersections on a representative weekday from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM to capture AM and PM network peak periods. Traffic counts were conducted on Thursday, April 16, 2026, and are consistent with City of Santa Fe Springs requirements that counts not be more than four months old. Counts were not conducted during holidays, construction-related detours, or other atypical conditions.

*Turning movement counts are provided for reference in Appendix D.*

## INTERSECTION OPERATIONS RESULTS

The following analysis scenarios were evaluated:

- **Existing Conditions:** Based on turning movement counts collected at all six study intersections.
- **Existing plus Cumulative Conditions:** Existing Condition volumes were adjusted to the anticipated project opening year using an ambient background traffic growth rate of 2 percent annually and included traffic associated with relevant in-progress cumulative projects identified by the City.
- **Existing plus Cumulative plus Project Conditions:** Existing plus Cumulative Condition volumes with the addition of project-generated traffic based on the trip generation, distribution, and assignment described in Section 3.

*Detailed Vistro reports are in Appendix E.*

## Existing Conditions

**Figure 5** and **Figure 6** illustrate the existing turning movement volumes for the peak hours. Volumes under this scenario were based on turning movements counts collected on Thursday, April 16, 2026

**Table 5** summarizes the delay and LOS analysis results at each intersection under existing conditions. As shown in the table, all intersections currently operate at LOS D or better in both AM and PM scenarios.

**Table 5. Existing Conditions LOS Results**

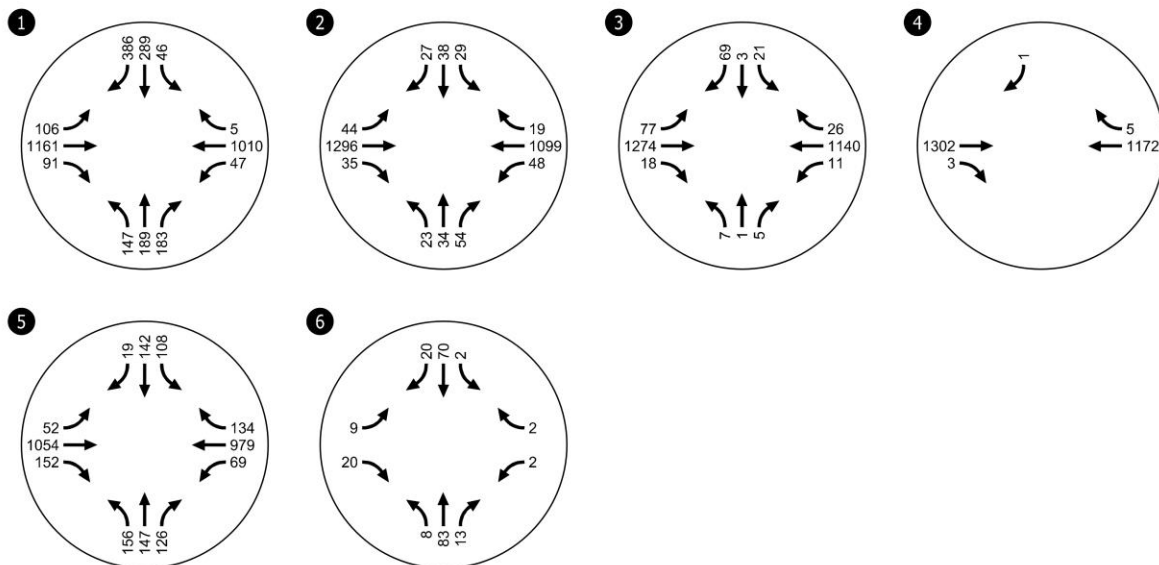
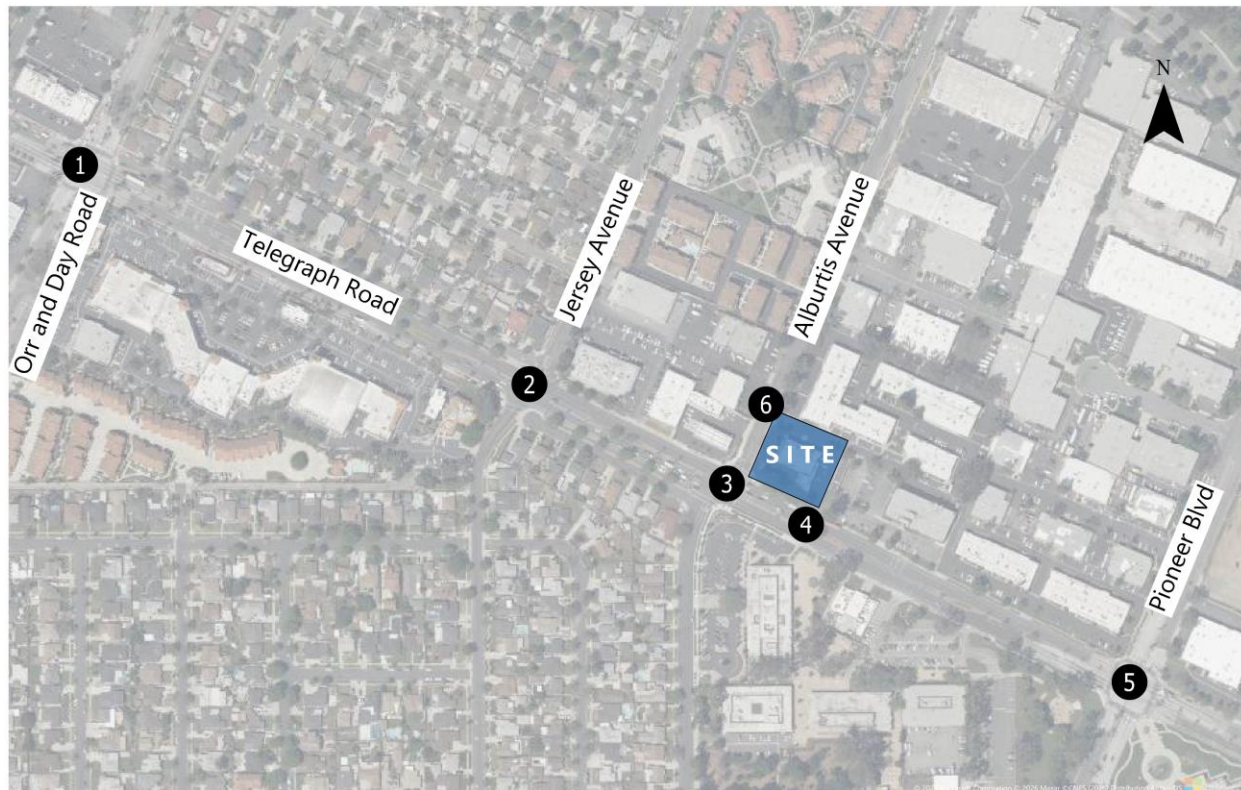
ID	Intersection	Control Type	Delay		LOS	
			AM	PM	AM	PM
1	Telegraph Road / Orr and Day Road	Signal	29.4	35.2	C	D
2	Telegraph Road / Jersey Avenue	Signal	10.6	12.6	B	B
3	Telegraph Road / Alburtis Avenue	Signal	4.1	8.4	A	A
4	Telegraph Road / Project Driveway	Stop-Controlled	14.7	0.0	B	A
5	Telegraph Road / Pioneer Boulevard	Signal	26.0	30.2	C	C
6	Alburtis Avenue / Project Driveway	Stop-Controlled	10.4	12.1	B	B

**Note:**

1. The table shows average intersection delay for signalized intersections and worst movement control delay for SSSC intersections
2. Intersection delay (s/veh) is rounded to one decimal place

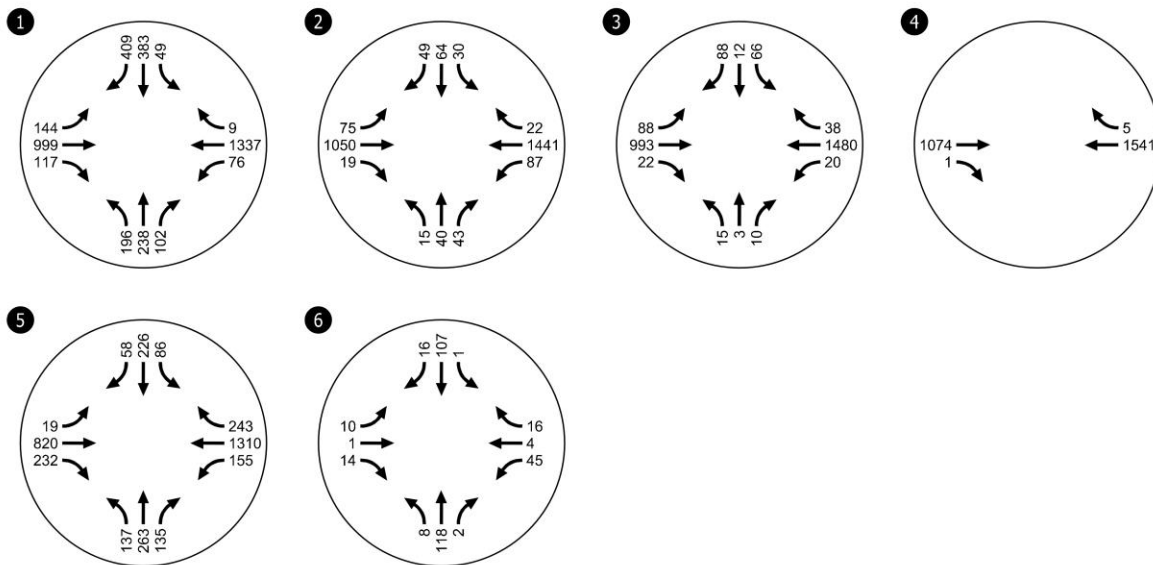
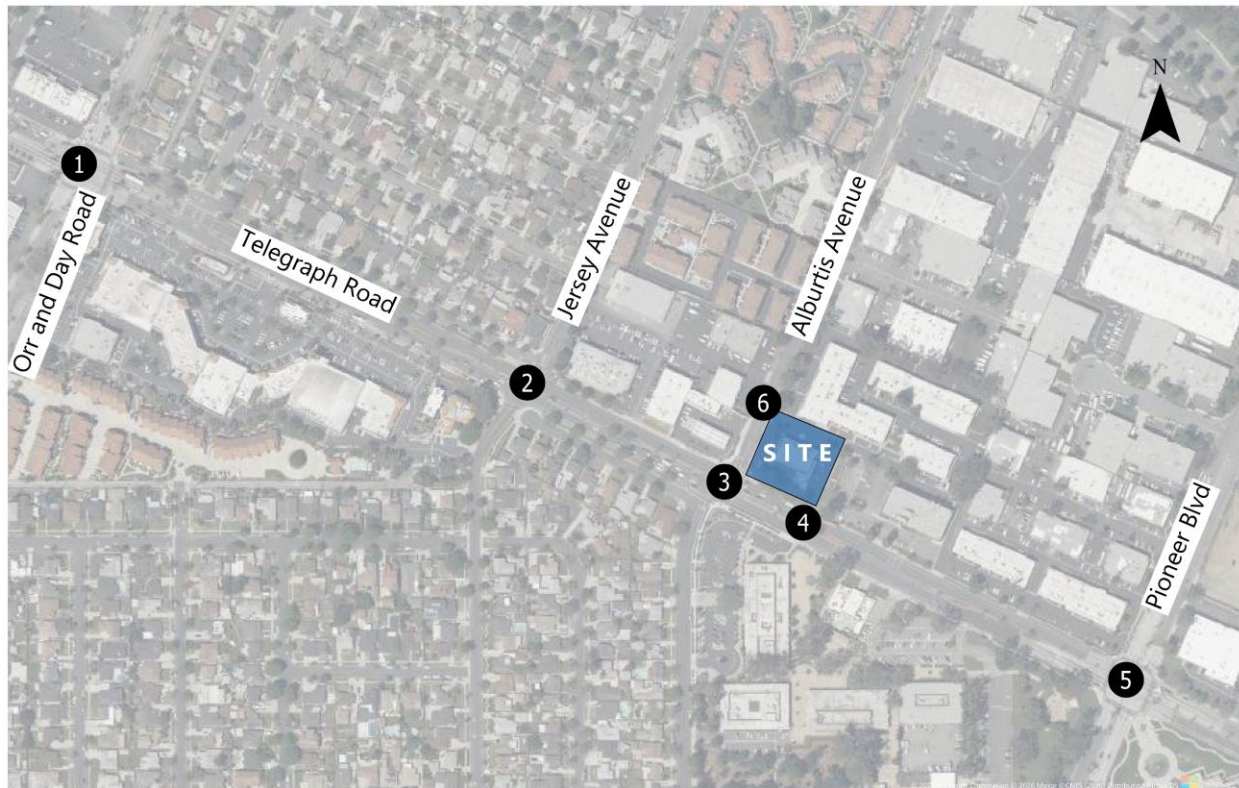
SOURCE: KITTELSON AND ASSOCIATES, INC (2026)

Figure 5. Existing AM Peak Turning Movement Volumes



SOURCE: KITTELSON & ASSOCIATES, INC (2026)

Figure 6. Existing PM Peak Turning Movement Volumes



SOURCE: KITTELSON & ASSOCIATES, INC (2026)

## Existing Plus Cumulative Conditions

A cumulative projects list was provided by the City of Santa Fe Springs Planning Department. The list included 35 projects that included approved, pending, under construction, and completed development projects within the City. The list was then screened based on the City's Transportation Study Guidelines, which state that related projects shall include projects within a one-half-mile radius of the project site that would reasonably be expected to be in place by the project buildout year and are not occupied at the time of the existing traffic counts.

Based on this review, projects outside the one-half-mile study area were excluded from further consideration. In addition, projects identified as completed and occupied prior to the traffic count collection period were assumed to already be reflected in the existing traffic volumes and were therefore not added separately to the cumulative traffic forecasts.

Of the projects identified on the City's cumulative projects list, only one project within the required one-half-mile radius met the screening criteria: the Rexford Industrial Group development located at 9920 Pioneer Boulevard. However, City records identified the project as completed on October 3, 2024, and aerial imagery confirmed the project was operational at the time traffic counts were collected. Therefore, traffic associated with the project was assumed to already be captured in the existing turning movement counts and no additional project trips were added to the Existing Plus Cumulative scenario. However, a two percent ambient growth factor was applied to the existing traffic volumes to account for background traffic growth and establish Existing Plus Cumulative Conditions.

**Figure 7** and **Figure 8** illustrates the peak hour volumes for the Existing Plus Cumulative Conditions.

Table 6 summarizes the delay and LOS analysis results at each intersection. As shown in the table, all intersections currently operate at LOS D or better in both AM and PM scenarios.

**Table 6. Existing Plus Cumulative Conditions LOS Results**

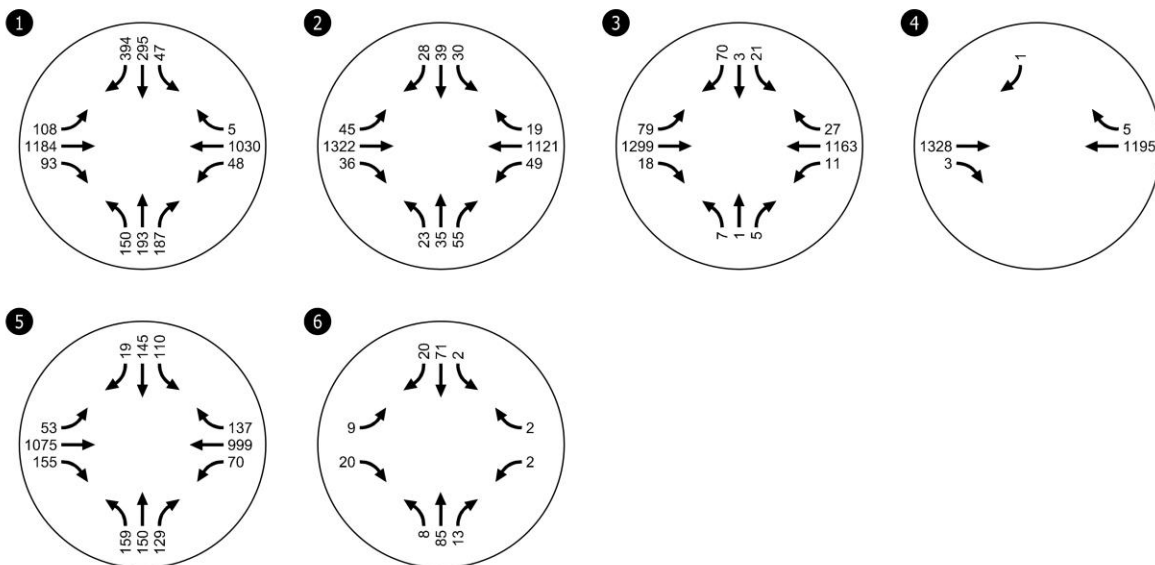
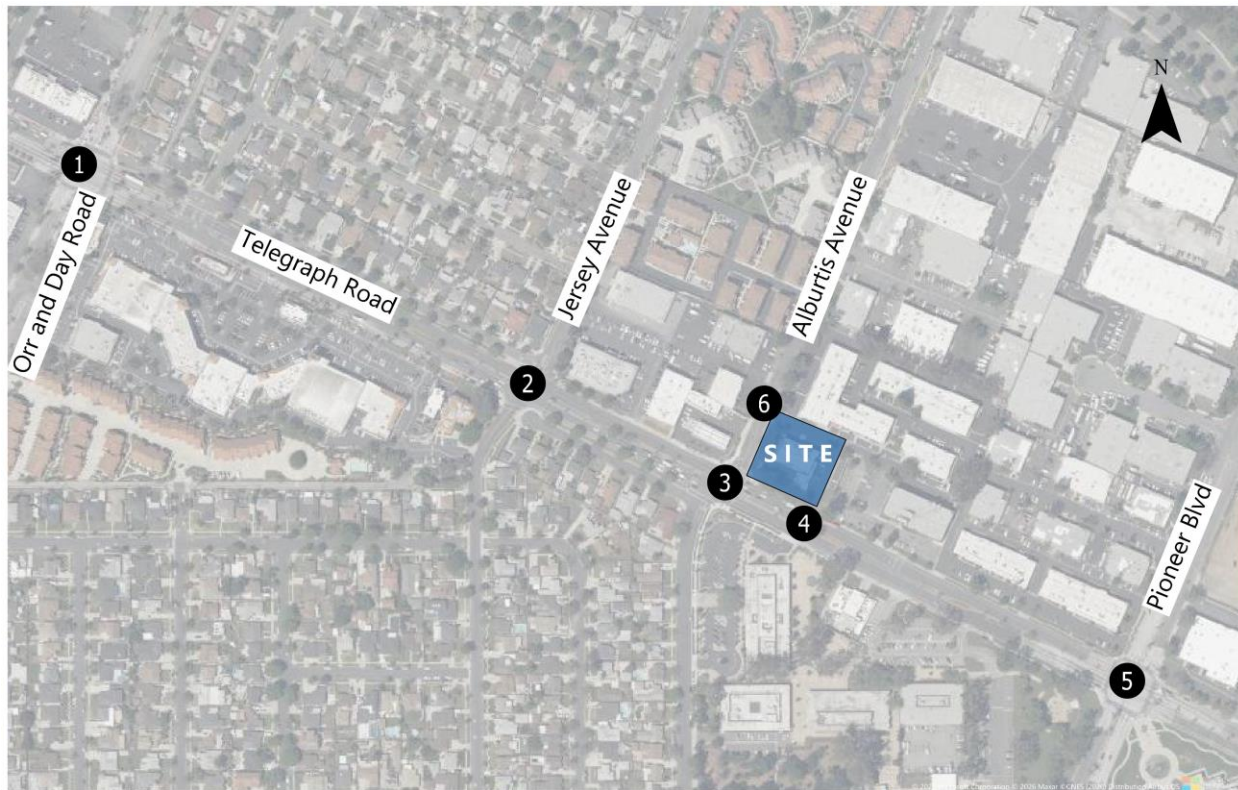
ID	Intersection	Control Type	Delay		LOS	
			AM	PM	AM	PM
1	Telegraph Road / Orr and Day Road	Signal	28.9	35.8	C	D
2	Telegraph Road / Jersey Avenue	Signal	10.7	12.8	B	B
3	Telegraph Road / Alburdis Avenue	Signal	4.4	8.6	A	A
4	Telegraph Road / Project Driveway	Stop-Controlled	15.9	0.0	C	A
5	Telegraph Road / Pioneer Boulevard	Signal	27.7	30.7	C	C
6	Alburdis Avenue / Project Driveway	Stop-Controlled	10.5	12.1	B	B

**Note:**

1. The table shows average intersection delay for signalized intersections and worst movement control delay for SSSC intersections
2. Intersection delay (s/veh) is rounded to one decimal place

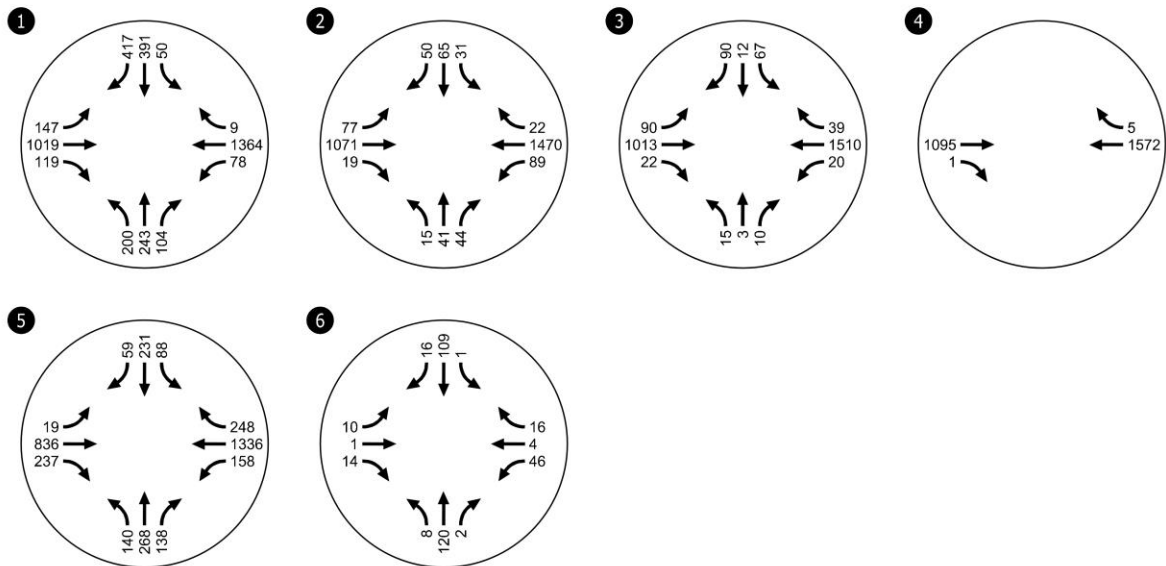
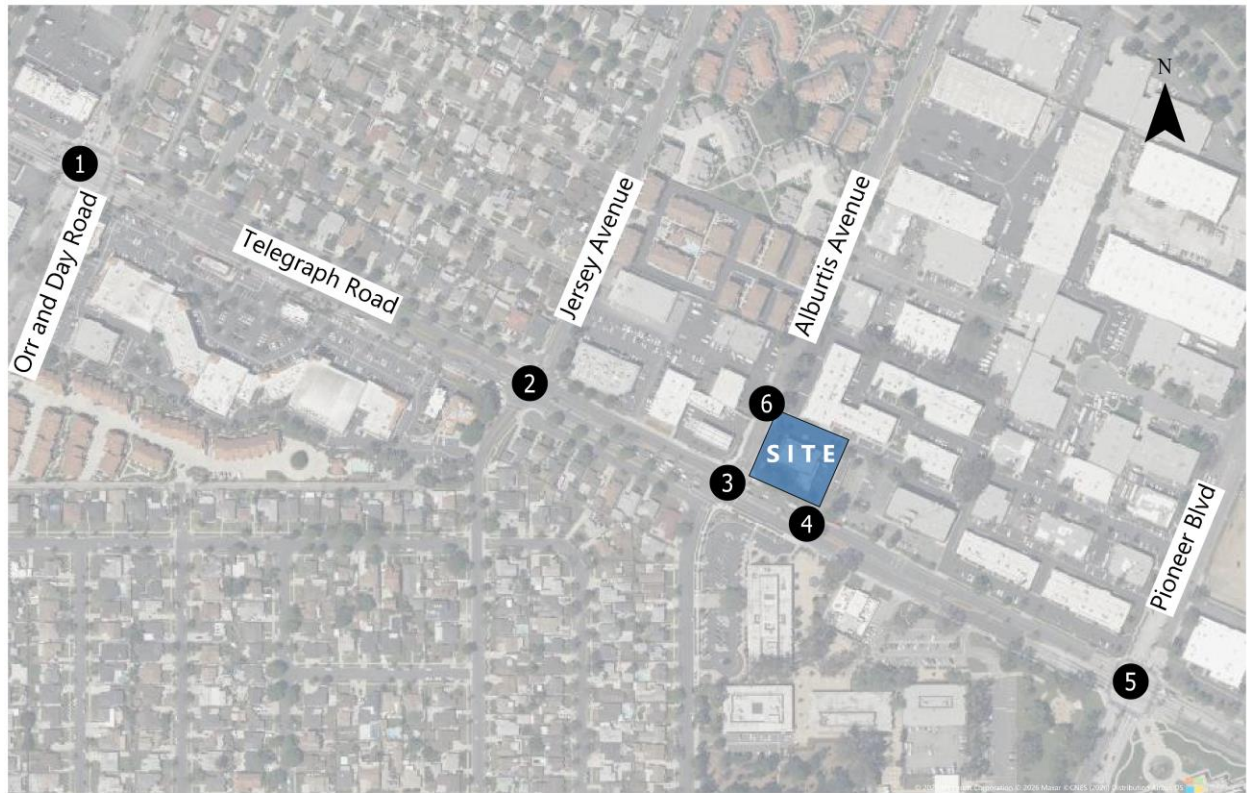
SOURCE: KITTELSON AND ASSOCIATES, INC (2026)

Figure 7. Existing Plus Cumulative AM Peak Turning Movement volumes



SOURCE: KITTELSON & ASSOCIATES, INC (2026)

Figure 8. Existing Plus Cumulative PM Peak Turning Movement Volumes



SOURCE: KITTELSON & ASSOCIATES, INC (2026)

## Existing Plus Cumulative Plus Project Conditions

Project volumes were added to the volumes developed under existing conditions to obtain the existing plus cumulative plus project volumes. **Figure 9** and **Figure 10** illustrates the peak hour volumes for Existing Plus Cumulative Plus Project Conditions.

**Table 7** summarizes the delay and LOS analysis results at each intersection. As shown in the table, all intersections currently operate at LOS D or better in both AM and PM scenarios.

**Table 7. Existing Plus Cumulative Plus Project Conditions LOS Results**

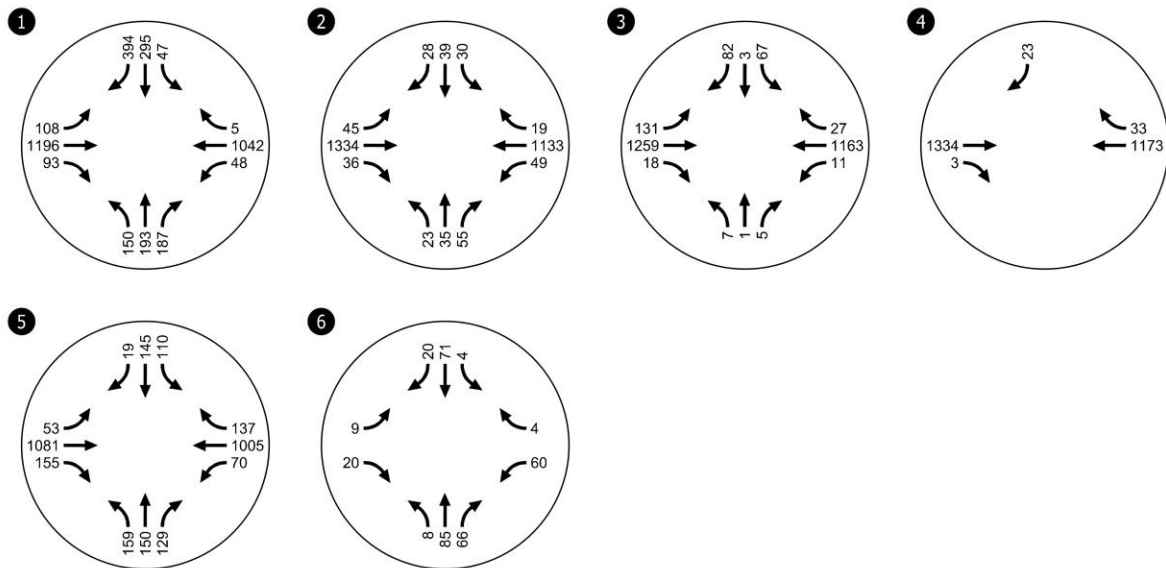
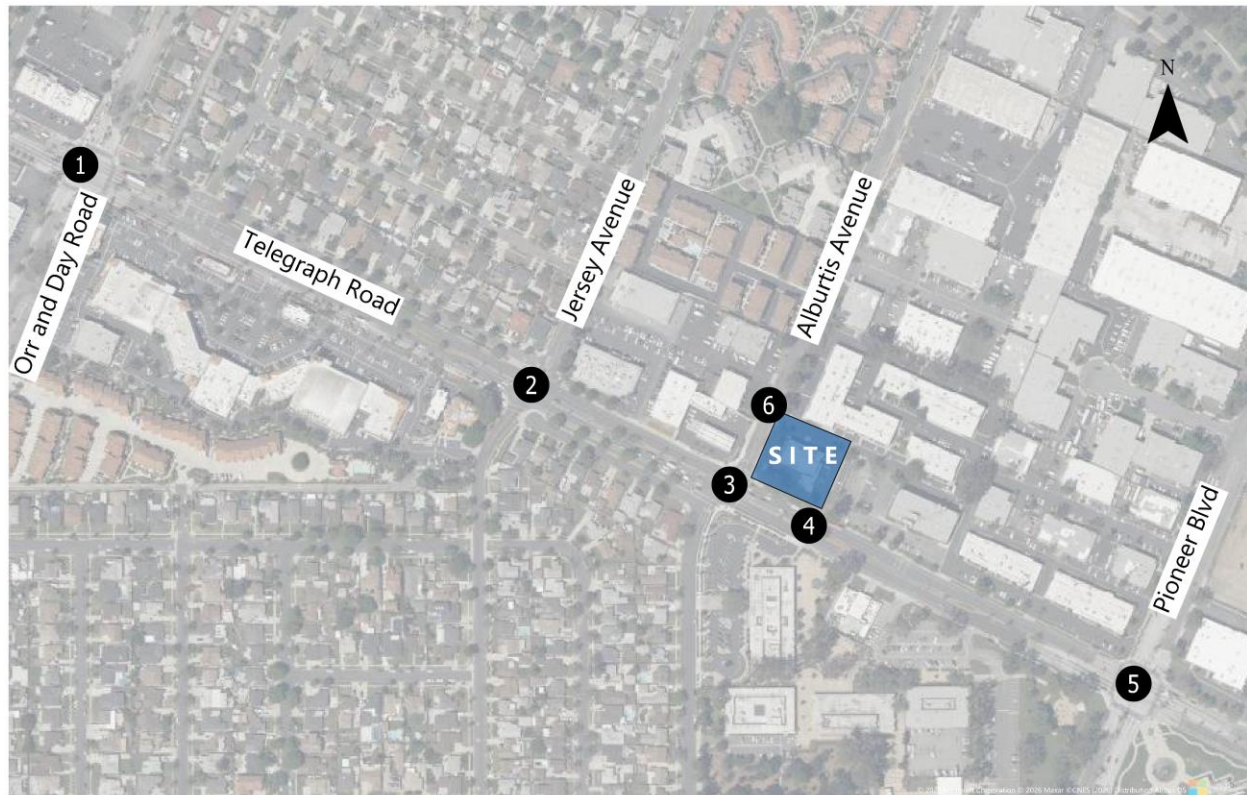
ID	Intersection	Control Type	Delay		LOS	
			AM	PM	AM	PM
1	Telegraph Road / Orr and Day Road	Signal	28.9	35.8	C	D
2	Telegraph Road / Jersey Avenue	Signal	10.7	12.8	B	B
3	Telegraph Road / Alburdis Avenue	Signal	6.6	10.3	A	B
4	Telegraph Road / Project Driveway	Stop-Controlled	16.9	21.6	C	C
5	Telegraph Road / Pioneer Boulevard	Signal	27.7	30.7	C	C
6	Alburdis Avenue / Project Driveway	Stop-Controlled	11.6	13.7	B	B

Note:

1. The table shows average intersection delay for signalized intersections and worst movement control delay for SSSC intersections
2. Intersection delay (s/veh) is rounded to one decimal place

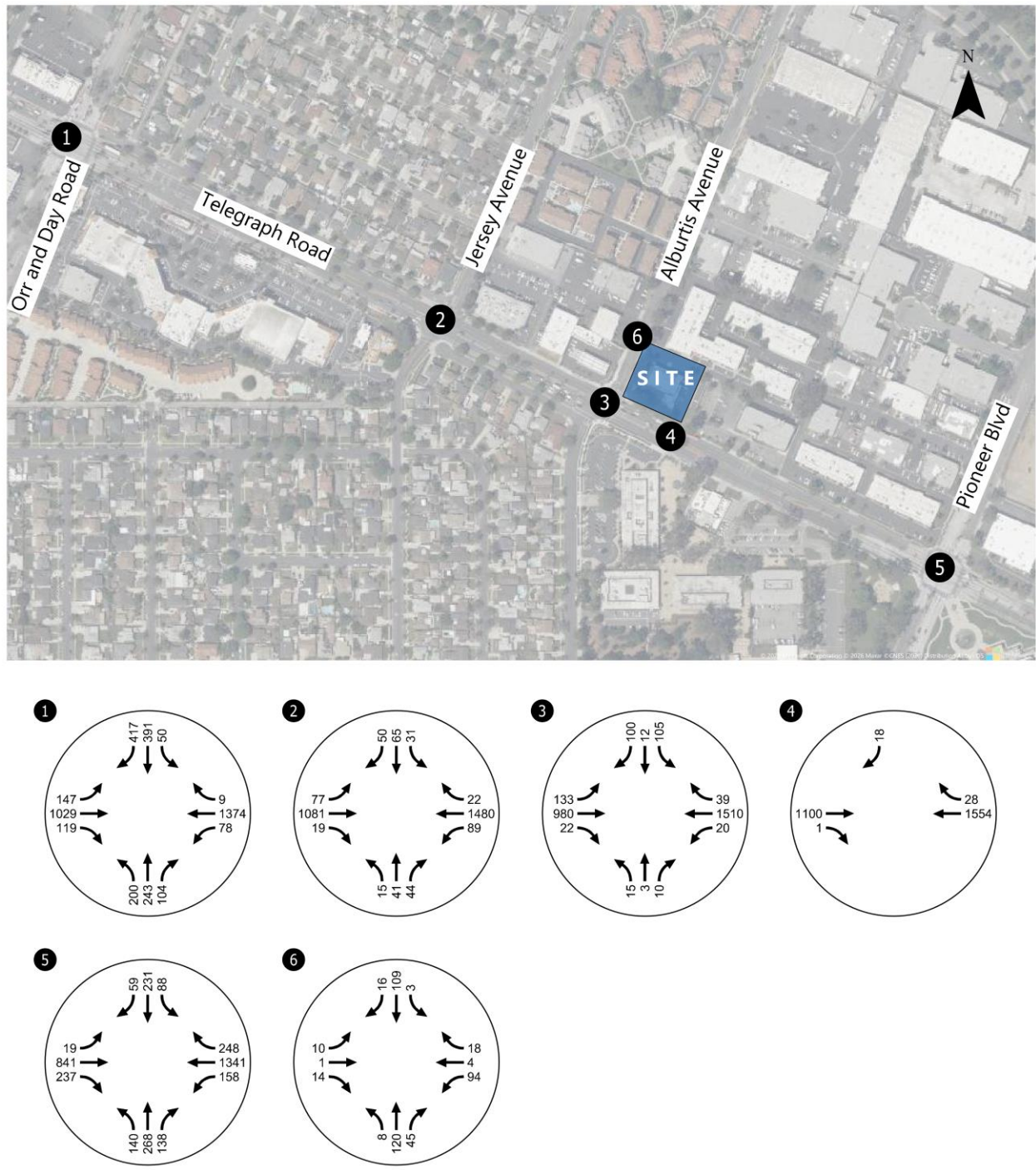
SOURCE: KITTELSON AND ASSOCIATES, INC (2026)

Figure 9. Existing Plus Cumulative Plus Project AM Peak Hour Turning Movement Volumes



SOURCE: KITTELSON & ASSOCIATES, INC (2026)

Figure 10. Existing Plus Cumulative Plus Project PM Peak Hour Turning Movement Volumes



SOURCE: KITTELSON & ASSOCIATES, INC (2026)



## Section 6 On-Site Queueing & Circulation

# On-Site Queueing & Circulation

This section evaluates drive-through queue lengths and the on-site circulation for the proposed Dutch Bros drive-through facility.

## DRIVE-THROUGH QUEUE ANALYSIS

Drive-through queue lengths were estimated using the historical Dutch Bros transaction data described in the Project Trip Generation section and a time-dependent queuing model. The time-dependent queuing model evaluates how queues form and dissipate over time by incorporating variable arrival and service rates during both off-peak and on-peak demand periods.

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.

The analysis evaluated two operational scenarios:

- **Opening Period:** This period was assessed using transaction data representative of the initial six opening months of operation, during which customer demand is typically elevated relative to long-term patterns.
- **Established Period:** This period was assessed using transaction data representative of stabilized operations after approximately six months, when customer demand patterns are anticipated to begin to normalize. For comparable sites with less than a year of operational history, data beyond the initial six-month period were used.

**Table 8. Estimated Drive-Through Queueing Potential (in number of vehicles)**

Scenario	95th Percentile Potential	Maximum Potential
Opening Period	23	25
Established Period	16	19

SOURCE: KITTELSON & ASSOCIATES, INC (2026)

As shown in **Table 8**, during the opening period, estimated queue lengths reach up to 25 vehicles at maximum potential and 23 vehicles at the 95<sup>th</sup> percentile, which modestly exceeds the proposed on-site drive-through storage capacity of 21 vehicles. During the established period, estimated queue lengths decreased to a maximum potential of 19 vehicles and a 95<sup>th</sup> percentile of 16 vehicles, both of which fall within the 21-vehicle on-site capacity. These results indicate that while queue spillovers beyond the designated storage area may occur during the initial opening period under peak demand conditions, queuing is expected to normalize within on-site capacity as operations stabilize over time.

In addition to the model-based analysis, empirical queue length data collected during the AM peak period (7:00 AM to 9:00 AM) at three of the five comparable Dutch Bros sites to give the City insight on expected morning operations and demand:

- 511 Citrus Ave, Covina (collected April 16, 2026)
- 14840 Beach Blvd, La Mirada (collected April 16, 2026)
- 2060 W Lambert Rd, La Habra (collected May 21, 2026)

Discussions with the City determined that this subset of sites would sufficiently capture the key operational characteristics and queueing patterns that are expected across the broader group. Observed queue lengths at each site, summarized in **Table 9** below, were averaged across the three locations to estimate potential queue lengths applicable to the proposed site. The maximum average observed queue length across comparable sites was 14 vehicles, falling within the proposed on-site drive-through storage capacity of 21 vehicles.

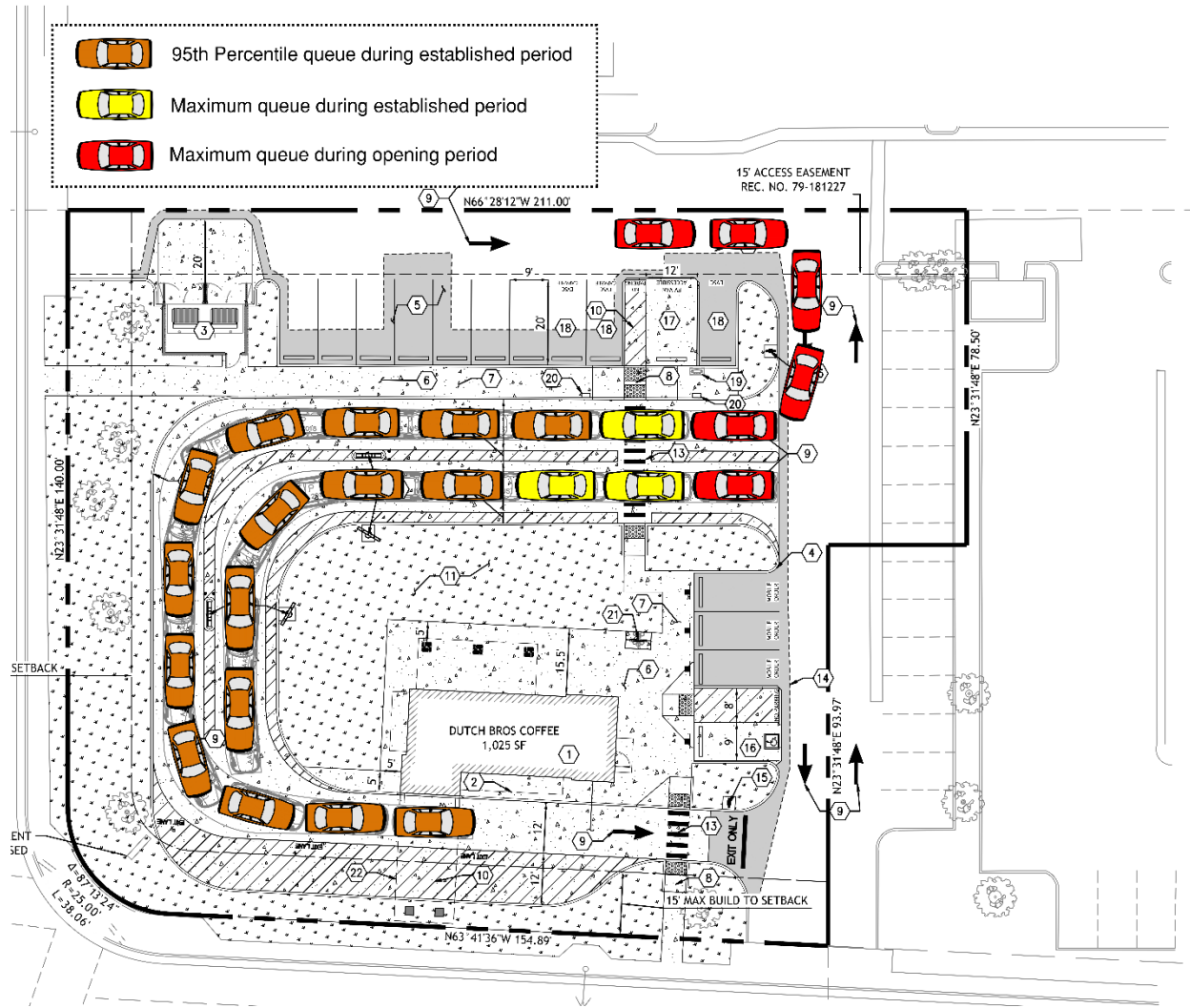
*Collected queueing data are provided in Appendix F for reference.*

**Table 9. Observed AM Peak Period Drive-Through Queue Lengths at Comparable Dutch Bros Sites (in number of vehicles)**

Time	Covina	La Mirada	La Habra	Average (Proposed Site Estimate)
7:00	2	10	7	6
7:15	6	8	9	8
7:30	8	5	8	7
7:45	9	12	6	9
8:00	11	15	8	11
8:15	11	13	19	14
8:30	5	13	18	12
8:45	11	11	20	14

SOURCE: KITTELSON & ASSOCIATES, INC (2026)

Figure 11. 95<sup>th</sup> Percentile Queuing Scenario



SOURCE: KITTELSON & ASSOCIATES, INC (2026)

## ON-SITE CIRCULATION ASSESSMENT

A qualitative assessment of on-site circulation was conducted based on review of the provisional site plan. The assessment considers access to and egress from the drive-through lanes and parking spaces, pedestrian and bicycle connections, and other site-specific operational considerations.

Key circulation characteristics of the proposed site include:

- **Site Access Driveways:** The project proposes two access points – a primary driveway from Telegraph Road and a secondary driveway from Albutis Avenue. The Telegraph Road driveway is restricted to right-in/right-out movements only, which supports efficient ingress and egress operations. Both driveways are located approximately 150 feet from the intersection of Albutis Avenue and Telegraph Road, providing sufficient distance for queues to form without substantially affecting on-site circulation. If queues along Telegraph Road extend beyond the driveway access, customers could be directed to exit via the Albutis Avenue driveway to help maintain internal circulation.
- **Drive-Through Ingress:** Two drive-through order lanes merge into a single pick-up window. The dual-lane entry configuration is consistent with all five comparable Dutch Bros sites evaluated and helps distribute vehicle demand to reduce queue buildup. In the event that queues exceed the on-site drive-through storage capacity, vehicles should be directed to queue toward the Albutis Avenue driveway rather than backing up toward the Telegraph Road driveway, in order to prevent conflicts with vehicles exiting the drive-through and to avoid potential spillover onto the public street.
- **Drive-Through Egress:** Vehicles exiting via the Albutis Avenue driveway are expected to operate without significant conflict. For vehicles exiting via the Telegraph Road driveway, if extended gaps in traffic cause vehicles to queue while waiting to merge, those vehicles should be redirected to exit via the Albutis Avenue driveway to prevent internal circulation conflicts and maintain efficient throughput.
- **Pedestrian Access:** A continuous pedestrian path of travel is provided from the Telegraph Road public sidewalk to the walk-up window on the building's north face, allowing customers to access the facility on foot without entering the drive-through circulation path.
- **Bicyclist Access.** Two bicycle parking spaces are provided at the front of the building near the walk-up window, consistent with City requirements. Customers reaching the project site from Telegraph Road or Albutis Avenue would travel along the existing sidewalk network shared with pedestrians, as no dedicated bicycle lanes are present on these roadways in the immediate project vicinity. Upon arriving at the site, bicyclists would use the same on-site pedestrian path to access the bicycle parking and walk-up window.
- **Transit Riders Access.** Two bus stops within close proximity to the site provide access for transit riders. A bus stop approximately 730 feet east of the site at Telegraph Road and Pioneer Boulevard is served by LA Metro Route 62, which runs between Downtown Los Angeles and Hawaiian Gardens via Telegraph Road, with approximately 30–35 minute headways during weekday AM peak hours. A second stop approximately 800 feet east of the site at Telegraph Road and Jersey Avenue provides additional service. Transit riders arriving at either stop can access the site via the existing sidewalk along Telegraph Road, as described above, without significant pedestrian-vehicle conflicts along the path of travel.

## PARKING ANALYSIS

The City of Santa Fe Springs requires 1 parking space per 250 square feet of gross floor area for the proposed use, resulting in a minimum requirement of 5 spaces ( $1,025 \text{ sf} / 250 = 5 \text{ spaces}$ , rounded up). The project will provide 22 on-site parking spaces located along the perimeter of the site, including 10 standard spaces, 1 ADA-accessible space, 1 EV van-accessible space, 1 EV space, 2 EV-capable spaces, and 7 existing spaces to remain, exceeding the City's minimum requirement. The provided parking supply is anticipated to adequately accommodate employees, occasional walk-up patrons, and delivery vehicles. Although not anticipated to be needed, the project is located within a small retail center with shared circulation and adjacent parking areas that could accommodate occasional overflow demand if needed. Overall the parking supply should adequately serve the proposed use, with a surplus of 17 spaces over the code minimum.



## Section 7 Conclusions

## Conclusions

This Transportation Study was prepared for the proposed Dutch Bros Coffee drive-through facility at 11701 Telegraph Road in Santa Fe Springs in accordance with the City's Transportation Study Guidelines. Based on the analyses presented herein, the proposed project would not result in significant transportation impacts related to VMT and no adverse effects to intersection operations. On-site circulation and queuing is expected to function adequately without impacting off-site operations.

The proposed 1,025-square-foot drive-through coffee shop qualifies as a locally serving retail use under the City's VMT Screening Guidance for projects less than 50,000 square feet. No unique or regional-draw characteristics were identified. Accordingly, the project is presumed to result in a less-than-significant VMT impact under CEQA, and no detailed VMT analysis was required.

Intersection operations were evaluated under Existing, Existing Plus Cumulative, and Existing Plus Cumulative Plus Project conditions. The analysis indicates that all six study intersections are anticipated to continue operating at acceptable LOS conditions during both the weekday AM and PM peak hours under all analyzed scenarios. The addition of project-generated traffic does not cause any study intersection to exceed the City's minimum acceptable LOS D threshold, and no degradation in intersection operations was identified. Accordingly, no off-site intersection improvements are required as a result of the proposed project.

On-site circulation and queuing were assessed using a time-dependent queuing model based on historical transaction data collected at comparable Dutch Bros locations. During the Established period, the 95th percentile drive-through queue is estimated at 16 vehicles and the maximum potential queue at 19 vehicles – both within the proposed 21-vehicle on-site storage capacity. During the Opening period, the maximum potential queue reaches 25 vehicles, modestly exceeding the on-site capacity under peak demand conditions. However, queues are expected to stabilize within capacity over time. Empirical queue observations at three comparable Dutch Bros locations yielded an average maximum queue of 14 vehicles during the AM peak period. The proposed dual-lane drive-through configuration, dedicated employee traffic management practices, and separation between parking, pedestrian, and drive-through circulation areas are anticipated to support efficient on-site operations. No on-site circulation deficiencies were identified, and no modifications to the proposed site plan are recommended.

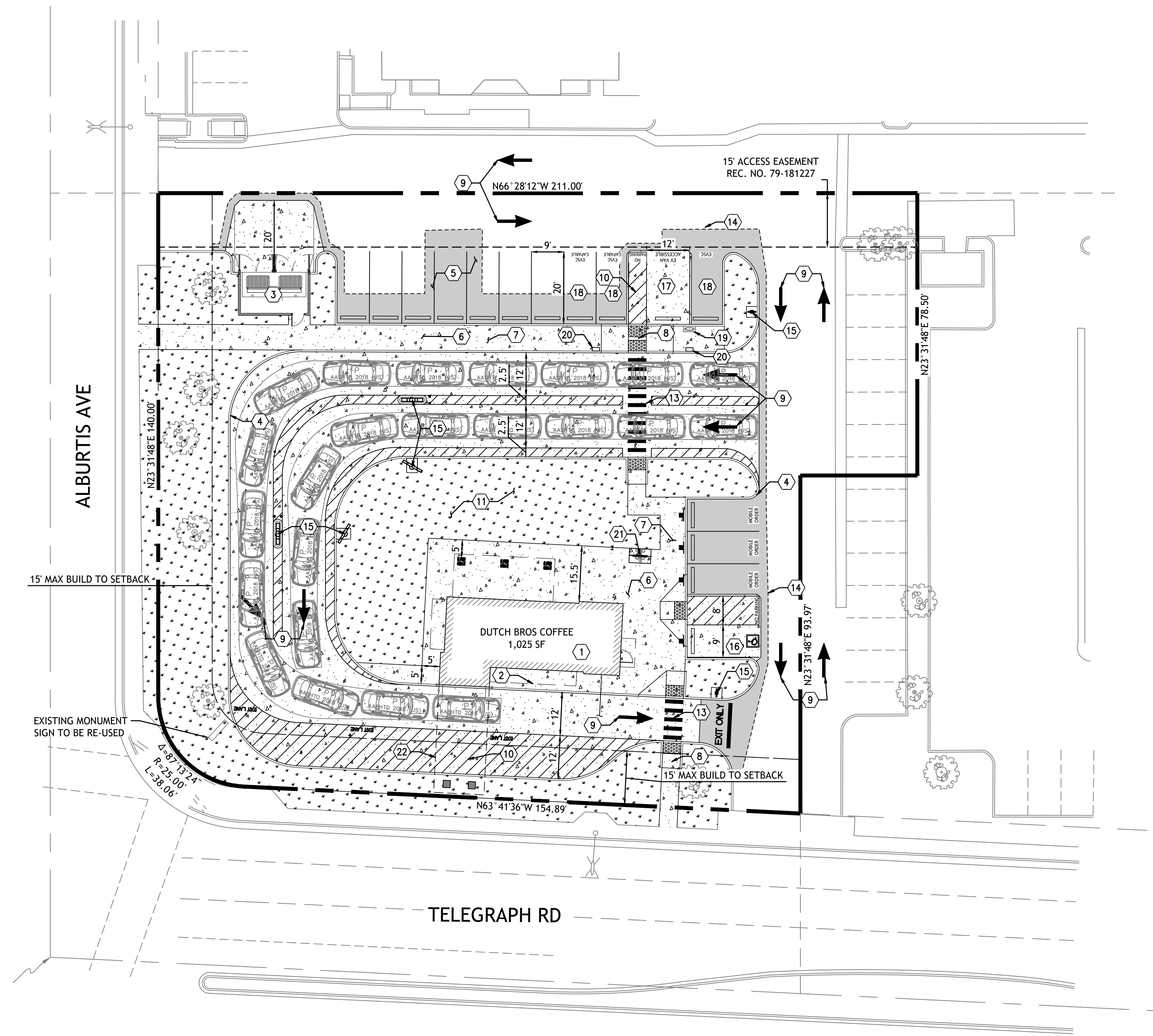
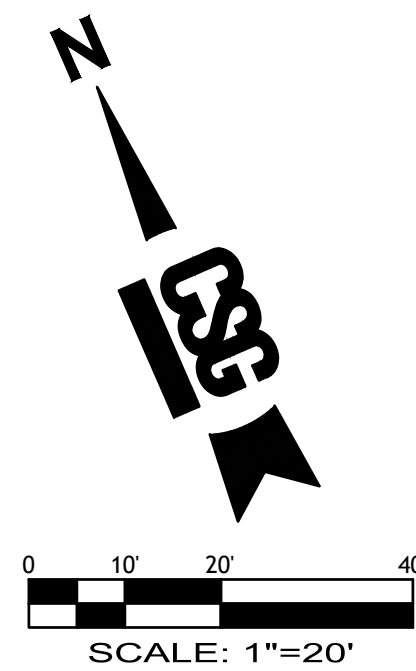
Based on the results of this Transportation Study, no transportation improvements are required to mitigate project-related impacts under the City's Transportation Study Guidelines or applicable CEQA thresholds. However, the following operational best practices are recommended to support efficient site operations and maintain acceptable circulation conditions:

- Continue standard employee traffic management practices during peak periods to facilitate orderly vehicle merging and minimize potential conflicts within the site. This includes staff-directed vehicle spacing and use of the bypass lane adjacent to the pick-up window to help minimize queue lengths and maintain circulation efficiency.
- Place clear driveway and wayfinding signage to direct drive-through customers, walk-up patrons, and parking traffic to the appropriate areas of the site when needed.



# Appendix A Provisional Site Plan

# DUTCH BROS COFFEE CA6407 SANTA FE SPRINGS, CA PRELIMINARY SITE PLAN



### OWNER

HILLDALE DRIVE PROPERTIES, LLC  
433 N. CAMBEN DR., SUITE 1000  
BEVERLY HILLS, CA 90210  
TEL: (310) 247-2298  
CONTACT: MICHAEL FARAHNIK  
EMAIL: MICHAELF@STARPOINTPROPERTIES.COM

### DEVELOPER

DUTCH BROS COFFEE  
1930 W RIO SALADO PKWY  
TEMPE, AZ 85281  
TEL: (877) 899-2767  
CONTACT: GURINDERJIT KEHR  
EMAIL: GURINDERJIT.KEHR@DUTCHBROS.COM

### ENGINEER

CORE STATES GROUP, LLC.  
18215 72ND AVE, SOUTH  
KENT, WA 98032  
TEL: (425) 251-6222  
CONTACT: ANTHONY MERLINO, P.E.  
EMAIL: AMERLINO@CORE-STATES.COM  
WEBSITE: [HTTPS://WWW.CORES-STATES.COM](https://www.cores-states.com)

### SURVEYOR

RICHTIG CORP.  
13911 NOWATA CT  
APPLE VALLEY, CA 92307  
TEL: (111)-111-1111  
CONTACT: AARON M. HAVENS  
EMAIL: CHRIS@RICHTIGCORP.COM

### LANDSCAPE ARCHITECT

CORE STATES GROUP, LLC.  
18215 72ND AVE, SOUTH  
KENT, WA 98032  
CONTACT: JEFF VARLEY  
TEL: (425) 251-6222

### BUILDING ARCHITECT

GNICH ARCHITECTURE STUDIO  
1001 SE SANDY BLVD, SUITE 100  
PORTLAND, OR 97214  
TEL: (503) 552-9079  
CONTACT: OMAR GARZON

### 1 SITE PLAN NOTES:

1. LOCATION OF DUTCH BROS COFFEE BUILDING. SEE ARCHITECTURAL PLANS FOR DETAILS.
2. LOCATION OF AWNING. SEE ARCHITECTURAL PLANS FOR DETAILS.
3. PROPOSED 20'X12' TRASH ENCLOSURE WITH CONCRETE PAD.
4. PROPOSED CONCRETE BARRIER CURB, TYPICAL.
5. PROPOSED ASPHALT PAVEMENT, TYPICAL.
6. PROPOSED ON-SITE CONCRETE PAVEMENT, TYPICAL.
7. PROPOSED ON-SITE CONCRETE SIDEWALK (WIDTH VARIES), TYPICAL.
8. PROPOSED ACCESSIBLE RAMP, TYPICAL.
9. PROPOSED DIRECTIONAL PAVEMENT MARKINGS, TYPICAL.
10. PROPOSED NO PARKING STRIPING. STRIPES 4" WIDE, 45 DEGRESS, 24" O.C., SAFETY WHITE, TYPICAL.
11. PROPOSED LANDSCAPE AREA, TYPICAL.
12. PROPOSED ACCESSIBLE PATH, TYPICAL. SEE ACCESSIBLE NOTE THIS SHEET.
13. PROPOSED CONTINENTAL TYPE PEDESTRIAN CROSSWALK STRIPING.
14. PROPOSED SAWCUT LINE, TYPICAL.
15. PROPOSED LOCATION OF SIGN. REFER CONSTRUCT CONCRETE PAD IF IN LANDSCAPED AREA.
16. PROPOSED ACCESSIBLE STALL.
17. PROPOSED ACCESSIBLE EV STALL.
18. PROPOSED EV STALL.
19. PROPOSED EV CHARGING STATION.
20. PROPOSED CHRISTY BOX
21. PROPOSED BICYCLE PARKING
22. PROPOSED CANOPY

### PROJECT DATA

NAME: DUTCH BROS COFFEE - SANTA FE SPRINGS, CA

ADDRESS: 11701 TELEGRAPH RD, SANTA FE SPRINGS, CA, 90670

PARCEL NO.: 8005-008-035  
PARCEL AREA = 32,466 SF (0.74 AC)

REQUIRED PARKING SPACES:  
- 1 SPACE PER 250 SF OF GROSS FLOOR AREA (1025 SF/100 SF = 5 SPACES)  
- TOTAL REQUIRED = 5 SPACES

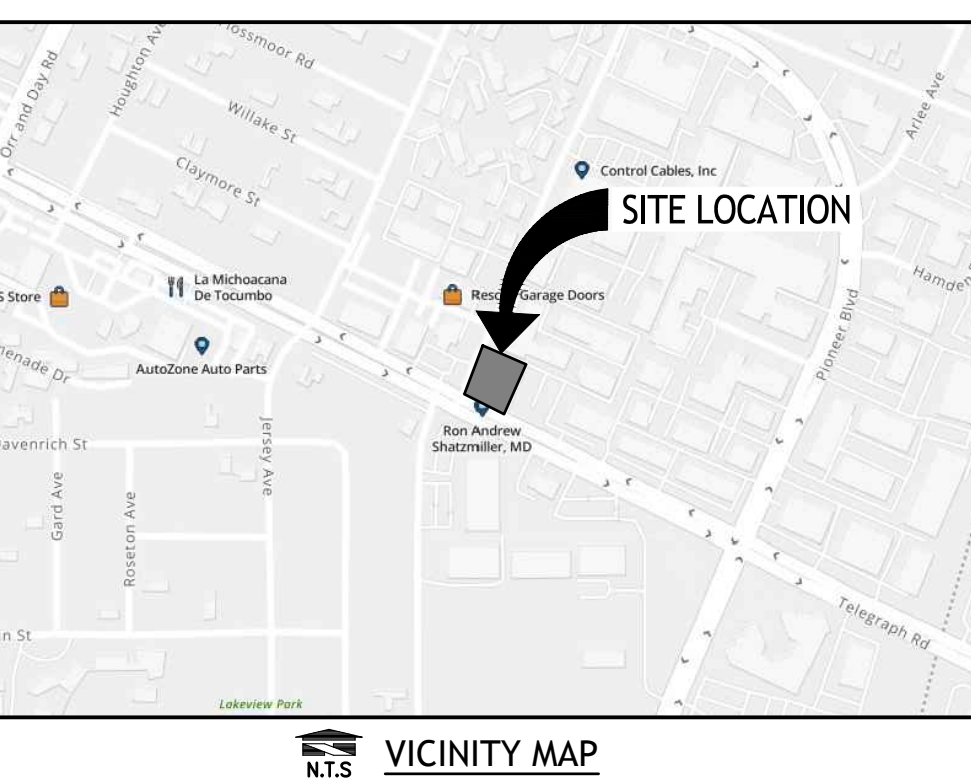
PROPOSED PARKING SPACES:  
- PROPOSED REGULAR PARKING = 10  
- PROPOSED ADA PARKING = 1  
- PROPOSED EV VAN ACCESSIBLE PARKING = 1  
- PROPOSED EV PARKING = 1  
- PROPOSED EV CAPABLE PARKING = 2  
- EXISTING PARKING TO REMAIN = 7  
TOTAL PARKING = 22

BICYCLE PARKING = 2

QUEUING = 460 FT TOTAL PROTECTED LANES (23 CARS)

TRASH ENCLOSURE = 20' X 12'

Sheet List Table	
Sheet Number	Sheet Title
1	PRELIMINARY SITE PLAN
2	PRELIMINARY UTILITY PLAN



18215 72nd Avenue South  
Kent, WA 98032  
855.CSG.1999

[www.core-states.com](http://www.core-states.com)

CoreStates, Inc.  
California Engineering  
CERTIFICATE OF AUTHORIZATION  
NO. 100524452

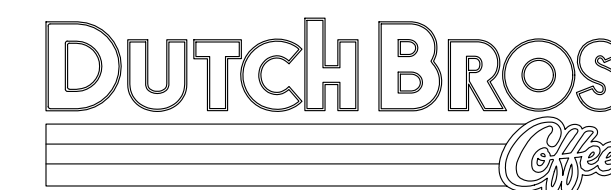
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THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORE STATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

DUTCH BROS COFFEE CA6407  
11707 TELEGRAPH RD  
SANTA FE SPRINGS, CA

DUTCH BROS COFFEE  
1930 W RIO SALADO PKWY  
TEMPE, AZ 85281



REV	DATE	COMMENT	BY

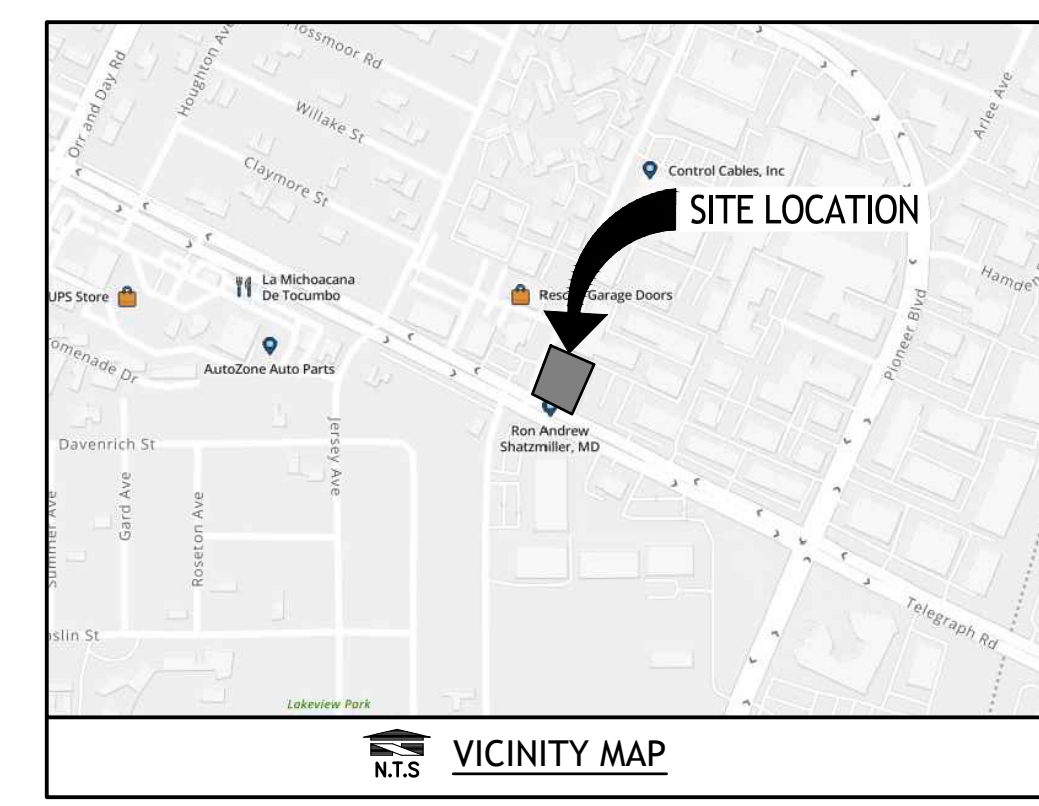
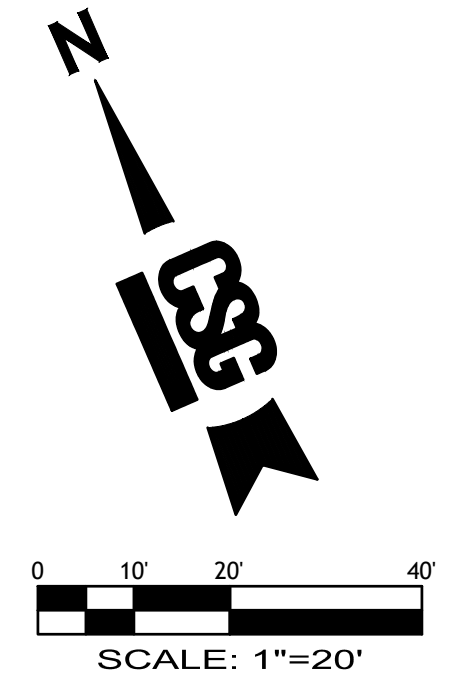
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Reviewed: AEM  
Sheet Date: 01/12/2026  
Proj. Number: 24472

PRELIMINARY SITE PLAN

The name DUTCH BROS, and all associated logos, distinctive designs, content, information, and other materials featured, displayed, contained herein, including but not limited to the "look and feel" of the establishments and products, all text, images, colors, configurations, graphics, designs, illustrations, photographs, and pictures (collectively, the "Materials") are owned by and/or licensed by DB Franchising USA, LLC and are protected by copyright, trademark, trade dress, patent, and/or other intellectual property rights and unfair competition laws under the United States and foreign laws.

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# DUTCH BROS COFFEE CA6407 SANTA FE SPRINGS, CA PRELIMINARY UTILITY PLAN



**CORE STATES**  
GROUP

18215 72nd Avenue South  
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NO. 100524452

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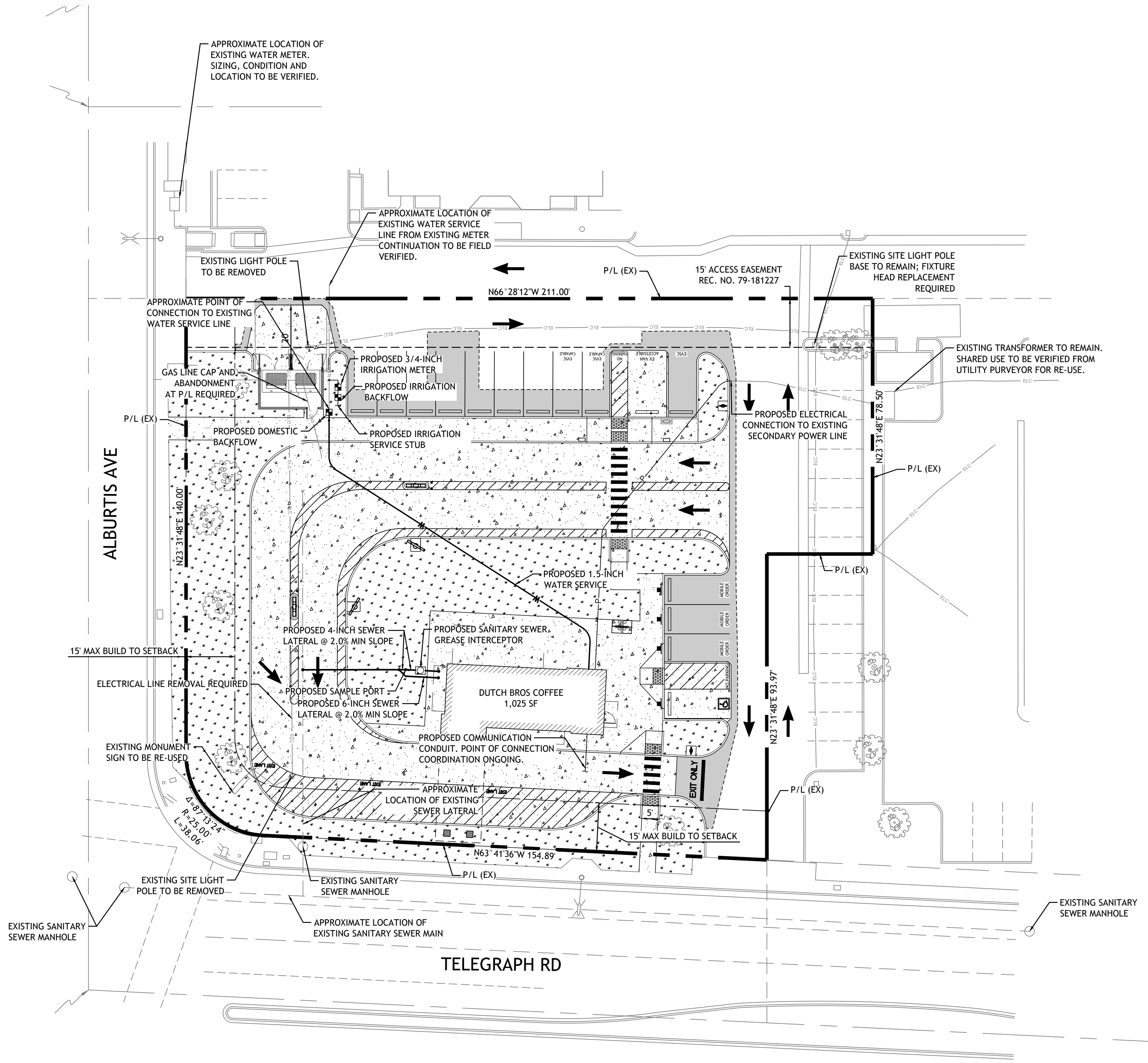
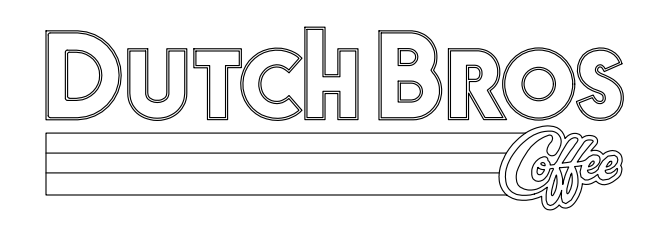


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THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORE STATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

DUTCH BROS COFFEE CA6407  
11707 TELEGRAPH RD  
SANTA FE SPRINGS, CA

DUTCH BROS COFFEE  
1930 W RIO SALADO PKWY  
TEMPE, AZ 85281



LEGEND	
BUILDING LINE	
EXISTING CURB TO REMAIN	
PROPOSED CURB	
PROPOSED LANDSCAPING	
PROPOSED ASPHALT	
PROPOSED CONCRETE	

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Reviewed: AEM  
Sheet Date: 01/12/2026  
Proj. Number: 24472

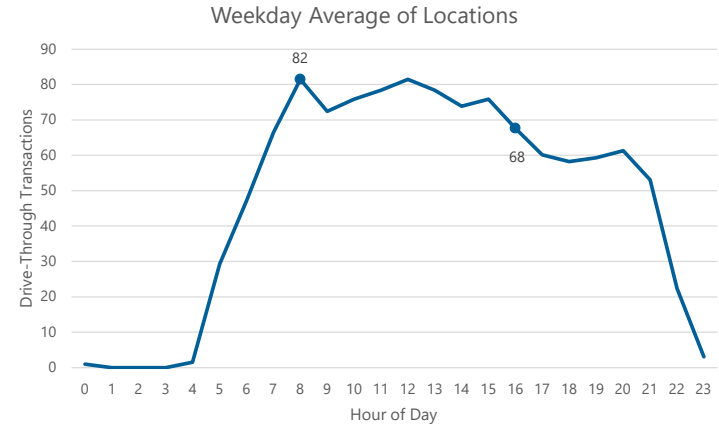
**PRELIMINARY UTILITY PLAN**



## Appendix B

### Hourly Transaction Data

DUTCH BROS TRANSACTION DATA (AVERAGE)						
Hour	Baldwin Park CA6103	Covina CA6104	CA6105	La Mirada CA6402	La Habra CA6401	Average of Locations
0					1	1
1						
2						
3						
4	1	1	1	2	2	1
5	26	30	15	30	38	29
6	43	49	28	45	59	47
7	65	73	45	61	74	66
8	77	89	63	73	92	82
9	65	80	48	68	86	72
10	71	83	46	71	90	76
11	73	85	46	76	93	78
12	77	88	49	79	95	81
13	74	82	48	77	94	78
14	68	78	47	73	89	74
15	70	78	54	74	90	76
16	63	70	44	67	81	68
17	58	62	38	58	73	60
18	57	57	34	59	71	58
19	63	55	31	62	71	59
20	68	56	30	64	72	61
21	60	48	23	57	62	53
22	24	24	13	21	23	22
23	2	0	0	2	5	3
<b>DAILY TOTAL</b>	<b>1085</b>	<b>1169</b>	<b>689</b>	<b>1101</b>	<b>1340</b>	<b>1127</b>



	Weekday								
	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
Primary	20	20	40	17	17	34	287	287	574
Pass-By %	75%	75%	75%	75%	75%	75%	75%	75%	75%
Pass-By	62	62	124	51	51	102	860	860	1,720
<b>Total</b>	<b>82</b>	<b>82</b>	<b>164</b>	<b>68</b>	<b>68</b>	<b>136</b>	<b>1,147</b>	<b>1,147</b>	<b>2,294</b>

\* took the hourly average transactions across the similar site locations during the associated peak period  
 \*\* added 40 trips to the Daily Trip Generation Estimates to account for commuting worker traffic

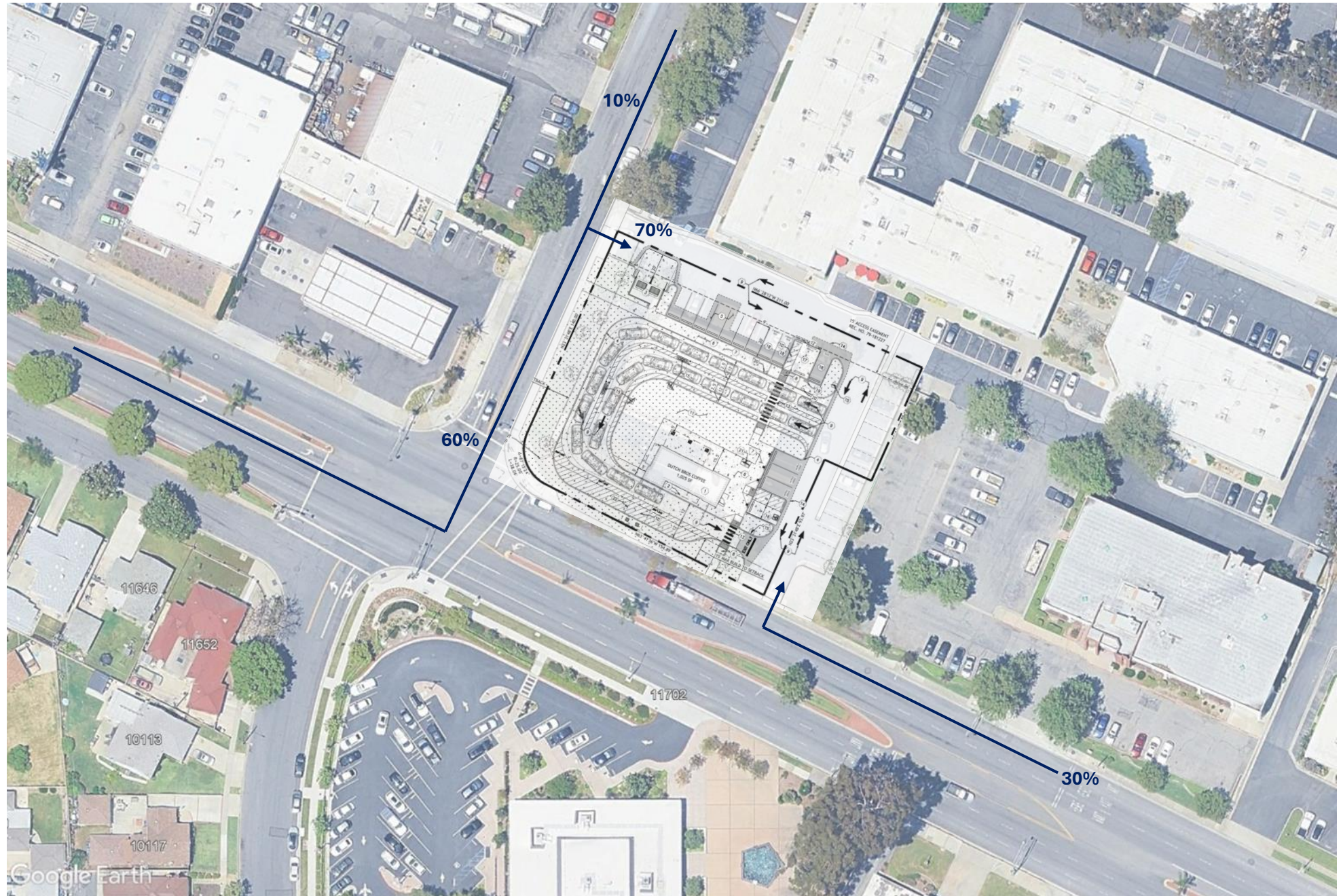


# Appendix C

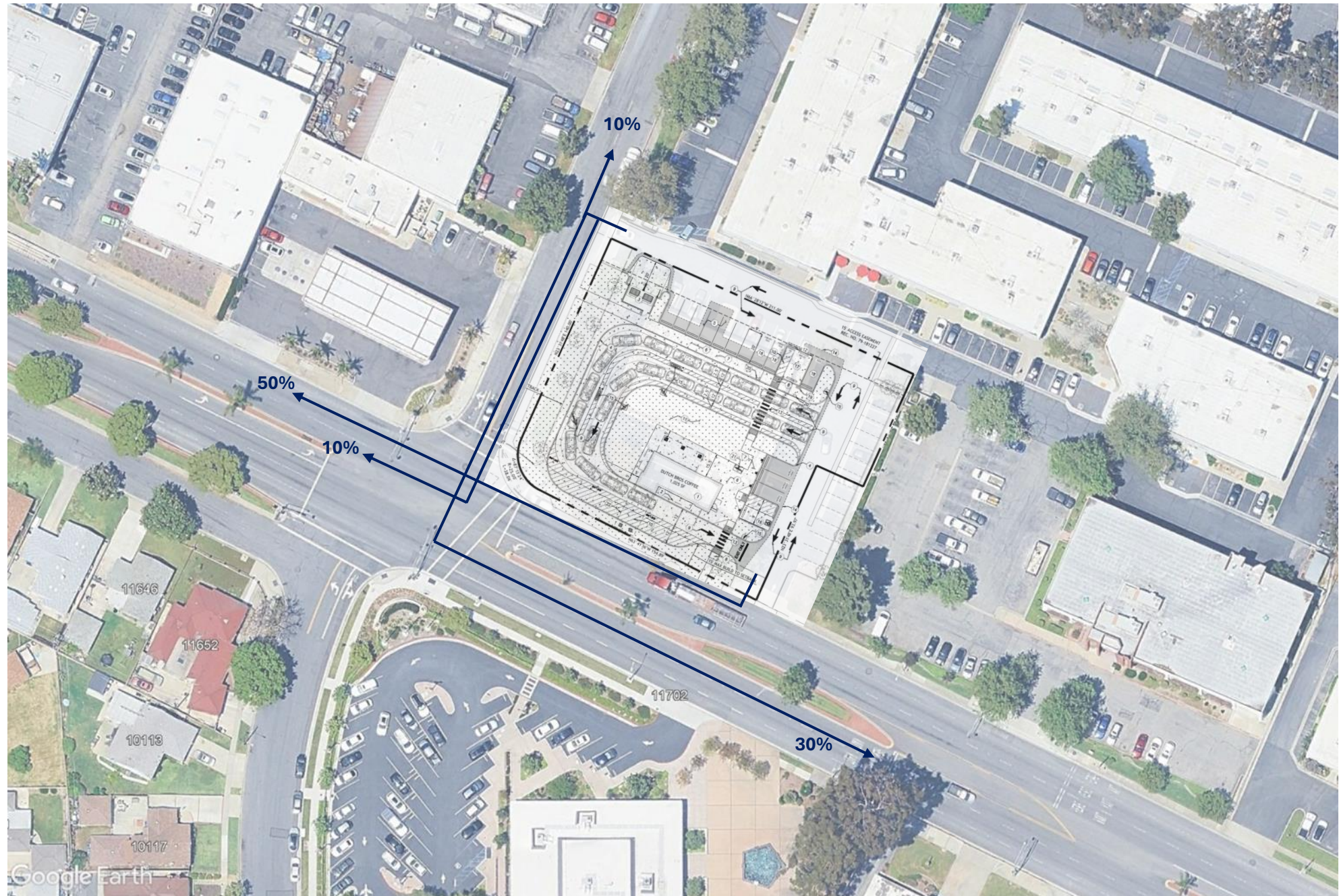
## Detailed Trip Assignment Figures



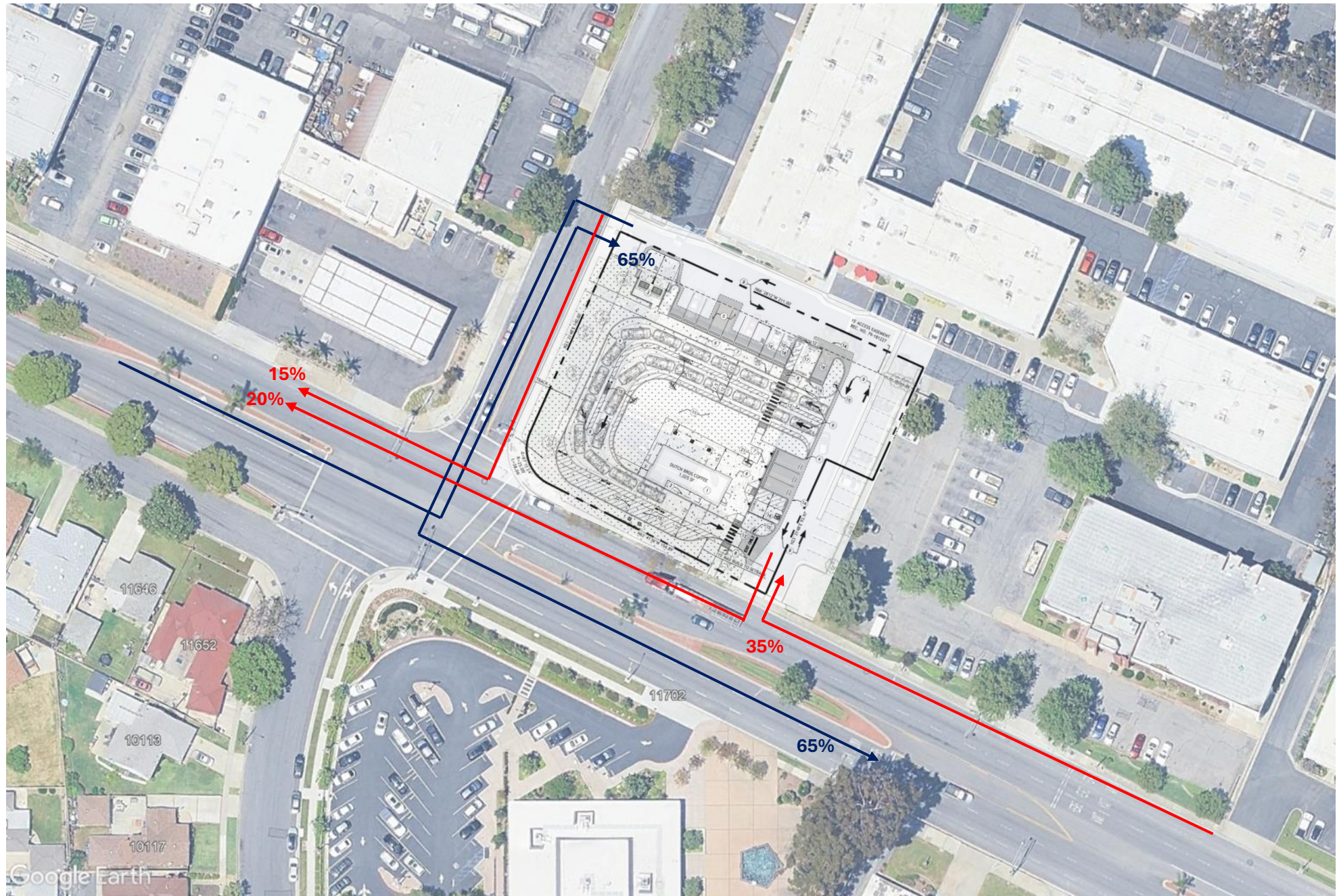
# Primary Trips: In Flow

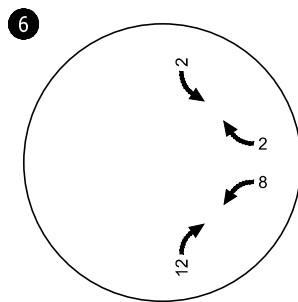
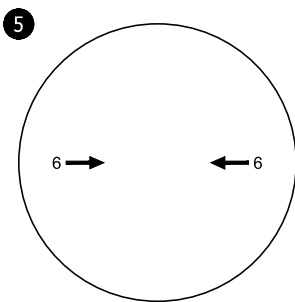
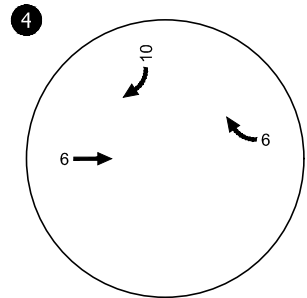
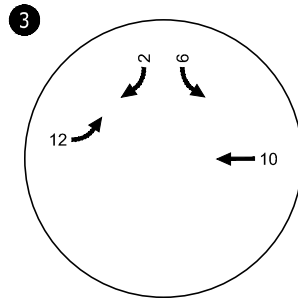
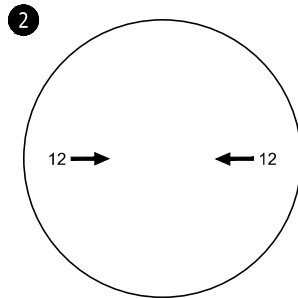
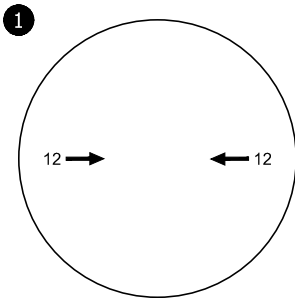
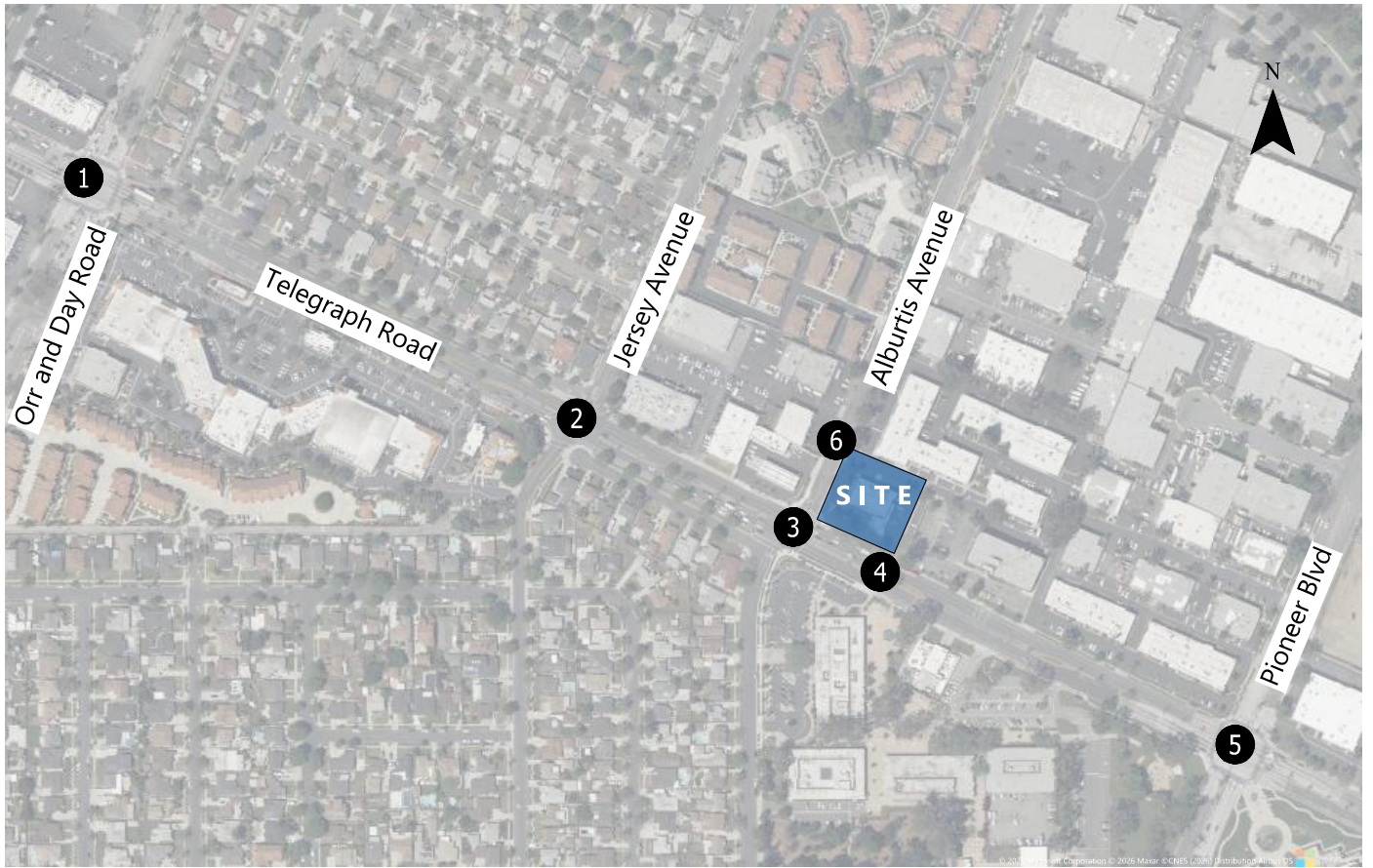


# Primary Trips: Out Flow



# Pass by Trips

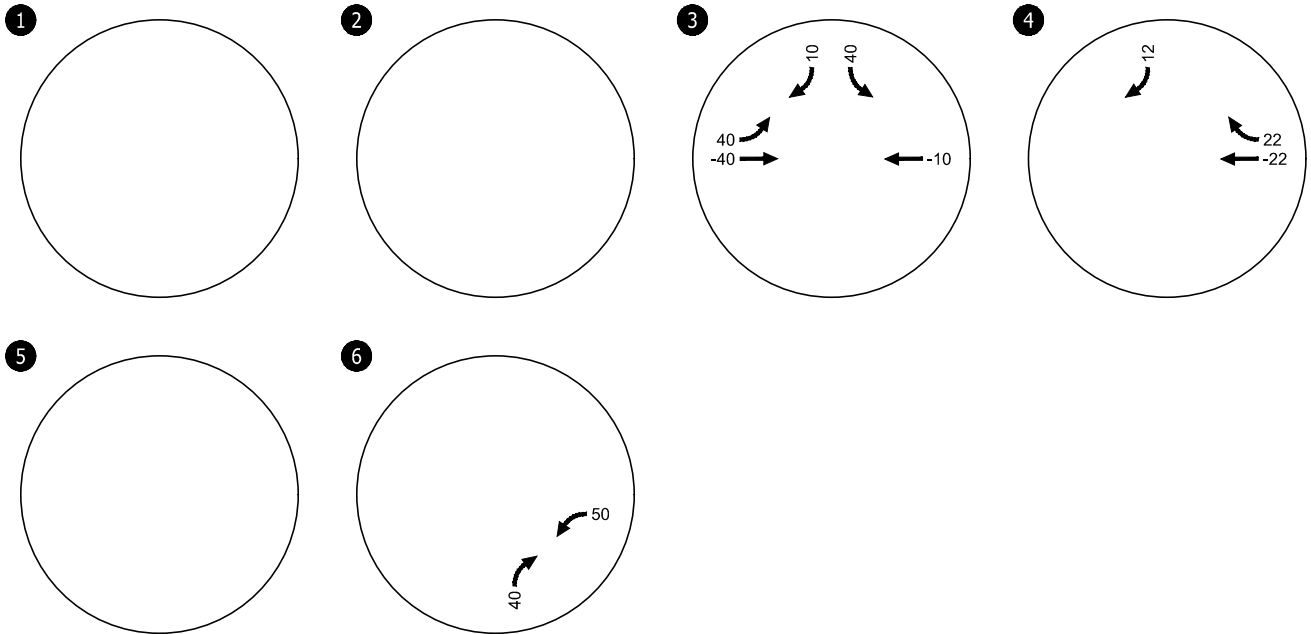
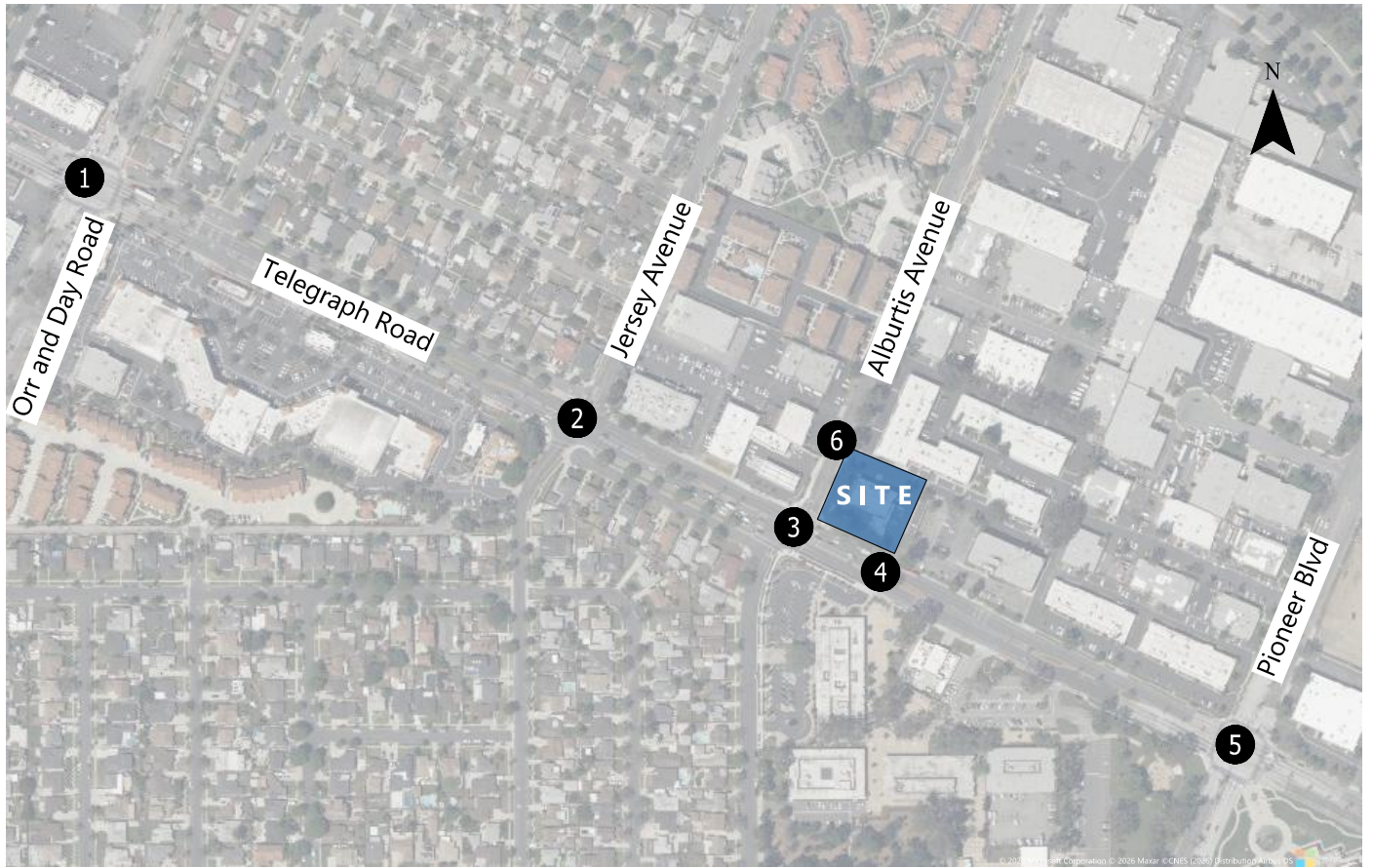




Detailed Trip Assignment Figures  
 Primary AM Trips  
 Santa Fe Springs, CA

Figure  
 1

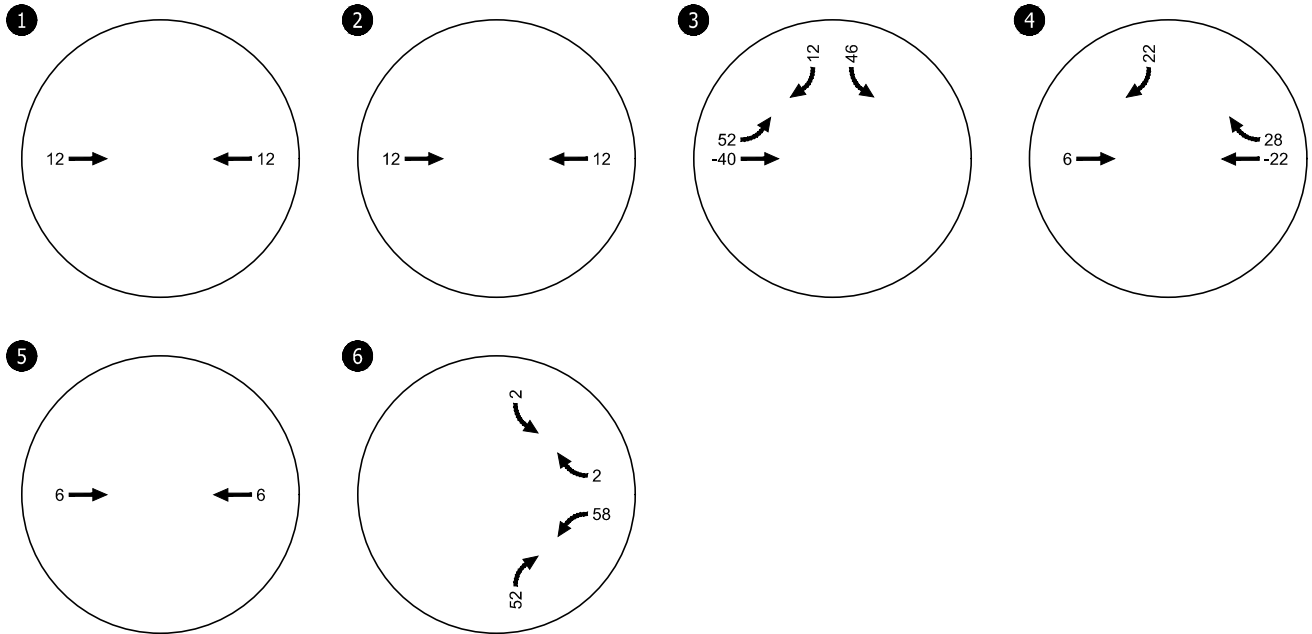
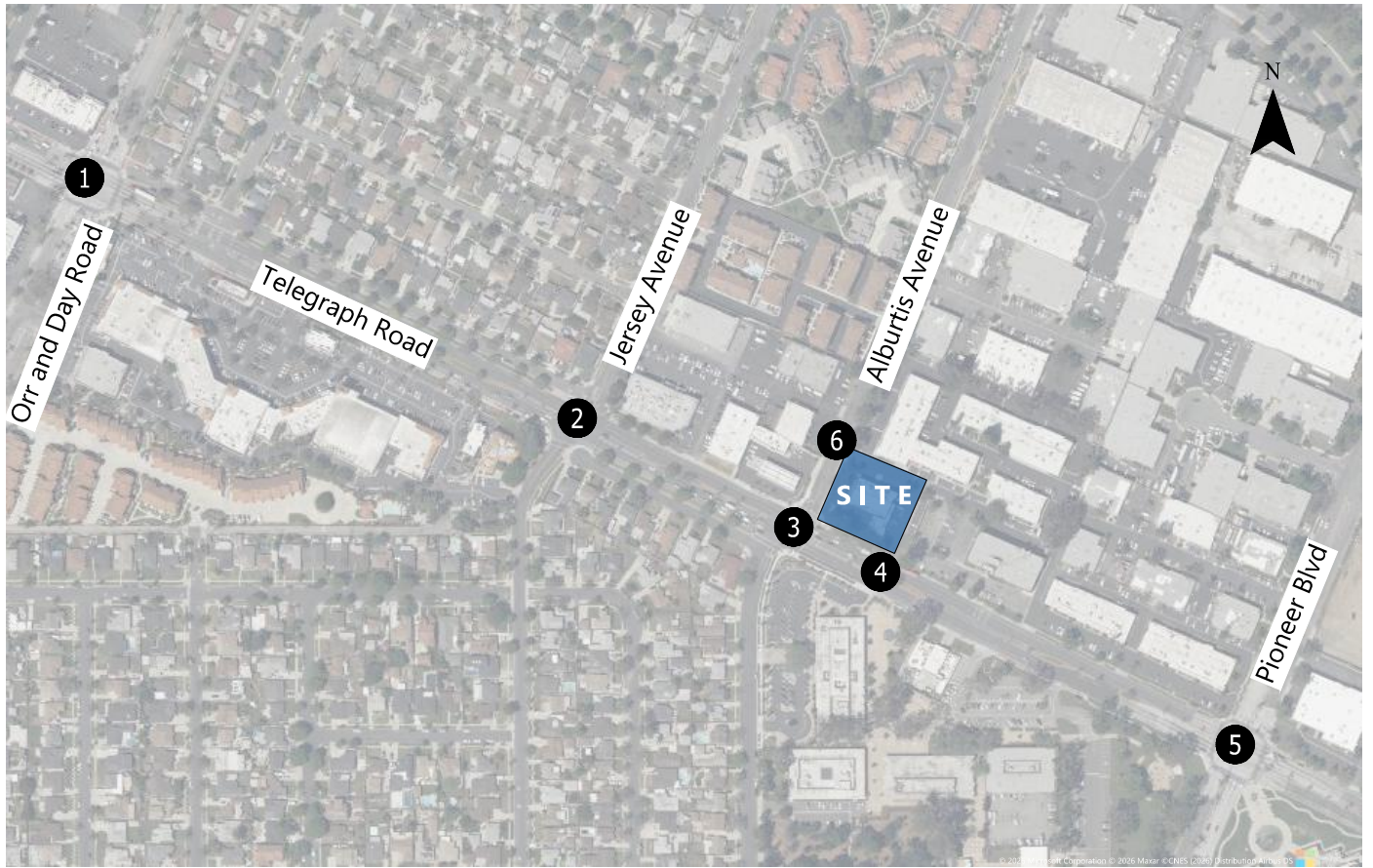
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Detailed Trip Assignment Figures  
 Pass-By AM Trips  
 Santa Fe Springs, CA

Figure  
 2

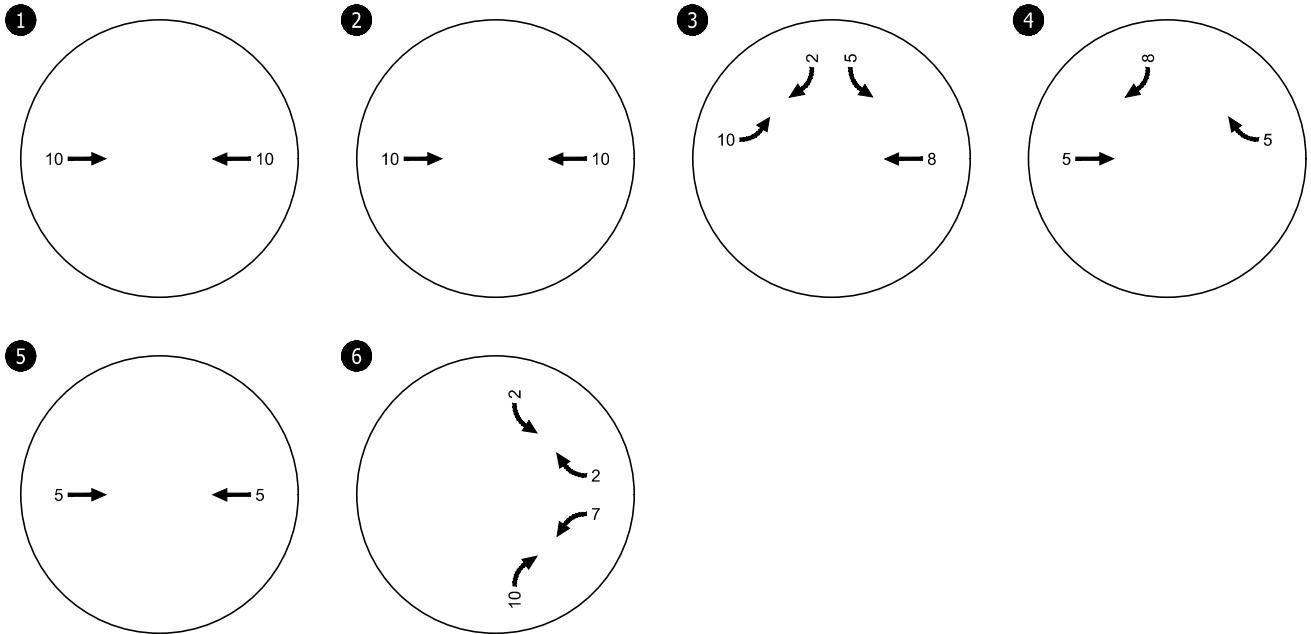
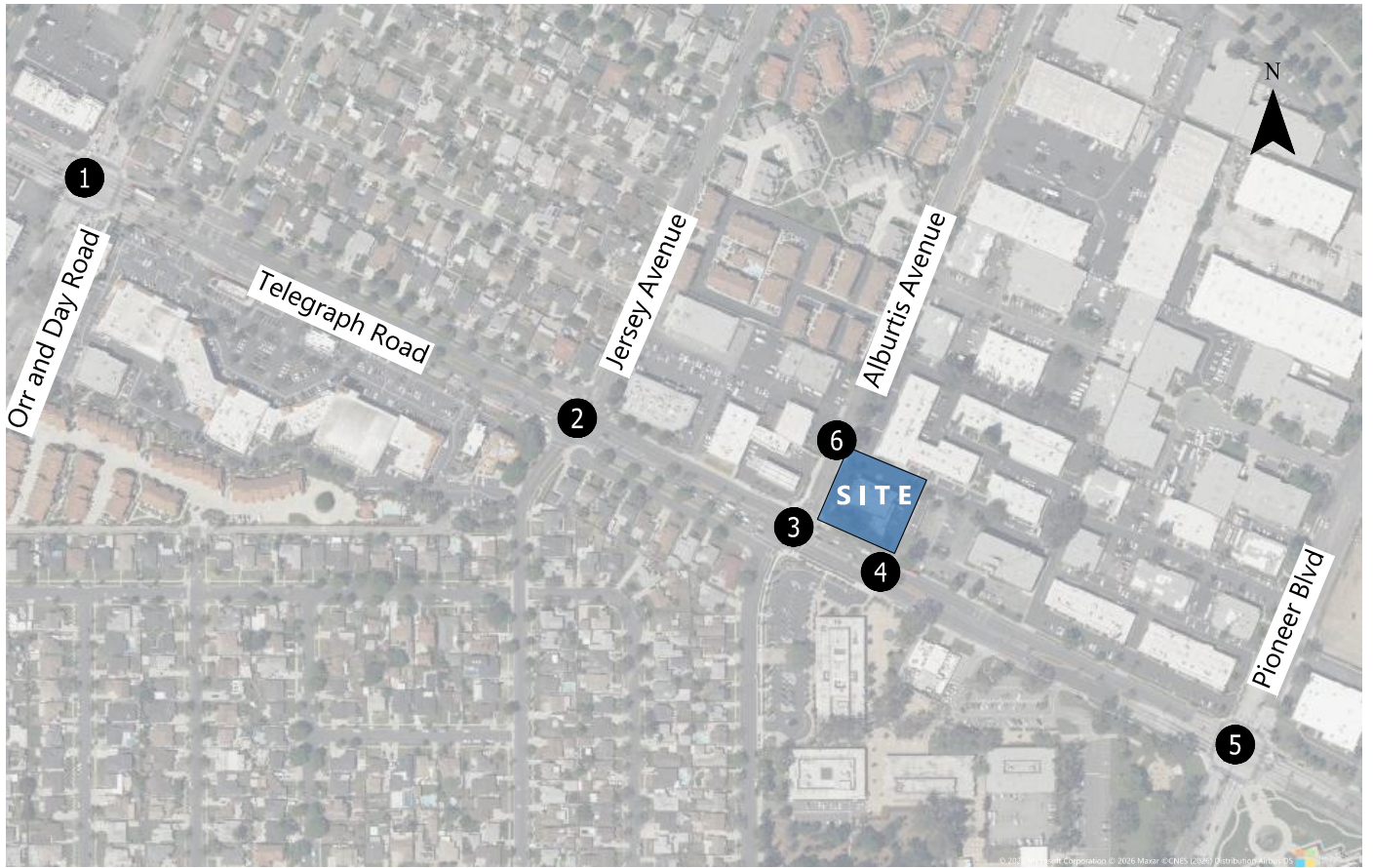
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Detailed Trip Assignment Figures  
 Project AM Trips  
 Santa Fe Springs, CA

Figure  
 3

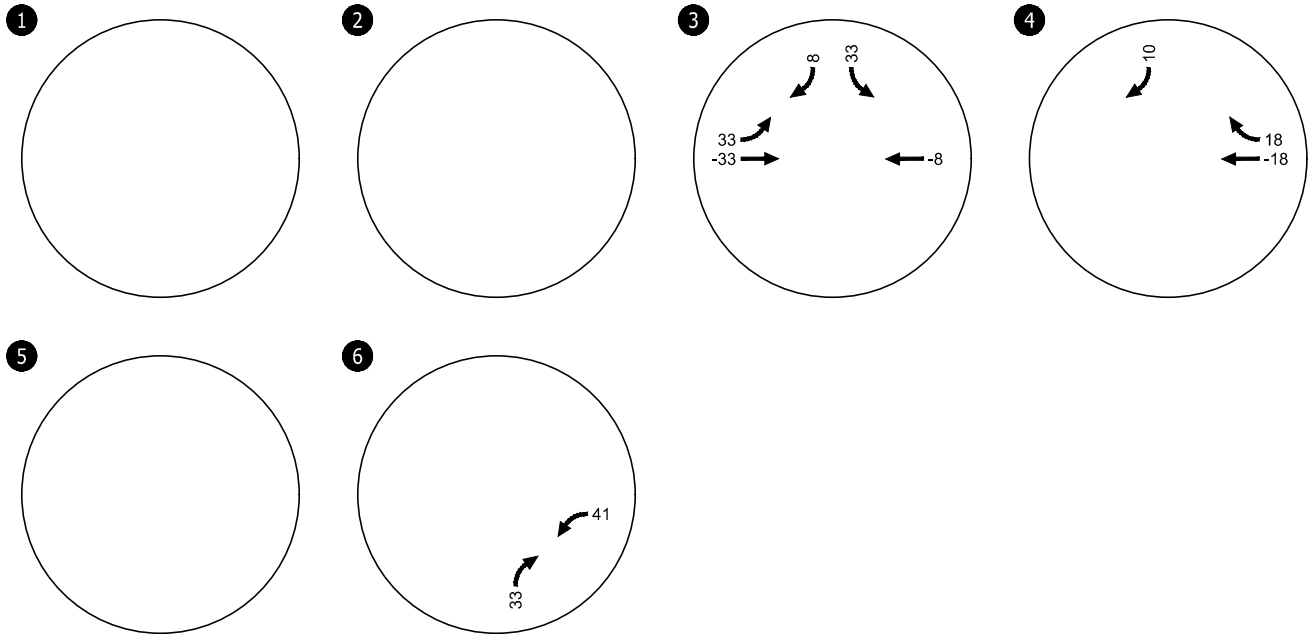
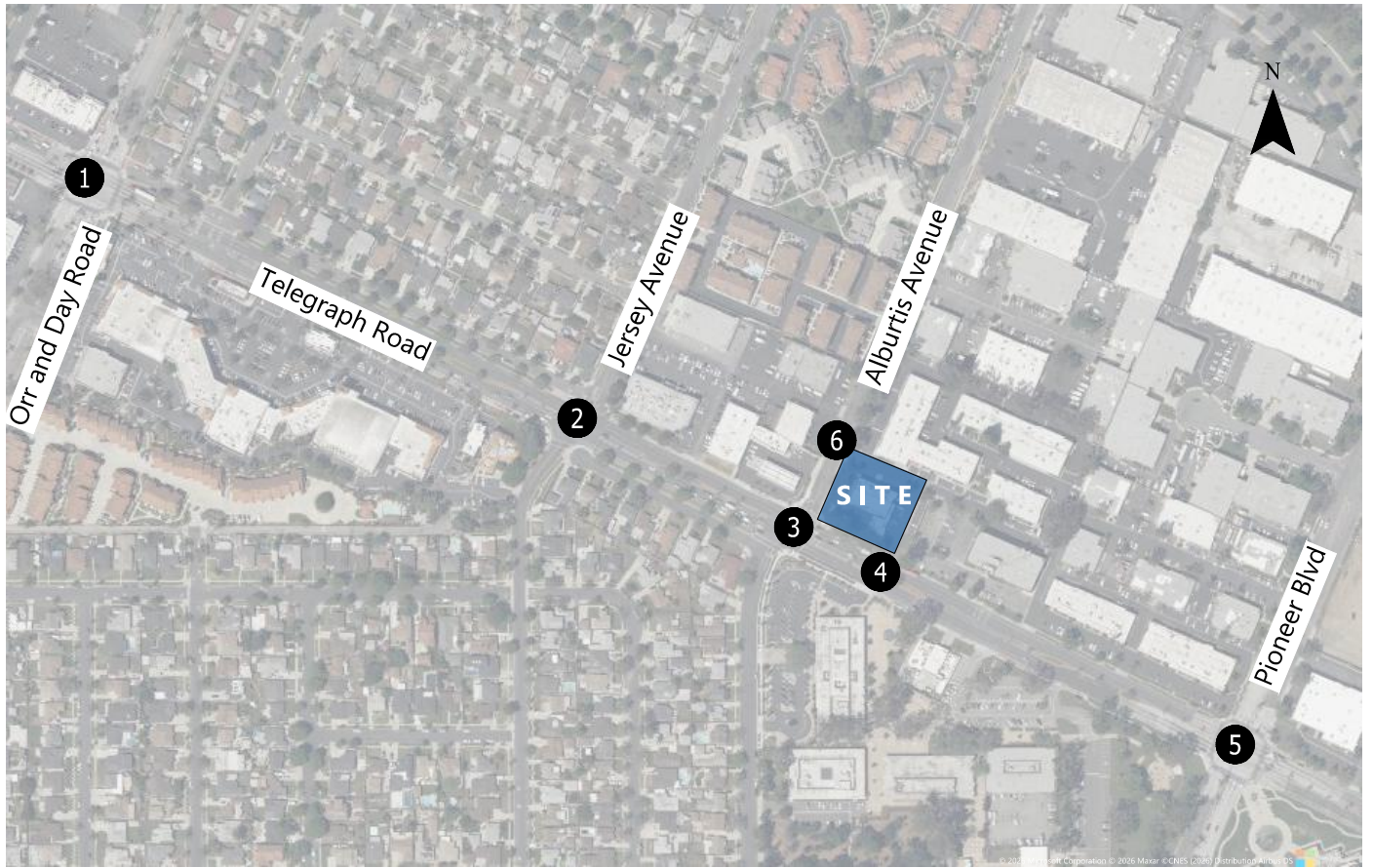
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Detailed Trip Assignment Figures  
 Primary PM Trips  
 Santa Fe Springs, CA

Figure  
 4

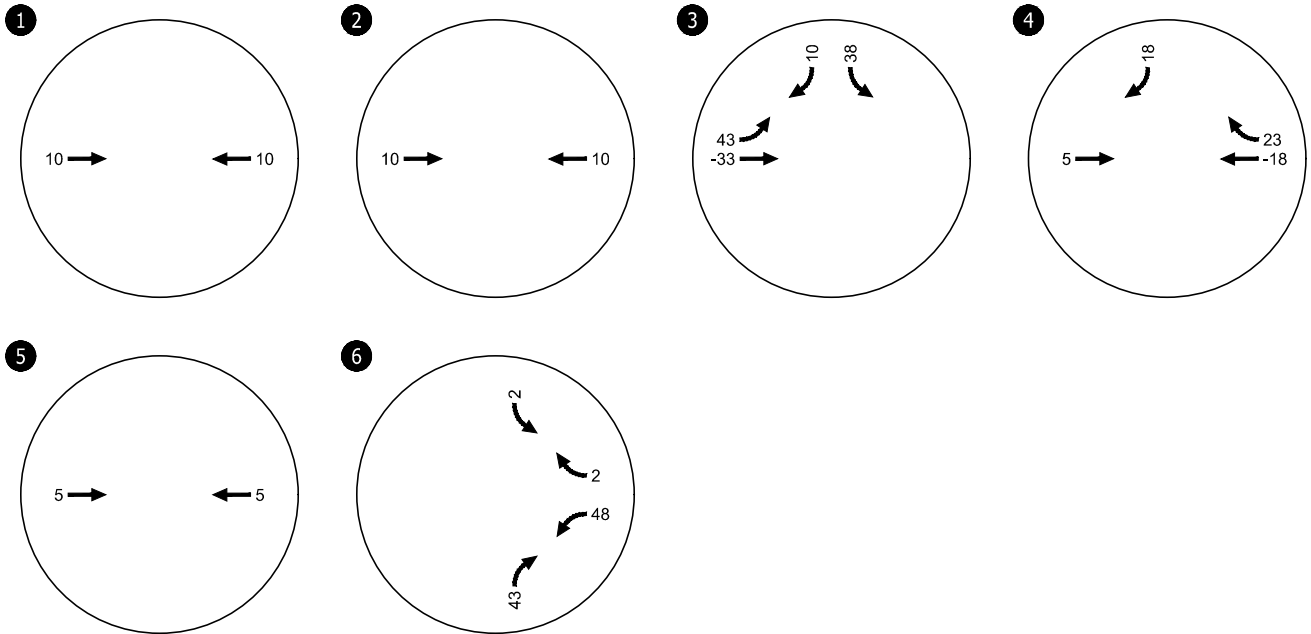
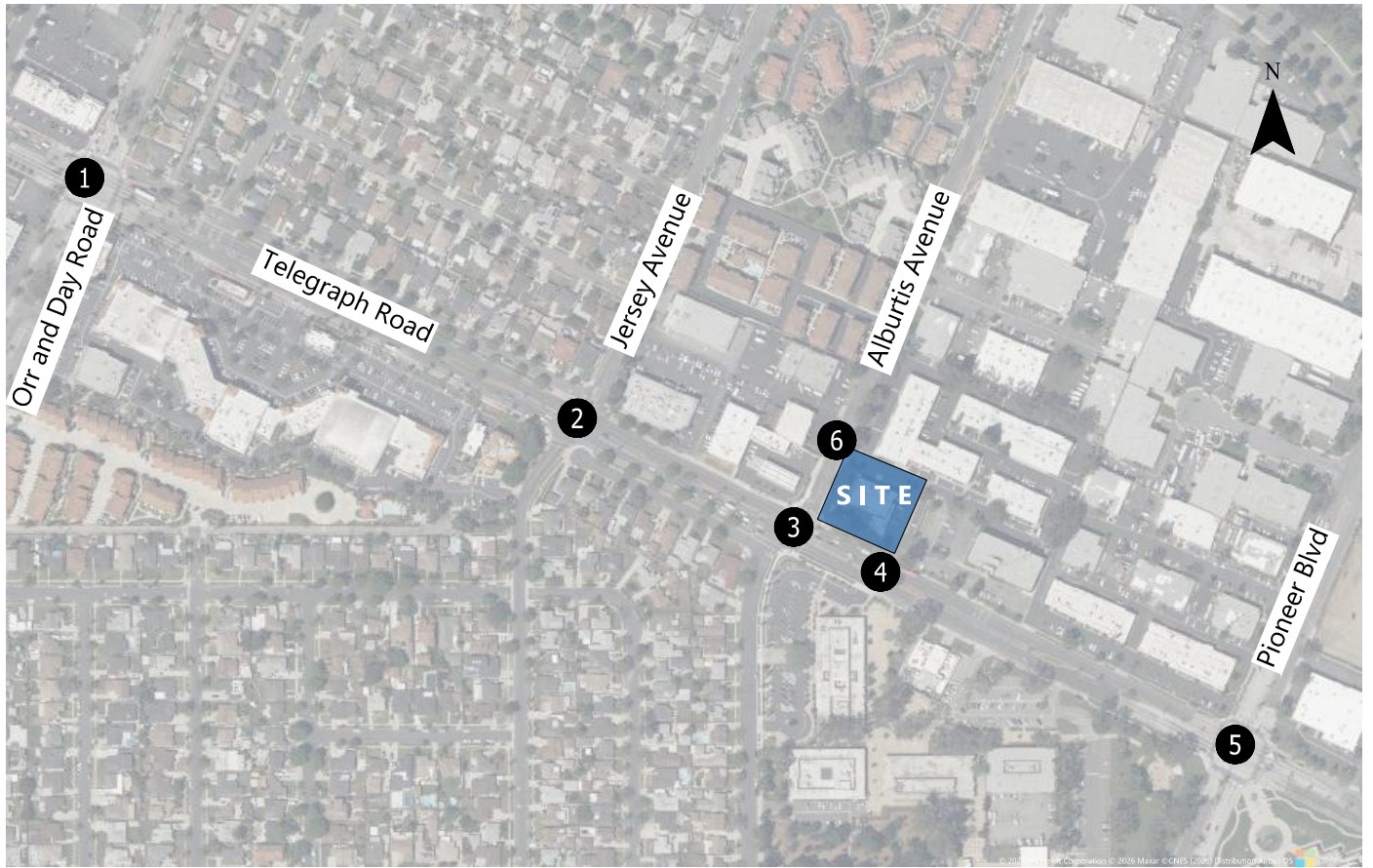
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Detailed Trip Assignment Figures  
 Pass-By PM Trips  
 Santa Fe Springs, CA

Figure  
 5

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Detailed Trip Assignment Figures  
 Project PM Trips  
 Santa Fe Springs, CA

Figure  
 6

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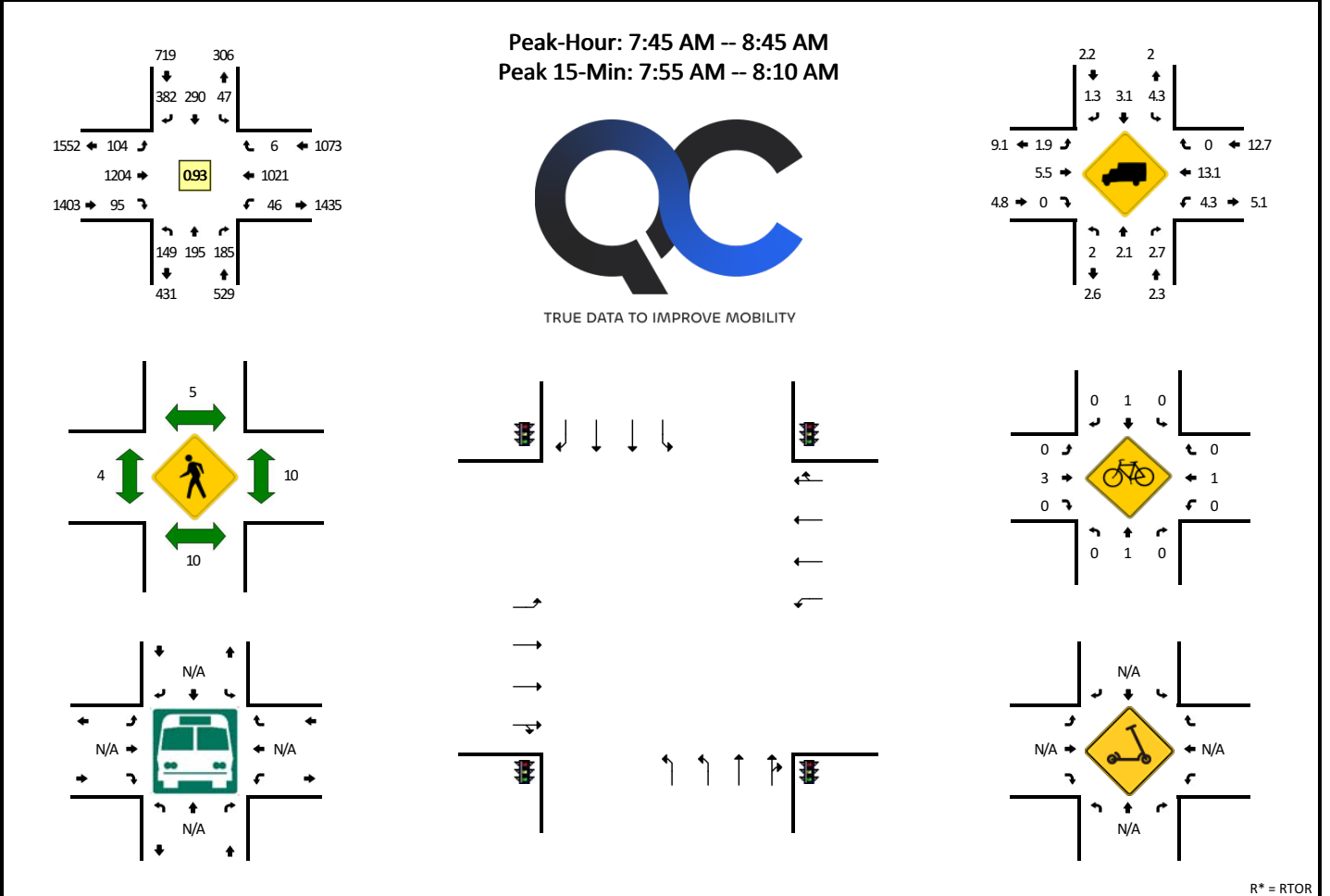


## Appendix D

### Existing Turning Movement Counts

**LOCATION:** Orr and Day Rd -- Telegraph Rd  
**CITY/STATE:** Santa Fe Springs, CA

**QC JOB #:** 17559901  
**DATE:** Thu, Apr 16 2026



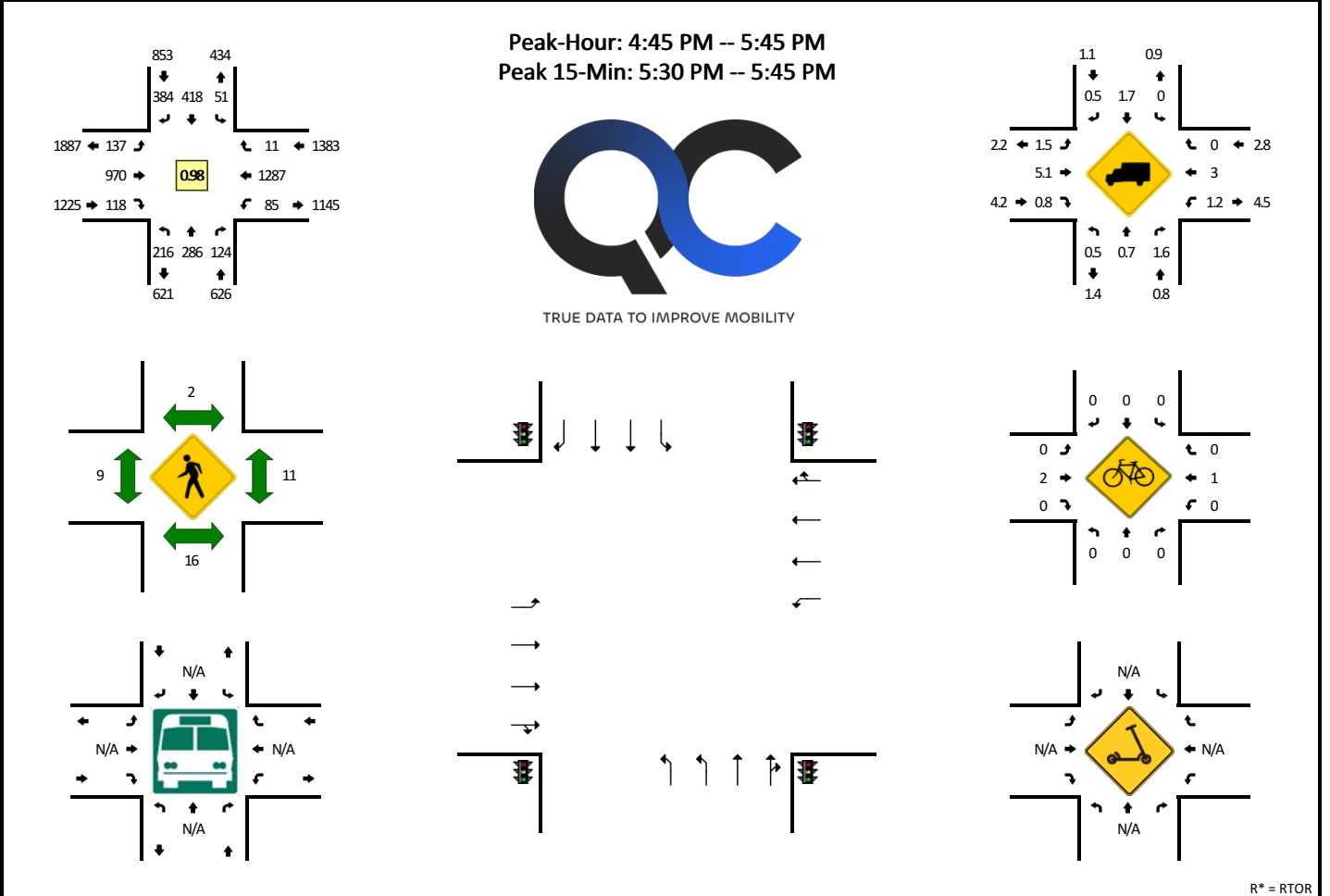
R\* = RTOR

5-Min Count Period Beginning At	Orr and Day Rd (Northbound)					Orr and Day Rd (Southbound)					Telegraph Rd (Eastbound)					Telegraph Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
7:00 AM	14	10	5	0	1	1	18	13	0	9	5	101	7	0	0	4	98	1	0	0	287	
7:05 AM	23	12	13	0	1	3	43	25	0	14	7	71	8	0	2	4	72	0	0	0	298	
7:10 AM	15	13	6	0	2	1	28	17	0	16	7	71	5	0	0	2	95	0	0	0	278	
7:15 AM	26	24	16	0	2	4	17	20	0	7	3	66	5	0	0	5	80	0	0	0	275	
7:20 AM	18	21	2	0	2	7	20	21	0	3	3	76	5	0	1	0	80	0	0	0	259	
7:25 AM	16	9	5	0	1	3	25	27	0	15	9	115	2	0	0	4	83	1	0	0	315	
7:30 AM	16	11	6	0	4	0	31	19	0	11	7	91	5	0	0	2	71	0	0	0	274	
7:35 AM	4	7	5	0	5	1	15	24	0	16	15	122	2	0	0	3	91	0	0	0	310	
7:40 AM	21	9	15	0	3	6	25	25	0	7	3	67	3	0	0	5	71	0	0	0	260	
7:45 AM	12	18	10	0	0	5	21	25	0	7	9	119	9	0	0	3	77	1	0	0	316	
7:50 AM	12	15	15	0	2	5	18	17	1	16	7	105	6	0	0	4	68	2	0	1	294	
7:55 AM	14	16	13	0	1	5	21	10	0	13	7	135	11	0	1	1	94	0	0	0	342	3508
8:00 AM	9	12	11	0	3	5	26	25	0	5	15	108	8	0	1	2	86	0	0	0	316	3537
8:05 AM	16	19	19	0	3	5	38	22	0	15	6	101	9	0	5	8	82	0	0	0	348	3587
8:10 AM	13	10	13	0	3	2	19	3	0	9	9	98	9	0	0	2	99	1	0	0	290	3599
8:15 AM	18	23	24	0	1	4	38	23	0	13	2	81	5	0	0	7	79	0	0	0	318	3642
8:20 AM	17	14	15	0	1	3	38	19	0	26	14	86	8	0	1	6	74	0	0	0	322	3705
8:25 AM	11	23	11	0	3	3	21	30	0	8	9	106	6	0	1	4	80	0	0	1	317	3707
8:30 AM	11	21	10	0	2	2	18	24	0	8	7	65	2	0	1	3	77	0	0	0	251	3684
8:35 AM	5	7	9	0	5	0	13	21	0	9	9	106	3	0	1	1	116	0	0	0	305	3679
8:40 AM	11	17	8	0	3	7	19	22	0	12	10	94	5	0	3	5	89	0	0	0	305	3724
8:45 AM	10	12	7	0	1	4	20	25	0	11	11	76	4	0	1	4	66	0	0	0	252	3660
8:50 AM	7	9	10	0	2	0	11	18	0	8	11	90	6	0	5	4	106	1	0	0	288	3654
8:55 AM	12	3	8	0	4	5	15	23	0	6	17	117	4	0	0	2	82	0	0	1	299	3611
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	156	188	200	0	28	60	340	360	0	132	112	1376	140	0	28	44	1048	0	0	0	4212	
Heavy Trucks	0	8	0			0	16	0			4	84	0			0	172	0	0	0	284	
Buses																						
Pedestrians		20					4					12					8				44	
Bicycles	0	0	0			0	4	0			0	4	0			0	0	0			8	
Scoters																						

Comments:

**LOCATION:** Orr and Day Rd -- Telegraph Rd  
**CITY/STATE:** Santa Fe Springs, CA

**QC JOB #:** 17559902  
**DATE:** Wed, Apr 15 2026



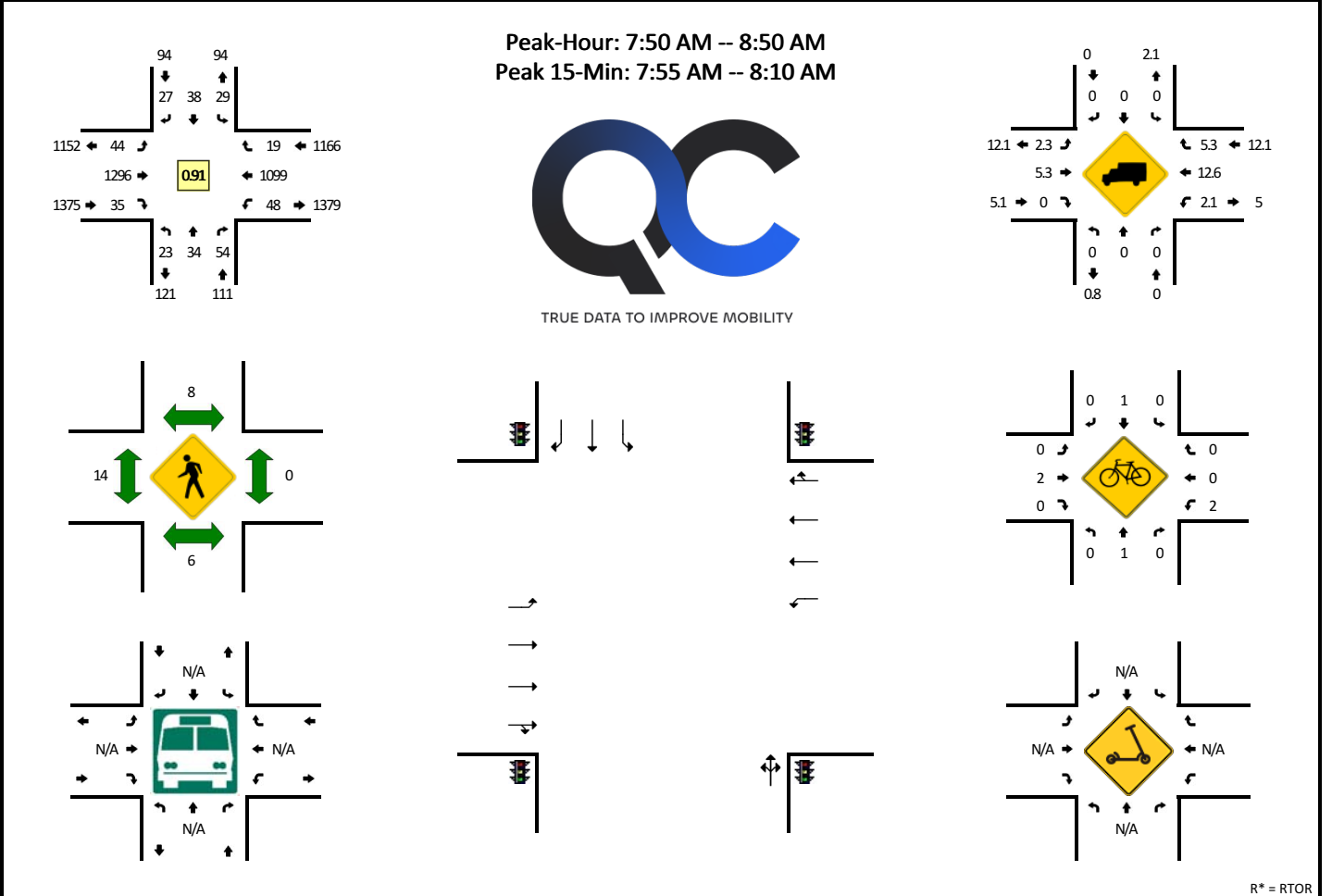
R\* = RTOR

5-Min Count Period Beginning At	Orr and Day Rd (Northbound)					Orr and Day Rd (Southbound)					Telegraph Rd (Eastbound)					Telegraph Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	10	25	7	0	2	3	28	34	0	3	10	66	6	0	1	7	91	0	0	0	293	
4:05 PM	10	25	4	0	3	6	35	34	0	4	4	53	1	0	1	7	103	0	1	0	291	
4:10 PM	8	21	5	1	1	2	39	26	0	3	9	97	6	0	1	8	126	2	0	0	355	
4:15 PM	18	32	10	1	1	5	33	35	0	3	11	72	8	0	0	1	68	1	0	0	299	
4:20 PM	18	16	5	0	3	3	20	36	0	5	16	73	9	0	3	10	74	0	0	1	292	
4:25 PM	15	25	11	0	2	3	19	29	0	0	14	93	7	1	0	4	133	1	0	0	357	
4:30 PM	13	15	3	0	0	3	23	38	0	2	10	65	10	0	0	7	97	0	0	0	286	
4:35 PM	11	17	3	0	0	5	26	31	1	1	12	95	8	0	1	6	130	0	0	0	347	
4:40 PM	24	13	9	0	1	3	41	40	0	9	16	85	9	0	0	3	89	0	0	0	342	
4:45 PM	10	23	7	0	2	6	20	34	0	1	7	102	8	0	0	2	136	1	0	0	359	
4:50 PM	22	26	10	0	0	10	35	35	0	5	11	67	7	0	3	9	88	2	0	0	330	
4:55 PM	13	20	6	0	2	3	25	29	0	9	11	83	12	0	0	9	126	1	0	0	349	3900
5:00 PM	27	34	16	0	1	4	42	35	0	6	10	58	5	0	0	5	92	0	0	1	336	3943
5:05 PM	13	11	4	0	2	2	30	33	0	5	19	96	12	0	0	8	118	1	0	0	354	4006
5:10 PM	12	10	9	0	4	6	32	13	0	6	13	95	18	0	0	12	97	0	0	0	327	3978
5:15 PM	17	21	2	0	0	1	47	23	0	3	11	88	7	0	0	8	112	0	0	0	340	4019
5:20 PM	19	23	7	0	1	2	43	9	0	13	9	72	10	0	0	3	119	2	0	0	332	4059
5:25 PM	17	35	17	0	0	5	40	14	0	7	13	56	9	0	1	6	94	2	0	0	316	4018
5:30 PM	26	21	12	0	1	1	29	17	0	16	18	89	5	0	0	8	82	0	0	0	325	4057
5:35 PM	16	32	8	0	0	3	34	29	0	7	10	91	8	0	0	5	120	0	0	1	364	4074
5:40 PM	24	30	13	0	0	8	41	30	0	5	5	73	11	0	2	10	103	0	0	0	355	4087
5:45 PM	15	22	7	0	0	6	30	17	0	11	13	111	9	0	0	10	96	1	0	0	348	4076
5:50 PM	13	19	5	0	1	0	23	31	0	9	8	78	5	0	0	8	69	1	0	0	270	4016
5:55 PM	18	30	11	0	0	4	34	26	0	10	20	76	9	0	0	8	62	0	0	0	308	3975
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	264	332	136	0	4	48	416	416	0	112	132	1012	104	0	8	92	1220	4	0	4	4304	
Heavy Trucks	0	0	0			0	16	0			0	52	0			0	32	0			100	
Buses																						
Pedestrians		16					0					8					16				40	
Bicycles	0	0	0			0	0	0			0	4	0			0	0	0			4	
Scoters																						

Comments:

**LOCATION:** Jersey Ave -- Telegraph Rd  
**CITY/STATE:** Santa Fe Springs, CA

**QC JOB #:** 17559903  
**DATE:** Thu, Apr 16 2026



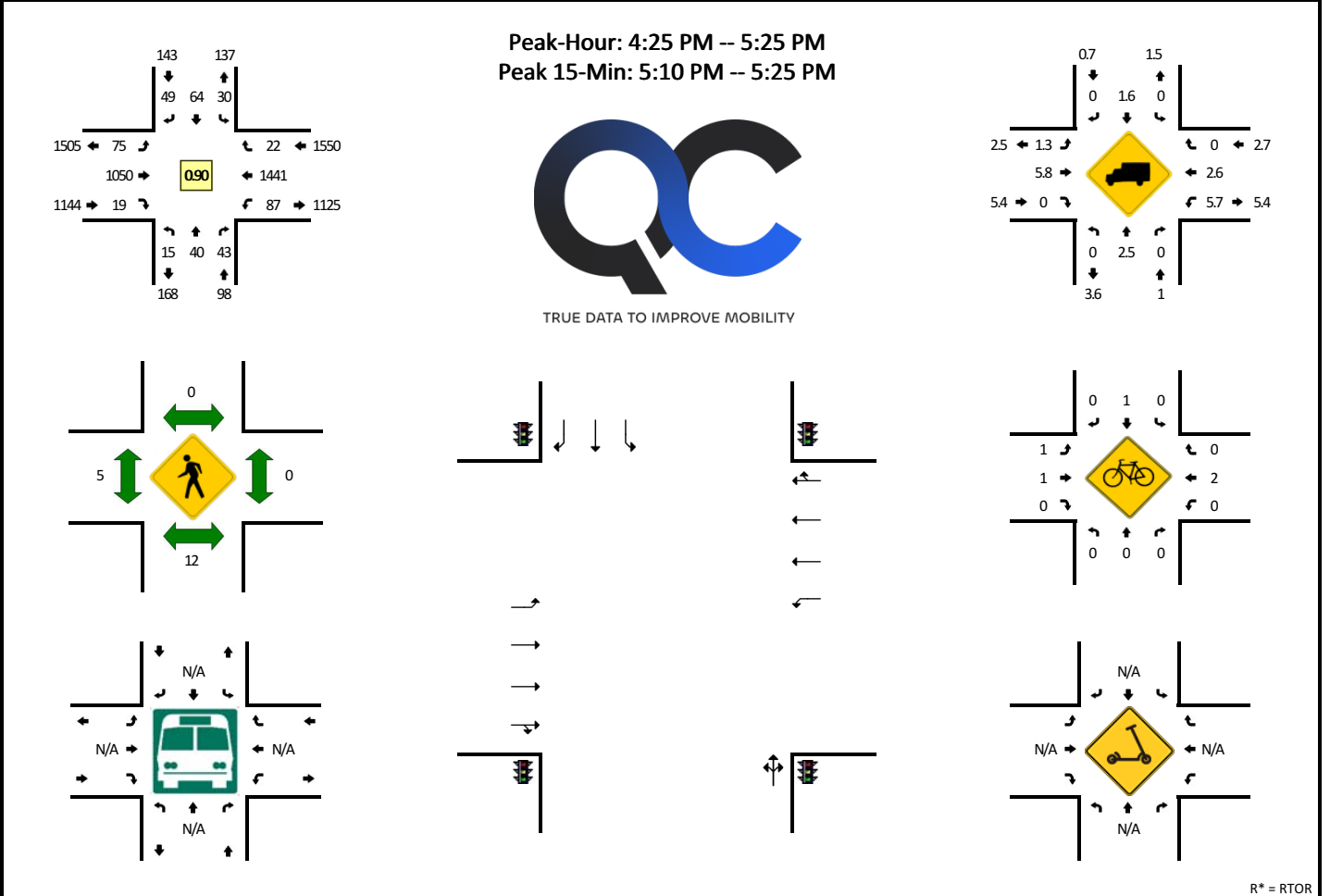
R\* = RTOR

5-Min Count Period Beginning At	Jersey Ave (Northbound)					Jersey Ave (Southbound)					Telegraph Rd (Eastbound)					Telegraph Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
7:00 AM	5	2	1	0	1	0	2	0	0	2	4	78	0	0	0	2	87	1	0	0	185	
7:05 AM	1	1	0	0	3	0	2	0	0	1	5	93	1	0	0	3	123	1	0	0	234	
7:10 AM	1	1	0	0	1	3	3	1	0	3	3	83	3	0	2	2	100	2	0	0	208	
7:15 AM	1	7	3	0	0	2	3	0	0	2	1	75	1	0	0	6	93	1	1	0	196	
7:20 AM	0	3	3	0	3	0	1	0	0	0	0	92	1	0	0	2	92	5	0	0	202	
7:25 AM	1	1	2	0	3	2	2	0	0	0	3	96	0	0	0	5	56	5	0	0	176	
7:30 AM	1	1	0	0	1	3	6	2	0	1	1	128	2	0	0	4	85	1	0	0	236	
7:35 AM	0	4	1	0	2	2	5	2	0	1	1	122	0	0	0	4	66	1	0	0	211	
7:40 AM	1	2	1	0	2	3	5	0	0	2	1	96	1	0	1	3	82	0	0	0	200	
7:45 AM	0	5	1	0	3	3	3	0	0	5	2	116	3	0	0	4	61	1	0	0	207	
7:50 AM	2	6	3	0	4	4	4	2	0	2	7	114	4	1	0	4	82	0	0	0	239	
7:55 AM	3	7	1	0	1	2	4	0	0	1	5	150	1	1	0	2	79	2	0	0	259	2553
8:00 AM	2	3	0	0	0	3	8	3	0	2	0	108	5	0	0	5	75	2	0	0	216	2584
8:05 AM	0	2	1	0	7	3	1	0	0	4	3	129	1	0	0	7	124	1	0	0	283	2633
8:10 AM	1	4	2	0	6	2	1	1	0	1	2	89	1	0	0	1	72	2	0	0	185	2610
8:15 AM	1	1	1	0	2	4	3	1	0	1	4	126	4	0	0	9	97	1	0	0	255	2669
8:20 AM	4	3	4	0	2	1	5	0	0	0	3	78	2	0	0	4	71	3	0	0	180	2647
8:25 AM	3	5	2	0	0	4	2	1	0	3	3	111	2	0	1	7	89	1	0	0	234	2705
8:30 AM	2	1	2	0	3	5	4	0	0	0	5	90	2	1	0	1	129	2	0	0	247	2716
8:35 AM	2	0	2	0	1	1	0	0	0	0	5	121	4	0	0	4	86	2	0	0	228	2733
8:40 AM	3	1	5	0	1	0	3	0	0	3	3	87	4	0	1	3	75	0	0	0	189	2722
8:45 AM	0	1	1	0	3	0	3	1	0	1	1	93	3	0	0	1	120	3	0	0	231	2746
8:50 AM	2	5	0	0	6	2	6	1	0	0	1	84	0	0	0	1	80	0	0	0	188	2695
8:55 AM	1	1	2	0	2	1	1	2	0	1	4	130	0	0	0	4	87	2	1	0	239	2675
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	20	48	40	0	32	32	52	40	0	28	32	1548	28	4	0	56	1112	20	0	0	3092	
Heavy Trucks	0	0	0			0	0	0			0	80	0			0	176	0			256	
Buses																						
Pedestrians		0					4					4					0				8	
Bicycles	0	0	0			0	0	0			0	4	0			0	0	0			4	
Scoters																						

Comments:

**LOCATION:** Jersey Ave -- Telegraph Rd  
**CITY/STATE:** Santa Fe Springs, CA

**QC JOB #:** 17559904  
**DATE:** Wed, Apr 15 2026



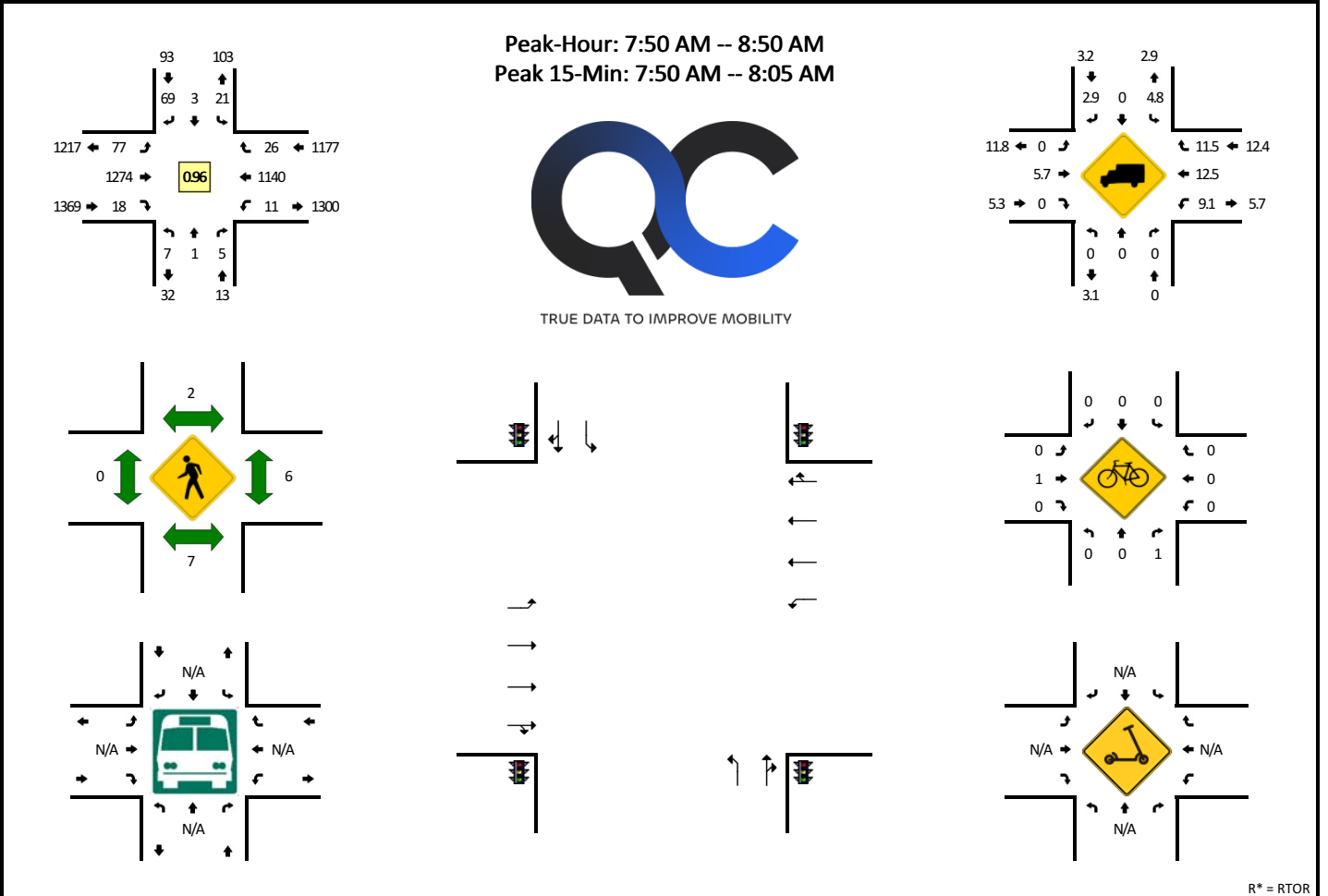
R\* = RTOR

5-Min Count Period Beginning At	Jersey Ave (Northbound)					Jersey Ave (Southbound)					Telegraph Rd (Eastbound)					Telegraph Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	0	0	0	0	4	1	1	0	0	3	3	94	1	0	0	5	90	2	1	0	205	
4:05 PM	1	4	0	0	5	3	3	2	0	1	2	72	2	0	0	5	101	2	0	0	203	
4:10 PM	2	1	1	0	2	3	2	1	0	4	7	88	1	0	0	8	127	3	0	0	250	
4:15 PM	2	1	1	0	0	0	2	0	0	1	4	96	1	1	1	3	105	0	0	0	218	
4:20 PM	2	1	0	0	2	2	2	1	0	1	2	59	1	0	0	4	115	7	0	0	199	
4:25 PM	0	0	1	0	4	1	3	2	0	2	8	104	2	0	0	8	110	1	0	0	246	
4:30 PM	1	2	0	0	2	1	1	2	0	2	12	60	0	0	0	7	112	3	0	1	206	
4:35 PM	3	9	3	0	0	1	6	3	0	1	6	82	0	0	0	7	135	1	1	0	258	
4:40 PM	0	4	2	0	2	2	4	0	0	1	4	101	1	0	0	4	112	1	0	0	238	
4:45 PM	0	3	0	0	4	3	4	2	0	3	3	75	2	0	1	13	93	2	1	0	209	
4:50 PM	2	4	1	0	5	4	2	0	0	2	3	114	1	0	0	6	110	1	0	0	255	
4:55 PM	0	2	0	0	2	5	10	2	0	5	10	73	4	0	0	5	101	3	0	0	222	2709
5:00 PM	2	1	0	0	2	2	4	0	0	1	4	80	2	0	0	7	129	2	0	0	236	2740
5:05 PM	2	3	3	0	3	2	10	4	0	2	7	63	2	0	0	5	145	0	0	0	251	2788
5:10 PM	2	1	0	0	4	5	6	2	0	1	3	132	2	0	0	6	154	4	0	0	322	2860
5:15 PM	2	8	4	0	0	1	13	3	0	2	8	76	2	0	0	8	108	1	0	0	236	2878
5:20 PM	1	3	0	0	1	3	1	3	0	4	7	90	0	0	0	9	132	2	0	0	256	2935
5:25 PM	0	3	0	0	2	3	2	1	0	0	7	64	1	0	0	12	135	5	0	0	235	2924
5:30 PM	1	3	1	0	4	3	3	1	0	1	8	80	3	0	2	6	89	5	0	1	211	2929
5:35 PM	2	6	2	0	5	5	6	1	0	0	2	78	1	0	0	7	88	2	0	1	206	2877
5:40 PM	1	4	2	0	4	5	2	1	0	0	3	116	1	1	0	3	97	5	0	1	246	2885
5:45 PM	1	4	2	0	4	4	3	2	0	3	9	83	2	1	1	8	69	5	0	0	201	2877
5:50 PM	0	0	1	0	2	2	1	1	0	1	3	79	4	0	0	2	99	3	0	0	198	2820
5:55 PM	2	2	3	0	5	5	4	1	0	2	8	87	3	0	0	3	66	3	1	0	195	2793
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	20	48	36	0	20	36	80	60	0	28	72	1192	16	0	0	92	1576	28	0	0	3304	
Heavy Trucks	0	4	0			0	0	0			0	48	0			16	28	0			96	
Buses																						
Pedestrians		20					0					8					0				28	
Bicycles	0	0	0			0	0	0			0	0	0			0	4	0			4	
Scoters																						

Comments:

**LOCATION:** Albutris Ave -- Telegraph Rd  
**CITY/STATE:** Santa Fe Springs, CA

**QC JOB #:** 17559905  
**DATE:** Thu, Apr 16 2026



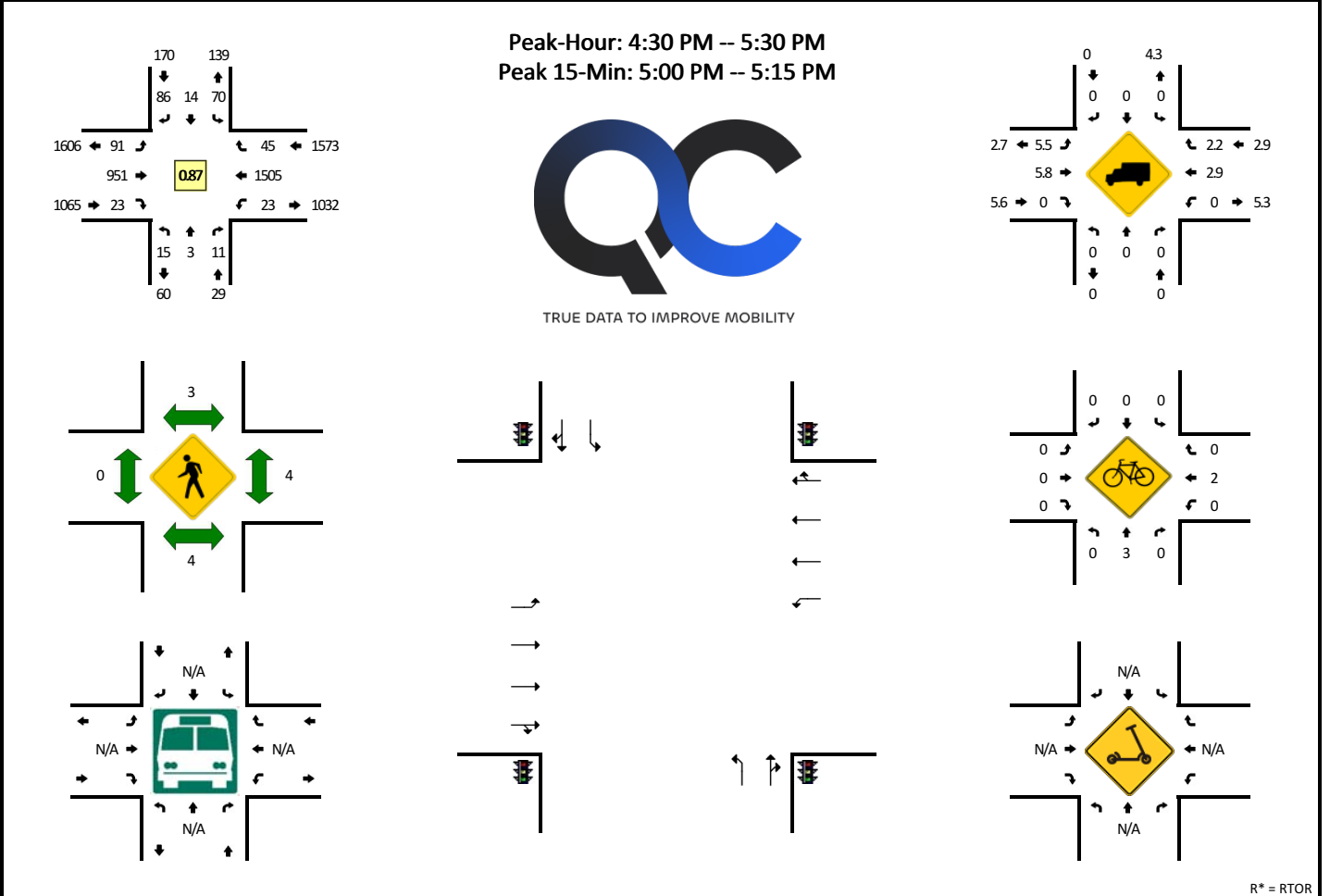
R\* = RTOR

5-Min Count Period Beginning At	Albutris Ave (Northbound)				Albutris Ave (Southbound)				Telegraph Rd (Eastbound)				Telegraph Rd (Westbound)				Total	Hourly Totals					
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*								
7:00 AM	1	1	0	0	0	0	0	3	0	2	11	73	0	0	0	0	0	101	1	0	0	193	
7:05 AM	0	0	0	0	0	1	0	2	0	7	9	82	2	0	0	0	2	97	1	0	0	204	
7:10 AM	0	0	0	0	0	0	0	0	0	4	1	84	1	1	0	0	0	111	0	0	0	202	
7:15 AM	0	0	0	0	0	3	2	1	0	4	2	73	2	0	1	2	114	1	0	0	205		
7:20 AM	1	0	0	0	0	1	0	4	0	4	6	86	1	0	0	7	82	0	0	2	194		
7:25 AM	0	0	0	0	0	3	2	1	0	3	2	101	2	0	1	2	64	4	0	0	185		
7:30 AM	1	0	0	0	0	0	0	0	0	5	9	118	2	0	0	3	83	2	0	0	223		
7:35 AM	0	0	0	0	1	1	0	3	0	5	6	94	5	1	1	0	73	0	0	0	190		
7:40 AM	0	1	0	0	0	4	2	1	0	2	6	105	2	0	0	2	83	1	0	1	210		
7:45 AM	0	0	1	0	1	2	0	0	0	2	7	107	1	0	0	0	65	0	0	0	186		
7:50 AM	1	0	0	0	0	4	0	3	0	1	7	124	1	1	0	0	92	3	0	0	237		
7:55 AM	0	0	0	0	0	1	0	0	0	3	7	131	4	0	0	0	79	1	0	0	226	2455	
8:00 AM	1	0	0	0	1	3	0	0	0	2	8	101	0	0	0	1	109	1	0	1	228	2490	
8:05 AM	0	0	0	0	1	1	0	2	0	1	4	96	1	0	1	1	106	2	0	2	218	2504	
8:10 AM	2	0	0	0	0	0	2	5	0	3	8	125	3	0	0	2	88	1	0	0	239	2541	
8:15 AM	0	0	1	0	0	1	0	3	0	3	3	112	2	0	0	1	76	2	0	0	204	2540	
8:20 AM	0	0	0	0	0	3	0	1	0	1	6	100	0	0	0	1	112	0	0	0	224	2570	
8:25 AM	0	1	0	0	0	1	0	3	0	4	5	106	0	0	0	2	65	2	0	0	189	2574	
8:30 AM	0	0	0	0	0	3	1	3	0	5	11	91	1	0	0	0	128	4	0	0	247	2598	
8:35 AM	1	0	0	0	0	1	0	3	0	6	6	112	2	0	0	1	90	4	0	0	226	2634	
8:40 AM	0	0	1	0	0	1	0	3	0	6	4	82	3	0	0	0	81	3	0	0	184	2608	
8:45 AM	2	0	0	0	1	2	0	3	0	5	7	94	0	0	0	2	114	0	0	0	230	2652	
8:50 AM	1	0	0	0	0	4	0	0	0	3	8	81	2	0	0	0	66	4	0	0	169	2584	
8:55 AM	0	0	0	0	0	2	2	2	0	0	8	117	5	0	0	1	96	3	0	0	236	2594	
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total		
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*			
All Vehicles	8	0	4	0	4	32	0	36	0	24	88	1424	20	4	0	4	1120	24	0	4	2796		
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	88	0	0	0	0	188	0	0	0	276		
Buses																							
Pedestrians	8					0					0					0					8		
Bicycles	0	0	0			0	0	0			0	0	0		0	0	0				0		
Scoters																							

Comments:

**LOCATION:** Albutris Ave -- Telegraph Rd  
**CITY/STATE:** Santa Fe Springs, CA

**QC JOB #:** 17559906  
**DATE:** Wed, Apr 15 2026



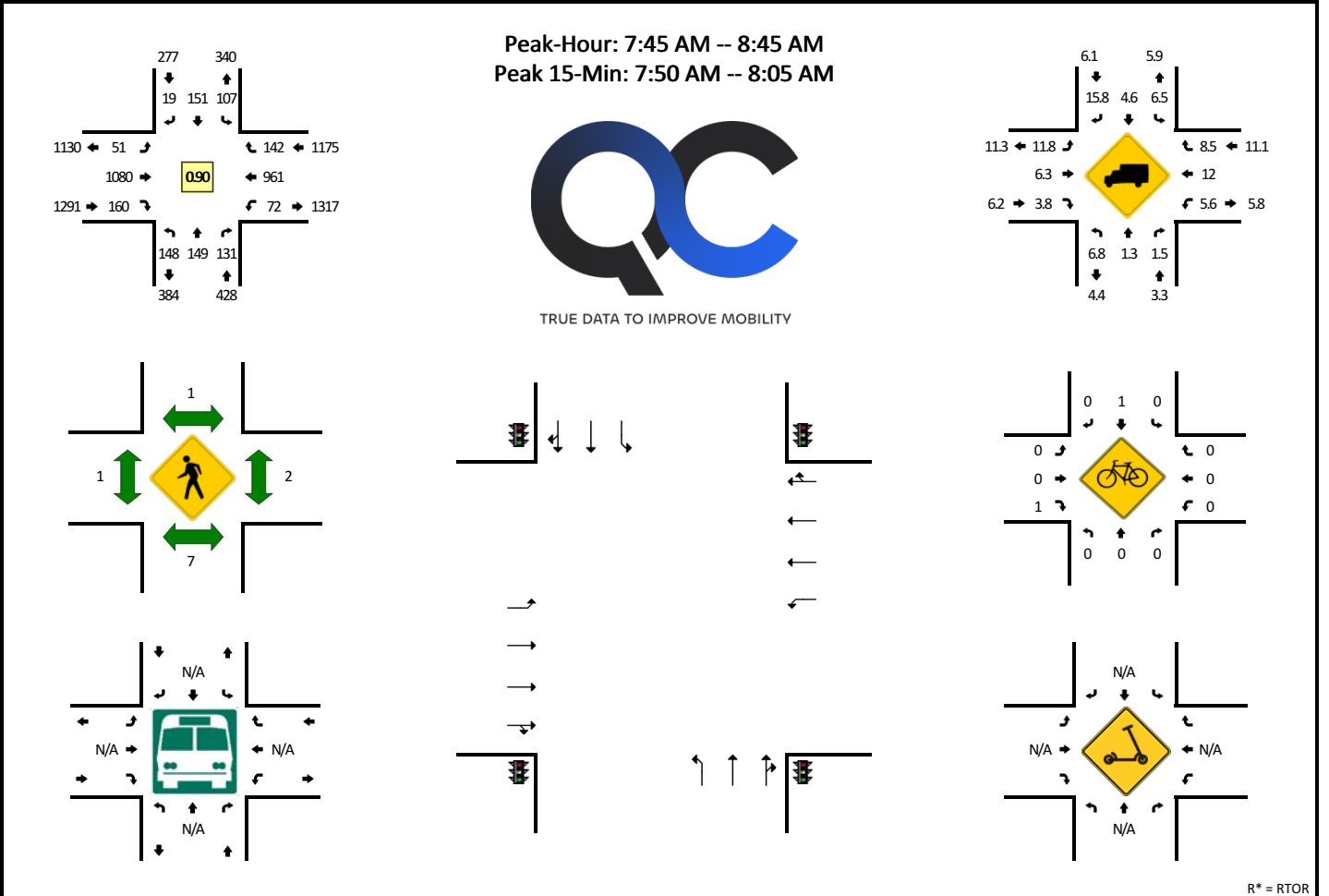
R\* = RTOR

5-Min Count Period Beginning At	Albutris Ave (Northbound)				Albutris Ave (Southbound)				Telegraph Rd (Eastbound)				Telegraph Rd (Westbound)				Total	Hourly Totals					
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*								
4:00 PM	1	1	0	0	0	7	0	1	0	7	9	85	0	0	0	0	81	1	0	1	194		
4:05 PM	1	0	0	0	0	6	0	1	0	1	6	73	0	0	0	0	1	105	1	0	1	196	
4:10 PM	3	1	0	0	2	6	1	0	0	2	11	75	1	0	0	0	1	130	4	0	0	237	
4:15 PM	1	1	0	0	0	6	1	1	0	1	6	86	1	0	1	3	120	2	1	2	233		
4:20 PM	1	2	0	0	1	3	0	3	0	3	5	66	0	0	0	2	127	4	0	1	218		
4:25 PM	0	0	1	0	0	2	0	2	0	3	6	93	1	0	0	2	112	1	0	0	223		
4:30 PM	0	0	0	0	0	6	0	3	0	3	5	69	1	0	1	3	125	2	0	0	218		
4:35 PM	1	0	0	0	0	7	0	4	0	4	6	73	0	0	0	2	136	1	0	2	236		
4:40 PM	1	0	1	0	1	5	1	1	0	3	10	95	2	0	0	1	106	2	0	1	230		
4:45 PM	3	0	0	0	0	4	0	0	0	4	12	71	1	0	2	2	94	2	0	1	196		
4:50 PM	2	0	1	0	0	6	2	5	0	1	8	102	3	0	1	0	114	2	0	1	248		
4:55 PM	2	1	0	0	0	6	0	9	0	2	11	57	1	0	1	1	106	6	0	2	205	2634	
5:00 PM	1	0	0	0	1	15	1	12	0	8	3	82	4	0	0	1	108	1	0	1	238	2678	
5:05 PM	2	0	2	0	1	5	0	4	0	3	6	69	0	0	0	1	157	2	0	2	254	2736	
5:10 PM	1	1	0	0	1	5	3	5	0	0	7	124	2	0	0	0	167	4	0	0	320	2819	
5:15 PM	0	1	1	0	0	4	2	7	0	1	6	73	1	0	0	3	120	1	0	0	220	2806	
5:20 PM	2	0	0	0	0	1	3	3	0	1	8	85	1	0	0	4	135	3	0	1	247	2835	
5:25 PM	0	0	0	0	2	6	2	2	0	1	9	51	1	0	1	5	137	8	0	0	225	2837	
5:30 PM	1	3	1	0	4	3	2	2	0	3	11	74	2	0	0	0	86	2	0	1	195	2814	
5:35 PM	4	3	2	0	3	1	1	1	0	2	5	88	0	0	0	0	100	1	0	0	211	2789	
5:40 PM	1	0	1	0	2	2	1	1	0	2	9	119	1	0	1	0	98	1	0	0	239	2798	
5:45 PM	1	3	0	0	2	5	2	2	0	2	3	85	2	0	1	2	84	2	0	1	197	2799	
5:50 PM	1	0	0	0	0	0	1	2	0	4	3	78	0	0	0	0	78	0	0	0	167	2718	
5:55 PM	1	0	1	0	1	1	1	4	0	0	7	100	0	0	0	0	76	1	0	0	193	2706	
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total		
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*			
All Vehicles	16	4	20	0	12	100	16	128	0	44	64	1100	24	0	0	8	1728	40	0	12	3316		
Heavy Trucks	0	0	0			0	0	0			0	52	0			0	64	4			120		
Buses																							
Pedestrians		4					4					0					4				12		
Bicycles	0	4	0			0	0	0			0	0	0			0	0	0			4		
Scoters																							

Comments:

**LOCATION:** Pioneer Blvd -- Telegraph Rd  
**CITY/STATE:** Santa Fe Springs, CA

**QC JOB #:** 17559907  
**DATE:** Thu, Apr 16 2026



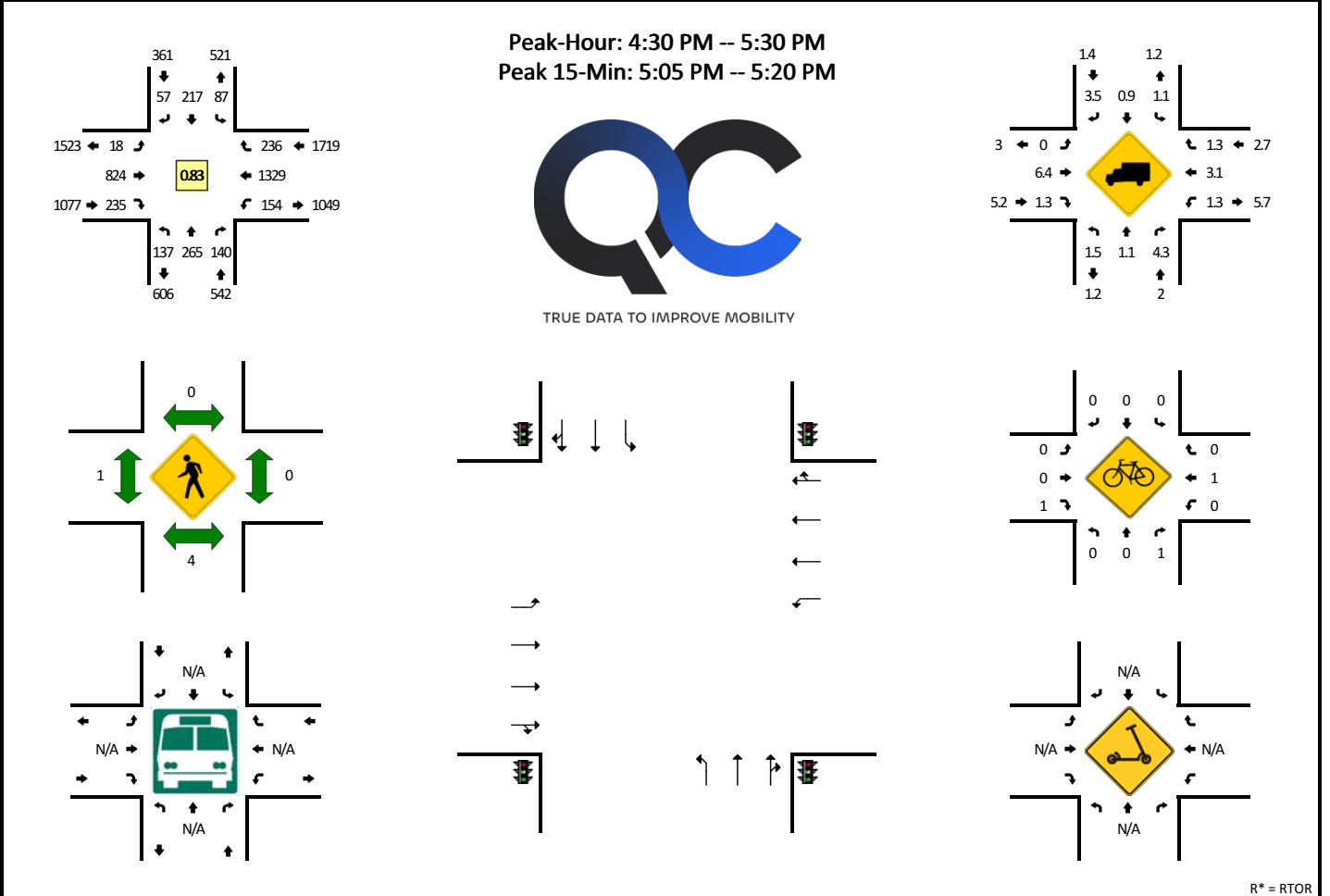
R\* = RTOR

5-Min Count Period Beginning At	Pioneer Blvd (Northbound)				Pioneer Blvd (Southbound)				Telegraph Rd (Eastbound)				Telegraph Rd (Westbound)				Total	Hourly Totals				
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*							
7:00 AM	10	11	7	0	5	2	6	2	0	0	7	66	5	0	0	6	84	4	0	0	215	
7:05 AM	14	17	2	0	4	9	11	1	0	2	3	70	9	0	2	4	82	9	0	0	239	
7:10 AM	15	11	3	0	6	6	8	0	1	2	1	83	7	0	1	3	97	4	0	0	248	
7:15 AM	18	10	5	0	2	6	14	0	0	0	3	56	13	0	2	6	108	12	0	1	256	
7:20 AM	6	7	5	0	6	6	11	0	0	0	2	82	9	0	0	6	68	7	0	0	215	
7:25 AM	11	14	1	0	8	3	9	1	0	0	0	75	10	0	2	8	57	7	0	1	207	
7:30 AM	8	15	2	0	3	6	13	0	0	0	2	88	9	0	2	8	75	2	0	1	234	
7:35 AM	5	8	1	0	5	6	10	0	0	2	3	90	18	0	2	11	89	15	0	1	266	
7:40 AM	9	13	6	0	5	10	6	0	0	0	4	76	8	0	1	10	55	4	0	0	207	
7:45 AM	7	13	7	0	5	5	19	0	0	1	6	101	13	0	2	8	67	12	0	0	266	
7:50 AM	8	17	2	0	8	10	12	0	1	0	1	111	14	0	3	7	79	11	0	2	286	
7:55 AM	15	19	7	0	3	11	18	1	0	0	9	91	10	0	2	7	72	11	0	1	277	2916
8:00 AM	13	22	4	0	6	11	17	0	0	0	4	98	13	0	0	12	99	16	0	3	318	3019
8:05 AM	19	8	11	0	6	14	7	0	0	1	3	72	14	0	3	5	81	14	0	3	261	3041
8:10 AM	7	12	6	0	3	7	13	2	0	0	4	105	18	0	2	3	66	9	0	0	257	3050
8:15 AM	13	14	4	0	5	11	9	1	0	1	3	83	11	0	0	4	75	13	0	3	250	3044
8:20 AM	14	5	9	1	10	10	16	2	0	0	5	82	11	1	0	4	93	5	0	1	269	3098
8:25 AM	6	8	1	0	2	6	6	2	0	1	3	101	6	0	0	7	65	7	0	1	222	3113
8:30 AM	18	12	6	0	6	5	6	1	0	2	3	61	11	1	1	8	112	11	0	0	264	3143
8:35 AM	13	9	4	0	5	3	14	0	0	3	4	102	12	1	3	3	82	8	0	0	266	3143
8:40 AM	14	10	5	0	6	13	14	1	0	0	3	73	10	0	1	4	70	10	0	1	235	3171
8:45 AM	15	11	5	0	2	6	10	1	0	0	7	75	7	0	0	5	85	4	0	0	233	3138
8:50 AM	10	9	3	0	4	5	10	1	0	1	4	65	13	0	3	11	54	1	0	0	194	3046
8:55 AM	11	4	3	0	3	2	7	1	0	0	2	88	10	0	1	7	91	9	0	1	240	3009
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	144	232	120	0	68	128	188	4	4	0	56	1200	168	0	20	104	1000	176	0	24	3636	
Heavy Trucks	12	0	4			0	4	4			12	68	4			8	164	4			284	
Buses																						
Pedestrians		4					0					0					0				4	
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0	
Scoters																						

Comments:

**LOCATION:** Pioneer Blvd -- Telegraph Rd  
**CITY/STATE:** Santa Fe Springs, CA

**QC JOB #:** 17559908  
**DATE:** Wed, Apr 15 2026



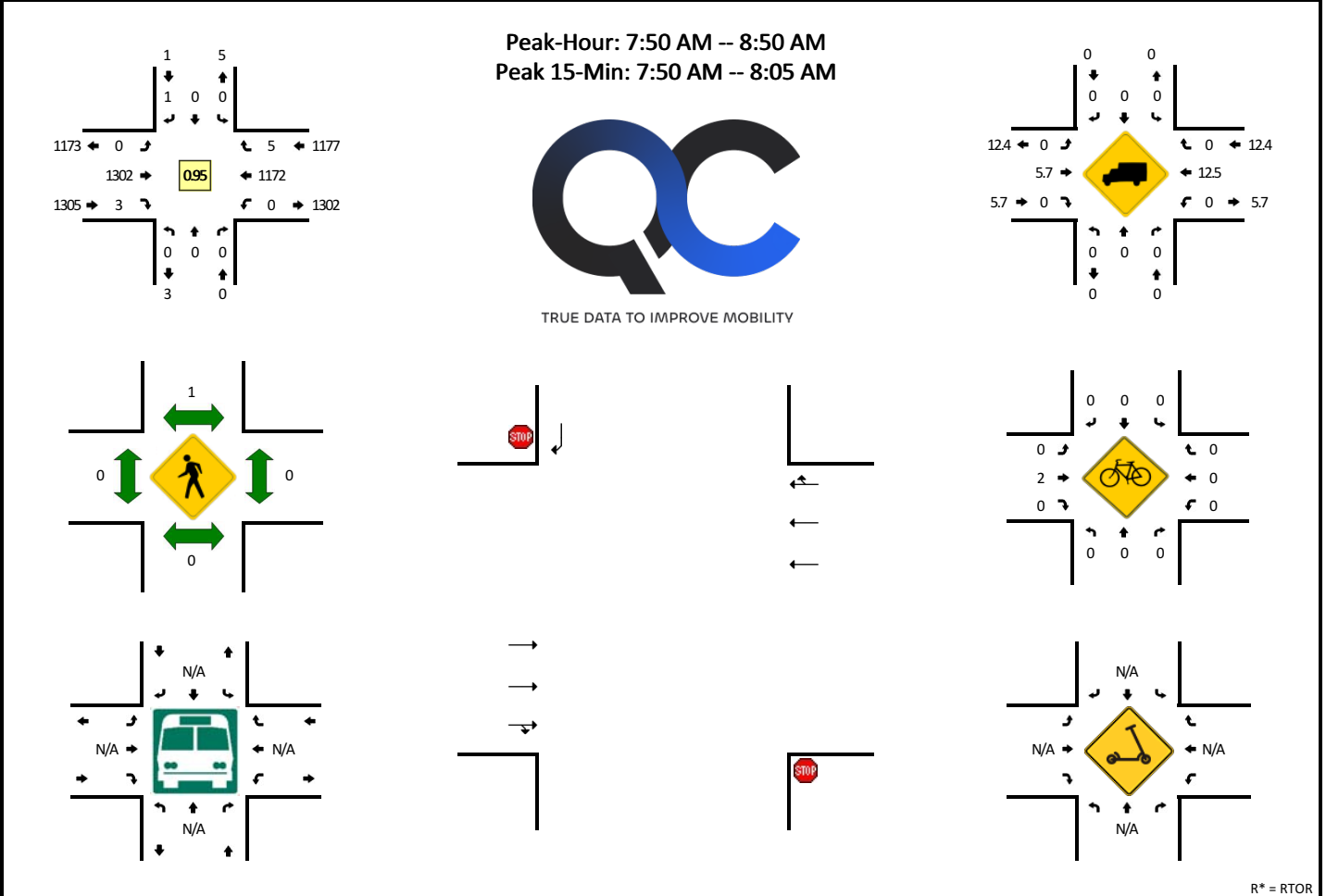
R\* = RTOR

5-Min Count Period Beginning At	Pioneer Blvd (Northbound)					Pioneer Blvd (Southbound)					Telegraph Rd (Eastbound)					Telegraph Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	9	15	5	0	3	6	15	6	0	1	1	85	11	0	0	15	78	11	0	1	262	
4:05 PM	19	27	4	0	5	9	19	8	0	3	1	55	11	0	3	11	77	13	0	2	267	
4:10 PM	6	15	9	0	4	6	17	3	0	6	1	70	14	0	3	10	103	7	0	0	274	
4:15 PM	15	25	1	0	3	7	26	3	0	4	2	62	11	0	3	16	99	9	0	1	287	
4:20 PM	14	24	8	0	5	11	24	3	0	1	2	70	13	0	1	13	99	19	0	2	309	
4:25 PM	7	30	2	0	3	6	20	2	0	2	3	56	14	0	3	16	97	18	0	3	282	
4:30 PM	9	22	8	0	3	4	11	2	2	5	2	81	10	0	4	12	117	17	0	0	309	
4:35 PM	14	24	7	0	4	9	16	4	0	7	1	66	20	0	1	23	113	11	0	1	321	
4:40 PM	7	14	4	0	5	6	19	2	0	1	2	51	14	0	1	16	110	14	0	0	266	
4:45 PM	8	19	6	0	7	9	21	0	0	0	0	84	17	0	2	11	83	16	0	2	285	
4:50 PM	9	14	5	0	4	5	16	1	0	1	2	84	23	0	0	8	101	7	0	3	283	
4:55 PM	20	28	5	0	4	7	14	2	0	1	2	48	16	0	2	8	82	15	0	3	257	3402
5:00 PM	11	24	5	0	7	8	19	3	0	4	1	54	17	0	3	17	80	10	0	0	263	3403
5:05 PM	17	14	9	0	7	7	17	7	0	1	2	71	20	0	3	9	149	30	0	1	364	3500
5:10 PM	13	29	4	0	6	5	25	5	0	1	0	86	24	0	2	11	167	30	0	3	411	3637
5:15 PM	12	17	4	0	3	10	27	2	0	2	2	75	19	0	3	16	125	23	0	4	344	3694
5:20 PM	10	28	12	0	11	8	21	2	0	1	2	64	9	0	5	8	86	30	0	2	299	3684
5:25 PM	7	32	5	0	5	7	11	2	0	1	2	60	14	0	6	15	116	14	0	0	297	3699
5:30 PM	20	21	7	0	1	7	16	3	0	3	1	61	9	0	2	8	47	7	0	1	214	3604
5:35 PM	8	20	3	0	4	7	17	1	0	1	0	75	13	0	4	13	101	14	0	1	282	3565
5:40 PM	10	19	7	0	2	5	16	2	0	1	3	100	27	0	3	7	82	14	0	0	298	3597
5:45 PM	8	17	5	0	2	7	23	1	1	1	2	81	13	0	2	11	65	5	0	1	245	3557
5:50 PM	10	21	2	0	5	7	18	1	0	4	0	68	19	0	1	7	62	6	0	0	231	3505
5:55 PM	11	20	3	0	4	5	28	1	0	1	1	75	14	0	1	11	75	12	0	1	263	3511
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	168	240	132	0	64	88	276	72	0	16	16	928	284	0	32	144	1764	364	0	32	4620	
Heavy Trucks	4	4	8			0	4	0			0	52	0			4	48	12			136	
Buses																						
Pedestrians		8					0					0					0				8	
Bicycles	0	0	4			0	0	0			0	0	0			0	0	0			4	
Scoters																						

Comments:

**LOCATION:** South Dwy -- Telegraph Rd  
**CITY/STATE:** Santa Fe Springs, CA

**QC JOB #:** 17559909  
**DATE:** Thu, Apr 16 2026



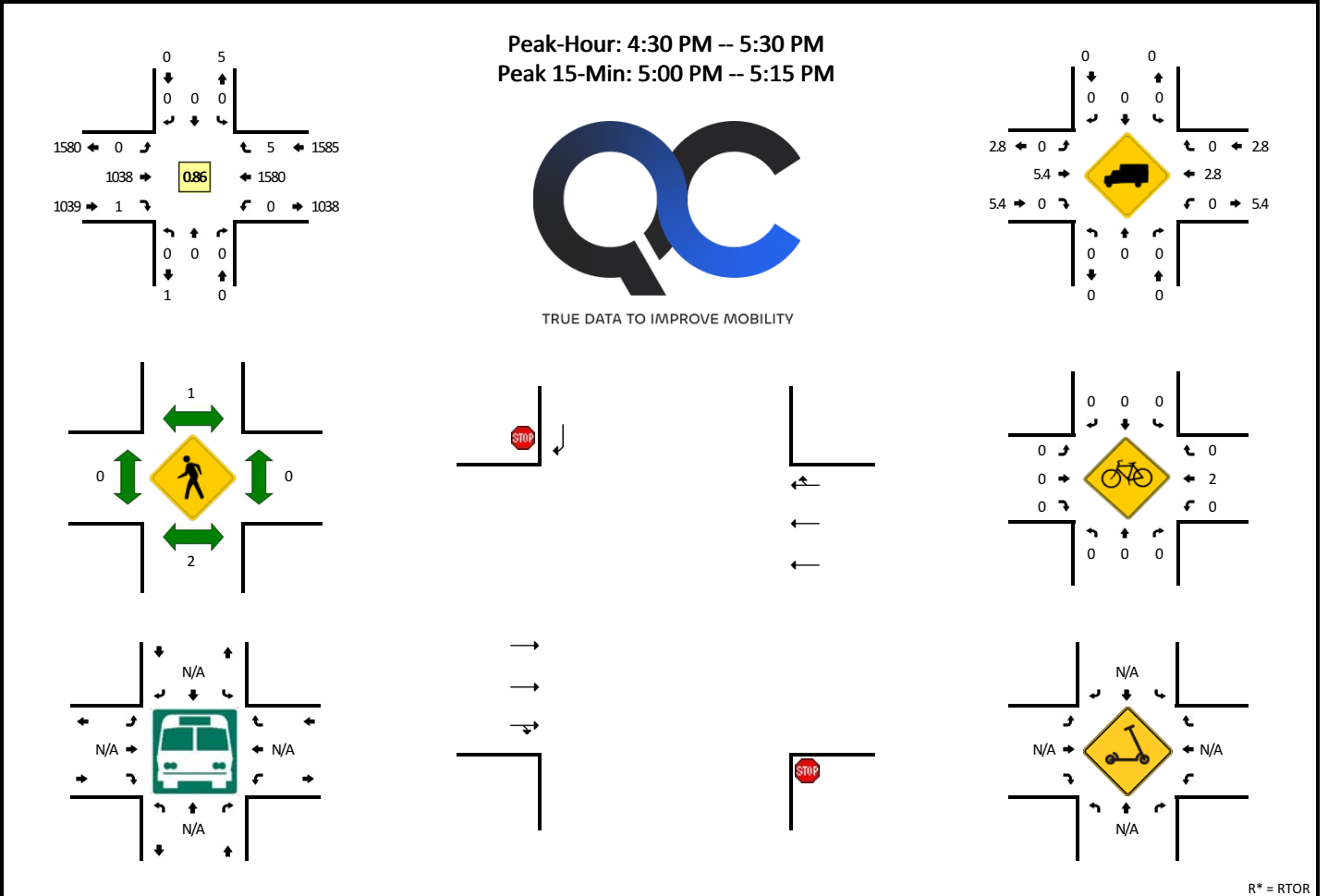
R\* = RTOR

5-Min Count Period Beginning At	South Dwy (Northbound)				South Dwy (Southbound)				Telegraph Rd (Eastbound)				Telegraph Rd (Westbound)				Total	Hourly Totals					
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*								
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	78	0	0	0	0	0	104	0	0	0	182	
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	83	1	0	0	0	0	97	0	0	0	181	
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	85	0	0	0	0	0	111	0	0	0	196	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	76	0	0	0	0	0	120	0	0	0	196	
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	85	0	0	0	0	0	88	0	0	0	173	
7:25 AM	0	0	0	0	0	0	0	0	0	0	0	102	0	0	0	0	0	70	1	0	0	173	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	121	0	0	0	0	0	89	0	0	0	210	
7:35 AM	0	0	0	0	0	0	0	0	0	0	0	97	0	0	0	0	0	83	0	0	0	180	
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	108	0	0	0	0	0	79	0	0	0	187	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	110	0	0	0	0	0	66	0	0	0	176	
7:50 AM	0	0	0	0	0	0	0	0	0	0	0	126	0	0	0	0	0	96	0	0	0	222	
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	132	0	0	0	0	0	78	0	0	0	210	2286
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	108	0	0	0	0	0	110	1	0	0	219	2323
8:05 AM	0	0	0	0	0	0	0	1	0	0	0	97	0	0	0	0	0	120	0	0	0	218	2360
8:10 AM	0	0	0	0	0	0	0	0	0	0	0	126	0	0	0	0	0	82	0	0	0	208	2372
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	115	0	0	0	0	0	84	0	0	0	199	2375
8:20 AM	0	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0	0	106	1	0	0	205	2407
8:25 AM	0	0	0	0	0	0	0	0	0	0	0	109	1	0	0	0	0	68	2	0	0	180	2414
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	96	1	0	0	0	0	133	1	0	0	231	2435
8:35 AM	0	0	0	0	0	0	0	0	0	0	0	113	0	0	0	0	0	98	0	0	0	211	2466
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	85	1	0	0	0	0	85	0	0	0	171	2450
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	97	0	0	0	0	0	112	0	0	0	209	2483
8:50 AM	0	0	0	0	0	0	0	0	0	0	0	87	0	0	0	0	0	72	0	0	0	159	2420
8:55 AM	0	0	0	0	0	0	0	0	0	0	0	114	0	0	0	0	0	102	0	0	0	216	2426
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total		
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*			
All Vehicles	0	0	0	0	0	0	0	0	0	0	0	1464	0	0	0	0	1136	4	0	0	2604		
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	88	0	0	0	0	188	0	0	0	276		
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Scoters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Comments:

**LOCATION:** South Dwy -- Telegraph Rd  
**CITY/STATE:** Santa Fe Springs, CA

**QC JOB #:** 17559910  
**DATE:** Wed, Apr 15 2026



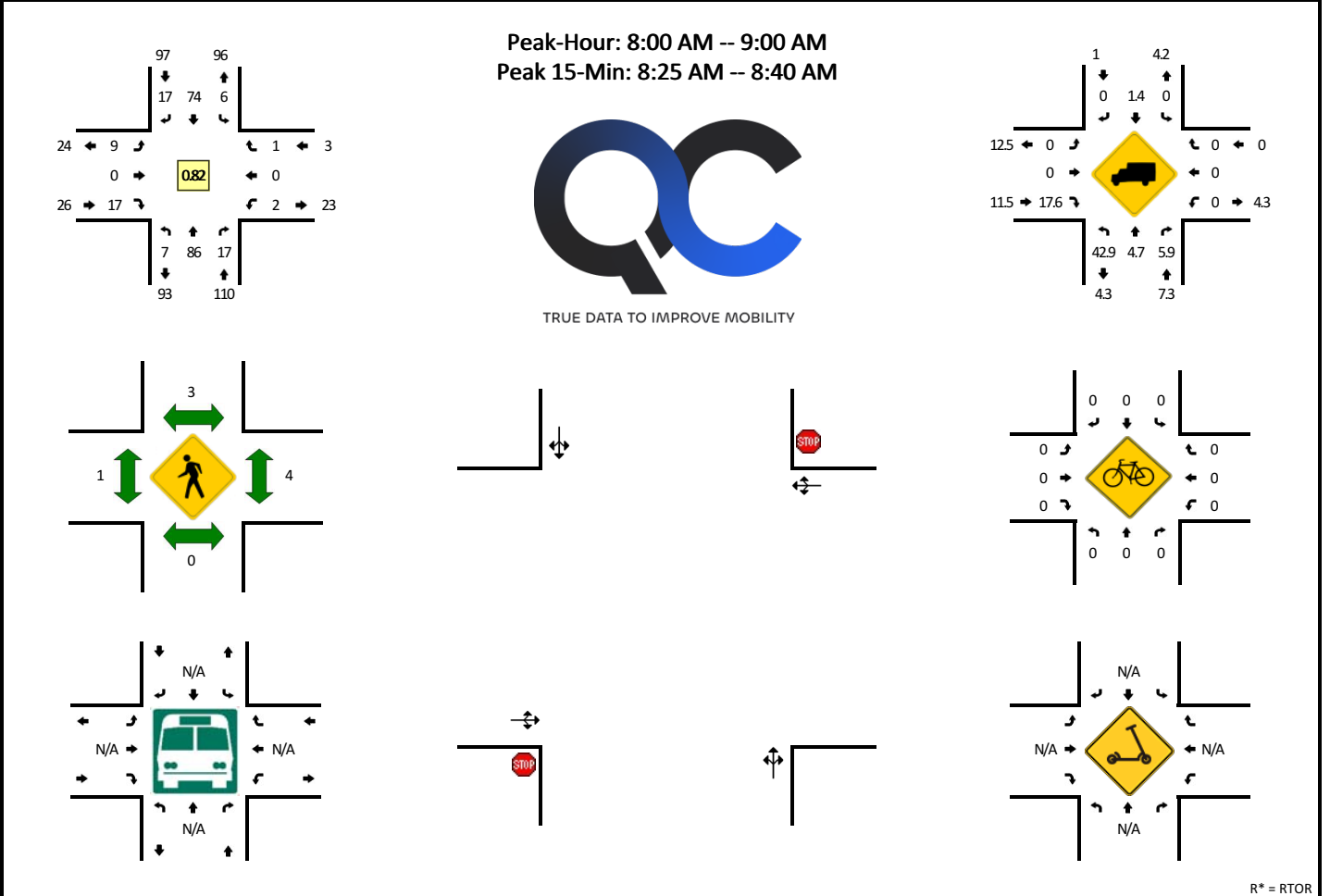
R\* = RTOR

5-Min Count Period Beginning At	South Dwy (Northbound)				South Dwy (Southbound)				Telegraph Rd (Eastbound)				Telegraph Rd (Westbound)				Total	Hourly Totals							
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*										
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	92	0	0	0	0	0	84	0	0	0	0	176		
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	79	0	0	0	0	0	103	0	0	0	0	182	
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	82	0	0	0	0	0	139	0	0	0	0	221	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	94	0	0	0	0	0	124	0	0	0	0	218	
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	70	0	0	0	0	0	135	1	0	0	0	206	
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	93	0	0	0	0	0	114	0	0	0	0	207	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	78	0	0	0	0	0	133	0	0	0	0	211	
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	80	0	0	0	0	0	146	0	0	0	0	226	
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	102	0	0	0	0	0	116	1	0	0	0	219	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	76	0	0	0	0	0	90	0	0	0	0	166	
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	108	0	0	0	0	0	118	0	0	0	0	226	
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	61	0	0	0	0	0	113	1	0	0	0	175	2433
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	108	0	0	0	0	208	2465
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	77	1	0	0	0	0	166	0	0	0	0	244	2527
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	132	0	0	0	0	0	176	0	0	0	0	308	2614
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	81	0	0	0	0	0	124	0	0	0	0	205	2601
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	86	0	0	0	0	0	137	3	0	0	0	226	2621
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	57	0	0	0	0	0	153	0	0	0	0	210	2624
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	83	1	0	0	0	0	84	1	0	0	0	169	2582
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	93	0	0	0	0	0	109	0	0	0	0	202	2558
5:40 PM	0	0	0	0	0	0	0	1	0	0	0	0	121	0	0	0	0	0	96	0	0	0	0	218	2557
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	96	0	0	0	0	0	83	0	0	0	0	180	2571
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	78	0	0	0	0	0	78	0	0	0	0	156	2501
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	106	0	0	0	0	0	78	0	0	0	0	184	2510
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total				
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*					
All Vehicles	0	0	0	0	0	0	0	0	0	0	0	1236	4	0	0	0	1800	0	0	0	3040				
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	56	0	0	0	0	68	0	0	0	124				
Buses																					0				
Pedestrians		0				0					0					0					0				
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0				
Scoters																					0				

Comments:

**LOCATION:** Alburdis Ave -- West Dwy  
**CITY/STATE:** Santa Fe Springs, CA

**QC JOB #:** 17559911  
**DATE:** Thu, Apr 16 2026



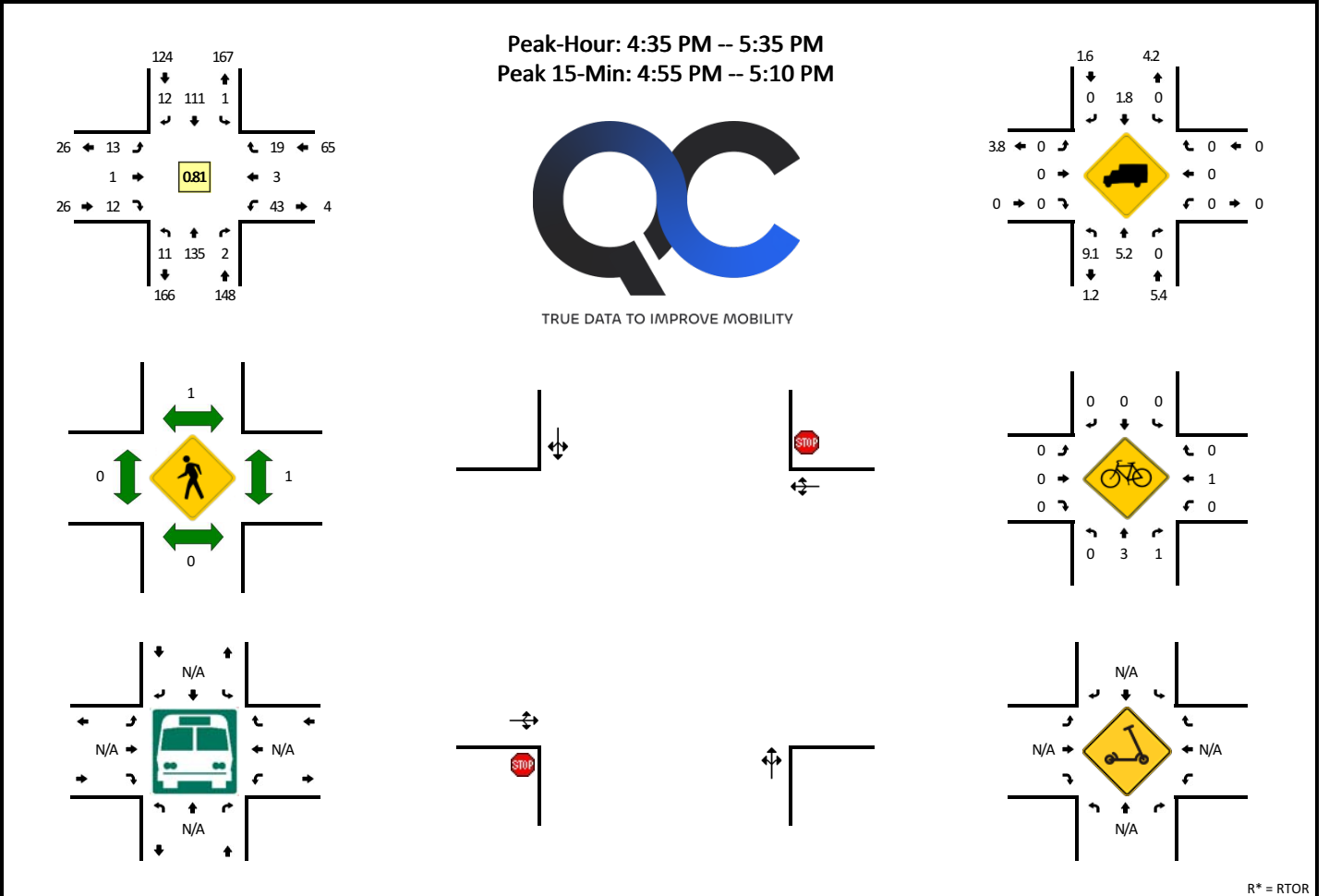
R\* = RTOR

5-Min Count Period Beginning At	Alburdis Ave (Northbound)					Alburdis Ave (Southbound)					West Dwy (Eastbound)					West Dwy (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
7:00 AM	0	12	1	0	0	1	6	1	0	0	0	0	0	0	0	0	0	0	0	0	21	
7:05 AM	0	10	0	0	0	1	6	0	0	0	0	0	3	0	0	0	1	0	0	0	21	
7:10 AM	0	1	0	0	0	0	5	2	0	0	1	0	0	0	0	0	0	0	0	0	9	
7:15 AM	0	3	0	0	0	0	6	2	0	0	0	0	4	0	0	0	0	0	0	0	15	
7:20 AM	1	6	1	0	0	0	7	1	0	0	0	0	1	0	0	0	0	0	0	0	17	
7:25 AM	1	4	0	0	0	0	7	0	0	0	3	0	2	0	0	0	0	0	0	0	17	
7:30 AM	0	11	0	0	0	0	4	1	0	0	0	0	1	0	0	0	0	0	0	0	17	
7:35 AM	1	5	0	0	0	0	8	2	0	0	1	0	1	0	0	0	0	0	0	0	18	
7:40 AM	0	8	1	0	0	0	6	2	0	0	2	0	1	0	0	0	0	0	0	0	20	
7:45 AM	0	7	0	0	0	0	4	3	0	0	1	0	1	0	0	0	0	0	0	0	16	
7:50 AM	2	8	0	0	0	0	4	4	0	0	1	0	3	0	0	0	0	1	0	0	23	
7:55 AM	0	6	1	0	0	0	5	2	0	0	2	0	1	0	0	0	0	0	0	0	17	211
8:00 AM	1	9	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	12	202
8:05 AM	1	5	2	0	0	0	3	3	0	0	0	0	1	0	0	0	0	0	0	0	15	196
8:10 AM	0	9	1	0	0	0	7	0	0	0	1	0	3	0	0	0	0	0	0	0	21	208
8:15 AM	0	5	0	0	0	1	6	2	0	0	2	0	1	0	0	0	0	0	0	0	17	210
8:20 AM	0	5	1	0	0	0	2	1	0	0	1	0	2	0	0	1	0	0	0	0	13	206
8:25 AM	0	7	1	0	0	0	8	2	0	0	0	0	1	0	0	1	0	0	0	0	20	209
8:30 AM	0	13	2	0	0	1	7	1	0	0	0	0	4	0	0	0	0	1	0	0	29	221
8:35 AM	3	4	3	0	0	0	10	1	0	0	1	0	1	0	0	0	0	0	0	0	23	226
8:40 AM	1	6	1	0	0	0	9	2	0	0	0	0	1	0	0	0	0	0	0	0	20	226
8:45 AM	0	6	1	0	0	0	8	2	0	0	1	0	1	0	0	0	0	0	0	0	19	229
8:50 AM	0	8	4	0	0	3	7	2	0	0	2	0	1	0	0	0	0	0	0	0	27	233
8:55 AM	1	9	1	0	0	1	6	1	0	0	1	0	0	0	0	0	0	0	0	0	20	236
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
All Vehicles	12	96	24	0	0	4	100	16	0	0	4	0	24	0	0	4	0	4	0	0	288	
Heavy Trucks	8	4	0			0	0	0			0	0	0			0	0	0	0	0	12	
Buses																						
Pedestrians		0					0					4					0				4	
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0	
Scoters																						

Comments:

**LOCATION:** Albutris Ave -- West Dwy  
**CITY/STATE:** Santa Fe Springs, CA

**QC JOB #:** 17559912  
**DATE:** Wed, Apr 15 2026



R\* = RTOR

5-Min Count Period Beginning At	Albutris Ave (Northbound)					Albutris Ave (Southbound)					West Dwy (Eastbound)					West Dwy (Westbound)					Total	Hourly Totals	
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*			
4:00 PM	1	10	1	0	0	0	13	1	0	0	1	0	1	0	0	0	0	1	0	0	0	29	
4:05 PM	2	5	1	0	0	0	8	1	0	0	1	0	1	0	0	1	0	1	0	0	0	21	
4:10 PM	3	12	1	0	0	0	4	0	0	0	2	0	1	0	0	3	0	0	0	0	0	26	
4:15 PM	2	9	0	0	0	0	5	2	0	0	0	0	3	0	0	3	0	0	0	0	0	24	
4:20 PM	1	10	1	0	0	1	7	1	0	0	0	0	1	0	0	1	0	0	0	0	0	23	
4:25 PM	0	7	0	0	0	0	3	2	0	0	0	0	3	0	0	1	1	0	0	0	0	17	
4:30 PM	0	8	0	0	0	0	9	2	0	0	0	0	2	0	0	2	0	0	0	0	0	23	
4:35 PM	2	7	0	0	0	0	10	0	0	0	0	1	1	0	0	3	1	0	0	0	0	25	
4:40 PM	0	13	0	0	0	0	7	0	0	0	1	0	0	0	0	4	0	0	0	0	0	25	
4:45 PM	0	15	0	0	0	0	3	2	0	0	1	0	3	0	0	1	0	0	0	0	0	25	
4:50 PM	0	11	0	0	0	0	7	0	0	0	1	0	1	0	0	6	0	5	0	0	0	31	
4:55 PM	0	19	1	0	0	0	14	0	0	0	0	0	0	0	0	7	0	1	0	0	0	42	311
5:00 PM	0	3	1	0	0	0	20	1	0	0	0	0	0	0	0	10	1	0	0	0	0	36	318
5:05 PM	4	7	0	0	0	0	5	5	0	0	2	0	0	0	0	7	0	4	0	0	0	34	331
5:10 PM	1	11	0	0	0	0	8	1	0	0	2	0	2	0	0	4	0	1	0	0	0	30	335
5:15 PM	0	7	0	0	0	0	12	3	0	0	2	0	2	0	0	0	0	0	0	0	0	26	337
5:20 PM	1	10	0	0	0	1	9	0	0	0	1	0	0	0	0	0	1	5	0	0	0	28	342
5:25 PM	2	16	0	0	0	0	8	0	0	0	3	0	1	0	0	1	0	1	0	0	0	32	357
5:30 PM	1	16	0	0	0	0	8	0	0	0	0	0	2	0	0	0	0	2	0	0	0	29	363
5:35 PM	0	7	1	0	0	0	5	0	0	0	2	0	1	0	0	0	0	0	0	0	0	16	354
5:40 PM	0	11	0	0	0	0	5	2	0	0	1	0	1	0	0	0	0	0	0	0	0	20	349
5:45 PM	2	6	1	0	0	0	11	0	0	0	2	0	0	0	0	0	0	0	0	0	0	22	346
5:50 PM	0	3	0	0	0	0	6	0	0	0	2	0	0	0	0	0	0	0	0	0	0	11	326
5:55 PM	0	9	0	0	0	0	5	1	0	0	0	0	2	0	0	0	0	0	0	0	0	17	301
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total		
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*			
All Vehicles	16	116	8	0	0	0	156	24	0	0	8	0	0	0	0	96	4	20	0	0	448		
Heavy Trucks	4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12		
Buses																					4		
Pedestrians		0					4					0					0				4		
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0		
Scoters																							

Comments:



## Appendix E

### Vistro Analysis Reports

Vistro File: H:\...\CA6407\_DutchBros\_Santa Fe  
Springs\_vistro\_V2.vistro

Scenario 1 Existing AM

Report File: H:\...\Existing AM.pdf

5/20/2026

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Telegraph Road / Orr and Day Road	Signalized	HCM 7th Edition	SB Left	0.507	29.4	C
2	Telegraph Road / Jersey Avenue	Signalized	HCM 7th Edition	EB Left	0.358	10.6	B
3	Telegraph Road / Albutis Avenue	Signalized	HCM 7th Edition	SB Right	0.278	4.1	A
4	Telegraph Road / South Driveway	Two-way stop	HCM 7th Edition	SB Right	0.003	14.7	B
5	Telegraph Road / Pioneer Blvd	Signalized	HCM 7th Edition	EB Left	0.458	26.0	C
6	Albutis Avenue / West Driveway	Two-way stop	HCM 7th Edition	WB Left	0.004	10.4	B

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

**Intersection Level Of Service Report**  
**Intersection 1: Telegraph Road / Orr and Day Road**

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.507

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
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	2	0	0	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	130.00	100.00	100.00	85.00	100.00	130.00	145.00	100.00	100.00	85.00	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	147	189	183	46	289	386	106	1161	91	47	1010	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	4.00	4.00	3.00	1.00	2.00	5.00	0.00	4.00	13.00	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	145	0	0	0	0	0	0
Total Hourly Volume [veh/h]	147	189	183	46	289	241	106	1161	91	47	1010	5
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]	40	52	50	13	79	66	29	319	25	13	277	1
Total Analysis Volume [veh/h]	162	208	201	51	318	265	116	1276	100	52	1110	5
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			1			3			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	3	8	0	7	4	7	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	12	29	0	12	29	12	12	39	0	9	38	0
Amber [s]	3.0	4.0	0.0	3.0	4.0	3.0	3.0	4.5	0.0	3.0	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	21.0	0.0	0.0	22.0	0.0	0.0	21.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.0	0.0	2.0	3.0	2.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	50.0	50.0	0.0	50.0	50.0	50.0	50.0	50.0	0.0	50.0	50.0	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 2**

Split [s]	21.0	34.0	0.0	22.0	35.0	22.0	21.0	44.0	0.0	20.0	43.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	4	4	10	0	4	10	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	2.0	2.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

**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	R	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	5.00	5.00	4.00	5.00	5.00	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.00	3.00	2.00	3.00	3.00	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	6.8	25.8	25.8	3.6	22.6	22.6	8.8	68.4	68.4	3.7	63.3	63.3
g / C, Green / Cycle	0.06	0.22	0.22	0.03	0.19	0.19	0.07	0.57	0.57	0.03	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.05	0.11	0.13	0.03	0.09	0.17	0.07	0.26	0.26	0.03	0.23	0.23
s, saturation flow rate [veh/h]	3459	1870	1569	1752	3532	1581	1781	3475	1752	1752	3246	1701
c, Capacity [veh/h]	197	402	337	52	664	297	130	1982	999	54	1714	898
d1, Uniform Delay [s]	56.00	41.59	42.40	58.17	43.47	47.40	55.14	15.04	15.04	58.10	17.27	17.27
k, delay calibration	0.04	0.15	0.15	0.04	0.04	0.04	0.04	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	1.00	1.00	1.00
d2, Incremental Delay [s]	3.31	1.47	2.39	30.08	0.20	3.70	7.83	0.78	1.54	27.62	0.78	1.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.82	0.52	0.60	0.98	0.48	0.89	0.89	0.46	0.46	0.97	0.43	0.43
d, Delay for Lane Group [s/veh]	59.30	43.06	44.79	88.25	43.67	51.10	62.97	15.81	16.57	85.72	18.05	18.75
Lane Group LOS	E	D	D	F	D	D	E	B	B	F	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.50	5.56	5.54	1.97	4.20	7.91	3.73	7.17	7.45	1.98	6.15	6.62
50th-Percentile Queue Length [ft/ln]	62.44	138.98	138.47	49.29	105.10	197.80	93.27	179.37	186.15	49.43	153.71	165.51
95th-Percentile Queue Length [veh/ln]	4.50	9.43	9.40	3.55	7.57	12.52	6.72	11.57	11.92	3.56	10.22	10.84
95th-Percentile Queue Length [ft/ln]	112.39	235.64	234.96	88.72	189.17	313.12	167.88	289.20	298.03	88.98	255.38	271.00

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	59.30	43.06	44.79	88.25	43.67	51.10	62.97	16.03	16.57	85.72	18.29	18.75
Movement LOS	E	D	D	F	D	D	E	B	B	F	B	B
d_A, Approach Delay [s/veh]	48.28			50.36			19.72			21.29		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	29.44											
Intersection LOS	C											
Intersection V/C	0.507											

**Emissions**

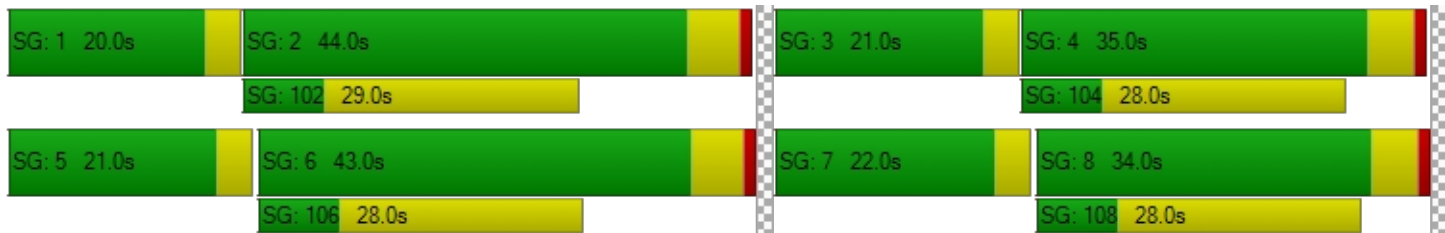
Vehicle Miles Traveled [mph]	12.81	16.45	15.90	3.88	24.16	20.14	10.41	82.08	41.39	12.10	170.25	89.22
Stops [stops/h]	149.86	166.77	166.16	59.15	252.25	237.36	111.92	430.50	223.38	59.32	368.91	198.61
Fuel consumption [US gal/h]	3.57	3.70	3.69	1.51	5.64	5.31	2.72	9.31	4.81	1.81	11.95	6.36
CO [g/h]	249.55	258.88	257.74	105.43	394.51	371.04	190.46	650.80	336.44	126.82	835.34	444.38
NOx [g/h]	48.55	50.37	50.15	20.51	76.76	72.19	37.06	126.62	65.46	24.68	162.53	86.46
VOC [g/h]	57.84	60.00	59.73	24.44	91.43	85.99	44.14	150.83	77.97	29.39	193.60	102.99

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			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]	49.50			49.50			49.50			49.50		
l_p,int, Pedestrian LOS Score for Intersectio	2.664			2.883			3.123			3.046		
Crosswalk LOS	B			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	483			500			642			625		
d_b, Bicycle Delay [s]	34.52			33.77			27.72			28.36		
l_b,int, Bicycle LOS Score for Intersection	2.031			2.202			2.380			2.201		
Bicycle LOS	B			B			B			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 2: Telegraph Road / Jersey Avenue**

Control Type:	Signalized	Delay (sec / veh):	10.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.358

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	25.00	100.00	15.00	100.00	100.00	100.00	115.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	23	34	54	29	38	27	44	1296	35	48	1099	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	5.00	0.00	2.00	13.00	5.00
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	30	0	0	18	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	34	24	29	38	9	44	1296	35	48	1099	19
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]	6	9	7	8	10	2	12	356	10	13	302	5
Total Analysis Volume [veh/h]	25	37	26	32	42	10	48	1424	38	53	1208	21
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		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	1		1		1		2		2		2	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow				No								
Signal Group	0	8	0	0	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	30	0	20	50	0	20	50	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	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	0.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	0.0	0.0	0.0	20.0	0.0	0.0	11.0	0.0	0.0	18.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	50.0	0.0	0.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 2**

Split [s]	0.0	35.0	0.0	0.0	35.0	0.0	34.0	53.0	0.0	32.0	51.0	0.0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	4	0	4	10	0	4	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	2.5	4.0	0.0	2.5	4.0	0.0
Minimum Recall		No			No		No	Yes		No	Yes	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	8.8	8.8	8.8	8.8	3.4	93.4	93.4	3.8	93.8	93.8
g / C, Green / Cycle	0.07	0.07	0.07	0.07	0.03	0.78	0.78	0.03	0.78	0.78
(v / s)_i Volume / Saturation Flow Rate	0.05	0.03	0.02	0.01	0.03	0.28	0.28	0.03	0.25	0.25
s, saturation flow rate [veh/h]	1590	1360	1900	1591	1781	3475	1797	1781	3246	1688
c, Capacity [veh/h]	155	85	139	117	50	2704	1399	56	2538	1320
d1, Uniform Delay [s]	54.55	53.54	52.68	51.84	58.26	4.08	4.08	57.98	3.80	3.80
k, delay calibration	0.11	0.11	0.11	0.11	0.08	0.50	0.50	0.08	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	1.00
d2, Incremental Delay [s]	3.23	2.71	1.20	0.31	42.38	0.37	0.71	34.76	0.33	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.57	0.38	0.30	0.09	0.96	0.36	0.36	0.94	0.32	0.32
d, Delay for Lane Group [s/veh]	57.78	56.25	53.88	52.15	100.64	4.45	4.79	92.75	4.13	4.43
Lane Group LOS	E	E	D	D	F	A	A	F	A	A
Critical Lane Group	Yes	No	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.77	0.99	1.24	0.29	2.03	2.99	3.23	2.14	2.35	2.56
50th-Percentile Queue Length [ft/ln]	69.26	24.70	30.99	7.24	50.79	74.79	80.70	53.46	58.87	64.03
95th-Percentile Queue Length [veh/ln]	4.99	1.78	2.23	0.52	3.66	5.38	5.81	3.85	4.24	4.61
95th-Percentile Queue Length [ft/ln]	124.68	44.46	55.77	13.03	91.43	134.62	145.26	96.22	105.96	115.25

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	57.78	57.78	57.78	56.25	53.88	52.15	100.64	4.56	4.79	92.75	4.23	4.43
Movement LOS	E	E	E	E	D	D	F	A	A	F	A	A
d_A, Approach Delay [s/veh]	57.78			54.58			7.62			7.89		
Approach LOS	E			D			A			A		
d_I, Intersection Delay [s/veh]	10.56											
Intersection LOS	B											
Intersection V/C	0.358											

**Emissions**

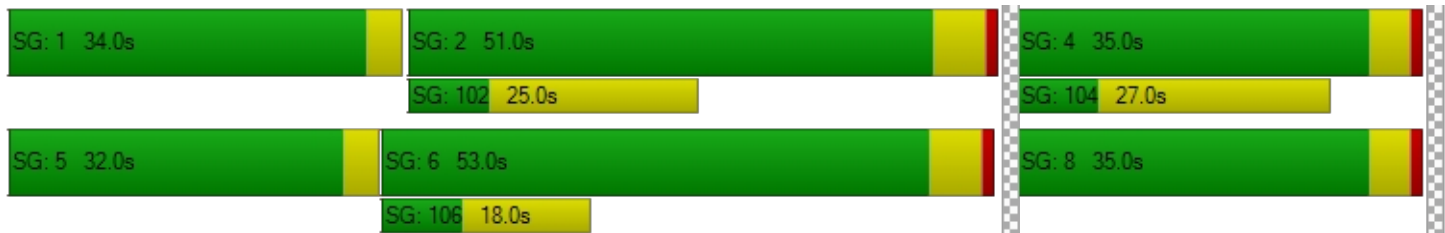
Vehicle Miles Traveled [mph]	7.48	1.82	2.39	0.57	11.17	224.23	115.98	5.40	82.42	42.86
Stops [stops/h]	83.12	29.64	37.18	8.69	60.95	179.49	96.84	64.15	141.28	76.83
Fuel consumption [US gal/h]	1.69	0.66	0.83	0.19	1.87	10.77	5.64	1.69	4.88	2.59
CO [g/h]	118.11	46.03	58.09	13.50	130.51	752.78	393.91	118.03	341.38	181.13
NOx [g/h]	22.98	8.96	11.30	2.63	25.39	146.46	76.64	22.96	66.42	35.24
VOC [g/h]	27.37	10.67	13.46	3.13	30.25	174.46	91.29	27.35	79.12	41.98

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
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]	49.50	49.50	49.50	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.873	2.230	3.094	0.000
Crosswalk LOS	A	B	C	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	508	508	792	758
d_b, Bicycle Delay [s]	33.39	33.39	21.92	23.15
I_b,int, Bicycle LOS Score for Intersection	1.754	1.728	2.390	2.265
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 3: Telegraph Road / Alburdis Avenue**

Control Type:	Signalized	Delay (sec / veh):	4.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.278

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← ↑ →			← ↑ →			← ↑ ↑ ↑ →			← ↑ ↑ ↑ →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	25.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	7	1	5	21	3	69	77	1274	18	11	1140	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	5.00	0.00	3.00	0.00	6.00	0.00	9.00	12.00	12.00
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	40	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	1	5	21	3	29	77	1274	18	11	1140	26
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]	2	0	1	5	1	8	20	332	5	3	297	7
Total Analysis Volume [veh/h]	7	1	5	22	3	30	80	1327	19	11	1188	27
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			0			1			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	18.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Flashing Yellow Arrow	No			No			No			No		
Signal Group	0	4	0	0	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	30	0	12	21	0	12	21	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.5	4.5	0.0	3.5	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	21.0	0.0	0.0	18.0	0.0	0.0	13.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.5	3.5	0.0	2.5	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	50.0	0.0	0.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 2**

Split [s]	0.0	44.0	0.0	0.0	44.0	0.0	16.0	60.0	0.0	16.0	60.0	0.0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	4	0	4	10	0	4	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall		No			No		No	Yes		No	Yes	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.50	5.50	5.50	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	0.98	3.50	3.50	2.50	3.50	3.50
g_i, Effective Green Time [s]	4.7	4.7	4.7	4.7	104.3	100.6	100.6	98.3	98.0	98.0
g / C, Green / Cycle	0.04	0.04	0.04	0.04	0.87	0.84	0.84	0.82	0.82	0.82
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.01	0.02	0.15	0.26	0.26	0.03	0.24	0.24
s, saturation flow rate [veh/h]	1398	1631	1376	1637	522	3446	1795	386	3275	1700
c, Capacity [veh/h]	87	64	109	64	486	2888	1504	363	2676	1389
d1, Uniform Delay [s]	58.00	55.61	56.72	56.54	1.20	2.12	2.12	1.35	2.66	2.66
k, delay calibration	0.11	0.11	0.11	0.11	0.04	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	1.00
d2, Incremental Delay [s]	0.39	0.63	0.90	6.30	0.06	0.28	0.53	0.01	0.29	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	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.08	0.09	0.20	0.52	0.16	0.31	0.31	0.03	0.30	0.30
d, Delay for Lane Group [s/veh]	58.39	56.24	57.62	62.84	1.26	2.39	2.64	1.37	2.94	3.21
Lane Group LOS	E	E	E	E	A	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.22	0.19	0.68	1.09	0.09	1.47	1.64	0.01	1.69	1.85
50th-Percentile Queue Length [ft/ln]	5.52	4.70	17.04	27.34	2.23	36.78	40.96	0.30	42.16	46.36
95th-Percentile Queue Length [veh/ln]	0.40	0.34	1.23	1.97	0.16	2.65	2.95	0.02	3.04	3.34
95th-Percentile Queue Length [ft/ln]	9.93	8.46	30.67	49.21	4.01	66.20	73.72	0.54	75.90	83.45

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	58.39	56.24	56.24	57.62	62.84	62.84	1.26	2.48	2.64	1.37	3.03	3.21
Movement LOS	E	E	E	E	E	E	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	57.40			60.75			2.41			3.02		
Approach LOS	E			E			A			A		
d_I, Intersection Delay [s/veh]	4.13											
Intersection LOS	A											
Intersection V/C	0.278											

**Emissions**

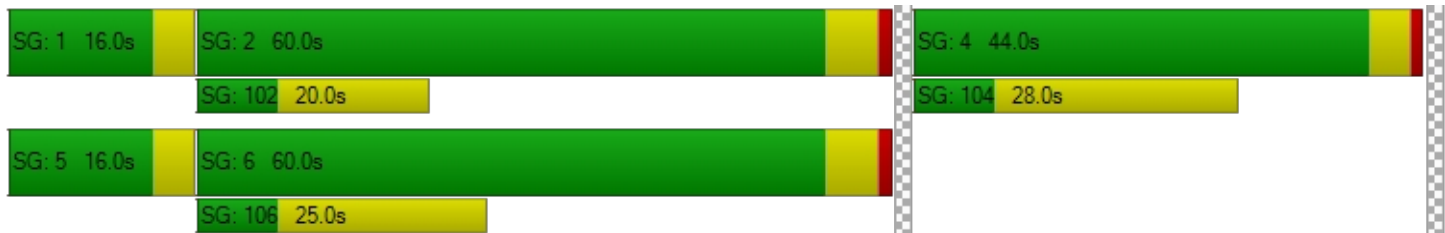
Vehicle Miles Traveled [mph]	0.70	0.60	0.87	1.30	8.16	90.22	47.00	0.47	33.82	17.57
Stops [stops/h]	6.62	5.64	20.45	32.81	2.67	88.27	49.15	0.36	101.19	55.63
Fuel consumption [US gal/h]	0.14	0.12	0.41	0.66	0.35	4.53	2.41	0.02	2.53	1.36
CO [g/h]	9.78	8.19	28.43	45.91	24.56	316.89	168.39	1.64	176.79	95.01
NOx [g/h]	1.90	1.59	5.53	8.93	4.78	61.65	32.76	0.32	34.40	18.49
VOC [g/h]	2.27	1.90	6.59	10.64	5.69	73.44	39.03	0.38	40.97	22.02

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	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]	49.50	49.50	0.00	49.50
l_p,int, Pedestrian LOS Score for Intersectio	1.980	2.172	0.000	3.058
Crosswalk LOS	A	B		C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	658	658	908	908
d_b, Bicycle Delay [s]	27.01	27.00	17.88	17.88
l_b,int, Bicycle LOS Score for Intersection	1.581	1.716	2.344	2.234
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road / South Driveway**

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

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

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	1	0	1302	1172	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	2.00	6.00	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]	0	1	0	1302	1172	5
Peak Hour Factor	1.0000	0.9500	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	343	308	1
Total Analysis Volume [veh/h]	0	1	0	1371	1234	5
Pedestrian Volume [ped/h]	1		0		0	

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	14.69	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.20	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.69		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.01					
Intersection LOS	B					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road / Pioneer Blvd**

Control Type:	Signalized	Delay (sec / veh):	26.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.458

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	195.00	100.00	100.00	195.00	100.00	100.00	145.00	100.00	100.00	195.00	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]	45.00			45.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	156	147	126	108	142	19	52	1054	152	69	979	134
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 [%]	6.00	2.00	2.00	6.00	5.00	16.00	12.00	6.00	3.00	6.00	12.00	9.00
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	62	0	0	0	0	0	15	0	0	0
Total Hourly Volume [veh/h]	156	147	64	108	142	19	52	1054	137	69	979	134
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	41	18	30	40	5	15	296	38	19	275	38
Total Analysis Volume [veh/h]	175	165	72	121	160	21	58	1184	154	78	1100	151
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		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	0		1		1		1		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	3	8	0	7	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	17	36	0	10	29	0	10	36	0	12	38	0
Amber [s]	3.0	5.0	0.0	3.0	5.0	0.0	3.0	4.5	0.0	3.0	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	22.0	0.0	0.0	21.0	0.0	0.0	22.0	0.0	0.0	22.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	50.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	0.0	50.0	0.0	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 2**

Split [s]	21.0	42.0	0.0	21.0	42.0	0.0	14.0	41.0	0.0	16.0	43.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	0	4	6	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	13.2	12.9	12.9	9.3	9.0	9.0	4.4	72.3	72.3	6.0	73.9	73.9
g / C, Green / Cycle	0.11	0.11	0.11	0.08	0.08	0.08	0.04	0.60	0.60	0.05	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.10	0.07	0.07	0.07	0.05	0.05	0.04	0.26	0.26	0.05	0.26	0.26
s, saturation flow rate [veh/h]	1724	1870	1683	1724	1825	1745	1638	3446	1697	1724	3275	1616
c, Capacity [veh/h]	189	201	181	134	137	131	61	2077	1023	86	2016	995
d1, Uniform Delay [s]	52.94	51.17	51.29	54.92	54.02	54.08	57.68	12.80	12.81	56.71	11.91	11.91
k, delay calibration	0.14	0.15	0.15	0.04	0.15	0.15	0.04	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	1.00	1.00	1.00
d2, Incremental Delay [s]	20.71	4.24	5.13	8.64	7.69	8.52	23.66	0.66	1.33	12.31	0.63	1.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.93	0.61	0.63	0.91	0.67	0.68	0.96	0.43	0.43	0.90	0.42	0.42
d, Delay for Lane Group [s/veh]	73.66	55.42	56.42	63.56	61.72	62.60	81.34	13.46	14.14	69.02	12.54	13.19
Lane Group LOS	E	E	E	E	E	E	F	B	B	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.17	3.68	3.47	3.86	2.92	2.88	2.14	6.33	6.43	2.63	5.64	5.74
50th-Percentile Queue Length [ft/ln]	154.34	91.93	86.69	96.46	73.04	72.00	53.54	158.24	160.64	65.69	140.90	143.60
95th-Percentile Queue Length [veh/ln]	10.25	6.62	6.24	6.94	5.26	5.18	3.85	10.46	10.58	4.73	9.53	9.67
95th-Percentile Queue Length [ft/ln]	256.21	165.47	156.04	173.62	131.47	129.61	96.37	261.40	264.57	118.25	238.23	241.87

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	73.66	55.67	56.42	63.56	62.09	62.60	81.34	13.63	14.14	69.02	12.70	13.19
Movement LOS	E	E	E	E	E	E	F	B	B	E	B	B
d_A, Approach Delay [s/veh]	63.44			62.72			16.49			16.06		
Approach LOS	E			E			B			B		
d_I, Intersection Delay [s/veh]	26.01											
Intersection LOS	C											
Intersection V/C	0.458											

**Emissions**

Vehicle Miles Traveled [mph]	14.92	10.47	9.74	10.69	8.09	7.90	3.58	55.31	27.24	7.12	76.49	37.76
Stops [stops/h]	185.21	110.31	104.03	115.75	87.65	86.40	64.25	379.79	192.77	78.83	338.15	172.32
Fuel consumption [US gal/h]	5.44	3.11	2.94	3.37	2.52	2.48	1.58	7.42	3.76	1.96	7.60	3.85
CO [g/h]	380.06	217.70	205.45	235.60	175.94	173.65	110.41	518.71	262.68	136.99	531.00	268.78
NOx [g/h]	73.95	42.36	39.97	45.84	34.23	33.79	21.48	100.92	51.11	26.65	103.31	52.30
VOC [g/h]	88.08	50.45	47.61	54.60	40.78	40.25	25.59	120.22	60.88	31.75	123.06	62.29

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			49.50		
l_p,int, Pedestrian LOS Score for Intersectio	2.660			2.511			3.069			3.057		
Crosswalk LOS	B			B			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			600			592			625		
d_b, Bicycle Delay [s]	29.40			29.41			29.77			28.36		
l_b,int, Bicycle LOS Score for Intersection	1.951			1.809			2.336			2.291		
Bicycle LOS	A			A			B			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Alburdis Avenue / West Driveway**

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

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

**Volumes**

Name	Northbound			Southbound			Driveway Eastbound			Driveway Westbound		
Base Volume Input [veh/h]	8	83	13	2	70	20	9	0	20	2	0	2
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 [%]	25.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	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]	8	83	13	2	70	20	9	0	20	2	0	2
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	26	4	1	22	6	3	0	6	1	0	1
Total Analysis Volume [veh/h]	10	104	16	3	88	25	11	0	25	3	0	3
Pedestrian Volume [ped/h]	0			0			1			4		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
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**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.69	0.00	0.00	7.45	0.00	0.00	10.28	10.77	9.11	10.38	10.65	8.87
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.01	0.01	0.01	0.13	0.13	0.13	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.43	0.43	0.43	0.13	0.13	0.13	3.35	3.35	3.35	0.58	0.58	0.58
d_A, Approach Delay [s/veh]	0.59			0.19			9.47			9.63		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.73											
Intersection LOS	B											

Vistro File: H:\...\CA6407\_DutchBros\_Santa Fe  
Springs\_vistro\_V2.vistro

Scenario 2 Existing PM

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

5/20/2026

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Telegraph Road / Orr and Day Road	Signalized	HCM 7th Edition	SB Left	0.624	35.2	D
2	Telegraph Road / Jersey Avenue	Signalized	HCM 7th Edition	EB Left	0.399	12.6	B
3	Telegraph Road / Albutis Avenue	Signalized	HCM 7th Edition	NB Left	0.384	8.4	A
4	Telegraph Road / South Driveway	Two-way stop	HCM 7th Edition	WB Thru	0.018	0.0	A
5	Telegraph Road / Pioneer Blvd	Signalized	HCM 7th Edition	EB Left	0.551	30.2	C
6	Albutis Avenue / West Driveway	Two-way stop	HCM 7th Edition	WB Thru	0.009	12.1	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: Telegraph Road / Orr and Day Road**

Control Type:	Signalized	Delay (sec / veh):	35.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.624

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
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	2	0	0	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	130.00	100.00	100.00	85.00	100.00	130.00	145.00	100.00	100.00	85.00	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	196	238	102	49	383	409	144	999	117	76	1337	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	2.00	0.00	1.00	1.00	2.00	5.00	0.00	1.00	3.00	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	60	0	0	0	0	0	0
Total Hourly Volume [veh/h]	196	238	102	49	383	349	144	999	117	76	1337	9
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	51	61	26	13	99	90	37	257	30	20	345	2
Total Analysis Volume [veh/h]	202	245	105	51	395	360	148	1030	121	78	1378	9
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			1			1		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 3
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	113.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	3	8	0	7	4	7	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	12	28	0	12	28	12	19	25	0	14	20	0
Amber [s]	3.0	4.0	0.0	3.0	4.0	3.0	3.0	4.5	0.0	3.0	4.5	0.0
All red [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
Walk [s]	0.0	7.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	21.0	0.0	0.0	22.0	0.0	0.0	21.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	2.0	2.0	4.5	0.0	2.0	4.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	50.0	50.0	0.0	50.0	50.0	50.0	50.0	50.0	0.0	50.0	50.0	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 3**

Split [s]	16.0	34.0	0.0	24.0	42.0	24.0	23.0	41.0	0.0	21.0	39.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	4	4	10	0	4	10	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	2.0	2.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

**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	R	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	6.50	6.50	4.00	6.50	6.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	4.50	4.50	2.00	4.50	4.50
g_i, Effective Green Time [s]	8.1	34.3	34.3	3.5	29.7	29.7	11.1	55.9	55.9	5.8	50.7	50.7
g / C, Green / Cycle	0.07	0.29	0.29	0.03	0.25	0.25	0.09	0.47	0.47	0.05	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.06	0.10	0.10	0.03	0.11	0.22	0.08	0.22	0.22	0.04	0.26	0.26
s, saturation flow rate [veh/h]	3486	1900	1711	1810	3589	1602	1781	3475	1721	1795	3532	1848
c, Capacity [veh/h]	234	543	488	53	888	396	164	1620	802	87	1492	781
d1, Uniform Delay [s]	55.41	33.88	33.95	58.20	38.19	43.83	53.93	21.96	21.96	56.81	26.97	26.97
k, delay calibration	0.04	0.15	0.15	0.04	0.04	0.14	0.04	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	1.00	1.00	1.00
d2, Incremental Delay [s]	3.63	0.52	0.59	28.04	0.13	10.39	6.99	1.00	2.02	11.85	1.87	3.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.86	0.34	0.34	0.97	0.44	0.91	0.90	0.48	0.48	0.90	0.61	0.61
d, Delay for Lane Group [s/veh]	59.04	34.40	34.54	86.24	38.32	54.23	60.92	22.96	23.98	68.66	28.84	30.51
Lane Group LOS	E	C	C	F	D	D	E	C	C	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.12	4.26	3.92	1.95	4.89	11.35	4.70	7.48	7.64	2.62	10.29	11.13
50th-Percentile Queue Length [ft/ln]	77.95	106.47	98.10	48.64	122.32	283.71	117.53	187.07	191.07	65.46	257.24	278.29
95th-Percentile Queue Length [veh/ln]	5.61	7.64	7.06	3.50	8.52	16.87	8.26	11.97	12.18	4.71	15.55	16.60
95th-Percentile Queue Length [ft/ln]	140.31	191.08	176.57	87.55	213.02	421.83	206.43	299.22	304.41	117.83	388.76	415.09

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	59.04	34.44	34.54	86.24	38.32	54.23	60.92	23.22	23.98	68.66	29.41	30.51
Movement LOS	E	C	C	F	D	D	E	C	C	E	C	C
d_A, Approach Delay [s/veh]	43.46			48.45			27.58			31.51		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	35.19											
Intersection LOS	D											
Intersection V/C	0.624											

**Emissions**

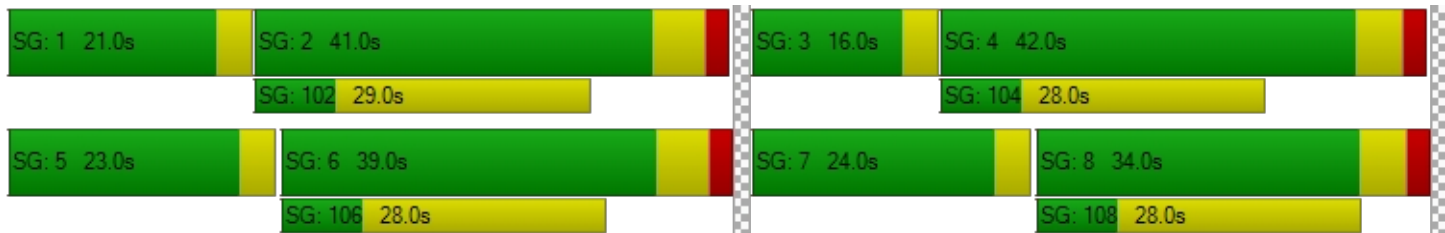
Vehicle Miles Traveled [mph]	15.97	14.43	13.24	3.88	30.01	27.35	13.28	69.06	34.22	18.20	212.42	111.16
Stops [stops/h]	187.08	127.77	117.72	58.37	293.58	340.45	141.03	448.96	229.28	78.56	617.38	333.95
Fuel consumption [US gal/h]	4.44	2.79	2.57	1.48	6.43	7.58	3.40	9.60	4.89	2.37	18.08	9.71
CO [g/h]	310.52	194.94	179.45	103.56	449.57	529.52	237.77	671.39	341.78	165.95	1264.06	678.54
NOx [g/h]	60.42	37.93	34.91	20.15	87.47	103.02	46.26	130.63	66.50	32.29	245.94	132.02
VOC [g/h]	71.97	45.18	41.59	24.00	104.19	122.72	55.11	155.60	79.21	38.46	292.96	157.26

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			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]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersectio	2.684			2.792			3.144			3.038		
Crosswalk LOS	B			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	467			600			575			542		
d_b, Bicycle Delay [s]	35.27			29.40			30.47			31.92		
I_b,int, Bicycle LOS Score for Intersection	2.015			2.274			2.274			2.365		
Bicycle LOS	B			B			B			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 2: Telegraph Road / Jersey Avenue**

Control Type:	Signalized	Delay (sec / veh):	12.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	25.00	100.00	15.00	100.00	100.00	100.00	115.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	15	40	43	30	64	49	75	1050	19	87	1441	22
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	2.00	0.00	0.00	2.00	0.00	1.00	6.00	0.00	6.00	3.00	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	29	0	0	26	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	40	14	30	64	23	75	1050	19	87	1441	22
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	11	4	8	18	6	21	292	5	24	400	6
Total Analysis Volume [veh/h]	17	44	16	33	71	26	83	1167	21	97	1601	24
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		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	0		1		2		2		2		2	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 3
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow				No								
Signal Group	0	8	0	0	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	29	0	0	29	0	12	55	0	12	55	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	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	0.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	0.0	0.0	0.0	20.0	0.0	0.0	11.0	0.0	0.0	18.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	50.0	0.0	0.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 3**

Split [s]	0.0	34.0	0.0	0.0	34.0	0.0	26.0	60.0	0.0	26.0	60.0	0.0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	4	0	4	10	0	4	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	2.5	4.0	0.0	2.5	4.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	8.9	8.9	8.9	8.9	6.3	89.4	89.4	7.7	90.7	90.7
g / C, Green / Cycle	0.07	0.07	0.07	0.07	0.05	0.74	0.74	0.06	0.76	0.76
(v / s)_i Volume / Saturation Flow Rate	0.05	0.03	0.04	0.02	0.05	0.23	0.23	0.06	0.30	0.30
s, saturation flow rate [veh/h]	1424	1364	1870	1591	1795	3446	1791	1724	3532	1839
c, Capacity [veh/h]	143	85	139	118	95	2567	1334	110	2671	1391
d1, Uniform Delay [s]	54.35	53.59	53.43	52.24	56.45	5.05	5.05	55.70	5.11	5.12
k, delay calibration	0.11	0.11	0.11	0.11	0.08	0.50	0.50	0.08	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	1.00
d2, Incremental Delay [s]	3.16	2.87	2.88	0.92	16.62	0.31	0.59	14.93	0.45	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.54	0.39	0.51	0.22	0.88	0.30	0.30	0.88	0.40	0.40
d, Delay for Lane Group [s/veh]	57.50	56.46	56.31	53.17	73.07	5.36	5.64	70.63	5.56	5.98
Lane Group LOS	E	E	E	D	E	A	A	E	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.43	1.02	2.16	0.76	2.91	2.83	3.05	3.34	4.01	4.34
50th-Percentile Queue Length [ft/ln]	60.74	25.56	53.96	19.09	72.86	70.87	76.31	83.62	100.23	108.40
95th-Percentile Queue Length [veh/ln]	4.37	1.84	3.89	1.37	5.25	5.10	5.49	6.02	7.22	7.75
95th-Percentile Queue Length [ft/ln]	109.34	46.00	97.14	34.35	131.15	127.56	137.36	150.51	180.42	193.77

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	57.50	57.50	57.50	56.46	56.31	53.17	73.07	5.45	5.64	70.63	5.70	5.98
Movement LOS	E	E	E	E	E	D	E	A	A	E	A	A
d_A, Approach Delay [s/veh]	57.50			55.72			9.87			9.36		
Approach LOS	E			E			A			A		
d_I, Intersection Delay [s/veh]	12.60											
Intersection LOS	B											
Intersection V/C	0.399											

**Emissions**

Vehicle Miles Traveled [mph]	6.54	1.88	4.04	1.48	19.36	182.35	94.80	9.89	108.93	56.73
Stops [stops/h]	72.89	30.67	64.76	22.90	87.43	170.08	91.57	100.34	240.56	130.08
Fuel consumption [US gal/h]	1.47	0.68	1.45	0.51	2.63	9.08	4.77	2.53	7.17	3.82
CO [g/h]	103.08	47.62	101.66	35.64	183.81	634.82	333.32	176.54	501.25	266.85
NOx [g/h]	20.06	9.26	19.78	6.93	35.76	123.51	64.85	34.35	97.52	51.92
VOC [g/h]	23.89	11.04	23.56	8.26	42.60	147.13	77.25	40.91	116.17	61.84

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
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]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	1.890	2.269	3.110	0.000
Crosswalk LOS	A	B	C	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	492	492	908	908
d_b, Bicycle Delay [s]	34.13	34.14	17.89	17.89
l_b,int, Bicycle LOS Score for Intersection	1.735	1.817	2.259	2.507
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 3: Telegraph Road / Alburdis Avenue**

Control Type:	Signalized	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.384

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← ↑ →			← ↑ →			← ↑ ↑ ↑ →			← ↑ ↑ ↑ →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	25.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	15	3	10	66	12	88	88	993	22	20	1480	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	6.00	6.00	0.00	0.00	3.00	3.00
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	33	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	3	10	66	12	55	88	993	22	20	1480	38
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]	4	1	3	19	3	16	25	285	6	6	425	11
Total Analysis Volume [veh/h]	17	3	11	76	14	63	101	1141	25	23	1701	44
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]	3			0			0			2		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 3
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Flashing Yellow Arrow	No			No			No			No		
Signal Group	0	4	0	0	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	30	0	12	37	0	12	37	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.5	4.5	0.0	3.5	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	21.0	0.0	0.0	18.0	0.0	0.0	13.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.5	3.5	0.0	2.5	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	50.0	0.0	0.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 3**

Split [s]	0.0	38.0	0.0	0.0	38.0	0.0	16.0	66.0	0.0	16.0	66.0	0.0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	4	0	4	10	0	4	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall		No			No		No	Yes		Yes	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.50	5.50	5.50	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	0.53	3.50	3.50	2.50	3.50	3.50
g_i, Effective Green Time [s]	9.9	9.9	9.9	9.9	99.6	92.6	92.6	92.6	89.6	89.6
g / C, Green / Cycle	0.08	0.08	0.08	0.08	0.83	0.77	0.77	0.77	0.75	0.75
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.04	0.05	0.26	0.22	0.22	0.04	0.33	0.33
s, saturation flow rate [veh/h]	1343	1641	1422	1660	383	3446	1790	532	3532	1828
c, Capacity [veh/h]	111	135	166	137	342	2660	1382	451	2638	1365
d1, Uniform Delay [s]	56.27	50.96	54.30	52.98	3.50	4.02	4.02	2.23	5.69	5.69
k, delay calibration	0.11	0.11	0.11	0.11	0.33	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	1.00
d2, Incremental Delay [s]	0.64	0.33	1.97	3.60	1.46	0.27	0.53	0.02	0.53	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.15	0.10	0.46	0.56	0.30	0.29	0.29	0.05	0.44	0.44
d, Delay for Lane Group [s/veh]	56.91	51.29	56.27	56.58	4.96	4.29	4.55	2.25	6.22	6.71
Lane Group LOS	E	D	E	E	A	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.53	0.41	2.34	2.37	0.40	2.32	2.51	0.06	4.73	5.08
50th-Percentile Queue Length [ft/ln]	13.15	10.17	58.40	59.34	9.94	58.00	62.70	1.46	118.19	127.08
95th-Percentile Queue Length [veh/ln]	0.95	0.73	4.21	4.27	0.72	4.18	4.51	0.11	8.29	8.78
95th-Percentile Queue Length [ft/ln]	23.67	18.31	105.13	106.82	17.89	104.40	112.86	2.63	207.34	219.52

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	56.91	51.29	51.29	56.27	56.58	56.58	4.96	4.38	4.55	2.25	6.38	6.71
Movement LOS	E	D	D	E	E	E	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	54.37			56.43			4.43			6.33		
Approach LOS	D			E			A			A		
d_I, Intersection Delay [s/veh]	8.43											
Intersection LOS	A											
Intersection V/C	0.384											

**Emissions**

Vehicle Miles Traveled [mph]	1.69	1.39	3.00	3.04	10.30	78.22	40.64	0.97	48.62	25.18
Stops [stops/h]	15.78	12.21	70.09	71.21	11.93	139.20	75.24	1.75	283.67	152.50
Fuel consumption [US gal/h]	0.33	0.26	1.38	1.41	0.58	4.70	2.48	0.06	5.44	2.92
CO [g/h]	23.31	17.87	96.52	98.22	40.83	328.46	173.63	4.25	380.37	204.08
NOx [g/h]	4.54	3.48	18.78	19.11	7.94	63.91	33.78	0.83	74.01	39.71
VOC [g/h]	5.40	4.14	22.37	22.76	9.46	76.12	40.24	0.98	88.16	47.30

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	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]	49.50	49.50	0.00	49.50
I_p,int, Pedestrian LOS Score for Intersectio	2.005	2.219	0.000	3.203
Crosswalk LOS	B	B		C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	558	558	1008	1008
d_b, Bicycle Delay [s]	31.22	31.18	14.75	14.77
I_b,int, Bicycle LOS Score for Intersection	1.611	1.867	2.256	2.532
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road / South Driveway**

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

**Intersection Setup**

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

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	1074	1541	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	2.00	5.00	3.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	1074	1541	5
Peak Hour Factor	1.0000	0.8600	1.0000	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	312	448	1
Total Analysis Volume [veh/h]	0	0	0	1249	1792	6
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	19.68	0.00	0.00	0.00	0.00
Movement LOS		C		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	19.68		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road / Pioneer Blvd**

Control Type:	Signalized	Delay (sec / veh):	30.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵ ↑			↵ ↑			↵ ↑↑			↵ ↑↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	195.00	100.00	100.00	195.00	100.00	100.00	145.00	100.00	100.00	195.00	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]	45.00			45.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	137	263	135	86	226	58	19	820	232	155	1310	243
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	1.00	4.00	1.00	1.00	3.00	0.00	6.00	2.00	1.00	3.00	1.00
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	64	0	0	26	0	0	29	0	0	22
Total Hourly Volume [veh/h]	137	263	71	86	226	32	19	820	203	155	1310	221
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
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	80	22	26	69	10	6	250	62	47	399	67
Total Analysis Volume [veh/h]	167	321	87	105	276	39	23	1000	248	189	1598	270
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		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	1		0		3		1		1		1	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 3
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	3	8	0	7	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	16	34	0	12	30	0	13	18	0	12	18	0
Amber [s]	3.0	5.0	0.0	3.0	5.0	0.0	3.0	4.5	0.0	3.0	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	22.0	0.0	0.0	21.0	0.0	0.0	22.0	0.0	0.0	22.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	50.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 3**

Split [s]	20.0	40.0	0.0	16.0	36.0	0.0	16.0	48.0	0.0	16.0	48.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	0	4	6	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	12.1	18.1	18.1	7.8	13.7	13.7	1.2	60.9	60.9	13.8	73.5	73.5
g / C, Green / Cycle	0.10	0.15	0.15	0.06	0.11	0.11	0.01	0.51	0.51	0.12	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.09	0.11	0.11	0.06	0.08	0.09	0.01	0.25	0.25	0.11	0.35	0.36
s, saturation flow rate [veh/h]	1795	1885	1737	1795	1885	1805	1810	3446	1617	1795	3532	1711
c, Capacity [veh/h]	181	284	262	116	215	206	18	1748	820	206	2163	1048
d1, Uniform Delay [s]	53.46	48.75	48.83	55.75	51.44	51.51	59.41	19.33	19.34	52.52	13.97	14.07
k, delay calibration	0.12	0.15	0.15	0.04	0.15	0.15	0.04	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	1.00	1.00	1.00
d2, Incremental Delay [s]	18.34	5.41	6.14	9.59	7.01	7.67	159.09	0.97	2.06	6.46	1.14	2.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.92	0.74	0.75	0.90	0.74	0.75	1.29	0.49	0.49	0.92	0.58	0.59
d, Delay for Lane Group [s/veh]	71.80	54.16	54.97	65.34	58.45	59.18	218.49	20.30	21.40	58.98	15.11	16.48
Lane Group LOS	E	D	D	E	E	E	F	C	C	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.78	6.31	5.95	3.39	4.95	4.85	1.33	7.73	7.52	5.94	9.87	10.12
50th-Percentile Queue Length [ft/ln]	144.62	157.66	148.65	84.72	123.82	121.16	33.21	193.37	188.07	148.62	246.64	252.99
95th-Percentile Queue Length [veh/ln]	9.73	10.42	9.95	6.10	8.60	8.46	2.39	12.30	12.02	9.94	15.02	15.34
95th-Percentile Queue Length [ft/ln]	243.24	260.62	248.63	152.49	215.07	211.43	59.77	307.39	300.52	248.59	375.41	383.42

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	71.80	54.44	54.97	65.34	58.76	59.18	218.49	20.47	21.40	58.98	15.40	16.48
Movement LOS	E	D	D	E	E	E	F	C	C	E	B	B
d_A, Approach Delay [s/veh]	59.56			60.44			24.23			19.55		
Approach LOS	E			E			C			B		
d_I, Intersection Delay [s/veh]	30.22											
Intersection LOS	C											
Intersection V/C	0.551											

**Emissions**

Vehicle Miles Traveled [mph]	14.24	17.99	16.80	9.28	14.12	13.71	1.42	52.38	24.62	17.26	114.43	56.17
Stops [stops/h]	173.55	189.19	178.38	101.66	148.59	145.40	39.85	464.08	225.68	178.34	591.93	303.59
Fuel consumption [US gal/h]	5.09	5.29	5.00	2.98	4.23	4.15	1.38	8.99	4.37	4.27	12.67	6.49
CO [g/h]	355.49	370.06	349.34	208.17	295.86	289.83	96.20	628.67	305.70	298.29	885.32	453.45
NOx [g/h]	69.16	72.00	67.97	40.50	57.56	56.39	18.72	122.32	59.48	58.04	172.25	88.22
VOC [g/h]	82.39	85.76	80.96	48.24	68.57	67.17	22.29	145.70	70.85	69.13	205.18	105.09

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			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]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersectio	2.809			2.667			3.158			3.181		
Crosswalk LOS	C			B			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	567			500			708			708		
d_b, Bicycle Delay [s]	30.83			33.75			25.06			25.04		
I_b,int, Bicycle LOS Score for Intersection	2.087			1.928			2.275			2.703		
Bicycle LOS	B			A			B			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Alburdis Avenue / West Driveway**

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

**Intersection Setup**

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

**Volumes**

Name	Northbound			Southbound			Driveway Eastbound			Driveway Westbound		
Base Volume Input [veh/h]	8	118	2	1	107	16	10	1	14	45	4	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	12.00	5.00	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]	8	118	2	1	107	16	10	1	14	45	4	16
Peak Hour Factor	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600
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]	3	39	1	0	35	5	3	0	5	15	1	5
Total Analysis Volume [veh/h]	11	155	3	1	141	21	13	1	18	59	5	21
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
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**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.10	0.01	0.02
d_M, Delay for Movement [s/veh]	7.66	0.00	0.00	7.51	0.00	0.00	11.35	11.39	9.23	11.86	12.07	9.86
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.00	0.00	0.00	0.14	0.14	0.14	0.45	0.45	0.45
95th-Percentile Queue Length [ft/ln]	0.46	0.46	0.46	0.04	0.04	0.04	3.43	3.43	3.43	11.23	11.23	11.23
d_A, Approach Delay [s/veh]	0.50			0.05			10.16			11.38		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.08											
Intersection LOS	B											

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Springs\_vistro\_V2.vistro

Scenario 3 Existing Plus Cumulative AM

Report File: H:\...\Existing Plus Cumulative AM.pdf

5/20/2026

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Telegraph Road / Orr and Day Road	Signalized	HCM 7th Edition	SB Left	0.484	28.9	C
2	Telegraph Road / Jersey Avenue	Signalized	HCM 7th Edition	EB Left	0.371	10.7	B
3	Telegraph Road / Albutis Avenue	Signalized	HCM 7th Edition	SB Right	0.312	4.4	A
4	Telegraph Road / South Driveway	Two-way stop	HCM 7th Edition	SB Right	0.003	15.9	C
5	Telegraph Road / Pioneer Blvd	Signalized	HCM 7th Edition	NB Left	0.506	27.7	C
6	Albutis Avenue / West Driveway	Two-way stop	HCM 7th Edition	WB Left	0.005	10.5	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: Telegraph Road / Orr and Day Road**

Control Type:	Signalized	Delay (sec / veh):	28.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
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	2	0	0	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	130.00	100.00	100.00	85.00	100.00	130.00	145.00	100.00	100.00	85.00	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	150	193	187	47	295	394	108	1184	93	48	1030	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	4.00	4.00	3.00	1.00	2.00	5.00	0.00	1.00	13.00	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	145	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	193	187	47	295	249	108	1184	93	48	1030	5
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	39	50	48	12	76	64	28	305	24	12	265	1
Total Analysis Volume [veh/h]	155	199	193	48	304	257	111	1221	96	49	1062	5
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			1			1		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	3	8	0	7	4	7	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	12	29	0	12	29	12	12	39	0	9	38	0
Amber [s]	3.0	4.0	0.0	3.0	4.0	3.0	3.0	4.5	0.0	3.0	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	21.0	0.0	0.0	22.0	0.0	0.0	21.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.0	0.0	2.0	3.0	2.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	50.0	50.0	0.0	50.0	50.0	50.0	50.0	50.0	0.0	50.0	50.0	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 2**

Split [s]	21.0	34.0	0.0	22.0	35.0	22.0	21.0	44.0	0.0	20.0	43.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	4	4	10	0	4	10	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	2.0	2.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

**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	R	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	5.00	5.00	4.00	5.00	5.00	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.00	3.00	2.00	3.00	3.00	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	6.6	25.2	25.2	3.3	21.9	21.9	8.4	69.7	69.7	3.3	64.6	64.6
g / C, Green / Cycle	0.05	0.21	0.21	0.03	0.18	0.18	0.07	0.58	0.58	0.03	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.12	0.03	0.09	0.16	0.06	0.25	0.25	0.03	0.22	0.22
s, saturation flow rate [veh/h]	3459	1870	1589	1752	3532	1602	1781	3475	1752	1795	3246	1700
c, Capacity [veh/h]	189	393	334	48	646	293	125	2017	1017	50	1747	915
d1, Uniform Delay [s]	56.13	41.91	42.63	58.34	43.84	47.73	55.34	14.12	14.12	58.29	16.30	16.31
k, delay calibration	0.04	0.15	0.15	0.04	0.04	0.04	0.04	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	1.00	1.00	1.00
d2, Incremental Delay [s]	3.33	1.44	2.25	35.44	0.20	3.33	8.06	0.68	1.35	31.23	0.69	1.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.82	0.51	0.58	0.99	0.47	0.88	0.89	0.43	0.43	0.98	0.40	0.40
d, Delay for Lane Group [s/veh]	59.47	43.36	44.88	93.77	44.04	51.06	63.40	14.80	15.47	89.53	16.99	17.61
Lane Group LOS	E	D	D	F	D	D	E	B	B	F	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.39	5.33	5.31	1.92	4.03	7.66	3.58	6.55	6.80	1.91	5.65	6.08
50th-Percentile Queue Length [ft/ln]	59.79	133.24	132.77	48.03	100.78	191.43	89.51	163.86	169.97	47.75	141.18	151.89
95th-Percentile Queue Length [veh/ln]	4.31	9.12	9.09	3.46	7.26	12.20	6.44	10.75	11.07	3.44	9.54	10.12
95th-Percentile Queue Length [ft/ln]	107.63	227.89	227.25	86.45	181.40	304.89	161.12	268.82	276.87	85.95	238.61	252.95

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	59.47	43.36	44.88	93.77	44.04	51.06	63.40	14.99	15.47	89.53	17.20	17.61
Movement LOS	E	D	D	F	D	D	E	B	B	F	B	B
d_A, Approach Delay [s/veh]	48.46			50.92			18.78			20.38		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	28.94											
Intersection LOS	C											
Intersection V/C	0.484											

**Emissions**

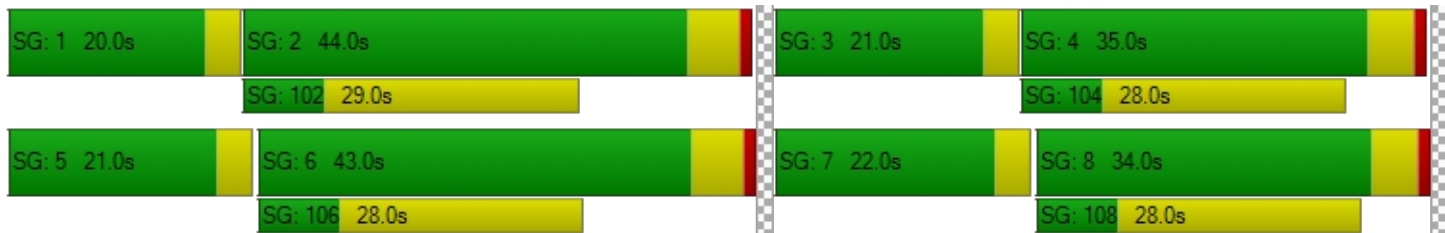
Vehicle Miles Traveled [mph]	12.26	15.74	15.26	3.65	23.10	19.53	9.96	78.56	39.62	11.40	162.93	85.36
Stops [stops/h]	143.51	159.88	159.32	57.64	241.86	229.72	107.42	393.25	203.96	57.30	338.83	182.27
Fuel consumption [US gal/h]	3.42	3.56	3.54	1.49	5.42	5.14	2.62	8.59	4.43	1.76	11.18	5.94
CO [g/h]	239.20	248.70	247.62	104.04	379.13	359.43	183.10	600.36	309.90	122.89	781.46	415.16
NOx [g/h]	46.54	48.39	48.18	20.24	73.77	69.93	35.62	116.81	60.30	23.91	152.04	80.78
VOC [g/h]	55.44	57.64	57.39	24.11	87.87	83.30	42.43	139.14	71.82	28.48	181.11	96.22

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			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]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersectio	2.655			2.876			3.103			3.027		
Crosswalk LOS	B			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	483			500			642			625		
d_b, Bicycle Delay [s]	34.50			33.75			27.69			28.37		
I_b,int, Bicycle LOS Score for Intersection	2.011			2.182			2.345			2.173		
Bicycle LOS	B			B			B			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 2: Telegraph Road / Jersey Avenue**

Control Type:	Signalized	Delay (sec / veh):	10.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.371

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	25.00	100.00	15.00	100.00	100.00	100.00	115.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	23	35	55	30	39	28	45	1322	36	49	1121	19
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	2.00	0.00	0.00	2.00	0.00	2.00	5.00	0.00	2.00	13.00	5.00
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	30	0	0	18	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	35	25	30	39	10	45	1322	36	49	1121	19
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	10	7	8	11	3	13	367	10	14	311	5
Total Analysis Volume [veh/h]	26	39	28	33	43	11	50	1469	40	54	1246	21
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			1			2			2		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow				No								
Signal Group	0	8	0	0	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	30	0	20	50	0	20	50	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	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	0.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	0.0	0.0	0.0	20.0	0.0	0.0	11.0	0.0	0.0	18.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	50.0	0.0	0.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 2**

Split [s]	0.0	35.0	0.0	0.0	35.0	0.0	34.0	53.0	0.0	32.0	51.0	0.0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	4	0	4	10	0	4	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	2.5	4.0	0.0	2.5	4.0	0.0
Minimum Recall		No			No		No	Yes		No	Yes	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	9.2	9.2	9.2	9.2	3.5	92.9	92.9	3.9	93.2	93.2
g / C, Green / Cycle	0.08	0.08	0.08	0.08	0.03	0.77	0.77	0.03	0.78	0.78
(v / s)_i Volume / Saturation Flow Rate	0.05	0.03	0.02	0.01	0.03	0.29	0.29	0.03	0.26	0.26
s, saturation flow rate [veh/h]	1580	1355	1870	1591	1781	3475	1797	1781	3246	1688
c, Capacity [veh/h]	160	86	144	122	53	2689	1391	58	2522	1312
d1, Uniform Delay [s]	54.33	53.31	52.33	51.48	58.14	4.29	4.29	57.93	4.02	4.02
k, delay calibration	0.11	0.11	0.11	0.11	0.08	0.50	0.50	0.08	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	1.00
d2, Incremental Delay [s]	3.32	2.83	1.15	0.31	38.81	0.39	0.76	33.49	0.35	0.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.58	0.39	0.30	0.09	0.95	0.37	0.37	0.93	0.33	0.33
d, Delay for Lane Group [s/veh]	57.65	56.14	53.48	51.79	96.95	4.69	5.05	91.42	4.37	4.69
Lane Group LOS	E	E	D	D	F	A	A	F	A	A
Critical Lane Group	Yes	No	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.93	1.02	1.26	0.32	2.07	3.23	3.48	2.16	2.55	2.77
50th-Percentile Queue Length [ft/ln]	73.17	25.47	31.58	7.92	51.76	80.71	87.01	54.01	63.72	69.24
95th-Percentile Queue Length [veh/ln]	5.27	1.83	2.27	0.57	3.73	5.81	6.26	3.89	4.59	4.99
95th-Percentile Queue Length [ft/ln]	131.71	45.85	56.84	14.26	93.18	145.28	156.62	97.21	114.69	124.63

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	57.65	57.65	57.65	56.14	53.48	51.79	96.95	4.80	5.05	91.42	4.48	4.69
Movement LOS	E	E	E	E	D	D	F	A	A	F	A	A
d_A, Approach Delay [s/veh]	57.65			54.27			7.77			8.03		
Approach LOS	E			D			A			A		
d_I, Intersection Delay [s/veh]	10.72											
Intersection LOS	B											
Intersection V/C	0.371											

**Emissions**

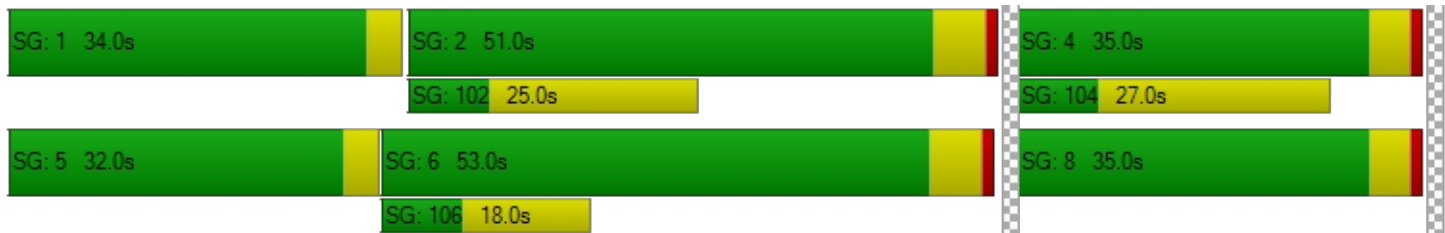
Vehicle Miles Traveled [mph]	7.90	1.88	2.44	0.63	11.64	231.45	119.69	5.50	84.97	44.20
Stops [stops/h]	87.80	30.57	37.90	9.51	62.12	193.71	104.41	64.81	152.92	83.09
Fuel consumption [US gal/h]	1.78	0.68	0.85	0.21	1.90	11.23	5.88	1.70	5.13	2.72
CO [g/h]	124.63	47.42	59.14	14.77	132.60	784.83	410.77	118.95	358.58	190.39
NOx [g/h]	24.25	9.23	11.51	2.87	25.80	152.70	79.92	23.14	69.77	37.04
VOC [g/h]	28.88	10.99	13.71	3.42	30.73	181.89	95.20	27.57	83.10	44.12

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
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]	49.50	49.50	49.50	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.877	2.232	3.109	0.000
Crosswalk LOS	A	B	C	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	508	508	792	758
d_b, Bicycle Delay [s]	33.38	33.39	21.92	23.15
I_b,int, Bicycle LOS Score for Intersection	1.763	1.733	2.417	2.286
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 3: Telegraph Road / Alburdis Avenue**

Control Type:	Signalized	Delay (sec / veh):	4.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.312

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵			↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	25.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	7	1	5	21	3	70	79	1299	18	11	1163	27
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	5.00	0.00	3.00	0.00	6.00	0.00	9.00	12.00	12.00
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	40	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	1	5	21	3	30	79	1299	18	11	1163	27
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]	2	0	1	6	1	9	23	373	5	3	334	8
Total Analysis Volume [veh/h]	8	1	6	24	3	34	91	1493	21	13	1337	31
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]	3			0			0			2		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	18.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Flashing Yellow Arrow	No			No			No			No		
Signal Group	0	4	0	0	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	30	0	12	21	0	12	21	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.5	4.5	0.0	3.5	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	21.0	0.0	0.0	18.0	0.0	0.0	13.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.5	3.5	0.0	2.5	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	50.0	0.0	0.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 2**

Split [s]	0.0	44.0	0.0	0.0	44.0	0.0	16.0	60.0	0.0	16.0	60.0	0.0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	4	0	4	10	0	4	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall		No			No		No	Yes		No	Yes	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.50	5.50	5.50	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	1.07	3.50	3.50	2.50	3.50	3.50
g_i, Effective Green Time [s]	5.2	5.2	5.2	5.2	103.7	99.9	99.9	97.9	97.5	97.5
g / C, Green / Cycle	0.04	0.04	0.04	0.04	0.86	0.83	0.83	0.82	0.81	0.81
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.01	0.02	0.20	0.29	0.29	0.04	0.28	0.28
s, saturation flow rate [veh/h]	1393	1611	1374	1635	461	3446	1797	332	3275	1697
c, Capacity [veh/h]	89	70	114	71	429	2869	1496	315	2660	1378
d1, Uniform Delay [s]	57.83	55.16	56.39	56.20	1.41	2.37	2.37	1.56	2.92	2.92
k, delay calibration	0.11	0.11	0.11	0.11	0.04	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	1.00
d2, Incremental Delay [s]	0.43	0.62	0.91	5.88	0.09	0.33	0.64	0.02	0.35	0.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.09	0.10	0.21	0.52	0.21	0.35	0.35	0.04	0.34	0.34
d, Delay for Lane Group [s/veh]	58.26	55.79	57.30	62.08	1.50	2.70	3.01	1.58	3.27	3.59
Lane Group LOS	E	E	E	E	A	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.25	0.22	0.74	1.21	0.12	1.86	2.07	0.02	2.09	2.28
50th-Percentile Queue Length [ft/ln]	6.29	5.44	18.52	30.34	2.92	46.58	51.76	0.41	52.14	57.12
95th-Percentile Queue Length [veh/ln]	0.45	0.39	1.33	2.18	0.21	3.35	3.73	0.03	3.75	4.11
95th-Percentile Queue Length [ft/ln]	11.33	9.79	33.34	54.61	5.26	83.85	93.16	0.73	93.85	102.82

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	58.26	55.79	55.79	57.30	62.08	62.08	1.50	2.80	3.01	1.58	3.37	3.59
Movement LOS	E	E	E	E	E	E	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	57.10			60.20			2.73			3.36		
Approach LOS	E			E			A			A		
d_I, Intersection Delay [s/veh]	4.43											
Intersection LOS	A											
Intersection V/C	0.312											

**Emissions**

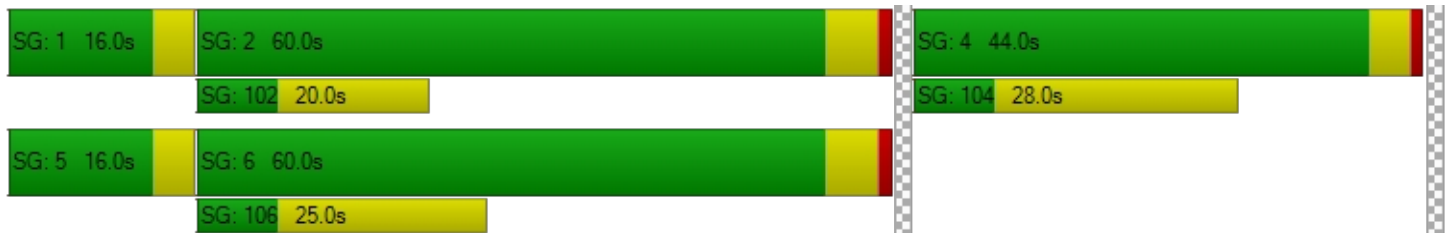
Vehicle Miles Traveled [mph]	0.80	0.70	0.95	1.46	9.28	101.44	52.90	0.55	38.11	19.75
Stops [stops/h]	7.55	6.53	22.22	36.41	3.51	111.80	62.11	0.49	125.13	68.55
Fuel consumption [US gal/h]	0.16	0.14	0.44	0.73	0.41	5.25	2.80	0.03	2.99	1.61
CO [g/h]	11.16	9.50	30.87	50.93	28.51	367.28	195.79	2.01	209.18	112.49
NOx [g/h]	2.17	1.85	6.01	9.91	5.55	71.46	38.09	0.39	40.70	21.89
VOC [g/h]	2.59	2.20	7.15	11.80	6.61	85.12	45.38	0.47	48.48	26.07

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	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]	49.50	49.50	0.00	49.50
I_p,int, Pedestrian LOS Score for Intersectio	1.984	2.191	0.000	3.114
Crosswalk LOS	A	B		C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	658	658	908	908
d_b, Bicycle Delay [s]	27.04	27.00	17.88	17.89
I_b,int, Bicycle LOS Score for Intersection	1.584	1.726	2.442	2.319
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road / South Driveway**

Control Type:	Two-way stop	Delay (sec / veh):	15.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

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

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	1	0	1328	1195	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	2.00	6.00	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]	0	1	0	1328	1195	5
Peak Hour Factor	1.0000	0.8600	1.0000	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	386	347	1
Total Analysis Volume [veh/h]	0	1	0	1544	1390	6
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	15.87	0.00	0.00	0.00	0.00
Movement LOS		C		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.23	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.87		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.01					
Intersection LOS	C					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road / Pioneer Blvd**

Control Type:	Signalized	Delay (sec / veh):	27.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	195.00	100.00	100.00	195.00	100.00	100.00	145.00	100.00	100.00	195.00	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]	45.00			45.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	159	150	129	110	145	19	53	1075	155	70	999	137
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 [%]	6.00	2.00	2.00	6.00	5.00	16.00	12.00	6.00	3.00	6.00	12.00	9.00
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	62	0	0	0	0	0	15	0	0	0
Total Hourly Volume [veh/h]	159	150	67	110	145	19	53	1075	140	70	999	137
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
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]	48	46	20	34	44	6	16	328	43	21	305	42
Total Analysis Volume [veh/h]	194	183	82	134	177	23	65	1311	171	85	1218	167
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		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	1		0		3		1					

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	3	8	0	7	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	17	36	0	10	29	0	10	36	0	12	38	0
Amber [s]	3.0	5.0	0.0	3.0	5.0	0.0	3.0	4.5	0.0	3.0	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	22.0	0.0	0.0	21.0	0.0	0.0	22.0	0.0	0.0	22.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	50.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	0.0	50.0	0.0	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 2**

Split [s]	21.0	42.0	0.0	21.0	42.0	0.0	14.0	41.0	0.0	16.0	43.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	0	4	6	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	14.5	13.9	13.9	10.3	9.7	9.7	5.1	69.7	69.7	6.6	71.2	71.2
g / C, Green / Cycle	0.12	0.12	0.12	0.09	0.08	0.08	0.04	0.58	0.58	0.05	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.11	0.07	0.08	0.08	0.06	0.06	0.04	0.29	0.29	0.05	0.28	0.28
s, saturation flow rate [veh/h]	1724	1870	1662	1724	1825	1753	1638	3446	1696	1724	3275	1607
c, Capacity [veh/h]	208	217	193	147	148	142	69	2003	985	95	1944	954
d1, Uniform Delay [s]	52.30	50.61	50.74	54.42	53.64	53.69	57.29	14.79	14.79	56.38	13.84	13.84
k, delay calibration	0.20	0.15	0.15	0.04	0.15	0.15	0.04	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	1.00	1.00	1.00
d2, Incremental Delay [s]	26.24	4.35	5.31	8.24	7.68	8.40	18.41	0.88	1.78	10.95	0.85	1.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.93	0.64	0.66	0.91	0.68	0.70	0.94	0.50	0.50	0.90	0.48	0.48
d, Delay for Lane Group [s/veh]	78.54	54.97	56.05	62.66	61.32	62.09	75.70	15.67	16.58	67.33	14.69	15.56
Lane Group LOS	E	D	E	E	E	E	E	B	B	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.14	4.13	3.84	4.25	3.21	3.17	2.31	7.82	7.94	2.83	7.00	7.10
50th-Percentile Queue Length [ft/ln]	178.58	103.18	95.99	106.21	80.36	79.17	57.63	195.40	198.57	70.66	174.93	177.49
95th-Percentile Queue Length [veh/ln]	11.53	7.43	6.91	7.63	5.79	5.70	4.15	12.40	12.56	5.09	11.34	11.47
95th-Percentile Queue Length [ft/ln]	288.16	185.73	172.78	190.72	144.64	142.50	103.74	310.03	314.12	127.18	283.39	286.74

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	78.54	55.23	56.05	62.66	61.65	62.09	75.70	15.89	16.58	67.33	14.89	15.56
Movement LOS	E	E	E	E	E	E	E	B	B	E	B	B
d_A, Approach Delay [s/veh]	65.23			62.09			18.48			18.00		
Approach LOS	E			E			B			B		
d_I, Intersection Delay [s/veh]	27.75											
Intersection LOS	C											
Intersection V/C	0.506											

**Emissions**

Vehicle Miles Traveled [mph]	16.54	11.79	10.81	11.84	8.94	8.73	4.01	61.27	30.16	7.76	84.84	41.64
Stops [stops/h]	214.29	123.82	115.19	127.46	96.43	95.00	69.16	468.97	238.28	84.79	419.84	212.99
Fuel consumption [US gal/h]	6.33	3.49	3.25	3.70	2.77	2.73	1.67	9.03	4.59	2.10	9.17	4.63
CO [g/h]	442.58	243.90	227.10	258.57	193.45	190.79	117.03	631.21	320.91	146.65	640.83	323.83
NOx [g/h]	86.11	47.45	44.19	50.31	37.64	37.12	22.77	122.81	62.44	28.53	124.68	63.00
VOC [g/h]	102.57	56.53	52.63	59.93	44.83	44.22	27.12	146.29	74.37	33.99	148.52	75.05

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersectio	2.685			2.533			3.116			3.105		
Crosswalk LOS	B			B			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			600			592			625		
d_b, Bicycle Delay [s]	29.41			29.40			29.80			28.37		
I_b,int, Bicycle LOS Score for Intersection	1.989			1.835			2.419			2.368		
Bicycle LOS	A			A			B			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Alburdis Avenue / West Driveway**

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

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

**Volumes**

Name	Northbound			Southbound			Driveway Eastbound			Driveway Westbound		
Base Volume Input [veh/h]	8	85	13	2	71	20	9	0	20	2	0	2
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 [%]	25.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	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]	8	85	13	2	71	20	9	0	20	2	0	2
Peak Hour Factor	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600
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]	3	28	4	1	23	7	3	0	7	1	0	1
Total Analysis Volume [veh/h]	11	112	17	3	93	26	12	0	26	3	0	3
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
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**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.70	0.00	0.00	7.45	0.00	0.00	10.42	10.85	9.15	10.47	10.71	8.88
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.01	0.01	0.01	0.14	0.14	0.14	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.47	0.47	0.47	0.13	0.13	0.13	3.60	3.60	3.60	0.58	0.58	0.58
d_A, Approach Delay [s/veh]	0.61			0.18			9.55			9.68		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.73											
Intersection LOS	B											

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Springs\_vistro\_V2.vistro

Scenario 4 Existing Plus Cumulative PM

Report File: H:\...\Existing Plus Cumulative PM.pdf

5/20/2026

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Telegraph Road / Orr and Day Road	Signalized	HCM 7th Edition	SB Left	0.637	35.8	D
2	Telegraph Road / Jersey Avenue	Signalized	HCM 7th Edition	EB Left	0.408	12.8	B
3	Telegraph Road / Albutis Avenue	Signalized	HCM 7th Edition	NB Left	0.393	8.6	A
4	Telegraph Road / South Driveway	Two-way stop	HCM 7th Edition	WB Thru	0.018	0.0	A
5	Telegraph Road / Pioneer Blvd	Signalized	HCM 7th Edition	EB Left	0.563	30.7	C
6	Albutis Avenue / West Driveway	Two-way stop	HCM 7th Edition	WB Thru	0.009	12.1	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: Telegraph Road / Orr and Day Road**

Control Type:	Signalized	Delay (sec / veh):	35.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.637

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
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	2	0	0	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	130.00	100.00	100.00	85.00	100.00	130.00	145.00	100.00	100.00	85.00	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	200	243	104	50	391	417	147	1019	119	78	1364	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	2.00	0.00	1.00	1.00	2.00	5.00	0.00	1.00	3.00	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	60	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	243	104	50	391	357	147	1019	119	78	1364	9
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	52	63	27	13	101	92	38	263	31	20	352	2
Total Analysis Volume [veh/h]	206	251	107	52	403	368	152	1051	123	80	1406	9
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			1			1		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 3
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	113.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	3	8	0	7	4	7	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	12	28	0	12	28	12	19	25	0	14	20	0
Amber [s]	3.0	4.0	0.0	3.0	4.0	3.0	3.0	4.5	0.0	3.0	4.5	0.0
All red [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
Walk [s]	0.0	7.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	21.0	0.0	0.0	22.0	0.0	0.0	21.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	2.0	2.0	4.5	0.0	2.0	4.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	50.0	50.0	0.0	50.0	50.0	50.0	50.0	50.0	0.0	50.0	50.0	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 3**

Split [s]	16.0	34.0	0.0	24.0	42.0	24.0	23.0	41.0	0.0	21.0	39.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	4	4	10	0	4	10	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	2.0	2.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

**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	R	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	6.50	6.50	4.00	6.50	6.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	4.50	4.50	2.00	4.50	4.50
g_i, Effective Green Time [s]	8.2	34.9	34.9	3.6	30.3	30.3	11.3	55.1	55.1	6.0	49.7	49.7
g / C, Green / Cycle	0.07	0.29	0.29	0.03	0.25	0.25	0.09	0.46	0.46	0.05	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.06	0.10	0.10	0.03	0.11	0.23	0.09	0.23	0.23	0.04	0.26	0.26
s, saturation flow rate [veh/h]	3486	1900	1711	1810	3589	1602	1781	3475	1721	1795	3532	1848
c, Capacity [veh/h]	238	553	498	54	906	404	168	1594	790	89	1462	765
d1, Uniform Delay [s]	55.34	33.46	33.53	58.14	37.79	43.54	53.79	22.70	22.70	56.72	27.95	27.95
k, delay calibration	0.04	0.15	0.15	0.04	0.04	0.16	0.04	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	1.00	1.00	1.00
d2, Incremental Delay [s]	3.63	0.51	0.58	26.66	0.13	11.26	6.94	1.09	2.19	11.46	2.12	4.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.86	0.34	0.34	0.96	0.45	0.91	0.90	0.49	0.49	0.90	0.64	0.64
d, Delay for Lane Group [s/veh]	58.98	33.98	34.11	84.80	37.91	54.80	60.73	23.79	24.89	68.18	30.07	31.95
Lane Group LOS	E	C	C	F	D	D	E	C	C	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.18	4.33	3.99	1.96	4.97	11.68	4.82	7.81	7.98	2.68	10.78	11.68
50th-Percentile Queue Length [ft/ln]	79.48	108.26	99.66	49.12	124.18	292.11	120.59	195.26	199.56	66.89	269.45	292.04
95th-Percentile Queue Length [veh/ln]	5.72	7.74	7.18	3.54	8.62	17.29	8.43	12.39	12.62	4.82	16.16	17.29
95th-Percentile Queue Length [ft/ln]	143.06	193.58	179.39	88.42	215.56	432.26	210.64	309.84	315.40	120.40	404.06	432.17

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	58.98	34.01	34.11	84.80	37.91	54.80	60.73	24.07	24.89	68.18	30.71	31.95
Movement LOS	E	C	C	F	D	D	E	C	C	E	C	C
d_A, Approach Delay [s/veh]	43.15			48.43			28.35			32.72		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	35.81											
Intersection LOS	D											
Intersection V/C	0.637											

**Emissions**

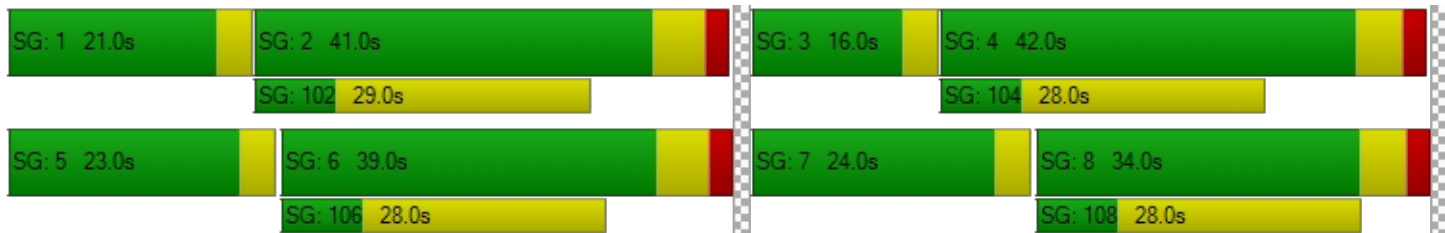
Vehicle Miles Traveled [mph]	16.29	14.77	13.54	3.95	30.62	27.96	13.64	70.44	34.90	18.66	216.70	113.41
Stops [stops/h]	190.75	129.92	119.59	58.94	298.04	350.53	144.71	468.62	239.48	80.27	646.69	350.45
Fuel consumption [US gal/h]	4.53	2.83	2.60	1.49	6.52	7.81	3.49	10.01	5.10	2.42	18.81	10.12
CO [g/h]	316.48	197.91	182.03	104.23	455.59	545.61	243.71	699.66	356.61	169.50	1314.61	707.33
NOx [g/h]	61.58	38.51	35.42	20.28	88.64	106.16	47.42	136.13	69.38	32.98	255.78	137.62
VOC [g/h]	73.35	45.87	42.19	24.16	105.59	126.45	56.48	162.15	82.65	39.28	304.67	163.93

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersectio	2.688			2.798			3.155			3.047		
Crosswalk LOS	B			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	467			600			575			542		
d_b, Bicycle Delay [s]	35.27			29.40			30.47			31.92		
I_b,int, Bicycle LOS Score for Intersection	2.025			2.288			2.289			2.382		
Bicycle LOS	B			B			B			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 2: Telegraph Road / Jersey Avenue**

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.408

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	25.00	100.00	15.00	100.00	100.00	100.00	115.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	15	41	44	31	65	50	77	1071	19	89	1470	22
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	2.00	0.00	0.00	2.00	0.00	1.00	6.00	0.00	6.00	3.00	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	29	0	0	26	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	41	15	31	65	24	77	1071	19	89	1470	22
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	11	4	9	18	7	21	298	5	25	408	6
Total Analysis Volume [veh/h]	17	46	17	34	72	27	86	1190	21	99	1633	24
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		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	0		1		2		2		2		2	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 3
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow				No								
Signal Group	0	8	0	0	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	29	0	0	29	0	12	55	0	12	55	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	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	0.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	0.0	0.0	0.0	20.0	0.0	0.0	11.0	0.0	0.0	18.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	50.0	0.0	0.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 3**

Split [s]	0.0	34.0	0.0	0.0	34.0	0.0	26.0	60.0	0.0	26.0	60.0	0.0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	4	0	4	10	0	4	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	2.5	4.0	0.0	2.5	4.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	9.1	9.1	9.1	9.1	6.6	89.1	89.1	7.8	90.3	90.3
g / C, Green / Cycle	0.08	0.08	0.08	0.08	0.05	0.74	0.74	0.07	0.75	0.75
(v / s)_i Volume / Saturation Flow Rate	0.05	0.03	0.04	0.02	0.05	0.23	0.23	0.06	0.31	0.31
s, saturation flow rate [veh/h]	1438	1360	1870	1591	1795	3446	1792	1724	3532	1839
c, Capacity [veh/h]	145	85	142	121	98	2558	1330	113	2659	1384
d1, Uniform Delay [s]	54.26	53.55	53.29	52.11	56.31	5.19	5.19	55.61	5.30	5.31
k, delay calibration	0.11	0.11	0.11	0.11	0.08	0.50	0.50	0.08	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	1.00
d2, Incremental Delay [s]	3.22	3.00	2.79	0.93	16.01	0.32	0.61	14.68	0.47	0.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.55	0.40	0.51	0.22	0.88	0.31	0.31	0.88	0.41	0.41
d, Delay for Lane Group [s/veh]	57.48	56.56	56.08	53.04	72.32	5.51	5.80	70.29	5.77	6.21
Lane Group LOS	E	E	E	D	E	A	A	E	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.52	1.06	2.18	0.79	3.00	2.95	3.18	3.40	4.22	4.56
50th-Percentile Queue Length [ft/ln]	63.10	26.38	54.59	19.79	75.06	73.87	79.53	85.12	105.39	113.96
95th-Percentile Queue Length [veh/ln]	4.54	1.90	3.93	1.42	5.40	5.32	5.73	6.13	7.58	8.06
95th-Percentile Queue Length [ft/ln]	113.57	47.48	98.27	35.62	135.10	132.97	143.16	153.22	189.57	201.50

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	57.48	57.48	57.48	56.56	56.08	53.04	72.32	5.60	5.80	70.29	5.92	6.21
Movement LOS	E	E	E	E	E	D	E	A	A	E	A	A
d_A, Approach Delay [s/veh]	57.48			55.59			10.03			9.55		
Approach LOS	E			E			B			A		
d_I, Intersection Delay [s/veh]	12.79											
Intersection LOS	B											
Intersection V/C	0.408											

**Emissions**

Vehicle Miles Traveled [mph]	6.80	1.93	4.09	1.53	20.06	185.87	96.65	10.09	111.06	57.86
Stops [stops/h]	75.71	31.65	65.51	23.74	90.07	177.29	95.44	102.15	252.93	136.75
Fuel consumption [US gal/h]	1.53	0.70	1.47	0.53	2.71	9.31	4.89	2.57	7.42	3.95
CO [g/h]	107.07	49.14	102.78	36.94	189.27	650.86	341.86	179.56	518.37	276.15
NOx [g/h]	20.83	9.56	20.00	7.19	36.82	126.63	66.51	34.94	100.86	53.73
VOC [g/h]	24.81	11.39	23.82	8.56	43.86	150.84	79.23	41.62	120.14	64.00

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
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]	49.50	49.50	49.50	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.892	2.271	3.119	0.000
Crosswalk LOS	A	B	C	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	492	492	908	908
d_b, Bicycle Delay [s]	34.13	34.14	17.89	17.89
I_b,int, Bicycle LOS Score for Intersection	1.739	1.822	2.273	2.525
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 3: Telegraph Road / Alburdis Avenue**

Control Type:	Signalized	Delay (sec / veh):	8.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.393

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← ↑ →			← ↑ →			← ↑ ↑ ↑ →			← ↑ ↑ ↑ →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	25.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	15	3	10	67	12	90	90	1013	22	20	1510	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	6.00	6.00	0.00	0.00	3.00	3.00
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	33	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	3	10	67	12	57	90	1013	22	20	1510	39
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]	4	1	3	19	3	16	26	291	6	6	434	11
Total Analysis Volume [veh/h]	17	3	11	77	14	66	103	1164	25	23	1736	45
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]	3			0			0			2		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 3
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Flashing Yellow Arrow	No			No			No			No		
Signal Group	0	4	0	0	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	30	0	12	37	0	12	37	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.5	4.5	0.0	3.5	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	21.0	0.0	0.0	18.0	0.0	0.0	13.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.5	3.5	0.0	2.5	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	50.0	0.0	0.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 3**

Split [s]	0.0	38.0	0.0	0.0	38.0	0.0	16.0	66.0	0.0	16.0	66.0	0.0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	4	0	4	10	0	4	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall		No			No		No	Yes		Yes	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.50	5.50	5.50	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	0.26	3.50	3.50	2.50	3.50	3.50
g_i, Effective Green Time [s]	10.0	10.0	10.0	10.0	99.8	92.5	92.5	92.3	89.3	89.3
g / C, Green / Cycle	0.08	0.08	0.08	0.08	0.83	0.77	0.77	0.77	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.04	0.05	0.27	0.23	0.23	0.04	0.33	0.33
s, saturation flow rate [veh/h]	1339	1641	1422	1659	383	3446	1791	522	3532	1828
c, Capacity [veh/h]	109	137	167	138	342	2657	1380	442	2628	1360
d1, Uniform Delay [s]	56.39	50.87	54.24	52.99	3.77	4.07	4.07	2.27	5.89	5.89
k, delay calibration	0.11	0.11	0.11	0.11	0.35	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	1.00
d2, Incremental Delay [s]	0.66	0.33	1.97	3.81	1.59	0.28	0.54	0.02	0.55	1.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.16	0.10	0.46	0.58	0.30	0.29	0.29	0.05	0.45	0.45
d, Delay for Lane Group [s/veh]	57.05	51.19	56.22	56.80	5.36	4.35	4.61	2.29	6.44	6.96
Lane Group LOS	E	D	E	E	A	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.53	0.41	2.37	2.47	0.42	2.39	2.59	0.06	4.97	5.34
50th-Percentile Queue Length [ft/ln]	13.17	10.16	59.15	61.81	10.46	59.84	64.69	1.48	124.14	133.48
95th-Percentile Queue Length [veh/ln]	0.95	0.73	4.26	4.45	0.75	4.31	4.66	0.11	8.62	9.13
95th-Percentile Queue Length [ft/ln]	23.71	18.28	106.47	111.26	18.83	107.71	116.45	2.66	215.50	228.22

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	57.05	51.19	51.19	56.22	56.80	56.80	5.36	4.44	4.61	2.29	6.61	6.96
Movement LOS	E	D	D	E	E	E	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	54.40			56.51			4.52			6.56		
Approach LOS	D			E			A			A		
d_I, Intersection Delay [s/veh]	8.60											
Intersection LOS	A											
Intersection V/C	0.393											

**Emissions**

Vehicle Miles Traveled [mph]	1.69	1.39	3.04	3.16	10.50	79.76	41.45	0.97	49.62	25.70
Stops [stops/h]	15.81	12.19	70.98	74.17	12.55	143.61	77.63	1.77	297.94	160.18
Fuel consumption [US gal/h]	0.33	0.26	1.40	1.46	0.61	4.81	2.55	0.06	5.67	3.04
CO [g/h]	23.35	17.84	97.73	102.37	42.43	336.48	177.94	4.27	396.35	212.82
NOx [g/h]	4.54	3.47	19.01	19.92	8.26	65.47	34.62	0.83	77.12	41.41
VOC [g/h]	5.41	4.14	22.65	23.72	9.83	77.98	41.24	0.99	91.86	49.32

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	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]	49.50	49.50	0.00	49.50
I_p,int, Pedestrian LOS Score for Intersectio	2.005	2.223	0.000	3.214
Crosswalk LOS	B	B		C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	558	558	1008	1008
d_b, Bicycle Delay [s]	31.22	31.18	14.75	14.77
I_b,int, Bicycle LOS Score for Intersection	1.611	1.873	2.270	2.552
Bicycle LOS	A	A	B	B

**Sequence**




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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road / South Driveway**

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

**Intersection Setup**

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

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	1095	1572	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	2.00	5.00	3.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	1095	1572	5
Peak Hour Factor	1.0000	0.8600	1.0000	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	318	457	1
Total Analysis Volume [veh/h]	0	0	0	1273	1828	6
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	20.08	0.00	0.00	0.00	0.00
Movement LOS		C		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	20.08		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road / Pioneer Blvd**

Control Type:	Signalized	Delay (sec / veh):	30.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵ ↵			↵ ↵			↵ ↵ ↵			↵ ↵ ↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	195.00	100.00	100.00	195.00	100.00	100.00	145.00	100.00	100.00	195.00	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]	45.00			45.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	140	268	138	88	231	59	19	836	237	158	1336	248
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	1.00	4.00	1.00	1.00	3.00	0.00	6.00	2.00	1.00	3.00	1.00
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	64	0	0	26	0	0	29	0	0	22
Total Hourly Volume [veh/h]	140	268	74	88	231	33	19	836	208	158	1336	226
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
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]	43	82	23	27	70	10	6	255	63	48	407	69
Total Analysis Volume [veh/h]	171	327	90	107	282	40	23	1020	254	193	1629	276
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		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	1		0		3		1					

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 3
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	3	8	0	7	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	16	34	0	12	30	0	13	18	0	12	18	0
Amber [s]	3.0	5.0	0.0	3.0	5.0	0.0	3.0	4.5	0.0	3.0	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	22.0	0.0	0.0	21.0	0.0	0.0	22.0	0.0	0.0	22.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	50.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 3**

Split [s]	20.0	40.0	0.0	16.0	36.0	0.0	16.0	48.0	0.0	16.0	48.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	0	4	6	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	12.4	18.4	18.4	7.9	13.9	13.9	1.2	60.1	60.1	14.1	73.0	73.0
g / C, Green / Cycle	0.10	0.15	0.15	0.07	0.12	0.12	0.01	0.50	0.50	0.12	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.10	0.11	0.12	0.06	0.09	0.09	0.01	0.25	0.25	0.11	0.36	0.37
s, saturation flow rate [veh/h]	1795	1885	1736	1795	1885	1805	1810	3446	1616	1795	3532	1711
c, Capacity [veh/h]	185	290	267	118	219	210	18	1726	809	210	2148	1041
d1, Uniform Delay [s]	53.33	48.54	48.62	55.67	51.31	51.38	59.41	19.98	19.99	52.39	14.43	14.56
k, delay calibration	0.13	0.15	0.15	0.04	0.15	0.15	0.04	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	1.00	1.00	1.00
d2, Incremental Delay [s]	19.69	5.35	6.06	9.46	6.99	7.65	159.09	1.05	2.23	6.46	1.22	2.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.92	0.75	0.75	0.90	0.75	0.76	1.29	0.50	0.50	0.92	0.59	0.60
d, Delay for Lane Group [s/veh]	73.02	53.89	54.68	65.13	58.30	59.02	218.49	21.03	22.22	58.85	15.65	17.15
Lane Group LOS	E	D	D	E	E	E	F	C	C	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.99	6.44	6.06	3.45	5.06	4.95	1.33	8.09	7.86	6.07	10.32	10.62
50th-Percentile Queue Length [ft/ln]	149.74	160.93	151.45	86.20	126.48	123.68	33.21	202.21	196.60	151.70	257.93	265.61
95th-Percentile Queue Length [veh/ln]	10.00	10.60	10.09	6.21	8.75	8.60	2.39	12.75	12.46	10.11	15.59	15.97
95th-Percentile Queue Length [ft/ln]	250.09	264.95	252.37	155.17	218.70	214.88	59.77	318.81	311.58	252.70	389.63	399.24

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	73.02	54.16	54.68	65.13	58.61	59.02	218.49	21.21	22.22	58.85	15.98	17.15
Movement LOS	E	D	D	E	E	E	F	C	C	E	B	B
d_A, Approach Delay [s/veh]	59.72			60.27			24.91			20.08		
Approach LOS	E			E			C			C		
d_I, Intersection Delay [s/veh]	30.69											
Intersection LOS	C											
Intersection V/C	0.563											

**Emissions**

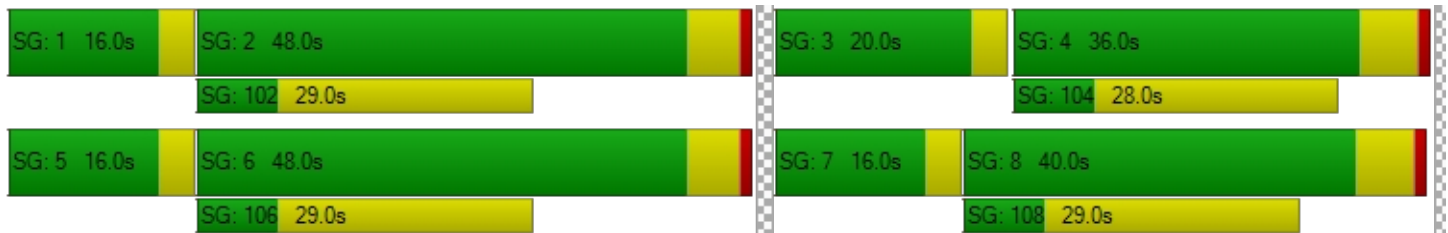
Vehicle Miles Traveled [mph]	14.58	18.40	17.16	9.46	14.44	14.01	1.42	53.49	25.12	17.63	116.62	57.35
Stops [stops/h]	179.69	193.12	181.74	103.44	151.77	148.42	39.85	485.30	235.93	182.04	619.04	318.73
Fuel consumption [US gal/h]	5.27	5.40	5.09	3.03	4.32	4.23	1.38	9.40	4.57	4.35	13.17	6.78
CO [g/h]	368.70	377.34	355.53	211.68	302.03	295.69	96.20	656.99	319.61	304.19	920.52	473.60
NOx [g/h]	71.74	73.42	69.17	41.19	58.76	57.53	18.72	127.83	62.19	59.19	179.10	92.15
VOC [g/h]	85.45	87.45	82.40	49.06	70.00	68.53	22.29	152.26	74.07	70.50	213.34	109.76

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			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]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersectio	2.817			2.673			3.168			3.192		
Crosswalk LOS	C			B			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	567			500			708			708		
d_b, Bicycle Delay [s]	30.83			33.75			25.06			25.04		
I_b,int, Bicycle LOS Score for Intersection	2.098			1.935			2.289			2.726		
Bicycle LOS	B			A			B			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Alburdis Avenue / West Driveway**

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

**Intersection Setup**

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

**Volumes**

Name	Northbound			Southbound			Driveway Eastbound			Driveway Westbound		
Base Volume Input [veh/h]	8	120	2	1	109	16	10	1	14	46	4	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	12.00	5.00	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]	8	120	2	1	109	16	10	1	14	46	4	16
Peak Hour Factor	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600
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]	3	39	1	0	36	5	3	0	5	15	1	5
Total Analysis Volume [veh/h]	11	158	3	1	143	21	13	1	18	61	5	21
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
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**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.10	0.01	0.02
d_M, Delay for Movement [s/veh]	7.67	0.00	0.00	7.52	0.00	0.00	11.40	11.43	9.24	11.95	12.15	9.91
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.00	0.00	0.00	0.14	0.14	0.14	0.47	0.47	0.47
95th-Percentile Queue Length [ft/ln]	0.46	0.46	0.46	0.04	0.04	0.04	3.45	3.45	3.45	11.65	11.65	11.65
d_A, Approach Delay [s/veh]	0.49			0.05			10.18			11.47		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.10											
Intersection LOS	B											

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Scenario 5 Existing Plus Cumulative Plus Project AM

Report File: H:\...\Existing Plus Cumulative Plus Project  
AM.pdf

5/20/2026

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Telegraph Road / Orr and Day Road	Signalized	HCM 7th Edition	SB Left	0.487	28.9	C
2	Telegraph Road / Jersey Avenue	Signalized	HCM 7th Edition	EB Left	0.373	10.7	B
3	Telegraph Road / Albutis Avenue	Signalized	HCM 7th Edition	SB Left	0.327	6.6	A
4	Telegraph Road / South Driveway	Two-way stop	HCM 7th Edition	SB Right	0.082	16.9	C
5	Telegraph Road / Pioneer Blvd	Signalized	HCM 7th Edition	NB Left	0.508	27.7	C
6	Albutis Avenue / West Driveway	Two-way stop	HCM 7th Edition	WB Left	0.127	11.6	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: Telegraph Road / Orr and Day Road**

Control Type:	Signalized	Delay (sec / veh):	28.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.487

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
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	2	0	0	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	130.00	100.00	100.00	85.00	100.00	130.00	145.00	100.00	100.00	85.00	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	150	193	187	47	295	394	108	1196	93	48	1042	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	4.00	4.00	3.00	1.00	2.00	5.00	0.00	1.00	13.00	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	145	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	193	187	47	295	249	108	1196	93	48	1042	5
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	39	50	48	12	76	64	28	308	24	12	269	1
Total Analysis Volume [veh/h]	155	199	193	48	304	257	111	1233	96	49	1074	5
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			1			1		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	3	8	0	7	4	7	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	12	29	0	12	29	12	12	39	0	9	38	0
Amber [s]	3.0	4.0	0.0	3.0	4.0	3.0	3.0	4.5	0.0	3.0	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	21.0	0.0	0.0	22.0	0.0	0.0	21.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.0	0.0	2.0	3.0	2.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	50.0	50.0	0.0	50.0	50.0	50.0	50.0	50.0	0.0	50.0	50.0	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 2**

Split [s]	21.0	34.0	0.0	22.0	35.0	22.0	21.0	44.0	0.0	20.0	43.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	4	4	10	0	4	10	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	2.0	2.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

**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	R	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	5.00	5.00	4.00	5.00	5.00	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.00	3.00	2.00	3.00	3.00	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	6.6	25.2	25.2	3.3	21.9	21.9	8.4	69.7	69.7	3.3	64.6	64.6
g / C, Green / Cycle	0.05	0.21	0.21	0.03	0.18	0.18	0.07	0.58	0.58	0.03	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.12	0.03	0.09	0.16	0.06	0.25	0.25	0.03	0.22	0.22
s, saturation flow rate [veh/h]	3459	1870	1589	1752	3532	1602	1781	3475	1753	1795	3246	1700
c, Capacity [veh/h]	189	393	334	48	646	293	125	2017	1017	50	1747	915
d1, Uniform Delay [s]	56.13	41.91	42.63	58.34	43.84	47.73	55.34	14.16	14.16	58.29	16.36	16.36
k, delay calibration	0.04	0.15	0.15	0.04	0.04	0.04	0.04	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	1.00	1.00	1.00
d2, Incremental Delay [s]	3.33	1.44	2.25	35.44	0.20	3.33	8.06	0.69	1.37	31.23	0.70	1.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.82	0.51	0.58	0.99	0.47	0.88	0.89	0.44	0.44	0.98	0.41	0.41
d, Delay for Lane Group [s/veh]	59.47	43.36	44.88	93.77	44.04	51.06	63.40	14.85	15.53	89.53	17.05	17.69
Lane Group LOS	E	D	D	F	D	D	E	B	B	F	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.39	5.33	5.31	1.92	4.03	7.66	3.58	6.63	6.88	1.91	5.73	6.16
50th-Percentile Queue Length [ft/ln]	59.79	133.24	132.77	48.03	100.78	191.43	89.51	165.85	172.11	47.75	143.23	154.11
95th-Percentile Queue Length [veh/ln]	4.31	9.12	9.09	3.46	7.26	12.20	6.44	10.86	11.19	3.44	9.65	10.24
95th-Percentile Queue Length [ft/ln]	107.63	227.89	227.25	86.45	181.40	304.89	161.12	271.45	279.68	85.95	241.36	255.91

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	59.47	43.36	44.88	93.77	44.04	51.06	63.40	15.04	15.53	89.53	17.27	17.69
Movement LOS	E	D	D	F	D	D	E	B	B	F	B	B
d_A, Approach Delay [s/veh]	48.46			50.92			18.80			20.41		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	28.90											
Intersection LOS	C											
Intersection V/C	0.487											

**Emissions**

Vehicle Miles Traveled [mph]	12.26	15.74	15.26	3.65	23.10	19.53	9.96	79.27	39.99	11.40	164.76	86.32
Stops [stops/h]	143.51	159.88	159.32	57.64	241.86	229.72	107.42	398.04	206.53	57.30	343.74	184.93
Fuel consumption [US gal/h]	3.42	3.56	3.54	1.49	5.42	5.14	2.62	8.69	4.49	1.76	11.32	6.02
CO [g/h]	239.20	248.70	247.62	104.04	379.13	359.43	183.10	607.09	313.55	122.89	791.46	420.56
NOx [g/h]	46.54	48.39	48.18	20.24	73.77	69.93	35.62	118.12	61.01	23.91	153.99	81.83
VOC [g/h]	55.44	57.64	57.39	24.11	87.87	83.30	42.43	140.70	72.67	28.48	183.43	97.47

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			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]	49.50			49.50			49.50			49.50		
l_p,int, Pedestrian LOS Score for Intersectio	2.655			2.876			3.107			3.031		
Crosswalk LOS	B			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	483			500			642			625		
d_b, Bicycle Delay [s]	34.50			33.75			27.69			28.37		
l_b,int, Bicycle LOS Score for Intersection	2.011			2.182			2.352			2.180		
Bicycle LOS	B			B			B			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 2: Telegraph Road / Jersey Avenue**

Control Type:	Signalized	Delay (sec / veh):	10.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.373

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	25.00	100.00	15.00	100.00	100.00	100.00	115.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	23	35	55	30	39	28	45	1334	36	49	1133	19
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	2.00	0.00	0.00	2.00	0.00	2.00	5.00	0.00	2.00	13.00	5.00
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	30	0	0	18	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	35	25	30	39	10	45	1334	36	49	1133	19
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	10	7	8	11	3	13	371	10	14	315	5
Total Analysis Volume [veh/h]	26	39	28	33	43	11	50	1482	40	54	1259	21
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		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	0		1		2		2		2		2	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow				No								
Signal Group	0	8	0	0	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	30	0	20	50	0	20	50	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	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	0.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	0.0	0.0	0.0	20.0	0.0	0.0	11.0	0.0	0.0	18.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	50.0	0.0	0.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 2**

Split [s]	0.0	35.0	0.0	0.0	35.0	0.0	34.0	53.0	0.0	32.0	51.0	0.0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	4	0	4	10	0	4	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	2.5	4.0	0.0	2.5	4.0	0.0
Minimum Recall		No			No		No	Yes		No	Yes	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	9.2	9.2	9.2	9.2	3.5	92.9	92.9	3.9	93.2	93.2
g / C, Green / Cycle	0.08	0.08	0.08	0.08	0.03	0.77	0.77	0.03	0.78	0.78
(v / s)_i Volume / Saturation Flow Rate	0.05	0.03	0.02	0.01	0.03	0.29	0.29	0.03	0.26	0.26
s, saturation flow rate [veh/h]	1580	1355	1870	1591	1781	3475	1797	1781	3246	1689
c, Capacity [veh/h]	160	86	144	122	53	2689	1391	58	2522	1312
d1, Uniform Delay [s]	54.33	53.31	52.33	51.48	58.14	4.31	4.31	57.93	4.03	4.03
k, delay calibration	0.11	0.11	0.11	0.11	0.08	0.50	0.50	0.08	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	1.00
d2, Incremental Delay [s]	3.32	2.83	1.15	0.31	38.81	0.40	0.77	33.49	0.36	0.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.58	0.39	0.30	0.09	0.95	0.37	0.37	0.93	0.33	0.33
d, Delay for Lane Group [s/veh]	57.65	56.14	53.48	51.79	96.95	4.71	5.08	91.42	4.39	4.72
Lane Group LOS	E	E	D	D	F	A	A	F	A	A
Critical Lane Group	Yes	No	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.93	1.02	1.26	0.32	2.07	3.27	3.52	2.16	2.58	2.81
50th-Percentile Queue Length [ft/ln]	73.17	25.47	31.58	7.92	51.76	81.69	88.08	54.01	64.60	70.21
95th-Percentile Queue Length [veh/ln]	5.27	1.83	2.27	0.57	3.73	5.88	6.34	3.89	4.65	5.06
95th-Percentile Queue Length [ft/ln]	131.71	45.85	56.84	14.26	93.18	147.04	158.55	97.21	116.28	126.38

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	57.65	57.65	57.65	56.14	53.48	51.79	96.95	4.83	5.08	91.42	4.50	4.72
Movement LOS	E	E	E	E	D	D	F	A	A	F	A	A
d_A, Approach Delay [s/veh]	57.65			54.27			7.76			8.02		
Approach LOS	E			D			A			A		
d_I, Intersection Delay [s/veh]	10.69											
Intersection LOS	B											
Intersection V/C	0.373											

**Emissions**

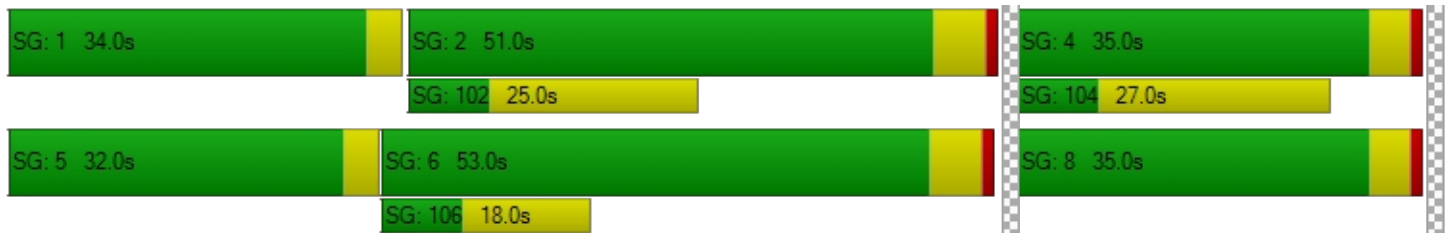
Vehicle Miles Traveled [mph]	7.90	1.88	2.44	0.63	11.64	233.44	120.74	5.50	85.83	44.65
Stops [stops/h]	87.80	30.57	37.90	9.51	62.12	196.05	105.70	64.81	155.04	84.25
Fuel consumption [US gal/h]	1.78	0.68	0.85	0.21	1.90	11.33	5.93	1.70	5.19	2.76
CO [g/h]	124.63	47.42	59.14	14.77	132.60	792.20	414.73	118.95	362.78	192.67
NOx [g/h]	24.25	9.23	11.51	2.87	25.80	154.13	80.69	23.14	70.58	37.49
VOC [g/h]	28.88	10.99	13.71	3.42	30.73	183.60	96.12	27.57	84.08	44.65

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
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]	49.50	49.50	49.50	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.877	2.232	3.114	0.000
Crosswalk LOS	A	B	C	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	508	508	792	758
d_b, Bicycle Delay [s]	33.38	33.39	21.92	23.15
I_b,int, Bicycle LOS Score for Intersection	1.763	1.733	2.424	2.293
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 3: Telegraph Road / Alburdis Avenue**

Control Type:	Signalized	Delay (sec / veh):	6.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.327

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← ↑			← ↑			← ↑ ↑			← ↑ ↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	25.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	7	1	5	67	3	82	131	1259	18	11	1163	27
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	2.00	0.00	3.00	0.00	6.00	0.00	9.00	12.00	12.00
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	40	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	1	5	67	3	42	131	1259	18	11	1163	27
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]	2	0	1	19	1	12	38	362	5	3	334	8
Total Analysis Volume [veh/h]	8	1	6	77	3	48	151	1447	21	13	1337	31
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]	3			0			0			2		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	18.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Flashing Yellow Arrow	No			No			No			No		
Signal Group	0	4	0	0	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	30	0	12	21	0	12	21	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.5	4.5	0.0	3.5	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	21.0	0.0	0.0	18.0	0.0	0.0	13.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.5	3.5	0.0	2.5	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	50.0	0.0	0.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 2**

Split [s]	0.0	44.0	0.0	0.0	44.0	0.0	16.0	60.0	0.0	16.0	60.0	0.0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	4	0	4	10	0	4	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall		No			No		No	Yes		No	Yes	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.50	5.50	5.50	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	0.77	3.50	3.50	2.50	3.50	3.50
g_i, Effective Green Time [s]	9.4	9.4	9.4	9.4	99.8	95.7	95.7	93.4	92.9	92.9
g / C, Green / Cycle	0.08	0.08	0.08	0.08	0.83	0.80	0.80	0.78	0.77	0.77
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.04	0.03	0.32	0.28	0.28	0.04	0.28	0.28
s, saturation flow rate [veh/h]	1375	1621	1408	1629	472	3446	1797	347	3275	1697
c, Capacity [veh/h]	127	127	165	128	418	2747	1432	311	2536	1314
d1, Uniform Delay [s]	54.63	51.19	54.38	52.61	2.42	3.43	3.43	2.31	4.21	4.21
k, delay calibration	0.11	0.11	0.11	0.11	0.36	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	1.00
d2, Incremental Delay [s]	0.21	0.18	2.06	2.01	1.75	0.35	0.68	0.02	0.39	0.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.06	0.06	0.47	0.40	0.36	0.35	0.35	0.04	0.36	0.36
d, Delay for Lane Group [s/veh]	54.84	51.37	56.44	54.62	4.18	3.78	4.10	2.33	4.60	4.96
Lane Group LOS	D	D	E	D	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.24	0.20	2.37	1.54	0.58	2.58	2.82	0.03	2.88	3.11
50th-Percentile Queue Length [ft/ln]	6.03	5.09	59.31	38.42	14.48	64.48	70.47	0.79	71.91	77.85
95th-Percentile Queue Length [veh/ln]	0.43	0.37	4.27	2.77	1.04	4.64	5.07	0.06	5.18	5.61
95th-Percentile Queue Length [ft/ln]	10.85	9.16	106.76	69.16	26.07	116.07	126.85	1.42	129.44	140.13

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	54.84	51.37	51.37	56.44	54.62	54.62	4.18	3.89	4.10	2.33	4.72	4.96
Movement LOS	D	D	D	E	D	D	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	53.22			55.72			3.92			4.70		
Approach LOS	D			E			A			A		
d_I, Intersection Delay [s/veh]	6.61											
Intersection LOS	A											
Intersection V/C	0.327											

**Emissions**

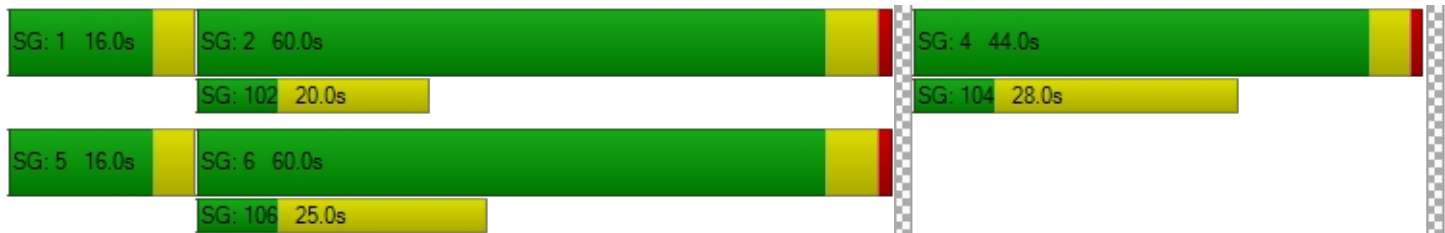
Vehicle Miles Traveled [mph]	0.80	0.70	3.04	2.01	15.39	98.36	51.29	0.55	38.11	19.75
Stops [stops/h]	7.23	6.11	71.17	46.11	17.38	154.76	84.57	0.95	172.58	93.42
Fuel consumption [US gal/h]	0.15	0.13	1.40	0.90	0.85	5.66	3.01	0.03	3.59	1.93
CO [g/h]	10.68	8.94	98.04	63.23	59.12	395.32	210.49	2.39	251.23	134.70
NOx [g/h]	2.08	1.74	19.08	12.30	11.50	76.92	40.95	0.47	48.88	26.21
VOC [g/h]	2.48	2.07	22.72	14.65	13.70	91.62	48.78	0.55	58.23	31.22

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	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]	49.50	49.50	0.00	49.50
I_p,int, Pedestrian LOS Score for Intersectio	1.983	2.295	0.000	3.190
Crosswalk LOS	A	B		C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	658	658	908	908
d_b, Bicycle Delay [s]	27.04	27.00	17.88	17.89
I_b,int, Bicycle LOS Score for Intersection	1.584	1.837	2.450	2.319
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road / South 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):	0.082

**Intersection Setup**

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

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	23	0	1334	1173	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	2.00	6.00	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]	0	23	0	1334	1173	33
Peak Hour Factor	1.0000	0.8600	1.0000	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	7	0	388	341	10
Total Analysis Volume [veh/h]	0	27	0	1551	1364	38
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
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	0.08	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	16.85	0.00	0.00	0.00	0.00
Movement LOS		C		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.26	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	6.62	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.85		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	C					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road / Pioneer Blvd**

Control Type:	Signalized	Delay (sec / veh):	27.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.508

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵ ↑			↵ ↑			↵ ↑↑			↵ ↑↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	195.00	100.00	100.00	195.00	100.00	100.00	145.00	100.00	100.00	195.00	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]	45.00			45.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	159	150	129	110	145	19	53	1081	155	70	1005	137
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 [%]	6.00	2.00	2.00	6.00	5.00	16.00	12.00	6.00	3.00	6.00	12.00	9.00
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	62	0	0	0	0	0	15	0	0	0
Total Hourly Volume [veh/h]	159	150	67	110	145	19	53	1081	140	70	1005	137
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
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]	48	46	20	34	44	6	16	330	43	21	306	42
Total Analysis Volume [veh/h]	194	183	82	134	177	23	65	1318	171	85	1226	167
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		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	1		0		3		1					

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	3	8	0	7	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	17	36	0	10	29	0	10	36	0	12	38	0
Amber [s]	3.0	5.0	0.0	3.0	5.0	0.0	3.0	4.5	0.0	3.0	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	22.0	0.0	0.0	21.0	0.0	0.0	22.0	0.0	0.0	22.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	50.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	0.0	50.0	0.0	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 2**

Split [s]	21.0	42.0	0.0	21.0	42.0	0.0	14.0	41.0	0.0	16.0	43.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	0	4	6	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	14.5	13.9	13.9	10.3	9.7	9.7	5.1	69.7	69.7	6.6	71.2	71.2
g / C, Green / Cycle	0.12	0.12	0.12	0.09	0.08	0.08	0.04	0.58	0.58	0.05	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.11	0.07	0.08	0.08	0.06	0.06	0.04	0.29	0.29	0.05	0.29	0.29
s, saturation flow rate [veh/h]	1724	1870	1662	1724	1825	1753	1638	3446	1696	1724	3275	1608
c, Capacity [veh/h]	208	217	193	147	148	142	69	2003	986	95	1944	954
d1, Uniform Delay [s]	52.30	50.61	50.74	54.42	53.64	53.69	57.29	14.82	14.82	56.38	13.87	13.87
k, delay calibration	0.20	0.15	0.15	0.04	0.15	0.15	0.04	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	1.00	1.00	1.00
d2, Incremental Delay [s]	26.24	4.35	5.31	8.24	7.68	8.40	18.41	0.89	1.80	10.95	0.85	1.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.93	0.64	0.66	0.91	0.68	0.70	0.94	0.50	0.50	0.90	0.48	0.48
d, Delay for Lane Group [s/veh]	78.54	54.97	56.05	62.66	61.32	62.09	75.70	15.71	16.62	67.33	14.73	15.60
Lane Group LOS	E	D	E	E	E	E	E	B	B	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.14	4.13	3.84	4.25	3.21	3.17	2.31	7.87	8.00	2.83	7.05	7.16
50th-Percentile Queue Length [ft/ln]	178.58	103.18	95.99	106.21	80.36	79.17	57.63	196.69	199.96	70.66	176.33	178.99
95th-Percentile Queue Length [veh/ln]	11.53	7.43	6.91	7.63	5.79	5.70	4.15	12.47	12.64	5.09	11.41	11.55
95th-Percentile Queue Length [ft/ln]	288.16	185.73	172.78	190.72	144.64	142.50	103.74	311.69	315.91	127.18	285.22	288.70

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	78.54	55.23	56.05	62.66	61.65	62.09	75.70	15.93	16.62	67.33	14.93	15.60
Movement LOS	E	E	E	E	E	E	E	B	B	E	B	B
d_A, Approach Delay [s/veh]	65.23			62.09			18.51			18.02		
Approach LOS	E			E			B			B		
d_I, Intersection Delay [s/veh]	27.73											
Intersection LOS	C											
Intersection V/C	0.508											

**Emissions**

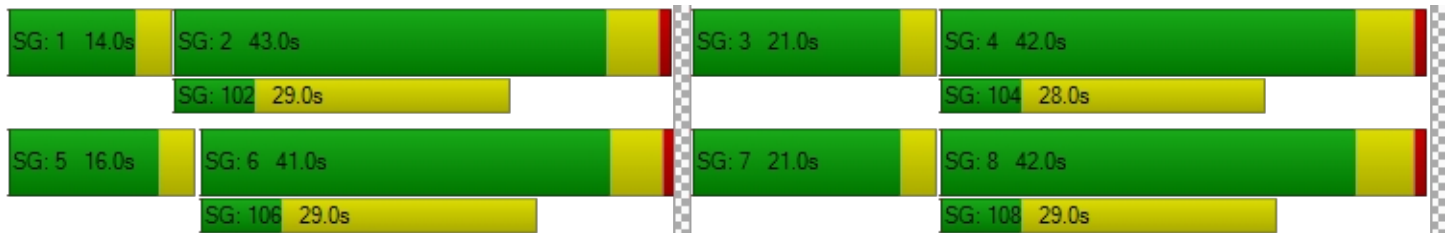
Vehicle Miles Traveled [mph]	16.54	11.79	10.81	11.84	8.94	8.73	4.01	61.56	30.31	7.76	85.32	41.90
Stops [stops/h]	214.29	123.82	115.19	127.46	96.43	95.00	69.16	472.05	239.95	84.79	423.19	214.79
Fuel consumption [US gal/h]	6.33	3.49	3.25	3.70	2.77	2.73	1.67	9.09	4.62	2.10	9.23	4.67
CO [g/h]	442.58	243.90	227.10	258.57	193.45	190.79	117.03	635.11	323.06	146.65	645.50	326.37
NOx [g/h]	86.11	47.45	44.19	50.31	37.64	37.12	22.77	123.57	62.86	28.53	125.59	63.50
VOC [g/h]	102.57	56.53	52.63	59.93	44.83	44.22	27.12	147.19	74.87	33.99	149.60	75.64

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersectio	2.685			2.533			3.118			3.107		
Crosswalk LOS	B			B			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			600			592			625		
d_b, Bicycle Delay [s]	29.41			29.40			29.80			28.37		
I_b,int, Bicycle LOS Score for Intersection	1.989			1.835			2.423			2.373		
Bicycle LOS	A			A			B			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Alburdis Avenue / West 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):	0.127

**Intersection Setup**

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

**Volumes**

Name	Northbound			Southbound			Driveway Eastbound			Driveway Westbound		
Base Volume Input [veh/h]	8	85	66	4	71	20	9	0	20	60	0	4
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 [%]	25.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	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]	8	85	66	4	71	20	9	0	20	60	0	4
Peak Hour Factor	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600
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]	3	28	22	1	23	7	3	0	7	20	0	1
Total Analysis Volume [veh/h]	11	112	87	5	93	26	12	0	26	79	0	5
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
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**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.03	0.13	0.00	0.01
d_M, Delay for Movement [s/veh]	7.71	0.00	0.00	7.60	0.00	0.00	10.78	11.43	9.16	11.64	11.84	9.88
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.01	0.01	0.01	0.15	0.15	0.15	0.45	0.45	0.45
95th-Percentile Queue Length [ft/ln]	0.50	0.50	0.50	0.22	0.22	0.22	3.69	3.69	3.69	11.37	11.37	11.37
d_A, Approach Delay [s/veh]	0.40			0.31			9.67			11.54		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	3.20											
Intersection LOS	B											

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Springs\_vistro\_V2.vistro

Scenario 6 Existing Plus Cumulative Plus Project PM

Report File: H:\...\Existing Plus Cumulative Plus Project  
PM.pdf

5/20/2026

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Telegraph Road / Orr and Day Road	Signalized	HCM 7th Edition	SB Left	0.639	35.8	D
2	Telegraph Road / Jersey Avenue	Signalized	HCM 7th Edition	EB Left	0.410	12.8	B
3	Telegraph Road / Albutis Avenue	Signalized	HCM 7th Edition	SB Left	0.418	10.3	B
4	Telegraph Road / South Driveway	Two-way stop	HCM 7th Edition	SB Right	0.088	21.6	C
5	Telegraph Road / Pioneer Blvd	Signalized	HCM 7th Edition	EB Left	0.564	30.7	C
6	Albutis Avenue / West Driveway	Two-way stop	HCM 7th Edition	WB Thru	0.009	13.7	B

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

**Intersection Level Of Service Report**  
**Intersection 1: Telegraph Road / Orr and Day Road**

Control Type:	Signalized	Delay (sec / veh):	35.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.639

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
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	2	0	0	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	130.00	100.00	100.00	85.00	100.00	130.00	145.00	100.00	100.00	85.00	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	200	243	104	50	391	417	147	1029	119	78	1374	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	2.00	0.00	1.00	1.00	2.00	5.00	0.00	1.00	3.00	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	60	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	243	104	50	391	357	147	1029	119	78	1374	9
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	52	63	27	13	101	92	38	265	31	20	354	2
Total Analysis Volume [veh/h]	206	251	107	52	403	368	152	1061	123	80	1416	9
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			1			1		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 3
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	113.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	3	8	0	7	4	7	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	12	28	0	12	28	12	19	25	0	14	20	0
Amber [s]	3.0	4.0	0.0	3.0	4.0	3.0	3.0	4.5	0.0	3.0	4.5	0.0
All red [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
Walk [s]	0.0	7.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	21.0	0.0	0.0	22.0	0.0	0.0	21.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	2.0	2.0	4.5	0.0	2.0	4.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	50.0	50.0	0.0	50.0	50.0	50.0	50.0	50.0	0.0	50.0	50.0	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 3**

Split [s]	16.0	34.0	0.0	24.0	42.0	24.0	23.0	41.0	0.0	21.0	39.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	4	4	10	0	4	10	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	2.0	2.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

**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	R	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	6.50	6.50	4.00	6.50	6.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	4.50	4.50	2.00	4.50	4.50
g_i, Effective Green Time [s]	8.2	34.9	34.9	3.6	30.3	30.3	11.3	55.1	55.1	6.0	49.7	49.7
g / C, Green / Cycle	0.07	0.29	0.29	0.03	0.25	0.25	0.09	0.46	0.46	0.05	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.06	0.10	0.10	0.03	0.11	0.23	0.09	0.23	0.23	0.04	0.26	0.26
s, saturation flow rate [veh/h]	3486	1900	1711	1810	3589	1602	1781	3475	1722	1795	3532	1848
c, Capacity [veh/h]	238	553	498	54	906	404	168	1594	790	89	1462	765
d1, Uniform Delay [s]	55.34	33.46	33.53	58.14	37.79	43.54	53.79	22.75	22.76	56.72	28.02	28.02
k, delay calibration	0.04	0.15	0.15	0.04	0.04	0.16	0.04	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	1.00	1.00	1.00
d2, Incremental Delay [s]	3.63	0.51	0.58	26.66	0.13	11.26	6.94	1.11	2.23	11.46	2.16	4.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.86	0.34	0.34	0.96	0.45	0.91	0.90	0.50	0.50	0.90	0.64	0.64
d, Delay for Lane Group [s/veh]	58.98	33.98	34.11	84.80	37.91	54.80	60.73	23.86	24.98	68.18	30.18	32.10
Lane Group LOS	E	C	C	F	D	D	E	C	C	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.18	4.33	3.99	1.96	4.97	11.68	4.82	7.90	8.07	2.68	10.89	11.80
50th-Percentile Queue Length [ft/ln]	79.48	108.26	99.66	49.12	124.18	292.11	120.59	197.41	201.87	66.89	272.14	295.05
95th-Percentile Queue Length [veh/ln]	5.72	7.74	7.18	3.54	8.62	17.29	8.43	12.51	12.74	4.82	16.30	17.44
95th-Percentile Queue Length [ft/ln]	143.06	193.58	179.39	88.42	215.56	432.26	210.64	312.63	318.38	120.40	407.42	435.90

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	58.98	34.01	34.11	84.80	37.91	54.80	60.73	24.15	24.98	68.18	30.83	32.10
Movement LOS	E	C	C	F	D	D	E	C	C	E	C	C
d_A, Approach Delay [s/veh]	43.15			48.43			28.38			32.82		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	35.84											
Intersection LOS	D											
Intersection V/C	0.639											

**Emissions**

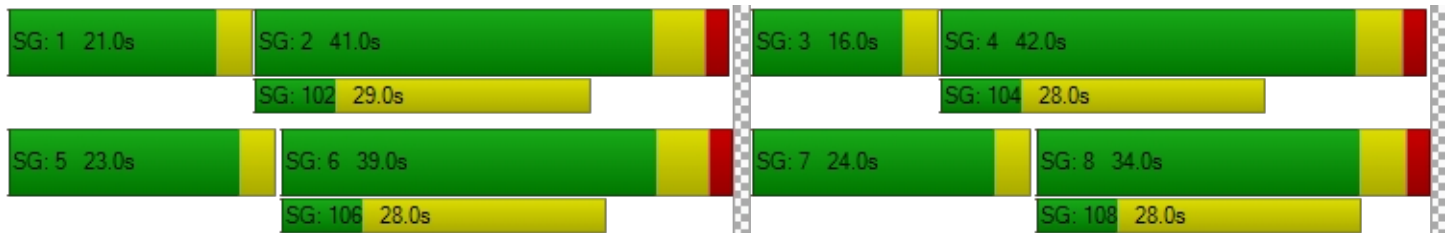
Vehicle Miles Traveled [mph]	16.29	14.77	13.54	3.95	30.62	27.96	13.64	71.03	35.21	18.66	218.23	114.21
Stops [stops/h]	190.75	129.92	119.59	58.94	298.04	350.53	144.71	473.79	242.24	80.27	653.14	354.06
Fuel consumption [US gal/h]	4.53	2.83	2.60	1.49	6.52	7.81	3.49	10.11	5.16	2.42	18.98	10.21
CO [g/h]	316.48	197.91	182.03	104.23	455.59	545.61	243.71	707.00	360.60	169.50	1326.36	713.95
NOx [g/h]	61.58	38.51	35.42	20.28	88.64	106.16	47.42	137.56	70.16	32.98	258.06	138.91
VOC [g/h]	73.35	45.87	42.19	24.16	105.59	126.45	56.48	163.85	83.57	39.28	307.40	165.47

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			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]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersectio	2.688			2.798			3.158			3.051		
Crosswalk LOS	B			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	467			600			575			542		
d_b, Bicycle Delay [s]	35.27			29.40			30.47			31.92		
I_b,int, Bicycle LOS Score for Intersection	2.025			2.288			2.294			2.387		
Bicycle LOS	B			B			B			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 2: Telegraph Road / Jersey Avenue**

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.410

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	25.00	100.00	15.00	100.00	100.00	100.00	115.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	15	41	44	31	65	50	77	1081	19	89	1480	22
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	2.00	0.00	0.00	2.00	0.00	1.00	6.00	0.00	6.00	3.00	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	29	0	0	26	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	41	15	31	65	24	77	1081	19	89	1480	22
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	11	4	9	18	7	21	300	5	25	411	6
Total Analysis Volume [veh/h]	17	46	17	34	72	27	86	1201	21	99	1644	24
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		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	0		1		2		2		2		2	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 3
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow				No								
Signal Group	0	8	0	0	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	29	0	0	29	0	12	55	0	12	55	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	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	0.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	0.0	0.0	0.0	20.0	0.0	0.0	11.0	0.0	0.0	18.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	50.0	0.0	0.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 3**

Split [s]	0.0	34.0	0.0	0.0	34.0	0.0	26.0	60.0	0.0	26.0	60.0	0.0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	4	0	4	10	0	4	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	2.5	4.0	0.0	2.5	4.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	9.1	9.1	9.1	9.1	6.6	89.1	89.1	7.8	90.3	90.3
g / C, Green / Cycle	0.08	0.08	0.08	0.08	0.05	0.74	0.74	0.07	0.75	0.75
(v / s)_i Volume / Saturation Flow Rate	0.05	0.03	0.04	0.02	0.05	0.23	0.23	0.06	0.31	0.31
s, saturation flow rate [veh/h]	1438	1360	1870	1591	1795	3446	1792	1724	3532	1839
c, Capacity [veh/h]	145	85	142	121	98	2558	1330	113	2659	1385
d1, Uniform Delay [s]	54.26	53.55	53.29	52.11	56.31	5.20	5.20	55.61	5.32	5.32
k, delay calibration	0.11	0.11	0.11	0.11	0.08	0.50	0.50	0.08	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	1.00
d2, Incremental Delay [s]	3.22	3.00	2.79	0.93	16.01	0.32	0.62	14.68	0.47	0.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.55	0.40	0.51	0.22	0.88	0.31	0.31	0.88	0.41	0.41
d, Delay for Lane Group [s/veh]	57.48	56.56	56.08	53.04	72.32	5.53	5.82	70.29	5.80	6.23
Lane Group LOS	E	E	E	D	E	A	A	E	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.52	1.06	2.18	0.79	3.00	2.99	3.22	3.40	4.26	4.60
50th-Percentile Queue Length [ft/ln]	63.10	26.38	54.59	19.79	75.06	74.75	80.48	85.12	106.40	115.08
95th-Percentile Queue Length [veh/ln]	4.54	1.90	3.93	1.42	5.40	5.38	5.79	6.13	7.64	8.12
95th-Percentile Queue Length [ft/ln]	113.57	47.48	98.27	35.62	135.10	134.55	144.87	153.22	190.99	203.04

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	57.48	57.48	57.48	56.56	56.08	53.04	72.32	5.62	5.82	70.29	5.94	6.23
Movement LOS	E	E	E	E	E	D	E	A	A	E	A	A
d_A, Approach Delay [s/veh]	57.48			55.59			10.01			9.55		
Approach LOS	E			E			B			A		
d_I, Intersection Delay [s/veh]	12.76											
Intersection LOS	B											
Intersection V/C	0.410											

**Emissions**

Vehicle Miles Traveled [mph]	6.80	1.93	4.09	1.53	20.06	187.56	97.53	10.09	111.80	58.25
Stops [stops/h]	75.71	31.65	65.51	23.74	90.07	179.40	96.58	102.15	255.37	138.09
Fuel consumption [US gal/h]	1.53	0.70	1.47	0.53	2.71	9.40	4.94	2.57	7.48	3.98
CO [g/h]	107.07	49.14	102.78	36.94	189.27	657.22	345.25	179.56	522.53	278.44
NOx [g/h]	20.83	9.56	20.00	7.19	36.82	127.87	67.17	34.94	101.67	54.17
VOC [g/h]	24.81	11.39	23.82	8.56	43.86	152.32	80.02	41.62	121.10	64.53

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
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]	49.50	49.50	49.50	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.892	2.271	3.123	0.000
Crosswalk LOS	A	B	C	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	492	492	908	908
d_b, Bicycle Delay [s]	34.13	34.14	17.89	17.89
I_b,int, Bicycle LOS Score for Intersection	1.739	1.822	2.279	2.531
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 3: Telegraph Road / Alburdis Avenue**

Control Type:	Signalized	Delay (sec / veh):	10.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.418

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵			↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	25.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	15	3	10	105	12	100	133	980	22	20	1510	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	4.00	6.00	0.00	0.00	3.00	3.00
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	33	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	3	10	105	12	67	133	980	22	20	1510	39
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]	4	1	3	30	3	19	38	282	6	6	434	11
Total Analysis Volume [veh/h]	17	3	11	121	14	77	153	1126	25	23	1736	45
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]	3			0			0			2		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 3
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Flashing Yellow Arrow	No			No			No			No		
Signal Group	0	4	0	0	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	30	0	12	37	0	12	37	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.5	4.5	0.0	3.5	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	21.0	0.0	0.0	18.0	0.0	0.0	13.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.5	3.5	0.0	2.5	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	50.0	0.0	0.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 3**

Split [s]	0.0	38.0	0.0	0.0	38.0	0.0	16.0	66.0	0.0	16.0	66.0	0.0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	4	0	4	10	0	4	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall		No			No		No	Yes		Yes	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.50	5.50	5.50	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.14	3.50	3.50	2.50	3.50	3.50
g_i, Effective Green Time [s]	13.8	13.8	13.8	13.8	93.7	88.7	88.7	90.4	87.4	87.4
g / C, Green / Cycle	0.11	0.11	0.11	0.11	0.78	0.74	0.74	0.75	0.73	0.73
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.07	0.06	0.46	0.22	0.22	0.04	0.33	0.33
s, saturation flow rate [veh/h]	1326	1644	1422	1653	332	3446	1790	540	3532	1828
c, Capacity [veh/h]	144	189	212	190	283	2548	1323	436	2571	1331
d1, Uniform Delay [s]	53.34	47.43	52.28	49.76	6.09	5.22	5.22	3.05	6.64	6.65
k, delay calibration	0.11	0.11	0.11	0.11	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	1.00
d2, Incremental Delay [s]	0.36	0.17	2.40	1.88	7.25	0.30	0.57	0.02	0.59	1.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.12	0.07	0.57	0.48	0.54	0.30	0.30	0.05	0.46	0.46
d, Delay for Lane Group [s/veh]	53.71	47.59	54.68	51.64	13.34	5.52	5.80	3.06	7.23	7.78
Lane Group LOS	D	D	D	D	B	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.51	0.39	3.70	2.66	1.15	2.81	3.02	0.08	5.44	5.84
50th-Percentile Queue Length [ft/ln]	12.66	9.69	92.40	66.57	28.87	70.30	75.57	2.09	135.98	145.94
95th-Percentile Queue Length [veh/ln]	0.91	0.70	6.65	4.79	2.08	5.06	5.44	0.15	9.26	9.80
95th-Percentile Queue Length [ft/ln]	22.79	17.45	166.32	119.83	51.96	126.54	136.03	3.76	231.60	245.01

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	53.71	47.59	47.59	54.68	51.64	51.64	13.34	5.61	5.80	3.06	7.41	7.78
Movement LOS	D	D	D	D	D	D	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	50.94			53.37			6.52			7.36		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	10.35											
Intersection LOS	B											
Intersection V/C	0.418											

**Emissions**

Vehicle Miles Traveled [mph]	1.69	1.39	4.78	3.59	15.60	77.22	40.11	0.97	49.62	25.70
Stops [stops/h]	15.19	11.63	110.88	79.88	34.64	168.73	90.69	2.51	326.36	175.13
Fuel consumption [US gal/h]	0.32	0.24	2.16	1.55	1.27	5.06	2.68	0.07	6.07	3.26
CO [g/h]	22.38	16.98	150.67	108.02	88.79	353.94	187.00	4.91	424.46	227.78
NOx [g/h]	4.35	3.30	29.32	21.02	17.28	68.86	36.38	0.96	82.58	44.32
VOC [g/h]	5.19	3.93	34.92	25.04	20.58	82.03	43.34	1.14	98.37	52.79

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	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]	49.50	49.50	0.00	49.50
I_p,int, Pedestrian LOS Score for Intersectio	2.004	2.312	0.000	3.277
Crosswalk LOS	B	B		C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	558	558	1008	1008
d_b, Bicycle Delay [s]	31.22	31.18	14.75	14.77
I_b,int, Bicycle LOS Score for Intersection	1.611	1.964	2.277	2.552
Bicycle LOS	A	A	B	B

**Sequence**




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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road / South Driveway**

Control Type:	Two-way stop	Delay (sec / veh):	21.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.088

**Intersection Setup**

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

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	18	0	1100	1554	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	2.00	5.00	3.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	18	0	1100	1554	28
Peak Hour Factor	1.0000	0.8600	1.0000	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	0	320	452	8
Total Analysis Volume [veh/h]	0	21	0	1279	1807	33
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
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	0.09	0.00	0.01	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	21.62	0.00	0.00	0.00	0.00
Movement LOS		C		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.29	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	7.20	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	21.62		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	C					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road / Pioneer Blvd**

Control Type:	Signalized	Delay (sec / veh):	30.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.564

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵ ↵			↵ ↵			↵ ↵ ↵			↵ ↵ ↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	195.00	100.00	100.00	195.00	100.00	100.00	145.00	100.00	100.00	195.00	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]	45.00			45.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	140	268	138	88	231	59	19	841	237	158	1341	248
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	1.00	4.00	1.00	1.00	3.00	0.00	6.00	2.00	1.00	3.00	1.00
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	64	0	0	26	0	0	29	0	0	22
Total Hourly Volume [veh/h]	140	268	74	88	231	33	19	841	208	158	1341	226
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
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]	43	82	23	27	70	10	6	256	63	48	409	69
Total Analysis Volume [veh/h]	171	327	90	107	282	40	23	1026	254	193	1635	276
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		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	1		0		3		1		1		1	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Telegraph Rd
Cycle Length [s]	120
Active Pattern	Pattern 3
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	3	8	0	7	4	0	1	6	0	5	2	0
Auxiliary Signal Groups												
Maximum Green [s]	16	34	0	12	30	0	13	18	0	12	18	0
Amber [s]	3.0	5.0	0.0	3.0	5.0	0.0	3.0	4.5	0.0	3.0	4.5	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	7.0	0.0	0.0	7.0	0.0
Pedestrian Clearance [s]	0.0	22.0	0.0	0.0	21.0	0.0	0.0	22.0	0.0	0.0	22.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	3.5	0.0	2.0	3.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	50.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	0.0	50.0	50.0	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 3**

Split [s]	20.0	40.0	0.0	16.0	36.0	0.0	16.0	48.0	0.0	16.0	48.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	0	4	6	0	4	6	0	4	6	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.5	0.0	2.0	4.5	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	5.50	5.50	4.00	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	3.50	3.50	2.00	3.50	3.50
g_i, Effective Green Time [s]	12.4	18.4	18.4	7.9	13.9	13.9	1.2	60.1	60.1	14.1	73.0	73.0
g / C, Green / Cycle	0.10	0.15	0.15	0.07	0.12	0.12	0.01	0.50	0.50	0.12	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.10	0.11	0.12	0.06	0.09	0.09	0.01	0.25	0.25	0.11	0.36	0.37
s, saturation flow rate [veh/h]	1795	1885	1736	1795	1885	1805	1810	3446	1617	1795	3532	1712
c, Capacity [veh/h]	185	290	267	118	219	210	18	1726	810	210	2148	1041
d1, Uniform Delay [s]	53.33	48.54	48.62	55.67	51.31	51.38	59.41	20.01	20.02	52.39	14.46	14.58
k, delay calibration	0.13	0.15	0.15	0.04	0.15	0.15	0.04	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	1.00	1.00	1.00
d2, Incremental Delay [s]	19.69	5.35	6.06	9.46	6.99	7.65	159.09	1.06	2.25	6.46	1.23	2.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.92	0.75	0.75	0.90	0.75	0.76	1.29	0.50	0.51	0.92	0.60	0.61
d, Delay for Lane Group [s/veh]	73.02	53.89	54.68	65.13	58.30	59.02	218.49	21.07	22.27	58.85	15.69	17.20
Lane Group LOS	E	D	D	E	E	E	F	C	C	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.99	6.44	6.06	3.45	5.06	4.95	1.33	8.14	7.92	6.07	10.37	10.68
50th-Percentile Queue Length [ft/ln]	149.74	160.93	151.45	86.20	126.48	123.68	33.21	203.46	197.92	151.70	259.16	267.08
95th-Percentile Queue Length [veh/ln]	10.00	10.60	10.09	6.21	8.75	8.60	2.39	12.82	12.53	10.11	15.65	16.04
95th-Percentile Queue Length [ft/ln]	250.09	264.95	252.37	155.17	218.70	214.88	59.77	320.43	313.28	252.70	391.17	401.09

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	73.02	54.16	54.68	65.13	58.61	59.02	218.49	21.25	22.27	58.85	16.02	17.20
Movement LOS	E	D	D	E	E	E	F	C	C	E	B	B
d_A, Approach Delay [s/veh]	59.72			60.27			24.93			20.10		
Approach LOS	E			E			C			C		
d_I, Intersection Delay [s/veh]	30.69											
Intersection LOS	C											
Intersection V/C	0.564											

**Emissions**

Vehicle Miles Traveled [mph]	14.58	18.40	17.16	9.46	14.44	14.01	1.42	53.73	25.24	17.63	116.97	57.55
Stops [stops/h]	179.69	193.12	181.74	103.44	151.77	148.42	39.85	488.31	237.50	182.04	621.99	320.50
Fuel consumption [US gal/h]	5.27	5.40	5.09	3.03	4.32	4.23	1.38	9.46	4.60	4.35	13.23	6.81
CO [g/h]	368.70	377.34	355.53	211.68	302.03	295.69	96.20	660.91	321.70	304.19	924.45	476.02
NOx [g/h]	71.74	73.42	69.17	41.19	58.76	57.53	18.72	128.59	62.59	59.19	179.86	92.62
VOC [g/h]	85.45	87.45	82.40	49.06	70.00	68.53	22.29	153.17	74.56	70.50	214.25	110.32

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			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]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersectio	2.817			2.673			3.170			3.194		
Crosswalk LOS	C			B			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	567			500			708			708		
d_b, Bicycle Delay [s]	30.83			33.75			25.06			25.04		
I_b,int, Bicycle LOS Score for Intersection	2.098			1.935			2.292			2.729		
Bicycle LOS	B			A			B			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Alburdis Avenue / West 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	Northbound			Southbound			Driveway Eastbound			Driveway Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Driveway Eastbound			Driveway Westbound		
Base Volume Input [veh/h]	8	120	45	3	109	16	10	1	14	94	4	18
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 [%]	12.00	5.00	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]	8	120	45	3	109	16	10	1	14	94	4	18
Peak Hour Factor	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600
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]	3	39	15	1	36	5	3	0	5	31	1	6
Total Analysis Volume [veh/h]	11	158	59	4	143	21	13	1	18	124	5	24
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
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**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.22	0.01	0.03
d_M, Delay for Movement [s/veh]	7.67	0.00	0.00	7.64	0.00	0.00	11.81	11.98	9.26	13.51	13.67	11.29
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.01	0.01	0.01	0.14	0.14	0.14	1.02	1.02	1.02
95th-Percentile Queue Length [ft/ln]	0.49	0.49	0.49	0.17	0.17	0.17	3.58	3.58	3.58	25.60	25.60	25.60
d_A, Approach Delay [s/veh]	0.37			0.18			10.38			13.17		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	4.24											
Intersection LOS	B											



## Appendix F

### Queueing Data



TRUE DATA TO IMPROVE MOBILITY

Location: 2060 W Lambert Rd

Date: 5/21/2026

Time: 5:00 AM -10:00 PM

Site Code: 17651201

Time	Number of vehicles in total queue	Maximum Queue (15-mins period)
7:00 AM	3	7
7:05 AM	2	
7:10 AM	7	
7:15 AM	9	9
7:20 AM	6	
7:25 AM	8	
7:30 AM	6	8
7:35 AM	7	
7:40 AM	8	
7:45 AM	5	6
7:50 AM	4	
7:55 AM	6	
8:00 AM	7	8
8:05 AM	8	
8:10 AM	8	
8:15 AM	11	19
8:20 AM	19	
8:25 AM	19	
8:30 AM	13	18
8:35 AM	18	
8:40 AM	18	
8:45 AM	20	20
8:50 AM	17	
8:55 AM	15	



TRUE DATA TO IMPROVE MOBILITY

Location: 511 S Citrus Ave  
Date: 4/16/2026  
Time: 5:00 AM - 10:00 PM  
Site Code: 17502804

Time	Number of vehicles in total queue	Maximum Queue (15-mins period)
7:00:00 AM	1	2
7:05:00 AM	2	
7:10:00 AM	1	
7:15:00 AM	4	6
7:20:00 AM	6	
7:25:00 AM	6	
7:30:00 AM	8	8
7:35:00 AM	8	
7:40:00 AM	6	
7:45:00 AM	6	9
7:50:00 AM	6	
7:55:00 AM	9	
8:00:00 AM	9	11
8:05:00 AM	8	
8:10:00 AM	11	
8:15:00 AM	11	11
8:20:00 AM	8	
8:25:00 AM	6	
8:30:00 AM	2	5
8:35:00 AM	5	
8:40:00 AM	5	
8:45:00 AM	7	11
8:50:00 AM	11	
8:55:00 AM	11	



TRUE DATA TO IMPROVE MOBILITY

Location: 14840 Beach Blvd  
Date: 4/16/2026  
Time: 5:00 AM - 10:00 PM  
Site Code: 17502801

Time	Number of vehicles in total queue	Maximum Queue (15-mins period)
7:00:00 AM	8	10
7:05:00 AM	10	
7:10:00 AM	9	
7:15:00 AM	8	8
7:20:00 AM	7	
7:25:00 AM	5	
7:30:00 AM	2	5
7:35:00 AM	5	
7:40:00 AM	4	
7:45:00 AM	2	12
7:50:00 AM	11	
7:55:00 AM	12	
8:00:00 AM	15	15
8:05:00 AM	15	
8:10:00 AM	12	
8:15:00 AM	11	13
8:20:00 AM	13	
8:25:00 AM	12	
8:30:00 AM	13	13
8:35:00 AM	10	
8:40:00 AM	7	
8:45:00 AM	6	11
8:50:00 AM	11	
8:55:00 AM	10	



## PLANNING COMMISSION AGENDA STAFF REPORT

**TO:** Honorable Chair and Commission Members  
**FROM:** Cuong Nguyen, Director of Community Development  
**BY:** James Enriquez, P.E. Director of Public Works/City Engineer  
**SUBJECT:** **PARKWAY TREE REMOVAL APPEAL DECISION - RESIDENT REQUEST FOR REMOVAL OF PARKWAY TREE AT 10812 FLALLON AVENUE**  
**DATE:** June 8, 2026

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### **RECOMMENDATION:**

It is recommended that the Planning Commission:

1. Reaffirm the decision of the Director of Public Works to deny the request by the property owner to have the City remove the parkway tree in front of 10812 Flallon Avenue; and
2. Determine if the property owner at 10812 Flallon Avenue shall be granted a permit to remove the parkway tree at his or her own expense; and
3. Take such additional, related, action that may be desirable.

### **FISCAL IMPACT**

N/A

### **BACKGROUND**

On January 13, 2000, the City Council approved a policy and procedure allowing residents to request the removal of parkway trees located in front of their homes. Under the current policy, the City will remove parkway trees that meet one or more of the following criteria: the tree is dead, dying, diseased, damaged beyond restoration, causing damage to certain structures, or is non-conforming with the City's approved Parkway Tree Planting Master Plan.

Trees that do not meet the established criteria may still be removed at the property owner's expense, provided the owner obtains a Parkway Tree Removal Permit. In accordance with the adopted policy, the Director of Public Works is authorized to determine whether a tree meets the City's removal criteria. If the Director determines that a tree does not qualify for removal, the property owner may file an appeal of that decision to the Planning Commission within fifteen (15) days.

In this case, Leslie Castellanos, resident of 10812 Flallon Avenue, has filed an appeal of the Director’s decision denying the removal of the parkway tree located in front of the residence and is requesting authorization to remove the tree at the property owner’s expense.

**ANALYSIS**

The existing parkway tree located in front of 10812 Flallon Avenue is an Australian Willow tree, which is designated for planting along Flallon Avenue in accordance with the approved Parkway Tree Planting Master Plan. The tree has been inspected and determined to be healthy and in good condition; therefore, it does not meet any of the criteria for removal as outlined in the Parkway Tree Removal Policy.

In the submitted tree removal request, the resident indicates that the tree drops leaves and berries onto the sidewalk, which are considered intrusive and create maintenance concerns for the property. While staff acknowledge these concerns, they do not meet the established criteria for tree removal under the current policy.

**ENVIRONMENTAL**

N/A

**DISCUSSION**

N/A

**SUMMARY/NEXT STEPS**

In the event that the Planning Commission affirms the Director’s decision to not remove the tree, the Planning Commission may choose to issue the resident a Parkway Tree Resident Removal Permit to remove the tree at his or her own expense. The decision by the Planning Commission shall be final.

**ATTACHMENTS:**

- A. Attachment A – Parkway Tree Removal Request Form
- B. Attachment B – Denial Letter
- C. Attachment C – Tree Removal Appeal Form
- D. Attachment D – Parkway Tree Removal Policy Adopted January 13, 2000

<b><u>ITEM STATUS:</u></b>	
APPROVED:	<input type="checkbox"/>
DENIED:	<input type="checkbox"/>
TABLED:	<input type="checkbox"/>
DIRECTION GIVEN:	<input type="checkbox"/>
<hr/>	
Planning Commission Secretary Esmeralda Elise	



PARKWAY TREE REMOVAL REQUEST FORM  
SOLICITUDE PAR REMOVER ARBOLES LOCALIZADOS EN LA AVENIDA RESEDENCIAL

1	INSTRUCTIONS: Complete the information. Sign, date, and return to the Department of Public Works. INSTRUCCIONES: Complete la información. Firme, fecha y devuelva al Departamento de Obras Públicas.	
2	NAME / NOMBRE <u>Leslie Castellanos</u>	DAYTIME PHONE NÚMERO DE CONTACTO DURANTE EL DÍA <u>(927) 382-7744</u>
	ADDRESS   DOMICILLO <u>10812 Fallon Avenue SFS CA 90670</u>	
3	NUMBER AND TYPE OF TREE(S) NUMERO Y TIPO DE ARBOL(ES) <u>1 tree, Schinus molle / CA pepper tree</u> <sup>possible</sup> <u>Weeping Willow tree</u>	
	REASON FOR THE REQUEST TO REMOVE THE TREE(S)/MOTIVO DE LA SOLICITUD DE ELIMINACIÓN DE/LOS ÁRBOL(ES): <u>The tree was planted over 7 years ago and when I was asked by the city representative if I approved them planting the tree I told them only if the tree was going to remain small and not drop leaves trash on the ground. The tree that was planted has become invasive to the sidewalk and my cars that are parked in front of my home on the street. The tree is not maintained and is known to grow up to 40 feet high. The amount of trash the tree drops is invasive to my property and vehicles parked in front, the small berries are extremely messy.</u>	
	RESIDENT SIGNATURE / FIRMA DEL RESIDENTE <u>[Signature]</u>	DATE / FECHA <u>11/15/25</u>

FOR OFFICE USE ONLY.  
SÓLO PARA USO DE OFICINA.

Age range: Y=young SM=Semi mature EM=Early Mature PM=Post mature  
Height: Tree Height Approximate  
Trunk Diameter: Tree trunk diameter at 1M high  
Vitality: A measure of psychological condition. D=Dead MD=moribund P=Poor M=Moderate

TREE ASSESSMENT DATE: 4-13-2026 TREE SPECIALIST: Eric Borunda

TREE SPECIES	AGE RANGE	HEIGHT (M)	TRUNK	VITALITY
<u>Australian Willow</u>	<u>EM</u>	<u>20-25</u>	<u>10-15</u>	<u>Good</u>

Comments: I inspected the parkway tree at 10812 Fallon Ave. I found the tree to be a healthy Australian Willow. The sidewalk had minimal lifting that can be grinded. The parkway was clear of any debris and curb and gutter had no lifting. The parkway tree does not fit the criteria for removal. The tree is scheduled to be trimmed this fiscal year. Eric Borunda

Reviewed by the Director of Public Works. \_\_\_\_\_ DATE: \_\_\_\_\_

Revisado por el Director de Obras Públicas.  Approved  Denied



11710 Telegraph Road  
Santa Fe Springs, CA 90670

| (562) 868-0511

| [santafesprings.gov](http://santafesprings.gov)

April 21, 2026

Leslie Castellanos  
10812 Flallon Avenue  
Santa Fe Springs, CA 90670

Subject: Tree Removal Request - Denied

Dear Leslie:

We have received your request to remove a parkway tree in front of 10812 Flallon Avenue. The City's Tree Specialist has inspected the tree and the surrounding area. After careful consideration, it has been determined that the tree in question does not meet the criteria for removal. As such, your request to remove the parkway tree cannot be approved at this time.

In accordance with the City of Santa Fe Springs' Parkway Tree Removal Policy, you may appeal this decision to the City Planning Commission, whose decision will be final. The Planning Commission has the authority to have the City remove the tree if funds are available, or to issue you a permit for a contractor to remove the tree at your expense.

If you choose to appeal, the enclosed appeal form must be completed and returned no later than fifteen (15) days from the date of this letter.

Very truly yours,

A handwritten signature in blue ink, appearing to read 'James Enriquez', written over a circular stamp.

James Enriquez, P.E.  
Director of Public Works

JE/vjd

Enclosure: Appeal Form



11710 Telegraph Road  
Santa Fe Springs, CA 90670

(562) 868-0511

[santafesprings.gov](http://santafesprings.gov)

May 6, 2026

Leslie Castellanos  
10812 Flallon Avenue  
Santa Fe Springs, CA 90670

Subject: Tree Removal Request

Dear Leslie Castellanos:

We have received your appeal request regarding the removal of the tree located in front of 10812 Flallon Avenue. In accordance with the City's Parkway Tree Removal Policy, your appeal has been referred to the Planning Commission for review.

The Planning Commission will consider this matter at its meeting scheduled for Monday, June 8, 2026, at 6:00 p.m. in the City Hall Council Chambers.

Sincerely,

A handwritten signature in blue ink, appearing to read 'James Enriquez'.

James Enriquez, PE  
Director of Public Works/City Engineer

JE/vjd

Enclosures




11710 Telegraph Road  
Santa Fe Springs, CA 90670

(562) 868-0511

santafesprings.gov

**TREE REMOVAL APPEAL FORM**  
**FORMULARIO DE APELACIÓN DE ELIMINACIÓN DE ÁRBOLES**

DATE OF APPEAL: 4.24.24

1	<b>INSTRUCTIONS:</b> Complete the form and submit no later than 15 days following the decision of the Public Works Director. <b>INSTRUCCIONES:</b> Complete el formulario y envíelo a más tardar 15 días después de la decisión del Director de Obras Públicas.
2	<b>NAME   NOMBRE</b> <span style="float: right;"><b>DAYTIME PHONE   NÚMERO DE CONTACTO DURANTE EL DÍA</b></span> Leslie Castellanos <span style="float: right;">(562) 382-7744</span>
	<b>ADDRESS   DOMICILIO</b> 10812 Fallon Avenue Santa Fe Springs CA 90670
3	I appeal the decision of the Director of Public Works to deny the removal of the parkway tree at the location for the following reason:  Apelo la decisión del Director de Obras Públicas de negar la remoción del árbol de la avenida en el lugar antes mencionado por la siguiente razón: Please see attachments, includes written explanation, images of the tree, and my son's psychological evaluation and confirmed his severe Autism diagnosis.
I understand that the decision of the Planning Commission is final.	
Entiendo que la decisión de la Comisión de Planificación es final.	
RESIDENT SIGNATURE/ FIRMA DEL RESIDENTE 	DATE/FECHA <u>4.24.24</u>

FOR OFFICE USE ONLY.  
SÓLO PARA USO DE OFICINA.

Reviewed by Director of Public Works 

Date: 5/5/26

- Original Decision Reversed
- Referred to Planning Commission

Comment:

Comments:

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April 24, 2026

City Planning Commission  
11710 Telegraph Road  
Santa Fe Springs, CA 90670

Subject: Tree Removal Request Appeal

Dear: City Planning Commission

I am formally appealing the decision to deny the removal of the parkway tree located in front of my home at 10812 Flallon Avenue Santa Fe Springs, CA 90670.

I have been a homeowner and resident at this address for over 14 years. The tree in question was planted by the City approximately nine years ago, at which time I was advised that the species selected would remain relatively small and manageable. Since then, the tree has grown significantly beyond what was originally represented and is now large, overgrown, and no longer appropriate for the space.

Most importantly, the presence and size of the tree has created a serious and ongoing hardship for my household. My son is severely autistic and nonverbal, and he has developed a pronounced fear of the tree. This fear impacts his ability to comfortably and safely enter and exit our home, creating daily distress and disruption to his routine and well-being. Given his condition, he is unable to process or adapt to this change in his environment in the same way a neurotypical individual might. I've attached a copy of my son's psychological evaluation confirming his Level 3 Autism diagnosis.

While I understand and respect the City's general policy to preserve parkway trees, this situation presents unique and compelling circumstances that were not adequately addressed in the initial determination. The combination of the tree exceeding its intended growth expectations and the direct negative impact on a vulnerable resident warrants reconsideration.

I respectfully request that the Planning Commission approve the removal of the tree. If City resources are unavailable, I am willing to assume responsibility for removal at my own expense, subject to proper permitting.

Thank you for your time and consideration.

Best Regards,  
Leslie Castellanos  
562-382-7744

LARRY E. GAINES PH.D.  
Licensed Psychologist  
larrygainesphd@yahoo.com

**ORIGINAL**

## REMOTE PSYCHOLOGICAL EVALUATION

**Client Name:** Noah Santamaria  
**Date of Evaluation:** 7/24/20  
**Date of Birth:** 9/22/17  
**UCI No.:** 7349887  
**Service Coordinator:** Janet Torres

*This confidential information is provided in accordance with State and Federal laws or regulations including applicable Welfare Institutions Code, Civil Code, and HIPAA Privacy Standards. Duplication of this information for further disclosure is prohibited without prior written authorization of the client/authorized representative to whom it pertains unless otherwise permitted by law.*

### **Reason for Referral:**

Noah was referred for a psychological evaluation to determine current levels of cognitive and adaptive functioning. This evaluation is specifically limited to the assessment of developmental disabilities, including Intellectual Disability and/or Autism. The family has agreed for this evaluation to be conducted via telehealth, Zoom conferencing. The evaluator informed the parent/caregiver that this evaluation, its results, and its recommendations do not determine eligibility, but rather by the Regional Center review.

### **Previous Testing:**

IFSP dated 8/20/19

### **Present Tests Administered:**

Clinical Interview  
Review of Records  
Developmental Assessment of Young Children, 2<sup>nd</sup> Ed. (DAYC-2), Cognitive Module  
Beery-Buktenica Development Test of Visual Motor Integration (Beery VMI)  
Autism Diagnostic Interview – Revised (ADIR)  
Vineland Adaptive Behavior Scales – 3 (Vineland – 3)

### **Background Information/Parent Interview:**

Noah is a two-year, ten-month-old boy who was described in his Regional Center support program as having significant language delays. He was also described as having social and adaptive deficiencies. He was reported to be happy and very active, but he could also be cooperative.

Noah was assessed by remote Zoom conferencing with parental permission. Noah was accompanied to the testing session by his mother, who reported that he has ongoing significant speech and language delays. She described him as having a lack of joint

attention or social interaction. He makes very poor eye contact. Noah was described as having "great" motor skills. He can learn, but he frequently does not demonstrate what he has learned. Noah was observed to get fussy and upset, but mother did not describe him as having significant tantrums or aggressive behavior.

Noah has been receiving early intervention services including speech and occupational therapies.

Noah was reported to be in good health. There were no indications of seizures or Cerebral Palsy. He needs glasses as he has astigmatism. His hearing was reported to be within normal limits. Noah's language delays may be secondary in part to physical issues related to his tongue.

**Summary of Impressions**  
**Behavioral Observations:**

Noah presented as appropriately dressed and groomed for the testing session. He exhibited poor eye contact and made no greeting. He immediately became upset as he wanted to do what he wanted to do, such as drawing circles. He cried and showed limited responsiveness to his mother. Noah was mostly self-directed. He would stand up, having difficulties staying seated, or he would push away his mother's hand as she tried to interact with him. Noah tended to play by himself. He did not share, give or request help with play activities. Noah demonstrated poor attention and only minimal cooperation, if this was not better explained by self-directed interests that were in alignment with what we wanted him to do. Noah was observed to be given some food rewards by his mother when he performed particular tasks. However, he usually simply ignored her.

**Cognitive Functioning:**

Noah was administered the DAYC-2, on which he was functioning within the borderline range of performance.

This assessment is a parent-reported questionnaire. However, it was administered as both a direct observation of Noah's ability to complete the task, as well as the parental report of whether Noah could perform the task when he was not cooperative. Noah was uncooperative on this test and results were essentially reported. These different levels of performance are reported below.

Noah was observed to scribble, but this was not in imitation of his mother. He was observed to look at a picture, but he did not consistently point to pictures and could not name them.

Noah was reported by his mother to be able to put rings in order from large to small. He is able to count to five and can match by color or shape, although he did not demonstrate any of these learning abilities.

**Language Functioning:**

Noah's language skills fell within the profound range of deficiency on the Vineland – 3. Noah was reported to say only perhaps five single words. He typically pulls others by the hand, he is now starting to point.

Noah shows poor responsiveness to his name. He may occasionally stop when given a "no" command. He does not follow directions.

Noah was not described as having odd or idiosyncratic language that is part of an Autistic Condition, although he was described as failing to appropriately use nonverbal communication in his interactions with others.

**Sensory/Motor Functioning:**

Noah's motor skills fell within the low-average range of performance on the Vineland – 3. Noah was observed to be ambulatory. He was reported to walk up and down stairs alternating his feet, but he needs to have his hand held. Noah can run and jump, but has not learned to pedal a tricycle.

Noah's visual-motor and perceptual skills fell at a two-year, ten-month level of development on the Beery VMI. This was rated in the average range of performance. Noah was not able to copy any of the geometric forms by looking at them on my screen. He did not make sufficient eye contact. He was able to imitate a vertical line when his mother showed him how to do this with numerous prompts. Noah was able to spontaneously make horizontal and vertical lines, as well as a circle, indicating some higher visual-motor potential. However, he did not complete the task as it was meant to be done.

**Adaptive Behavior Functioning:**

Noah's adaptive behavior skills fell within the mild range of deficiency on the Vineland – 3. Noah is able to feed himself with a spoon, a fork and a cup. He is not toilet trained. Noah continues to need assistance for dressing, undressing and personal hygiene care.

**Social Functioning:**

Noah's social skills fell within the severe range of deficiency on the Vineland – 3. Noah is contented in his self-directed play. However, I observed him to be rather serious with little emotional expression. Noah was observed to exhibit some fussiness and got upset when he could not continue to do what he wanted to do.

Noah mostly plays by himself or at best, in run-and-chase type games with others. He does not show cooperative interactive play involving domestic mimicry or imaginative activities.

Noah was reported to sleep satisfactorily. He is able to eat well.

Noah has difficulties with paying attention. This may be related to his self-directed interests and not to an actual attention disorder.

Mother was administered the ADIR. She elevated all clinical scales. In addition to having social and communication deficiencies, Noah likes to walk in circles. He likes to spin wheels and line up objects. Noah needs to put his toys in a correct order. He turns lights on and off, but he will stop. Noah was described as being sensitive to textures and some food. Historically, he had difficulties with the sound of a blender or hair dryer.

**Diagnostic Impressions:**

The diagnosis of Intellectual Disability requires deficits in both intellectual and adaptive functioning.

- Deficits in intellectual functions such as reasoning, problem-solving, abstract thinking: Noah's cognitive skills fell within the borderline range of performance on the DAYC-2.

Cognitive performance was determined by both observation of Noah's performance and parental report. This method is less reliable than standardized testing, which could not be accomplished in this remote format. The DAYC-2, as an assessment, is less robust than standardized testing for cognitive performance. My clinical judgment regarding appropriate developmental cognitive skills that were observed at this age is that Noah was indeed behind in his learning abilities, but this may have all been due to behavioral issues that are associated with Autism. He did not demonstrate any correct performance on this test, although mother reported that he is capable of matching by form and color. He is able to count. Due to behavioral issues, this criteria is deferred.

- Deficits in adaptive functioning: Noah's adaptive behavior skills fell within the mild to profound range of deficiency. This criteria is met.

The diagnosis of Autism Spectrum Disorder requires both deficits in social communication, social interaction and restricted, repetitive patterns of behavior.

- Deficits in social-emotional reciprocity: Noah did not make a greeting. He presented as serious, upset and showed poor emotional expression. He was not responsive to his mother and did not share, give or request help with play activities. This criteria is met.
- Deficits in nonverbal communicative behaviors used for social interaction: Noah exhibited poor eye contact. He would frequently turn his head away from what we were doing. He would not mimic emotion or gesture. This criteria is met.
- Deficits in developing, maintaining, and understanding relationships: Noah did not participate in the Peek-a-Boo Game or finger play such as baby shark. He did not feed his mother. Noah usually plays by himself, but may play with others in run-and-chase games. This criteria is met.



PSYCHOLOGICAL TESTING DATA SHEET

OUTSIDE TESTING

IFSP dated 8/20/19

PRESENT TESTS ADMINISTERED	MA	INDEX
DATE: 7/24/20 CA: 2-10		
DAYC-2	1-8	SS = 79
Beery VMI	2-10	SS = 98
Autism Diagnostic Interview – Revised		
Reciprocal Social Interaction (Cut-Off = 10)		Score = 21
Communication (Cut-Off = 7)		Score = 14
Stereotyped Patterns of Behaviors (Cut-Off = 3)		Score = 3
Abnormality of Development (Cut-Off = 1)		Score = 5
Vineland – 3		
Communication	5 months*	SS = 20
Daily Living Skills	1-7*	SS = 60
Socialization	1-0*	SS = 38
Motor Skills	2-3*	SS = 81
Adaptive Behavior Composite	1-1*	SS = 41

NAME: Noah Santamaria

UCI No.: 7349887

DOB: 9/22/17

\*Mental age was determined by the formula  $MA = (CA) (IQ)$ .

- Stereotyped or repetitive motor movements, use of objects or speech: Noah was not described as having unusual language, but he does like to walk in circles, spin wheels and line up objects. This criteria is met.
- Insistence on sameness, inflexible adherence to routines or rituals: Noah is constantly needing to put toys in a particular order. He plays with light switches. This criteria is met.
- Highly restricted, fixated interests: Noah was not described as having any fixated interests. This criteria is not met.
- Hyper- or hyporeactivity to sensory input: Noah was reported to still have difficulties with food textures. Historically, he had difficulties with the sound of a blender and a hair dryer. This criteria is met.

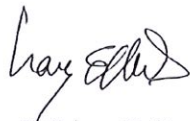
It is felt that Noah meets the criteria for the following ICD-10-CM diagnoses:

F84.0 Autism Spectrum Disorder  
Social Communication: Requires very significant support  
Restricted and Repetitive Behavior: Requires very significant support  
With Language Impairment  
With Intellectual Impairment (Deferred)

Cognitive Functioning Deferred

**Recommendations:**

1. Noah would benefit from participation in a special education program.
2. Noah would benefit from communication therapy.
3. Noah would benefit from occupational therapy.
4. Noah would benefit from social therapy.
5. Noah would benefit from Applied Behavioral Analysis Therapy.



Larry E. Gaines, Ph.D.  
Licensed Psychologist  
License No. PSY10887



January 6, 2000

## MEMORANDUM TO THE HONORABLE CITY COUNCIL

COUNCIL MEETING: January 13, 2000

*Approved.*

## NEW BUSINESS - Revision to the City's Tree Removal Policy

A few months ago, the City Council appointed Councilmember Louie Gonzalez and Mayor Pro Tempore Betty Putnam to an ad-hoc committee to address concerns relating to parkway trees that residents wanted removed for various reasons, but which did not meet the existing criteria for removal. There has been an increase in such incidents in recent years, due to the aging of the City's tree stock. Most of the residential trees in Santa Fe Springs were planted in the 1950s, when the city incorporated, and are only now reaching full maturity, which is creating problems as these trees interact with the infrastructure and hardscape. It is clear that the tree removal criteria need to be updated to reflect this evolving condition.

Having said that, it is important that the Council not lose sight of the objective and purpose of the existing policy. The City has recognized the benefits of maintaining a large and robust tree population. Some of those benefits include, the fact that trees improve our air by reducing carbon dioxide; trees provide shade and can help cool homes by up to 20 degrees in the summer; trees provide privacy and help reduce noise and glare; trees provide a pleasant ambiance to neighborhoods, thus increasing property valuation; and, crime levels in communities are reduced when there are extensive street tree systems and well-landscaped parks. The City's existing policy reflects the desire to realize these benefits to the fullest. Over the years, the City has gone to great lengths to preserve and maintain its tree stock and has been rewarded for its effort through its designation as a "Tree City USA." Any revision to the tree removal policy should balance the preservation of the City's tree stock with the practical concerns of its residents.

At the request of the Committee, staff analyzed the tree removal policies of several surrounding cities, including, Brea, Cerritos, Downey, Irvine, La Mirada, Long Beach, Norwalk, Pasadena and Whittier. Most provided for some variation of "Dead, Dying and Diseased" as its criteria, and all seemed to struggle with the balance between preservation and practicality mentioned above. After careful consideration, two main deficiencies in our policy emerged. Firstly, the removal criteria are too narrowly defined (i.e., staff feels hamstrung by the criteria); secondly, the lack of an appeals process does not allow for mutually satisfactory resolution of disputes.

The proposed revisions that follow strive to mitigate the problems that stem from the two

deficiencies described above. They don't, however, remedy all of the concerns raised by residents in the recent past, a matter that shall be addressed in more detail below. This is primarily due to the fact that the revisions are, in essence, a compromise between preservation and practicality. However, it is a compromise that gives staff more leeway and discretion in making administrative decisions by broadening the removal criteria to include dangerous, damaged beyond restoration, damaging certain structures and non-conforming to the existing Master Street Tree Plan, and by allowing staff to make decisions in the field. Likewise, the revisions allow for a more mutually satisfactory appeals process by giving the Planning Commission the ability to adjudicate appeals of administrative decisions to deny removal of trees. This will provide a mechanism whereby residents can voice their concerns outside of the bureaucratic realm, in front of a panel of their peers. While this will not satisfy each and every resident who has a complaint about a tree, it will confer upon those residents the respect and satisfaction of an official hearing in front of an official body of the City, and hopefully convey to those persons the complexity and broader aspects of the City's Tree Removal Policy in a way that is mutually satisfactory.

The following is a list of proposed revisions to the City's Tree Removal Policy:

## **1. BROADENING OF REMOVAL CRITERIA**

### Criteria for Removal of Parkway Trees:

Dead, dying, diseased, dangerous, damaged beyond restoration, damaging certain structures or non-conforming to the existing Master Street Tree Plan.

NOTE:

- 1) "Dangerous" shall mean conditions such as but not restricted to:
  - A tree whose limbs are growing into power lines which cannot reasonably be trimmed and are an immediate hazard.
  - A tree that is leaning to the point of being unstable in heavy winds.
  - A tree that has experienced extensive root pruning, making it a hazard.
  - A tree that is blocking any traffic control device and simple trimming cannot remedy the visibility problem.
  - A tree that presents a hazard to the general public or causes a liability to the City.
- 2) "Damaging certain structures" refers to trees that cause damage to structures as follows:
  - Sidewalks, curbs, drives, buildings and other structures, such that the cost to repair the damage exceeds the appraised value of the tree (using the appraisal method established by the International Society of Arboriculture).
  - Damage to sewer and underground utilities is not a grounds for removal but may be considered under "Resident Removal" criteria. Proof of damage to sewer lines shall be evidenced by the submission of three plumber's invoices denoting root blockage for at least twelve months. In cases of damage to sewer lines, the City

may provide a one (1) time root destroyer. Future root destroyer will be the resident's responsibility.

## **2. INCORPORATION OF THE PLANNING COMMISSION INTO THE APPEALS PROCESS**

### City Removal of Trees:

The City may remove a City tree and bear all the costs entailed if the Director of Public Works determines that the suspect tree meets the removal criteria.

### Appeals:

Appeals of the Director's decision will be heard by the Planning Commission. In adjudicating appeals of the Director of Public Works tree removal decision, the Planning Commission is authorized to either reverse the Director's decision, whereby the City would pay for the removal of the tree if funds are available, or, if it is determined that non-removal places a burden on the property owner substantially greater than the benefit to the public, the Planning Commission is authorized to grant a "Resident Removal Permit", which allows a resident to remove the tree in question at the resident's expense.

### Resident Removal:

A "Resident Removal Permit" allows a resident to remove a "parkway tree" at his/her own expense. Removal shall include extraction of the tree's stump. A City inspector shall inspect the tree and surrounding infrastructure before and after the removal of the tree. The resident will be liable for any damage to the infrastructure incurred during removal. The planting of a City approved replacement tree is required unless the resident petitions the City to not replace the removed tree. The Planning Commission may grant such a permit in the manner described above, or the City's Director of Public Works may issue such a permit upon reasonable proof of damage to the resident's property. Twenty such permits will be allowed each year.

## **3. WHAT THE REVISED POLICY DOES NOT ADDRESS**

There are two scenarios that the proposed revisions to the City's Tree Removal Policy will not assuage: (1) The adamant resident who cannot comprehend the broader benefit of tree preservation and whose tree does not meet either City removal or resident removal criteria; and, (2) the resident whose tree meets the resident removal criteria, but is unwilling to bear the cost of removing the tree.

The resident in the first scenario will never be completely satisfied, unless we change the tree

policy such that preservation is no longer a concern at all. This resident's parkway tree may indeed be a nuisance. But, the question is, is that nuisance greater than the benefit that the community as a whole reaps from the city-wide tree stock. If the policy is revised to appease this type of situation, the bar will be lowered such that it obligates the City to remove all of the resident's neighbors' trees who have similar nuisance level problems. If the City wants to maintain and promote the abundance of the Citywide tree stock, then it must indiscriminately enforce the removal criteria. That said, the proposed revisions to the tree policy do allow for a greater level of citizen participation in the process and provides a forum where the disgruntled resident can air her concerns to her peers in a non-bureaucratic setting; the Planning Commission.

The second scenario is similarly unaffected by the proposed revisions. The City's current policy allows for resident removal at resident cost. The problem has been, and will continue to be, that removing the tree is either cost prohibitive for the resident or the resident is adverse to paying for removal as a matter of principle.

The latter is somewhat related to the first scenario where the resident is unappreciative of the broader benefits that trees yield. The cost-prohibitive problem, although not addressed in these revisions, might be ameliorated through a program either analogous to or subsumed by the City's Home Repair Program. The use of housing-set-aside money to remove trees that are doing damage to property is consistent with the current use of those funds.

#### FISCAL IMPACT STATEMENT

The Director of Public Works and the Director of Finance and Administrative Services do not anticipate that the recommended policy will exceed this year's tree removal budget authorization, due to the timing of implementation. However, a budget adjustment may be necessary for FY 2000/2001 if, as we expect, more trees are removed as a result of the new policy. Any such revision will be brought to the City Council along with other revisions in June.

*assign tree removal  
project number.*

#### INFRASTRUCTURE STATEMENT

Staff expects that the implementation of the proposed revisions will have the long term effect of reducing infrastructure damage and repair costs, due to the ongoing and periodic removal of overgrown trees.

## RECOMMENDATION

- 1) Adopt the proposed revisions to the tree removal criteria
- 2) Place the responsibility for tree removal appeals and related issues under the purview of the Planning Commission.
- 3) Authorize staff to investigate the feasibility of broadening the scope of the Home Repair Program to include tree removal.



Frederick W. Latham  
City Manager