

Response to Comments

Orangethorpe/Placentia Mixed Use Project

Prepared by:



**City of Placentia
Development Services Department
401 East Chapman Avenue
Placentia, California 92870
Contact: Andrew Gonzales, Planning Manager**

June 2024

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Appendix A: Traffic Impact Analysis (dated April 26, 2024)

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Section 1 Introduction

1.1 Introduction

This document includes a compilation of the public comments received on the Orangethorpe/Placentia Mixed Use Project and the City of Placentia (City) responses to the comments.

Under the California Environmental Quality Act (CEQA), a lead agency has no affirmative duty to prepare formal responses to comments on a mitigated negative declaration (MND). The City has evaluated the comments received on the Orangethorpe/Placentia Mixed Use Project Draft IS/MND (Proposed Project) (State Clearinghouse No. 2023110688) and has elected to provide responses to the following significant environmental comments in order to provide adequate information on the record explaining why the comments do not affect the conclusion of the MND that there are no potentially significant environmental effects. In the spirit of public disclosure and engagement, the City—as the lead agency of Orangethorpe/Placentia Mixed Use Project—has responded to all written comments submitted during the 30-day MND public review period, which began November 29, 2023 and closed December 28, 2023. Due to the holiday closures during this period, comments were accepted through January 4, 2024.

Pursuant to CEQA Guidelines Section 15073.5, none of the comments received results in the need to recirculate the Draft IS/MND or to prepare an Environmental Impact Report (EIR).

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Section 2 **Response to Comments**

This section provides all written responses received on the IS/MND and the City of Placentia's responses to each comment.

Comment letters and specific comments are given letters and numbers for reference purposes. Where sections of the IS/MND are excerpted in this document, the sections are shown indented. Changes to the IS/MND text are shown in underlined text for additions and ~~strikeout~~ for deletions.

The following is a list of agencies and persons that submitted comments on the IS/MND during the public review period. One additional letter from Republic Services was received (Letter D) after the close of the public comment period that contained comments regarding the site plan for the project.

Summary of Public Comments

No. Reference	Commenting Person/Agency	Date of Comment	Page No.
Public Agencies and Organizations			
A	Orange County Transportation Authority (OCTA)	January 3, 2024	2-3
B	California Department of Transportation (Caltrans)	January 4, 2024	2-7
C	Lozeau, Drury, LLP on Behalf of SAFER	January 4, 2024	2-19
D	Republic Services	March 25, 2024	2-21

The Comment Letter from the California Department of Transportation resulted in the preparation of a Traffic Impact Analysis to address their concerns and that of the City of Placentia. The Final Traffic Impact Analysis prepared by RK Engineering Group, Inc. dated April 26, 2024 is included as Appendix A to this document and has been added to the Initial Study/Mitigated Negative Declaration. Responses to the Comment Letter B include information from the April 26, 2024 report.

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/ HMMUS

AFFILIATED AGENCIES

Orange County
Transit District

Local Transportation
Authority

Service Authority for
Freeway Emergencies

Consolidated Transportation
Service Agency

Congestion Management
Agency

January 3, 2024

Mr. Andrew Gonzales
City of Placentia
Planning Department
401 E Chapman Ave.
Placentia, CA 92870

Via email: agonzales@placentia.org

**Subject: Notice of Intent (NOI) to adopt a Mitigated Negative Declaration
for the Orangethorpe/Placentia Mixed Use Project**

Dear Mr. Gonzales:

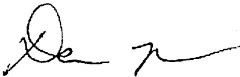
Thank you for providing the Orange County Transportation Authority (OCTA) with the Notice of Intent (NOI) to Adopt a Mitigated Negative Declaration (MND) regarding the Orangethorpe/Placentia Mixed Use Project. The following comments are provided for you:

- On page 11 of the MND, Section 1.4.1 "Multimodal Transportation in Project Area," it is stated that the nearest bus stop is located at State College Blvd and Orangethorpe Ave. This is not correct. The nearest bus stop to the project area is located at Placentia Ave and Orangethorpe Ave, approximately 300 feet (0.05 miles) southwest of the proposed project area. Please revise. | A-1
- Starting on page 104 of the MND, Section 2.4.15 "Population and Housing," there is discussion of the Placentia Metrolink train station with a projected opening date. Please remove references and associated information to the Placentia Metrolink train station. There is uncertainty surrounding the project and the opening date is not certain. | A-2
- On page 112 of the MND, Section 2.4.18 "Transportation," please remove the sentence "These routes operate with a Monday through Friday headway of 5-27 minutes at Orangethorpe Avenue and State College Boulevard" and replace with "These routes operate Monday through Friday with approximately 16-minute headways for OCTA Route 57 and approximately 45-minute headways for OCTA Route 30 at the intersection of Orangethorpe Avenue and State College Boulevard." | A-3

Mr. Andrew Gonzales
January 3, 2024
Page 2

Throughout the development of this project, we encourage communication with OCTA on any matters discussed herein. If you have any questions or comments, please contact me at (714) 560-5907 or at dphu@octa.net.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dan Phu', with a stylized flourish at the end.

Dan Phu
Manager, Environmental Programs

DP:tc

Comment Letter A. Dan Phu, Environmental Programs, Orange County Transportation Authority (OCTA), January 3, 2024

A-1 Per your request, we have made the following revisions to Page 11 of the IS/MND:

1.4.1 Multimodal Transportation in Project Area

The Proposed Project Site is located within 0.5 miles of Orange County Transportation Authority (OCTA) Bus Route 57 and Bus Route 30. The nearest stop to the Proposed Project Site is located at Placentia Avenue and Orangethorpe Avenue, approximately 300 feet (0.05 miles) southwest State College Boulevard and Orangethorpe Avenue, approximately 0.45 miles west of the Proposed Project Site.

A-2 Per your request, we have made the following revisions beginning on Page 100 of the IS/MND:

Additionally, the City's General Plan Housing Element has identified the need to locate housing near transportation, employment and services. Program HE-1.2 of the Housing Element specifically mentions that the City should encourage and coordinate affordable housing and multi-family housing near transportation options, major employment centers and services. As noted earlier, the Proposed Project Site is located less than ½ mile walking distance to the intersection of OCTA Lines 30 and 57. Further, the Proposed Project Site is located less than one mile away from the proposed Placentia Metrolink train station (~~projected to open in 2025~~) located at Crowther Avenue and Melrose Street.¹ "Once constructed, this will be the 13th station serving the 91 line, which will run from Los Angeles Union Station to downtown Riverside. The Placentia Metrolink station will be the closest station in proximity to Cal State Fullerton and will provide passengers with an alternative to the Fullerton Metrolink station."² However, per OCTA, there is uncertainty surrounding the Placentia Metrolink train station "...and the opening date is not certain."³ ~~According to the Orange County Register, it is anticipated that the under construction station would be completed in 2024.~~⁴

A-3 Per your request, we have made the following revisions beginning on Page 111 of the IS/MND:

The Proposed Project will not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Existing transit service in the City is provided by the OCTA. OCTA Route 30 travels along

¹ See <https://www.placentia.org/705/Metrolink-Station-and-Parking-Structure>, accessed April 10, 2023.

² Id.

³ Comment Letter A. Dan Phu, Environmental Programs, Orange County Transportation Authority (OCTA), January 3, 2024.

⁴ <https://www.ocregister.com/2020/01/06/murals-construction-are-revitalizing-placentias-downtown-and-historic-area/> accessed June 20, 2023.

Orangethorpe Avenue within the City of Placentia. OCTA Route 57 travels along State College Boulevard and Bristol Street. These routes operate ~~with a~~ Monday through Friday with headways of approximately 16 minutes for OCTA Route 57 and approximately 45 minutes for OCTA Route 30 at the intersection of ~~5-27 minutes at~~ Orangethorpe Avenue and State College Boulevard.

Letter B

CALIFORNIA STATE TRANSPORTATION AGENCY

GAVIN NEWSOM, GOVERNOR

California Department of Transportation

DISTRICT 12

1750 East 4th Street, Suite 100 | SANTA ANA, CA 92705

(657) 328-6000 | FAX (657) 328-6522 TTY 711

<https://dot.ca.gov/caltrans-near-me/district-12>



January 4, 2024

Mr. Andrew Gonzales
Planning Manager
City of Placentia
401 E. Chapman Avenue
Placentia, CA. 92870

File: LDR/CEQA
SCH:2023110688
12-ORA-2023-02434
SR-57, PM: 16.408
SR-91, PM: 5.532

Dear Mr. Gonzales,

Thank you for including the California Department of Transportation (Caltrans) in the review of the Mitigated Negative Declaration (MND) for the Orangethorpe-Placentia Mixed-Use Project. The Proposed Project would allow for the construction and operation of a mixed use project that would include 248 residential units and up to 3,000 square feet of commercial uses (with related amenity uses, private and common open space uses), and a 7-level parking structure at the northeast corner of the Proposed Project Site. The Proposed Project would have a prominent street presence on W. Orangethorpe Avenue and S. Placentia Avenue in the City of Placentia.

The Proposed Project would be developed on a 2.72-acre site located at 776 S. Placentia Avenue and 777 W. Orangethorpe Avenue in Placentia, California, (Assessor Parcel Number 339-112 27). The Project would be accessed via both S. Placentia Avenue and W. Orangethorpe Avenue. The site is bordered by a Jack in the Box to the southwest corner, W. Orangethorpe Avenue to the south, S. Placentia Avenue to the west, a 3-story commercial building to the north, and an industrial building to the east, currently occupied by a spa and patio store. The Proposed project will be accessed regionally by State Route (SR) 57 to the east and State Route (SR) 91 to the south. State Routes 57 and 91 are owned and operated by Caltrans. Therefore, Caltrans is a responsible agency on this project, and has the following comments:

1. Caltrans supports opportunities for affordable housing, and the state mandates that cities must plan for housing needs of future residents of all incomes. Please provide an analysis and discussion that would assist in accommodating the Regional Housing Needs Assessment (RHNA) allocation per the California Department of Housing & Community Development (HCD).

B-1

2. , Caltrans recognizes our responsibility to assist communities of color and under-served communities by removing barriers to provide a more equitable transportation system for all. The Department firmly embraces racial equity, inclusion, and diversity. These values are foundational to achieving our vision of a cleaner, safer, and more accessible and more connected transportation system. Please consider including a discussion on equity in the Final MND.	B-2
3. , Safety is one of Caltrans' strategic goals. We are striving for more equitable outcomes for the transportation network's diverse users. To achieve these ambitious goals, we will pursue meaningful collaboration with our partners. We encourage the implementation of new technologies, innovations, and best practices that will enhance the safety on the transportation network. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo as we continue to institutionalize safety in all our work.	B-3
4. , Residential infill development offers an opportunity to encourage multimodal transportation options. Caltrans encourages the design of Complete Streets that include high-quality pedestrian, bicycle, and transit facilities that are safe and comfortable for users of all ages and abilities. This may include safety measures such as physically separated sidewalks and bike lanes; pedestrian-oriented LED lighting; high-visibility continental crosswalk striping; raised crosswalks; refuge islands; wayfinding signage; and safe connections to existing and proposed bicycle, pedestrian, and transit facilities. Complete Streets improvements also promote regional connectivity, improve air quality, reduce congestion, promote improved first-/last-mile connections, and increase safety for all modes of transportation.	B-4
5. , Caltrans supports projects which provide a diversity of housing choices and destinations accessible by Active Transportation (i.e. bicycle and pedestrian) and transit users. Please consider improving multimodal connections to housing which will encourage future residents, visitors, and workers in the city to utilize all modes of transportation. Increasing multimodal transportation will lead to a reduction to congestion, Vehicle Miles Traveled, and improve air quality.	B-5
6. , Caltrans seeks to promote safe, accessible, multimodal transportation. Please consider methods to reduce pedestrian and bicyclist exposure to vehicles by lessening the time that the user is in the likely path of a motor vehicle. These methods include the construction of physically separated facilities such as sidewalks, raised medians, refuge islands, off-road paths and trails, or a reduction in crossing distances through roadway narrowing. Caltrans recommends the project consider concepts such as, but not limited to,	B-6

pedestrian and bicyclist warning signage, flashing beacons, crosswalks, signage and striping, to indicate to motorists that they should expect to see and yield to pedestrians and bicyclists where appropriate.

7.] Given the existing multimodal context and the mixed-use nature of the site, Caltrans suggests enhancing the current planned Class II bikeway with vertical separation.	B-7
8.] Caltrans also recommends the inclusion of functional on-site bike parking. Bike parking should be placed in visible locations that are close to main entrances and should be designed to accommodate different types of bikes (e.g. cargo bike, bike with trailer). For people to easily utilize bike racks, they should be installed at least 24" away from walls and other objects (e.g. trash cans, plants, etc.). This inclusion encourages and facilitates the growing use of food delivery services and parcel deliveries. This can alleviate the need for delivery trucks and associated GHG emissions.]	B-8
9.] With the growing popularity of electric bikes and cargo/utility bikes (which tend to be bigger and heavier), Caltrans also recommends that bicycle storage facilities be designed to accommodate a range of bicycle styles, sizes, and weights.	B-9
10. During construction, please ensure appropriate detours, signage, and safety measures are planned that prioritize and ensure the safety and mobility of pedestrians, bicyclists, and transit users.	B-10
11. Ensure that truck parking, ingress and egress, and staging will not interfere with vehicle parking, pedestrian paths, or bicycle lanes/bicycle parking. Work with community representatives to mitigate any truck traffic routing onto residential streets or conflicting with other road users, including and especially bicyclists and pedestrians.	B-11
12. Please provide adequate wayfinding signage to transit stops within the project site where appropriate.	B-12
13. Consider how many individual packages will be delivered daily to individual residences within the areas identified for increased housing production. Shared drop-off locations can help reduce the amount of driving done by delivery trucks and can increase the efficiency of deliveries in densely developed areas. Similarly, high-density residential developments should consider automated parcel systems (i.e., Amazon Lockers) so that deliveries can be made with one truck	B-13

stop instead of multiple stops to individual residences.

14. Please note that this project should not present adverse impacts to the overall transportation system including traffic circulation and the local State Highway Systems (SHS). Orangethorpe Ave. is part of the Congestion Management Program (CMP) Highway System, with Caltrans' SR 57 on/off ramps being part of this system. Caltrans therefore is requesting a Traffic Impact Analysis (TIA) that includes focus on the investigation, analysis and assessment of the Level of Service (LOS) for the following criteria:
 - a. Intersection analysis of Orangethorpe Ave. and the SR 57 Northbound ramp.
 - b. Intersection analysis of Orangethorpe Ave. and the SR 57 Southbound ramp.
 - c. The merging and diverging of on and off ramps at Orangethorpe Ave. to and from mainline SR 57.
 - d. Queue analysis of the on and off ramps at Orangethorpe Ave.
 - e. Please note that all data should be within 3 years of the current date.
15. Please consider the additional AM and PM peak traffic volumes and the impact on the delay of the surrounding intersections, including the on/off ramps. These additional trips could impact the operation of the signals/ramp meters and the respective freeway system.
16. Please ensure that queuing and delay of these on/off ramps is satisfactory and no mitigation is required for any Caltrans facilities.
17. Any project work proposed in the vicinity of the State Right-of-Way (ROW) would require an encroachment permit and all environmental concerns must be adequately addressed. If the environmental documentation for the project does not meet Caltrans's requirements for work done within State ROW, additional documentation would be required before approval of the encroachment permit. Please coordinate with Caltrans to meet requirements for any work within or near State ROW. For specific details for Encroachment Permits procedure, please refer to the Caltrans's Encroachment Permits Manual at: <http://www.dot.ca.gov/hq/traffops/developserv/permits/>
18. Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (657) 328-6553 or D12.permits@doct.ca.gov. Early coordination with Caltrans is strongly advised for all encroachment Permits. For specific details on Caltrans Encroachment Permits procedure and any future updates regarding the application process

and permit rates, please visit the Caltrans Encroachment Permits homepage at <https://dot.ca.gov/programs/traffic-operations/ep>.

Caltrans' mission is to provide a safe, sustainable, equitable, integrated, and efficient transportation system to enhance California's economy and livability. Please continue to coordinate with Caltrans for any future developments that could potentially impact State transportation facilities. If you have any questions, please do not hesitate to contact Julie Lugaro at Julie.lugaro@dot.ca.gov.

Sincerely,



Scott Shelley
Branch Chief,
LDR-Climate Change-Transit Planning
Caltrans, District 12

Comment Letter B. Scott Shelley, Branch Chief, LDR-Climate Change-Transit Planning, Caltrans District 12, January 4, 2023

- B-1** The City of Placentia appreciates your support of housing at all income levels. Please refer to Page 96 of the IS/MND for a discussion of the City's Regional Housing Needs Assessment (RHNA) allocation and how this project furthers the City's housing goals identified in their certified Housing Element.
- B-2** Comment noted. Although CEQA does not require an assessment of Environmental Justice issues in the IS/MND, the Proposed Project provides mixed-use housing opportunities within close proximity to various transit options. The Proposed Project Site is located less than ½ mile walking distance to the intersection of OCTA Lines 30 and 57. Further, the Proposed Project Site is located less than one mile away from the proposed Placentia Metrolink train station located at Crowther Avenue and Melrose Street. Once constructed, this will be the 13th station serving the 91 line, which will run from Los Angeles Union Station to downtown Riverside. The Placentia Metrolink station will be the closest station in proximity to Cal State Fullerton and will provide passengers with an alternative to the Fullerton Metrolink station. The Proposed Project is consistent with type of equitable housing envisioned by Senate Bill (SB) 743.
- B-3** Comment noted. The City of Placentia appreciates Caltrans commitment to safety on the transportation network.
- B-4** As noted on Page 111 of the IS/MND, the Proposed Project will not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Existing transit service in the City is provided by the OCTA. OCTA Route 30 travels along Orangethorpe Avenue within the City of Placentia. OCTA Route 57 travels along State College Boulevard and Bristol Street. A Class II bikeway is planned along the length of Orangethorpe where it traverses the City. Class II bicycle facilities are signed, and striped bicycle lanes located to the right of the vehicle traffic lane along a roadway. Bicycle lanes are typically located along collector and arterial roadways that provide connections through the City street system. Construction of the Proposed Project would not remove the existing sidewalks, bicycle lanes, or transit service access. Instead, the Proposed Project would activate the street frontage with wide sidewalks, landscaping and open space patios and publicly accessible private open space opening to the two rights-of-way abutting the Proposed Project site. These improvements would enhance the streetscape experience and contribute to the Complete Streets improvements addressed in Caltrans' comments. The Proposed Project would not conflict with circulation or mobility plans related to transit. A less than significant impact will occur.

- B-5** The Project would provide a diversity of housing choices that would help the City achieve its RHNA obligations. The Project would be highly accessible to pedestrians and cyclists, as well as transit users who would use the existing transit stop located steps away from the Proposed Project at Orangethorpe and Placentia Avenues. Please also refer to Response B-4 above.
- B-6** Please refer to Response B-4 above. Caltrans makes a general recommendation that the applicant contribute to a project that addresses transportation safety and reduces pedestrian and bicyclist exposure to vehicles. The comment does not point to any deficient analysis in the IS/MND. Please note that the Proposed Project constitutes infill development in proximity to proposed bicycling improvements and proposed sidewalk improvements abutting the Proposed Project. At the same time, the Proposed Project is setback from the intersection of Orangethorpe and Placentia Avenues, so it is not feasible to add another crosswalk or flashing lights, as suggested by the commenter, so close to the existing crosswalks at this signalized intersection.
- B-7** Based on existing right-of-way constraints and the absence of area necessary for a slope or retaining wall for a vertical separation, it does not appear that a grade separated bicycle trail is feasible adjacent to the Proposed Project. However, your comment is hereby noted and will be forwarded to the appropriate City of Placentia decision-makers for their consideration.
- B-8** As noted in the proposed Specific Plan Amendments, the Proposed Project includes a design standard that requires two bicycle storage units for every five dwelling units for the first 20 dwelling units and one bicycle parking space for every five additional dwelling units. Based on the 248 dwelling units, the Proposed Project would include 54 bike parking spaces. The Proposed Project would be conditioned to provide functional on-site bike parking for different types of bikes. Bike parking would be installed at least 24” away from walls and other objects.
- B-9** Per your request, a condition of approval will be placed on the Proposed Project to require that bicycle storage facilities be designed to accommodate a range of bicycle styles, sizes, and weights, with electrical outlets to allow for bicycle charging.
- B-10** Per your request, a condition of approval will be placed on the Proposed Project to require that during construction, appropriate detours, signage, and safety measures are planned that prioritize and ensure the safety and mobility of pedestrians, bicyclists, and transit users.
- B-11** Per your request, a condition of approval will be placed on the Proposed Project to ensure that truck parking, ingress and egress, and staging will not interfere with residential parking, pedestrian paths, or bicycle lanes/bicycle parking.

- B-12** Per your request, a condition of approval will be placed on the Proposed Project to require that adequate wayfinding signage to transit stops is provided within the project site where appropriate.
- B-13** Comment noted. As noted on the Proposed Project's drawings, Sheet A1.0 (Residential Building Site Plan), the Proposed Project includes a Mail Parcel Room of approximately 1,085 square feet where packages and mail will be stored for residents. Given the large size of the mail room, it is anticipated that deliveries can be made to serve Project residents efficiently.
- B-14** Caltrans is requesting a Traffic Impact Analysis (TIA) that includes focus on the investigation, analysis, and assessment of the Level of Service (LOS) at Orangethorpe Avenue at the SR-57 on/off ramps. As stated in the Caltrans Transportation Impact Study Guide dated May 20, 2020:

1.2 Caltrans Updates Its Review of Land Use Decisions and Projects

For land use projects and plans, automobile delay is no longer considered a significant impact on the environment under CEQA (SB 743, 2013). Caltrans review of land use projects and plans is focused on a VMT metric, consistent with changes to the CEQA Guidelines (California Code of Regulations Section 15064.3(b)(1)). This VMT-focused TISG provides a foundation for review of how lead agencies apply the VMT metric to CEQA project analysis.

Beyond or in addition to the use of the VMT metric, determining how the State Highway System may otherwise be affected by a land use project may still be necessary at times, particularly as it relates to the safety of the traveling public. **Additional future guidance will include the basis for requesting transportation impact analysis that is not based on VMT. This guidance will include a simplified safety analysis approach that reduces risks to all road users and focuses on multi-modal conflict analysis as well as access management issues. With this guidance the Department will transition away from requesting LOS or other vehicle operations analyses of land use projects.**

However, in response to your request, the Traffic Engineer for the Proposed Project has prepared a Traffic Impact Analysis (TIA) for the Proposed Project in cooperation with the City and Caltrans (see Appendix A) and has been added to the IS/MND beginning on Page 113.

In response to a request from Caltrans, the Traffic Engineer for the Proposed Project has prepared a Traffic Impact Analysis (TIA) for the Proposed Project in cooperation with the City and Caltrans (see Appendix G). This study has been prepared in accordance with the specified scope of work items requested by the California Department of Transportation's (Caltrans) District 12. The study area consists of the following six (6) intersections:

- SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)
- SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)
- S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)
- S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)
- Placentia Avenue (N/S) and Project Access 1 (E/W)
- Project Access 2 (N/S) and Orangethorpe Avenue (E/W)

Study Intersection LOS Analysis Summary

The intersection level of service analysis has been performed at the six (6) study intersections within the vicinity of the site where the project may contribute a significant amount of traffic. Project deficiencies have been evaluated within the study area based on peak hour level of service performance criteria and thresholds of significance.

All study intersections are forecasted to operate at acceptable level of service conditions under all traffic analysis scenarios.

Intersection Queuing Analysis Summary

As requested by Caltrans, a queuing analysis has been conducted to evaluate the queue lengths of turn pockets serving the SR-57 on and off ramps intersections along Orangethorpe Avenue. This analysis aims to determine the potential for traffic overflow from turn pockets, considering its impact on the freeway facility, through lanes, and adjacent intersections.

For Existing and Existing Plus Project traffic conditions, adequate storage is provided for all reported turning movements.

Under Project Opening Year (2027) for both Without and With Project Conditions, adequate storage is provided for all reported turning movements with the exception to the following:

Intersection # 1 – SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

- Northbound Right-Turn (PM Peak Hour)

It should be noted that the project will not add any traffic to this movement and as a result, is not forecast to increase this northbound right-turn queue at all (i.e., 0 foot increase). This movement serves traffic traveling in the opposite direction of the project site. As such, while this queue is considered deficient, it is not directly impacted by the project.

Adequate storage is provided for all other reported turning movements under Project Opening Year (2027) With Project Conditions.

Freeway Ramp (Merge/Diverge) Analysis Summary

A freeway ramp(merge/diverge) analysis has been conducted for the State Route 57 (SR-57) on/offramps along Orangethorpe Avenue considering the requirement set by Caltrans and conducting using the methodologies described in the Highway Capacity Manual (HCM).

As stated previously in Section 2.2.4 of the TIA, for the purpose of this analysis, the minimum acceptable level of service is LOS D or better for any State highway facility. Additionally, a project impact is identified if one of the following occurs:

- A state highway facility operating at an acceptable LOS (i.e., LOS D or better) degrades to a deficient LOS (i.e., LOS E or worse) with the addition of project traffic; OR
- A state highway facility is already operating at a deficient LOS E and further degrades to a LOS F with the addition of project traffic; OR
- If a state highway facility is already operating at a deficient LOS (LOS E or worse) without the project and the addition of project traffic causes or worsens adverse safety conditions (e.g., for diverge analyses, adverse safety conditions are defined as off-ramp queues which extend back onto the mainline, either caused directly by the project or the addition of project traffic worsens the queue if it already extends onto the mainline under pre-project conditions).

For Existing and Existing Plus Project traffic conditions, all freeway ramps analyzed operate at an adequate LOS with the exception of the following:

Ramp #3 – State Route 57 Northbound Off-Ramp to Orangethorpe Avenue

- PM Peak Hour – LOS E

Ramp #3 operates deficiently (i.e., LOS E) under existing conditions. Although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1pc/mi/ln increase caused by 10 peak hour project trips during the PM peak

hour). The existing LOS (i.e. LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g. the off-ramp queues do not extend back onto the mainline per Table 6-1 of the TIA). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of the TIA, the project does not create a significant impact.

Under Project Opening Year (2027) for both Without and With Project Conditions, all freeway ramps analyzed operate at an adequate LOS with the exception of the following:

Ramp #1 – State Route 57 Southbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E
- PM Peak Hour – LOS E

Ramp #3 – State Route 57 Northbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E
- PM Peak Hour – LOS E

Ramp #1 operates deficiently (i.e., LOS E) under Project Opening Year (2027) Without Project Conditions. During the AM peak hour, there is no net increase in density with the addition of project traffic. In the PM, there is a nominal increase of 0.1 pc/hr/ln caused by 10 peak hour project trips during the PM peak hour. However, the LOS without project conditions (i.e. LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g., the off-ramp queues do not extend back onto the mainline per Table 6-2). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of the TIA, the project does not create a significant impact at Ramp #1.

Ramp #3 operates deficiently (i.e., LOS E) under Project Opening Year (2027) Without Project Conditions. During the AM peak hour, there is no net increase in density with the addition of project traffic. In the PM, there is a nominal increase of 0.1 pc/hr/ln caused by 10 peak hour project trips during the PM peak hour). Although there is a forecasted queue length that extends onto the mainline, the project does not cause or worsen the already present adverse safety conditions of the facility (e.g., per Table 6-2 of the TIA, the project will not add any additional traffic to the northbound right turn queue which is forecast to spill back onto the mainline even before the addition of project traffic). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of the TIA, the project does not create a significant impact at Ramp #3.

B-15 Please refer to Response B-14.

B-16 Please refer to Responses B-14.

B-17 Comment noted. No project work within Caltrans right-of-way is anticipated.

B-18 Comment noted. See Response B-17. No response required.



Letter C

T 510.836.4200
F 510.836.4205

1939 Harrison Street, Ste. 150
Oakland, CA 94612

www.lozeaudrury.com
victoria@lozeaudrury.com

Via Email

January 4, 2024

Andrew Gonzales, Planning Manager
City of Placentia
401 E. Chapman Avenue
Placentia, CA 92870
agonzales@placentia.org

**Re: Comment on Mitigated Negative Declaration, Orangethorpe/Placentia
Mixed Use Project (GPA 2022-01; DPR 2021-02; SPA 2021-01)**

Dear Mr. Gonzales:

This comment is submitted on behalf of Supporters Alliance For Environmental Responsibility ("SAFER") regarding the Initial Study and Mitigated Negative Declaration ("IS/MND") prepared for the Orangethorpe/Placentia Mixed Use Project (GPA 2022-01; DPR 2021-02; SPA 2021-01), which proposes the development of 248 multi-family residential dwelling units, up to 3,000 square feet of commercial retail use, and a 7-level parking structure, located at 776 S. Placentia Avenue & 777 W. Orangethorpe Avenue, in the City of Placentia ("Project").

SAFER is concerned that the IS/MND is improper under the California Environmental Quality Act due to the IS/MND's failure to adequately assess the Project's potentially significant environmental impacts. SAFER requests that an environmental impact report be prepared for the Project rather than an MND to ensure that potentially significant impacts of this Project are fully disclosed, analyzed, and mitigated.

SAFER reserves the right to supplement this comment throughout the administrative process. *Galante Vineyards v. Monterey Peninsula Water Management Dist.*, 60 Cal. App. 4th 1109, 1121 (1997).

Sincerely,

A handwritten signature in black ink that reads "Victoria Yundt".

Victoria Yundt
Lozeau Drury LLP

C-1

Response to Comment Letter C. Victoria Yundt, Louzeau Drury LLP, January 4, 2024

- C-1** Comment noted. Without any evidence or specificity provided, the commenter concludes that there is a failure to adequately address the Proposed Project's potentially significant environmental impacts. For the reasons stated in the IS/MND, all potential environmental impacts of the Proposed Project are less than significant or would be mitigated to a level of less than significant with incorporation of the proposed mitigation measures. Therefore, a mitigated negative declaration (MND) is the appropriate document pursuant to the California Environmental Quality Act (CEQA).

Letter D

From: Hernandez, Michael <MEHernandez@republicservices.com>

Sent: Monday, March 25, 2024 4:17 PM

To: Andrew Gonzales <agonzales@placentia.org>

Subject: RE: Development Review Request - 777 W. Orangethorpe Avenue & 776 S. Placentia Avenue (The Laurel)

EMAIL FROM EXTERNAL SOURCE

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Good afternoon Andrew

Andrew sorry I'm just now getting back to you. It was a pleasure speaking to on the development of (The Laurel). Just wanted to share my concerns with you.

1. This account would need scout service as the service truck wont be able to enter the parking garage that the bins will be stored in.
2. There not a safe turn for our truck, so our driver would have to 'Blind Back' on to Placentia ave. (safety concern)
3. Where are the containers going to sit for the commercial business that will be off orangethorpe no room for the service truck to enter and exit with cars parked in the area.
4. Noise Ordinance with this being a residential community being build in the middle of an industrial area this will cause as to make route changes since we are not able to service Residential community until after 7am.

D-1

D-2

Thanks,

Michael Hernandez

Operations Manager

1235 N Blue Gum St.

Anaheim, CA 92806

e Mehernandez@republicservices.com

c 904.228.7508



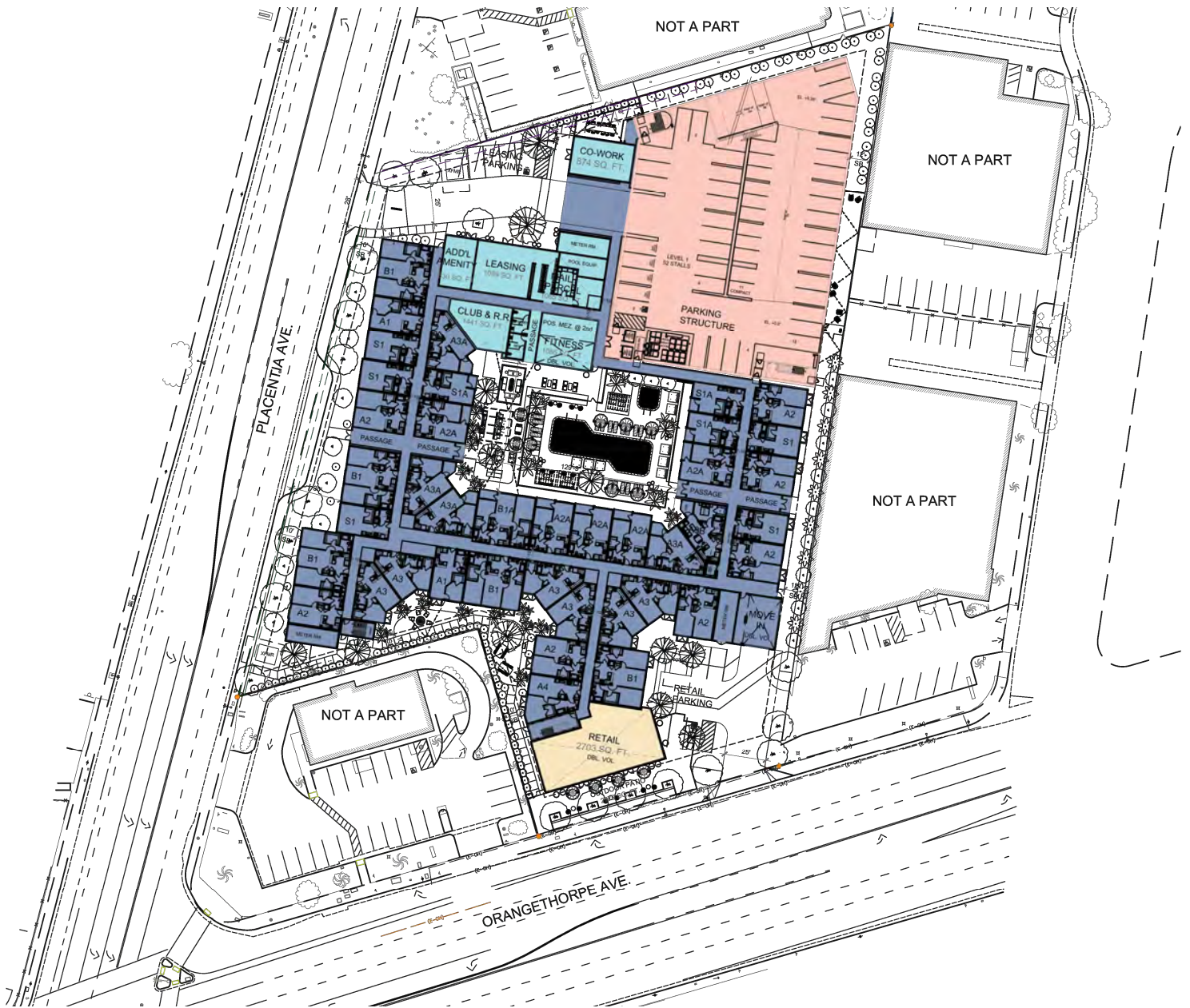
Sustainability in Action

Response to Comment Letter D. Michael Hernandez, Republic Services, March 25, 2024

- D-1** Per your request, the site plan has been revised to address your comments. Please see the Waste Management Plan located on the following page.
- D-2** Comment noted. No response required.

Appendix A
Traffic Impact Analysis
(dated April 26, 2024)

NEC ORANGETHORPE AVENUE & PLACENTIA AVENUE MIXED USE PROJECT TRAFFIC IMPACT ANALYSIS City of Placentia, California



**NEC ORANGETHORPE AVENUE & PLACENTIA AVENUE
MIXED-USE PROJECT
REVISED TRAFFIC IMPACT ANALYSIS
City of Placentia, California**

Prepared for:

ORANGETHORPE INVESTMENT PARTNERS, LLC.
2881 East La Cresta Avenue
Anaheim, CA 92806

Prepared by:

RK ENGINEERING GROUP, INC.
1401 Dove Street, Ste. 540
Newport Beach, CA 92660

**Justin Tucker, P.E., T.E.
Michael Torres, E.I.T.
Sabrina Ayala**



**April 26, 2024
(Revision to April 10, 2024 Study)**

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1.0 Introduction

1.1 Purpose of Report & Study Objectives

This study has been prepared in accordance with the specified scope of work items requested by the California Department of Transportation's (Caltrans) District 12 on behalf of the City of Placentia, as outlined in the January 4th, 2024, letter addressed to Mr. Andrew Gonzalez (Planning Manager) provided in **Appendix A**.

The purpose of this traffic impact analysis and report is to evaluate the NEC Orangethorpe Avenue & Placentia Avenue Mixed-Use Project (hereinafter referred to as "project") from a traffic and circulation perspective. Furthermore, this analysis will determine whether the proposed project will significantly impact the environment.

This traffic study has been conducted pursuant to the *City of Placentia Traffic Impact Analysis Guidelines for Vehicles Miles Traveled and Level of Service Assessment*, dated January 2021, the *2023 Orange County Congestion Management Program Report*, dated November 2023, and the California Environmental Quality Act (CEQA) requirements.

1.2 Project Description

The project site is located near the northeast corner of Orangethorpe Avenue and Placentia Avenue, specifically at 776 South Placentia Avenue and 777 West Orangethorpe Avenue in Placentia, CA. The proposed project consists of the construction of 248 multi-family residential dwelling units and up to 2,800 square feet of commercial retail use (with related amenity uses, private and common open space uses).

Access to the project will be provided via one (1) full-access unsignalized driveway along Orangethorpe Avenue that will primarily serve the retail component of the project and via one (1) full-access unsignalized driveway along Placentia Avenue that will primarily serve the residential component of the project. A seven (7) level parking structure will accommodate vehicles entering the Placentia Avenue driveway. The parking structure will primarily serve the residents but will also provide eight (8) spaces for the commercial portion.

The project proposes to provide a total of 342 on-site parking spaces, comprising of 334 general parking spaces and 8 ADA parking spaces. Four (4) parking spaces (i.e., 3 general spaces and 1 ADA space) are provided in the retail surface lot located along Orangethorpe Avenue. The 338 parking spaces proposed within the parking garage, which is accessible via the Placentia Avenue driveway, are comprised of 331 general parking spaces and seven (7) ADA parking spaces. Of these 331 general parking spaces, seven (7) are designated for retail parking.

The project site is located within Specific Plan – 5 Zoning District and designated as Commercial in the City of Placentia General Plan Land Use Map.

The project is expected to open in Year 2027 and will be evaluated in one (1) single phase.

Exhibit 1-1 shows an aerial location map of the proposed project. **Exhibit 1-2** shows the proposed project's site plan.

1.3 Traffic Study Area & Analysis Scenarios

The study area included in this analysis has been determined based on existing and future transportation facilities within the vicinity of the site where the project may contribute a significant amount of traffic.

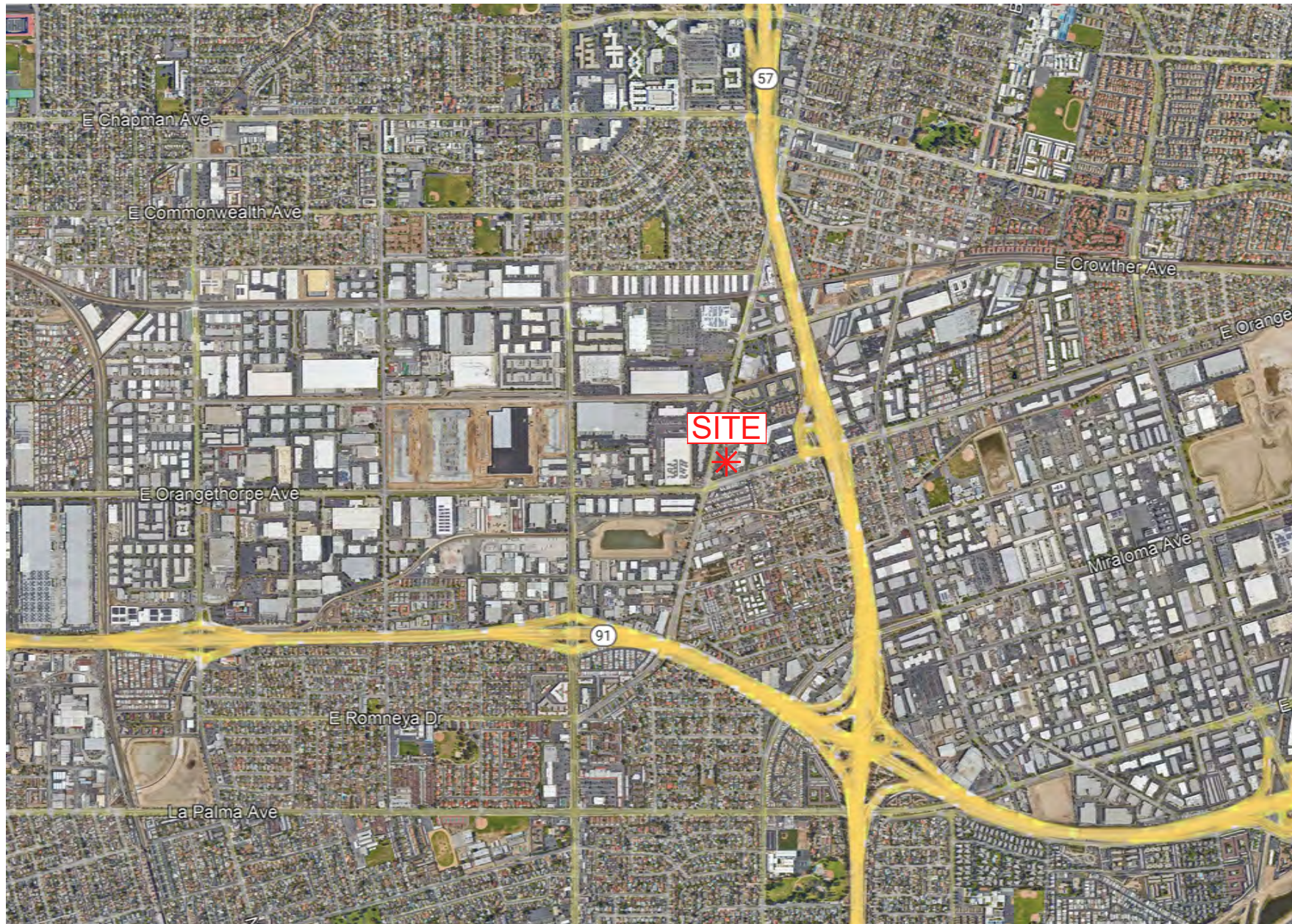
Exhibit 1-3 illustrates the project site's traffic analysis study area.

Based on recommended practices described in the *2023 Orange County Congestion Management Program Report*, dated November 2023, the study area comprises transportation facilities where the proposed project is anticipated to generate traffic volumes equal to or exceeding 3% of the roadway facilities capacity (i.e., LOS E). The proposed project trip generation is discussed in detail in Section 4.1 of this report. The study area consists of the following six (6) intersections listed in **Table 1-1** below. The jurisdiction(s) of each key study intersection is also identified.

Table 1-1
Study Area Intersections

Study Intersection		Jurisdiction ¹
1.	SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)	City of Placentia OC CMP Caltrans
2.	SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)	City of Placentia OC CMP Caltrans
3.	S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)	City of Placentia
4.	S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)	City of Fullerton OC CMP
5.	Placentia Avenue (N/S) and Project Access 1 (E/W)	City of Placentia
6.	Project Access 2 (N/S) and Orangethorpe Avenue (E/W)	City of Placentia

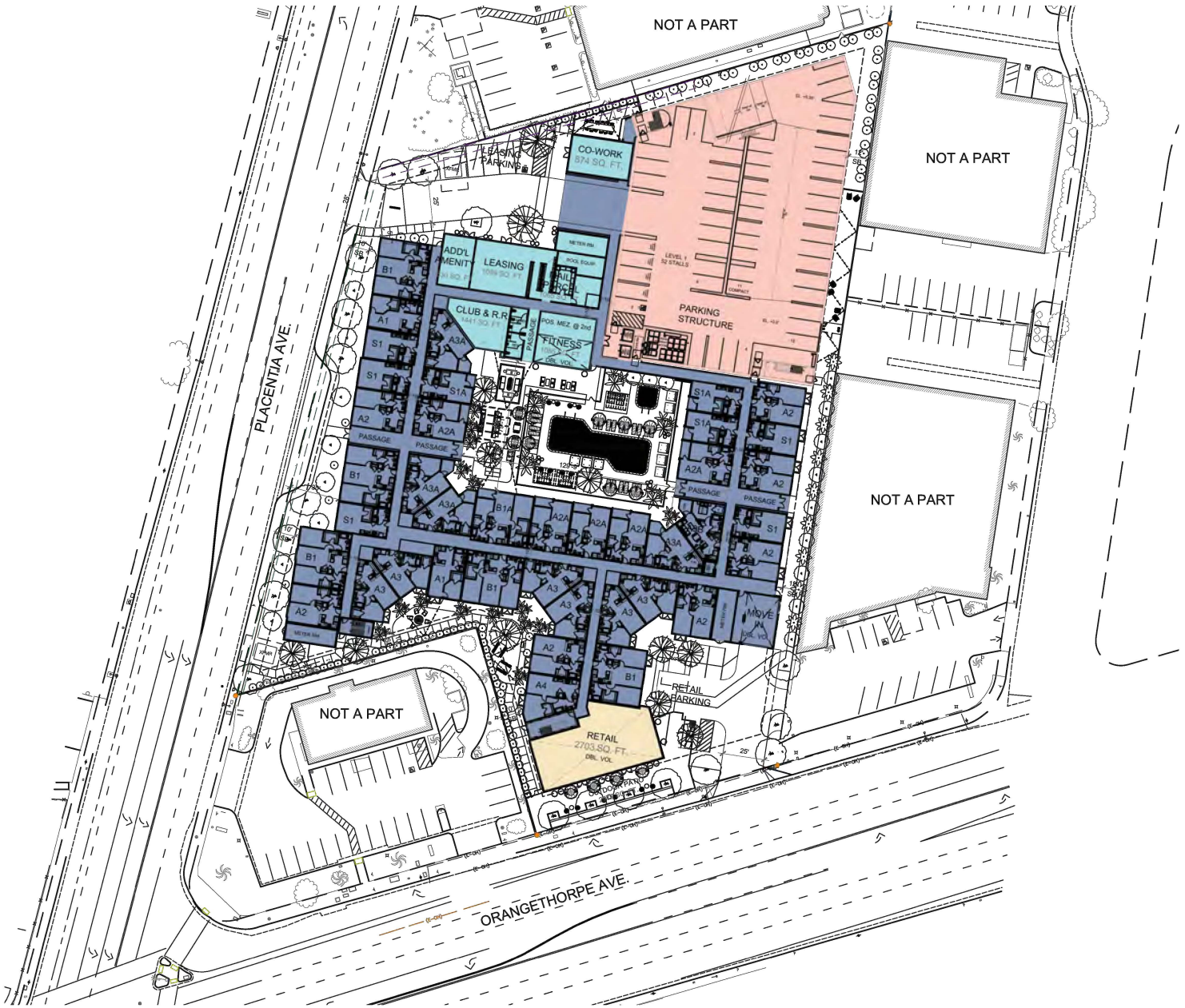
¹ OC CMP = Orange County Congestion Management Program Intersection

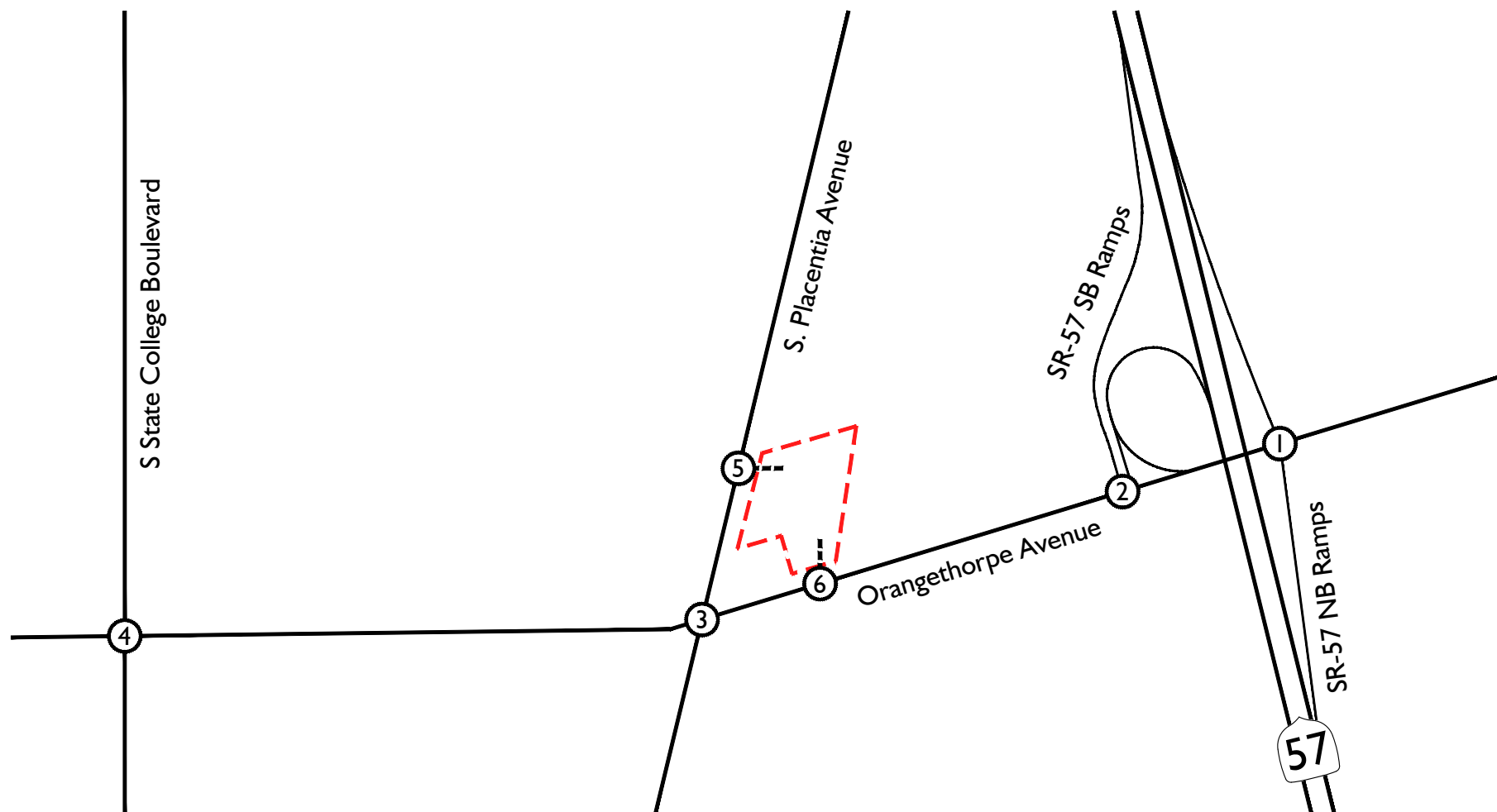


Legend:



* = Project Site





Legend:



- ① = Study Area Intersection
- = Project Site Boundary
- = Project Access Driveway

Based on the project trip generation detailed in Section 4.1 of this report, it is anticipated that the average daily traffic generated by the project, once dispersed throughout the transportation network, will not equal or exceed 3% of the roadway capacity for the roadways serving the project. Therefore, no roadway segments have been assessed in this analysis.

The analysis evaluates traffic conditions of the study area under the following scenarios during the weekday AM (6:00 AM to 9:00 AM) and weekday PM (3:00 PM to 7:00 PM) peak periods:

- Existing Conditions;
- Existing Plus Project Conditions;
- Project Opening Year (2027) Without Project Conditions;
- Project Opening Year (2027) With Project Conditions;
- Buildout Year (2045) Without Project Conditions; and
- Buildout Year (2045) With Project Conditions.

2.0 Analysis Methodologies, Performance Criteria, & Thresholds of Significance

This section of the report presents the methodologies used to perform the traffic analyses summarized in this study. These methodologies adhere to the requirements set forth by the Cities of Placentia and Fullerton, the Orange County Congestion Management Program, and Caltrans. This section also discusses the agency-established applicable performance criteria and thresholds of significance for the study facilities.

2.1 Study Intersection Peak Hour Level of Service Analysis Methodology

The Highway Capacity Manual (HCM) and the Intersection Capacity Utilization (ICU) methodologies are two accepted methods of determining intersection level of service. The study area intersections are governed by varying jurisdictional bodies which include the Cities of Placentia and Fullerton, the Orange County Congestion Management Program, and Caltrans. Each of these jurisdictions has adopted either one or both level of service methodologies as technical guides in the evaluation of traffic operations.

The study intersections have been assessed based on the methodologies and parameters adopted by their respective jurisdictions (previously identified in Table 1-1). Performance criteria and thresholds of significance for each jurisdiction are elaborated in Section 2.2.

- Int #1. SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W) – [HCM & ICU]
- Int #2. SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W) – [HCM & ICU]
- Int #3. S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W) – [ICU Only]
- Int #4. S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W) – [HCM & ICU]
- Int #5. Placentia Avenue (N/S) and Project Access 1 (E/W) – [HCM Only]
- Int #6. Project Access 2 (N/S) and Orangethorpe Avenue (E/W) – [HCM Only]

2.1.1 HCM (7th Edition) Methodology

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

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

- **LOS A** (Free Flow / Insignificant Delays) describes traffic operations in which progression is exceptionally favorable or the cycle length is extremely short. Generally, LOS A operations for signalized intersections tend to result in most vehicles arriving during the green phase and traveling through the intersection without stopping.
- **LOS B** (Stable Operation / Minimal Delays) describes traffic operations in which progression slightly diminishes but is still considered highly favorable and the cycle length is short. Vehicles stop more often causing a marginal increase in average delay.
- **LOS C** (Stable Operation / Acceptable Delays) describes traffic operations in which progression is favorable and the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Many vehicles still pass through the intersection but a significant number of vehicles are stopping. Average delay is fair.
- **LOS D** (Approaching Unstable / Tolerable Delays) describes traffic operations in which progression is ineffective and/or cycle length is long. Considerable amount of vehicles stop and individual cycle failures are noticeable. Average delay is adequate.
- **LOS E** (Unstable Operation / Significant Delays) describes traffic operations in which progression is unfavorable and the cycle length is exceedingly long. Individual cycle failures are frequent. Average delay is high.
- **LOS F** (Forced Flow / Excessive Delays) describes traffic operations in which progression is extremely poor and the cycle length is extremely long. Most cycles fail to clear the queue. Average delay is vast.

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

For signalized intersections, average control delay per vehicle is used to determine the LOS.

For all-way stop-controlled intersections, average control delay per vehicle is also used to determine the LOS.

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

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

Table 2-1
HCM Intersection LOS & Delay Ranges

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

2.1.2 ICU Methodology

To calculate the ICU, the volume of traffic using the intersection is compared with the capacity of the intersection. ICU is usually expressed as a ratio. This ratio represents the portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity.

Table 2-2 shows the level of service criteria based on the ICU methodology.

Table 2-2
ICU Intersection LOS and V/C Ranges

LOS	Signalized Intersection LOS Criteria
	(V/C)
A	≤ 0.600
B	> 0.600 and ≤ 0.700
C	> 0.700 and ≤ 0.800
D	> 0.800 and ≤ 0.900
E	> 0.900 and ≤ 1.000
F	> 1.000

2.2 LOS Performance Criteria & Thresholds for Requiring LOS Improvements

Automobile delay, as described solely by LOS or similar measures of traffic congestion, is no longer considered a significant impact under CEQA, except in locations specifically identified in the CEQA Guidelines. This provision took effect when the update to the CEQA Guidelines was certified in late 2018.

SB-743 does not preclude the application of local general plan policies, zoning codes, conditions of approval, thresholds, or any other planning requirements pursuant to the police power or any other authority. However, the Office of Planning and Research (OPR) has previously provided guidance on why LOS standards should not be included within general plans.

Even if a general plan contains an LOS standard and a project is found to exceed that standard, that conflict should not be analyzed under CEQA. CEQA is focused on planning conflicts that lead to environmental impacts. Auto delay, on its own, is no longer an environmental impact under CEQA.

Notwithstanding SB-743, which prohibits LOS to be used as a CEQA threshold, the following criteria has been utilized for each respective jurisdiction:

2.2.1 City of Placentia

As per the *City of Placentia Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment*, dated January 2021. The City of Placentia utilizes the ICU analysis method to determine the operating LOS of signalized intersections. The HCM methodology is utilized for the evaluation of unsignalized study intersections and driveways in the City of Placentia jurisdiction.

Per the City's General Plan Circulation Element and Growth Management Element requirements, a volume/capacity ratio of 0.90 (Level of Service D) shall be the lowest acceptable service level at intersections following implementation of roadway improvements. Improvements required to bring intersections and roadway segments to the acceptable service levels must be identified.

An effect on transportation occurs if the project causes the study intersection operating at LOS D or better to degrade to LOS E or F. Improvements to the study intersection will be required to bring back the intersection to an acceptable LOS. The project is to contribute their fair-share of the cost of improvement.

If an intersection is operating at an unacceptable LOS E or F for conditions without the project, the project will contribute their fair-share of an improvement to bring back the intersection to an acceptable LOS. If a feasible identified improvement(s) cannot be provided as determined by the City Traffic Engineer, then contribution of fair share towards an improvement will be considered. Unsignalized intersections operating at a deficient LOS with or without project conditions should be evaluated for installation of a traffic signal using the traffic signal peak hour warrant per the latest version of the California Manual on Uniform Traffic Control Devices (CA MUTCD).

2.2.2 City of Fullerton

As per the *City of Fullerton Transportation Assessment Policies and Procedures*, adopted June, 2020, the HCM methodology is utilized as the technical guide in evaluating traffic operations for both signalized and unsignalized intersections.

The acceptable level of service for signalized and unsignalized intersections within the City of Fullerton is LOS D or better.

An effect on transportation occurs if any of the following criteria are satisfied:

1. The project causes a signalized or unsignalized intersection operating at or above an acceptable operating condition to degrade to an unacceptable condition, or
2. The project causes a signalized or unsignalized intersection operating at an acceptable operating condition to further degrade and for a signalized intersection the change is:
 - a. From LOS E to LOS F,
 - b. An increase of at least 4 seconds for an LOS E intersection, or
 - c. An increase of at least 2 seconds for an LOS F intersection.

2.2.3 Orange County Congestion Management Program (CMP)

As per the *2023 Orange County Congestion Management Program Report*, dated November 2023, all Congestion Management Program Highway System (CMPHS) segments or intersections are evaluated by the ICU methodology.

For CMP intersections, the LOS standard must maintain a LOS "E" or better, unless the level of service from the baseline CMP dataset were lower. If a CMPHS segment or intersection does not meet the minimum LOS standard outside an infill opportunity zone, a deficiency plan must be adopted (subject to exclusions).

2.2.4 Caltrans

The *Caltrans Guide for The Preparation of Traffic Impact Studies*, dated December 2002, previously defined Caltrans' methodology and significance thresholds for evaluating traffic operations on state highway facilities. These guidelines were subsequently replaced by the *Caltrans Vehicle Miles Traveled-Focused Transportation Impact Study Guide*, dated May 2020, in response to automobile delay no longer considered as a significant impact under the California Environmental Quality Act (CEQA) and Senate Bill (SB-743). Consequently, Caltrans now primarily focuses on vehicle miles traveled (VMT) when reviewing the impact of a land use project.

Considering that this traffic impact analysis was requested by Caltrans to evaluate traffic operations at the SR-57 ramps along Orangethorpe Avenue, the methodologies utilized in this analysis adhere to the *Caltrans Guide for The Preparation of Traffic Impact Studies*, dated December 2002.

As per the *Caltrans Guide for The Preparation of Traffic Impact Studies*, dated December 2002, Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on state highway facilities, however, Caltrans acknowledges that this may not always be feasible. If an existing State highway facility is operating at less than the appropriate target LOS, the existing measure of effectiveness (MOE) should be maintained.

For the purpose of this analysis, the minimum acceptable level of service is LOS D or better for any State highway facility. Additionally, a project impact is identified if one of the following occurs:

- A state highway facility operating at an acceptable LOS (i.e., LOS D or better) degrades to a deficient LOS (i.e., LOS E or worse) with the addition of project traffic; OR
- A state highway facility is already operating at a deficient LOS E and further degrades to a LOS F with the addition of project traffic; OR

- If a state highway facility is already operating at a deficient LOS (LOS E or worse) without the project and the addition of project traffic causes or worsens adverse safety conditions (e.g., for diverge analyses, adverse safety conditions are defined as off-ramp queues which extend back onto the mainline, either caused directly by the project or the addition of project traffic worsens the queue if it already extends onto the mainline under pre-project conditions).

3.0 Existing Conditions & Circulation System

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

3.1 Existing Traffic Controls & Intersection Geometrics

Exhibit 3-1 identifies the existing roadway conditions, number of through traffic lanes, and intersection controls for the study area. The type of traffic control and number of lanes at an intersection are key inputs for the calculation of level of service.

3.2 Existing Traffic Volumes

Following the traffic data collection methodology outlined in the *2023 Orange County Congestion Management Program Report*, dated November 2023, manual turning movement counts were conducted in 15-minute increments during the weekday AM (6:00 AM to 9:00 AM) and PM (3:00 PM to 7:00 PM) peak hours on three (3) separate mid-weekdays (i.e., Tuesday, Wednesday, and Thursday). These counts were conducted under typical weekday conditions from Tuesday, January 30th, 2024, to Thursday, February 1st, 2024.

To provide a conservative analysis, Existing Conditions level of service calculations were based on the highest weekday AM and PM peak hour turning movements observed among the three (3) days of collected counts (i.e., Wednesday, January 31st). Additionally, these traffic counts were conducted per vehicle classification to determine the proportion of trucks (i.e., heavy vehicles) on a per approach basis at each study intersection. The computed truck percentages per approach were inputted into the intersection level of service analyses to more accurately model traffic operations.

The existing traffic count worksheets and existing truck percentage calculations are included in **Appendix B-I** and **Appendix B-II** respectively. Existing traffic volumes are provided in **Exhibit 3-2**.

3.3 City of Placentia General Plan Circulation Element

The City of Placentia General Plan Functional Roadway Classifications is shown on **Exhibit 3-3**.

Existing Traffic Control & Intersection Geometries

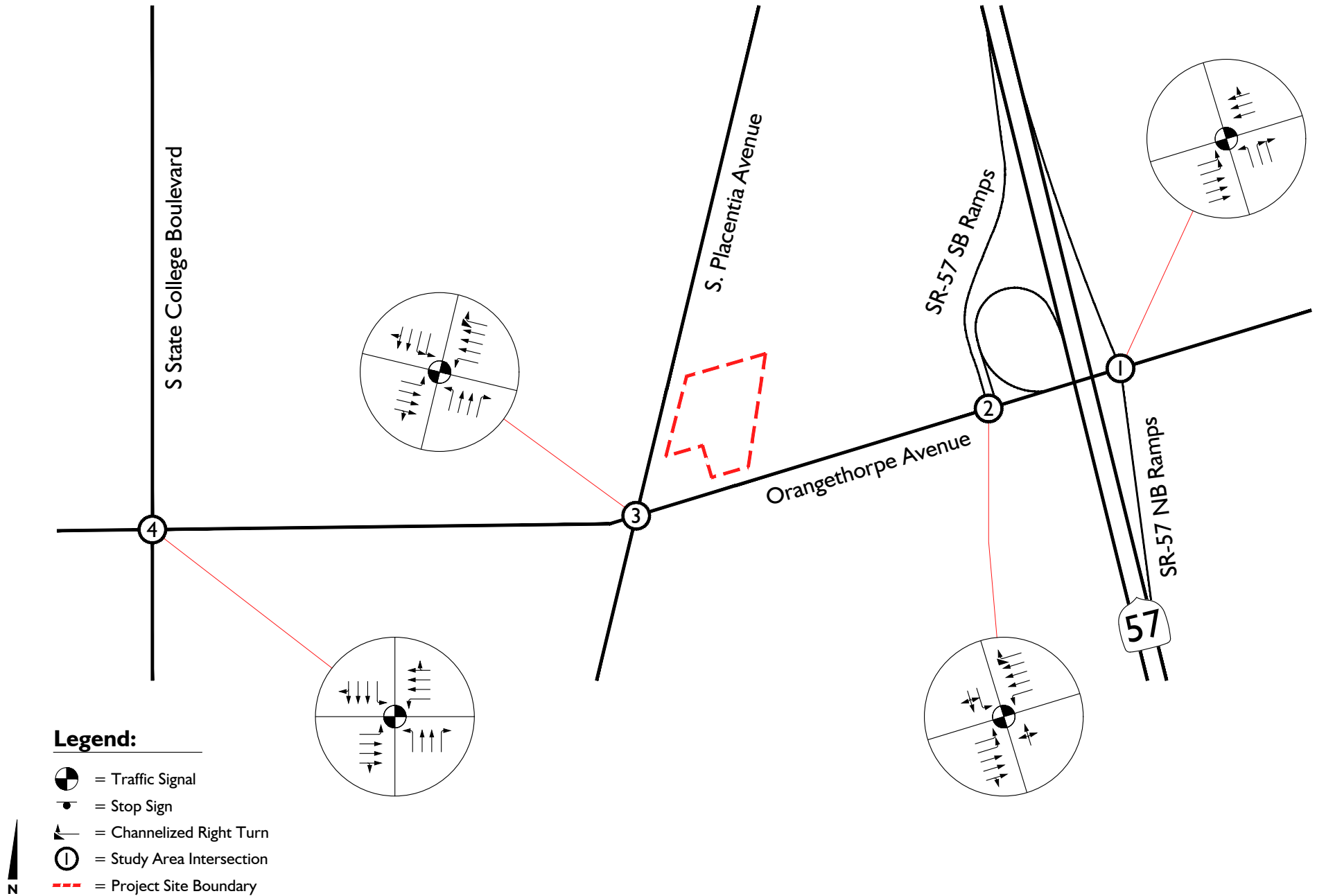
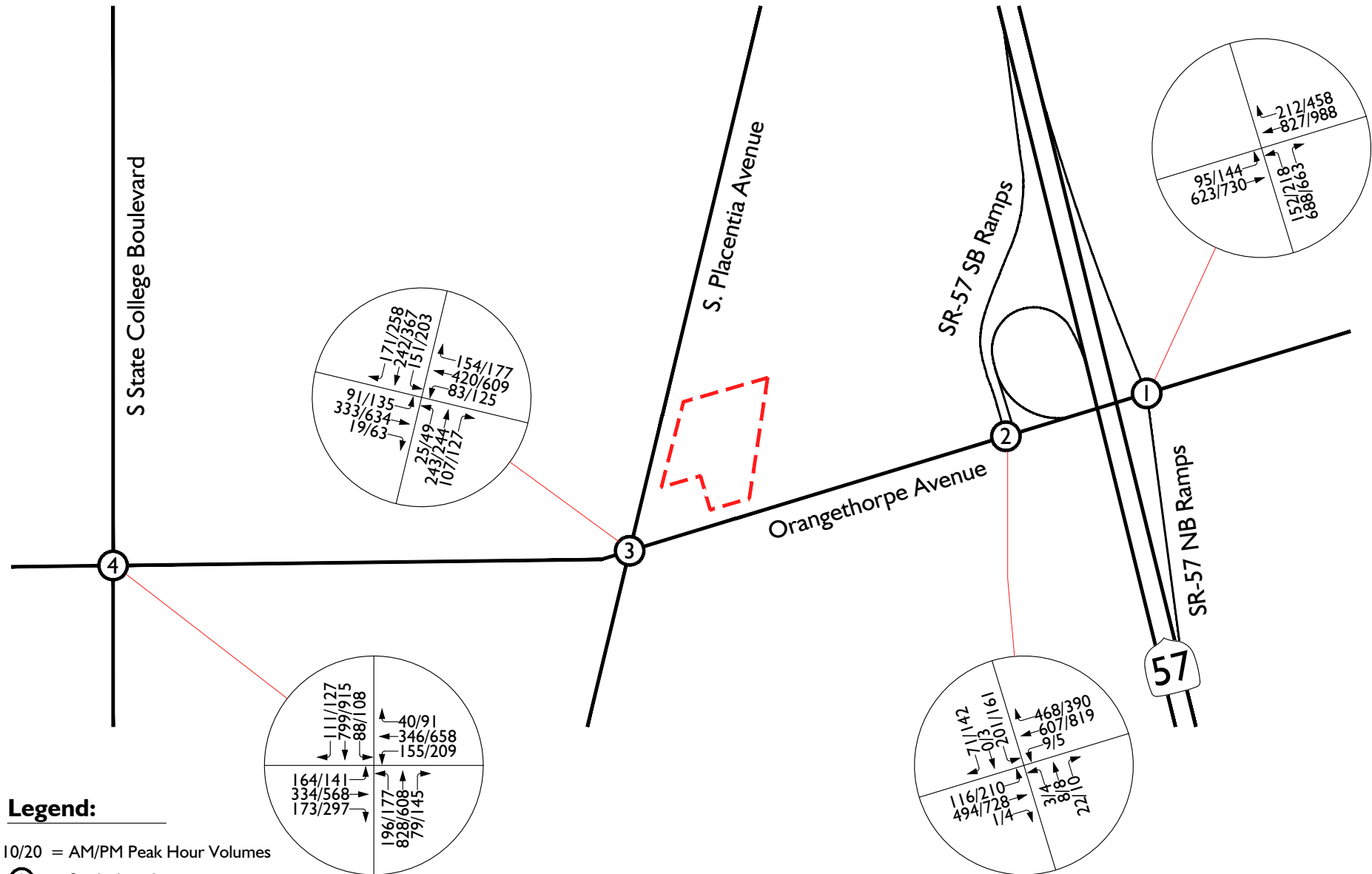
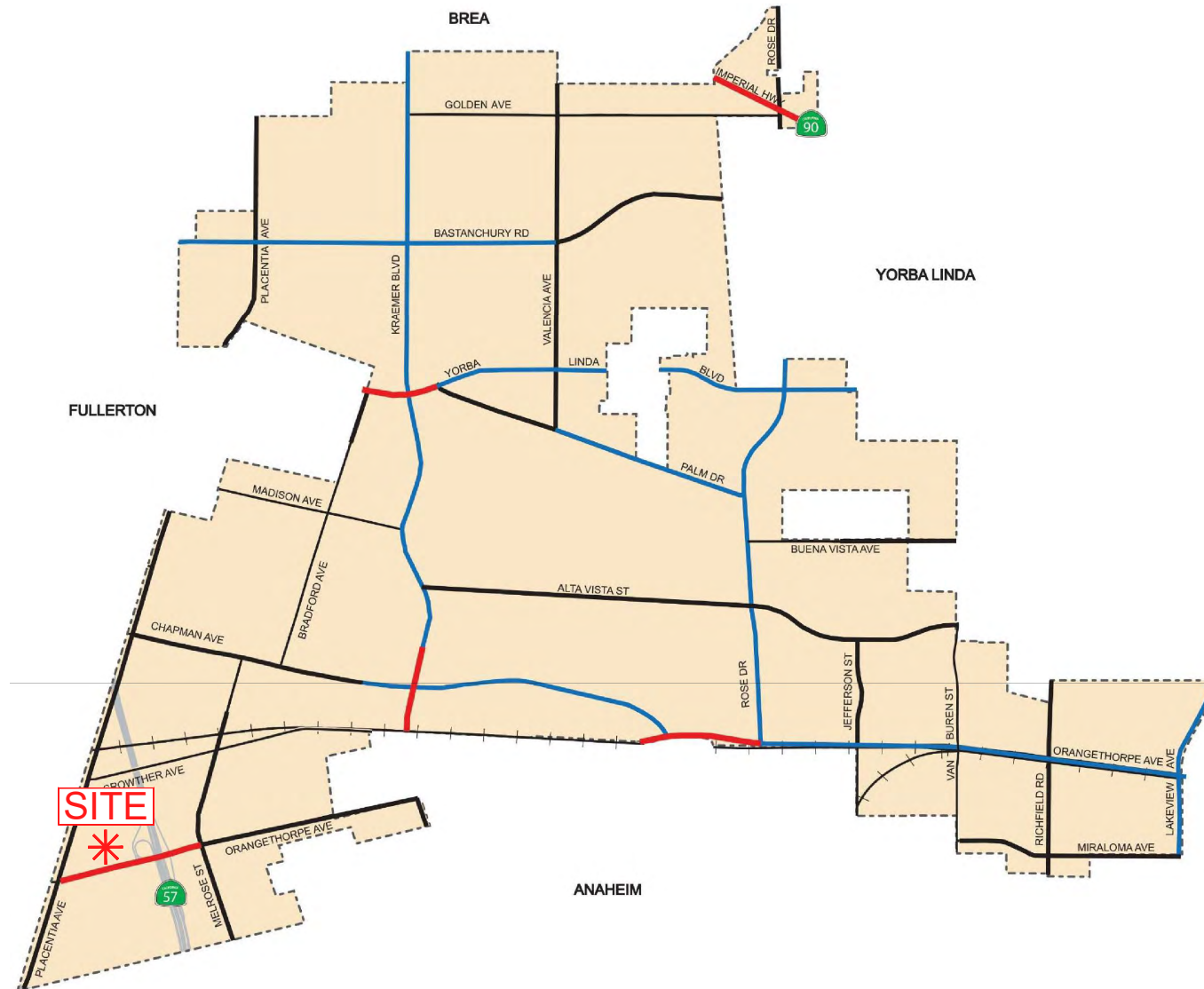


Exhibit 3-2 Existing Conditions Traffic Volumes



City of Placentia General Plan Functional Roadway Classification



Legend:

* = Project Site

- Placentia City Limits
- Railroad
- Major Arterial
- Primary Arterial
- Secondary Arterial
- Collector



4.0 Projected & Future Traffic Volumes

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

4.1 Project Traffic Conditions

4.1.1 Project Trip Generation

Trip generation represents the amount of traffic that is attracted and produced by a development. The trip generation for the proposed project is based on the specific land uses that have been planned for the development. Trip generation is typically estimated based on the trip generation rates from the latest *Institute of Transportation Engineers (ITE) Trip Generation Manual*. The 2021 11th Edition ITE Manual is the current edition, and this publication provides a comprehensive evaluation of trip generation rates for a variety of land uses.

The project is proposing to construct a 5-level residential building, comprising 248 multi-family residential dwelling units, along with 2,800 square feet designated for commercial retail use. As such, ITE Land Use 221: Multifamily Housing (Mid-Rise) and ITE Land Use 822: Strip Retail Plaza (<40K) trip rates are the most appropriate for these land uses.

Table 4-1 shows the ITE trip generation rates (11th Edition) utilized for the trip generation analysis of the proposed project land use as well as the project's forecast peak hour and daily traffic volumes.

Table 4-2 shows the trip generation for the proposed project utilizing the trip generation rates shown in Table 4-1. As shown in Table 4-2, the project is forecast to generate approximately 1,278 daily trips with approximately 99 trips during the AM peak hour and approximately 115 trips during the PM peak hour.

4.1.2 Project Trip Distribution & Assignment

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

The assignment of traffic from the project site to the adjoining roadway system has been based upon the site's trip generation, trip distribution, existing and proposed arterial highways, and local street systems, which would be in place by the time of initial occupancy of the site.

Table 4-1
ITE Trip Generation Rates¹

Land Use	ITE Code	Units ²	Weekday						
			AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Multifamily Housing (Mid-Rise)	220	DU	23%	77%	0.37	61%	39%	0.39	4.54
Strip Retail Plaza (<40k)	822	TSF	60%	40%	2.36	50%	50%	6.59	54.45

¹ Source: ITE Trip Generation Manual (11th Edition, 2021).

² DU = Dwelling Units.

TSF = Thousand Square Feet.

Table 4-2
Project Trip Generation¹

Land Use	Quantity	Units ²	Weekday						
			AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Multifamily Housing (Mid-Rise)	248	DU	21	71	92	58	39	97	1,126
Strip Retail Plaza (<40k)	2.800	TSF	4	3	7	9	9	18	152
Total Project Trip Generation			25	74	99	67	48	115	1,278

¹ Source: ITE Trip Generation Manual (11th Edition, 2021).

² TSF = Thousand Square Feet.

Exhibit 4-1 illustrates the trip distribution pertaining to the residential component of the project while **Exhibit 4-2** shows the trip distribution for the retail component of the project.

4.1.3 Modal Split

Modal split denotes the proportion of traffic generated by a project that would use any of the transportation modes, namely buses, cars, bicycles, motorcycles, trains, carpools, etc. The traffic-reducing potential of public transit and other modes is significant. However, the traffic projections in this study are conservative in that public transit and alternative transportation may be able to reduce the traffic volumes, but no modal split reduction is applied to the projections. With the implementation of transit service and provision of alternative transportation ideas and incentives, the automobile traffic demand can be reduced significantly.

4.1.4 Project Peak Hour Traffic Volumes

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

The project traffic volumes during the weekday AM and PM peak hours are illustrated in **Exhibit 4-3**.

4.2 Background Traffic

4.2.1 Method of Projection

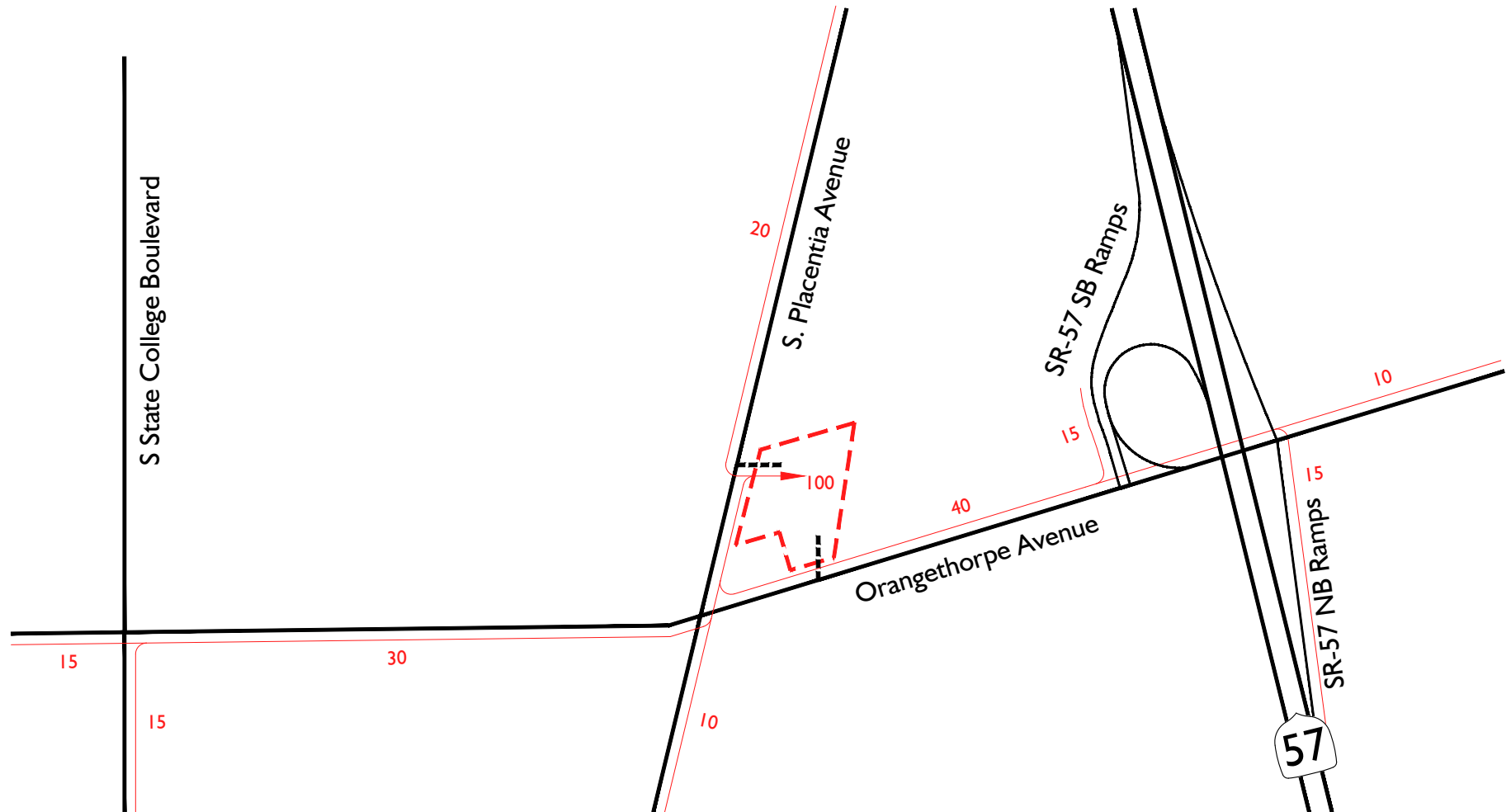
As specified in the *City of Placentia Traffic Impact Analysis Guidelines for Vehicles Miles Traveled and Level of Service Assessment*, dated January 2021, projects planned for construction more than two years beyond existing conditions, an ambient growth factor shall be included to account for annual increases in background traffic (i.e., 1% per year).

To assess future traffic conditions, project traffic is combined with existing traffic and area-wide growth. To account for area-wide/ambient growth in the study area, a linear annual growth rate of one percent (1%) per year, per the City of Placentia's guidelines, has been applied to the existing (2024) traffic volumes over a three (3) year period for Project Opening Year (2027) conditions (i.e., 3% total growth).

4.2.2 Cumulative Projects Traffic Volumes

Information on future projects in vicinity of the study area has been provided by the Cities of Placentia, Fullerton, and Anaheim for inclusion in this analysis and is shown in **Table 4-3**. Table 4-

Project Trip Distribution Residential Component

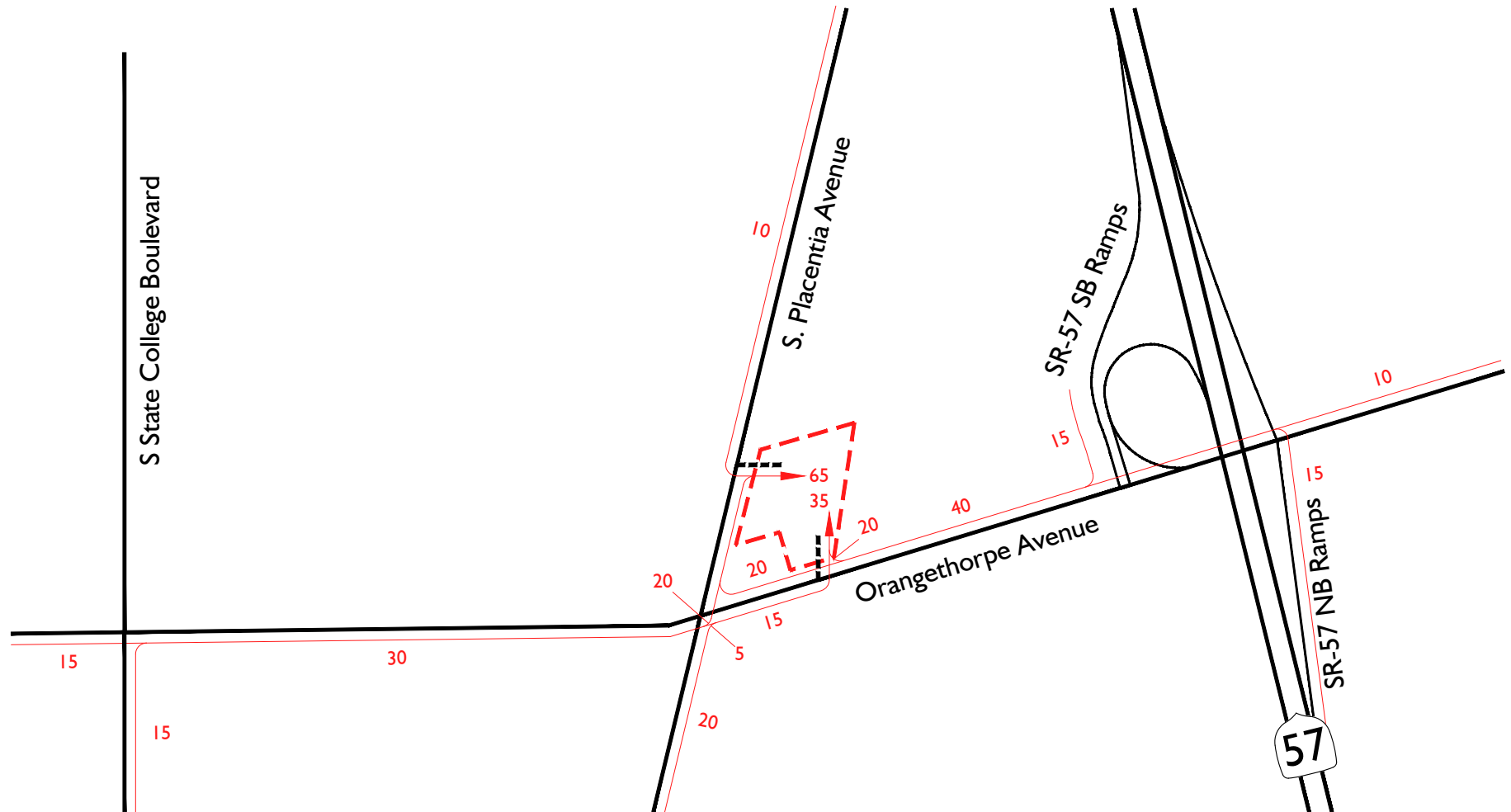


Legend:

- 10 = Percent to/from Project
- = Project Site Boundary
- = Project Access Driveway



Project Trip Distribution Retail Component



Legend:

- 10 = Percent to/from Project
- = Project Site Boundary
- = Project Access Driveway



Exhibit 4-3 Project Traffic Volumes

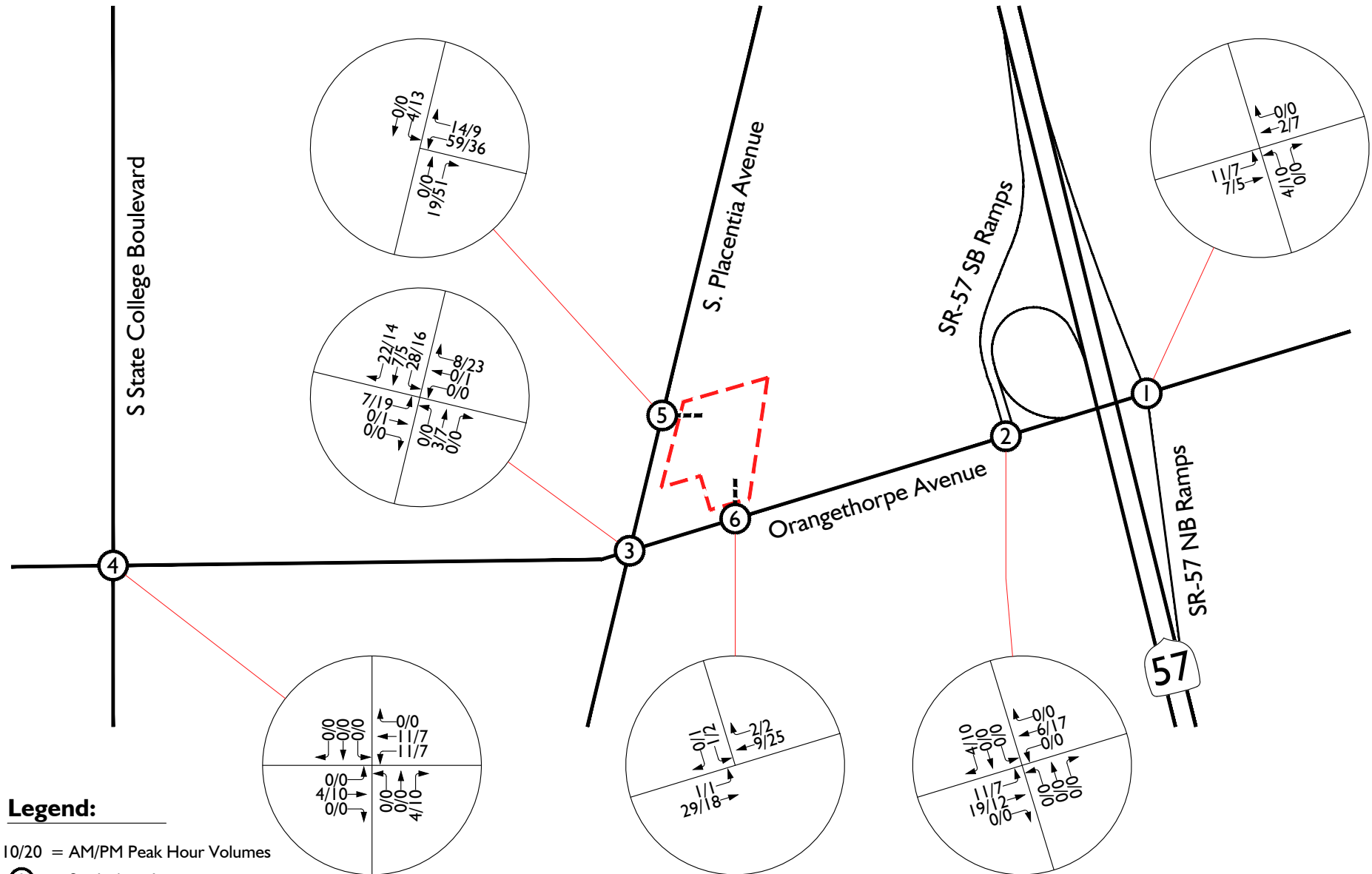


Table 4-3
Cumulative Projects Trip Generation¹

ID No.	Jurisdiction	Project Name / Case Number	Weekday						Daily
			AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
TAZ 1									
P1	City of Placentia	DPR 2020-01; GPA 2020-01; ZC 2020-01	9	24	33	18	12	30	313
TAZ 1 Total			9	24	33	18	12	30	313
TAZ 2									
P2	City of Placentia	ZCA 2017-09; DPR 2017-03; UP 2017-09; VTTM 18176	23	39	62	65	52	117	1,054
TAZ 2 Total			23	39	62	65	52	117	1,054
TAZ 3									
F1	City of Fullerton	ZON-2021-0041	3	9	12	8	6	14	180
F6	City of Fullerton	PRJ2020-00008 Hub Fullerton	36	88	124	103	73	176	1,730
TAZ 3 Total			39	97	136	111	79	190	1,910
TAZ 4									
F7	City of Fullerton	ZON-2023-0027 Fullerton Crossings	16	11	27	37	37	74	613
TAZ 4 Total			16	11	27	37	37	74	613
TAZ 5									
F4	City of Fullerton	ZON-2022-0131 Acacia and Kimberly Industrial	8	2	10	2	8	10	78
F8	City of Fullerton	ZON-2022-0019 505 Raymond	2	0	2	0	2	2	22
TAZ 5 Total			10	2	12	2	10	12	100
TAZ 6									
F5	City of Fullerton	PRJ-2019-00173 Goodman Logistics	187	55	242	77	204	281	3,830
TAZ 6 Total			187	55	242	77	204	281	3,830
TAZ 7									
P3	City of Placentia	DPR 2020-03; DA 2020-01, MND 2020-03	19	64	83	48	20	68	650
P4	City of Placentia	DPR 2018-04	36	119	155	99	64	163	1,898
P5	City of Placentia	Packing House District Transit-Oriented Development Expansion Project	41	164	205	136	56	192	4,996
TAZ 7 Total			96	347	443	283	140	423	7,544
TAZ 8									
F2	City of Fullerton	PRE-2022-0061 - ZON-2022-0097 1500 Raymond Street	28	10	38	11	29	40	430
TAZ 8 Total			28	10	38	11	29	40	430
TAZ 9									
F3	City of Fullerton	ZON-2021-0104	12	12	24	11	11	22	274
TAZ 9 Total			12	12	24	11	11	22	274
TAZ 10									
A1	City of Anaheim	DEV2022-00053	14	6	20	7	15	22	247
TAZ 10 Total			14	6	20	7	15	22	247
TAZ 11									
P6	City of Placentia	DPR 2021-03; UP 2021-04	26	7	33	7	23	30	270
TAZ 11 Total			26	7	33	7	23	30	270
TAZ 12									
P7	City of Placentia	SPR 2023-02	0	1	1	1	1	2	20
P8	City of Placentia	DPR 2023-01	0	2	2	2	1	3	34
TAZ 12 Total			0	3	3	3	2	5	54
TAZ 13									
A2	City of Anaheim	DEV2022-00042	11	3	14	5	11	16	184
TAZ 13 Total			11	3	14	5	11	16	184
TAZ 14									
A3	City of Anaheim	DEV2023-00028	19	18	37	0	-1	-1	251
TAZ 14 Total			19	18	37	0	-1	-1	251
TAZ 15									
A4	City of Anaheim	DEV2020-00098	2	5	7	6	3	9	121
TAZ 15 Total			2	5	7	6	3	9	121
TAZ 16									
A5	City of Anaheim	DEV2021-00006	35	11	46	15	35	50	544
TAZ 16 Total			35	11	46	15	35	50	544
TAZ 17									
A6	City of Anaheim	DEV2022-00066/Dutch Bros	34	32	66	33	37	70	700
TAZ 17 Total			34	32	66	33	37	70	700
TAZ 18									
A7	City of Anaheim	DEV2019-00017	23	24	47	41	42	83	842
TAZ 18 Total			23	24	47	41	42	83	842
TAZ 19									
A8	City of Anaheim	DEV2021-00180	10	30	40	28	19	47	598
TAZ 19 Total			10	30	40	28	19	47	598
TAZ 20									
A9	City of Anaheim	DEV2021-00163	24	25	49	32	32	64	939
TAZ 20 Total			24	25	49	32	32	64	939
Total Cumulative Project Developments Trip Generation			618	761	1,379	792	792	1,584	20,818

¹ Cumulative project information provided by the Cities of Placentia, Fullerton, and Anaheim staff.

² Source: ITE Trip Generation Manual (11th Edition, 2021).

3 shows the daily and peak hour trip generation for the nearby cumulative projects provided by the public agencies.

A location map of the cumulative projects is shown on **Exhibit 4-4**. Cumulative projects traffic volumes are shown on **Exhibit 4-5**.

In reality, some of the cumulative projects may be downsized or may not be developed by the Project Opening Year (2027). In addition, many of the cumulative projects have been or will be subject to a variety of mitigation measures that will reduce the potential environmental impacts associated with those projects. However, those mitigation measures have not been taken into account in projecting the environmental impact of the related projects. Therefore, the cumulative analyses set forth below are conservative and could result in greater impacts than actually anticipated.

4.3 Existing Plus Project Conditions Traffic Volumes

Existing Plus Project Conditions traffic volumes consist of the existing (2024) traffic volumes plus traffic generated by the proposed project.

Existing Plus Project Condition traffic volumes are depicted in **Exhibit 4-6**.

4.4 Project Opening Year (2027) Without Project Conditions Traffic Volumes

Project Opening Year (2027) Without Project Conditions traffic volumes consist of three (3) years of annual growth on top of baseline existing (2024) traffic at one percent (1%) per year (i.e., 3% total growth), plus traffic generated by cumulative projects.

Project Opening Year (2027) Without Project Conditions traffic volumes are depicted in **Exhibit 4-7**.

4.5 Project Opening Year (2027) With Project Conditions Traffic Volumes

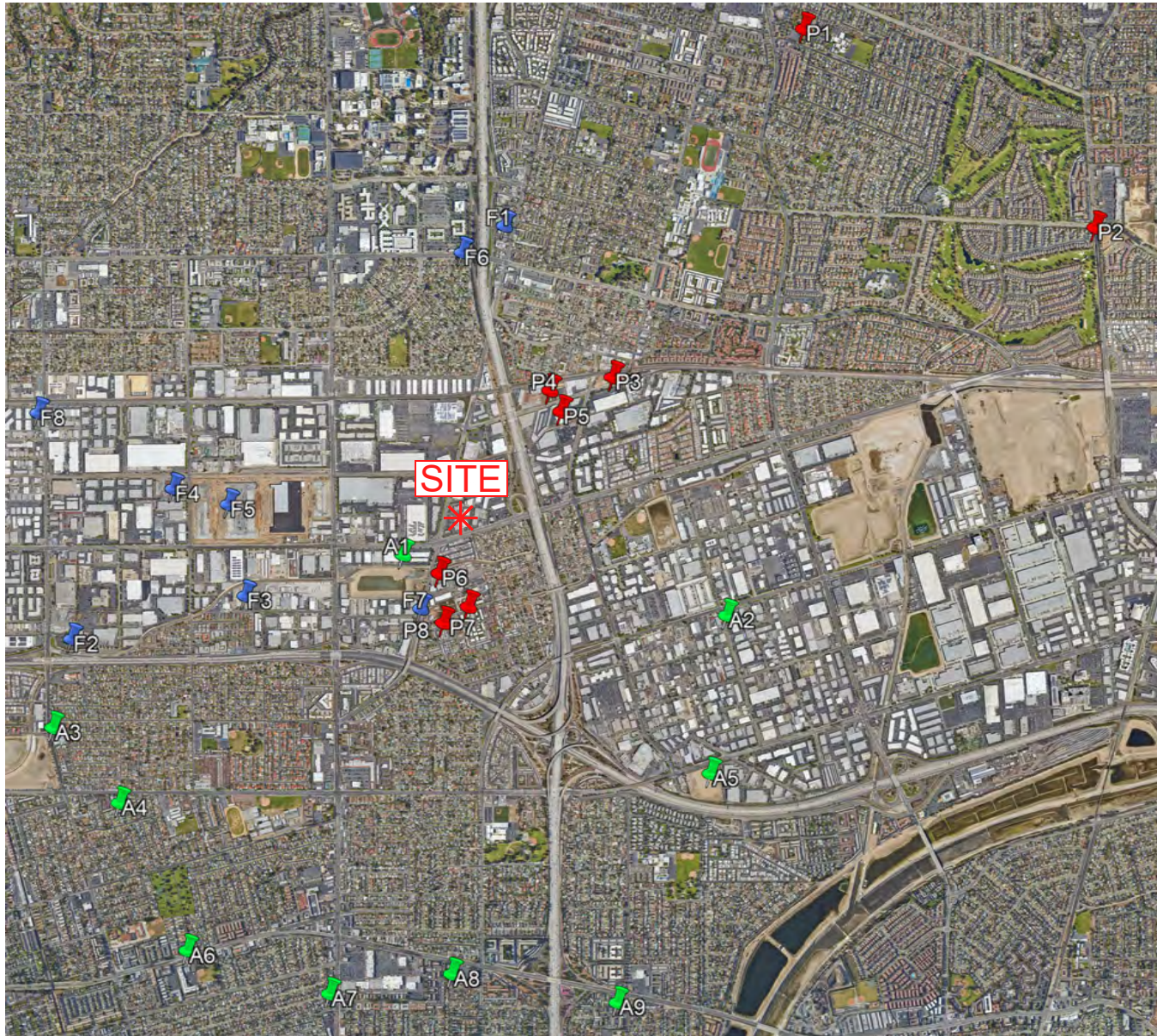
Project Opening Year (2027) With Project Conditions traffic volumes consist of three (3) years of annual growth on top of baseline existing (2024) traffic at one percent (1%) per year (i.e., 3% total growth), plus traffic generated by cumulative projects and the proposed project.

Project Opening Year (2027) With Project Conditions traffic volumes are depicted in **Exhibit 4-8**.

4.6 Buildout Year (2045) Without Project Conditions Traffic Volumes

Buildout Year (2045) model projections from the Orange County Transportation Analysis Model (OCTAM) have been utilized as a basis for determining peak hour turning movement volumes to be used in the Buildout Year analysis scenarios.

Cumulative Projects Location Map

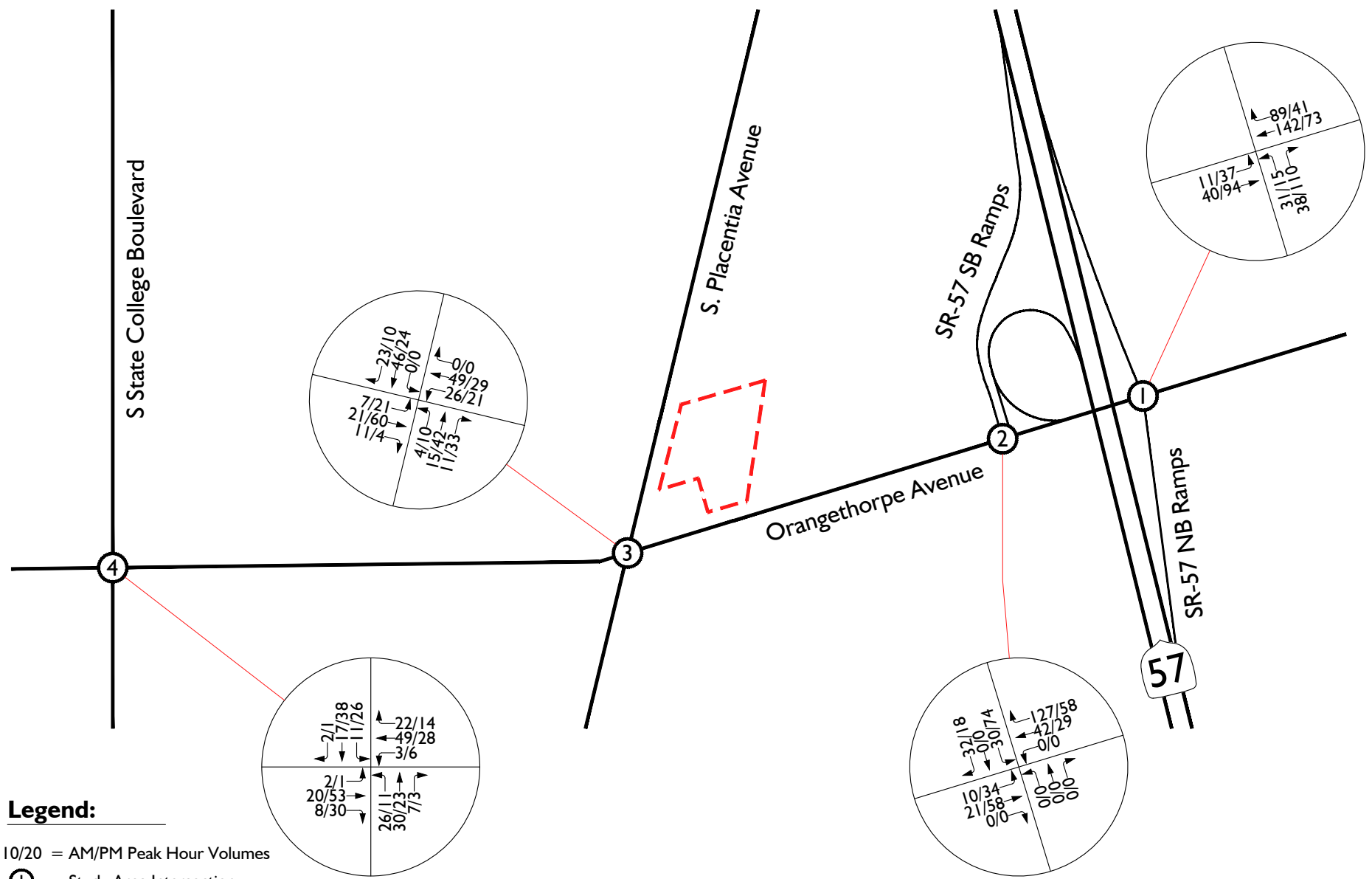


Legend:

- 
- | | |
|---|---|
|  = Project Site |  = City of Fullerton Cumulative Projects |
|  = City of Placentia Cumulative Projects |  = City of Anaheim Cumulative Projects |

Cumulative Projects Traffic Volumes

Exhibit 4-5



Legend:

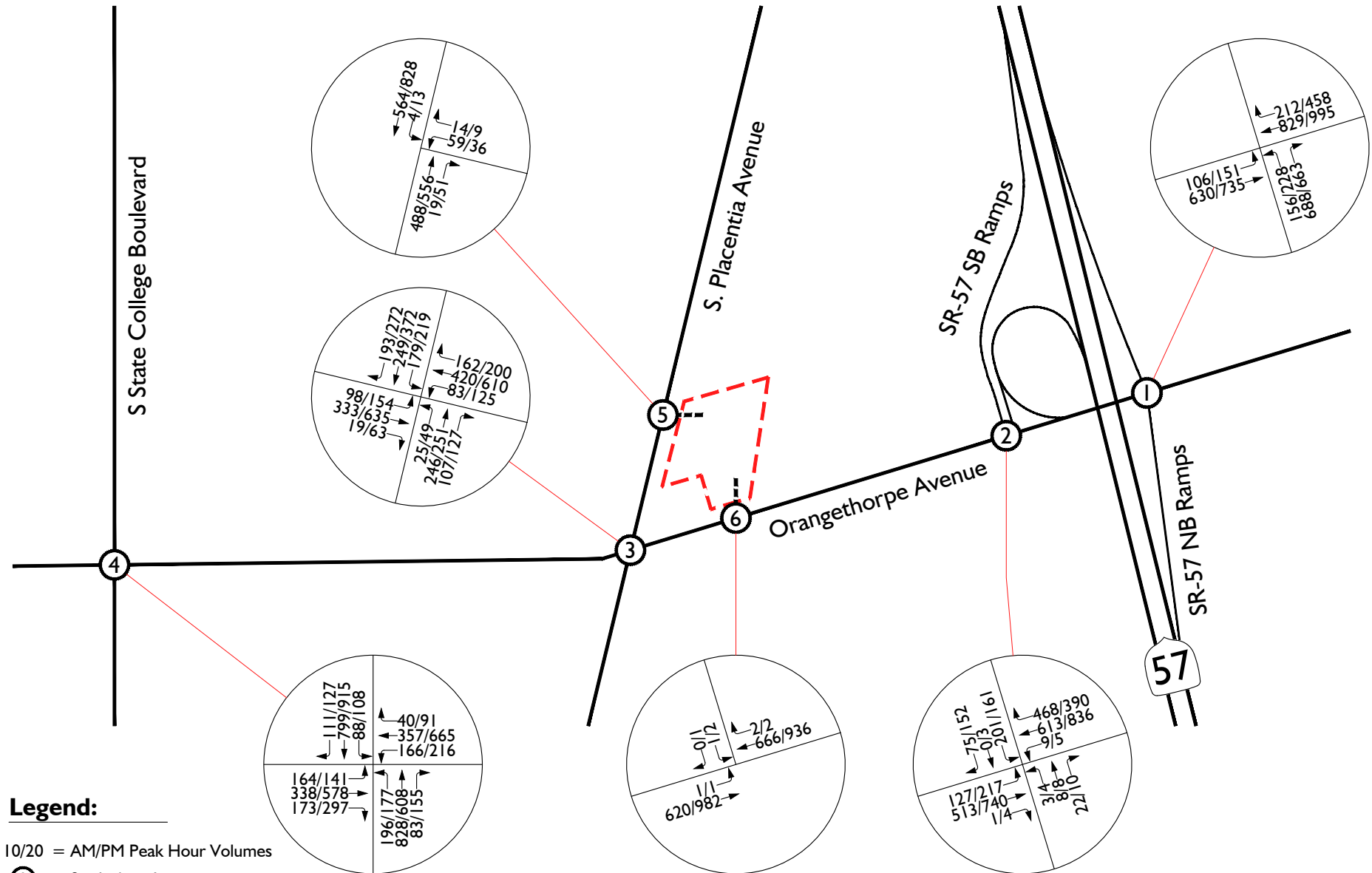
10/20 = AM/PM Peak Hour Volumes

① = Study Area Intersection

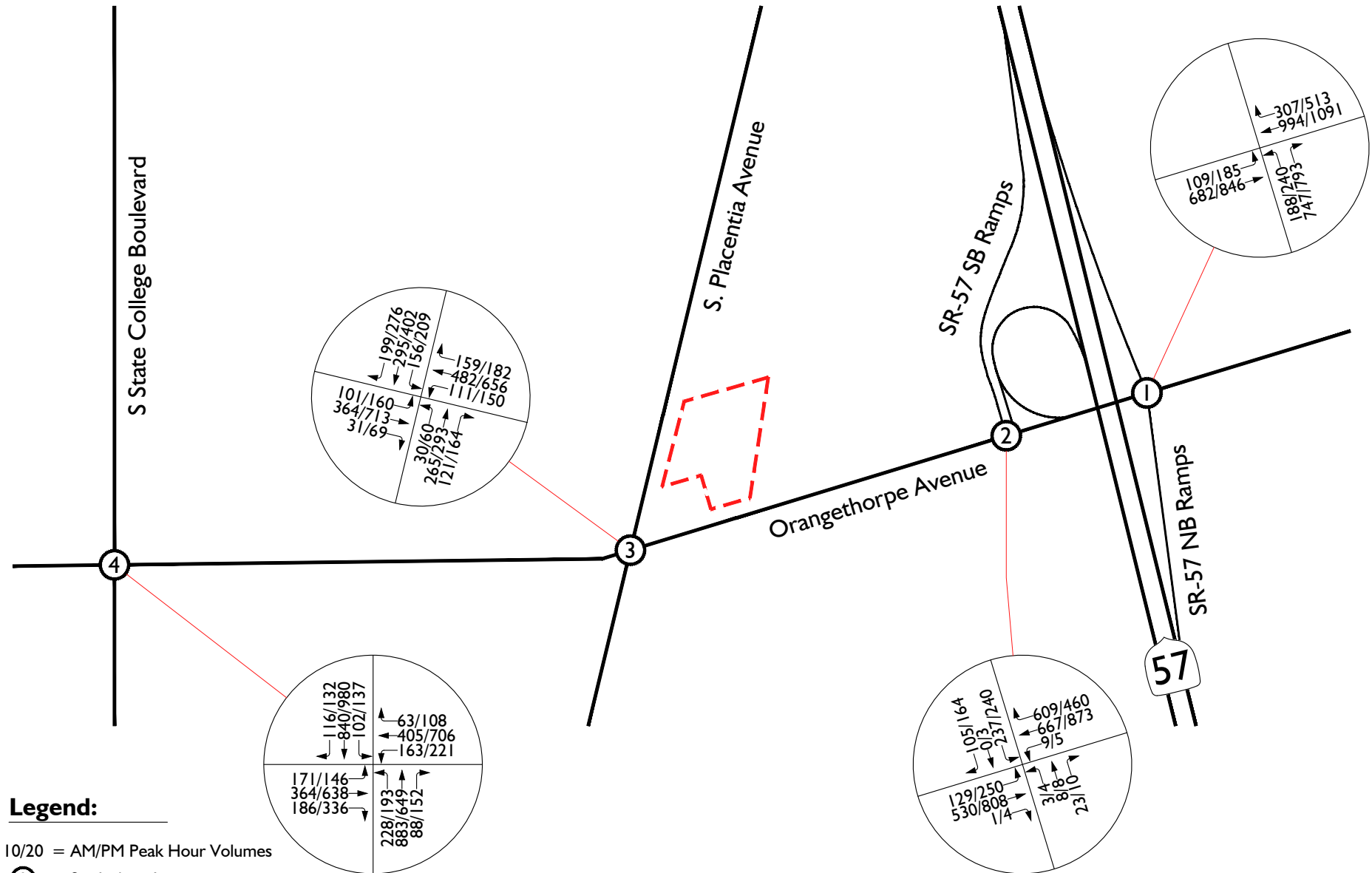
--- = Project Site Boundary



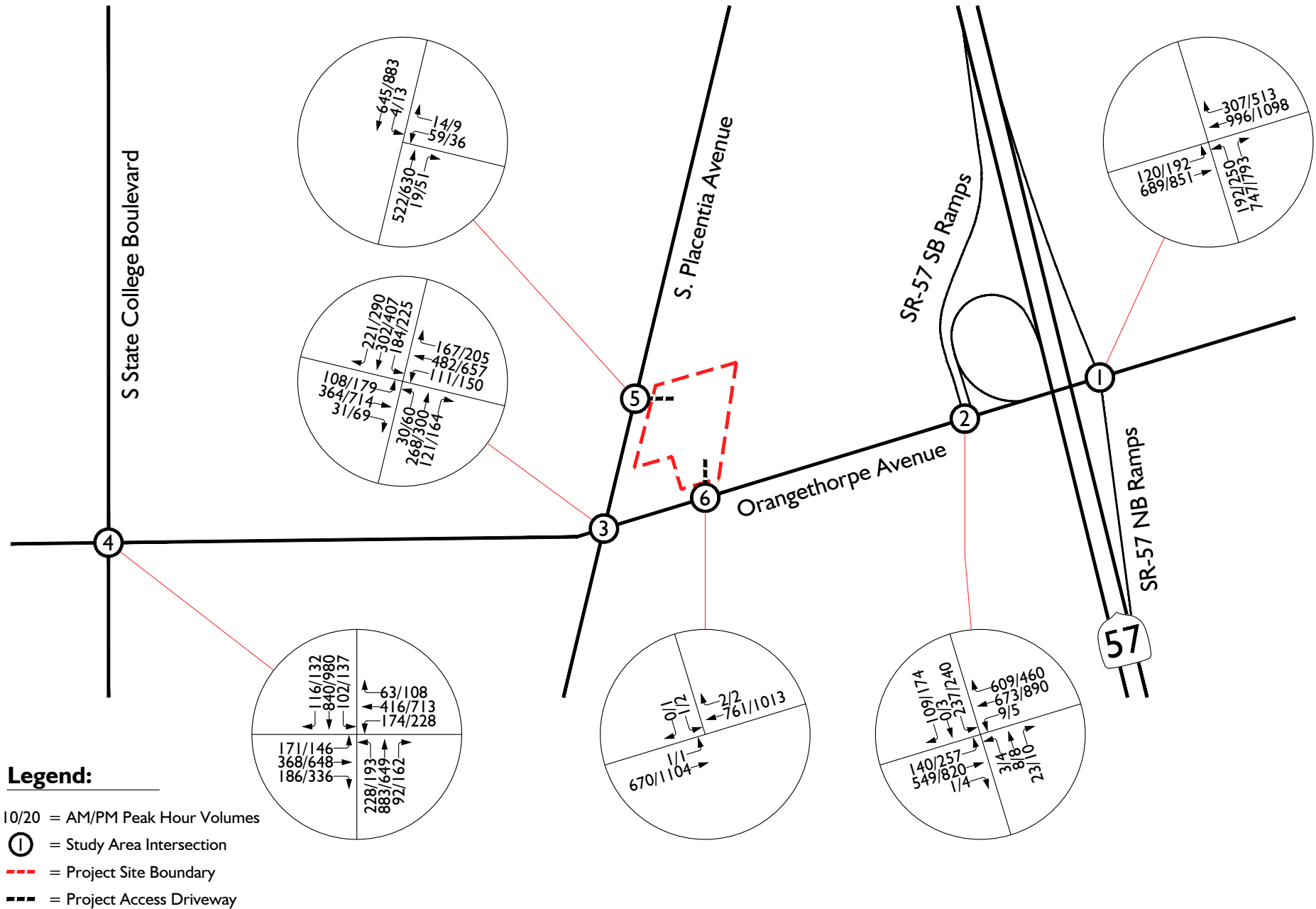
Existing Plus Project Conditions Traffic Volumes



Project Opening Year (2027) Without Project Conditions Traffic Volumes



Project Opening Year (2027) With Project Conditions Traffic Volumes



4.6.1 Volume Refinement

OCTAM was utilized to obtain AM (6:00 AM to 9:00 AM) and PM (3:00 PM to 7:00 PM) peak period Baseline (2016) and Buildout (2045) year approach/departure link volumes at the study intersections. Following standard modeling procedures, the AM and PM peak period approach/departure link volumes were multiplied by 38% and 28% respectively to convert to peak hour approach/departure link volumes. Subsequently, the difference between the Baseline (2016) peak hour model volumes and the Buildout (2045) peak hour model volumes were computed. This “difference” represents the forecasted growth in traffic on each approach to the model buildout year.

4.6.2 Post-Processing Procedures

The post-processing methodologies described in the *National Cooperative Highway Research Program Report (NCHRP) 255: Highway Traffic Data for Urbanized Area Project Planning and Design*, Chapter 8, was applied to calculate the Buildout year peak hour turning movement volumes from the model plot link volumes. The post-processed Buildout year turning movement volumes were reviewed for reasonableness on a movement-by-movement basis and were increased as necessary.

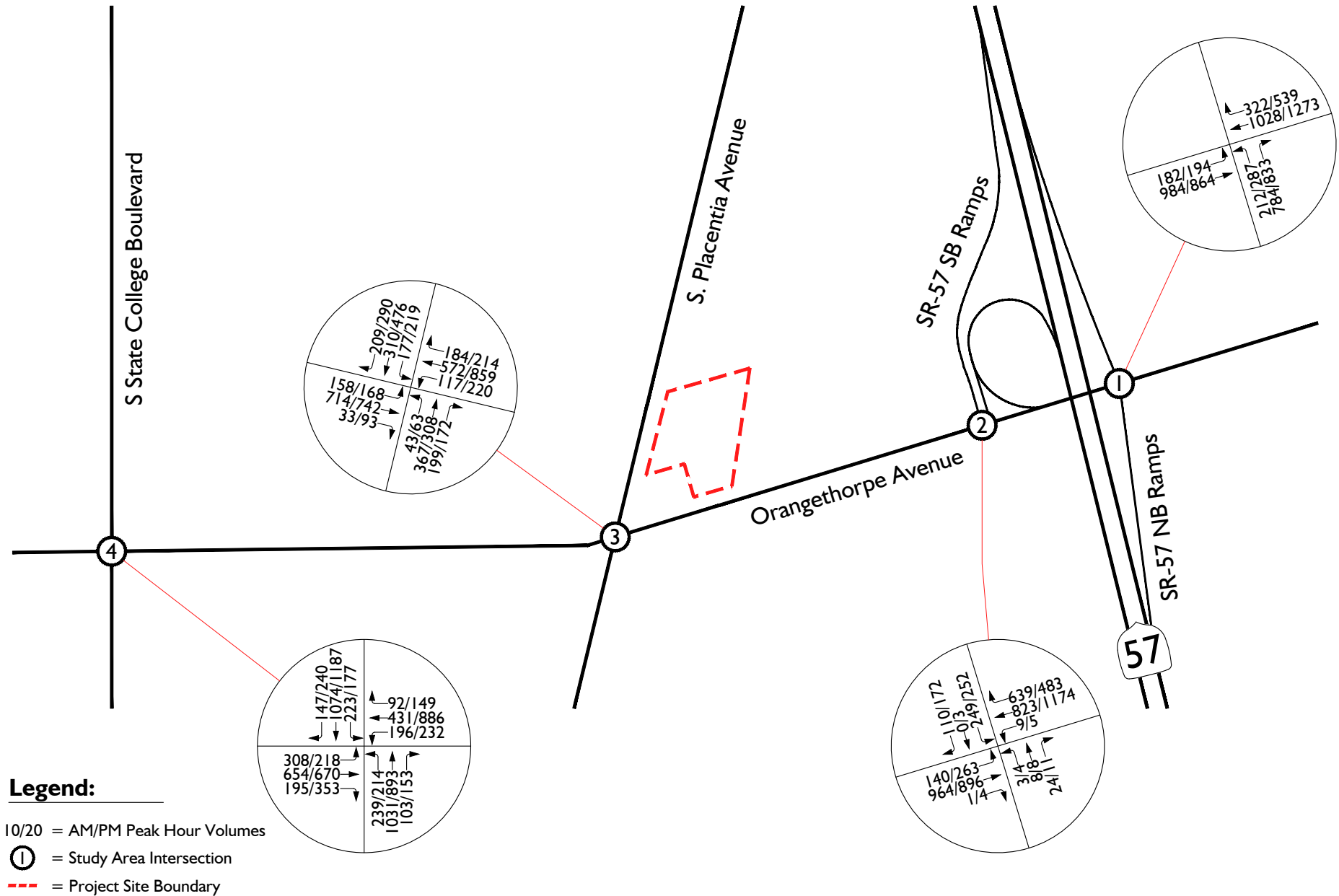
The OCTAM peak hour link volume model plots, post-processed turning movement volumes via the NCHRP methodology, and adjusted Buildout (2045) year traffic volumes are included in **Appendix C**.

Buildout Year (2045) Without Project Conditions traffic volumes are shown in **Exhibit 4-9**.

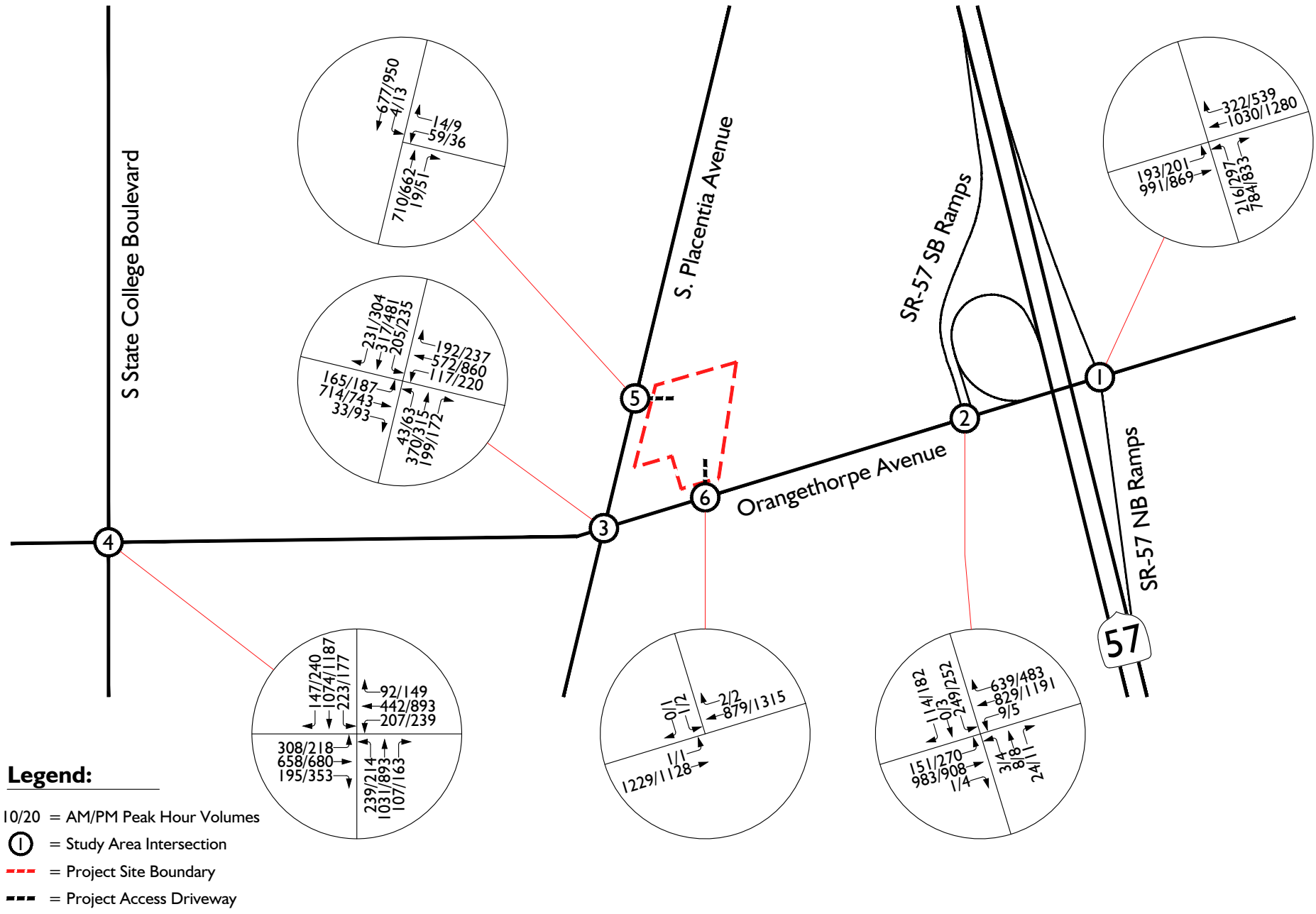
4.7 Buildout Year (2045) With Project Conditions Traffic Volumes

Buildout Year (2045) With Project Conditions traffic volumes consist of the Buildout Year (2045) Without Project Conditions traffic volumes shown in Exhibit 4-9 plus the traffic generated by the proposed project. Buildout Year (2045) With Project Conditions traffic volumes are shown in **Exhibit 4-10**.

Buildout Year (2045) Without Project Conditions Traffic Volumes



Buildout Year (2045) With Project Conditions Traffic Volumes



5.0 CA MUTCD Warrant Analysis

As directed by City of Placentia staff, the following study intersection has been evaluated for signalization based on the peak hour signal warrants and procedures contained in the *California Manual on Uniform Traffic Control Devices (CA MUTCD), 2014 Edition, Revision 7 (March 10, 2023)*:

- **Int 5 – Placentia Avenue (N/S) and Project Access 1 (E/W)**

The purpose of this traffic signal warrant analysis is to determine whether this unsignalized study intersection meets the minimum peak hour traffic volume requirements to warrant the recommendation of a traffic signal installation (i.e., CA MUTCD Signal Warrant #3).

Table 5-1 summarizes the results of the CA MUTCD peak hour traffic signal warrant analysis at the study intersection listed above under all “with project conditions” analysis scenarios and time periods evaluated as part of this study

As shown in Table 5-1, the peak hour traffic signal warrants are **not** satisfied for the unsignalized study intersection of Placentia Avenue at Project Access 1 (i.e., Study Intersection #5) under any of the “with project conditions” analysis scenarios and time periods evaluated as part of this study.

Detailed CA MUTCD traffic signal warrant analysis worksheets are included in **Appendix D**.

Table 5-1
CA MUTCD Peak Hour Signal Warrant Analysis Summary

Study Intersection		Peak Hour Signal Warrant Met?					
		Existing Plus Project Conditions		Project Opening Year (2027) With Project Conditions		Buildout Year (2045) With Project Conditions	
		AM	PM	AM	PM	AM	PM
5.	Placentia Avenue (N/S) and Project Access 1 (E/W)	NO	NO	NO	NO	NO	NO

6.0 Study Intersection Peak Hour LOS Analysis

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

The minimum acceptable LOS thresholds for each study intersection are detailed in Section 2.2 of this report. If the LOS performance criteria outlined in Section 2.2 are met, operational improvements will be identified for the study area intersections to restore acceptable conditions. However, since all study intersections are forecasted to operate at acceptable LOS conditions, no improvements are necessary.

It should be noted that, per Caltrans direction, existing timing plans were utilized for the two ramp study intersections (i.e., Study Intersections #1 & #2). Additionally, the truck percentages utilized for all study intersections were calculated as shown in Appendix B-II based on the existing traffic count data presented in Appendix B-I.

6.1 Existing Conditions Level of Service

Existing Conditions LOS calculations for the six (6) study intersections are reported in **Table 6-1** and are based on the weekday AM and PM peak hour existing traffic volumes shown in Exhibit 3-2 and the existing traffic controls & intersection geometrics shown in Exhibit 3-1.

As shown in Table 6-1, all six (6) study intersections are currently operating at an acceptable LOS during the peak hours under Existing Conditions.

Detailed LOS Analysis worksheets for Existing Conditions are included in **Appendix E**.

6.2 Existing Plus Project Conditions Level of Service

Existing Plus Project Conditions LOS calculations for the six (6) study intersections are also reported in Table 6-1 and are based on the Existing Plus Project Conditions traffic volumes shown in Exhibit 4-6 and the existing traffic controls & intersection geometrics shown in Exhibit 3-1.

As also shown in Table 6-1, all six (6) study intersections are forecast to continue operating at an acceptable LOS during the peak hours under Existing Plus Project Conditions.

Detailed LOS Analysis worksheets for Existing Plus Project Conditions are included in **Appendix F**.

Table 6-1
Study Intersection LOS Analysis Summary
Existing Conditions

Study Intersection		Jurisdictions	Traffic Control ¹	Methodology	Acceptable LOS (City/Caltrans) ²	Acceptable LOS (CMP) ³	Without Project Conditions								With Project Conditions									
							ICU Ratio (V/C) ^{4,5}		Level of Service		Delay (sec/veh) ^{4,5}		Level of Service		ICU Ratio (V/C) ^{4,5}		Level of Service		Delay (sec/veh) ^{4,5}		Level of Service		Requires LOS Improvement?	
							AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1.	SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)	City of Placentia OC CMP Caltrans	TS	ICU / HCM 7	D	E	0.484	0.571	A	A	28.0	27.7	C	C	0.488	0.574	A	A	28.3	28.0	C	C	NO	NO
2.	SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)	City of Placentia OC CMP Caltrans	TS	ICU / HCM 7	D	E	0.459	0.444	A	A	19.4	19.6	B	B	0.463	0.449	A	A	19.8	19.9	B	B	NO	NO
3.	S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)	City of Placentia	TS	ICU	D	--	0.330	0.446	A	A	--	--	--	--	0.348	0.476	A	A	--	--	--	--	NO	NO
4.	S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)	City of Fullerton OC CMP	TS	ICU / HCM 7	D	E	0.538	0.651	A	B	22.9	26.4	C	C	0.543	0.657	A	B	22.9	26.5	C	C	NO	NO
5.	Placentia Avenue (N/S) and Project Access 1 (E/W)	City of Placentia	CSS	HCM 7	D	--	Not Analyzed Under "Without Project" Traffic Conditions								--	--	--	--	13.1	14.1	B	B	NO	NO
6.	Project Access 2 (N/S) and Orangethorpe Avenue (E/W)	City of Placentia	CSS	HCM 7	D	--	Not Analyzed Under "Without Project" Traffic Conditions								--	--	--	--	16.2	20.3	C	C	NO	NO

¹ TS = Traffic Signal
CSS = Cross-Street Stop

² The minimum acceptable level of service for the City of Placentia, the City of Fullerton, and Caltrans is LOS D.

³ The minimum acceptable level of service for Orange County Congestion Management Program (CMP) intersection is LOS E.

⁴ Deficient operation shown in **Bold**.

⁵ HCM Analysis Software: PTV Vistro, Version 2024.
ICU Analysis Software: PTV Vistro, Version 2024.

6.3 Project Opening Year (2027) Without Project Conditions Level of Service

Project Opening Year (2027) Without Project Conditions LOS calculations for the six (6) study intersections are reported in **Table 6-2** and are based on the Project Opening Year (2027) Without Project Conditions traffic volumes shown in Exhibit 4-7 and the existing traffic controls & intersection geometrics shown in Exhibit 3-1.

As shown in Table 6-2, all six (6) study intersections are forecast to continue operating at an acceptable LOS during the peak hours under Project Opening Year (2027) Without Project Conditions.

Detailed LOS Analysis worksheets for Project Opening Year (2027) Without Project Conditions are included in **Appendix G**.

6.4 Project Opening Year (2027) With Project Conditions Level of Service

Project Opening Year (2027) With Project Conditions LOS calculations for the six (6) study intersections are also reported in Table 6-2 and are based on the Project Opening Year (2027) With Project Conditions traffic volumes shown in Exhibit 4-8 and the existing traffic controls & intersection geometrics shown in Exhibit 3-1.

As also shown in Table 6-2, all six (6) study intersections are forecast to continue operating at an acceptable LOS during the peak hours under Project Opening Year (2027) With Project Conditions.

Detailed LOS Analysis worksheets for Project Opening Year (2027) With Project Conditions are included in **Appendix H**.

6.5 Buildout Year (2045) Without Project Conditions Level of Service

Buildout Year (2045) Without Project Conditions LOS calculations for the six (6) study intersections are reported in **Table 6-3** and are based on the Buildout Year (2045) Without Project Conditions traffic volumes shown in Exhibit 4-9 and the existing traffic controls & intersection geometrics shown in Exhibit 3-1.

As shown in Table 6-3, all six (6) study intersections are forecast to continue operating at an acceptable LOS during the peak hours under Buildout Year (2045) Without Project Conditions.

Detailed LOS Analysis worksheets for Buildout Year (2045) Without Project Conditions are included in **Appendix I**.

Table 6-2
Study Intersection LOS Analysis Summary
Project Opening Year (2027) Conditions

Study Intersection		Jurisdictions	Traffic Control ¹	Methodology	Acceptable LOS (City/Caltrans) ²	Acceptable LOS (CMP) ³	Without Project Conditions								With Project Conditions									
							ICU Ratio (V/C) ^{4,5}		Level of Service		Delay (sec/veh) ^{4,5}		Level of Service		ICU Ratio (V/C) ^{4,5}		Level of Service		Delay (sec/veh) ^{4,5}		Level of Service		Requires LOS Improvement?	
							AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1.	SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)	City of Placentia OC CMP Caltrans	TS	ICU / HCM 7	D	E	0.557	0.652	A	B	29.9	31.6	C	C	0.560	0.656	A	B	30.2	31.8	C	C	NO	NO
2.	SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)	City of Placentia OC CMP Caltrans	TS	ICU / HCM 7	D	E	0.567	0.527	A	A	22.0	22.4	C	C	0.571	0.532	A	A	22.3	22.7	C	C	NO	NO
3.	S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)	City of Placentia	TS	ICU	D	--	0.366	0.486	A	A	--	--	--	--	0.383	0.516	A	A	--	--	--	--	NO	NO
4.	S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)	City of Fullerton OC CMP	TS	ICU / HCM 7	D	E	0.577	0.703	A	B	25.3	27.6	C	C	0.583	0.709	A	C	25.5	27.8	C	C	NO	NO
5.	Placentia Avenue (N/S) and Project Access 1 (E/W)	City of Placentia	CSS	HCM 7	D	--	Not Analyzed Under "Without Project" Traffic Conditions								--	--	--	--	13.6	15.0	B	C	NO	NO
6.	Project Access 2 (N/S) and Orangethorpe Avenue (E/W)	City of Placentia	CSS	HCM 7	D	--	Not Analyzed Under "Without Project" Traffic Conditions								--	--	--	--	17.9	22.7	C	C	NO	NO

¹ TS = Traffic Signal
CSS = Cross-Street Stop

² The minimum acceptable level of service for the City of Placentia, the City of Fullerton, and Caltrans is LOS D.

³ The minimum acceptable level of service for Orange County Congestion Management Program (CMP) intersection is LOS E.

⁴ Deficient operation shown in **Bold**.

⁵ HCM Analysis Software: PTV Vistro, Version 2024.
ICU Analysis Software: PTV Vistro, Version 2024.

Table 6-3
Study Intersection LOS Analysis Summary
Buildout Year (2045) Conditions

Study Intersection		Jurisdictions	Traffic Control ¹	Methodology	Acceptable LOS (City/Caltrans) ²	Acceptable LOS (CMP) ³	Without Project Conditions								With Project Conditions									
							ICU Ratio (V/C) ^{4,5}		Level of Service		Delay (sec/veh) ^{4,5}		Level of Service		ICU Ratio (V/C) ^{4,5}		Level of Service		Delay (sec/veh) ^{4,5}		Level of Service		Requires LOS Improvement?	
							AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1.	SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)	City of Placentia OC CMP Caltrans	TS	ICU / HCM 7	D	E	0.599	0.707	A	B	31.9	34.4	C	C	0.602	0.711	A	C	32.1	34.7	C	C	NO	NO
2.	SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)	City of Placentia OC CMP Caltrans	TS	ICU / HCM 7	D	E	0.593	0.551	A	A	20.9	22.7	C	C	0.598	0.556	A	A	21.3	23.0	C	C	NO	NO
3.	S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)	City of Placentia	TS	ICU	D	--	0.429	0.537	A	A	--	--	--	--	0.446	0.567	A	A	--	--	--	--	NO	NO
4.	S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)	City of Fullerton OC CMP	TS	ICU / HCM 7	D	E	0.768	0.793	C	C	32.8	35.3	C	D	0.773	0.799	C	C	33.9	35.5	C	D	NO	NO
5.	Placentia Avenue (N/S) and Project Access 1 (E/W)	City of Placentia	CSS	HCM 7	D	--	Not Analyzed Under "Without Project" Traffic Conditions								--	--	--	--	16.0	15.6	C	C	NO	NO
6.	Project Access 2 (N/S) and Orangethorpe Avenue (E/W)	City of Placentia	CSS	HCM 7	D	--	Not Analyzed Under "Without Project" Traffic Conditions								--	--	--	--	24.7	30.9	C	D	NO	NO

¹ TS = Traffic Signal
CSS = Cross-Street Stop

² The minimum acceptable level of service for the City of Placentia, the City of Fullerton, and Caltrans is LOS D.

³ The minimum acceptable level of service for Orange County Congestion Management Program (CMP) intersection is LOS E.

⁴ Deficient operation shown in **Bold**.

⁵ HCM Analysis Software: PTV Vistro, Version 2024.
ICU Analysis Software: PTV Vistro, Version 2024.

6.6 Buildout Year (2045) With Project Conditions Level of Service

Buildout Year (2045) With Project Conditions LOS calculations for the six (6) study intersections are also reported in Table 6-3 and are based on the Buildout Year (2045) With Project Conditions traffic volumes shown in Exhibit 4-10 and the existing traffic controls & intersection geometrics shown in Exhibit 3-1.

As shown in Table 6-3, all six (6) study intersections are forecast to continue operating at an acceptable LOS during the peak hours under Buildout Year (2045) With Project Conditions.

Detailed LOS Analysis worksheets for Buildout Year (2045) With Project Conditions are included in **Appendix J**.

7.0 Intersection Queuing Analysis

As requested by Caltrans, a queuing analysis has been conducted to evaluate the queue lengths of turn pockets serving the SR-57 on and off ramps intersections along Orangethorpe Avenue. This analysis aims to determine the potential for traffic overflow from turn pockets, considering its impact on the freeway facility, through lanes, and adjacent intersections.

The queue analysis has been performed utilizing the HCM 7 95th percentile queue evaluation methodology. Queue lengths have been reported for the following turning movements per respective study intersection.

Intersection # 1 – SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

- Northbound Left-Turn
- Northbound Dual Right-Turns
- Eastbound Dual Left-Turns

Intersection # 2 – SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

- Southbound Left-Turn
- Southbound Shared Left/Through/Right-Turn
- Eastbound Dual Left-Turns
- Westbound Left-Turn

7.1 Existing Conditions Queuing Analysis

The queuing analysis results for the analyzed turning movements under Existing Conditions are summarized in **Table 7-1**.

As shown in Table 7-1, adequate storage is provided for all reported turning movements.

7.2 Existing Plus Project Conditions Queuing Analysis

The queuing analysis results for the analyzed turning movements under Existing Plus Project Conditions are also summarized in Table 7-1.

As also shown in Table 7-1, adequate storage is provided for all reported turning movements.

Table 7-1
Study Intersection HCM 95th Percentile Vehicular Queue Analysis Summary¹
Existing Conditions

Intersection		Movement	Storage Length (Feet)	Without Project				With Project			
				HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?		HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?	
				AM	PM	AM	PM	AM	PM	AM	PM
1.	SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)	Northbound Left-Turn	345	179	244	YES	YES	185	254	YES	YES
		Northbound Dual Right-Turns	1,220	862	786	YES	YES	862	785	YES	YES
		Eastbound Dual Left-Turns	700	159	222	YES	YES	176	232	YES	YES
2.	SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)	Southbound Left-Turn	505	190	208	YES	YES	193	204	YES	YES
		Southbound Shared Left/Through/Right-Turn	1,355	182	194	YES	YES	185	204	YES	YES
		Eastbound Dual Left-Turns	440	156	271	YES	YES	170	279	YES	YES
		Westbound Left-Turn	50	25 ²	25 ²	YES	YES	25 ²	25 ²	YES	YES

¹ HCM Analysis Software: Vistro, Version 2024.

² Although the calculated queue is less, a minimum vehicle length of 25 feet is assumed for the purposes of this analysis

7.3 Project Opening Year (2027) Without Project Conditions Queuing Analysis

The queuing analysis results for the analyzed turning movements under Project Opening Year (2027) Without Project Conditions are summarized in **Table 7-2**.

As shown in Table 7-2, adequate storage is provided for all reported turning movements.

7.4 Project Opening Year (2027) With Project Conditions Queuing Analysis

The queuing analysis results for the analyzed turning movements under Project Opening Year (2027) With Project Conditions are also summarized in Table 7-2.

As shown in Table 7-2, adequate storage is provided for all reported turning movements.

7.5 Buildout Year (2045) Without Project Conditions Queueing Analysis

The queuing analysis results for the analyzed turning movements under Buildout Year (2045) Without Project Conditions are summarized in **Table 7-3**.

As shown in Table 7-3, adequate storage is provided for all reported turning movements.

7.6 Buildout Year (2045) With Project Conditions Queueing Analysis

The queuing analysis results for the analyzed turning movements under Buildout Year (2045) With Project Conditions are also summarized in Table 7-3.

As shown in Table 7-3, adequate storage is provided for all reported turning movements.

Table 7-2
Study Intersection HCM 95th Percentile Vehicular Queue Analysis Summary¹
Project Opening Year (2027) Conditions

Intersection		Movement	Storage Length (Feet)	Without Project				With Project			
				HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?		HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?	
				AM	PM	AM	PM	AM	PM	AM	PM
1.	SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)	Northbound Left-Turn	345	213	250	YES	YES	217	260	YES	YES
		Northbound Dual Right-Turns	1,220	923	910	YES	YES	922	910	YES	YES
		Eastbound Dual Left-Turns	700	181	283	YES	YES	199	294	YES	YES
2.	SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)	Southbound Left-Turn	505	229	259	YES	YES	231	264	YES	YES
		Southbound Shared Left/Through/Right-Turn	1,355	218	241	YES	YES	219	246	YES	YES
		Eastbound Dual Left-Turns	440	173	321	YES	YES	187	329	YES	YES
		Westbound Left-Turn	50	25 ²	25 ²	YES	YES	25 ²	25 ²	YES	YES

¹ HCM Analysis Software: Vistro, Version 2024.

² Although the calculated queue is less, a minimum vehicle length of 25 feet is assumed for the purposes of this analysis

Table 7-3
Study Intersection HCM 95th Percentile Vehicular Queue Analysis Summary¹
Buildout Year (2045) Conditions

Intersection		Movement	Storage Length (Feet)	Without Project				With Project			
				HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?		HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?	
				AM	PM	AM	PM	AM	PM	AM	PM
1.	SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)	Northbound Left-Turn	345	233	291	YES	YES	237	301	YES	YES
		Northbound Dual Right-Turns	1,220	965	949	YES	YES	965	949	YES	YES
		Eastbound Dual Left-Turns	700	300	297	YES	YES	318	308	YES	YES
2.	SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)	Southbound Left-Turn	505	237	269	YES	YES	240	274	YES	YES
		Southbound Shared Left/Through/Right-Turn	1,355	226	251	YES	YES	228	254	YES	YES
		Eastbound Dual Left-Turns	440	187	338	YES	YES	202	346	YES	YES
		Westbound Left-Turn	50	25 ²	25 ²	YES	YES	25 ²	25 ²	YES	YES

¹ HCM Analysis Software: Vistro, Version 2024.

² Although the calculated queue is less, a minimum vehicle length of 25 feet is assumed for the purposes of this analysis

8.0 Freeway Ramp (Merge/Diverge) Analysis

This section of the report presents a freeway ramp (merge/diverge) analysis for the State Route 57 on/off-ramps along Orangethorpe Avenue. This analysis is consistent with the Caltrans requirements and adheres to the methodologies described in the Highway Capacity Manual (HCM).

To accurately evaluate freeway ramp junction operations, this analysis incorporates truck percentages from the following sources:

Freeway Mainline Truck Percentages

- Caltrans Traffic Census Program: The latest available data, from 2022, provides average daily truck traffic volumes on mainlines for all Caltrans state highway & freeway facilities. After reviewing the proportion of trucks traveling on the State Route 57 (SR-57) mainline in the vicinity of the study area, it was found that the highest percentage observed was 10%. As such, 10% was utilized as the heavy vehicle truck percentage parameter in the merge/diverge analyses for the mainline traffic volumes.
- Refer to **Appendix B-III** for existing mainline SR-57 mainline truck percentages.

Freeway Ramp Truck Percentages

- (Merge Analyses): The truck percentages for on-ramps were calculated by dividing the number of heavy vehicles by the total number of vehicles entering the on-ramp.
- (Diverge Analyses): The truck percentages for off-ramps were calculated by dividing the number of heavy vehicles by the total number of exiting the off-ramp.
- Refer to Appendix B-II for existing truck percentages calculations.

As stated previously in Section 2.2.4, for the purpose of this analysis, the minimum acceptable level of service is LOS D or better for any State highway facility. Additionally, a project impact is identified if one of the following occurs:

- A state highway facility operating at an acceptable LOS (i.e., LOS D or better) degrades to a deficient LOS (i.e., LOS E or worse) with the addition of project traffic; OR
- A state highway facility is already operating at a deficient LOS E and further degrades to a LOS F with the addition of project traffic; OR

- If a state highway facility is already operating at a deficient LOS (LOS E or worse) without the project and the addition of project traffic causes or worsens adverse safety conditions (e.g., for diverge analyses, adverse safety conditions are defined as off-ramp queues which extend back onto the mainline, either caused directly by the project or the addition of project traffic worsens the queue if it already extends onto the mainline under pre-project conditions).

8.1 Existing Conditions Freeway Ramp Analysis

Table 8-1 summarizes the peak hour LOS results at the four (4) freeway ramps for Existing traffic conditions. As shown in Table 8-1, the following freeway ramps operate at unacceptable LOS under Existing Conditions:

Ramp #1 – State Route 57 Southbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E (35.6 pc/mi/ln)

Ramp #3 – State Route 57 Northbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E (36.1 pc/mi/ln)
- PM Peak Hour – LOS E (38.1 pc/mi/ln)

Detailed freeway ramp LOS analysis worksheets for Existing Conditions are included in **Appendix K**.

8.2 Existing Plus Project Conditions Freeway Ramp Analysis

Table 8-1 also summarizes the peak hour LOS results at the four (4) freeway ramps for Existing Plus Project traffic conditions. As shown in Table 8-1, the following freeway ramps are forecasted to operate at unacceptable LOS under Existing Conditions:

Ramp #1 – State Route 57 Southbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E (35.6 pc/mi/ln)

Ramp #3 – State Route 57 Northbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E (36.2 pc/mi/ln)
- PM Peak Hour – LOS E (38.2 pc/mi/ln)

It should be noted that Ramp #1, during the AM peak hour, operates deficiently (i.e., LOS E) under existing conditions and that there is no net increase in density with the addition of project traffic.

Table 8-1
Existing Conditions Peak Hour Merge and Diverge Capacity Analysis Summary

Freeway Merge or Diverge Ramp Junction		Analysis Type	Time Period	Without Project Conditions				With Project Conditions				Project Impact?
				Freeway Peak Hour Volume	Ramp Peak Hour Volume	Density (pc/mi/ln) ¹	LOS	Freeway Peak Hour Volume	Ramp Peak Hour Volume	Density (pc/mi/ln)	LOS	
1.	State Route 57 Southbound Off-Ramp to Orangethorpe Avenue	Diverge Analysis	AM Peak Hour	7,158	272	35.6	E	7,162	276	35.6	E	NO ³
			PM Peak Hour	6,930	306	34.8	D	6,940	316	34.9	D	NO
2.	State Route 57 Northbound On-Ramp from Orangethorpe Avenue	Merge Analysis	AM Peak Hour	6,886	592	19.4	B	6,886	603	19.5	B	NO
			PM Peak Hour	6,624	608	18.8	B	6,624	615	18.9	B	NO
3.	State Route 57 Northbound Off-Ramp to Orangethorpe Avenue	Diverge Analysis	AM Peak Hour	8,644	840	36.1	E	8,648	844	36.2	E	NO ⁴
			PM Peak Hour	9,110	881	38.1	E	9,120	891	38.2	E	NO ⁵
4.	State Route 57 Northbound On-Ramp from Orangethorpe Avenue	Merge Analysis	AM Peak Hour	7,804	307	27.4	C	7,804	318	27.5	C	NO
			PM Peak Hour	8,229	602	30.7	D	8,229	609	30.7	D	NO

¹ pc/mi/ln = Passenger Cars Per Mile Per Lane (Density).

² **Bold Volume/Density/LOS Values** indicates adverse service levels based on Caltrans LOS Criteria.

³ The State highway facility operates deficiently (i.e., LOS E) under without project conditions. There is no net increase in density with the addition of project traffic. Therefore, based on the Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not cause or worsen adverse safety conditions of the facility (e.g., off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact to this State highway facility.

⁴ The State highway facility operates deficiently (i.e., LOS E) under without project conditions. Although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1 pc/mi/ln increase caused by 4 peak hour project trips during the AM peak hour). The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g., off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact to this State highway facility.

⁵ The State highway facility operates deficiently (i.e., LOS E) under without project conditions. Although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1 pc/mi/ln increase caused by 10 peak hour project trips during the PM peak hour). The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g., off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact to this State highway facility.

Therefore, based on the Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not cause or worsen adverse safety conditions of the facility (e.g., off-ramp queues do not extend back onto the mainline). Therefore, the project does not create a significant impact to this State highway facility.

Ramp #3, during both AM and PM peak hours, operates deficiently (i.e., LOS E) under existing conditions. Although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1pc/mi/ln increase caused by 4 & 10 peak hour project trips during the AM and PM peak hours respectively). The existing LOS (i.e. LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g. the off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact.

Detailed freeway ramp LOS analysis worksheets for Existing Plus Project Conditions are included in **Appendix L**.

8.3 Project Opening Year (2027) Without Project Conditions Freeway Ramp Analysis

Table 8-2 summarizes the peak hour LOS results at the four (4) freeway ramps for Project Opening Year (2027) Without Project Conditions traffic conditions. As shown in Table 8-2, the following freeway ramps are forecasted to operate at unacceptable LOS under Project Opening Year (2027) Without Project Conditions:

Ramp #1 – State Route 57 Southbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E (38.1 pc/mi/ln)
- PM Peak Hour – LOS E (37.4 pc/mi/ln)

Ramp #3 – State Route 57 Northbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E (38.2 pc/mi/ln)
- PM Peak Hour – LOS E (41.0 pc/mi/ln)

Detailed freeway ramp LOS analysis worksheets for Project Opening Year (2027) Without Project Conditions are included in **Appendix M**.

8.4 Project Opening Year (2027) With Project Conditions Freeway Ramp Analysis

Table 8-2 also summarizes the peak hour LOS results at the four (4) freeway ramps for Project Opening Year (2027) With Project Conditions traffic conditions. As shown in Table 8-2, the

Table 8-2
Project Opening Year (2027) Conditions Peak Hour Merge and Diverge Capacity Analysis Summary

Freeway Merge or Diverge Ramp Junction		Analysis Type	Time Period	Without Project Conditions				With Project Conditions				Project Impact?
				Freeway Peak Hour Volume	Ramp Peak Hour Volume	Density (pc/mi/ln) ¹	LOS	Freeway Peak Hour Volume	Ramp Peak Hour Volume	Density (pc/mi/ln)	LOS	
1.	State Route 57 Southbound Off-Ramp to Orangethorpe Avenue	Diverge Analysis	AM Peak Hour	7,620	342	38.1	E	7,624	346	38.1	E	NO ³
			PM Peak Hour	7,385	407	37.4	E	7,395	417	37.5	E	NO ⁵
2.	State Route 57 Northbound On-Ramp from Orangethorpe Avenue	Merge Analysis	AM Peak Hour	7,278	746	21.5	C	7,278	757	21.6	C	NO
			PM Peak Hour	6,978	718	20.7	C	6,978	725	20.8	C	NO
3.	State Route 57 Northbound Off-Ramp to Orangethorpe Avenue	Diverge Analysis	AM Peak Hour	9,111	935	38.2	E	9,115	939	38.3	E	NO ⁴
			PM Peak Hour	9,710	1,033	41.0	E	9,720	1,043	41.0	E	NO ³
4.	State Route 57 Northbound On-Ramp from Orangethorpe Avenue	Merge Analysis	AM Peak Hour	8,176	416	29.9	D	8,176	427	30.0	D	NO
			PM Peak Hour	8,677	698	33.1	D	8,677	705	33.1	D	NO

¹ pc/mi/ln = Passenger Cars Per Mile Per Lane (Density).

² **Bold Volume/Density/LOS Values** indicates adverse service levels based on Caltrans LOS Criteria.

³ The State highway facility operates deficiently (i.e., LOS E) under without project conditions. There is no net increase in density with the addition of project traffic. Therefore, based on the Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not cause or worsen adverse safety conditions of the facility (e.g., off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact to this State highway facility.

⁴ The State highway facility operates deficiently (i.e., LOS E) under without project conditions. Although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1 pc/mi/ln increase caused by 4 peak hour project trips during the AM peak hour). The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g., off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact to this State highway facility.

⁵ The State highway facility operates deficiently (i.e., LOS E) under without project conditions. Although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1 pc/mi/ln increase caused by 10 peak hour project trips during the PM peak hour). The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g., off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact to this State highway facility.

following freeway ramps are forecasted to operate at unacceptable LOS under Project Opening Year (2027) With Project Conditions:

Ramp #1 – State Route 57 Southbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E (38.1 pc/mi/ln)
- PM Peak Hour – LOS E (37.5 pc/mi/ln)

Ramp #3 – State Route 57 Northbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E (38.3 pc/mi/ln)
- PM Peak Hour – LOS E (41.0 pc/mi/ln)

Ramp #1, during both AM and PM peak hours, operates deficiently (i.e., LOS E) under Project Opening Year (2027) Without Project Conditions. During the AM peak hour, there is no net increase in density with the addition of project traffic. During the PM peak hour, although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1pc/mi/ln increase caused by 10 peak hour project trips during the PM peak hour). The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g. the off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact.

Ramp #3, during both AM and PM peak hours, operates deficiently (i.e., LOS E) under Project Opening Year (2027) Without Project Conditions. During the AM peak hour, although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1pc/mi/ln increase caused by 4 peak hour project trips during the AM peak hour). During the PM peak hour, there is no net increase in density with the addition of project traffic. The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g. the off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact.

Detailed freeway ramp LOS analysis worksheets for Project Opening Year (2027) With Project Conditions are included in **Appendix N**.

8.5 Buildout Year (2045) Without Project Conditions Freeway Ramp Analysis

Table 8-3 summarizes the peak hour LOS results at the four (4) freeway ramps for Buildout Year (2045) Without Project Conditions traffic conditions. As shown in Table 8-3, the following freeway

Table 8-3
Buildout Year (2027) Conditions Peak Hour Merge and Diverge Capacity Analysis Summary

Freeway Merge or Diverge Ramp Junction		Analysis Type	Time Period	Without Project Conditions				With Project Conditions				Project Impact?
				Freeway Peak Hour Volume	Ramp Peak Hour Volume	Density (pc/mi/ln) ¹	LOS	Freeway Peak Hour Volume	Ramp Peak Hour Volume	Density (pc/mi/ln)	LOS	
1.	State Route 57 Southbound Off-Ramp to Orangethorpe Avenue	Diverge Analysis	AM Peak Hour	7,749	359	38.7	E	7,753	363	38.8	E	NO ⁴
			PM Peak Hour	7,527	427	38.2	E	7,537	437	38.3	E	NO ⁵
2.	State Route 57 Northbound On-Ramp from Orangethorpe Avenue	Merge Analysis	AM Peak Hour	7,390	787	22.3	C	7,390	798	22.4	C	NO
			PM Peak Hour	7,100	754	21.4	C	7,100	761	21.4	C	NO
3.	State Route 57 Northbound Off-Ramp to Orangethorpe Avenue	Diverge Analysis	AM Peak Hour	9,356	996	39.4	E	9,360	1,000	39.4	E	NO ³
			PM Peak Hour	9,940	1,120	42.2	E	9,950	1,130	42.3	E	NO ⁵
4.	State Route 57 Northbound On-Ramp from Orangethorpe Avenue	Merge Analysis	AM Peak Hour	8,360	504	31.4	D	8,360	515	31.6	D	NO
			PM Peak Hour	8,820	733	33.9	D	8,820	740	33.9	D	NO

¹ pc/mi/ln = Passenger Cars Per Mile Per Lane (Density).

² **Bold Volume/Density/LOS Values** indicates adverse service levels based on Caltrans LOS Criteria.

³ The State highway facility operates deficiently (i.e., LOS E) under without project conditions. There is no net increase in density with the addition of project traffic. Therefore, based on the Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not cause or worsen adverse safety conditions of the facility (e.g., off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact to this State highway facility.

⁴ The State highway facility operates deficiently (i.e., LOS E) under without project conditions. Although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1 pc/mi/ln increase caused by 4 peak hour project trips during the AM peak hour). The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g., off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact to this State highway facility.

⁵ The State highway facility operates deficiently (i.e., LOS E) under without project conditions. Although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1 pc/mi/ln increase caused by 10 peak hour project trips during the PM peak hour). The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g., off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact to this State highway facility.

ramps are forecasted to operate at unacceptable LOS under Buildout Year (2045) Without Project Conditions:

Ramp #1 – State Route 57 Southbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E (38.7 pc/mi/ln)
- PM Peak Hour – LOS E (38.2 pc/mi/ln)

Ramp #3 – State Route 57 Northbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E (39.4 pc/mi/ln)
- PM Peak Hour – LOS E (42.2 pc/mi/ln)

Detailed freeway ramp LOS analysis worksheets for Buildout Year (2045) Without Project Conditions are included in **Appendix O**.

8.6 Buildout Year (2045) With Project Conditions Freeway Ramp Analysis

Table 8-3 also summarizes the peak hour LOS results at the four (4) freeway ramps for Buildout Year (2045) With Project Conditions traffic conditions. As shown in Table 8-3, the following freeway ramps are forecasted to operate at unacceptable LOS under Buildout Year (2045) With Project Conditions:

Ramp #1 – State Route 57 Southbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E (38.8 pc/mi/ln)
- PM Peak Hour – LOS E (38.3 pc/mi/ln)

Ramp #3 – State Route 57 Northbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E (39.4 pc/mi/ln)
- PM Peak Hour – LOS E (42.3 pc/mi/ln)

Ramp #1, during both AM and PM peak hours, operates deficiently (i.e., LOS E) under Buildout Year (2045) Without Project Conditions. Although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1 pc/mi/ln increase caused by 4 & 10 peak hour project trips during the AM and PM peak hours respectively). The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g. the

off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact.

Ramp #3, during both AM and PM peak hours, operates deficiently (i.e., LOS E) under Buildout Year (2045) Without Project Conditions. During the AM peak hour, there is no net increase in density with the addition of project traffic. During the PM peak hour, although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1pc/mi/ln increase caused by 10 peak hour project trips during the PM peak hour). The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g. the off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact.

Detailed freeway ramp LOS analysis worksheets for Buildout Year (2045) With Project Conditions are included in **Appendix P**.

9.0 Site Access Analysis

This section of the report offers a qualitative analysis of several site access aspects relevant to the proposed project, covering the following factors:

- Number of access points proposed for the project site;
- Spacing between driveways and intersections;
- Potential signalization of driveways;
- On-site stacking distance;
- Shared access;
- Turn conflicts/restrictions;
- Adequate sight distance;
- Driveway improvements; and
- Pedestrian connections.

9.1 Proposed Access Points

There are existing curb cuts along both Placentia Avenue and Orangethorpe Avenue serving the project site's previous developments.

Access to the project will be provided via one (1) full-access unsignalized driveway along Orangethorpe Avenue that will primarily serve the retail component of the project and via one (1) full-access unsignalized driveway along Placentia Avenue that will primarily serve the residential component of the project. A seven (7) level parking structure will accommodate vehicles entering the Placentia Avenue driveway. The parking structure will primarily serve the residents but will also provide eight (8) spaces for the commercial portion.

9.2 Spacing between Driveways and Intersections

The project access driveway locations are located along Placentia Avenue and Orangethorpe Avenue respectively. Project Access 1 (i.e., Study Intersection #5) is approximately 580 feet north of the signalized study intersection of Placentia Avenue and Orangethorpe Avenue (i.e., Study Intersection #3), and approximately 125 feet south of the existing unsignalized intersection serving existing office developments on either side of Placentia Avenue.

Project Access 2 (Study Intersection #6) is approximately 450 feet east of the signalized study intersection at Placentia Avenue and Orangethorpe Avenue (Study Intersection #3), approximately

160 feet east of the existing unsignalized driveway serving the Jack-in-the-Box restaurant, and approximately 190 feet west of the unsignalized intersection of Hundley Way.

9.3 Potential Signalization of Driveways

As discussed in Section 5 of this report, both driveway study intersections are forecasted to operate at an acceptable Level of Service (LOS) under all analysis scenarios. Additionally, both study intersections are located within close proximity (i.e., within 600 feet) of a signalized intersection. Therefore, signalization is not recommended as the LOS will remain satisfactory with project conditions, and the minimum spacing requirements for signalized intersections will not be met.

9.4 On-Site Stacking Distance

RK has reviewed the project site plan to assess potential concerns regarding vehicles spilling onto Placentia Avenue or Orangethorpe Avenue due to inadequate stacking space internally to the site.

The Orangethorpe Avenue driveway, which will only serve a small amount of traffic, does not have a gate blocking the entrance to the parking area. There is adequate space for the minimal vehicles to enter this driveway without stacking back onto Orangethorpe Avenue.

For the Placentia Avenue driveway, there is approximately 170 feet of stacking distance from Placentia Avenue until vehicles enter the parking structure. Additionally, while there is a gate within the parking structure for residents, this gate is located further inside the parking structure. Once a vehicle enters the structure, there are immediately eight (8) ungated parking spaces designated for the public/retail portion of the project. This provides additional stacking distance for residents entering the gate, in addition to the previously mentioned 170-foot driveway throat. As such, there appears to be adequate space for vehicles to enter this driveway without stacking back onto Placentia Avenue.

9.5 Shared Access

The project access driveway along Placentia Avenue (i.e., Study Intersection #5) will primarily serve the residential component of the project via a seven (7) level parking structure. However, approximately eight (8) parking spaces are provided in the parking structure for the commercial component of the project.

The proposed project is located adjacent to a retail store along the eastern border of the site. To restrict vehicular access, the project plans to install fencing or a wall between the proposed project and the adjacent retail land use. As such, the access driveway along Orangethorpe Avenue (i.e., Study Intersection #6) will primarily serve the retail component of the project (with the exception of periodic service and moving trucks).

9.6 Turn Conflicts/Restrictions

Both project access driveways are proposed to be full-access and are not expected to experience turning conflicts or restrictions with adjacent intersections/driveways.

9.6.1 On-Site Truck Circulation Assessment

For solid waste disposal and recycling management for the residential portion of the project, trash collection bins will be moved from the trash termination room on level 1 of the parking structure using stringer trucks. These bins will then be moved to a staging area where a trash truck will handle the disposal.

The trash trucks will follow a specific route: entering the Orangethorpe Avenue driveway, proceeding to the designated turn-around area, parking near the trash staging areas, and beginning the trash pick-up process. After completing pick-up, the trucks will exit the property via the Orangethorpe Avenue driveway.

As depicted in **Exhibit 9-1**, based on the project's waste management plan, trash trucks can efficiently navigate the Orangethorpe Avenue driveway, perform a two-point turn maneuver at the designated area, and exit the site without encountering circulation issues.

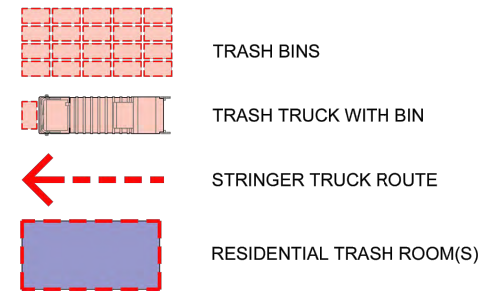
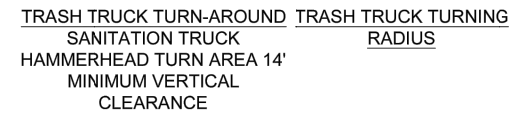
Furthermore, the project includes a designated move-in staging area on the southeast corner of the site, accessible via the Orangethorpe Avenue driveway. Upon entering the driveway, a moving truck will proceed straight ahead, bypassing commercial parking spaces, and directly accessing the move-in area.

Residents are expected to utilize move-in trucks suitable for items equivalent to those found in a 1-bedroom home or a 2-bedroom apartment, approximately 22.6 feet in length with a cargo box bed around 15 feet long. These trucks are smaller than the trash trucks, ensuring effective circulation on-site.

The move-in staging area will operate by appointment only and will be regulated by a roll-up door. Future and current residents wishing to use this area must schedule appointments with on-site management, who will provide information on truck size limitations and assistance as needed during entry and exit.

9.7 Sight Distance

An intersection sight distance analysis has been conducted for the project access driveways located along Placentia Avenue and Orangethorpe Avenue. As part of this analysis, a sight line is developed and a "limited use area" is created which designates an area between the edge of pavement and



the driver's line of sight. This area prohibits obstructions to maintain adequate sight distance at the intersection.

As per the Caltrans Highway Design Manual, the minimum corner sight distance (feet) is determined by the equation $(1.47 \times V_m \times T_g)$, where V_m is the design speed (mph) of the major road and T_g is the time gap (seconds) for the vehicle along the minor road to enter the major road.

For the purposes of this analysis, the posted speed limit of 40 mph ($V_m=40$) along Placentia Avenue and the posted speed limit of 45 mph ($V_m=45$) along Orangethorpe Avenue have been utilized. For a passenger vehicle performing a left turn from a stopped position a time gap of 7.5 seconds ($T_g=7.5$) is assumed. Conversely, a passenger vehicle performing a right turn maneuver from a stopped position assumes a time gap of 6.5 seconds ($T_g=6.5$). The time gaps identified are appropriate for a stopped vehicle to turn left, right, or cross a two-lane highway with no median and with minor road grades of 3 percent (3%) or less. Appropriate time gap adjustments, in accordance with Table 405.1 A of Caltrans Highway Design Manual, have been accounted for.

As a result, the following corner sight distances should be maintained between the driver on the minor road and the approaching driver on the major road when performing the following maneuvers:

Intersection # 5 – Placentia Avenue (N/S) and Project Access 1 (E/W)

- Left-Turn from Stop: 478 feet
- Right-Turn from Stop: 383 feet

Intersection # 6 – Project Access 2 (N/S) and Orangethorpe Avenue (E/W)

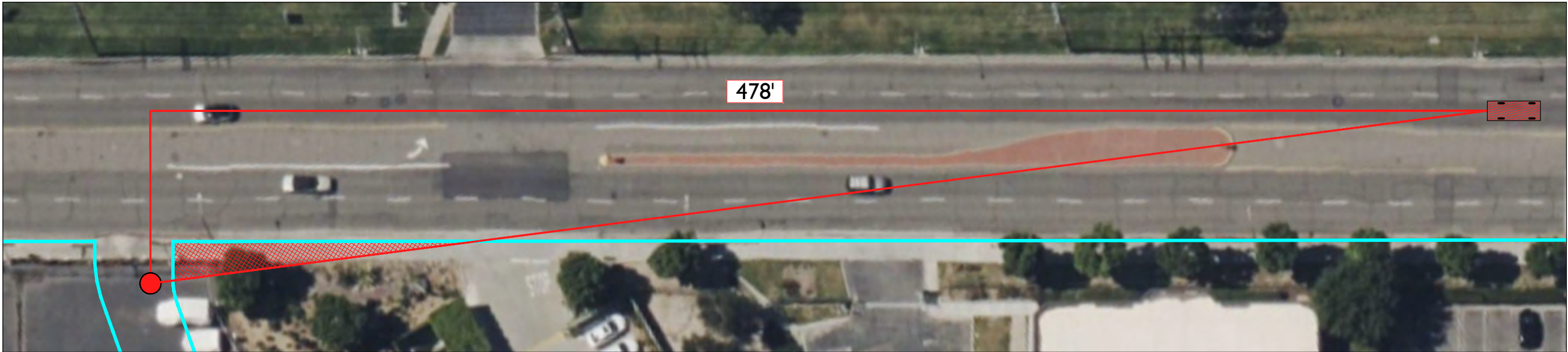
- Left-Turn from Stop: 606 feet
- Right-Turn from Stop: 430 feet

Pursuant to the Caltrans Highway Design Manual, the decision point of the triangle, or driver position on the minor road, is located a minimum of 10 feet plus the shoulder width of the major but not less 15 feet back from the nearest edge of the major road traveled way. The decision point, or driver position, is located at a set back distance that drivers are assumed to be located at waiting on the minor road.

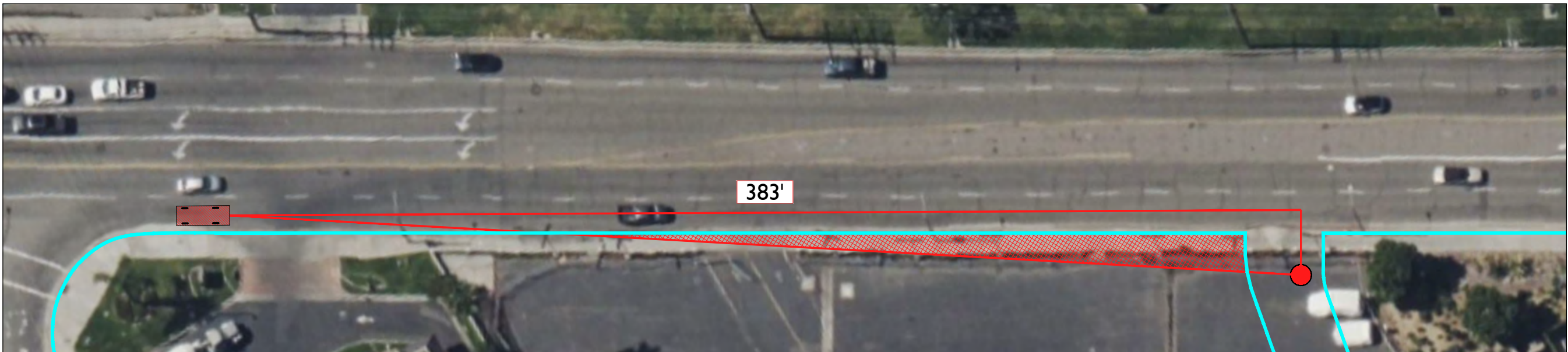
The resulting clear sight triangles and established limited-use areas for each intersection are shown in **Exhibit 9-2** and **Exhibit 9-3**. The following recommendations are provided to maintain clear line of sight for driver's:

Placentia Avenue (N/S) and Project Access I (E/W) Sight Distance Analysis

Left-Turn Maneuver Exiting Driveway

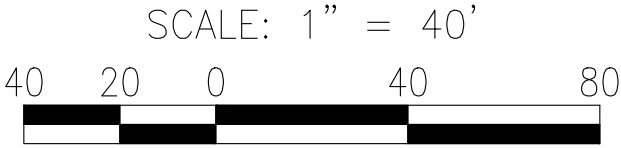


Right-Turn Maneuver Exiting Driveway



Legend:

-  = Driver's Eye
-  = Oncoming Vehicle
-  = Limited Use Area



Project Access 2 (N/S) and Orangethorpe Avenue (E/W) Sight Distance Analysis

Left-Turn Maneuver Exiting Driveway

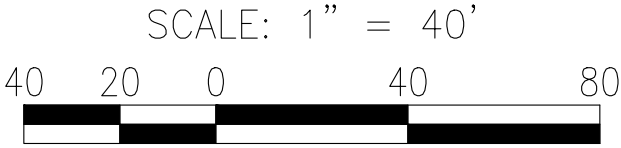


Right-Turn Maneuver Exiting Driveway



Legend:

-  = Driver's Eye
-  = Oncoming Vehicle
-  = Limited Use Area



1. Trim and maintain foliage continuously within the corner sight distance limited use area up to 3.5 feet in height to remain consistent with Caltrans Highway Design Manual.
2. Any future landscaping and/or hardscapes (i.e., monument signs) should be designed such that a driver's clear line of sight is not obstructed.

9.8 Driveway Improvements

The project proposes to provide safe and adequate driveways along both Placentia Avenue and Orangethorpe Avenue which will be designed pursuant to the City of Placentia development code.

9.9 Pedestrian Connections

The project will provide adequate pedestrian connections from within the site to the existing sidewalks located along both the Placentia Avenue & Orangethorpe Avenue frontages. These existing sidewalks connect to the signalized intersection of Placentia Avenue at Orangethorpe Avenue which currently provides protected pedestrian crossings on all legs. These pedestrian facilities provide safe and efficient connectivity for pedestrians to nearby adjacent land uses (e.g., commercial, residential, office uses) as well as other multi-modal facilities (e.g. bus stops along Orangethorpe Avenue).

10.0 Summary and Conclusions

10.1 Project Summary

The project site is located near the northeast corner of Orangethorpe Avenue and Placentia Avenue, specifically at 776 South Placentia Avenue and 777 West Orangethorpe Avenue in Placentia, CA. The proposed project consists of the construction of 248 multi-family residential dwelling units and up to 2,800 square feet of commercial retail use (with related amenity uses, private and common open space uses).

Access to the project will be provided via one (1) full-access unsignalized driveway along Orangethorpe Avenue that will primarily serve the retail component of the project and via one (1) full-access unsignalized driveway along Placentia Avenue that will primarily serve the residential component of the project. A seven (7) level parking structure will accommodate vehicles entering the Placentia Avenue driveway. The parking structure will primarily serve the residents but will also provide eight (8) spaces for the commercial portion.

The project proposes to provide a total of 342 on-site parking spaces, comprising of 334 general parking spaces and 8 ADA parking spaces. Four (4) parking spaces (i.e., 3 general spaces and 1 ADA space) are provided in the retail surface lot located along Orangethorpe Avenue. The 338 parking spaces proposed within the parking garage, which is accessible via the Placentia Avenue driveway, are comprised of 331 general parking spaces and seven (7) ADA parking spaces. Of these 331 general parking spaces, seven (7) are designated for retail parking.

The project is forecast to generate approximately 1,278 daily trips with approximately 99 trips during the AM peak hour and approximately 115 trips during the PM peak hour.

10.2 Traffic Study Area & Analysis Scenarios

The study area included in this analysis has been determined based on existing and future transportation facilities within the vicinity of the site where the project may contribute a significant amount of traffic.

Based on recommended practices described in the *2023 Orange County Congestion Management Program Report, dated November 2023*, the study area comprises transportation facilities where the proposed project is anticipated to generate traffic volumes equal to or exceeding 3% of the roadway facilities capacity (i.e., LOS E). As such, the study area consists of six (6) intersections. No roadway segments are assessed in this analysis.

The analysis evaluates traffic conditions of the study area under the following scenarios during the weekday AM (6:00 AM to 9:00 AM) and weekday PM (3:00 PM to 7:00 PM) peak periods:

- Existing Conditions;
- Existing Plus Project Conditions;
- Project Opening Year (2027) Without Project Conditions;
- Project Opening Year (2027) With Project Conditions;
- Buildout Year (2045) Without Project Conditions; and
- Buildout Year (2045) With Project Conditions.

10.3 CA MUTCD Warrant Analysis Summary

As directed by City of Placentia staff, the following study intersection has been evaluated for signalization based on the peak hour signal warrants and procedures contained in the *California Manual on Uniform Traffic Control Devices (CA MUTCD), 2014 Edition, Revision 7 (March 10, 2023)*:

- **Int 5 – Placentia Avenue (N/S) and Project Access 1 (E/W)**

The peak hour traffic signal warrants are **not** satisfied for the unsignalized study intersection of Placentia Avenue at Project Access 1 (i.e., Study Intersection #5) under any of the “with project conditions” analysis scenarios and time periods evaluated as part of this study.

10.4 Study Intersection LOS Analysis Summary

The intersection level of service analysis has been performed at the six (6) study intersections within the vicinity of the site where the project may contribute a significant amount of traffic. Project deficiencies have been evaluated within the study area based on peak hour level of service performance criteria and thresholds of significance.

All study intersections are forecasted to operate at acceptable level of service conditions under all traffic analysis scenarios.

10.5 Intersection Queuing Analysis Summary

As requested by Caltrans, a queuing analysis has been conducted to evaluate the queue lengths of turn pockets serving the SR-57 on and off ramps intersections along Orangethorpe Avenue. This analysis aims to determine the potential for traffic overflow from turn pockets, considering its impact on the freeway facility, through lanes, and adjacent intersections.

Under all traffic analysis scenarios, adequate storage is provided for all reported turning movements.

10.6 Freeway Ramp (Merge/Diverge) Analysis Summary

A freeway ramp(merge/diverge) analysis has been conducted for the State Route 57 (SR-57) on/off-ramps along Orangethorpe Avenue considering the requirement set by Caltrans and conducting using the methodologies described in the Highway Capacity Manual (HCM).

As stated previously in Section 2.2.4, for the purpose of this analysis, the minimum acceptable level of service is LOS D or better for any State highway facility. Additionally, a project impact is identified if one of the following occurs:

- A state highway facility operating at an acceptable LOS (i.e., LOS D or better) degrades to a deficient LOS (i.e., LOS E or worse) with the addition of project traffic; OR
- A state highway facility is already operating at a deficient LOS E and further degrades to a LOS F with the addition of project traffic; OR
- If a state highway facility is already operating at a deficient LOS (LOS E or worse) without the project and the addition of project traffic causes or worsens adverse safety conditions (e.g., for diverge analyses, adverse safety conditions are defined as off-ramp queues which extend back onto the mainline, either caused directly by the project or the addition of project traffic worsens the queue if it already extends onto the mainline under pre-project conditions).

For Existing and Existing Plus Project traffic conditions, all freeway ramps analyzed operate at an adequate LOS with the exception of the following:

Ramp #1 – State Route 57 Southbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E

Ramp #3 – State Route 57 Northbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E
- PM Peak Hour – LOS E

It should be noted that Ramp #1, during the AM peak hour, operates deficiently (i.e., LOS E) under existing conditions and that there is no net increase in density with the addition of project traffic. Therefore, based on the Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not cause or worsen adverse safety conditions of the facility (e.g., off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact to this State highway facility.

Ramp #3, during both AM and PM peak hours, operates deficiently (i.e., LOS E) under existing conditions. Although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1pc/mi/ln increase caused by 4 & 10 peak hour project trips during the AM and PM peak hours respectively). The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g. the off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact.

Under Project Opening Year (2027) for both Without and With Project Conditions, all freeway ramps analyzed operate at an adequate LOS with the exception of the following:

Ramp #1 – State Route 57 Southbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E
- PM Peak Hour – LOS E

Ramp #3 – State Route 57 Northbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E
- PM Peak Hour – LOS E

Ramp #1, during both AM and PM peak hours, operates deficiently (i.e., LOS E) under Project Opening Year (2027) Without Project Conditions. During the AM peak hour, there is no net increase in density with the addition of project traffic. During the PM peak hour, although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1pc/mi/ln increase caused by 10 peak hour project trips during the PM peak hour). The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g. the off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact.

Ramp #3, during both AM and PM peak hours, operates deficiently (i.e., LOS E) under Project Opening Year (2027) Without Project Conditions. During the AM peak hour, although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1pc/mi/ln increase caused by 4 peak hour project trips during the AM peak hour). During the PM peak hour, there is no net increase in density with the addition of project traffic. The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g. the off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans'

performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact.

Under Buildout Year (2045) for both Without and With Project Conditions, all freeway ramps analyzed operate at an adequate LOS with the exception of the following:

Ramp #1 – State Route 57 Southbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E
- PM Peak Hour – LOS E

Ramp #3 – State Route 57 Northbound Off-Ramp to Orangethorpe Avenue

- AM Peak Hour – LOS E
- PM Peak Hour – LOS E

Ramp #1, during both AM and PM peak hours, operates deficiently (i.e., LOS E) under Buildout Year (2045) Without Project Conditions. Although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1 pc/mi/ln increase caused by 4 & 10 peak hour project trips during the AM and PM peak hours respectively). The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g. the off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact.

Ramp #3, during both AM and PM peak hours, operates deficiently (i.e., LOS E) under Buildout Year (2045) Without Project Conditions. During the AM peak hour, there is no net increase in density with the addition of project traffic. During the PM peak hour, although the density is forecasted to increase with the addition of project traffic, this increase is considered nominal (i.e., 0.1 pc/mi/ln increase caused by 10 peak hour project trips during the PM peak hour). The existing LOS (i.e., LOS E) is maintained and does not cause or worsen adverse safety conditions of the facility (e.g. the off-ramp queues do not extend back onto the mainline). Therefore, based on Caltrans' performance criteria discussed in Section 2.2.4 of this report, the project does not create a significant impact.

10.7 Site Access Analysis Summary

The following summarizes the qualitative analysis conducted on several site access aspects:

Number of access points proposed for the project site

- Access to the project will be provided via one (1) full-access unsignalized driveway along Orangethorpe Avenue that will primarily serve the retail component of the project and via one (1) full-access unsignalized driveway along Placentia Avenue that will primarily serve the residential component of the project.

Spacing between driveways and intersections

- The project access driveway locations are located along Placentia Avenue and Orangethorpe Avenue respectively. Project Access 1 (i.e., Study Intersection #5) is approximately 580 feet north of the signalized study intersection of Placentia Avenue and Orangethorpe Avenue (i.e., Study Intersection #3), and approximately 125 feet south of the existing unsignalized intersection serving existing office developments on either side of Placentia Avenue.
- Project Access 2 (Study Intersection #6) is approximately 450 feet east of the signalized study intersection at Placentia Avenue and Orangethorpe Avenue (Study Intersection #3), approximately 160 feet east of the existing unsignalized driveway serving the Jack-in-the-Box restaurant, and approximately 190 feet west of the unsignalized intersection of Hundley Way.

Potential signalization of driveways

- Signalization is not recommended as the LOS will remain satisfactory with project conditions, and the minimum spacing requirements for signalized intersections will not be met.

On-site stacking distance

- The Orangethorpe Avenue driveway, which will only serve a small amount of traffic, does not have a gate blocking the entrance to the parking area. There is adequate space for the minimal vehicles to enter this driveway without stacking back onto Orangethorpe Avenue.
- For the Placentia Avenue driveway, there is approximately 170 feet of stacking distance from Placentia Avenue until vehicles enter the parking structure. Additionally, while there is a gate within the parking structure for residents, this gate is located further inside the parking structure. Once a vehicle enters the structure, there are immediately eight (8) ungated parking spaces designated for the public/retail portion of the project. This provides additional stacking distance for residents entering the gate, in addition to the previously mentioned

170-foot driveway throat. As such, there appears to be adequate space for vehicles to enter this driveway without stacking back onto Placentia Avenue.

Shared access

- The project access driveway along Placentia Avenue (i.e., Study Intersection #5) will primarily serve the residential component of the project via a seven (7) level parking structure. However, approximately eight (8) parking spaces are provided in the parking structure for the commercial component of the project.
- The proposed project is located adjacent to a retail store along the eastern border of the site. To restrict vehicular access, the project plans to install fencing or a wall between the proposed project and the adjacent retail land use. As such, the access driveway along Orangethorpe Avenue (i.e., Study Intersection #6) will primarily serve the retail component of the project (with the exception of periodic service and moving trucks).

Turn conflicts/restrictions

- Both project access driveways are proposed to be full-access and are not expected to experience turning conflicts or restrictions with adjacent intersections/driveways.
- For solid waste disposal and recycling management for the residential portion of the project, trash collection bins will be moved from the trash termination room on level 1 of the parking structure using stringer trucks. These bins will then be moved to a staging area where a trash truck will handle the disposal.
 - The trash trucks will follow a specific route: entering the Orangethorpe Avenue driveway, proceeding to the designated turn-around area, parking near the trash staging areas, and beginning the trash pick-up process. After completing pick-up, the trucks will exit the property via the Orangethorpe Avenue driveway.
 - Trash trucks can efficiently navigate the Orangethorpe Avenue driveway, perform a two-point turn maneuver at the designated area, and exit the site without encountering circulation issues.
- The project includes a designated move-in staging area on the southeast corner of the site, accessible via the Orangethorpe Avenue driveway. Upon entering the driveway, a moving truck will proceed straight ahead, bypassing commercial parking spaces, and directly accessing the move-in area.

- Residents are expected to utilize move-in trucks suitable for items equivalent to those found in a 1-bedroom home or a 2-bedroom apartment, approximately 22.6 feet in length with a cargo box bed around 15 feet long. These trucks are smaller than the trash trucks, ensuring effective circulation on-site.

Adequate sight distance

- An intersection sight distance analysis has been conducted for the project access driveways located along Placentia Avenue and Orangethorpe Avenue. As part of this analysis, a sight line is developed and a “limited use area” is created which designates an area between the edge of pavement and the driver’s line of sight. This area prohibits obstructions to maintain adequate sight distance at the intersection.
- The following recommendations are provided to maintain clear line of sight for driver’s:
 - Trim and maintain foliage continuously within the corner sight distance limited use area up to 3.5 feet in height to remain consistent with Caltrans Highway Design Manual.
 - Any future landscaping and/or hardscapes (i.e., monument signs) should be designed such that a driver’s clear line of sight is not obstructed.

Driveway improvements

- The project proposes to provide safe and adequate driveways along both Placentia Avenue and Orangethorpe Avenue which will be designed pursuant to the City of Placentia development code.

Pedestrian connections

- The project will provide adequate pedestrian connections from within the site to the existing sidewalks located along both the Placentia Avenue & Orangethorpe Avenue frontages. These existing sidewalks connect to the signalized intersection of Placentia Avenue at Orangethorpe Avenue which currently provides protected pedestrian crossings on all legs. These pedestrian facilities provide safe and efficient connectivity for pedestrians to nearby adjacent land uses (e.g., commercial, residential, office uses) as well as other multi-modal facilities (e.g. bus stops along Orangethorpe Avenue).

Appendices



Appendix A

Caltrans District 12 Letter (January 4th, 2024)

California Department of Transportation

DISTRICT 121750 East 4th Street, Suite 100 | SANTA ANA, CA 92705

(657) 328-6000 | FAX (657) 328-6522 TTY 711

<https://dot.ca.gov/caltrans-near-me/district-12>

January 4, 2024

Mr. Andrew Gonzales
Planning Manager
City of Placentia
401 E. Chapman Avenue
Placentia, CA. 92870

File: LDR/CEQA
SCH:2023110688
12-ORA-2023-02434
SR-57, PM: 16.408
SR-91, PM: 5.532

Dear Mr. Gonzales,

Thank you for including the California Department of Transportation (Caltrans) in the review of the Mitigated Negative Declaration (MND) for the Orangethorpe-Placentia Mixed-Use Project. The Proposed Project would allow for the construction and operation of a mixed use project that would include 248 residential units and up to 3,000 square feet of commercial uses (with related amenity uses, private and common open space uses), and a 7-level parking structure at the northeast corner of the Proposed Project Site. The Proposed Project would have a prominent street presence on W. Orangethorpe Avenue and S. Placentia Avenue in the City of Placentia.

The Proposed Project would be developed on a 2.72-acre site located at 776 S. Placentia Avenue and 777 W. Orangethorpe Avenue in Placentia, California, (Assessor Parcel Number 339-112 27). The Project would be accessed via both S. Placentia Avenue and W. Orangethorpe Avenue. The site is bordered by a Jack in the Box to the southwest corner, W. Orangethorpe Avenue to the south, S. Placentia Avenue to the west, a 3-story commercial building to the north, and an industrial building to the east, currently occupied by a spa and patio store. The Proposed project will be accessed regionally by State Route (SR) 57 to the east and State Route (SR) 91 to the south. State Routes 57 and 91 are owned and operated by Caltrans. Therefore, Caltrans is a responsible agency on this project, and has the following comments:

1. Caltrans supports opportunities for affordable housing, and the state mandates that cities must plan for housing needs of future residents of all incomes. Please provide an analysis and discussion that would assist in accommodating the Regional Housing Needs Assessment (RHNA) allocation per the California Department of Housing & Community Development (HCD).

"Provide a safe and reliable transportation network that serves all people and respects the environment"

2. Caltrans recognizes our responsibility to assist communities of color and under-served communities by removing barriers to provide a more equitable transportation system for all. The Department firmly embraces racial equity, inclusion, and diversity. These values are foundational to achieving our vision of a cleaner, safer, and more accessible and more connected transportation system. Please consider including a discussion on equity in the Final MND.
3. Safety is one of Caltrans' strategic goals. We are striving for more equitable outcomes for the transportation network's diverse users. To achieve these ambitious goals, we will pursue meaningful collaboration with our partners. We encourage the implementation of new technologies, innovations, and best practices that will enhance the safety on the transportation network. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo as we continue to institutionalize safety in all our work.
4. Residential infill development offers an opportunity to encourage multimodal transportation options. Caltrans encourages the design of Complete Streets that include high-quality pedestrian, bicycle, and transit facilities that are safe and comfortable for users of all ages and abilities. This may include safety measures such as physically separated sidewalks and bike lanes; pedestrian-oriented LED lighting; high-visibility continental crosswalk striping; raised crosswalks; refuge islands; wayfinding signage; and safe connections to existing and proposed bicycle, pedestrian, and transit facilities. Complete Streets improvements also promote regional connectivity, improve air quality, reduce congestion, promote improved first-/last-mile connections, and increase safety for all modes of transportation.
5. Caltrans supports projects which provide a diversity of housing choices and destinations accessible by Active Transportation (i.e. bicycle and pedestrian) and transit users. Please consider improving multimodal connections to housing which will encourage future residents, visitors, and workers in the city to utilize all modes of transportation. Increasing multimodal transportation will lead to a reduction to congestion, Vehicle Miles Traveled, and improve air quality.
6. Caltrans seeks to promote safe, accessible, multimodal transportation. Please consider methods to reduce pedestrian and bicyclist exposure to vehicles by lessening the time that the user is in the likely path of a motor vehicle. These methods include the construction of physically separated facilities such as sidewalks, raised medians, refuge islands, off-road paths and trails, or a reduction in crossing distances through roadway narrowing. Caltrans recommends the project consider concepts such as, but not limited to,

pedestrian and bicyclist warning signage, flashing beacons, crosswalks, signage and striping, to indicate to motorists that they should expect to see and yield to pedestrians and bicyclists where appropriate.

7. Given the existing multimodal context and the mixed-use nature of the site, Caltrans suggests enhancing the current planned Class II bikeway with vertical separation.
8. Caltrans also recommends the inclusion of functional on-site bike parking. Bike parking should be placed in visible locations that are close to main entrances and should be designed to accommodate different types of bikes (e.g. cargo bike, bike with trailer). For people to easily utilize bike racks, they should be installed at least 24" away from walls and other objects (e.g. trash cans, plants, etc.). This inclusion encourages and facilitates the growing use of food delivery services and parcel deliveries. This can alleviate the need for delivery trucks and associated GHG emissions.
9. With the growing popularity of electric bikes and cargo/utility bikes (which tend to be bigger and heavier), Caltrans also recommends that bicycle storage facilities be designed to accommodate a range of bicycle styles, sizes, and weights.
10. During construction, please ensure appropriate detours, signage, and safety measures are planned that prioritize and ensure the safety and mobility of pedestrians, bicyclists, and transit users.
11. Ensure that truck parking, ingress and egress, and staging will not interfere with vehicle parking, pedestrian paths, or bicycle lanes/bicycle parking. Work with community representatives to mitigate any truck traffic routing onto residential streets or conflicting with other road users, including and especially bicyclists and pedestrians.
12. Please provide adequate wayfinding signage to transit stops within the project site where appropriate.
13. Consider how many individual packages will be delivered daily to individual residences within the areas identified for increased housing production. Shared drop-off locations can help reduce the amount of driving done by delivery trucks and can increase the efficiency of deliveries in densely developed areas. Similarly, high-density residential developments should consider automated parcel systems (i.e., Amazon Lockers) so that deliveries can be made with one truck

stop instead of multiple stops to individual residences.

14. Please note that this project should not present adverse impacts to the overall transportation system including traffic circulation and the local State Highway Systems (SHS). Orangethorpe Ave. is part of the Congestion Management Program (CMP) Highway System, with Caltrans' SR 57 on/off ramps being part of this system. Caltrans therefore is requesting a Traffic Impact Analysis (TIA) that includes focus on the investigation, analysis and assessment of the Level of Service (LOS) for the following criteria:
 - a. Intersection analysis of Orangethorpe Ave. and the SR 57 Northbound ramp.
 - b. Intersection analysis of Orangethorpe Ave. and the SR 57 Southbound ramp.
 - c. The merging and diverging of on and off ramps at Orangethorpe Ave. to and from mainline SR 57.
 - d. Queue analysis of the on and off ramps at Orangethorpe Ave.
 - e. Please note that all data should be within 3 years of the current date.
15. Please consider the additional AM and PM peak traffic volumes and the impact on the delay of the surrounding intersections, including the on/off ramps. These additional trips could impact the operation of the signals/ramp meters and the respective freeway system.
16. Please ensure that queuing and delay of these on/off ramps is satisfactory and no mitigation is required for any Caltrans facilities.
17. Any project work proposed in the vicinity of the State Right-of-Way (ROW) would require an encroachment permit and all environmental concerns must be adequately addressed. If the environmental documentation for the project does not meet Caltrans's requirements for work done within State ROW, additional documentation would be required before approval of the encroachment permit. Please coordinate with Caltrans to meet requirements for any work within or near State ROW. For specific details for Encroachment Permits procedure, please refer to the Caltrans's Encroachment Permits Manual at: <http://www.dot.ca.gov/hq/traffops/developserv/permits/>
18. Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (657) 328-6553 or D12.permits@dot.ca.gov. Early coordination with Caltrans is strongly advised for all encroachment Permits. For specific details on Caltrans Encroachment Permits procedure and any future updates regarding the application process

and permit rates, please visit the Caltrans Encroachment Permits homepage at <https://dot.ca.gov/programs/traffic-operations/ep>.

Caltrans' mission is to provide a safe, sustainable, equitable, integrated, and efficient transportation system to enhance California's economy and livability. Please continue to coordinate with Caltrans for any future developments that could potentially impact State transportation facilities. If you have any questions, please do not hesitate to contact Julie Lugaro at Julie.lugaro@dot.ca.gov.

Sincerely,



Scott Shelley
Branch Chief,
LDR-Climate Change-Transit Planning
Caltrans, District 12



Appendix B-I

Existing Traffic Count Worksheets

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT Tues AM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 1

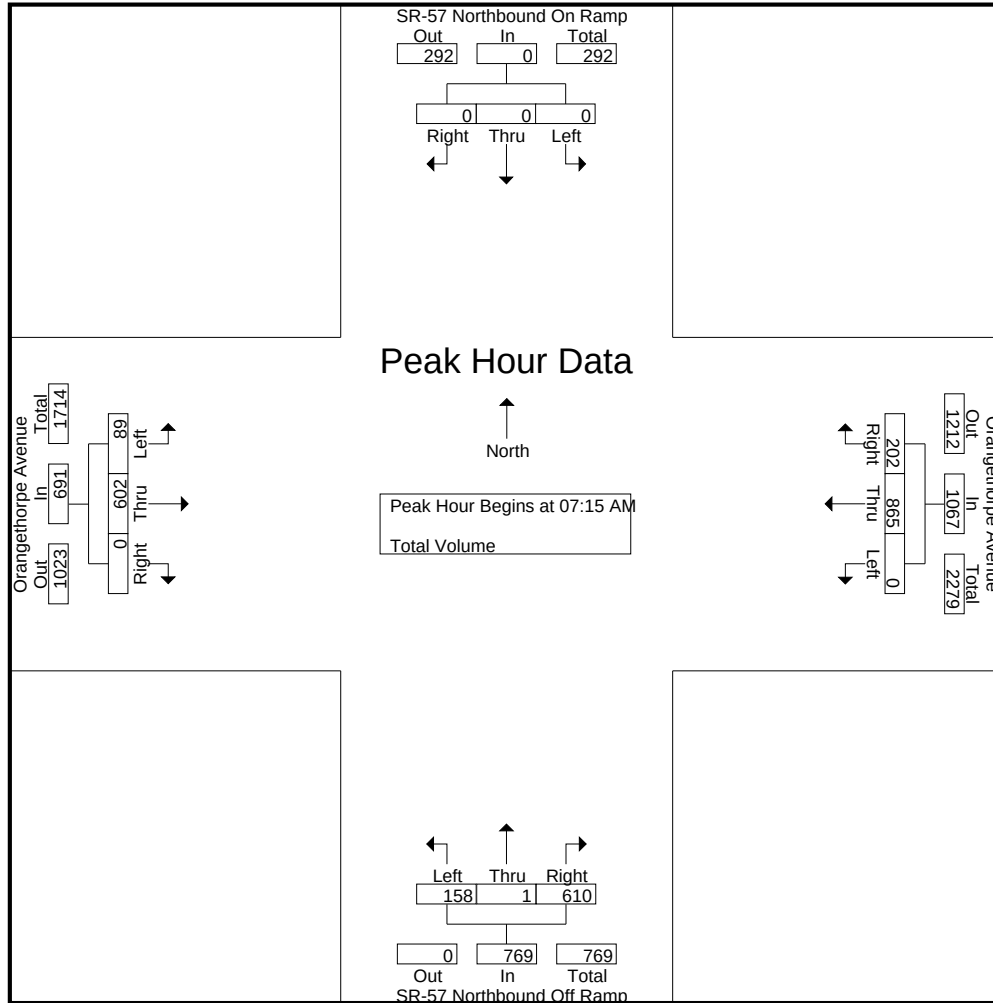
Groups Printed- Total Volume

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	107	31	138	29	0	150	179	18	101	0	119	436
06:15 AM	0	0	0	0	0	124	46	170	30	0	105	135	14	109	0	123	428
06:30 AM	0	0	0	0	0	166	45	211	23	0	127	150	12	75	0	87	448
06:45 AM	0	0	0	0	0	167	36	203	46	1	198	245	25	143	0	168	616
Total	0	0	0	0	0	564	158	722	128	1	580	709	69	428	0	497	1928
07:00 AM	0	0	0	0	0	190	53	243	36	0	144	180	18	122	0	140	563
07:15 AM	0	0	0	0	0	211	62	273	34	0	138	172	16	148	0	164	609
07:30 AM	0	0	0	0	0	218	56	274	40	1	143	184	31	153	0	184	642
07:45 AM	0	0	0	0	0	247	46	293	52	0	172	224	22	169	0	191	708
Total	0	0	0	0	0	866	217	1083	162	1	597	760	87	592	0	679	2522
08:00 AM	0	0	0	0	0	189	38	227	32	0	157	189	20	132	0	152	568
08:15 AM	0	0	0	0	0	210	40	250	49	1	133	183	23	118	0	141	574
08:30 AM	0	0	0	0	0	188	40	228	53	0	149	202	18	150	0	168	598
08:45 AM	0	0	0	0	0	177	52	229	82	0	118	200	30	117	0	147	576
Total	0	0	0	0	0	764	170	934	216	1	557	774	91	517	0	608	2316
Grand Total	0	0	0	0	0	2194	545	2739	506	3	1734	2243	247	1537	0	1784	6766
Apprch %	0	0	0		0	80.1	19.9		22.6	0.1	77.3		13.8	86.2	0		
Total %	0	0	0		0	32.4	8.1	40.5	7.5	0	25.6	33.2	3.7	22.7	0	26.4	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	211	62	273	34	0	138	172	16	148	0	164	609
07:30 AM	0	0	0	0	0	218	56	274	40	1	143	184	31	153	0	184	642
07:45 AM	0	0	0	0	0	247	46	293	52	0	172	224	22	169	0	191	708
08:00 AM	0	0	0	0	0	189	38	227	32	0	157	189	20	132	0	152	568
Total Volume	0	0	0	0	0	865	202	1067	158	1	610	769	89	602	0	691	2527
% App. Total	0	0	0		0	81.1	18.9		20.5	0.1	79.3		12.9	87.1	0		
PHF	.000	.000	.000	.000	.000	.876	.815	.910	.760	.250	.887	.858	.718	.891	.000	.904	.892

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT Tues AM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 2



Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 AM				07:00 AM				07:45 AM				07:15 AM			
+0 mins.	0	0	0	0	0	190	53	243	52	0	172	224	16	148	0	164
+15 mins.	0	0	0	0	0	211	62	273	32	0	157	189	31	153	0	184
+30 mins.	0	0	0	0	0	218	56	274	49	1	133	183	22	169	0	191
+45 mins.	0	0	0	0	0	247	46	293	53	0	149	202	20	132	0	152
Total Volume	0	0	0	0	0	866	217	1083	186	1	611	798	89	602	0	691
% App. Total	0	0	0	0	0	80	20		23.3	0.1	76.6		12.9	87.1	0	
PHF	.000	.000	.000	.000	.000	.877	.875	.924	.877	.250	.888	.891	.718	.891	.000	.904

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT Tues PM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 1

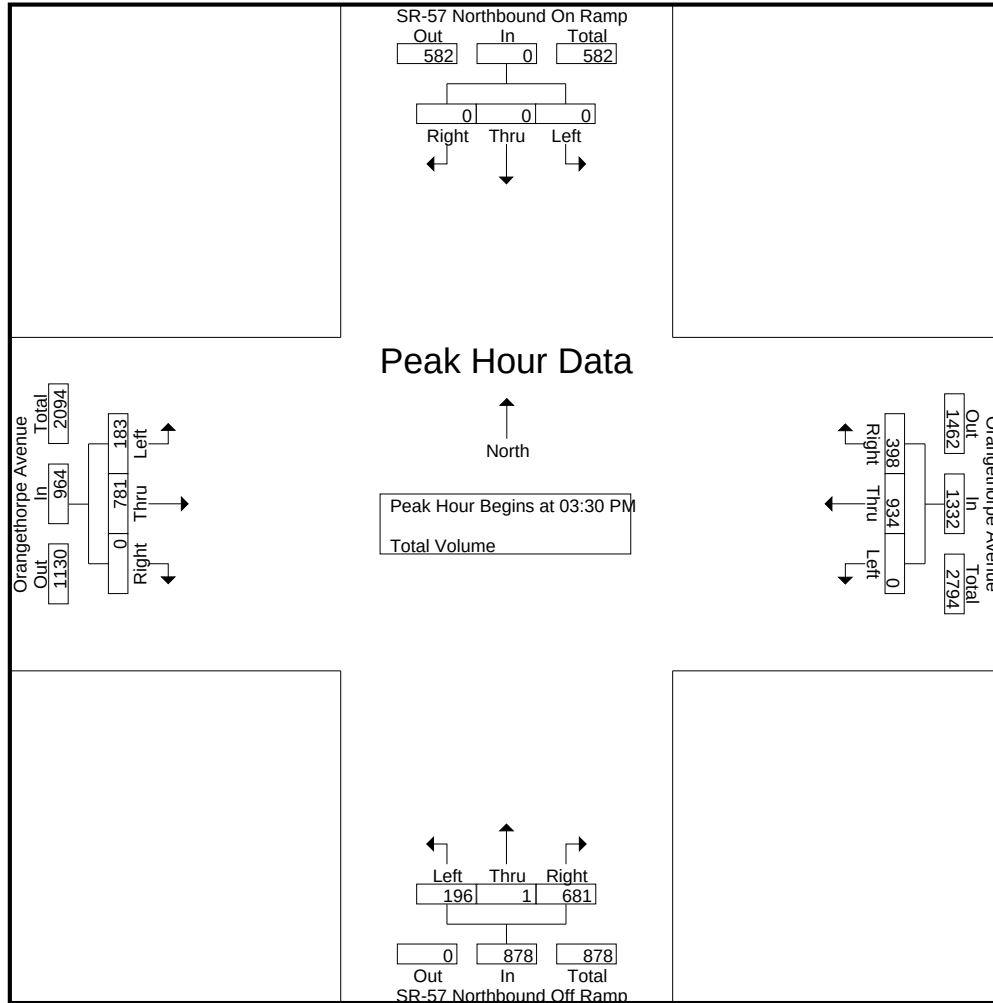
Groups Printed- Total Volume

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	189	100	289	47	0	132	179	37	175	0	212	680
03:15 PM	0	0	0	0	0	199	86	285	48	1	144	193	43	151	0	194	672
03:30 PM	0	0	0	0	0	250	112	362	43	0	173	216	43	215	0	258	836
03:45 PM	0	0	0	0	0	251	103	354	47	1	173	221	51	171	0	222	797
Total	0	0	0	0	0	889	401	1290	185	2	622	809	174	712	0	886	2985
04:00 PM	0	0	0	0	0	226	104	330	49	0	151	200	59	212	0	271	801
04:15 PM	0	0	0	0	0	207	79	286	57	0	184	241	30	183	0	213	740
04:30 PM	0	0	0	0	0	225	123	348	44	0	211	255	41	192	0	233	836
04:45 PM	0	0	0	0	0	201	94	295	41	0	198	239	31	181	0	212	746
Total	0	0	0	0	0	859	400	1259	191	0	744	935	161	768	0	929	3123
05:00 PM	0	0	0	0	0	218	111	329	43	0	163	206	50	178	0	228	763
05:15 PM	0	0	0	0	0	228	128	356	50	0	173	223	43	155	0	198	777
05:30 PM	0	0	0	0	0	197	82	279	49	0	195	244	30	144	0	174	697
05:45 PM	0	0	0	0	0	174	80	254	47	0	176	223	32	161	0	193	670
Total	0	0	0	0	0	817	401	1218	189	0	707	896	155	638	0	793	2907
06:00 PM	0	0	0	0	0	160	69	229	51	0	155	206	37	154	0	191	626
06:15 PM	0	0	0	0	0	157	63	220	38	0	141	179	23	124	0	147	546
06:30 PM	0	0	0	0	0	146	49	195	36	2	120	158	24	95	0	119	472
06:45 PM	0	0	0	0	0	96	55	151	47	0	130	177	26	75	0	101	429
Total	0	0	0	0	0	559	236	795	172	2	546	720	110	448	0	558	2073
Grand Total	0	0	0	0	0	3124	1438	4562	737	4	2619	3360	600	2566	0	3166	11088
Apprch %	0	0	0		0	68.5	31.5		21.9	0.1	77.9		19	81	0		
Total %	0	0	0		0	28.2	13	41.1	6.6	0	23.6	30.3	5.4	23.1	0	28.6	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	0	0	0	0	0	250	112	362	43	0	173	216	43	215	0	258	836
03:45 PM	0	0	0	0	0	251	103	354	47	1	173	221	51	171	0	222	797
04:00 PM	0	0	0	0	0	226	104	330	49	0	151	200	59	212	0	271	801
04:15 PM	0	0	0	0	0	207	79	286	57	0	184	241	30	183	0	213	740
Total Volume	0	0	0	0	0	934	398	1332	196	1	681	878	183	781	0	964	3174
% App. Total	0	0	0		0	70.1	29.9		22.3	0.1	77.6		19	81	0		
PHF	.000	.000	.000	.000	.000	.930	.888	.920	.860	.250	.925	.911	.775	.908	.000	.889	.949

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT Tues PM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 2



Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM				03:30 PM				04:15 PM				03:30 PM			
+0 mins.	0	0	0	0	0	250	112	362	57	0	184	241	43	215	0	258
+15 mins.	0	0	0	0	0	251	103	354	44	0	211	255	51	171	0	222
+30 mins.	0	0	0	0	0	226	104	330	41	0	198	239	59	212	0	271
+45 mins.	0	0	0	0	0	207	79	286	43	0	163	206	30	183	0	213
Total Volume	0	0	0	0	0	934	398	1332	185	0	756	941	183	781	0	964
% App. Total	0	0	0	0	0	70.1	29.9		19.7	0	80.3		19	81	0	
PHF	.000	.000	.000	.000	.000	.930	.888	.920	.811	.000	.896	.923	.775	.908	.000	.889

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT Wed AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

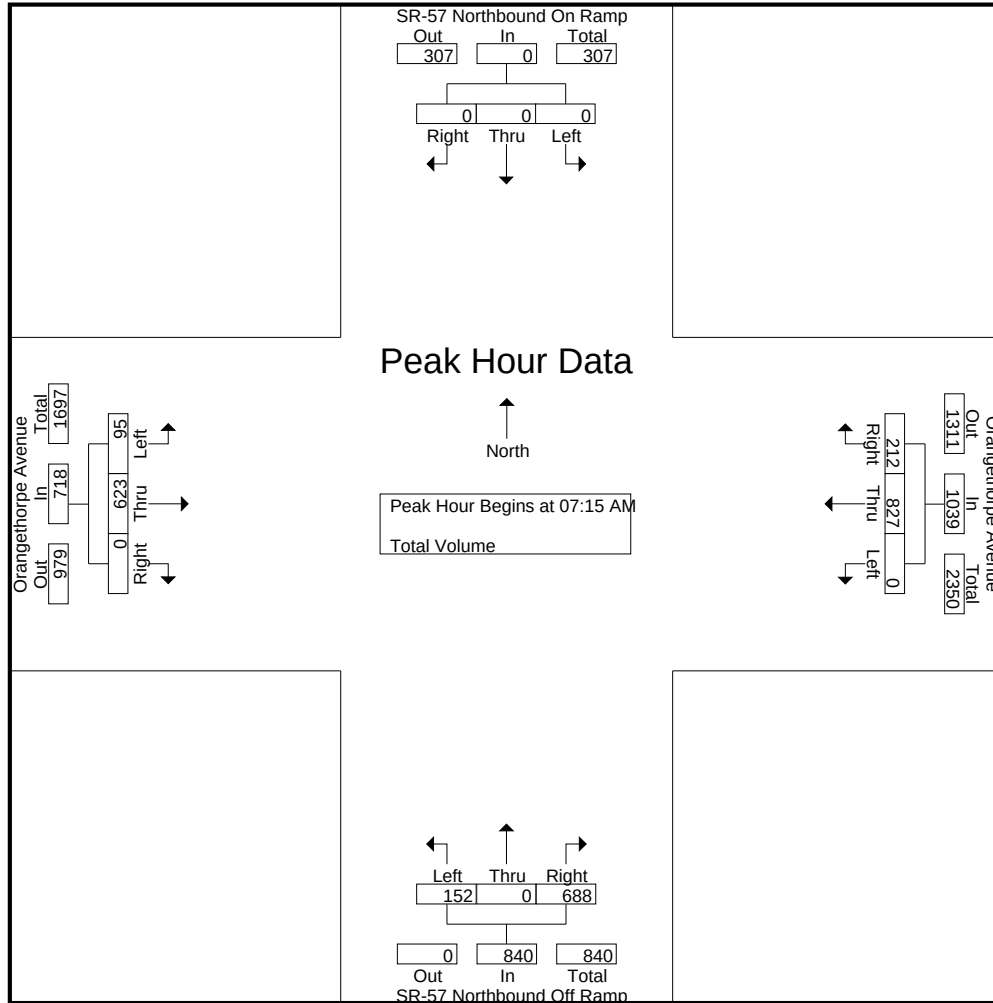
Groups Printed- Total Volume

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	101	30	131	21	0	144	165	16	112	0	128	424
06:15 AM	0	0	0	0	0	126	43	169	30	0	118	148	12	102	0	114	431
06:30 AM	0	0	0	0	0	167	39	206	34	1	127	162	20	99	0	119	487
06:45 AM	0	0	0	0	0	138	43	181	32	0	176	208	26	125	0	151	540
Total	0	0	0	0	0	532	155	687	117	1	565	683	74	438	0	512	1882
07:00 AM	0	0	0	0	0	181	68	249	34	0	148	182	16	109	0	125	556
07:15 AM	0	0	0	0	0	193	45	238	31	0	189	220	18	144	0	162	620
07:30 AM	0	0	0	0	0	200	57	257	29	0	150	179	29	153	0	182	618
07:45 AM	0	0	0	0	0	224	45	269	55	0	181	236	23	182	0	205	710
Total	0	0	0	0	0	798	215	1013	149	0	668	817	86	588	0	674	2504
08:00 AM	0	0	0	0	0	210	65	275	37	0	168	205	25	144	0	169	649
08:15 AM	0	0	0	0	0	229	47	276	42	1	117	160	14	146	0	160	596
08:30 AM	0	0	0	0	0	202	48	250	64	0	146	210	21	151	0	172	632
08:45 AM	0	0	0	0	0	234	74	308	49	0	120	169	22	158	0	180	657
Total	0	0	0	0	0	875	234	1109	192	1	551	744	82	599	0	681	2534
Grand Total	0	0	0	0	0	2205	604	2809	458	2	1784	2244	242	1625	0	1867	6920
Apprch %	0	0	0		0	78.5	21.5		20.4	0.1	79.5		13	87	0		
Total %	0	0	0		0	31.9	8.7	40.6	6.6	0	25.8	32.4	3.5	23.5	0	27	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	193	45	238	31	0	189	220	18	144	0	162	620
07:30 AM	0	0	0	0	0	200	57	257	29	0	150	179	29	153	0	182	618
07:45 AM	0	0	0	0	0	224	45	269	55	0	181	236	23	182	0	205	710
08:00 AM	0	0	0	0	0	210	65	275	37	0	168	205	25	144	0	169	649
Total Volume	0	0	0	0	0	827	212	1039	152	0	688	840	95	623	0	718	2597
% App. Total	0	0	0		0	79.6	20.4		18.1	0	81.9		13.2	86.8	0		
PHF	.000	.000	.000	.000	.000	.923	.815	.945	.691	.000	.910	.890	.819	.856	.000	.876	.914

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT Wed AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 2



Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 AM				08:00 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	210	65	275	31	0	189	220	18	144	0	162
+15 mins.	0	0	0	0	0	229	47	276	29	0	150	179	29	153	0	182
+30 mins.	0	0	0	0	0	202	48	250	55	0	181	236	23	182	0	205
+45 mins.	0	0	0	0	0	234	74	308	37	0	168	205	25	144	0	169
Total Volume	0	0	0	0	0	875	234	1109	152	0	688	840	95	623	0	718
% App. Total	0	0	0	0	0	78.9	21.1		18.1	0	81.9		13.2	86.8	0	
PHF	.000	.000	.000	.000	.000	.935	.791	.900	.691	.000	.910	.890	.819	.856	.000	.876

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT Wed PM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

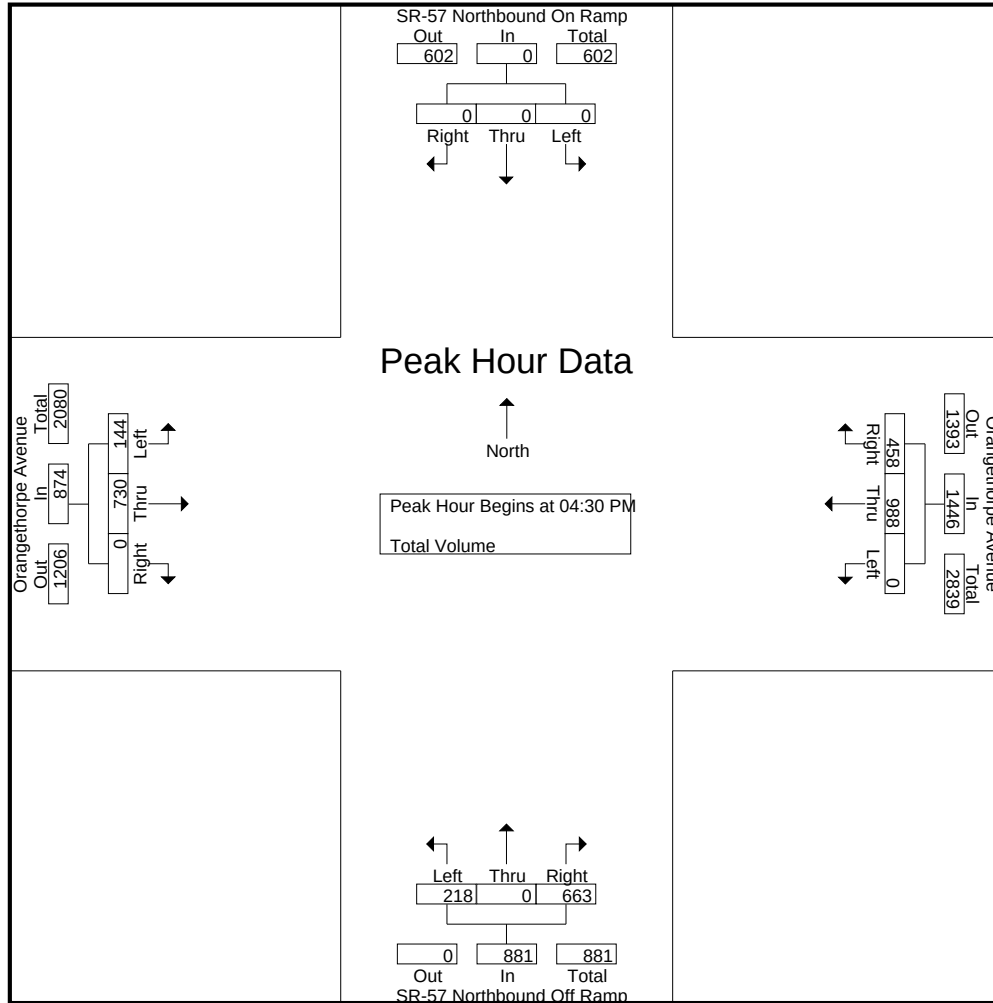
Groups Printed- Total Volume

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	193	88	281	75	0	108	183	36	162	0	198	662
03:15 PM	0	0	0	0	0	186	82	268	71	0	150	221	30	176	0	206	695
03:30 PM	0	0	0	0	0	281	120	401	57	0	136	193	34	207	0	241	835
03:45 PM	0	0	0	0	0	221	108	329	37	0	127	164	32	180	0	212	705
Total	0	0	0	0	0	881	398	1279	240	0	521	761	132	725	0	857	2897
04:00 PM	0	0	0	0	0	248	122	370	54	0	146	200	44	184	0	228	798
04:15 PM	0	0	0	0	0	205	115	320	56	0	134	190	32	177	0	209	719
04:30 PM	0	0	0	0	0	257	114	371	58	0	158	216	43	185	0	228	815
04:45 PM	0	0	0	0	0	259	127	386	48	0	160	208	26	164	0	190	784
Total	0	0	0	0	0	969	478	1447	216	0	598	814	145	710	0	855	3116
05:00 PM	0	0	0	0	0	239	112	351	50	0	149	199	43	199	0	242	792
05:15 PM	0	0	0	0	0	233	105	338	62	0	196	258	32	182	0	214	810
05:30 PM	0	0	0	0	0	179	90	269	75	1	181	257	26	186	0	212	738
05:45 PM	0	0	0	0	0	205	66	271	69	0	170	239	31	166	0	197	707
Total	0	0	0	0	0	856	373	1229	256	1	696	953	132	733	0	865	3047
06:00 PM	0	0	0	0	0	171	68	239	55	0	149	204	27	155	0	182	625
06:15 PM	0	0	0	0	0	163	60	223	36	0	175	211	27	101	0	128	562
06:30 PM	0	0	0	0	0	144	50	194	32	0	144	176	18	127	0	145	515
06:45 PM	0	0	0	0	0	145	47	192	49	0	150	199	23	111	0	134	525
Total	0	0	0	0	0	623	225	848	172	0	618	790	95	494	0	589	2227
Grand Total	0	0	0	0	0	3329	1474	4803	884	1	2433	3318	504	2662	0	3166	11287
Apprch %	0	0	0		0	69.3	30.7		26.6	0	73.3		15.9	84.1	0		
Total %	0	0	0		0	29.5	13.1	42.6	7.8	0	21.6	29.4	4.5	23.6	0	28	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	257	114	371	58	0	158	216	43	185	0	228	815
04:45 PM	0	0	0	0	0	259	127	386	48	0	160	208	26	164	0	190	784
05:00 PM	0	0	0	0	0	239	112	351	50	0	149	199	43	199	0	242	792
05:15 PM	0	0	0	0	0	233	105	338	62	0	196	258	32	182	0	214	810
Total Volume	0	0	0	0	0	988	458	1446	218	0	663	881	144	730	0	874	3201
% App. Total	0	0	0		0	68.3	31.7		24.7	0	75.3		16.5	83.5	0		
PHF	.000	.000	.000	.000	.000	.954	.902	.937	.879	.000	.846	.854	.837	.917	.000	.903	.982

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT Wed PM
Site Code : 10524081
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Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM				04:00 PM				05:15 PM				06:30 PM			
+0 mins.	0	0	0	0	0	248	122	370	62	0	196	258	34	207	0	241
+15 mins.	0	0	0	0	0	205	115	320	75	1	181	257	32	180	0	212
+30 mins.	0	0	0	0	0	257	114	371	69	0	170	239	44	184	0	228
+45 mins.	0	0	0	0	0	259	127	386	55	0	149	204	32	177	0	209
Total Volume	0	0	0	0	0	969	478	1447	261	1	696	958	142	748	0	890
% App. Total	0	0	0	0	0	67	33		27.2	0.1	72.7		16	84	0	
PHF	.000	.000	.000	.000	.000	.935	.941	.937	.870	.250	.888	.928	.807	.903	.000	.923

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT Thu AM
Site Code : 10524081
Start Date : 2/1/2024
Page No : 1

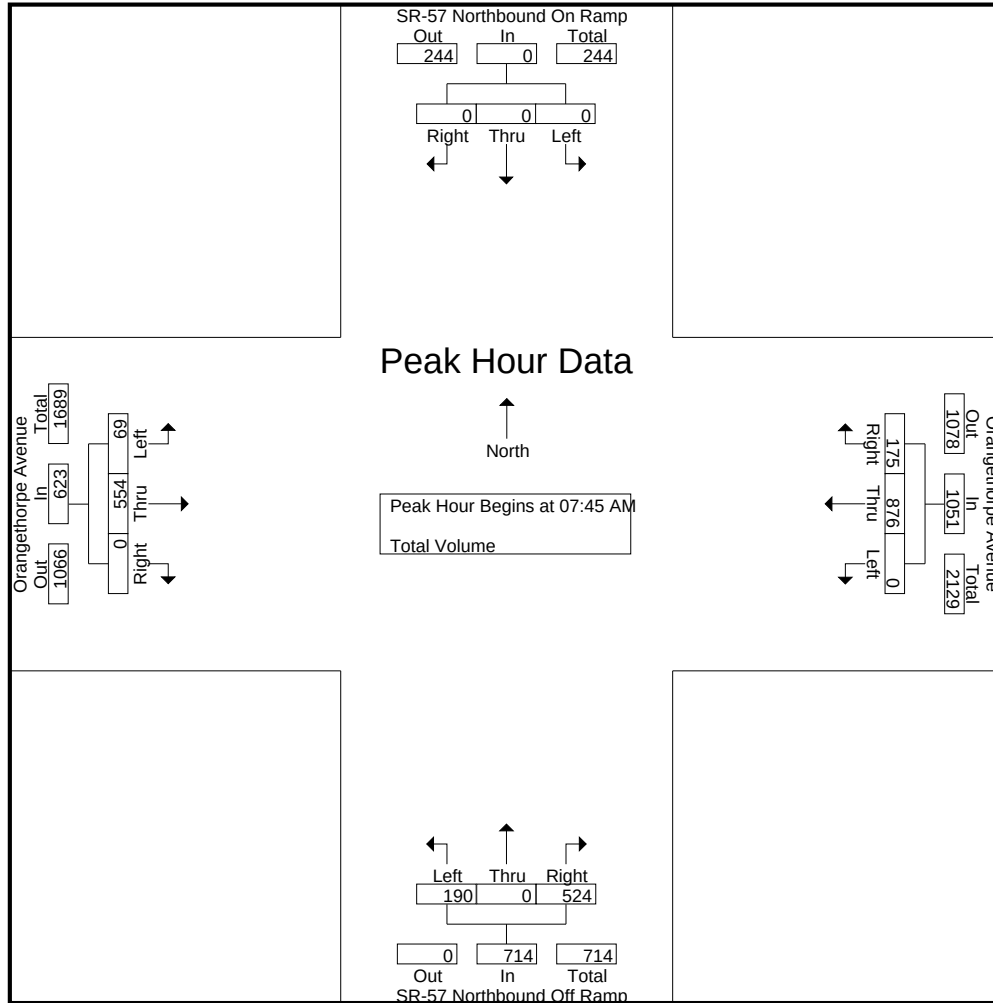
Groups Printed- Total Volume

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	94	26	120	26	0	124	150	10	93	0	103	373
06:15 AM	0	0	0	0	0	96	24	120	25	0	93	118	8	82	0	90	328
06:30 AM	0	0	0	0	0	143	31	174	22	0	90	112	8	107	0	115	401
06:45 AM	0	0	0	0	0	126	34	160	26	0	134	160	19	114	0	133	453
Total	0	0	0	0	0	459	115	574	99	0	441	540	45	396	0	441	1555
07:00 AM	0	0	0	0	0	146	43	189	35	0	140	175	14	118	0	132	496
07:15 AM	0	0	0	0	0	204	47	251	22	0	93	115	20	130	0	150	516
07:30 AM	0	0	0	0	0	202	57	259	27	0	129	156	22	121	0	143	558
07:45 AM	0	0	0	0	0	236	50	286	44	0	130	174	17	127	0	144	604
Total	0	0	0	0	0	788	197	985	128	0	492	620	73	496	0	569	2174
08:00 AM	0	0	0	0	0	207	46	253	39	0	133	172	15	149	0	164	589
08:15 AM	0	0	0	0	0	213	39	252	57	0	148	205	19	124	0	143	600
08:30 AM	0	0	0	0	0	220	40	260	50	0	113	163	18	154	0	172	595
08:45 AM	0	0	0	0	0	185	54	239	107	0	95	202	7	139	0	146	587
Total	0	0	0	0	0	825	179	1004	253	0	489	742	59	566	0	625	2371
Grand Total	0	0	0	0	0	2072	491	2563	480	0	1422	1902	177	1458	0	1635	6100
Apprch %	0	0	0		0	80.8	19.2		25.2	0	74.8		10.8	89.2	0		
Total %	0	0	0		0	34	8	42	7.9	0	23.3	31.2	2.9	23.9	0	26.8	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	236	50	286	44	0	130	174	17	127	0	144	604
08:00 AM	0	0	0	0	0	207	46	253	39	0	133	172	15	149	0	164	589
08:15 AM	0	0	0	0	0	213	39	252	57	0	148	205	19	124	0	143	600
08:30 AM	0	0	0	0	0	220	40	260	50	0	113	163	18	154	0	172	595
Total Volume	0	0	0	0	0	876	175	1051	190	0	524	714	69	554	0	623	2388
% App. Total	0	0	0		0	83.3	16.7		26.6	0	73.4		11.1	88.9	0		
PHF	.000	.000	.000	.000	.000	.928	.875	.919	.833	.000	.885	.871	.908	.899	.000	.906	.988

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT Thu AM
Site Code : 10524081
Start Date : 2/1/2024
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Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 AM				07:45 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	236	50	286	39	0	133	172	15	149	0	164
+15 mins.	0	0	0	0	0	207	46	253	57	0	148	205	19	124	0	143
+30 mins.	0	0	0	0	0	213	39	252	50	0	113	163	18	154	0	172
+45 mins.	0	0	0	0	0	220	40	260	107	0	95	202	7	139	0	146
Total Volume	0	0	0	0	0	876	175	1051	253	0	489	742	59	566	0	625
% App. Total	0	0	0	0	0	83.3	16.7		34.1	0	65.9		9.4	90.6	0	
PHF	.000	.000	.000	.000	.000	.928	.875	.919	.591	.000	.826	.905	.776	.919	.000	.908

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT Thu PM
Site Code : 10524081
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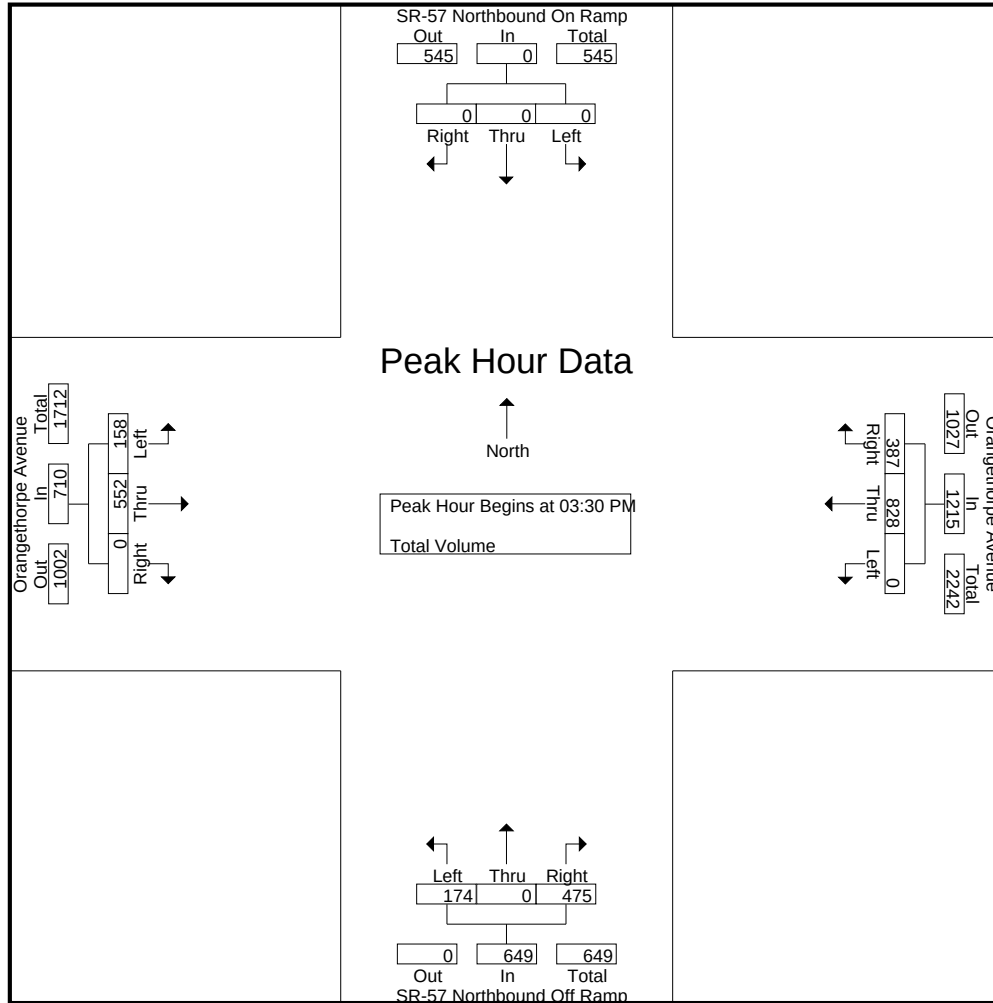
Groups Printed- Total Volume

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	143	80	223	43	0	123	166	35	148	0	183	572
03:15 PM	0	0	0	0	0	166	69	235	39	0	143	182	37	138	0	175	592
03:30 PM	0	0	0	0	0	223	99	322	38	0	116	154	35	141	0	176	652
03:45 PM	0	0	0	0	0	209	101	310	39	0	127	166	45	138	0	183	659
Total	0	0	0	0	0	741	349	1090	159	0	509	668	152	565	0	717	2475
04:00 PM	0	0	0	0	0	215	100	315	47	0	128	175	34	136	0	170	660
04:15 PM	0	0	0	0	0	181	87	268	50	0	104	154	44	137	0	181	603
04:30 PM	0	0	0	0	0	189	88	277	42	0	122	164	42	134	0	176	617
04:45 PM	0	0	0	0	0	175	88	263	44	0	116	160	36	149	0	185	608
Total	0	0	0	0	0	760	363	1123	183	0	470	653	156	556	0	712	2488
05:00 PM	0	0	0	0	0	197	102	299	46	0	127	173	41	146	0	187	659
05:15 PM	0	0	0	0	0	192	95	287	56	0	130	186	32	141	0	173	646
05:30 PM	0	0	0	0	0	177	68	245	67	0	152	219	30	122	0	152	616
05:45 PM	0	0	0	0	0	180	80	260	51	0	139	190	29	120	0	149	599
Total	0	0	0	0	0	746	345	1091	220	0	548	768	132	529	0	661	2520
06:00 PM	0	0	0	0	0	135	61	196	57	0	99	156	33	91	0	124	476
06:15 PM	0	0	0	0	0	140	48	188	52	0	81	133	29	96	0	125	446
06:30 PM	0	0	0	0	0	100	44	144	24	0	105	129	19	80	0	99	372
06:45 PM	0	0	0	0	0	119	34	153	41	0	107	148	20	66	0	86	387
Total	0	0	0	0	0	494	187	681	174	0	392	566	101	333	0	434	1681
Grand Total	0	0	0	0	0	2741	1244	3985	736	0	1919	2655	541	1983	0	2524	9164
Apprch %	0	0	0		0	68.8	31.2		27.7	0	72.3		21.4	78.6	0		
Total %	0	0	0		0	29.9	13.6	43.5	8	0	20.9	29	5.9	21.6	0	27.5	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	0	0	0	0	0	223	99	322	38	0	116	154	35	141	0	176	652
03:45 PM	0	0	0	0	0	209	101	310	39	0	127	166	45	138	0	183	659
04:00 PM	0	0	0	0	0	215	100	315	47	0	128	175	34	136	0	170	660
04:15 PM	0	0	0	0	0	181	87	268	50	0	104	154	44	137	0	181	603
Total Volume	0	0	0	0	0	828	387	1215	174	0	475	649	158	552	0	710	2574
% App. Total	0	0	0		0	68.1	31.9		26.8	0	73.2		22.3	77.7	0		
PHF	.000	.000	.000	.000	.000	.928	.958	.943	.870	.000	.928	.927	.878	.979	.000	.970	.975

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT Thu PM
Site Code : 10524081
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Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:00 PM				03:30 PM				05:00 PM				04:15 PM			
+0 mins.	0	0	0	0	0	223	99	322	46	0	127	173	44	137	0	181
+15 mins.	0	0	0	0	0	209	101	310	56	0	130	186	42	134	0	176
+30 mins.	0	0	0	0	0	215	100	315	67	0	152	219	36	149	0	185
+45 mins.	0	0	0	0	0	181	87	268	51	0	139	190	41	146	0	187
Total Volume	0	0	0	0	0	828	387	1215	220	0	548	768	163	566	0	729
% App. Total	0	0	0	0	0	68.1	31.9		28.6	0	71.4		22.4	77.6	0	
PHF	.000	.000	.000	.000	.000	.928	.958	.943	.821	.000	.901	.877	.926	.950	.000	.975

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

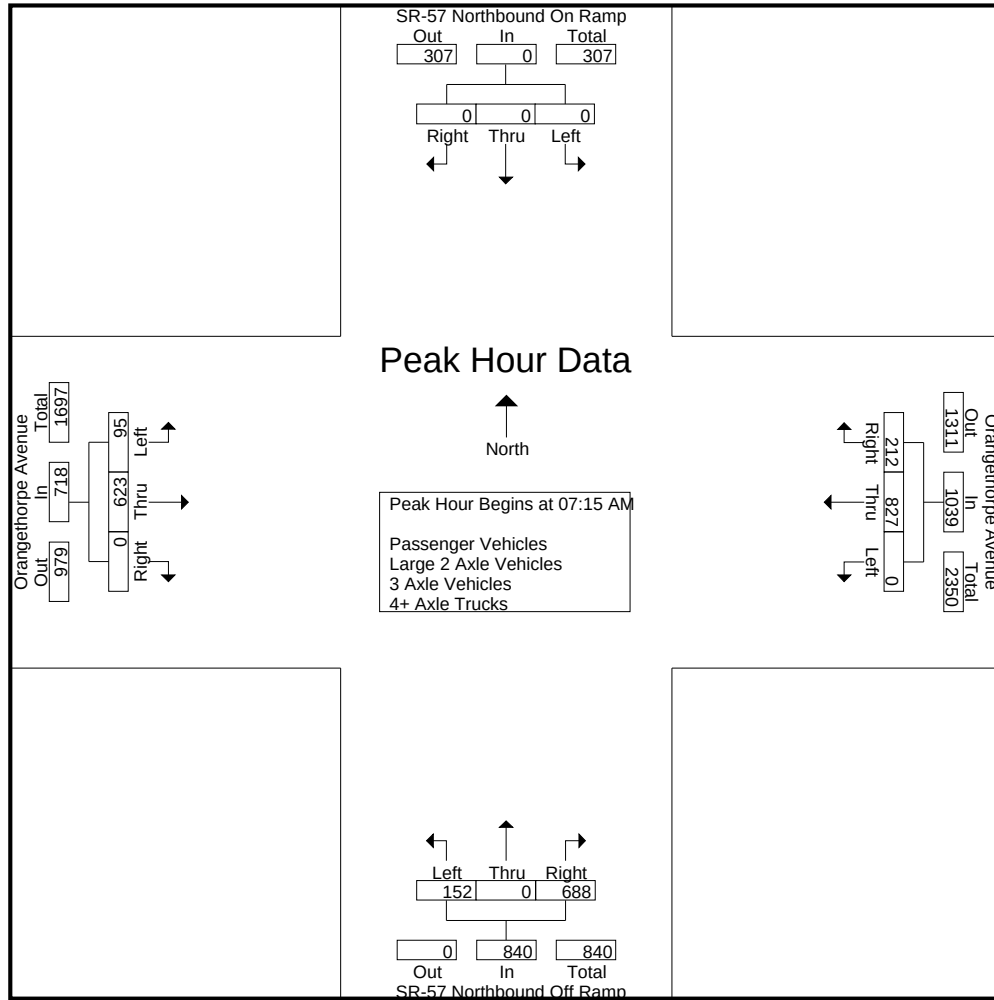
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	101	30	131	21	0	144	165	16	112	0	128	424
06:15 AM	0	0	0	0	0	126	43	169	30	0	118	148	12	102	0	114	431
06:30 AM	0	0	0	0	0	167	39	206	34	1	127	162	20	99	0	119	487
06:45 AM	0	0	0	0	0	138	43	181	32	0	176	208	26	125	0	151	540
Total	0	0	0	0	0	532	155	687	117	1	565	683	74	438	0	512	1882
07:00 AM	0	0	0	0	0	181	68	249	34	0	148	182	16	109	0	125	556
07:15 AM	0	0	0	0	0	193	45	238	31	0	189	220	18	144	0	162	620
07:30 AM	0	0	0	0	0	200	57	257	29	0	150	179	29	153	0	182	618
07:45 AM	0	0	0	0	0	224	45	269	55	0	181	236	23	182	0	205	710
Total	0	0	0	0	0	798	215	1013	149	0	668	817	86	588	0	674	2504
08:00 AM	0	0	0	0	0	210	65	275	37	0	168	205	25	144	0	169	649
08:15 AM	0	0	0	0	0	229	47	276	42	1	117	160	14	146	0	160	596
08:30 AM	0	0	0	0	0	202	48	250	64	0	146	210	21	151	0	172	632
08:45 AM	0	0	0	0	0	234	74	308	49	0	120	169	22	158	0	180	657
Total	0	0	0	0	0	875	234	1109	192	1	551	744	82	599	0	681	2534
Grand Total	0	0	0	0	0	2205	604	2809	458	2	1784	2244	242	1625	0	1867	6920
Apprch %	0	0	0		0	78.5	21.5		20.4	0.1	79.5		13	87	0		
Total %	0	0	0	0	0	31.9	8.7	40.6	6.6	0	25.8	32.4	3.5	23.5	0	27	
Passenger Vehicles	0	0	0	0	0	2055	508	2563	423	2	1689	2114	180	1432	0	1612	6289
% Passenger Vehicles	0	0	0	0	0	93.2	84.1	91.2	92.4	100	94.7	94.2	74.4	88.1	0	86.3	90.9
Large 2 Axle Vehicles	0	0	0	0	0	99	63	162	24	0	63	87	29	96	0	125	374
% Large 2 Axle Vehicles	0	0	0	0	0	4.5	10.4	5.8	5.2	0	3.5	3.9	12	5.9	0	6.7	5.4
3 Axle Vehicles	0	0	0	0	0	18	18	36	3	0	10	13	5	30	0	35	84
% 3 Axle Vehicles	0	0	0	0	0	0.8	3	1.3	0.7	0	0.6	0.6	2.1	1.8	0	1.9	1.2
4+ Axle Trucks	0	0	0	0	0	33	15	48	8	0	22	30	28	67	0	95	173
% 4+ Axle Trucks	0	0	0	0	0	1.5	2.5	1.7	1.7	0	1.2	1.3	11.6	4.1	0	5.1	2.5

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	193	45	238	31	0	189	220	18	144	0	162	620
07:30 AM	0	0	0	0	0	200	57	257	29	0	150	179	29	153	0	182	618
07:45 AM	0	0	0	0	0	224	45	269	55	0	181	236	23	182	0	205	710
08:00 AM	0	0	0	0	0	210	65	275	37	0	168	205	25	144	0	169	649
Total Volume	0	0	0	0	0	827	212	1039	152	0	688	840	95	623	0	718	2597
% App. Total	0	0	0		0	79.6	20.4		18.1	0	81.9		13.2	86.8	0		
PHF	.000	.000	.000	.000	.000	.923	.815	.945	.691	.000	.910	.890	.819	.856	.000	.876	.914

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 2



Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	06:00 AM				08:00 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	210	65	275	31	0	189	220	18	144	0	162
+15 mins.	0	0	0	0	0	229	47	276	29	0	150	179	29	153	0	182
+30 mins.	0	0	0	0	0	202	48	250	55	0	181	236	23	182	0	205
+45 mins.	0	0	0	0	0	234	74	308	37	0	168	205	25	144	0	169
Total Volume	0	0	0	0	0	875	234	1109	152	0	688	840	95	623	0	718
% App. Total	0	0	0	0	0	78.9	21.1		18.1	0	81.9		13.2	86.8	0	
PHF	.000	.000	.000	.000	.000	.935	.791	.900	.691	.000	.910	.890	.819	.856	.000	.876

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

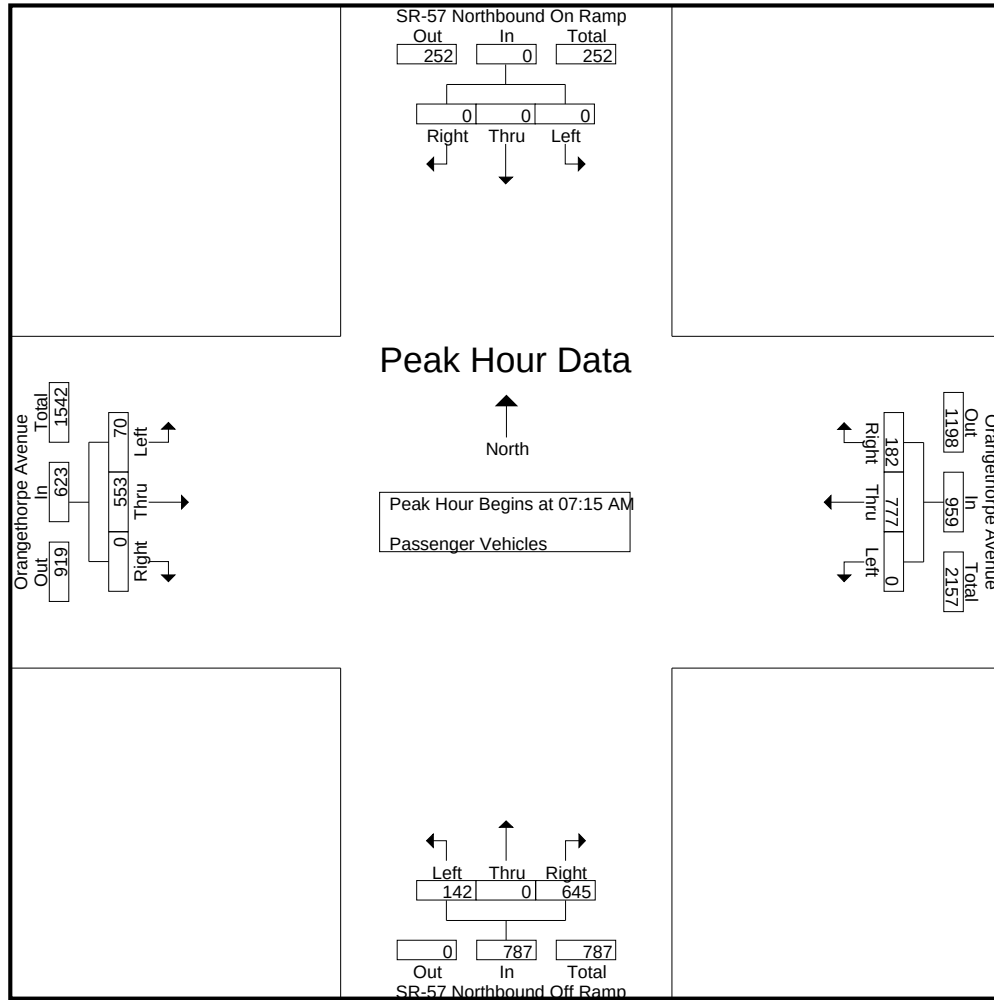
Groups Printed- Passenger Vehicles

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	92	22	114	18	0	140	158	13	105	0	118	390
06:15 AM	0	0	0	0	0	115	34	149	28	0	114	142	8	91	0	99	390
06:30 AM	0	0	0	0	0	154	33	187	31	1	124	156	14	89	0	103	446
06:45 AM	0	0	0	0	0	127	36	163	28	0	169	197	20	113	0	133	493
Total	0	0	0	0	0	488	125	613	105	1	547	653	55	398	0	453	1719
07:00 AM	0	0	0	0	0	168	58	226	30	0	138	168	13	90	0	103	497
07:15 AM	0	0	0	0	0	182	41	223	28	0	181	209	13	119	0	132	564
07:30 AM	0	0	0	0	0	185	48	233	27	0	134	161	25	138	0	163	557
07:45 AM	0	0	0	0	0	214	38	252	52	0	170	222	16	167	0	183	657
Total	0	0	0	0	0	749	185	934	137	0	623	760	67	514	0	581	2275
08:00 AM	0	0	0	0	0	196	55	251	35	0	160	195	16	129	0	145	591
08:15 AM	0	0	0	0	0	213	40	253	42	1	108	151	13	128	0	141	545
08:30 AM	0	0	0	0	0	191	40	231	59	0	139	198	16	132	0	148	577
08:45 AM	0	0	0	0	0	218	63	281	45	0	112	157	13	131	0	144	582
Total	0	0	0	0	0	818	198	1016	181	1	519	701	58	520	0	578	2295
Grand Total	0	0	0	0	0	2055	508	2563	423	2	1689	2114	180	1432	0	1612	6289
Apprch %	0	0	0		0	80.2	19.8		20	0.1	79.9		11.2	88.8	0		
Total %	0	0	0		0	32.7	8.1	40.8	6.7	0	26.9	33.6	2.9	22.8	0	25.6	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	182	41	223	28	0	181	209	13	119	0	132	564
07:30 AM	0	0	0	0	0	185	48	233	27	0	134	161	25	138	0	163	557
07:45 AM	0	0	0	0	0	214	38	252	52	0	170	222	16	167	0	183	657
08:00 AM	0	0	0	0	0	196	55	251	35	0	160	195	16	129	0	145	591
Total Volume	0	0	0	0	0	777	182	959	142	0	645	787	70	553	0	623	2369
% App. Total	0	0	0		0	81	19		18	0	82		11.2	88.8	0		
PHF	.000	.000	.000	.000	.000	.908	.827	.951	.683	.000	.891	.886	.700	.828	.000	.851	.901

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	182	41	223	28	0	181	209	13	119	0	132
+15 mins.	0	0	0	0	0	185	48	233	27	0	134	161	25	138	0	163
+30 mins.	0	0	0	0	0	214	38	252	52	0	170	222	16	167	0	183
+45 mins.	0	0	0	0	0	196	55	251	35	0	160	195	16	129	0	145
Total Volume	0	0	0	0	0	777	182	959	142	0	645	787	70	553	0	623
% App. Total	0	0	0	0	0	81	19		18	0	82		11.2	88.8	0	
PHF	.000	.000	.000	.000	.000	.908	.827	.951	.683	.000	.891	.886	.700	.828	.000	.851

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

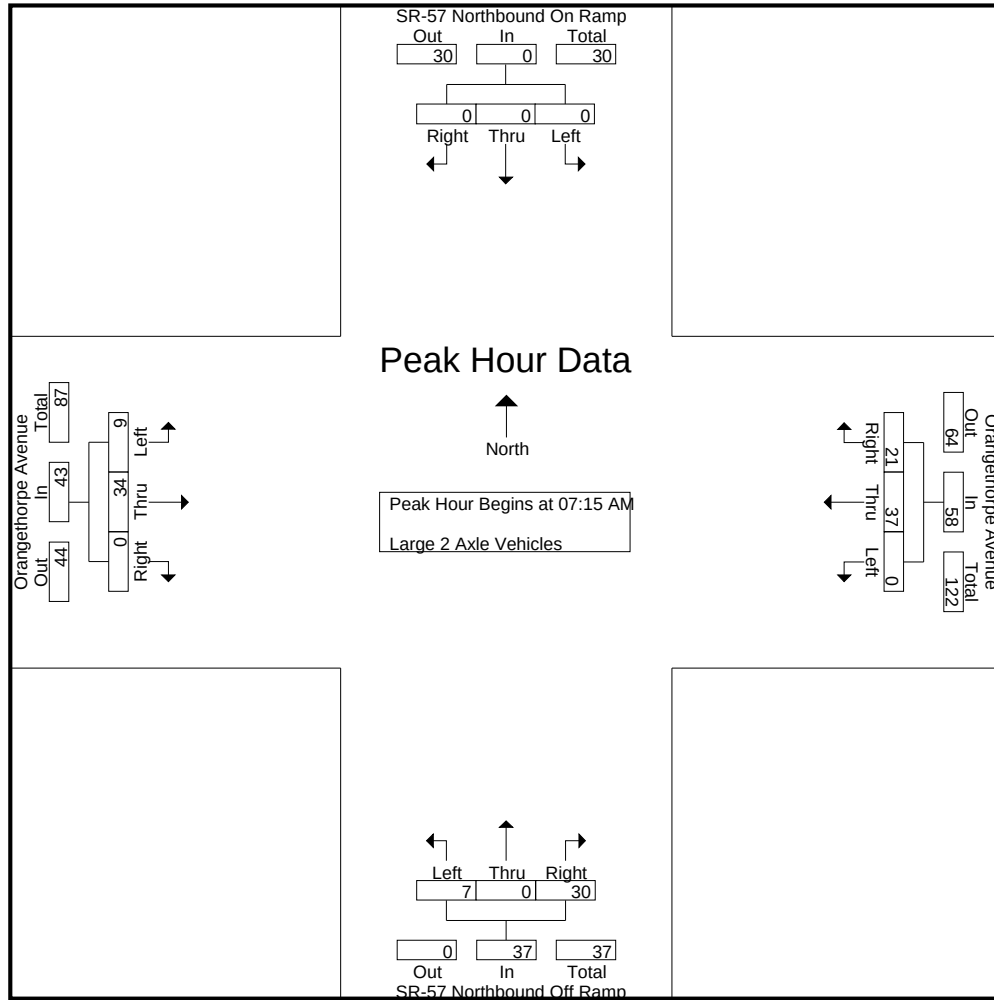
Groups Printed- Large 2 Axle Vehicles

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	6	5	11	2	0	3	5	1	4	0	5	21
06:15 AM	0	0	0	0	0	5	7	12	1	0	2	3	1	7	0	8	23
06:30 AM	0	0	0	0	0	7	4	11	3	0	2	5	2	4	0	6	22
06:45 AM	0	0	0	0	0	8	4	12	3	0	3	6	4	5	0	9	27
Total	0	0	0	0	0	26	20	46	9	0	10	19	8	20	0	28	93
07:00 AM	0	0	0	0	0	7	6	13	2	0	7	9	2	8	0	10	32
07:15 AM	0	0	0	0	0	9	2	11	2	0	6	8	1	9	0	10	29
07:30 AM	0	0	0	0	0	9	7	16	1	0	9	10	2	6	0	8	34
07:45 AM	0	0	0	0	0	9	5	14	3	0	8	11	3	10	0	13	38
Total	0	0	0	0	0	34	20	54	8	0	30	38	8	33	0	41	133
08:00 AM	0	0	0	0	0	10	7	17	1	0	7	8	3	9	0	12	37
08:15 AM	0	0	0	0	0	11	5	16	0	0	6	6	1	11	0	12	34
08:30 AM	0	0	0	0	0	5	4	9	4	0	5	9	3	11	0	14	32
08:45 AM	0	0	0	0	0	13	7	20	2	0	5	7	6	12	0	18	45
Total	0	0	0	0	0	39	23	62	7	0	23	30	13	43	0	56	148
Grand Total	0	0	0	0	0	99	63	162	24	0	63	87	29	96	0	125	374
Apprch %	0	0	0		0	61.1	38.9		27.6	0	72.4		23.2	76.8	0		
Total %	0	0	0		0	26.5	16.8	43.3	6.4	0	16.8	23.3	7.8	25.7	0	33.4	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	9	2	11	2	0	6	8	1	9	0	10	29
07:30 AM	0	0	0	0	0	9	7	16	1	0	9	10	2	6	0	8	34
07:45 AM	0	0	0	0	0	9	5	14	3	0	8	11	3	10	0	13	38
08:00 AM	0	0	0	0	0	10	7	17	1	0	7	8	3	9	0	12	37
Total Volume	0	0	0	0	0	37	21	58	7	0	30	37	9	34	0	43	138
% App. Total	0	0	0		0	63.8	36.2		18.9	0	81.1		20.9	79.1	0		
PHF	.000	.000	.000	.000	.000	.925	.750	.853	.583	.000	.833	.841	.750	.850	.000	.827	.908

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	9	2	11	2	0	6	8	1	9	0	10
+15 mins.	0	0	0	0	0	9	7	16	1	0	9	10	2	6	0	8
+30 mins.	0	0	0	0	0	9	5	14	3	0	8	11	3	10	0	13
+45 mins.	0	0	0	0	0	10	7	17	1	0	7	8	3	9	0	12
Total Volume	0	0	0	0	0	37	21	58	7	0	30	37	9	34	0	43
% App. Total	0	0	0	0	0	63.8	36.2		18.9	0	81.1		20.9	79.1	0	
PHF	.000	.000	.000	.000	.000	.925	.750	.853	.583	.000	.833	.841	.750	.850	.000	.827

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

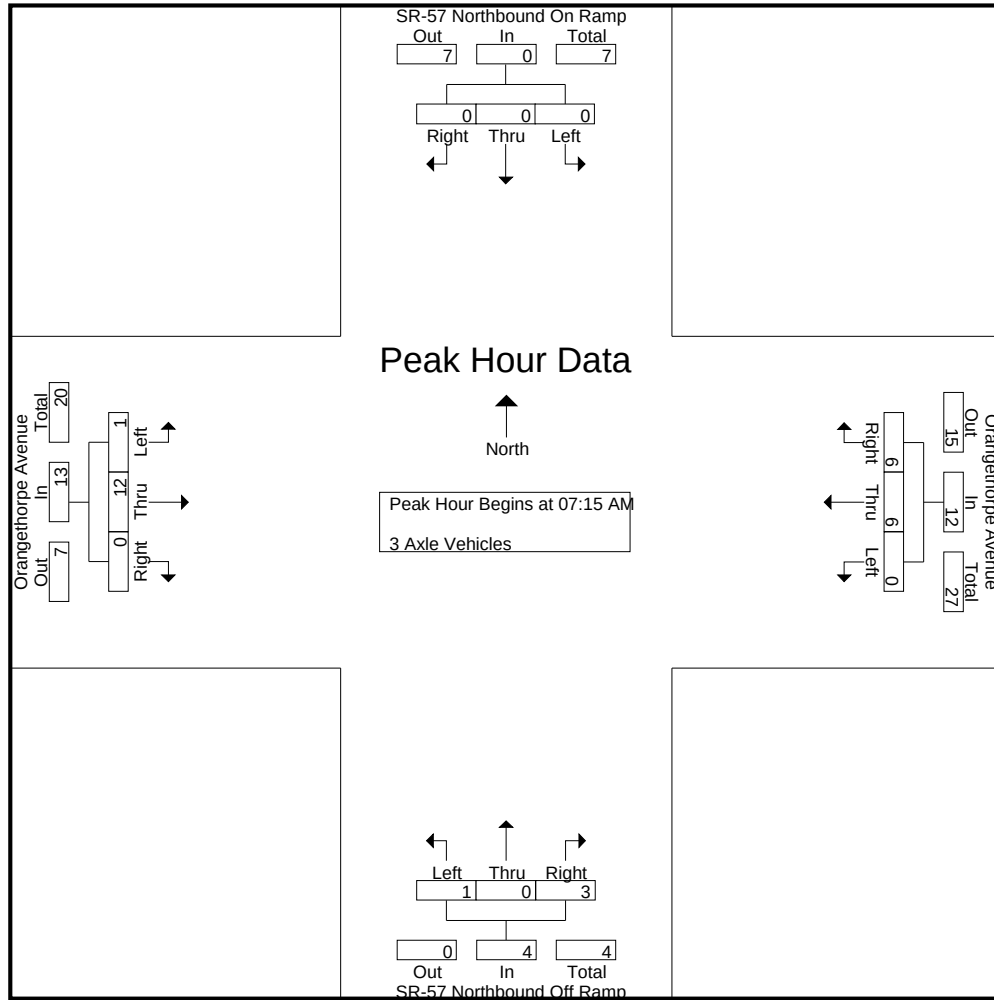
Groups Printed- 3 Axle Vehicles

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	3	2	5	1	0	0	1	1	1	0	2	8
06:15 AM	0	0	0	0	0	3	1	4	0	0	0	0	1	0	0	1	5
06:30 AM	0	0	0	0	0	1	2	3	0	0	0	0	0	3	0	3	6
06:45 AM	0	0	0	0	0	1	1	2	0	0	2	2	0	4	0	4	8
Total	0	0	0	0	0	8	6	14	1	0	2	3	2	8	0	10	27
07:00 AM	0	0	0	0	0	3	4	7	0	0	2	2	1	1	0	2	11
07:15 AM	0	0	0	0	0	1	1	2	0	0	2	2	0	5	0	5	9
07:30 AM	0	0	0	0	0	5	2	7	1	0	1	2	0	4	0	4	13
07:45 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	3	0	3	4
Total	0	0	0	0	0	9	8	17	1	0	5	6	1	13	0	14	37
08:00 AM	0	0	0	0	0	0	2	2	0	0	0	0	1	0	0	1	3
08:15 AM	0	0	0	0	0	1	0	1	0	0	1	1	0	2	0	2	4
08:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	3	0	3	4
08:45 AM	0	0	0	0	0	0	1	1	1	0	2	3	1	4	0	5	9
Total	0	0	0	0	0	1	4	5	1	0	3	4	2	9	0	11	20
Grand Total	0	0	0	0	0	18	18	36	3	0	10	13	5	30	0	35	84
Apprch %	0	0	0		0	50	50		23.1	0	76.9		14.3	85.7	0		
Total %	0	0	0		0	21.4	21.4	42.9	3.6	0	11.9	15.5	6	35.7	0	41.7	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	1	1	2	0	0	2	2	0	5	0	5	9
07:30 AM	0	0	0	0	0	5	2	7	1	0	1	2	0	4	0	4	13
07:45 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	3	0	3	4
08:00 AM	0	0	0	0	0	0	2	2	0	0	0	0	1	0	0	1	3
Total Volume	0	0	0	0	0	6	6	12	1	0	3	4	1	12	0	13	29
% App. Total	0	0	0		0	50	50		25	0	75		7.7	92.3	0		
PHF	.000	.000	.000	.000	.000	.300	.750	.429	.250	.000	.375	.500	.250	.600	.000	.650	.558

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	1	1	2	0	0	2	2	0	5	0	5
+15 mins.	0	0	0	0	0	5	2	7	1	0	1	2	0	4	0	4
+30 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	3	0	3
+45 mins.	0	0	0	0	0	0	2	2	0	0	0	0	1	0	0	1
Total Volume	0	0	0	0	0	6	6	12	1	0	3	4	1	12	0	13
% App. Total	0	0	0	0	0	50	50		25	0	75		7.7	92.3	0	
PHF	.000	.000	.000	.000	.000	.300	.750	.429	.250	.000	.375	.500	.250	.600	.000	.650

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

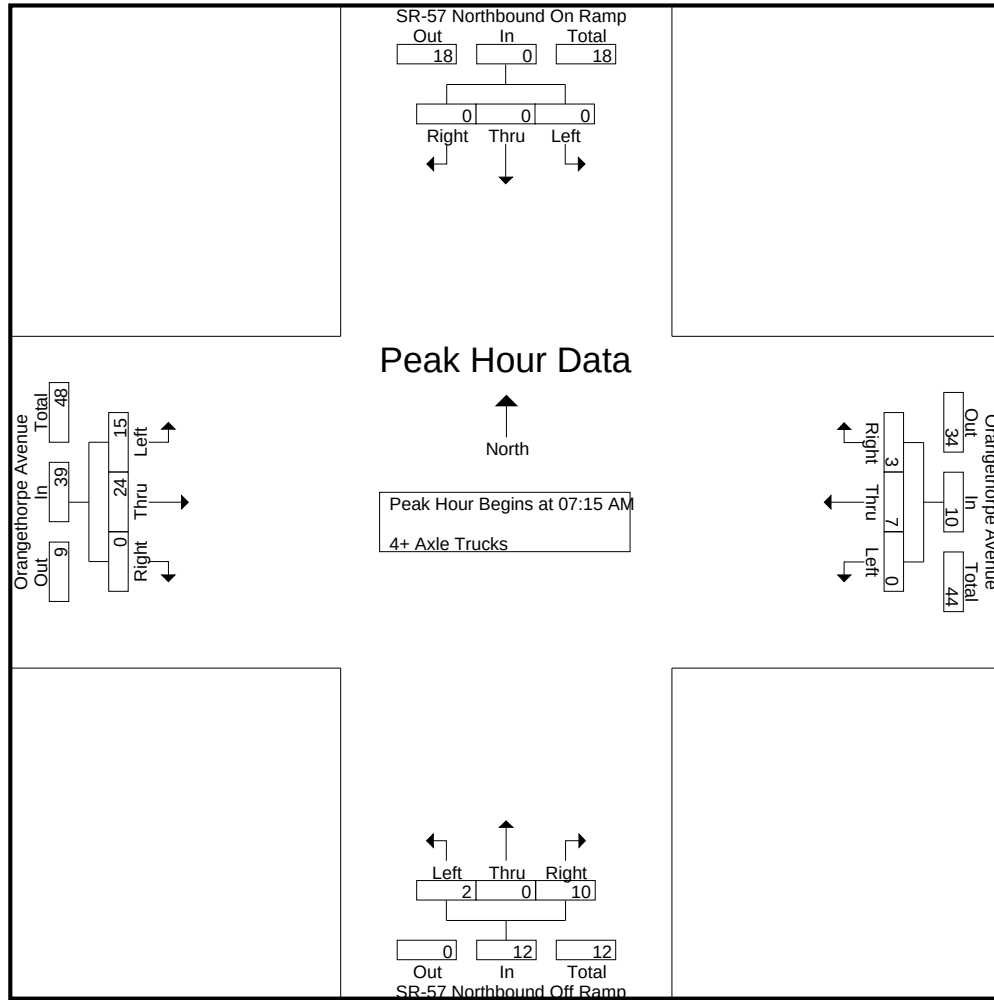
Groups Printed- 4+ Axle Trucks

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	0	1	1	0	0	1	1	1	2	0	3	5
06:15 AM	0	0	0	0	0	3	1	4	1	0	2	3	2	4	0	6	13
06:30 AM	0	0	0	0	0	5	0	5	0	0	1	1	4	3	0	7	13
06:45 AM	0	0	0	0	0	2	2	4	1	0	2	3	2	3	0	5	12
Total	0	0	0	0	0	10	4	14	2	0	6	8	9	12	0	21	43
07:00 AM	0	0	0	0	0	3	0	3	2	0	1	3	0	10	0	10	16
07:15 AM	0	0	0	0	0	1	1	2	1	0	0	1	4	11	0	15	18
07:30 AM	0	0	0	0	0	1	0	1	0	0	6	6	2	5	0	7	14
07:45 AM	0	0	0	0	0	1	1	2	0	0	3	3	4	2	0	6	11
Total	0	0	0	0	0	6	2	8	3	0	10	13	10	28	0	38	59
08:00 AM	0	0	0	0	0	4	1	5	1	0	1	2	5	6	0	11	18
08:15 AM	0	0	0	0	0	4	2	6	0	0	2	2	0	5	0	5	13
08:30 AM	0	0	0	0	0	6	3	9	1	0	2	3	2	5	0	7	19
08:45 AM	0	0	0	0	0	3	3	6	1	0	1	2	2	11	0	13	21
Total	0	0	0	0	0	17	9	26	3	0	6	9	9	27	0	36	71
Grand Total	0	0	0	0	0	33	15	48	8	0	22	30	28	67	0	95	173
Apprch %	0	0	0		0	68.8	31.2		26.7	0	73.3		29.5	70.5	0		
Total %	0	0	0	0	0	19.1	8.7	27.7	4.6	0	12.7	17.3	16.2	38.7	0	54.9	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	1	1	2	1	0	0	1	4	11	0	15	18
07:30 AM	0	0	0	0	0	1	0	1	0	0	6	6	2	5	0	7	14
07:45 AM	0	0	0	0	0	1	1	2	0	0	3	3	4	2	0	6	11
08:00 AM	0	0	0	0	0	4	1	5	1	0	1	2	5	6	0	11	18
Total Volume	0	0	0	0	0	7	3	10	2	0	10	12	15	24	0	39	61
% App. Total	0	0	0		0	70	30		16.7	0	83.3		38.5	61.5	0		
PHF	.000	.000	.000	.000	.000	.438	.750	.500	.500	.000	.417	.500	.750	.545	.000	.650	.847

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	1	1	2	1	0	0	1	4	11	0	15
+15 mins.	0	0	0	0	0	1	0	1	0	0	6	6	2	5	0	7
+30 mins.	0	0	0	0	0	1	1	2	0	0	3	3	4	2	0	6
+45 mins.	0	0	0	0	0	4	1	5	1	0	1	2	5	6	0	11
Total Volume	0	0	0	0	0	7	3	10	2	0	10	12	15	24	0	39
% App. Total	0	0	0	0	0	70	30		16.7	0	83.3		38.5	61.5	0	
PHF	.000	.000	.000	.000	.000	.438	.750	.500	.500	.000	.417	.500	.750	.545	.000	.650

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
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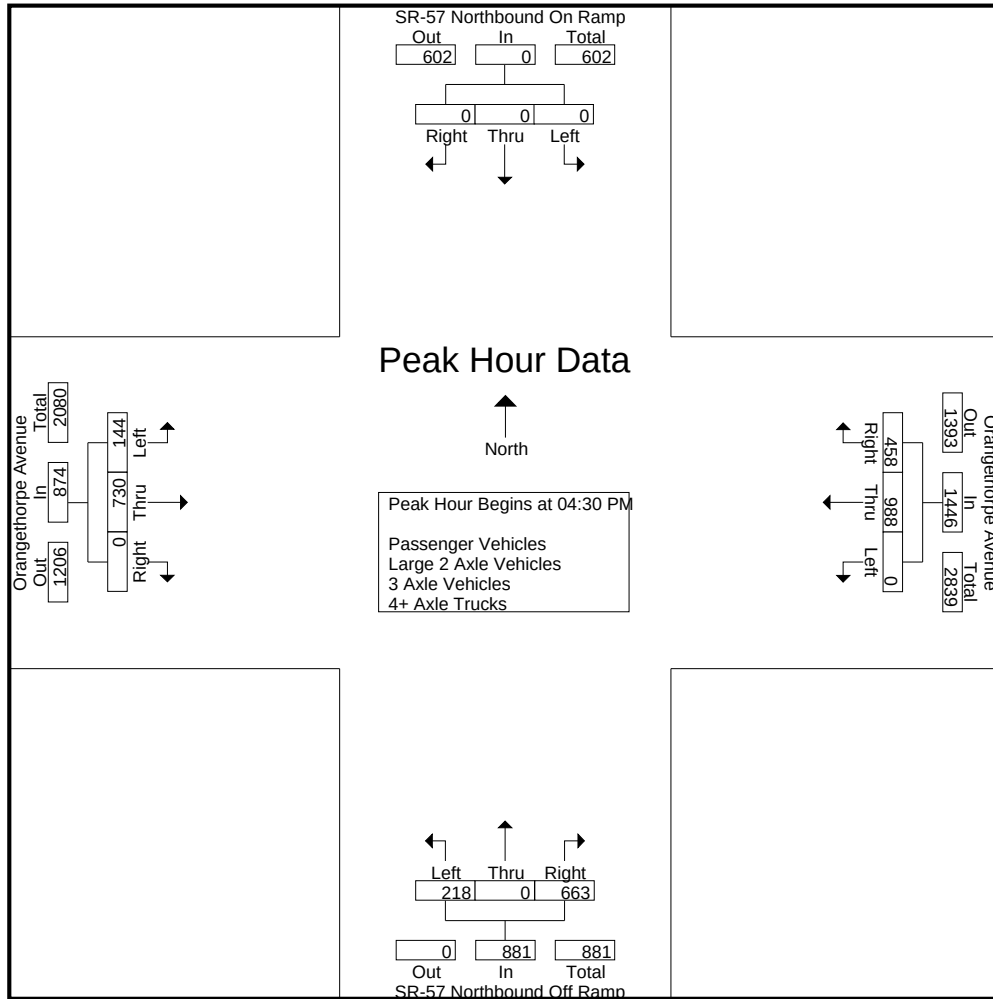
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	193	88	281	75	0	108	183	36	162	0	198	662
03:15 PM	0	0	0	0	0	186	82	268	71	0	150	221	30	176	0	206	695
03:30 PM	0	0	0	0	0	281	120	401	57	0	136	193	34	207	0	241	835
03:45 PM	0	0	0	0	0	221	108	329	37	0	127	164	32	180	0	212	705
Total	0	0	0	0	0	881	398	1279	240	0	521	761	132	725	0	857	2897
04:00 PM	0	0	0	0	0	248	122	370	54	0	146	200	44	184	0	228	798
04:15 PM	0	0	0	0	0	205	115	320	56	0	134	190	32	177	0	209	719
04:30 PM	0	0	0	0	0	257	114	371	58	0	158	216	43	185	0	228	815
04:45 PM	0	0	0	0	0	259	127	386	48	0	160	208	26	164	0	190	784
Total	0	0	0	0	0	969	478	1447	216	0	598	814	145	710	0	855	3116
05:00 PM	0	0	0	0	0	239	112	351	50	0	149	199	43	199	0	242	792
05:15 PM	0	0	0	0	0	233	105	338	62	0	196	258	32	182	0	214	810
05:30 PM	0	0	0	0	0	179	90	269	75	1	181	257	26	186	0	212	738
05:45 PM	0	0	0	0	0	205	66	271	69	0	170	239	31	166	0	197	707
Total	0	0	0	0	0	856	373	1229	256	1	696	953	132	733	0	865	3047
06:00 PM	0	0	0	0	0	171	68	239	55	0	149	204	27	155	0	182	625
06:15 PM	0	0	0	0	0	163	60	223	36	0	175	211	27	101	0	128	562
06:30 PM	0	0	0	0	0	144	50	194	32	0	144	176	18	127	0	145	515
06:45 PM	0	0	0	0	0	145	47	192	49	0	150	199	23	111	0	134	525
Total	0	0	0	0	0	623	225	848	172	0	618	790	95	494	0	589	2227
Grand Total	0	0	0	0	0	3329	1474	4803	884	1	2433	3318	504	2662	0	3166	11287
Apprch %	0	0	0		0	69.3	30.7		26.6	0	73.3		15.9	84.1	0		
Total %	0	0	0	0	0	29.5	13.1	42.6	7.8	0	21.6	29.4	4.5	23.6	0	28	
Passenger Vehicles	0	0	0	0	0	3219	1395	4614	831	1	2315	3147	455	2464	0	2919	10680
% Passenger Vehicles	0	0	0	0	0	96.7	94.6	96.1	94	100	95.2	94.8	90.3	92.6	0	92.2	94.6
Large 2 Axle Vehicles	0	0	0	0	0	71	54	125	40	0	87	127	24	89	0	113	365
% Large 2 Axle Vehicles	0	0	0	0	0	2.1	3.7	2.6	4.5	0	3.6	3.8	4.8	3.3	0	3.6	3.2
3 Axle Vehicles	0	0	0	0	0	13	4	17	2	0	11	13	1	45	0	46	76
% 3 Axle Vehicles	0	0	0	0	0	0.4	0.3	0.4	0.2	0	0.5	0.4	0.2	1.7	0	1.5	0.7
4+ Axle Trucks	0	0	0	0	0	26	21	47	11	0	20	31	24	64	0	88	166
% 4+ Axle Trucks	0	0	0	0	0	0.8	1.4	1	1.2	0	0.8	0.9	4.8	2.4	0	2.8	1.5

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	257	114	371	58	0	158	216	43	185	0	228	815
04:45 PM	0	0	0	0	0	259	127	386	48	0	160	208	26	164	0	190	784
05:00 PM	0	0	0	0	0	239	112	351	50	0	149	199	43	199	0	242	792
05:15 PM	0	0	0	0	0	233	105	338	62	0	196	258	32	182	0	214	810
Total Volume	0	0	0	0	0	988	458	1446	218	0	663	881	144	730	0	874	3201
% App. Total	0	0	0		0	68.3	31.7		24.7	0	75.3		16.5	83.5	0		
PHF	.000	.000	.000	.000	.000	.954	.902	.937	.879	.000	.846	.854	.837	.917	.000	.903	.982

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED PM
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Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM				04:00 PM				05:15 PM				03:30 PM			
+0 mins.	0	0	0	0	0	248	122	370	62	0	196	258	34	207	0	241
+15 mins.	0	0	0	0	0	205	115	320	75	1	181	257	32	180	0	212
+30 mins.	0	0	0	0	0	257	114	371	69	0	170	239	44	184	0	228
+45 mins.	0	0	0	0	0	259	127	386	55	0	149	204	32	177	0	209
Total Volume	0	0	0	0	0	969	478	1447	261	1	696	958	142	748	0	890
% App. Total	0	0	0	0	0	67	33		27.2	0.1	72.7		16	84	0	
PHF	.000	.000	.000	.000	.000	.935	.941	.937	.870	.250	.888	.928	.807	.903	.000	.923

City of Placentia
N/S: SR-57 Northbound Ramps
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Site Code : 10524081
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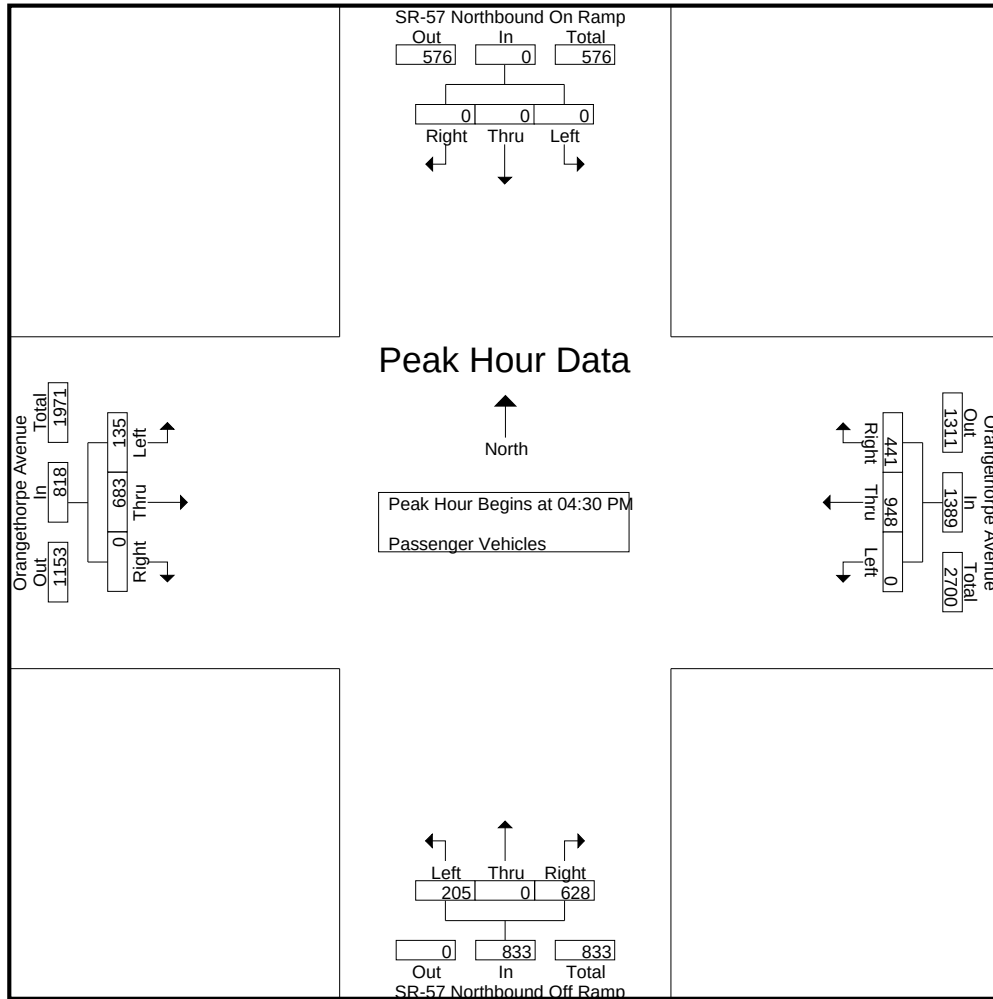
Groups Printed- Passenger Vehicles

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	185	79	264	67	0	98	165	30	147	0	177	606
03:15 PM	0	0	0	0	0	180	77	257	67	0	142	209	26	163	0	189	655
03:30 PM	0	0	0	0	0	276	115	391	53	0	129	182	30	188	0	218	791
03:45 PM	0	0	0	0	0	214	101	315	36	0	118	154	30	164	0	194	663
Total	0	0	0	0	0	855	372	1227	223	0	487	710	116	662	0	778	2715
04:00 PM	0	0	0	0	0	243	115	358	52	0	135	187	40	168	0	208	753
04:15 PM	0	0	0	0	0	201	108	309	52	0	123	175	30	159	0	189	673
04:30 PM	0	0	0	0	0	246	109	355	52	0	146	198	40	169	0	209	762
04:45 PM	0	0	0	0	0	249	123	372	47	0	149	196	24	153	0	177	745
Total	0	0	0	0	0	939	455	1394	203	0	553	756	134	649	0	783	2933
05:00 PM	0	0	0	0	0	231	108	339	48	0	141	189	41	190	0	231	759
05:15 PM	0	0	0	0	0	222	101	323	58	0	192	250	30	171	0	201	774
05:30 PM	0	0	0	0	0	168	82	250	69	1	176	246	24	171	0	195	691
05:45 PM	0	0	0	0	0	199	63	262	66	0	164	230	29	152	0	181	673
Total	0	0	0	0	0	820	354	1174	241	1	673	915	124	684	0	808	2897
06:00 PM	0	0	0	0	0	166	64	230	54	0	143	197	23	147	0	170	597
06:15 PM	0	0	0	0	0	159	56	215	34	0	173	207	24	95	0	119	541
06:30 PM	0	0	0	0	0	142	47	189	30	0	138	168	13	120	0	133	490
06:45 PM	0	0	0	0	0	138	47	185	46	0	148	194	21	107	0	128	507
Total	0	0	0	0	0	605	214	819	164	0	602	766	81	469	0	550	2135
Grand Total	0	0	0	0	0	3219	1395	4614	831	1	2315	3147	455	2464	0	2919	10680
Apprch %	0	0	0		0	69.8	30.2		26.4	0	73.6		15.6	84.4	0		
Total %	0	0	0		0	30.1	13.1	43.2	7.8	0	21.7	29.5	4.3	23.1	0	27.3	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	246	109	355	52	0	146	198	40	169	0	209	762
04:45 PM	0	0	0	0	0	249	123	372	47	0	149	196	24	153	0	177	745
05:00 PM	0	0	0	0	0	231	108	339	48	0	141	189	41	190	0	231	759
05:15 PM	0	0	0	0	0	222	101	323	58	0	192	250	30	171	0	201	774
Total Volume	0	0	0	0	0	948	441	1389	205	0	628	833	135	683	0	818	3040
% App. Total	0	0	0		0	68.3	31.7		24.6	0	75.4		16.5	83.5	0		
PHF	.000	.000	.000	.000	.000	.952	.896	.933	.884	.000	.818	.833	.823	.899	.000	.885	.982

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	246	109	355	52	0	146	198	40	169	0	209
+15 mins.	0	0	0	0	0	249	123	372	47	0	149	196	24	153	0	177
+30 mins.	0	0	0	0	0	231	108	339	48	0	141	189	41	190	0	231
+45 mins.	0	0	0	0	0	222	101	323	58	0	192	250	30	171	0	201
Total Volume	0	0	0	0	0	948	441	1389	205	0	628	833	135	683	0	818
% App. Total	0	0	0	0	0	68.3	31.7		24.6	0	75.4		16.5	83.5	0	
PHF	.000	.000	.000	.000	.000	.952	.896	.933	.884	.000	.818	.833	.823	.899	.000	.885

City of Placentia
N/S: SR-57 Northbound Ramps
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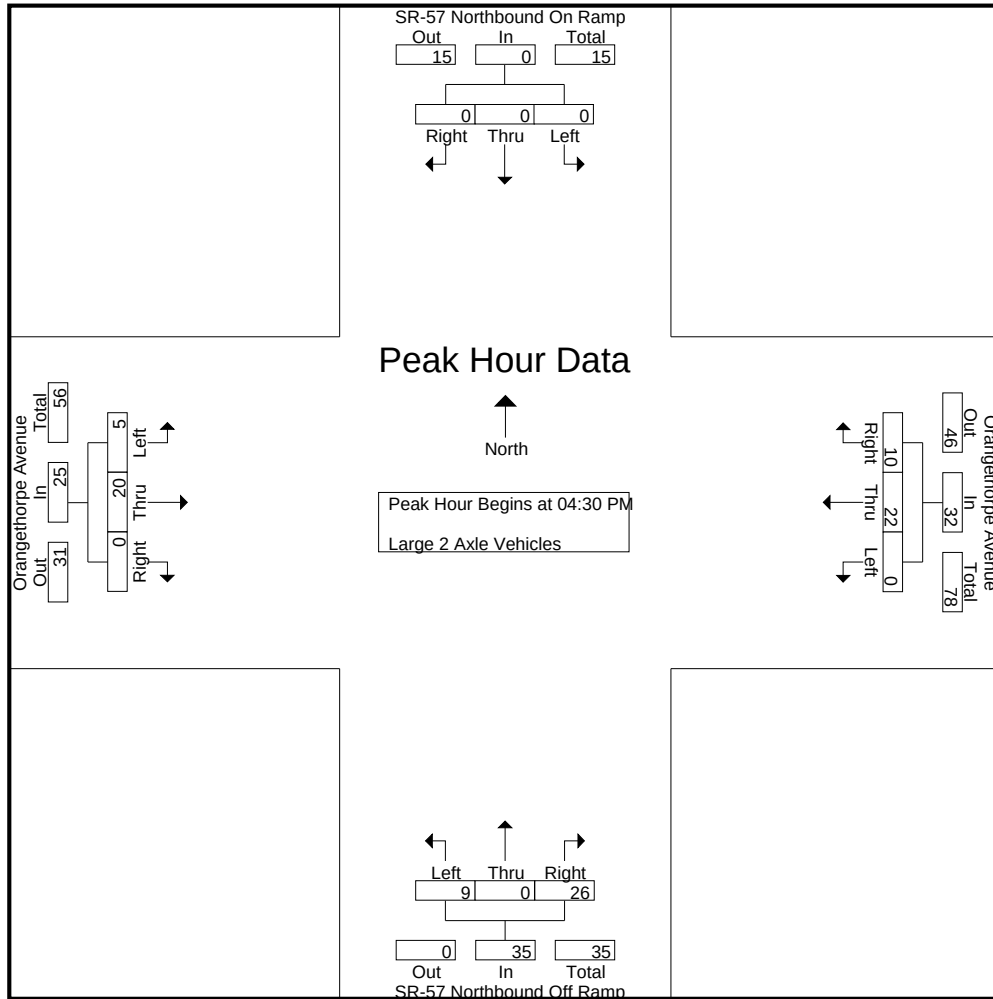
Groups Printed- Large 2 Axle Vehicles

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	5	8	13	6	0	5	11	4	7	0	11	35
03:15 PM	0	0	0	0	0	4	4	8	4	0	7	11	3	10	0	13	32
03:30 PM	0	0	0	0	0	2	2	4	3	0	6	9	2	9	0	11	24
03:45 PM	0	0	0	0	0	5	6	11	1	0	8	9	1	10	0	11	31
Total	0	0	0	0	0	16	20	36	14	0	26	40	10	36	0	46	122
04:00 PM	0	0	0	0	0	3	6	9	1	0	7	8	4	6	0	10	27
04:15 PM	0	0	0	0	0	4	5	9	2	0	8	10	0	8	0	8	27
04:30 PM	0	0	0	0	0	6	3	9	4	0	9	13	2	8	0	10	32
04:45 PM	0	0	0	0	0	5	2	7	1	0	8	9	0	3	0	3	19
Total	0	0	0	0	0	18	16	34	8	0	32	40	6	25	0	31	105
05:00 PM	0	0	0	0	0	4	3	7	2	0	6	8	1	5	0	6	21
05:15 PM	0	0	0	0	0	7	2	9	2	0	3	5	2	4	0	6	20
05:30 PM	0	0	0	0	0	8	5	13	3	0	5	8	0	3	0	3	24
05:45 PM	0	0	0	0	0	3	1	4	3	0	4	7	1	3	0	4	15
Total	0	0	0	0	0	22	11	33	10	0	18	28	4	15	0	19	80
06:00 PM	0	0	0	0	0	3	3	6	1	0	3	4	1	4	0	5	15
06:15 PM	0	0	0	0	0	4	2	6	2	0	2	4	2	4	0	6	16
06:30 PM	0	0	0	0	0	2	2	4	2	0	4	6	0	3	0	3	13
06:45 PM	0	0	0	0	0	6	0	6	3	0	2	5	1	2	0	3	14
Total	0	0	0	0	0	15	7	22	8	0	11	19	4	13	0	17	58
Grand Total	0	0	0	0	0	71	54	125	40	0	87	127	24	89	0	113	365
Apprch %	0	0	0		0	56.8	43.2		31.5	0	68.5		21.2	78.8	0		
Total %	0	0	0	0	0	19.5	14.8	34.2	11	0	23.8	34.8	6.6	24.4	0	31	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	6	3	9	4	0	9	13	2	8	0	10	32
04:45 PM	0	0	0	0	0	5	2	7	1	0	8	9	0	3	0	3	19
05:00 PM	0	0	0	0	0	4	3	7	2	0	6	8	1	5	0	6	21
05:15 PM	0	0	0	0	0	7	2	9	2	0	3	5	2	4	0	6	20
Total Volume	0	0	0	0	0	22	10	32	9	0	26	35	5	20	0	25	92
% App. Total	0	0	0		0	68.8	31.2		25.7	0	74.3		20	80	0		
PHF	.000	.000	.000	.000	.000	.786	.833	.889	.563	.000	.722	.673	.625	.625	.000	.625	.719

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	6	3	9	4	0	9	13	2	8	0	10
+15 mins.	0	0	0	0	0	5	2	7	1	0	8	9	0	3	0	3
+30 mins.	0	0	0	0	0	4	3	7	2	0	6	8	1	5	0	6
+45 mins.	0	0	0	0	0	7	2	9	2	0	3	5	2	4	0	6
Total Volume	0	0	0	0	0	22	10	32	9	0	26	35	5	20	0	25
% App. Total	0	0	0	0	0	68.8	31.2		25.7	0	74.3		20	80	0	
PHF	.000	.000	.000	.000	.000	.786	.833	.889	.563	.000	.722	.673	.625	.625	.000	.625

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
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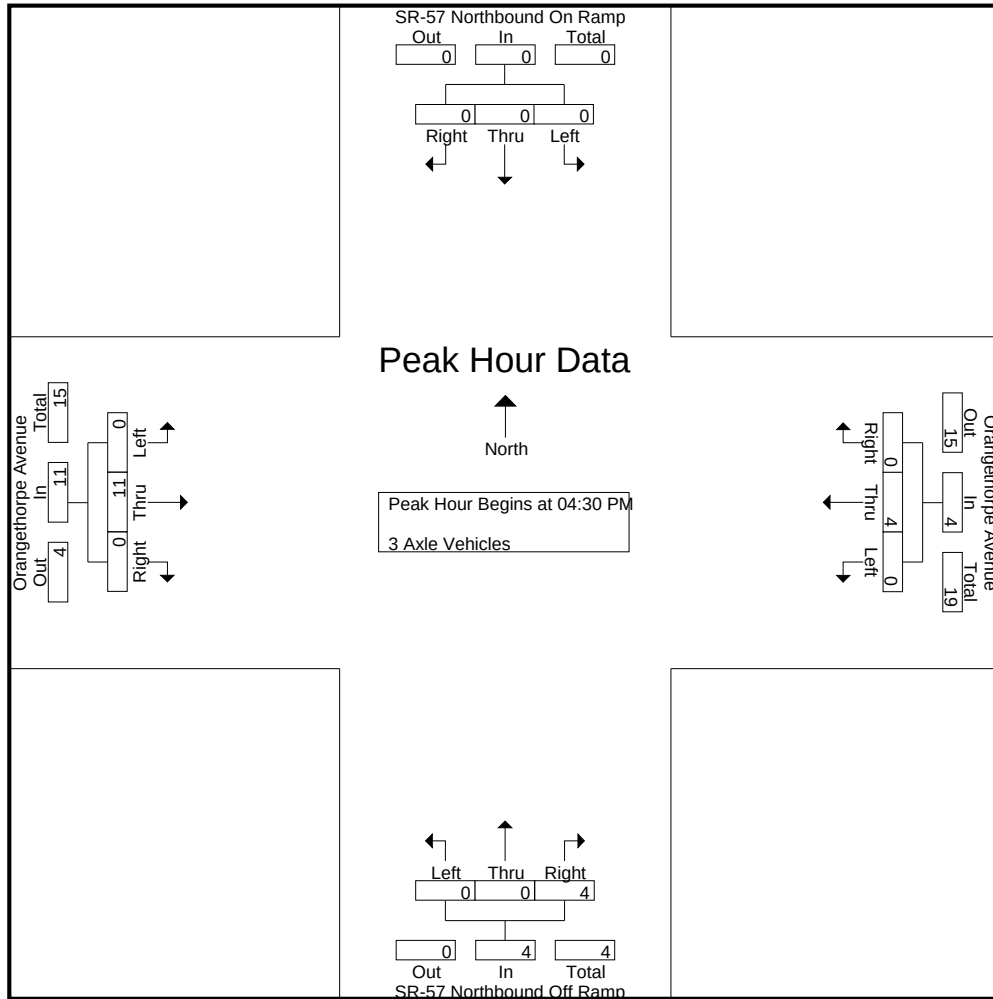
Groups Printed- 3 Axle Vehicles

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	2	1	3	0	0	1	1	1	4	0	5	9
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
03:30 PM	0	0	0	0	0	1	0	1	1	0	1	2	0	1	0	1	4
03:45 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	4	0	4	6
Total	0	0	0	0	0	4	2	6	1	0	2	3	1	10	0	11	20
04:00 PM	0	0	0	0	0	2	0	2	0	0	1	1	0	2	0	2	5
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
04:30 PM	0	0	0	0	0	1	0	1	0	0	2	2	0	4	0	4	7
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total	0	0	0	0	0	4	0	4	0	0	3	3	0	9	0	9	16
05:00 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	2	0	2	4
05:15 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	4	0	4	6
05:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	5	0	5	6
05:45 PM	0	0	0	0	0	1	1	2	0	0	2	2	0	9	0	9	13
Total	0	0	0	0	0	3	1	4	1	0	4	5	0	20	0	20	29
06:00 PM	0	0	0	0	0	1	0	1	0	0	2	2	0	3	0	3	6
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
06:30 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	2	3
06:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	2	1	3	0	0	2	2	0	6	0	6	11
Grand Total	0	0	0	0	0	13	4	17	2	0	11	13	1	45	0	46	76
Apprch %	0	0	0		0	76.5	23.5		15.4	0	84.6		2.2	97.8	0		
Total %	0	0	0	0	0	17.1	5.3	22.4	2.6	0	14.5	17.1	1.3	59.2	0	60.5	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	1	0	1	0	0	2	2	0	4	0	4	7
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:00 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	2	0	2	4
05:15 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	4	0	4	6
Total Volume	0	0	0	0	0	4	0	4	0	0	4	4	0	11	0	11	19
% App. Total	0	0	0		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	1.00	.000	1.00	.000	.000	.500	.500	.000	.688	.000	.688	.679

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	2	2	0	4	0	4
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	1	0	1	0	0	1	1	0	2	0	2
+45 mins.	0	0	0	0	0	1	0	1	0	0	1	1	0	4	0	4
Total Volume	0	0	0	0	0	4	0	4	0	0	4	4	0	11	0	11
% App. Total	0	0	0	0	0	100	0	0	0	0	100	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	1.000	.000	1.000	.000	.000	.500	.500	.000	.688	.000	.688

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

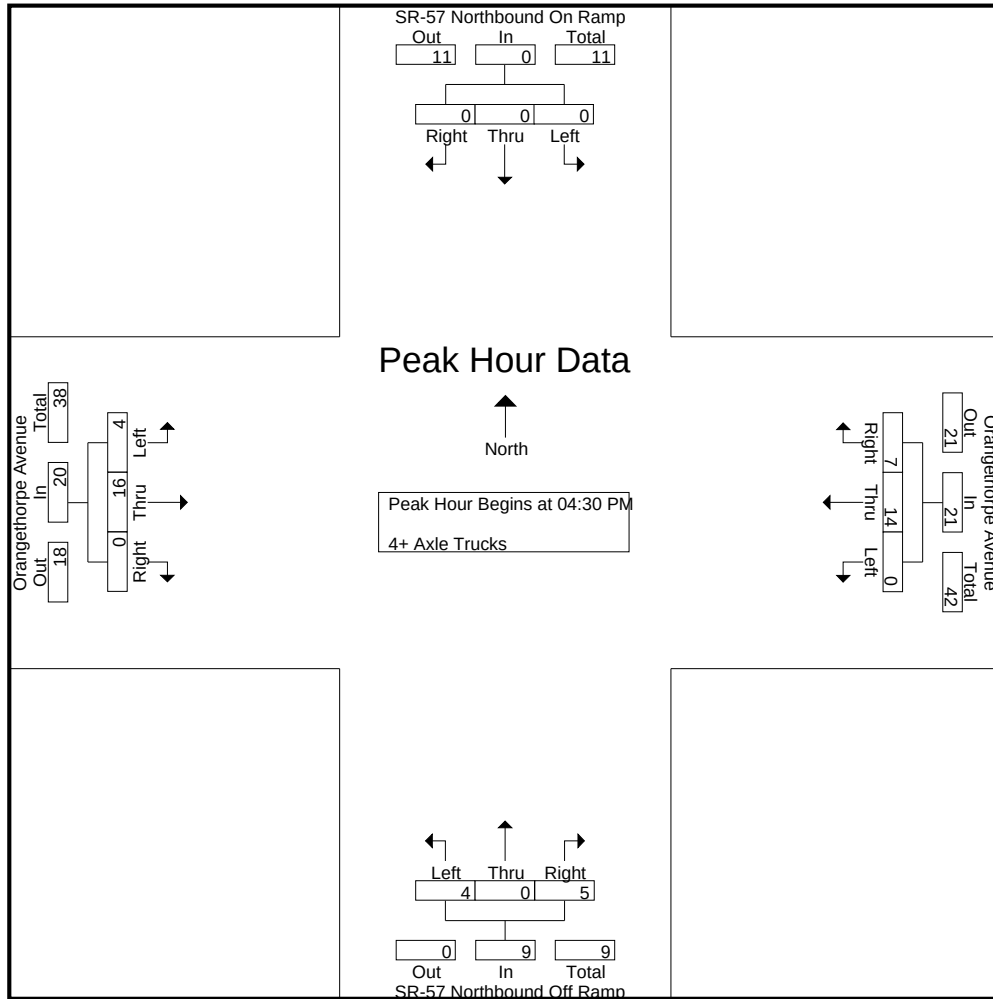
Groups Printed- 4+ Axle Trucks

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	1	0	1	2	0	4	6	1	4	0	5	12
03:15 PM	0	0	0	0	0	2	1	3	0	0	1	1	1	2	0	3	7
03:30 PM	0	0	0	0	0	2	3	5	0	0	0	0	2	9	0	11	16
03:45 PM	0	0	0	0	0	1	0	1	0	0	1	1	1	2	0	3	5
Total	0	0	0	0	0	6	4	10	2	0	6	8	5	17	0	22	40
04:00 PM	0	0	0	0	0	0	1	1	1	0	3	4	0	8	0	8	13
04:15 PM	0	0	0	0	0	0	2	2	2	0	3	5	2	8	0	10	17
04:30 PM	0	0	0	0	0	4	2	6	2	0	1	3	1	4	0	5	14
04:45 PM	0	0	0	0	0	4	2	6	0	0	3	3	2	7	0	9	18
Total	0	0	0	0	0	8	7	15	5	0	10	15	5	27	0	32	62
05:00 PM	0	0	0	0	0	3	1	4	0	0	1	1	1	2	0	3	8
05:15 PM	0	0	0	0	0	3	2	5	2	0	0	2	0	3	0	3	10
05:30 PM	0	0	0	0	0	3	3	6	2	0	0	2	2	7	0	9	17
05:45 PM	0	0	0	0	0	2	1	3	0	0	0	0	1	2	0	3	6
Total	0	0	0	0	0	11	7	18	4	0	1	5	4	14	0	18	41
06:00 PM	0	0	0	0	0	1	1	2	0	0	1	1	3	1	0	4	7
06:15 PM	0	0	0	0	0	0	2	2	0	0	0	0	1	1	0	2	4
06:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	5	2	0	7	9
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3
Total	0	0	0	0	0	1	3	4	0	0	3	3	10	6	0	16	23
Grand Total	0	0	0	0	0	26	21	47	11	0	20	31	24	64	0	88	166
Apprch %	0	0	0		0	55.3	44.7		35.5	0	64.5		27.3	72.7	0		
Total %	0	0	0	0	0	15.7	12.7	28.3	6.6	0	12	18.7	14.5	38.6	0	53	

	SR-57 Northbound On Ramp Southbound				Orangethorpe Avenue Westbound				SR-57 Northbound Off Ramp Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	4	2	6	2	0	1	3	1	4	0	5	14
04:45 PM	0	0	0	0	0	4	2	6	0	0	3	3	2	7	0	9	18
05:00 PM	0	0	0	0	0	3	1	4	0	0	1	1	1	2	0	3	8
05:15 PM	0	0	0	0	0	3	2	5	2	0	0	2	0	3	0	3	10
Total Volume	0	0	0	0	0	14	7	21	4	0	5	9	4	16	0	20	50
% App. Total	0	0	0		0	66.7	33.3		44.4	0	55.6		20	80	0		
PHF	.000	.000	.000	.000	.000	.875	.875	.875	.500	.000	.417	.750	.500	.571	.000	.556	.694

City of Placentia
N/S: SR-57 Northbound Ramps
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 01_PLA_57N_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	4	2	6	2	0	1	3	1	4	0	5
+15 mins.	0	0	0	0	0	4	2	6	0	0	3	3	2	7	0	9
+30 mins.	0	0	0	0	0	3	1	4	0	0	1	1	1	2	0	3
+45 mins.	0	0	0	0	0	3	2	5	2	0	0	2	0	3	0	3
Total Volume	0	0	0	0	0	14	7	21	4	0	5	9	4	16	0	20
% App. Total	0	0	0	0	0	66.7	33.3		44.4	0	55.6		20	80	0	
PHF	.000	.000	.000	.000	.000	.875	.875	.875	.500	.000	.417	.750	.500	.571	.000	.556

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(951) 268-6268

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT Tues AM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 1

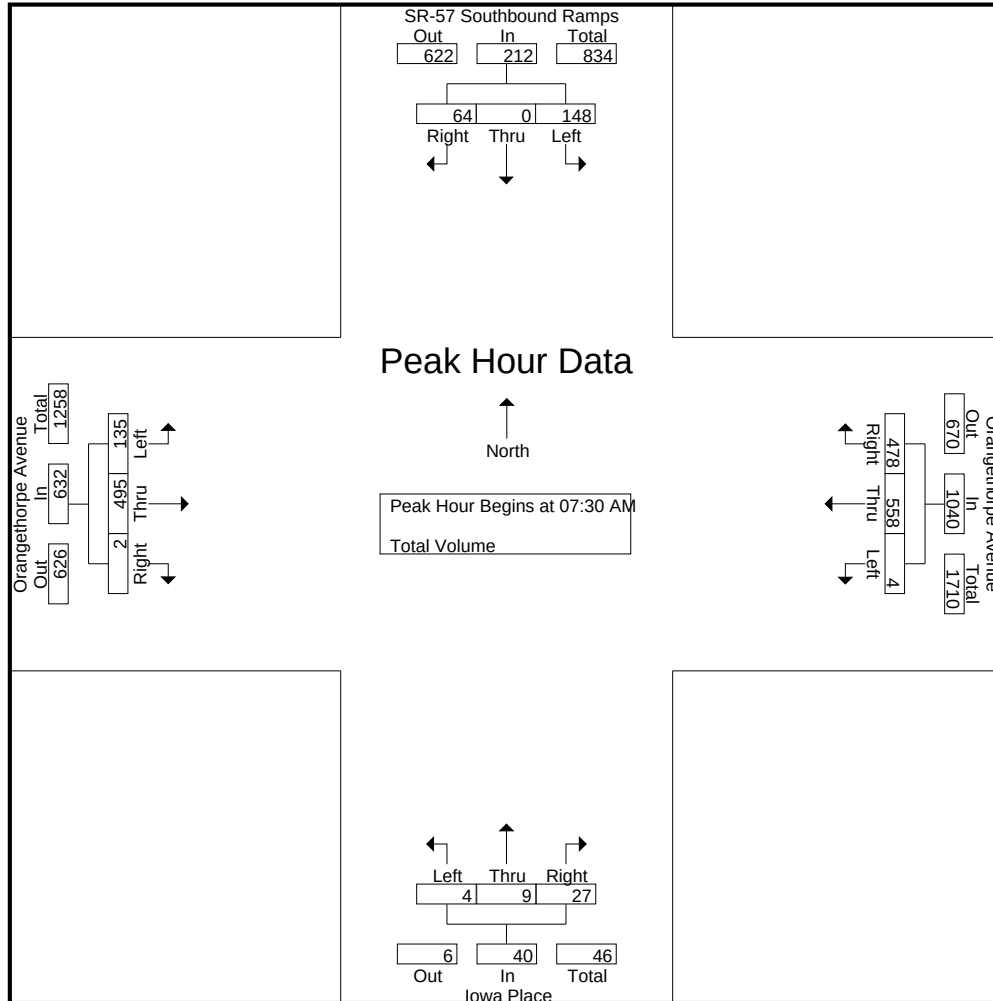
Groups Printed- Total Volume

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	78	1	24	103	1	48	86	135	0	2	0	2	23	44	0	67	307
06:15 AM	49	0	27	76	1	73	88	162	0	1	1	2	26	64	0	90	330
06:30 AM	40	1	18	59	0	66	123	189	0	1	2	3	32	41	0	73	324
06:45 AM	57	0	16	73	1	101	108	210	1	1	5	7	20	107	0	127	417
Total	224	2	85	311	3	288	405	696	1	5	8	14	101	256	0	357	1378
07:00 AM	37	0	13	50	2	89	127	218	1	3	9	13	21	90	0	111	392
07:15 AM	38	0	10	48	2	99	136	237	1	3	2	6	30	119	0	149	440
07:30 AM	25	0	19	44	3	130	135	268	3	2	7	12	31	145	1	177	501
07:45 AM	45	0	10	55	0	172	125	297	1	4	6	11	42	132	0	174	537
Total	145	0	52	197	7	490	523	1020	6	12	24	42	124	486	1	611	1870
08:00 AM	34	0	17	51	1	121	94	216	0	1	6	7	27	114	0	141	415
08:15 AM	44	0	18	62	0	135	124	259	0	2	8	10	35	104	1	140	471
08:30 AM	37	0	16	53	2	142	107	251	0	3	5	8	30	103	0	133	445
08:45 AM	43	0	19	62	3	179	76	258	0	1	3	4	34	107	1	142	466
Total	158	0	70	228	6	577	401	984	0	7	22	29	126	428	2	556	1797
Grand Total	527	2	207	736	16	1355	1329	2700	7	24	54	85	351	1170	3	1524	5045
Apprch %	71.6	0.3	28.1		0.6	50.2	49.2		8.2	28.2	63.5		23	76.8	0.2		
Total %	10.4	0	4.1	14.6	0.3	26.9	26.3	53.5	0.1	0.5	1.1	1.7	7	23.2	0.1	30.2	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	25	0	19	44	3	130	135	268	3	2	7	12	31	145	1	177	501
07:45 AM	45	0	10	55	0	172	125	297	1	4	6	11	42	132	0	174	537
08:00 AM	34	0	17	51	1	121	94	216	0	1	6	7	27	114	0	141	415
08:15 AM	44	0	18	62	0	135	124	259	0	2	8	10	35	104	1	140	471
Total Volume	148	0	64	212	4	558	478	1040	4	9	27	40	135	495	2	632	1924
% App. Total	69.8	0	30.2		0.4	53.7	46		10	22.5	67.5		21.4	78.3	0.3		
PHF	.822	.000	.842	.855	.333	.811	.885	.875	.333	.563	.844	.833	.804	.853	.500	.893	.896

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT Tues AM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 2



Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 AM				07:30 AM				07:00 AM				07:15 AM			
+0 mins.	78	1	24	103	3	130	135	268	1	3	9	13	30	119	0	149
+15 mins.	49	0	27	76	0	172	125	297	1	3	2	6	31	145	1	177
+30 mins.	40	1	18	59	1	121	94	216	3	2	7	12	42	132	0	174
+45 mins.	57	0	16	73	0	135	124	259	1	4	6	11	27	114	0	141
Total Volume	224	2	85	311	4	558	478	1040	6	12	24	42	130	510	1	641
% App. Total	72	0.6	27.3		0.4	53.7	46		14.3	28.6	57.1		20.3	79.6	0.2	
PHF	.718	.500	.787	.755	.333	.811	.885	.875	.500	.750	.667	.808	.774	.879	.250	.905

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT Tues PM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 1

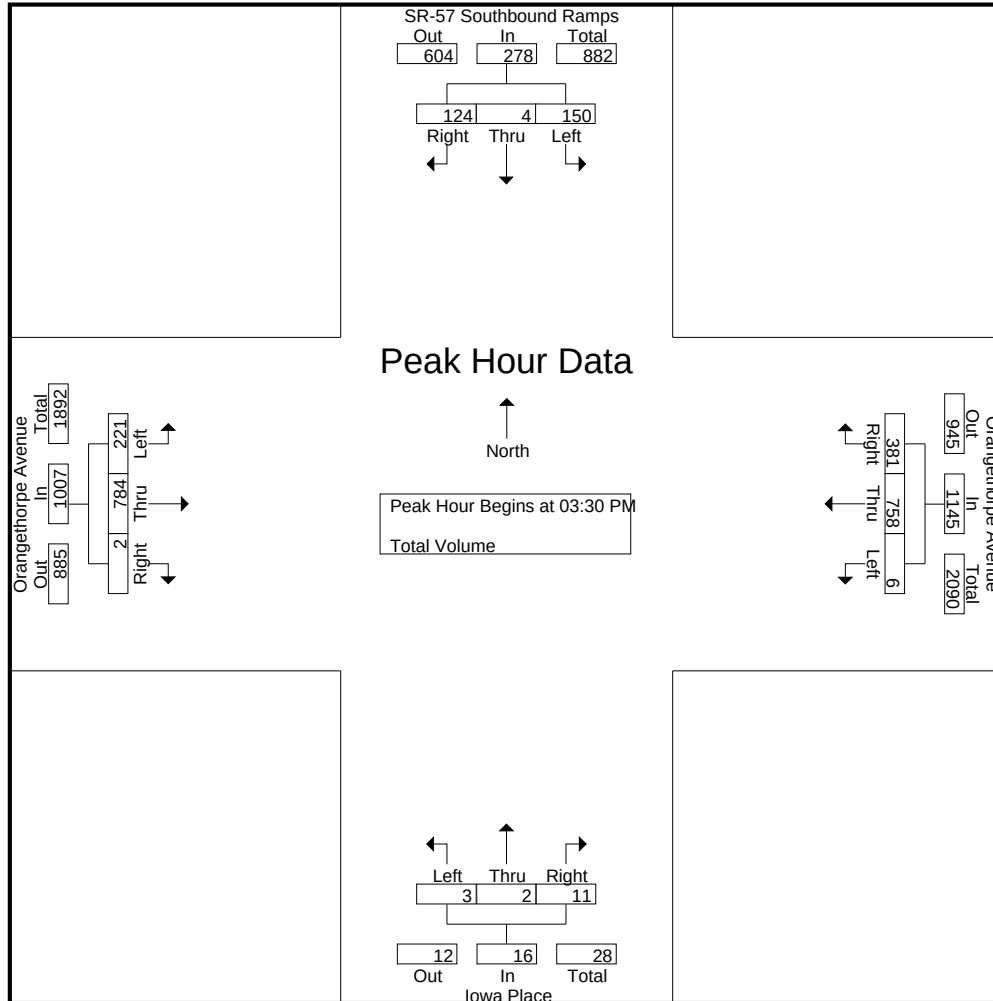
Groups Printed- Total Volume

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	34	0	30	64	4	141	88	233	0	0	7	7	57	170	1	228	532
03:15 PM	35	0	28	63	3	145	101	249	2	2	1	5	46	151	3	200	517
03:30 PM	42	1	40	83	2	171	107	280	2	1	1	4	69	211	1	281	648
03:45 PM	47	3	30	80	0	212	105	317	0	1	1	2	44	165	0	209	608
Total	158	4	128	290	9	669	401	1079	4	4	10	18	216	697	5	918	2305
04:00 PM	33	0	30	63	1	171	103	275	1	0	6	7	65	230	0	295	640
04:15 PM	28	0	24	52	3	204	66	273	0	0	3	3	43	178	1	222	550
04:30 PM	42	0	34	76	1	157	105	263	0	0	3	3	47	189	1	237	579
04:45 PM	51	2	46	99	1	162	78	241	1	3	2	6	26	165	1	192	538
Total	154	2	134	290	6	694	352	1052	2	3	14	19	181	762	3	946	2307
05:00 PM	41	2	36	79	3	191	75	269	0	2	2	4	59	184	2	245	597
05:15 PM	39	0	33	72	0	203	78	281	2	0	2	4	43	158	2	203	560
05:30 PM	36	0	40	76	4	167	69	240	4	2	2	8	48	161	0	209	533
05:45 PM	31	0	41	72	1	161	64	226	1	2	4	7	29	137	0	166	471
Total	147	2	150	299	8	722	286	1016	7	6	10	23	179	640	4	823	2161
06:00 PM	38	1	33	72	5	139	74	218	1	1	1	3	31	143	2	176	469
06:15 PM	41	1	34	76	3	106	80	189	1	1	4	6	44	111	0	155	426
06:30 PM	29	1	17	47	1	112	77	190	1	0	2	3	27	75	0	102	342
06:45 PM	26	1	43	70	0	95	54	149	2	1	1	4	30	91	0	121	344
Total	134	4	127	265	9	452	285	746	5	3	8	16	132	420	2	554	1581
Grand Total	593	12	539	1144	32	2537	1324	3893	18	16	42	76	708	2519	14	3241	8354
Apprch %	51.8	1	47.1		0.8	65.2	34		23.7	21.1	55.3		21.8	77.7	0.4		
Total %	7.1	0.1	6.5	13.7	0.4	30.4	15.8	46.6	0.2	0.2	0.5	0.9	8.5	30.2	0.2	38.8	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	42	1	40	83	2	171	107	280	2	1	1	4	69	211	1	281	648
03:45 PM	47	3	30	80	0	212	105	317	0	1	1	2	44	165	0	209	608
04:00 PM	33	0	30	63	1	171	103	275	1	0	6	7	65	230	0	295	640
04:15 PM	28	0	24	52	3	204	66	273	0	0	3	3	43	178	1	222	550
Total Volume	150	4	124	278	6	758	381	1145	3	2	11	16	221	784	2	1007	2446
% App. Total	54	1.4	44.6		0.5	66.2	33.3		18.8	12.5	68.8		21.9	77.9	0.2		
PHF	.798	.333	.775	.837	.500	.894	.890	.903	.375	.500	.458	.571	.801	.852	.500	.853	.944

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT Tues PM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 2



Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				03:30 PM				05:30 PM				03:30 PM			
+0 mins.	42	0	34	76	2	171	107	280	4	2	2	8	69	211	1	281
+15 mins.	51	2	46	99	0	212	105	317	1	2	4	7	44	165	0	209
+30 mins.	41	2	36	79	1	171	103	275	1	1	1	3	65	230	0	295
+45 mins.	39	0	33	72	3	204	66	273	1	1	4	6	43	178	1	222
Total Volume	173	4	149	326	6	758	381	1145	7	6	11	24	221	784	2	1007
% App. Total	53.1	1.2	45.7		0.5	66.2	33.3		29.2	25	45.8		21.9	77.9	0.2	
PHF	.848	.500	.810	.823	.500	.894	.890	.903	.438	.750	.688	.750	.801	.852	.500	.853

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(951) 268-6268

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT Wed AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

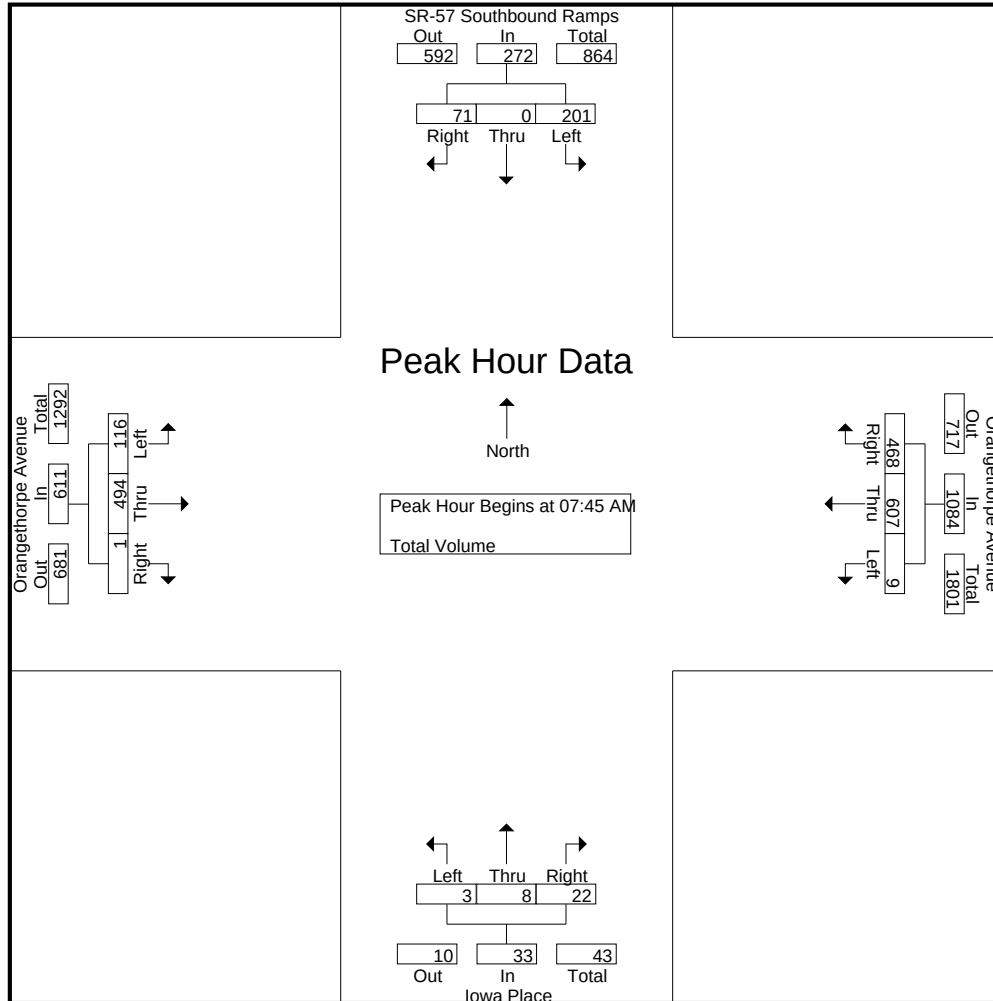
Groups Printed- Total Volume

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	80	1	30	111	2	49	71	122	0	1	0	1	22	48	0	70	304
06:15 AM	62	0	25	87	1	71	94	166	0	0	1	1	17	51	0	68	322
06:30 AM	51	0	17	68	0	76	130	206	1	1	3	5	24	61	0	85	364
06:45 AM	56	0	18	74	1	85	90	176	1	1	4	6	19	100	0	119	375
Total	249	1	90	340	4	281	385	670	2	3	8	13	82	260	0	342	1365
07:00 AM	48	0	17	65	1	95	119	215	1	3	1	5	30	77	0	107	392
07:15 AM	44	0	9	53	2	99	120	221	0	2	4	6	32	118	0	150	430
07:30 AM	40	0	11	51	2	104	127	233	1	2	9	12	31	133	0	164	460
07:45 AM	52	0	12	64	3	183	107	293	1	4	4	9	25	147	0	172	538
Total	184	0	49	233	8	481	473	962	3	11	18	32	118	475	0	593	1820
08:00 AM	55	0	18	73	2	118	127	247	1	0	5	6	20	115	0	135	461
08:15 AM	53	0	22	75	3	144	129	276	0	0	5	5	36	104	1	141	497
08:30 AM	41	0	19	60	1	162	105	268	1	4	8	13	35	128	0	163	504
08:45 AM	68	0	18	86	1	197	87	285	1	3	9	13	25	111	1	137	521
Total	217	0	77	294	7	621	448	1076	3	7	27	37	116	458	2	576	1983
Grand Total	650	1	216	867	19	1383	1306	2708	8	21	53	82	316	1193	2	1511	5168
Apprch %	75	0.1	24.9		0.7	51.1	48.2		9.8	25.6	64.6		20.9	79	0.1		
Total %	12.6	0	4.2	16.8	0.4	26.8	25.3	52.4	0.2	0.4	1	1.6	6.1	23.1	0	29.2	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	52	0	12	64	3	183	107	293	1	4	4	9	25	147	0	172	538
08:00 AM	55	0	18	73	2	118	127	247	1	0	5	6	20	115	0	135	461
08:15 AM	53	0	22	75	3	144	129	276	0	0	5	5	36	104	1	141	497
08:30 AM	41	0	19	60	1	162	105	268	1	4	8	13	35	128	0	163	504
Total Volume	201	0	71	272	9	607	468	1084	3	8	22	33	116	494	1	611	2000
% App. Total	73.9	0	26.1		0.8	56	43.2		9.1	24.2	66.7		19	80.9	0.2		
PHF	.914	.000	.807	.907	.750	.829	.907	.925	.750	.500	.688	.635	.806	.840	.250	.888	.929

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT Wed AM
Site Code : 10524081
Start Date : 1/31/2024
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Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	06:00 AM				07:45 AM				08:00 AM				07:15 AM			
+0 mins.	80	1	30	111	3	183	107	293	1	0	5	6	32	118	0	150
+15 mins.	62	0	25	87	2	118	127	247	0	0	5	5	31	133	0	164
+30 mins.	51	0	17	68	3	144	129	276	1	4	8	13	25	147	0	172
+45 mins.	56	0	18	74	1	162	105	268	1	3	9	13	20	115	0	135
Total Volume	249	1	90	340	9	607	468	1084	3	7	27	37	108	513	0	621
% App. Total	73.2	0.3	26.5		0.8	56	43.2		8.1	18.9	73		17.4	82.6	0	
PHF	.778	.250	.750	.766	.750	.829	.907	.925	.750	.438	.750	.712	.844	.872	.000	.903

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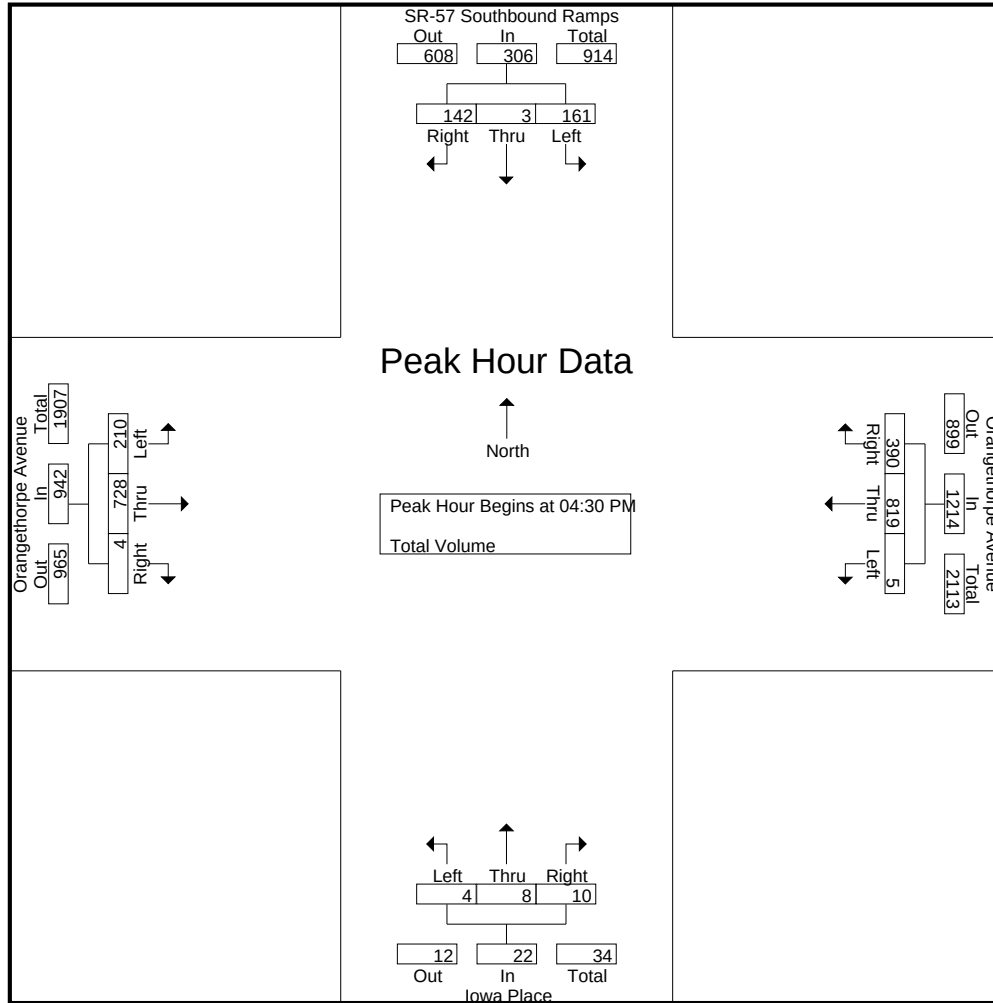
Groups Printed- Total Volume

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	44	0	37	81	2	154	116	272	1	2	1	4	66	161	1	228	585
03:15 PM	40	0	38	78	1	176	77	254	0	0	3	3	35	156	0	191	526
03:30 PM	52	0	32	84	1	226	109	336	1	0	1	2	66	200	0	266	688
03:45 PM	43	0	32	75	3	185	77	265	0	1	2	3	43	174	1	218	561
Total	179	0	139	318	7	741	379	1127	2	3	7	12	210	691	2	903	2360
04:00 PM	31	0	37	68	3	206	94	303	0	1	4	5	48	199	0	247	623
04:15 PM	32	0	47	79	4	191	74	269	3	1	4	8	63	180	1	244	600
04:30 PM	35	1	37	73	1	199	116	316	2	0	3	5	64	193	2	259	653
04:45 PM	40	0	36	76	0	228	82	310	0	3	3	6	47	151	2	200	592
Total	138	1	157	296	8	824	366	1198	5	5	14	24	222	723	5	950	2468
05:00 PM	44	1	40	85	2	178	111	291	1	2	1	4	49	207	0	256	636
05:15 PM	42	1	29	72	2	214	81	297	1	3	3	7	50	177	0	227	603
05:30 PM	36	0	34	70	1	193	67	261	2	0	3	5	36	182	1	219	555
05:45 PM	38	0	42	80	6	196	71	273	1	0	6	7	44	148	1	193	553
Total	160	2	145	307	11	781	330	1122	5	5	13	23	179	714	2	895	2347
06:00 PM	33	0	37	70	1	136	79	216	0	3	3	6	43	142	1	186	478
06:15 PM	29	2	17	48	4	120	82	206	0	1	2	3	45	106	0	151	408
06:30 PM	32	0	36	68	1	101	81	183	1	2	3	6	39	108	1	148	405
06:45 PM	38	0	21	59	3	100	91	194	0	1	2	3	39	105	1	145	401
Total	132	2	111	245	9	457	333	799	1	7	10	18	166	461	3	630	1692
Grand Total	609	5	552	1166	35	2803	1408	4246	13	20	44	77	777	2589	12	3378	8867
Apprch %	52.2	0.4	47.3		0.8	66	33.2		16.9	26	57.1		23	76.6	0.4		
Total %	6.9	0.1	6.2	13.1	0.4	31.6	15.9	47.9	0.1	0.2	0.5	0.9	8.8	29.2	0.1	38.1	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	35	1	37	73	1	199	116	316	2	0	3	5	64	193	2	259	653
04:45 PM	40	0	36	76	0	228	82	310	0	3	3	6	47	151	2	200	592
05:00 PM	44	1	40	85	2	178	111	291	1	2	1	4	49	207	0	256	636
05:15 PM	42	1	29	72	2	214	81	297	1	3	3	7	50	177	0	227	603
Total Volume	161	3	142	306	5	819	390	1214	4	8	10	22	210	728	4	942	2484
% App. Total	52.6	1	46.4		0.4	67.5	32.1		18.2	36.4	45.5		22.3	77.3	0.4		
PHF	.915	.750	.888	.900	.625	.898	.841	.960	.500	.667	.833	.786	.820	.879	.500	.909	.951

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Site Code : 10524081
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Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM				04:30 PM				05:15 PM				03:30 PM			
+0 mins.	44	0	37	81	1	199	116	316	1	3	3	7	66	200	0	266
+15 mins.	40	0	38	78	0	228	82	310	2	0	3	5	43	174	1	218
+30 mins.	52	0	32	84	2	178	111	291	1	0	6	7	48	199	0	247
+45 mins.	43	0	32	75	2	214	81	297	0	3	3	6	63	180	1	244
Total Volume	179	0	139	318	5	819	390	1214	4	6	15	25	220	753	2	975
% App. Total	56.3	0	43.7		0.4	67.5	32.1		16	24	60		22.6	77.2	0.2	
PHF	.861	.000	.914	.946	.625	.898	.841	.960	.500	.500	.625	.893	.833	.941	.500	.916

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
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Weather: Clear

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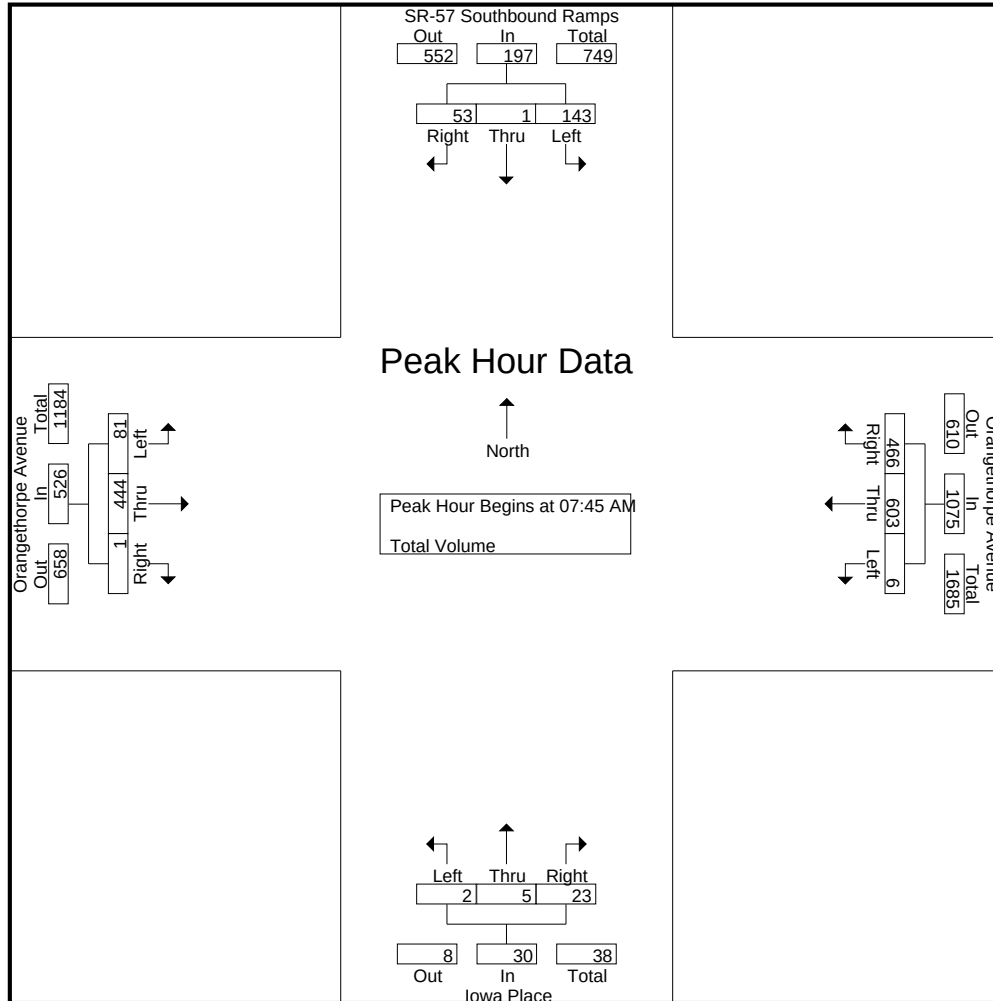
Groups Printed- Total Volume

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	70	0	49	119	4	58	58	120	0	1	1	2	8	30	0	38	279
06:15 AM	55	1	27	83	0	57	60	117	0	2	0	2	18	34	0	52	254
06:30 AM	46	0	21	67	1	73	98	172	1	0	2	3	22	67	1	90	332
06:45 AM	55	0	17	72	0	68	83	151	1	1	2	4	15	69	0	84	311
Total	226	1	114	341	5	256	299	560	2	4	5	11	63	200	1	264	1176
07:00 AM	37	0	12	49	2	80	96	178	0	2	4	6	20	89	0	109	342
07:15 AM	36	0	6	42	1	98	129	228	3	6	2	11	22	117	1	140	421
07:30 AM	27	0	12	39	1	106	121	228	2	0	7	9	22	106	0	128	404
07:45 AM	21	0	9	30	0	156	135	291	2	1	4	7	16	119	0	135	463
Total	121	0	39	160	4	440	481	925	7	9	17	33	80	431	1	512	1630
08:00 AM	35	0	9	44	1	132	104	237	0	0	7	7	24	116	0	140	428
08:15 AM	41	0	14	55	4	156	117	277	0	1	7	8	20	95	0	115	455
08:30 AM	46	1	21	68	1	159	110	270	0	3	5	8	21	114	1	136	482
08:45 AM	50	0	21	71	5	133	135	273	1	0	1	2	17	97	0	114	460
Total	172	1	65	238	11	580	466	1057	1	4	20	25	82	422	1	505	1825
Grand Total	519	2	218	739	20	1276	1246	2542	10	17	42	69	225	1053	3	1281	4631
Apprch %	70.2	0.3	29.5		0.8	50.2	49		14.5	24.6	60.9		17.6	82.2	0.2		
Total %	11.2	0	4.7	16	0.4	27.6	26.9	54.9	0.2	0.4	0.9	1.5	4.9	22.7	0.1	27.7	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	21	0	9	30	0	156	135	291	2	1	4	7	16	119	0	135	463
08:00 AM	35	0	9	44	1	132	104	237	0	0	7	7	24	116	0	140	428
08:15 AM	41	0	14	55	4	156	117	277	0	1	7	8	20	95	0	115	455
08:30 AM	46	1	21	68	1	159	110	270	0	3	5	8	21	114	1	136	482
Total Volume	143	1	53	197	6	603	466	1075	2	5	23	30	81	444	1	526	1828
% App. Total	72.6	0.5	26.9		0.6	56.1	43.3		6.7	16.7	76.7		15.4	84.4	0.2		
PHF	.777	.250	.631	.724	.375	.948	.863	.924	.250	.417	.821	.938	.844	.933	.250	.939	.948

City of Placentia
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Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 AM				07:45 AM				07:15 AM				07:15 AM			
+0 mins.	70	0	49	119	0	156	135	291	3	6	2	11	22	117	1	140
+15 mins.	55	1	27	83	1	132	104	237	2	0	7	9	22	106	0	128
+30 mins.	46	0	21	67	4	156	117	277	2	1	4	7	16	119	0	135
+45 mins.	55	0	17	72	1	159	110	270	0	0	7	7	24	116	0	140
Total Volume	226	1	114	341	6	603	466	1075	7	7	20	34	84	458	1	543
% App. Total	66.3	0.3	33.4		0.6	56.1	43.3		20.6	20.6	58.8		15.5	84.3	0.2	
PHF	.807	.250	.582	.716	.375	.948	.863	.924	.583	.292	.714	.773	.875	.962	.250	.970

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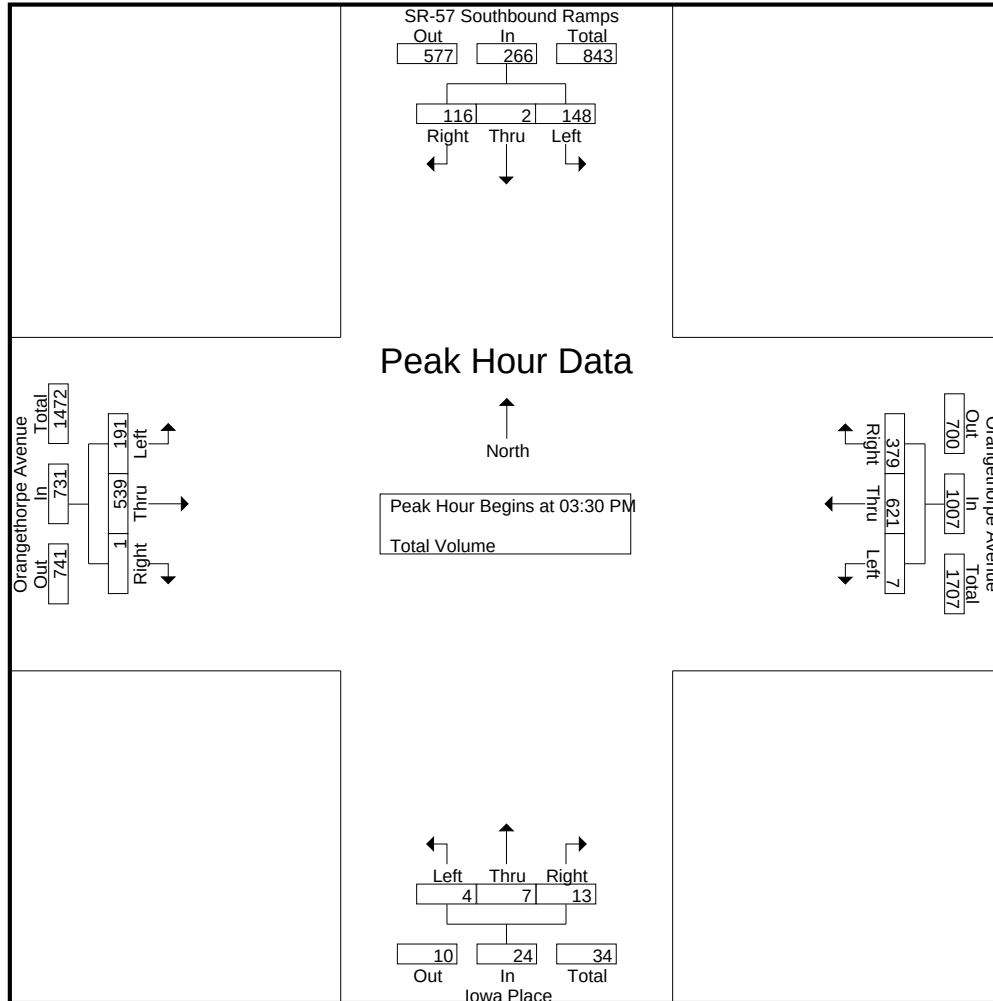
Groups Printed- Total Volume

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	46	0	35	81	3	124	49	176	0	0	8	8	46	138	1	185	450
03:15 PM	41	0	32	73	2	142	61	205	0	0	4	4	38	123	0	161	443
03:30 PM	42	2	30	74	2	167	88	257	1	2	1	4	58	128	0	186	521
03:45 PM	43	0	28	71	4	155	94	253	1	2	1	4	32	140	0	172	500
Total	172	2	125	299	11	588	292	891	2	4	14	20	174	529	1	704	1914
04:00 PM	28	0	34	62	0	152	112	264	1	3	6	10	50	135	1	186	522
04:15 PM	35	0	24	59	1	147	85	233	1	0	5	6	51	136	0	187	485
04:30 PM	32	0	24	56	1	136	99	236	2	1	2	5	61	135	0	196	493
04:45 PM	38	1	29	68	3	119	87	209	0	0	3	3	39	139	0	178	458
Total	133	1	111	245	5	554	383	942	4	4	16	24	201	545	1	747	1958
05:00 PM	40	0	30	70	2	145	101	248	0	0	4	4	58	138	0	196	518
05:15 PM	32	0	29	61	4	157	90	251	3	1	2	6	51	143	1	195	513
05:30 PM	27	1	26	54	1	158	87	246	0	1	1	2	46	121	3	170	472
05:45 PM	28	2	24	54	2	120	98	220	2	2	1	5	35	112	1	148	427
Total	127	3	109	239	9	580	376	965	5	4	8	17	190	514	5	709	1930
06:00 PM	22	0	21	43	0	131	63	194	1	3	2	6	47	101	0	148	391
06:15 PM	23	0	30	53	3	101	91	195	0	0	1	1	37	98	0	135	384
06:30 PM	18	2	21	41	0	68	53	121	1	1	2	4	28	73	0	101	267
06:45 PM	21	1	16	38	1	73	86	160	0	0	1	1	28	67	0	95	294
Total	84	3	88	175	4	373	293	670	2	4	6	12	140	339	0	479	1336
Grand Total	516	9	433	958	29	2095	1344	3468	13	16	44	73	705	1927	7	2639	7138
Apprch %	53.9	0.9	45.2		0.8	60.4	38.8		17.8	21.9	60.3		26.7	73	0.3		
Total %	7.2	0.1	6.1	13.4	0.4	29.3	18.8	48.6	0.2	0.2	0.6	1	9.9	27	0.1	37	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	42	2	30	74	2	167	88	257	1	2	1	4	58	128	0	186	521
03:45 PM	43	0	28	71	4	155	94	253	1	2	1	4	32	140	0	172	500
04:00 PM	28	0	34	62	0	152	112	264	1	3	6	10	50	135	1	186	522
04:15 PM	35	0	24	59	1	147	85	233	1	0	5	6	51	136	0	187	485
Total Volume	148	2	116	266	7	621	379	1007	4	7	13	24	191	539	1	731	2028
% App. Total	55.6	0.8	43.6		0.7	61.7	37.6		16.7	29.2	54.2		26.1	73.7	0.1		
PHF	.860	.250	.853	.899	.438	.930	.846	.954	1.00	.583	.542	.600	.823	.963	.250	.977	.971

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Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:00 PM				03:30 PM				03:45 PM				04:30 PM			
+0 mins.	46	0	35	81	2	167	88	257	1	2	1	4	61	135	0	196
+15 mins.	41	0	32	73	4	155	94	253	1	3	6	10	39	139	0	178
+30 mins.	42	2	30	74	0	152	112	264	1	0	5	6	58	138	0	196
+45 mins.	43	0	28	71	1	147	85	233	2	1	2	5	51	143	1	195
Total Volume	172	2	125	299	7	621	379	1007	5	6	14	25	209	555	1	765
% App. Total	57.5	0.7	41.8		0.7	61.7	37.6		20	24	56		27.3	72.5	0.1	
PHF	.935	.250	.893	.923	.438	.930	.846	.954	.625	.500	.583	.625	.857	.970	.250	.976

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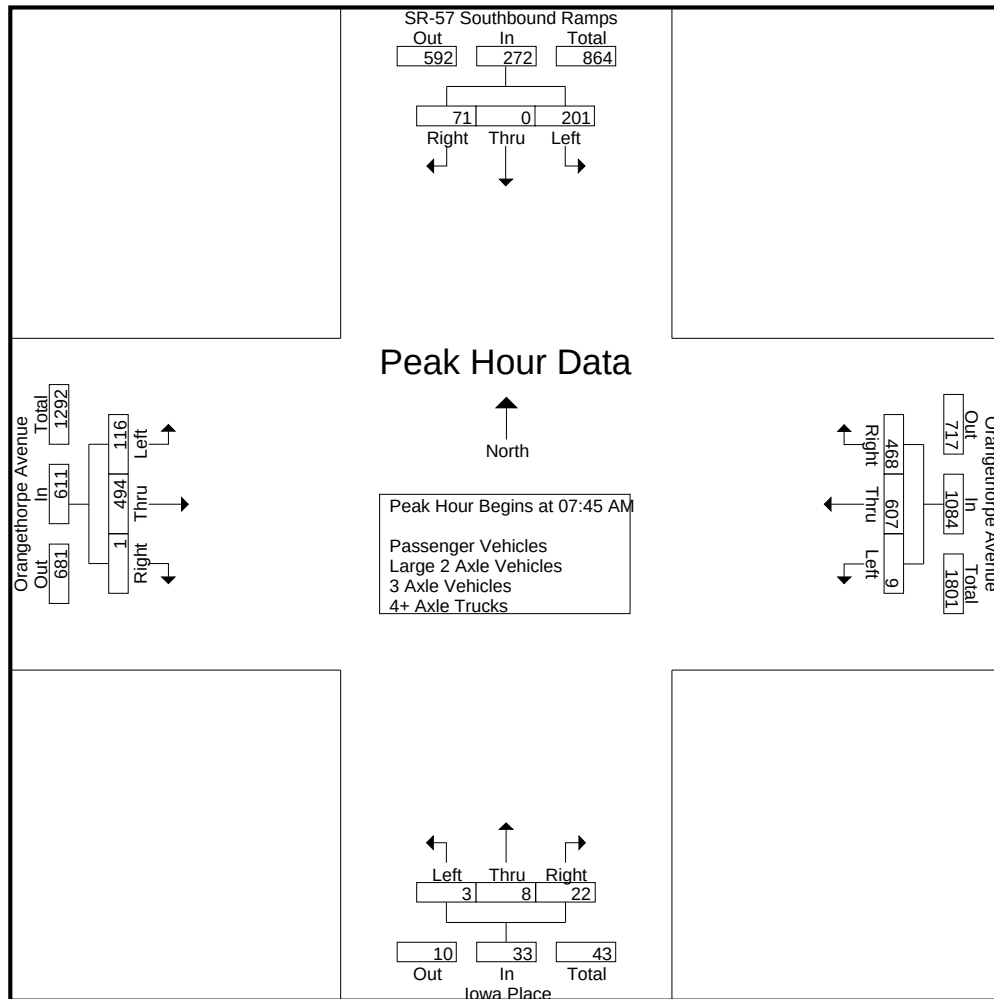
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	80	1	30	111	2	49	71	122	0	1	0	1	22	48	0	70	304
06:15 AM	62	0	25	87	1	71	94	166	0	0	1	1	17	51	0	68	322
06:30 AM	51	0	17	68	0	76	130	206	1	1	3	5	24	61	0	85	364
06:45 AM	56	0	18	74	1	85	90	176	1	1	4	6	19	100	0	119	375
Total	249	1	90	340	4	281	385	670	2	3	8	13	82	260	0	342	1365
07:00 AM	48	0	17	65	1	95	119	215	1	3	1	5	30	77	0	107	392
07:15 AM	44	0	9	53	2	99	120	221	0	2	4	6	32	118	0	150	430
07:30 AM	40	0	11	51	2	104	127	233	1	2	9	12	31	133	0	164	460
07:45 AM	52	0	12	64	3	183	107	293	1	4	4	9	25	147	0	172	538
Total	184	0	49	233	8	481	473	962	3	11	18	32	118	475	0	593	1820
08:00 AM	55	0	18	73	2	118	127	247	1	0	5	6	20	115	0	135	461
08:15 AM	53	0	22	75	3	144	129	276	0	0	5	5	36	104	1	141	497
08:30 AM	41	0	19	60	1	162	105	268	1	4	8	13	35	128	0	163	504
08:45 AM	68	0	18	86	1	197	87	285	1	3	9	13	25	111	1	137	521
Total	217	0	77	294	7	621	448	1076	3	7	27	37	116	458	2	576	1983
Grand Total	650	1	216	867	19	1383	1306	2708	8	21	53	82	316	1193	2	1511	5168
Apprch %	75	0.1	24.9		0.7	51.1	48.2		9.8	25.6	64.6		20.9	79	0.1		
Total %	12.6	0	4.2	16.8	0.4	26.8	25.3	52.4	0.2	0.4	1	1.6	6.1	23.1	0	29.2	
Passenger Vehicles	544	1	173	718	16	1291	1221	2528	7	18	51	76	277	1052	2	1331	4653
% Passenger Vehicles	83.7	100	80.1	82.8	84.2	93.3	93.5	93.4	87.5	85.7	96.2	92.7	87.7	88.2	100	88.1	90
Large 2 Axle Vehicles	32	0	11	43	3	63	52	118	1	3	1	5	29	89	0	118	284
% Large 2 Axle Vehicles	4.9	0	5.1	5	15.8	4.6	4	4.4	12.5	14.3	1.9	6.1	9.2	7.5	0	7.8	5.5
3 Axle Vehicles	18	0	4	22	0	13	9	22	0	0	1	1	1	11	0	12	57
% 3 Axle Vehicles	2.8	0	1.9	2.5	0	0.9	0.7	0.8	0	0	1.9	1.2	0.3	0.9	0	0.8	1.1
4+ Axle Trucks	56	0	28	84	0	16	24	40	0	0	0	0	9	41	0	50	174
% 4+ Axle Trucks	8.6	0	13	9.7	0	1.2	1.8	1.5	0	0	0	0	2.8	3.4	0	3.3	3.4

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	52	0	12	64	3	183	107	293	1	4	4	9	25	147	0	172	538
08:00 AM	55	0	18	73	2	118	127	247	1	0	5	6	20	115	0	135	461
08:15 AM	53	0	22	75	3	144	129	276	0	0	5	5	36	104	1	141	497
08:30 AM	41	0	19	60	1	162	105	268	1	4	8	13	35	128	0	163	504
Total Volume	201	0	71	272	9	607	468	1084	3	8	22	33	116	494	1	611	2000
% App. Total	73.9	0	26.1		0.8	56	43.2		9.1	24.2	66.7		19	80.9	0.2		
PHF	.914	.000	.807	.907	.750	.829	.907	.925	.750	.500	.688	.635	.806	.840	.250	.888	.929

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
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Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	06:00 AM				07:45 AM				08:00 AM				07:15 AM			
+0 mins.	80	1	30	111	3	183	107	293	1	0	5	6	32	118	0	150
+15 mins.	62	0	25	87	2	118	127	247	0	0	5	5	31	133	0	164
+30 mins.	51	0	17	68	3	144	129	276	1	4	8	13	25	147	0	172
+45 mins.	56	0	18	74	1	162	105	268	1	3	9	13	20	115	0	135
Total Volume	249	1	90	340	9	607	468	1084	3	7	27	37	108	513	0	621
% App. Total	73.2	0.3	26.5		0.8	56	43.2		8.1	18.9	73		17.4	82.6	0	
PHF	.778	.250	.750	.766	.750	.829	.907	.925	.750	.438	.750	.712	.844	.872	.000	.903

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
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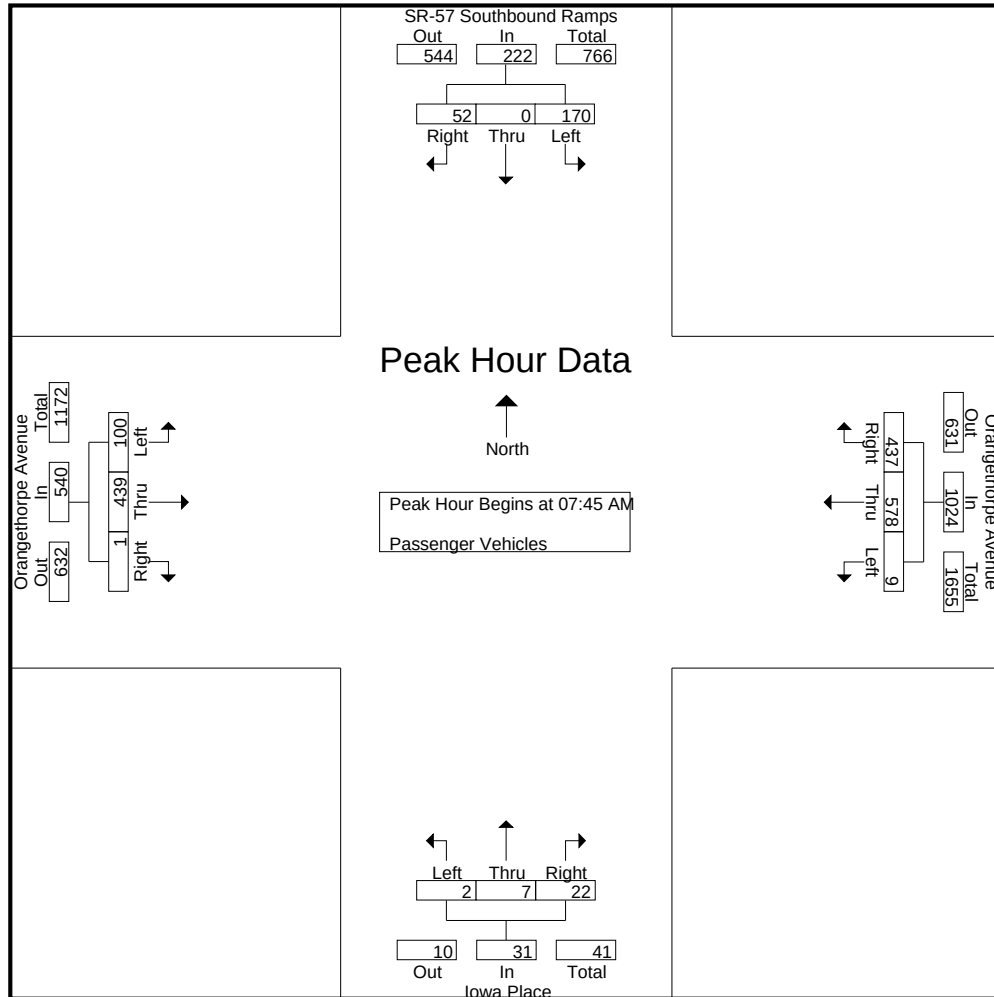
Groups Printed- Passenger Vehicles

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	74	1	27	102	2	47	63	112	0	1	0	1	21	42	0	63	278
06:15 AM	55	0	23	78	0	65	88	153	0	0	1	1	13	44	0	57	289
06:30 AM	46	0	16	62	0	68	120	188	1	0	3	4	22	51	0	73	327
06:45 AM	51	0	15	66	1	76	84	161	1	1	4	6	16	89	0	105	338
Total	226	1	81	308	3	256	355	614	2	2	8	12	72	226	0	298	1232
07:00 AM	35	0	9	44	1	88	110	199	1	2	1	4	26	68	0	94	341
07:15 AM	31	0	8	39	2	92	114	208	0	2	4	6	29	102	0	131	384
07:30 AM	32	0	9	41	1	95	122	218	1	2	8	11	29	124	0	153	423
07:45 AM	44	0	9	53	3	175	101	279	1	3	4	8	22	131	0	153	493
Total	142	0	35	177	7	450	447	904	3	9	17	29	106	425	0	531	1641
08:00 AM	48	0	14	62	2	111	118	231	0	0	5	5	16	100	0	116	414
08:15 AM	45	0	14	59	3	137	121	261	0	0	5	5	30	94	1	125	450
08:30 AM	33	0	15	48	1	155	97	253	1	4	8	13	32	114	0	146	460
08:45 AM	50	0	14	64	0	182	83	265	1	3	8	12	21	93	1	115	456
Total	176	0	57	233	6	585	419	1010	2	7	26	35	99	401	2	502	1780
Grand Total	544	1	173	718	16	1291	1221	2528	7	18	51	76	277	1052	2	1331	4653
Apprch %	75.8	0.1	24.1		0.6	51.1	48.3		9.2	23.7	67.1		20.8	79	0.2		
Total %	11.7	0	3.7	15.4	0.3	27.7	26.2	54.3	0.2	0.4	1.1	1.6	6	22.6	0	28.6	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	44	0	9	53	3	175	101	279	1	3	4	8	22	131	0	153	493
08:00 AM	48	0	14	62	2	111	118	231	0	0	5	5	16	100	0	116	414
08:15 AM	45	0	14	59	3	137	121	261	0	0	5	5	30	94	1	125	450
08:30 AM	33	0	15	48	1	155	97	253	1	4	8	13	32	114	0	146	460
Total Volume	170	0	52	222	9	578	437	1024	2	7	22	31	100	439	1	540	1817
% App. Total	76.6	0	23.4		0.9	56.4	42.7		6.5	22.6	71		18.5	81.3	0.2		
PHF	.885	.000	.867	.895	.750	.826	.903	.918	.500	.438	.688	.596	.781	.838	.250	.882	.921

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	44	0	9	53	3	175	101	279	1	3	4	8	22	131	0	153
+15 mins.	48	0	14	62	2	111	118	231	0	0	5	5	16	100	0	116
+30 mins.	45	0	14	59	3	137	121	261	0	0	5	5	30	94	1	125
+45 mins.	33	0	15	48	1	155	97	253	1	4	8	13	32	114	0	146
Total Volume	170	0	52	222	9	578	437	1024	2	7	22	31	100	439	1	540
% App. Total	76.6	0	23.4		0.9	56.4	42.7		6.5	22.6	71		18.5	81.3	0.2	
PHF	.885	.000	.867	.895	.750	.826	.903	.918	.500	.438	.688	.596	.781	.838	.250	.882

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
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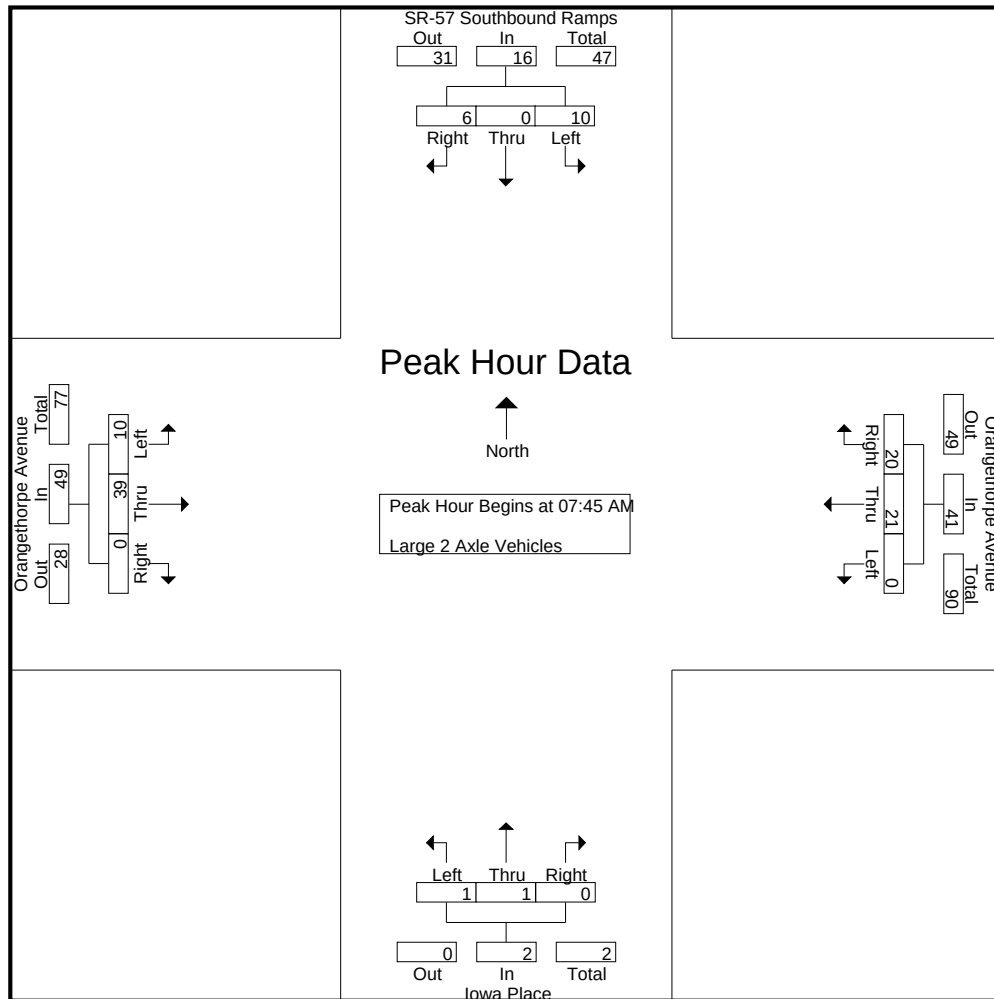
Groups Printed- Large 2 Axle Vehicles

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	3	0	1	4	0	1	5	6	0	0	0	0	0	4	0	4	14
06:15 AM	3	0	1	4	1	3	2	6	0	0	0	0	3	4	0	7	17
06:30 AM	1	0	0	1	0	6	5	11	0	1	0	1	1	5	0	6	19
06:45 AM	2	0	1	3	0	6	5	11	0	0	0	0	3	7	0	10	24
Total	9	0	3	12	1	16	17	34	0	1	0	1	7	20	0	27	74
07:00 AM	3	0	1	4	0	4	5	9	0	1	0	1	3	6	0	9	23
07:15 AM	4	0	0	4	0	5	4	9	0	0	0	0	3	6	0	9	22
07:30 AM	1	0	0	1	1	5	3	9	0	0	0	0	2	6	0	8	18
07:45 AM	4	0	1	5	0	7	5	12	0	1	0	1	2	10	0	12	30
Total	12	0	2	14	1	21	17	39	0	2	0	2	10	28	0	38	93
08:00 AM	1	0	1	2	0	5	6	11	1	0	0	1	2	11	0	13	27
08:15 AM	3	0	1	4	0	5	5	10	0	0	0	0	5	8	0	13	27
08:30 AM	2	0	3	5	0	4	4	8	0	0	0	0	1	10	0	11	24
08:45 AM	5	0	1	6	1	12	3	16	0	0	1	1	4	12	0	16	39
Total	11	0	6	17	1	26	18	45	1	0	1	2	12	41	0	53	117
Grand Total	32	0	11	43	3	63	52	118	1	3	1	5	29	89	0	118	284
Apprch %	74.4	0	25.6		2.5	53.4	44.1		20	60	20		24.6	75.4	0		
Total %	11.3	0	3.9	15.1	1.1	22.2	18.3	41.5	0.4	1.1	0.4	1.8	10.2	31.3	0	41.5	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	4	0	1	5	0	7	5	12	0	1	0	1	2	10	0	12	30
08:00 AM	1	0	1	2	0	5	6	11	1	0	0	1	2	11	0	13	27
08:15 AM	3	0	1	4	0	5	5	10	0	0	0	0	5	8	0	13	27
08:30 AM	2	0	3	5	0	4	4	8	0	0	0	0	1	10	0	11	24
Total Volume	10	0	6	16	0	21	20	41	1	1	0	2	10	39	0	49	108
% App. Total	62.5	0	37.5		0	51.2	48.8		50	50	0		20.4	79.6	0		
PHF	.625	.000	.500	.800	.000	.750	.833	.854	.250	.250	.000	.500	.500	.886	.000	.942	.900

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	4	0	1	5	0	7	5	12	0	1	0	1	2	10	0	12
+15 mins.	1	0	1	2	0	5	6	11	1	0	0	1	2	11	0	13
+30 mins.	3	0	1	4	0	5	5	10	0	0	0	0	5	8	0	13
+45 mins.	2	0	3	5	0	4	4	8	0	0	0	0	1	10	0	11
Total Volume	10	0	6	16	0	21	20	41	1	1	0	2	10	39	0	49
% App. Total	62.5	0	37.5		0	51.2	48.8		50	50	0		20.4	79.6	0	
PHF	.625	.000	.500	.800	.000	.750	.833	.854	.250	.250	.000	.500	.500	.886	.000	.942

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
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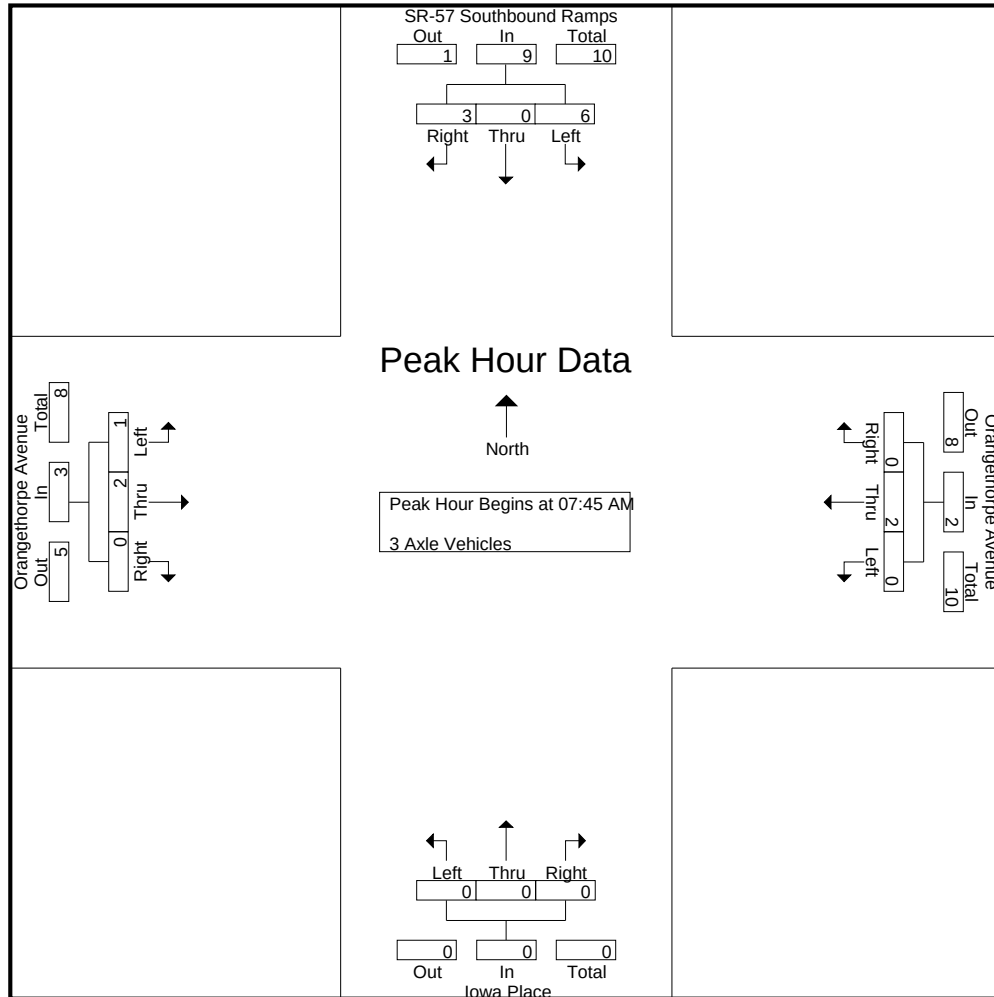
Groups Printed- 3 Axle Vehicles

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	1	0	0	1	0	1	3	4	0	0	0	0	0	1	0	1	6
06:15 AM	1	0	0	1	0	1	2	3	0	0	0	0	0	0	0	0	4
06:30 AM	2	0	0	2	0	2	0	2	0	0	0	0	0	1	0	1	5
06:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total	4	0	0	4	0	5	5	10	0	0	0	0	0	3	0	3	17
07:00 AM	1	0	1	2	0	1	2	3	0	0	0	0	0	0	0	0	5
07:15 AM	1	0	0	1	0	1	0	1	0	0	0	0	0	4	0	4	6
07:30 AM	3	0	0	3	0	3	2	5	0	0	1	1	0	0	0	0	9
07:45 AM	2	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
Total	7	0	1	8	0	6	4	10	0	0	1	1	0	4	0	4	23
08:00 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	1	0	1	3
08:15 AM	1	0	1	2	0	1	0	1	0	0	0	0	0	1	0	1	4
08:30 AM	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1	4
08:45 AM	3	0	0	3	0	1	0	1	0	0	0	0	0	2	0	2	6
Total	7	0	3	10	0	2	0	2	0	0	0	0	1	4	0	5	17
Grand Total	18	0	4	22	0	13	9	22	0	0	1	1	1	11	0	12	57
Apprch %	81.8	0	18.2		0	59.1	40.9		0	0	100		8.3	91.7	0		
Total %	31.6	0	7	38.6	0	22.8	15.8	38.6	0	0	1.8	1.8	1.8	19.3	0	21.1	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	2	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
08:00 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	1	0	1	3
08:15 AM	1	0	1	2	0	1	0	1	0	0	0	0	0	1	0	1	4
08:30 AM	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1	4
Total Volume	6	0	3	9	0	2	0	2	0	0	0	0	1	2	0	3	14
% App. Total	66.7	0	33.3		0	100	0		0	0	0		33.3	66.7	0		
PHF	.500	.000	.375	.750	.000	.500	.000	.500	.000	.000	.000	.000	.250	.500	.000	.750	.875

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	2	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	2	2	0	0	0	0	0	0	0	0	0	1	0	1
+30 mins.	1	0	1	2	0	1	0	1	0	0	0	0	0	1	0	1
+45 mins.	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1
Total Volume	6	0	3	9	0	2	0	2	0	0	0	0	1	2	0	3
% App. Total	66.7	0	33.3		0	100	0		0	0	0		33.3	66.7	0	
PHF	.500	.000	.375	.750	.000	.500	.000	.500	.000	.000	.000	.000	.250	.500	.000	.750

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

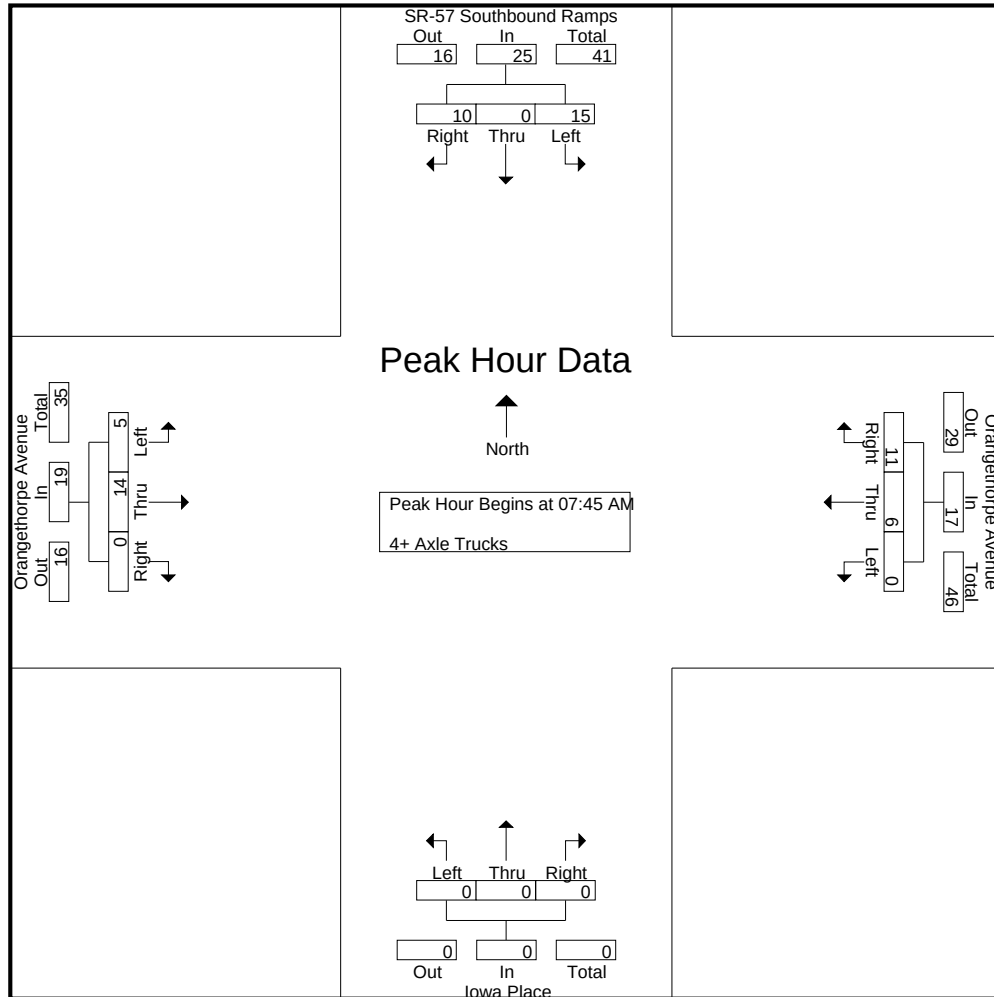
Groups Printed- 4+ Axle Trucks

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	2	0	2	4	0	0	0	0	0	0	0	0	1	1	0	2	6
06:15 AM	3	0	1	4	0	2	2	4	0	0	0	0	1	3	0	4	12
06:30 AM	2	0	1	3	0	0	5	5	0	0	0	0	1	4	0	5	13
06:45 AM	3	0	2	5	0	2	1	3	0	0	0	0	0	3	0	3	11
Total	10	0	6	16	0	4	8	12	0	0	0	0	3	11	0	14	42
07:00 AM	9	0	6	15	0	2	2	4	0	0	0	0	1	3	0	4	23
07:15 AM	8	0	1	9	0	1	2	3	0	0	0	0	0	6	0	6	18
07:30 AM	4	0	2	6	0	1	0	1	0	0	0	0	0	3	0	3	10
07:45 AM	2	0	2	4	0	0	1	1	0	0	0	0	1	6	0	7	12
Total	23	0	11	34	0	4	5	9	0	0	0	0	2	18	0	20	63
08:00 AM	6	0	1	7	0	2	3	5	0	0	0	0	2	3	0	5	17
08:15 AM	4	0	6	10	0	1	3	4	0	0	0	0	1	1	0	2	16
08:30 AM	3	0	1	4	0	3	4	7	0	0	0	0	1	4	0	5	16
08:45 AM	10	0	3	13	0	2	1	3	0	0	0	0	0	4	0	4	20
Total	23	0	11	34	0	8	11	19	0	0	0	0	4	12	0	16	69
Grand Total	56	0	28	84	0	16	24	40	0	0	0	0	9	41	0	50	174
Apprch %	66.7	0	33.3		0	40	60		0	0	0		18	82	0		
Total %	32.2	0	16.1	48.3	0	9.2	13.8	23	0	0	0	0	5.2	23.6	0	28.7	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	2	0	2	4	0	0	1	1	0	0	0	0	1	6	0	7	12
08:00 AM	6	0	1	7	0	2	3	5	0	0	0	0	2	3	0	5	17
08:15 AM	4	0	6	10	0	1	3	4	0	0	0	0	1	1	0	2	16
08:30 AM	3	0	1	4	0	3	4	7	0	0	0	0	1	4	0	5	16
Total Volume	15	0	10	25	0	6	11	17	0	0	0	0	5	14	0	19	61
% App. Total	60	0	40		0	35.3	64.7		0	0	0		26.3	73.7	0		
PHF	.625	.000	.417	.625	.000	.500	.688	.607	.000	.000	.000	.000	.625	.583	.000	.679	.897

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	2	0	2	4	0	0	1	1	0	0	0	0	1	6	0	7
+15 mins.	6	0	1	7	0	2	3	5	0	0	0	0	2	3	0	5
+30 mins.	4	0	6	10	0	1	3	4	0	0	0	0	1	1	0	2
+45 mins.	3	0	1	4	0	3	4	7	0	0	0	0	1	4	0	5
Total Volume	15	0	10	25	0	6	11	17	0	0	0	0	5	14	0	19
% App. Total	60	0	40		0	35.3	64.7		0	0	0		26.3	73.7	0	
PHF	.625	.000	.417	.625	.000	.500	.688	.607	.000	.000	.000	.000	.625	.583	.000	.679

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED PM
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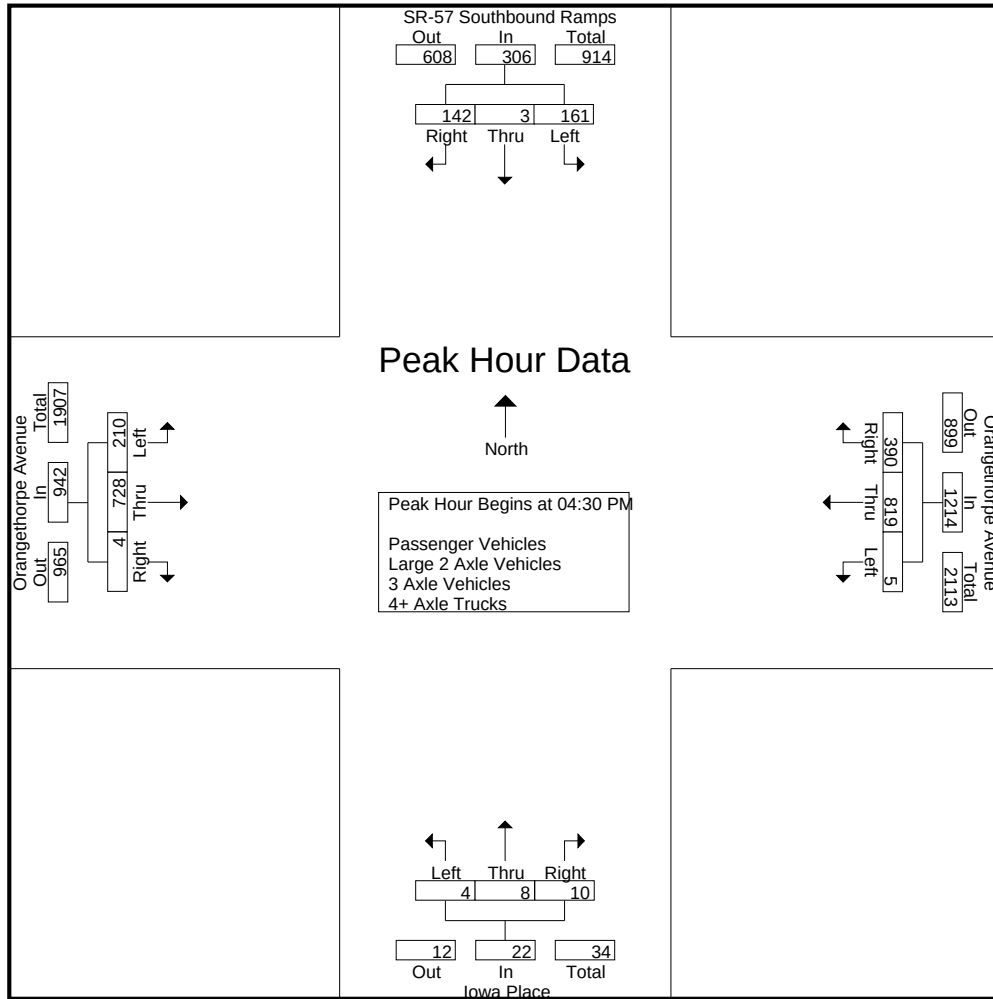
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	44	0	37	81	2	154	116	272	1	2	1	4	66	161	1	228	585
03:15 PM	40	0	38	78	1	176	77	254	0	0	3	3	35	156	0	191	526
03:30 PM	52	0	32	84	1	226	109	336	1	0	1	2	66	200	0	266	688
03:45 PM	43	0	32	75	3	185	77	265	0	1	2	3	43	174	1	218	561
Total	179	0	139	318	7	741	379	1127	2	3	7	12	210	691	2	903	2360
04:00 PM	31	0	37	68	3	206	94	303	0	1	4	5	48	199	0	247	623
04:15 PM	32	0	47	79	4	191	74	269	3	1	4	8	63	180	1	244	600
04:30 PM	35	1	37	73	1	199	116	316	2	0	3	5	64	193	2	259	653
04:45 PM	40	0	36	76	0	228	82	310	0	3	3	6	47	151	2	200	592
Total	138	1	157	296	8	824	366	1198	5	5	14	24	222	723	5	950	2468
05:00 PM	44	1	40	85	2	178	111	291	1	2	1	4	49	207	0	256	636
05:15 PM	42	1	29	72	2	214	81	297	1	3	3	7	50	177	0	227	603
05:30 PM	36	0	34	70	1	193	67	261	2	0	3	5	36	182	1	219	555
05:45 PM	38	0	42	80	6	196	71	273	1	0	6	7	44	148	1	193	553
Total	160	2	145	307	11	781	330	1122	5	5	13	23	179	714	2	895	2347
06:00 PM	33	0	37	70	1	136	79	216	0	3	3	6	43	142	1	186	478
06:15 PM	29	2	17	48	4	120	82	206	0	1	2	3	45	106	0	151	408
06:30 PM	32	0	36	68	1	101	81	183	1	2	3	6	39	108	1	148	405
06:45 PM	38	0	21	59	3	100	91	194	0	1	2	3	39	105	1	145	401
Total	132	2	111	245	9	457	333	799	1	7	10	18	166	461	3	630	1692
Grand Total	609	5	552	1166	35	2803	1408	4246	13	20	44	77	777	2589	12	3378	8867
Apprch %	52.2	0.4	47.3		0.8	66	33.2		16.9	26	57.1		23	76.6	0.4		
Total %	6.9	0.1	6.2	13.1	0.4	31.6	15.9	47.9	0.1	0.2	0.5	0.9	8.8	29.2	0.1	38.1	
Passenger Vehicles	496	5	492	993	34	2681	1379	4094	13	20	44	77	764	2458	12	3234	8398
% Passenger Vehicles	81.4	100	89.1	85.2	97.1	95.6	97.9	96.4	100	100	100	100	98.3	94.9	100	95.7	94.7
Large 2 Axle Vehicles	48	0	27	75	0	83	16	99	0	0	0	0	8	63	0	71	245
% Large 2 Axle Vehicles	7.9	0	4.9	6.4	0	3	1.1	2.3	0	0	0	0	1	2.4	0	2.1	2.8
3 Axle Vehicles	18	0	14	32	0	15	1	16	0	0	0	0	0	24	0	24	72
% 3 Axle Vehicles	3	0	2.5	2.7	0	0.5	0.1	0.4	0	0	0	0	0	0.9	0	0.7	0.8
4+ Axle Trucks	47	0	19	66	1	24	12	37	0	0	0	0	5	44	0	49	152
% 4+ Axle Trucks	7.7	0	3.4	5.7	2.9	0.9	0.9	0.9	0	0	0	0	0.6	1.7	0	1.5	1.7

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	35	1	37	73	1	199	116	316	2	0	3	5	64	193	2	259	653
04:45 PM	40	0	36	76	0	228	82	310	0	3	3	6	47	151	2	200	592
05:00 PM	44	1	40	85	2	178	111	291	1	2	1	4	49	207	0	256	636
05:15 PM	42	1	29	72	2	214	81	297	1	3	3	7	50	177	0	227	603
Total Volume	161	3	142	306	5	819	390	1214	4	8	10	22	210	728	4	942	2484
% App. Total	52.6	1	46.4		0.4	67.5	32.1		18.2	36.4	45.5		22.3	77.3	0.4		
PHF	.915	.750	.888	.900	.625	.898	.841	.960	.500	.667	.833	.786	.820	.879	.500	.909	.951

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
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Weather: Clear

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Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:00 PM				04:30 PM				05:15 PM				03:30 PM			
+0 mins.	44	0	37	81	1	199	116	316	1	3	3	7	66	200	0	266
+15 mins.	40	0	38	78	0	228	82	310	2	0	3	5	43	174	1	218
+30 mins.	52	0	32	84	2	178	111	291	1	0	6	7	48	199	0	247
+45 mins.	43	0	32	75	2	214	81	297	0	3	3	6	63	180	1	244
Total Volume	179	0	139	318	5	819	390	1214	4	6	15	25	220	753	2	975
% App. Total	56.3	0	43.7		0.4	67.5	32.1		16	24	60		22.6	77.2	0.2	
PHF	.861	.000	.914	.946	.625	.898	.841	.960	.500	.500	.625	.893	.833	.941	.500	.916

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
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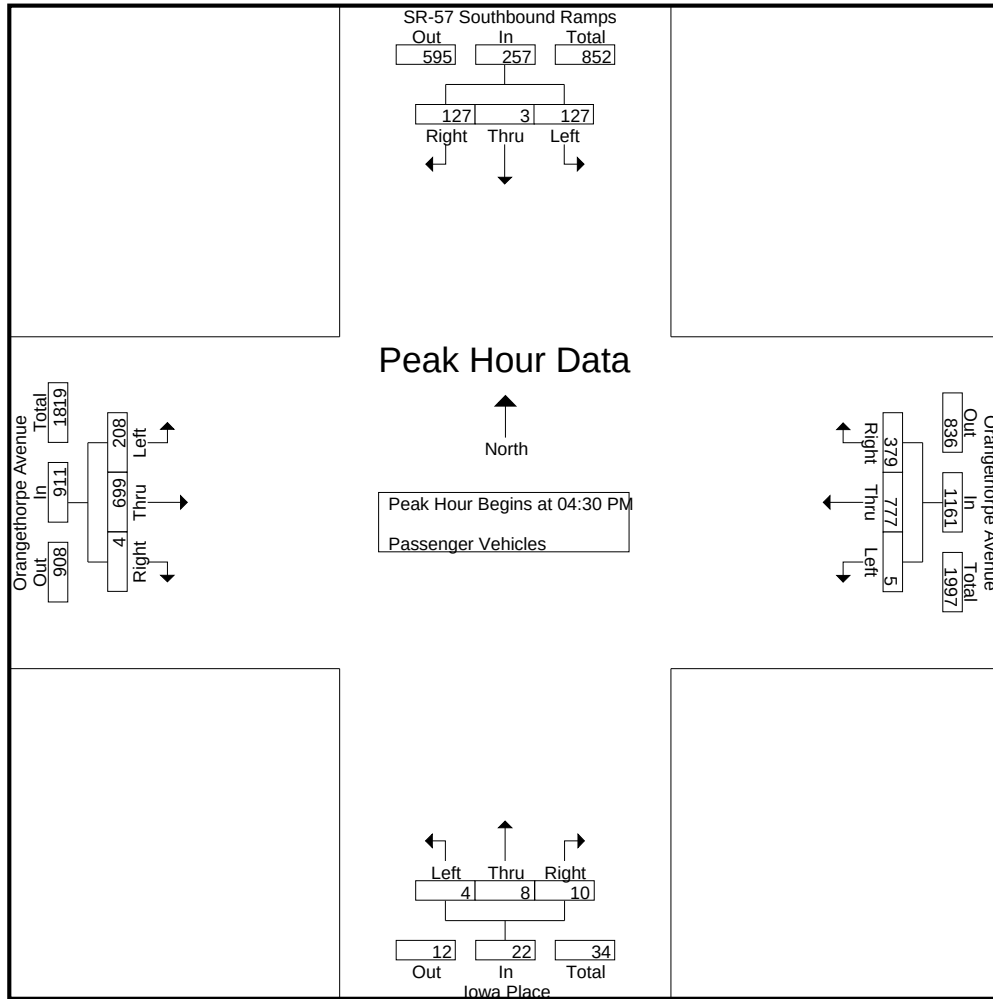
Groups Printed- Passenger Vehicles

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	37	0	32	69	2	144	113	259	1	2	1	4	64	148	1	213	545
03:15 PM	30	0	32	62	1	169	77	247	0	0	3	3	34	148	0	182	494
03:30 PM	38	0	27	65	1	220	108	329	1	0	1	2	66	193	0	259	655
03:45 PM	39	0	27	66	3	180	74	257	0	1	2	3	42	158	1	201	527
Total	144	0	118	262	7	713	372	1092	2	3	7	12	206	647	2	855	2221
04:00 PM	23	0	33	56	3	200	93	296	0	1	4	5	48	189	0	237	594
04:15 PM	25	0	43	68	4	186	71	261	3	1	4	8	60	172	1	233	570
04:30 PM	26	1	31	58	1	186	113	300	2	0	3	5	63	182	2	247	610
04:45 PM	34	0	33	67	0	219	79	298	0	3	3	6	46	142	2	190	561
Total	108	1	140	249	8	791	356	1155	5	5	14	24	217	685	5	907	2335
05:00 PM	35	1	37	73	2	170	110	282	1	2	1	4	49	203	0	252	611
05:15 PM	32	1	26	59	2	202	77	281	1	3	3	7	50	172	0	222	569
05:30 PM	28	0	31	59	0	177	65	242	2	0	3	5	35	171	1	207	513
05:45 PM	31	0	40	71	6	187	71	264	1	0	6	7	43	138	1	182	524
Total	126	2	134	262	10	736	323	1069	5	5	13	23	177	684	2	863	2217
06:00 PM	30	0	36	66	1	133	79	213	0	3	3	6	42	136	1	179	464
06:15 PM	24	2	15	41	4	116	81	201	0	1	2	3	45	103	0	148	393
06:30 PM	29	0	31	60	1	96	81	178	1	2	3	6	38	102	1	141	385
06:45 PM	35	0	18	53	3	96	87	186	0	1	2	3	39	101	1	141	383
Total	118	2	100	220	9	441	328	778	1	7	10	18	164	442	3	609	1625
Grand Total	496	5	492	993	34	2681	1379	4094	13	20	44	77	764	2458	12	3234	8398
Apprch %	49.9	0.5	49.5		0.8	65.5	33.7		16.9	26	57.1		23.6	76	0.4		
Total %	5.9	0.1	5.9	11.8	0.4	31.9	16.4	48.7	0.2	0.2	0.5	0.9	9.1	29.3	0.1	38.5	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	26	1	31	58	1	186	113	300	2	0	3	5	63	182	2	247	610
04:45 PM	34	0	33	67	0	219	79	298	0	3	3	6	46	142	2	190	561
05:00 PM	35	1	37	73	2	170	110	282	1	2	1	4	49	203	0	252	611
05:15 PM	32	1	26	59	2	202	77	281	1	3	3	7	50	172	0	222	569
Total Volume	127	3	127	257	5	777	379	1161	4	8	10	22	208	699	4	911	2351
% App. Total	49.4	1.2	49.4		0.4	66.9	32.6		18.2	36.4	45.5		22.8	76.7	0.4		
PHF	.907	.750	.858	.880	.625	.887	.838	.968	.500	.667	.833	.786	.825	.861	.500	.904	.962

City of Placentia
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	26	1	31	58	1	186	113	300	2	0	3	5	63	182	2	247
+15 mins.	34	0	33	67	0	219	79	298	0	3	3	6	46	142	2	190
+30 mins.	35	1	37	73	2	170	110	282	1	2	1	4	49	203	0	252
+45 mins.	32	1	26	59	2	202	77	281	1	3	3	7	50	172	0	222
Total Volume	127	3	127	257	5	777	379	1161	4	8	10	22	208	699	4	911
% App. Total	49.4	1.2	49.4		0.4	66.9	32.6		18.2	36.4	45.5		22.8	76.7	0.4	
PHF	.907	.750	.858	.880	.625	.887	.838	.968	.500	.667	.833	.786	.825	.861	.500	.904

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED PM
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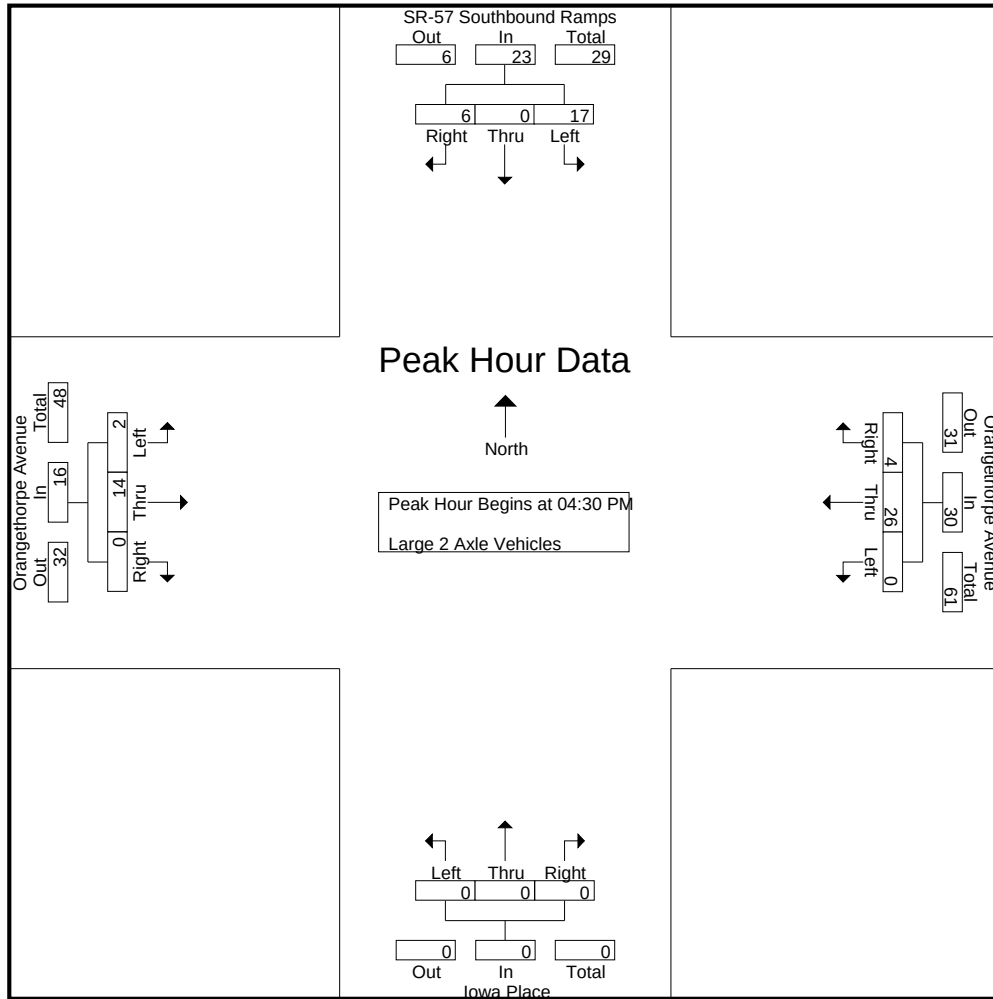
Groups Printed- Large 2 Axle Vehicles

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	3	0	1	4	0	6	2	8	0	0	0	0	2	8	0	10	22
03:15 PM	6	0	4	10	0	6	0	6	0	0	0	0	0	7	0	7	23
03:30 PM	7	0	3	10	0	3	0	3	0	0	0	0	0	3	0	3	16
03:45 PM	2	0	5	7	0	4	2	6	0	0	0	0	1	10	0	11	24
Total	18	0	13	31	0	19	4	23	0	0	0	0	3	28	0	31	85
04:00 PM	2	0	2	4	0	4	1	5	0	0	0	0	0	6	0	6	15
04:15 PM	0	0	2	2	0	3	2	5	0	0	0	0	1	5	0	6	13
04:30 PM	4	0	1	5	0	8	2	10	0	0	0	0	1	5	0	6	21
04:45 PM	2	0	0	2	0	5	1	6	0	0	0	0	1	4	0	5	13
Total	8	0	5	13	0	20	6	26	0	0	0	0	3	20	0	23	62
05:00 PM	7	0	2	9	0	5	0	5	0	0	0	0	0	2	0	2	16
05:15 PM	4	0	3	7	0	8	1	9	0	0	0	0	0	3	0	3	19
05:30 PM	3	0	0	3	0	12	0	12	0	0	0	0	0	3	0	3	18
05:45 PM	2	0	0	2	0	6	0	6	0	0	0	0	1	2	0	3	11
Total	16	0	5	21	0	31	1	32	0	0	0	0	1	10	0	11	64
06:00 PM	1	0	1	2	0	1	0	1	0	0	0	0	0	1	0	1	4
06:15 PM	4	0	0	4	0	4	1	5	0	0	0	0	0	1	0	1	10
06:30 PM	0	0	3	3	0	5	0	5	0	0	0	0	1	0	0	1	9
06:45 PM	1	0	0	1	0	3	4	7	0	0	0	0	0	3	0	3	11
Total	6	0	4	10	0	13	5	18	0	0	0	0	1	5	0	6	34
Grand Total	48	0	27	75	0	83	16	99	0	0	0	0	8	63	0	71	245
Apprch %	64	0	36		0	83.8	16.2		0	0	0		11.3	88.7	0		
Total %	19.6	0	11	30.6	0	33.9	6.5	40.4	0	0	0	0	3.3	25.7	0	29	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	4	0	1	5	0	8	2	10	0	0	0	0	1	5	0	6	21
04:45 PM	2	0	0	2	0	5	1	6	0	0	0	0	1	4	0	5	13
05:00 PM	7	0	2	9	0	5	0	5	0	0	0	0	0	2	0	2	16
05:15 PM	4	0	3	7	0	8	1	9	0	0	0	0	0	3	0	3	19
Total Volume	17	0	6	23	0	26	4	30	0	0	0	0	2	14	0	16	69
% App. Total	73.9	0	26.1		0	86.7	13.3		0	0	0		12.5	87.5	0		
PHF	.607	.000	.500	.639	.000	.813	.500	.750	.000	.000	.000	.000	.500	.700	.000	.667	.821

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
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Weather: Clear

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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	4	0	1	5	0	8	2	10	0	0	0	0	1	5	0	6
+15 mins.	2	0	0	2	0	5	1	6	0	0	0	0	1	4	0	5
+30 mins.	7	0	2	9	0	5	0	5	0	0	0	0	0	2	0	2
+45 mins.	4	0	3	7	0	8	1	9	0	0	0	0	0	3	0	3
Total Volume	17	0	6	23	0	26	4	30	0	0	0	0	2	14	0	16
% App. Total	73.9	0	26.1		0	86.7	13.3		0	0	0		12.5	87.5	0	
PHF	.607	.000	.500	.639	.000	.813	.500	.750	.000	.000	.000	.000	.500	.700	.000	.667

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
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Weather: Clear

File Name : 02_PLA_57S_OT WED PM
Site Code : 10524081
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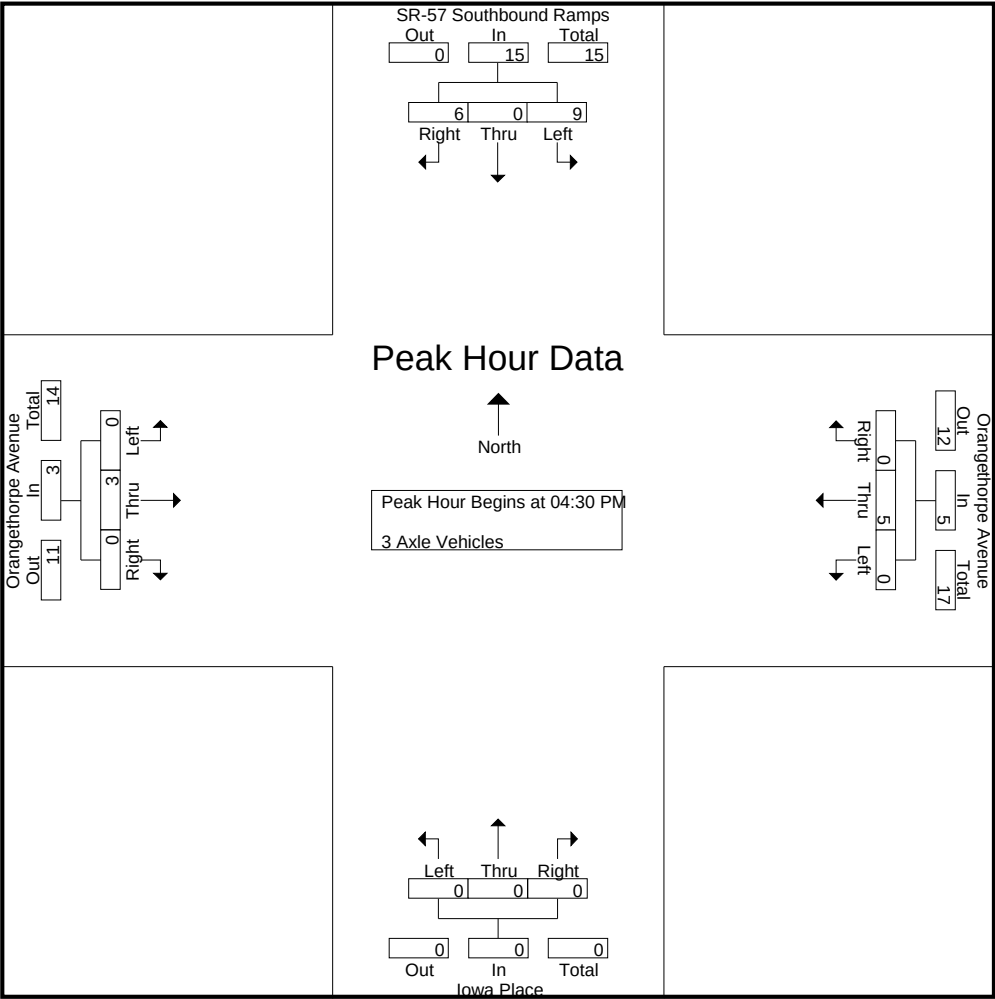
Groups Printed- 3 Axle Vehicles

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	1	1	0	1	1	2	0	0	0	0	0	2	0	2	5
03:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:30 PM	0	0	1	1	0	2	0	2	0	0	0	0	0	1	0	1	4
03:45 PM	1	0	0	1	0	1	0	1	0	0	0	0	0	4	0	4	6
Total	2	0	2	4	0	4	1	5	0	0	0	0	0	7	0	7	16
04:00 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	1	0	1	3
04:15 PM	2	0	1	3	0	1	0	1	0	0	0	0	0	0	0	0	4
04:30 PM	4	0	2	6	0	1	0	1	0	0	0	0	0	1	0	1	8
04:45 PM	0	0	3	3	0	1	0	1	0	0	0	0	0	1	0	1	5
Total	6	0	7	13	0	4	0	4	0	0	0	0	0	3	0	3	20
05:00 PM	1	0	1	2	0	1	0	1	0	0	0	0	0	1	0	1	4
05:15 PM	4	0	0	4	0	2	0	2	0	0	0	0	0	0	0	0	6
05:30 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	4	0	4	6
05:45 PM	2	0	1	3	0	1	0	1	0	0	0	0	0	6	0	6	10
Total	7	0	3	10	0	5	0	5	0	0	0	0	0	11	0	11	26
06:00 PM	2	0	0	2	0	1	0	1	0	0	0	0	0	2	0	2	5
06:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
06:45 PM	0	0	2	2	0	1	0	1	0	0	0	0	0	0	0	0	3
Total	3	0	2	5	0	2	0	2	0	0	0	0	0	3	0	3	10
Grand Total	18	0	14	32	0	15	1	16	0	0	0	0	0	24	0	24	72
Apprch %	56.2	0	43.8		0	93.8	6.2		0	0	0		0	100	0		
Total %	25	0	19.4	44.4	0	20.8	1.4	22.2	0	0	0	0	0	33.3	0	33.3	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	4	0	2	6	0	1	0	1	0	0	0	0	0	1	0	1	8
04:45 PM	0	0	3	3	0	1	0	1	0	0	0	0	0	1	0	1	5
05:00 PM	1	0	1	2	0	1	0	1	0	0	0	0	0	1	0	1	4
05:15 PM	4	0	0	4	0	2	0	2	0	0	0	0	0	0	0	0	6
Total Volume	9	0	6	15	0	5	0	5	0	0	0	0	0	3	0	3	23
% App. Total	60	0	40		0	100	0		0	0	0		0	100	0		
PHF	.563	.000	.500	.625	.000	.625	.000	.625	.000	.000	.000	.000	.000	.750	.000	.750	.719

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	4	0	2	6	0	1	0	1	0	0	0	0	0	1	0	1
+15 mins.	0	0	3	3	0	1	0	1	0	0	0	0	0	1	0	1
+30 mins.	1	0	1	2	0	1	0	1	0	0	0	0	0	1	0	1
+45 mins.	4	0	0	4	0	2	0	2	0	0	0	0	0	0	0	0
Total Volume	9	0	6	15	0	5	0	5	0	0	0	0	0	3	0	3
% App. Total	60	0	40		0	100	0		0	0	0		0	100	0	
PHF	.563	.000	.500	.625	.000	.625	.000	.625	.000	.000	.000	.000	.000	.750	.000	.750

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

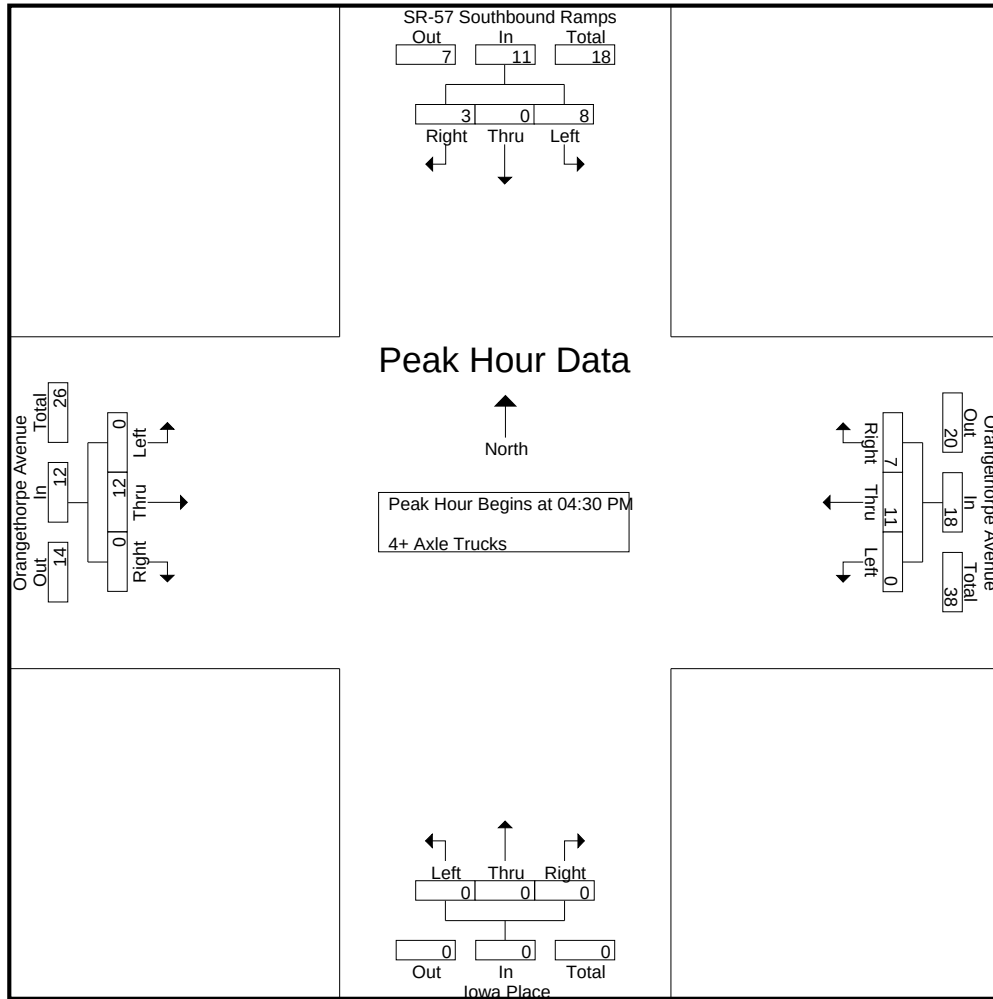
Groups Printed- 4+ Axle Trucks

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	4	0	3	7	0	3	0	3	0	0	0	0	0	3	0	3	13
03:15 PM	3	0	2	5	0	1	0	1	0	0	0	0	1	1	0	2	8
03:30 PM	7	0	1	8	0	1	1	2	0	0	0	0	0	3	0	3	13
03:45 PM	1	0	0	1	0	0	1	1	0	0	0	0	0	2	0	2	4
Total	15	0	6	21	0	5	2	7	0	0	0	0	1	9	0	10	38
04:00 PM	6	0	1	7	0	1	0	1	0	0	0	0	0	3	0	3	11
04:15 PM	5	0	1	6	0	1	1	2	0	0	0	0	2	3	0	5	13
04:30 PM	1	0	3	4	0	4	1	5	0	0	0	0	0	5	0	5	14
04:45 PM	4	0	0	4	0	3	2	5	0	0	0	0	0	4	0	4	13
Total	16	0	5	21	0	9	4	13	0	0	0	0	2	15	0	17	51
05:00 PM	1	0	0	1	0	2	1	3	0	0	0	0	0	1	0	1	5
05:15 PM	2	0	0	2	0	2	3	5	0	0	0	0	0	2	0	2	9
05:30 PM	5	0	2	7	1	3	2	6	0	0	0	0	1	4	0	5	18
05:45 PM	3	0	1	4	0	2	0	2	0	0	0	0	0	2	0	2	8
Total	11	0	3	14	1	9	6	16	0	0	0	0	1	9	0	10	40
06:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	1	3	0	4	5
06:15 PM	0	0	2	2	0	0	0	0	0	0	0	0	0	2	0	2	4
06:30 PM	3	0	2	5	0	0	0	0	0	0	0	0	0	5	0	5	10
06:45 PM	2	0	1	3	0	0	0	0	0	0	0	0	0	1	0	1	4
Total	5	0	5	10	0	1	0	1	0	0	0	0	1	11	0	12	23
Grand Total	47	0	19	66	1	24	12	37	0	0	0	0	5	44	0	49	152
Apprch %	71.2	0	28.8		2.7	64.9	32.4		0	0	0		10.2	89.8	0		
Total %	30.9	0	12.5	43.4	0.7	15.8	7.9	24.3	0	0	0	0	3.3	28.9	0	32.2	

	SR-57 Southbound Ramps Southbound				Orangethorpe Avenue Westbound				Iowa Place Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	1	0	3	4	0	4	1	5	0	0	0	0	0	5	0	5	14
04:45 PM	4	0	0	4	0	3	2	5	0	0	0	0	0	4	0	4	13
05:00 PM	1	0	0	1	0	2	1	3	0	0	0	0	0	1	0	1	5
05:15 PM	2	0	0	2	0	2	3	5	0	0	0	0	0	2	0	2	9
Total Volume	8	0	3	11	0	11	7	18	0	0	0	0	0	12	0	12	41
% App. Total	72.7	0	27.3		0	61.1	38.9		0	0	0		0	100	0		
PHF	.500	.000	.250	.688	.000	.688	.583	.900	.000	.000	.000	.000	.000	.600	.000	.600	.732

City of Placentia
N/S: SR-57 Southbound Ramps/Iowa Place
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 02_PLA_57S_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	1	0	3	4	0	4	1	5	0	0	0	0	0	5	0	5
+15 mins.	4	0	0	4	0	3	2	5	0	0	0	0	0	4	0	4
+30 mins.	1	0	0	1	0	2	1	3	0	0	0	0	0	1	0	1
+45 mins.	2	0	0	2	0	2	3	5	0	0	0	0	0	2	0	2
Total Volume	8	0	3	11	0	11	7	18	0	0	0	0	0	12	0	12
% App. Total	72.7	0	27.3		0	61.1	38.9		0	0	0		0	100	0	
PHF	.500	.000	.250	.688	.000	.688	.583	.900	.000	.000	.000	.000	.000	.600	.000	.600

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_Place_OT Tues AM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 1

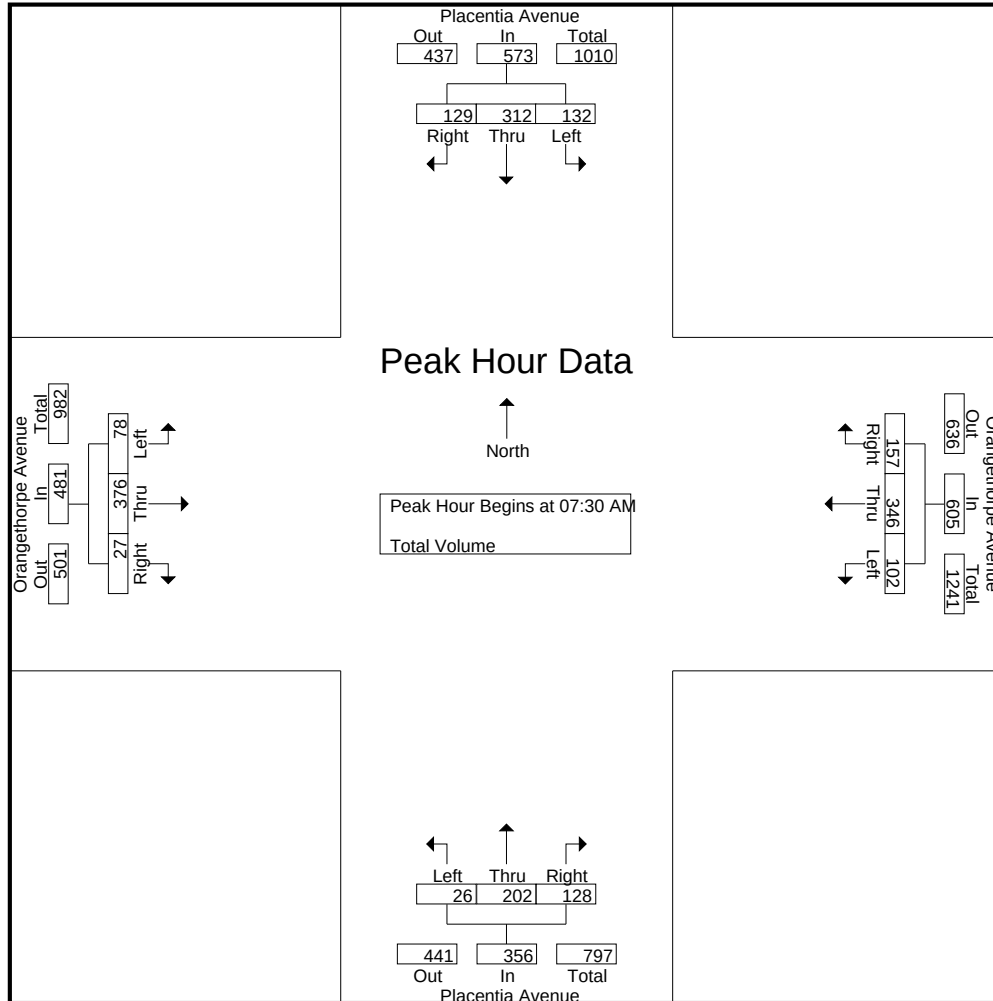
Groups Printed- Total Volume

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	21	22	17	60	14	31	25	70	3	12	15	30	12	29	5	46	206
06:15 AM	22	29	9	60	18	43	25	86	5	16	14	35	12	45	5	62	243
06:30 AM	22	21	13	56	16	51	28	95	8	19	17	44	10	40	3	53	248
06:45 AM	20	40	20	80	10	55	36	101	4	24	25	53	15	78	6	99	333
Total	85	112	59	256	58	180	114	352	20	71	71	162	49	192	19	260	1030
07:00 AM	17	54	27	98	17	65	25	107	2	35	21	58	17	69	10	96	359
07:15 AM	26	62	25	113	12	64	26	102	3	41	19	63	13	98	7	118	396
07:30 AM	32	106	27	165	23	87	32	142	4	42	41	87	14	104	5	123	517
07:45 AM	38	81	37	156	25	104	36	165	6	53	31	90	19	108	7	134	545
Total	113	303	116	532	77	320	119	516	15	171	112	298	63	379	29	471	1817
08:00 AM	27	59	25	111	32	75	41	148	6	55	19	80	21	86	7	114	453
08:15 AM	35	66	40	141	22	80	48	150	10	52	37	99	24	78	8	110	500
08:30 AM	33	97	49	179	15	71	51	137	5	39	21	65	30	70	11	111	492
08:45 AM	42	74	30	146	19	100	60	179	5	55	16	76	15	77	5	97	498
Total	137	296	144	577	88	326	200	614	26	201	93	320	90	311	31	432	1943
Grand Total	335	711	319	1365	223	826	433	1482	61	443	276	780	202	882	79	1163	4790
Apprch %	24.5	52.1	23.4		15	55.7	29.2		7.8	56.8	35.4		17.4	75.8	6.8		
Total %	7	14.8	6.7	28.5	4.7	17.2	9	30.9	1.3	9.2	5.8	16.3	4.2	18.4	1.6	24.3	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	32	106	27	165	23	87	32	142	4	42	41	87	14	104	5	123	517
07:45 AM	38	81	37	156	25	104	36	165	6	53	31	90	19	108	7	134	545
08:00 AM	27	59	25	111	32	75	41	148	6	55	19	80	21	86	7	114	453
08:15 AM	35	66	40	141	22	80	48	150	10	52	37	99	24	78	8	110	500
Total Volume	132	312	129	573	102	346	157	605	26	202	128	356	78	376	27	481	2015
% App. Total	23	54.5	22.5		16.9	57.2	26		7.3	56.7	36		16.2	78.2	5.6		
PHF	.868	.736	.806	.868	.797	.832	.818	.917	.650	.918	.780	.899	.813	.870	.844	.897	.924

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_Place_OT Tues AM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 2



Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				08:00 AM				07:30 AM				07:15 AM			
+0 mins.	38	81	37	156	32	75	41	148	4	42	41	87	13	98	7	118
+15 mins.	27	59	25	111	22	80	48	150	6	53	31	90	14	104	5	123
+30 mins.	35	66	40	141	15	71	51	137	6	55	19	80	19	108	7	134
+45 mins.	33	97	49	179	19	100	60	179	10	52	37	99	21	86	7	114
Total Volume	133	303	151	587	88	326	200	614	26	202	128	356	67	396	26	489
% App. Total	22.7	51.6	25.7		14.3	53.1	32.6		7.3	56.7	36		13.7	81	5.3	
PHF	.875	.781	.770	.820	.688	.815	.833	.858	.650	.918	.780	.899	.798	.917	.929	.912

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_Place_OT Tues PM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 1

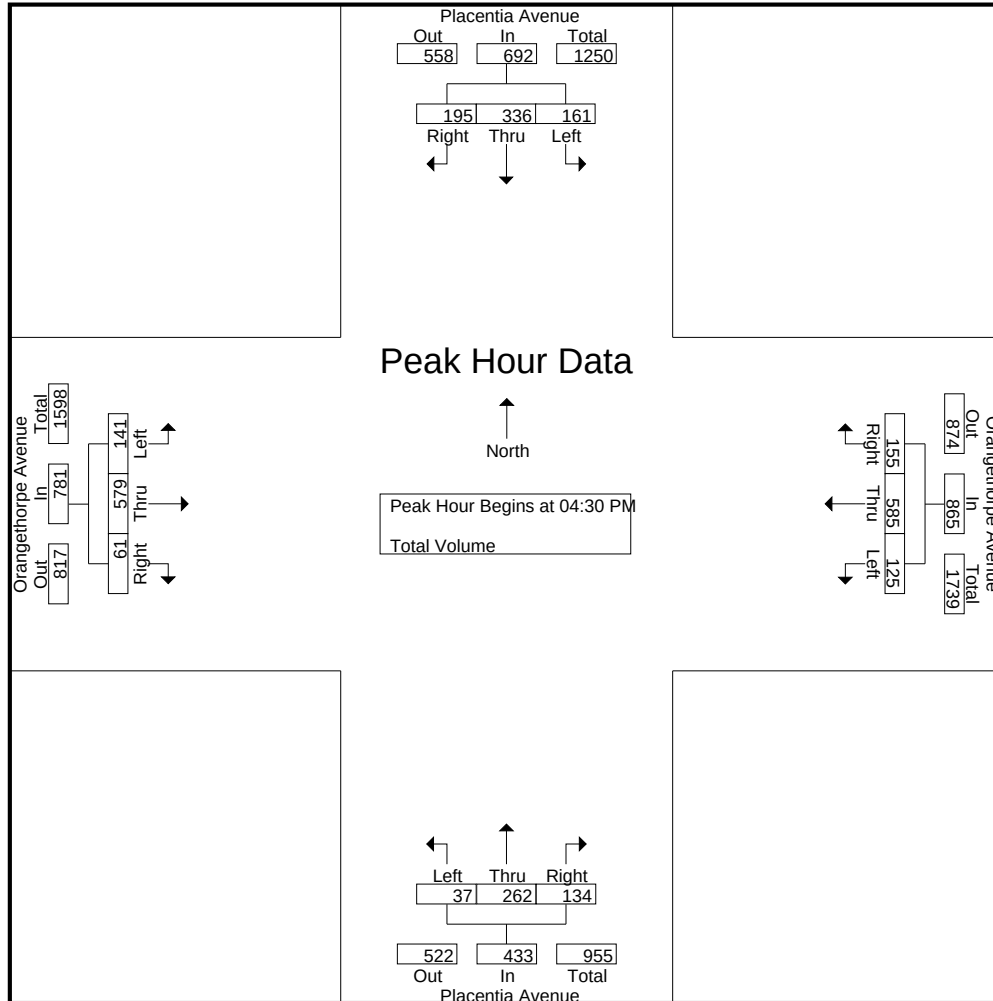
Groups Printed- Total Volume

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	59	80	43	182	35	110	30	175	12	42	41	95	24	141	21	186	638
03:15 PM	33	62	34	129	32	105	37	174	14	53	21	88	33	152	9	194	585
03:30 PM	52	98	49	199	43	118	47	208	8	58	29	95	45	165	14	224	726
03:45 PM	46	81	49	176	32	150	42	224	10	44	35	89	25	162	7	194	683
Total	190	321	175	686	142	483	156	781	44	197	126	367	127	620	51	798	2632
04:00 PM	45	83	51	179	33	115	37	185	5	55	38	98	32	186	17	235	697
04:15 PM	42	73	55	170	31	132	54	217	9	48	33	90	38	134	15	187	664
04:30 PM	45	83	48	176	33	116	43	192	9	56	41	106	35	158	11	204	678
04:45 PM	29	80	41	150	38	146	33	217	11	68	33	112	30	134	22	186	665
Total	161	319	195	675	135	509	167	811	34	227	145	406	135	612	65	812	2704
05:00 PM	48	72	54	174	35	153	37	225	9	77	34	120	41	166	10	217	736
05:15 PM	39	101	52	192	19	170	42	231	8	61	26	95	35	121	18	174	692
05:30 PM	46	64	62	172	46	148	38	232	6	57	29	92	30	133	14	177	673
05:45 PM	35	85	49	169	31	124	32	187	11	61	17	89	27	107	7	141	586
Total	168	322	217	707	131	595	149	875	34	256	106	396	133	527	49	709	2687
06:00 PM	34	75	51	160	25	102	34	161	4	57	13	74	38	106	13	157	552
06:15 PM	34	69	40	143	24	86	30	140	5	50	18	73	20	94	9	123	479
06:30 PM	29	60	22	111	25	65	35	125	6	39	13	58	25	68	11	104	398
06:45 PM	45	58	28	131	14	76	45	135	9	62	12	83	25	65	8	98	447
Total	142	262	141	545	88	329	144	561	24	208	56	288	108	333	41	482	1876
Grand Total	661	1224	728	2613	496	1916	616	3028	136	888	433	1457	503	2092	206	2801	9899
Apprch %	25.3	46.8	27.9		16.4	63.3	20.3		9.3	60.9	29.7		18	74.7	7.4		
Total %	6.7	12.4	7.4	26.4	5	19.4	6.2	30.6	1.4	9	4.4	14.7	5.1	21.1	2.1	28.3	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	45	83	48	176	33	116	43	192	9	56	41	106	35	158	11	204	678
04:45 PM	29	80	41	150	38	146	33	217	11	68	33	112	30	134	22	186	665
05:00 PM	48	72	54	174	35	153	37	225	9	77	34	120	41	166	10	217	736
05:15 PM	39	101	52	192	19	170	42	231	8	61	26	95	35	121	18	174	692
Total Volume	161	336	195	692	125	585	155	865	37	262	134	433	141	579	61	781	2771
% App. Total	23.3	48.6	28.2		14.5	67.6	17.9		8.5	60.5	30.9		18.1	74.1	7.8		
PHF	.839	.832	.903	.901	.822	.860	.901	.936	.841	.851	.817	.902	.860	.872	.693	.900	.941

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_Place_OT Tues PM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 2



Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:30 PM				04:45 PM				04:30 PM				03:15 PM			
+0 mins.	52	98	49	199	38	146	33	217	9	56	41	106	33	152	9	194
+15 mins.	46	81	49	176	35	153	37	225	11	68	33	112	45	165	14	224
+30 mins.	45	83	51	179	19	170	42	231	9	77	34	120	25	162	7	194
+45 mins.	42	73	55	170	46	148	38	232	8	61	26	95	32	186	17	235
Total Volume	185	335	204	724	138	617	150	905	37	262	134	433	135	665	47	847
% App. Total	25.6	46.3	28.2		15.2	68.2	16.6		8.5	60.5	30.9		15.9	78.5	5.5	
PHF	.889	.855	.927	.910	.750	.907	.893	.975	.841	.851	.817	.902	.750	.894	.691	.901

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_Place_OT Wed AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

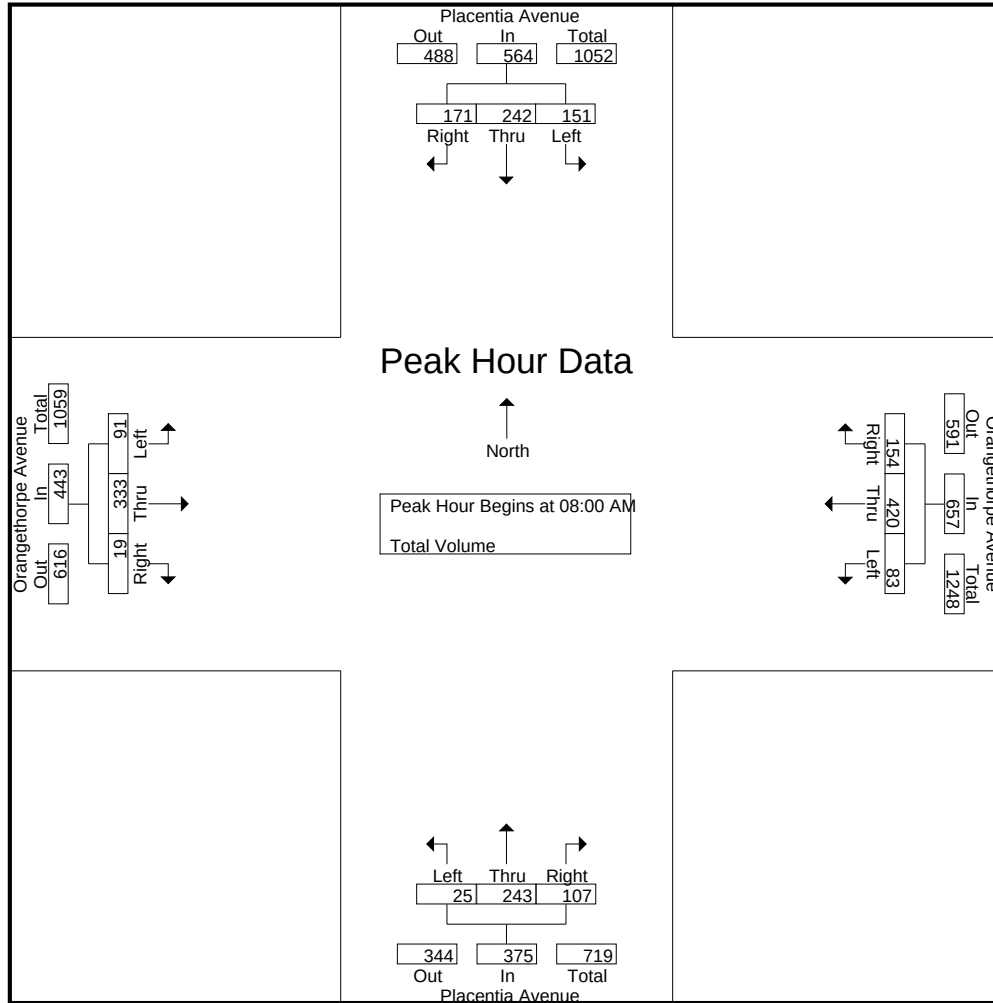
Groups Printed- Total Volume

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	22	18	9	49	17	39	20	76	3	17	11	31	11	38	1	50	206
06:15 AM	14	17	15	46	15	45	35	95	1	24	13	38	10	37	2	49	228
06:30 AM	16	18	8	42	10	52	25	87	7	18	16	41	11	46	6	63	233
06:45 AM	20	37	20	77	13	54	32	99	4	24	22	50	12	73	6	91	317
Total	72	90	52	214	55	190	112	357	15	83	62	160	44	194	15	253	984
07:00 AM	31	54	17	102	13	60	24	97	2	16	18	36	17	51	14	82	317
07:15 AM	20	38	26	84	11	74	22	107	3	29	22	54	19	94	4	117	362
07:30 AM	24	84	23	131	19	66	29	114	4	51	29	84	18	97	8	123	452
07:45 AM	28	82	40	150	28	105	51	184	7	40	29	76	21	118	7	146	556
Total	103	258	106	467	71	305	126	502	16	136	98	250	75	360	33	468	1687
08:00 AM	30	68	36	134	20	83	31	134	6	46	25	77	21	76	5	102	447
08:15 AM	36	64	33	133	20	103	41	164	6	60	29	95	27	72	3	102	494
08:30 AM	40	54	42	136	16	95	47	158	4	59	28	91	19	94	5	118	503
08:45 AM	45	56	60	161	27	139	35	201	9	78	25	112	24	91	6	121	595
Total	151	242	171	564	83	420	154	657	25	243	107	375	91	333	19	443	2039
Grand Total	326	590	329	1245	209	915	392	1516	56	462	267	785	210	887	67	1164	4710
Apprch %	26.2	47.4	26.4		13.8	60.4	25.9		7.1	58.9	34		18	76.2	5.8		
Total %	6.9	12.5	7	26.4	4.4	19.4	8.3	32.2	1.2	9.8	5.7	16.7	4.5	18.8	1.4	24.7	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	30	68	36	134	20	83	31	134	6	46	25	77	21	76	5	102	447
08:15 AM	36	64	33	133	20	103	41	164	6	60	29	95	27	72	3	102	494
08:30 AM	40	54	42	136	16	95	47	158	4	59	28	91	19	94	5	118	503
08:45 AM	45	56	60	161	27	139	35	201	9	78	25	112	24	91	6	121	595
Total Volume	151	242	171	564	83	420	154	657	25	243	107	375	91	333	19	443	2039
% App. Total	26.8	42.9	30.3		12.6	63.9	23.4		6.7	64.8	28.5		20.5	75.2	4.3		
PHF	.839	.890	.713	.876	.769	.755	.819	.817	.694	.779	.922	.837	.843	.886	.792	.915	.857

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

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Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				07:15 AM			
+0 mins.	30	68	36	134	20	83	31	134	6	46	25	77	19	94	4	117
+15 mins.	36	64	33	133	20	103	41	164	6	60	29	95	18	97	8	123
+30 mins.	40	54	42	136	16	95	47	158	4	59	28	91	21	118	7	146
+45 mins.	45	56	60	161	27	139	35	201	9	78	25	112	21	76	5	102
Total Volume	151	242	171	564	83	420	154	657	25	243	107	375	79	385	24	488
% App. Total	26.8	42.9	30.3		12.6	63.9	23.4		6.7	64.8	28.5		16.2	78.9	4.9	
PHF	.839	.890	.713	.876	.769	.755	.819	.817	.694	.779	.922	.837	.940	.816	.750	.836

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_Place_OT Wed PM
Site Code : 10524081
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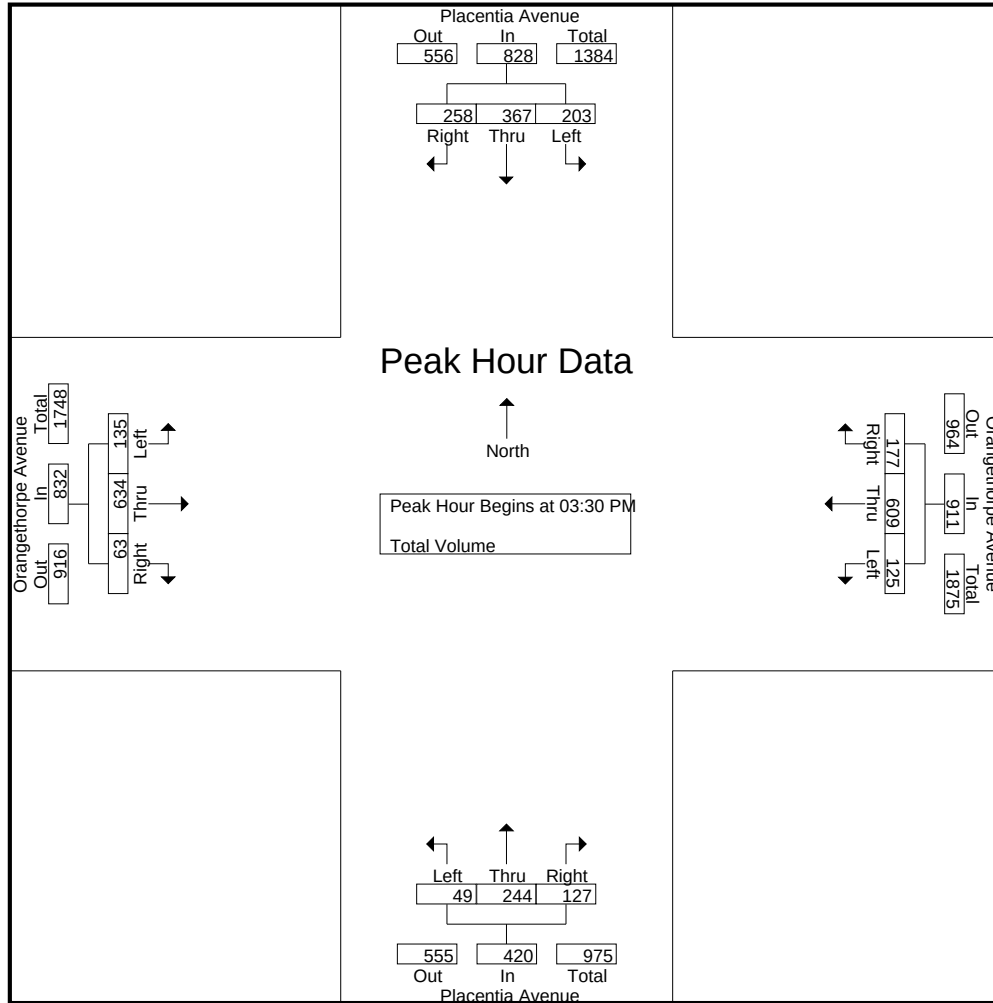
Groups Printed- Total Volume

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	52	92	43	187	26	90	57	173	9	50	23	82	31	121	14	166	608
03:15 PM	50	63	43	156	30	125	50	205	16	48	24	88	43	118	16	177	626
03:30 PM	57	101	63	221	26	183	49	258	7	55	37	99	32	186	19	237	815
03:45 PM	38	74	56	168	29	133	43	205	17	68	24	109	26	141	15	182	664
Total	197	330	205	732	111	531	199	841	49	221	108	378	132	566	64	762	2713
04:00 PM	56	101	65	222	33	144	36	213	12	57	31	100	40	165	15	220	755
04:15 PM	52	91	74	217	37	149	49	235	13	64	35	112	37	142	14	193	757
04:30 PM	43	63	44	150	31	152	35	218	10	73	31	114	27	184	15	226	708
04:45 PM	42	71	62	175	31	192	47	270	13	65	37	115	44	123	10	177	737
Total	193	326	245	764	132	637	167	936	48	259	134	441	148	614	54	816	2957
05:00 PM	45	96	65	206	40	127	51	218	4	66	35	105	46	166	20	232	761
05:15 PM	47	90	66	203	34	167	45	246	12	71	25	108	41	132	9	182	739
05:30 PM	49	93	66	208	29	139	41	209	4	74	25	103	38	146	21	205	725
05:45 PM	42	69	68	179	31	153	46	230	13	45	15	73	32	113	11	156	638
Total	183	348	265	796	134	586	183	903	33	256	100	389	157	557	61	775	2863
06:00 PM	51	72	50	173	24	115	30	169	7	59	24	90	39	119	14	172	604
06:15 PM	37	64	38	139	16	80	32	128	7	61	17	85	24	91	13	128	480
06:30 PM	35	67	37	139	21	86	30	137	6	61	22	89	27	78	8	113	478
06:45 PM	39	54	34	127	19	68	38	125	15	49	21	85	29	82	8	119	456
Total	162	257	159	578	80	349	130	559	35	230	84	349	119	370	43	532	2018
Grand Total	735	1261	874	2870	457	2103	679	3239	165	966	426	1557	556	2107	222	2885	10551
Apprch %	25.6	43.9	30.5		14.1	64.9	21		10.6	62	27.4		19.3	73	7.7		
Total %	7	12	8.3	27.2	4.3	19.9	6.4	30.7	1.6	9.2	4	14.8	5.3	20	2.1	27.3	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	57	101	63	221	26	183	49	258	7	55	37	99	32	186	19	237	815
03:45 PM	38	74	56	168	29	133	43	205	17	68	24	109	26	141	15	182	664
04:00 PM	56	101	65	222	33	144	36	213	12	57	31	100	40	165	15	220	755
04:15 PM	52	91	74	217	37	149	49	235	13	64	35	112	37	142	14	193	757
Total Volume	203	367	258	828	125	609	177	911	49	244	127	420	135	634	63	832	2991
% App. Total	24.5	44.3	31.2		13.7	66.8	19.4		11.7	58.1	30.2		16.2	76.2	7.6		
PHF	.890	.908	.872	.932	.845	.832	.903	.883	.721	.897	.858	.938	.844	.852	.829	.878	.917

City of Placentia
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Weather: Clear

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Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:30 PM				04:30 PM				04:15 PM				03:30 PM			
+0 mins.	57	101	63	221	31	152	35	218	13	64	35	112	32	186	19	237
+15 mins.	38	74	56	168	31	192	47	270	10	73	31	114	26	141	15	182
+30 mins.	56	101	65	222	40	127	51	218	13	65	37	115	40	165	15	220
+45 mins.	52	91	74	217	34	167	45	246	4	66	35	105	37	142	14	193
Total Volume	203	367	258	828	136	638	178	952	40	268	138	446	135	634	63	832
% App. Total	24.5	44.3	31.2		14.3	67	18.7		9	60.1	30.9		16.2	76.2	7.6	
PHF	.890	.908	.872	.932	.850	.831	.873	.881	.769	.918	.932	.970	.844	.852	.829	.878

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_Place_OT Thu AM
Site Code : 10524081
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Page No : 1

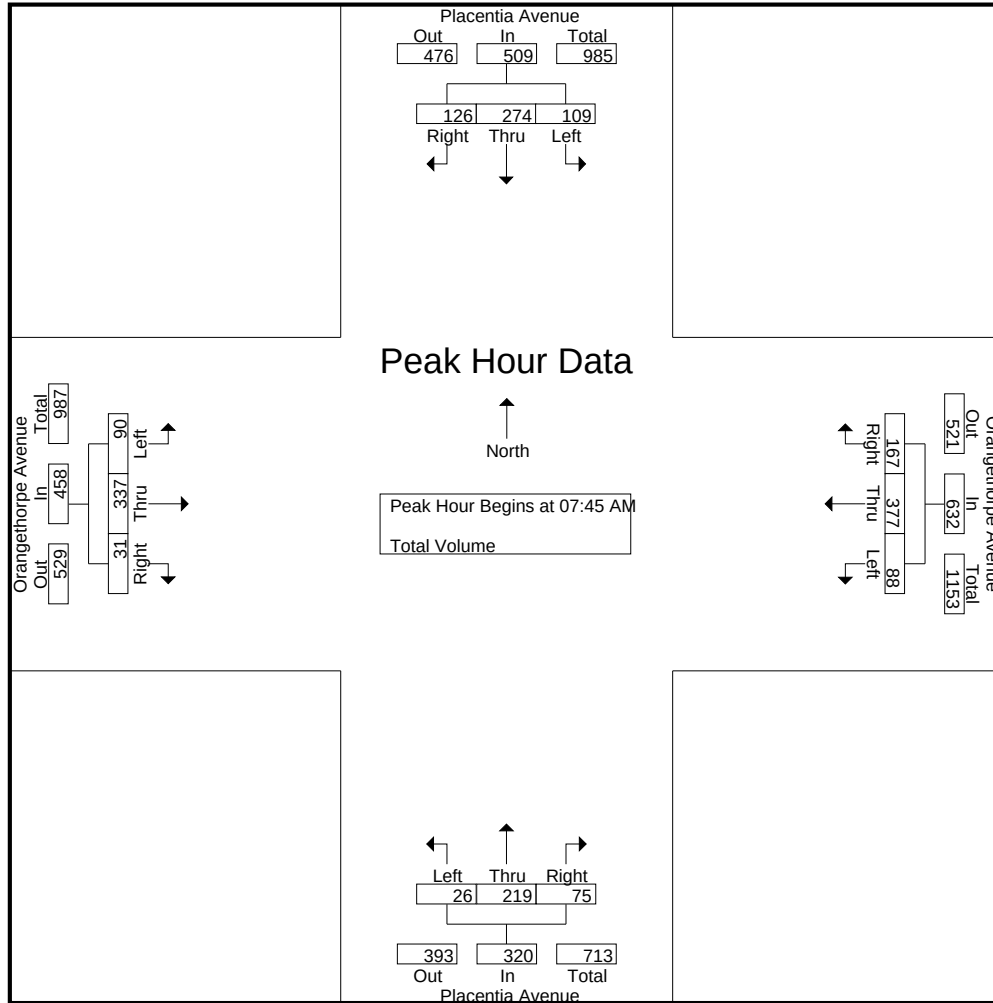
Groups Printed- Total Volume

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	12	14	15	41	13	68	19	100	4	13	11	28	10	24	8	42	211
06:15 AM	16	22	8	46	9	39	26	74	1	26	4	31	7	36	3	46	197
06:30 AM	27	17	18	62	21	52	22	95	8	21	9	38	14	40	6	60	255
06:45 AM	10	34	16	60	12	56	26	94	3	17	18	38	15	60	4	79	271
Total	65	87	57	209	55	215	93	363	16	77	42	135	46	160	21	227	934
07:00 AM	25	45	21	91	10	49	22	81	4	26	21	51	11	67	10	88	311
07:15 AM	24	48	24	96	17	63	22	102	6	30	32	68	16	90	9	115	381
07:30 AM	17	79	34	130	19	84	24	127	6	43	20	69	11	78	2	91	417
07:45 AM	21	68	20	109	24	97	37	158	9	46	17	72	18	91	7	116	455
Total	87	240	99	426	70	293	105	468	25	145	90	260	56	326	28	410	1564
08:00 AM	34	63	27	124	23	94	34	151	5	67	26	98	25	87	6	118	491
08:15 AM	25	72	50	147	21	85	50	156	6	58	13	77	23	67	7	97	477
08:30 AM	29	71	29	129	20	101	46	167	6	48	19	73	24	92	11	127	496
08:45 AM	27	52	41	120	22	92	35	149	4	40	10	54	15	77	5	97	420
Total	115	258	147	520	86	372	165	623	21	213	68	302	87	323	29	439	1884
Grand Total	267	585	303	1155	211	880	363	1454	62	435	200	697	189	809	78	1076	4382
Apprch %	23.1	50.6	26.2		14.5	60.5	25		8.9	62.4	28.7		17.6	75.2	7.2		
Total %	6.1	13.4	6.9	26.4	4.8	20.1	8.3	33.2	1.4	9.9	4.6	15.9	4.3	18.5	1.8	24.6	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	21	68	20	109	24	97	37	158	9	46	17	72	18	91	7	116	455
08:00 AM	34	63	27	124	23	94	34	151	5	67	26	98	25	87	6	118	491
08:15 AM	25	72	50	147	21	85	50	156	6	58	13	77	23	67	7	97	477
08:30 AM	29	71	29	129	20	101	46	167	6	48	19	73	24	92	11	127	496
Total Volume	109	274	126	509	88	377	167	632	26	219	75	320	90	337	31	458	1919
% App. Total	21.4	53.8	24.8		13.9	59.7	26.4		8.1	68.4	23.4		19.7	73.6	6.8		
PHF	.801	.951	.630	.866	.917	.933	.835	.946	.722	.817	.721	.816	.900	.916	.705	.902	.967

City of Placentia
N/S: Placentia Avenue
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Weather: Clear

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Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	34	63	27	124	24	97	37	158	9	46	17	72	18	91	7	116
+15 mins.	25	72	50	147	23	94	34	151	5	67	26	98	25	87	6	118
+30 mins.	29	71	29	129	21	85	50	156	6	58	13	77	23	67	7	97
+45 mins.	27	52	41	120	20	101	46	167	6	48	19	73	24	92	11	127
Total Volume	115	258	147	520	88	377	167	632	26	219	75	320	90	337	31	458
% App. Total	22.1	49.6	28.3		13.9	59.7	26.4		8.1	68.4	23.4		19.7	73.6	6.8	
PHF	.846	.896	.735	.884	.917	.933	.835	.946	.722	.817	.721	.816	.900	.916	.705	.902

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_Place_OT Thu PM
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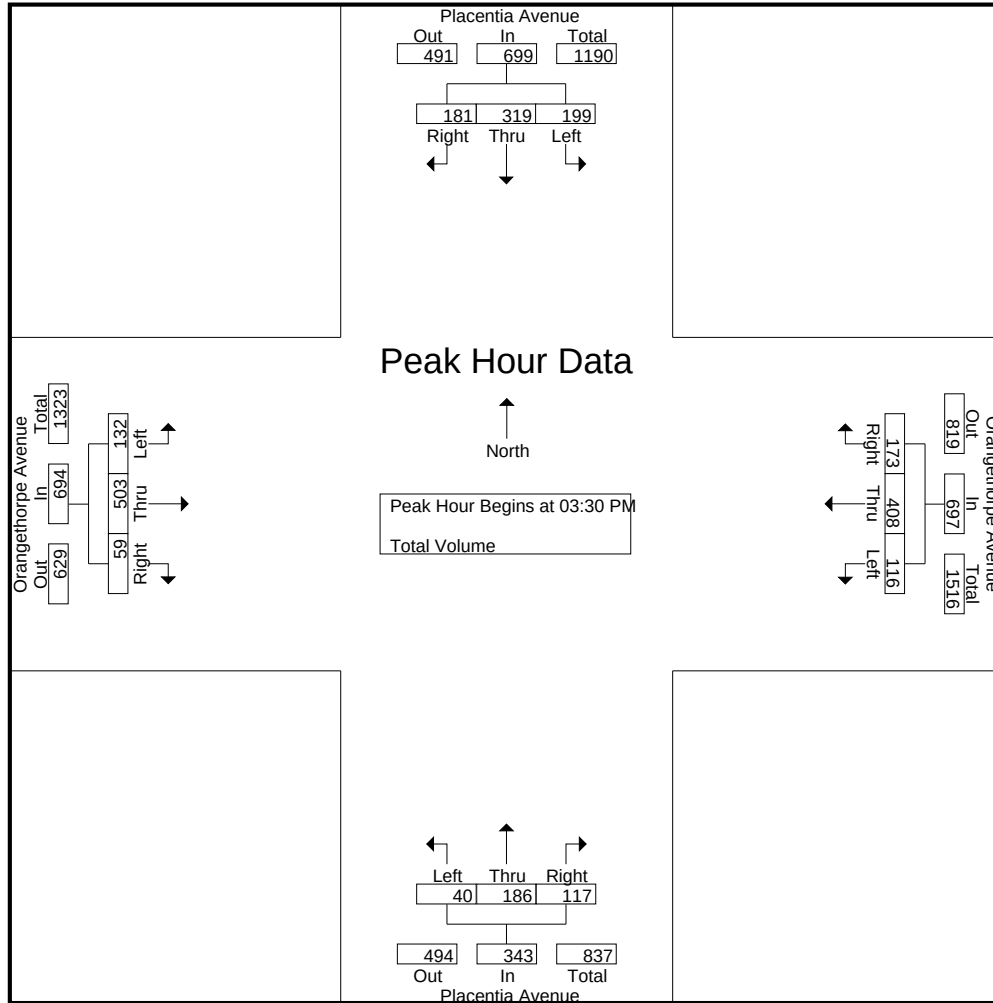
Groups Printed- Total Volume

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	55	62	30	147	28	79	43	150	12	53	20	85	26	135	15	176	558
03:15 PM	54	54	36	144	26	100	48	174	3	45	19	67	34	100	8	142	527
03:30 PM	49	93	54	196	31	95	42	168	9	50	24	83	36	117	14	167	614
03:45 PM	54	75	40	169	33	119	38	190	11	38	34	83	28	126	17	171	613
Total	212	284	160	656	118	393	171	682	35	186	97	318	124	478	54	656	2312
04:00 PM	54	74	46	174	21	107	45	173	12	50	30	92	37	137	17	191	630
04:15 PM	42	77	41	160	31	87	48	166	8	48	29	85	31	123	11	165	576
04:30 PM	58	82	42	182	27	78	50	155	7	61	20	88	31	127	19	177	602
04:45 PM	40	71	44	155	24	102	31	157	7	79	22	108	33	114	12	159	579
Total	194	304	173	671	103	374	174	651	34	238	101	373	132	501	59	692	2387
05:00 PM	44	80	42	166	26	113	43	182	7	47	22	76	43	114	22	179	603
05:15 PM	65	83	43	191	24	102	54	180	7	62	20	89	31	136	7	174	634
05:30 PM	54	59	40	153	24	91	61	176	6	51	20	77	28	99	10	137	543
05:45 PM	47	72	38	157	24	93	49	166	11	67	21	99	29	83	6	118	540
Total	210	294	163	667	98	399	207	704	31	227	83	341	131	432	45	608	2320
06:00 PM	42	58	51	151	31	71	43	145	6	53	11	70	31	88	9	128	494
06:15 PM	38	69	33	140	14	74	40	128	8	35	15	58	27	65	14	106	432
06:30 PM	33	59	22	114	15	49	29	93	3	33	18	54	33	55	13	101	362
06:45 PM	32	57	22	111	16	48	26	90	8	39	11	58	23	53	7	83	342
Total	145	243	128	516	76	242	138	456	25	160	55	240	114	261	43	418	1630
Grand Total	761	1125	624	2510	395	1408	690	2493	125	811	336	1272	501	1672	201	2374	8649
Apprch %	30.3	44.8	24.9		15.8	56.5	27.7		9.8	63.8	26.4		21.1	70.4	8.5		
Total %	8.8	13	7.2	29	4.6	16.3	8	28.8	1.4	9.4	3.9	14.7	5.8	19.3	2.3	27.4	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	49	93	54	196	31	95	42	168	9	50	24	83	36	117	14	167	614
03:45 PM	54	75	40	169	33	119	38	190	11	38	34	83	28	126	17	171	613
04:00 PM	54	74	46	174	21	107	45	173	12	50	30	92	37	137	17	191	630
04:15 PM	42	77	41	160	31	87	48	166	8	48	29	85	31	123	11	165	576
Total Volume	199	319	181	699	116	408	173	697	40	186	117	343	132	503	59	694	2433
% App. Total	28.5	45.6	25.9		16.6	58.5	24.8		11.7	54.2	34.1		19	72.5	8.5		
PHF	.921	.858	.838	.892	.879	.857	.901	.917	.833	.930	.860	.932	.892	.918	.868	.908	.965

City of Placentia
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Weather: Clear

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Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:30 PM				03:15 PM				04:00 PM				03:45 PM			
+0 mins.	49	93	54	196	26	100	48	174	12	50	30	92	28	126	17	171
+15 mins.	54	75	40	169	31	95	42	168	8	48	29	85	37	137	17	191
+30 mins.	54	74	46	174	33	119	38	190	7	61	20	88	31	123	11	165
+45 mins.	42	77	41	160	21	107	45	173	7	79	22	108	31	127	19	177
Total Volume	199	319	181	699	111	421	173	705	34	238	101	373	127	513	64	704
% App. Total	28.5	45.6	25.9		15.7	59.7	24.5		9.1	63.8	27.1		18	72.9	9.1	
PHF	.921	.858	.838	.892	.841	.884	.901	.928	.708	.753	.842	.863	.858	.936	.842	.921

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED AM
Site Code : 10524081
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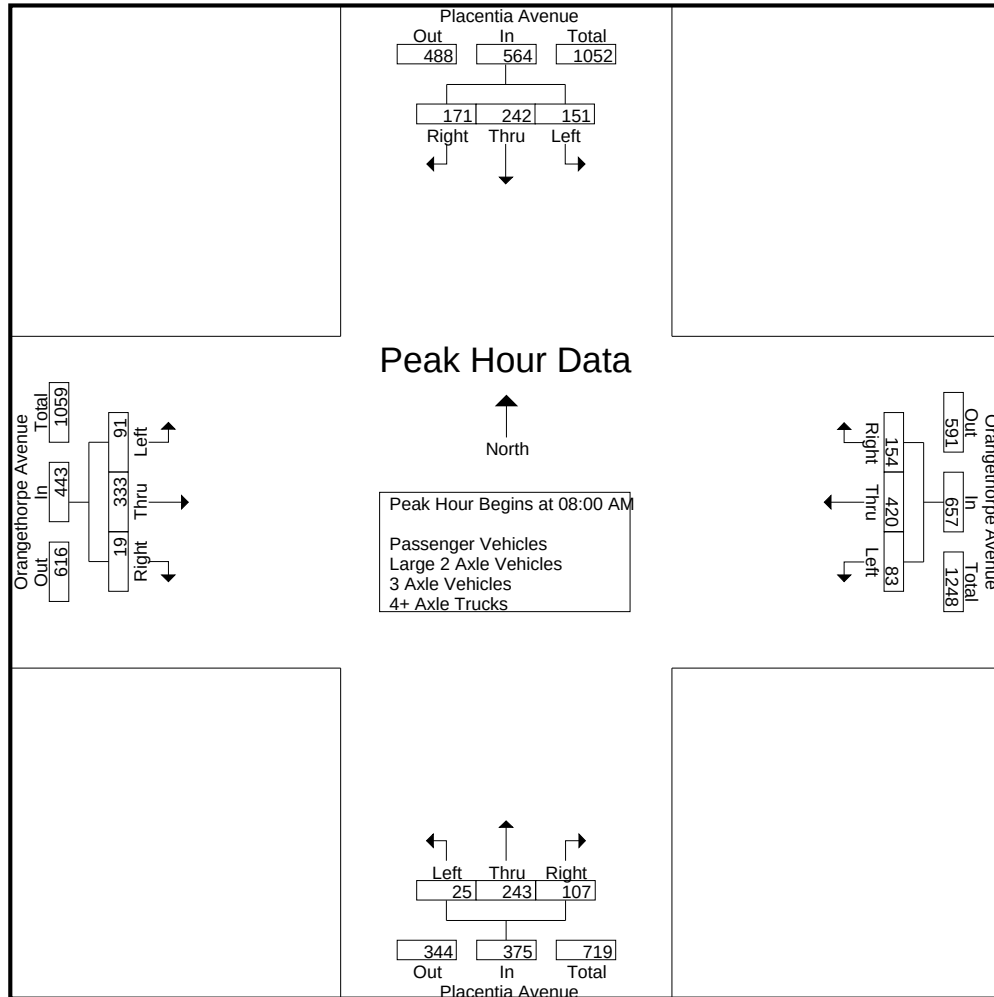
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	22	18	9	49	17	39	20	76	3	17	11	31	11	38	1	50	206
06:15 AM	14	17	15	46	15	45	35	95	1	24	13	38	10	37	2	49	228
06:30 AM	16	18	8	42	10	52	25	87	7	18	16	41	11	46	6	63	233
06:45 AM	20	37	20	77	13	54	32	99	4	24	22	50	12	73	6	91	317
Total	72	90	52	214	55	190	112	357	15	83	62	160	44	194	15	253	984
07:00 AM	31	54	17	102	13	60	24	97	2	16	18	36	17	51	14	82	317
07:15 AM	20	38	26	84	11	74	22	107	3	29	22	54	19	94	4	117	362
07:30 AM	24	84	23	131	19	66	29	114	4	51	29	84	18	97	8	123	452
07:45 AM	28	82	40	150	28	105	51	184	7	40	29	76	21	118	7	146	556
Total	103	258	106	467	71	305	126	502	16	136	98	250	75	360	33	468	1687
08:00 AM	30	68	36	134	20	83	31	134	6	46	25	77	21	76	5	102	447
08:15 AM	36	64	33	133	20	103	41	164	6	60	29	95	27	72	3	102	494
08:30 AM	40	54	42	136	16	95	47	158	4	59	28	91	19	94	5	118	503
08:45 AM	45	56	60	161	27	139	35	201	9	78	25	112	24	91	6	121	595
Total	151	242	171	564	83	420	154	657	25	243	107	375	91	333	19	443	2039
Grand Total	326	590	329	1245	209	915	392	1516	56	462	267	785	210	887	67	1164	4710
Apprch %	26.2	47.4	26.4		13.8	60.4	25.9		7.1	58.9	34		18	76.2	5.8		
Total %	6.9	12.5	7	26.4	4.4	19.4	8.3	32.2	1.2	9.8	5.7	16.7	4.5	18.8	1.4	24.7	
Passenger Vehicles	310	574	313	1197	198	829	383	1410	50	451	242	743	193	771	66	1030	4380
% Passenger Vehicles	95.1	97.3	95.1	96.1	94.7	90.6	97.7	93	89.3	97.6	90.6	94.6	91.9	86.9	98.5	88.5	93
Large 2 Axle Vehicles	9	14	8	31	9	39	0	48	2	11	20	33	9	60	1	70	182
% Large 2 Axle Vehicles	2.8	2.4	2.4	2.5	4.3	4.3	0	3.2	3.6	2.4	7.5	4.2	4.3	6.8	1.5	6	3.9
3 Axle Vehicles	2	0	5	7	1	12	2	15	4	0	3	7	4	16	0	20	49
% 3 Axle Vehicles	0.6	0	1.5	0.6	0.5	1.3	0.5	1	7.1	0	1.1	0.9	1.9	1.8	0	1.7	1
4+ Axle Trucks	5	2	3	10	1	35	7	43	0	0	2	2	4	40	0	44	99
% 4+ Axle Trucks	1.5	0.3	0.9	0.8	0.5	3.8	1.8	2.8	0	0	0.7	0.3	1.9	4.5	0	3.8	2.1

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	30	68	36	134	20	83	31	134	6	46	25	77	21	76	5	102	447
08:15 AM	36	64	33	133	20	103	41	164	6	60	29	95	27	72	3	102	494
08:30 AM	40	54	42	136	16	95	47	158	4	59	28	91	19	94	5	118	503
08:45 AM	45	56	60	161	27	139	35	201	9	78	25	112	24	91	6	121	595
Total Volume	151	242	171	564	83	420	154	657	25	243	107	375	91	333	19	443	2039
% App. Total	26.8	42.9	30.3		12.6	63.9	23.4		6.7	64.8	28.5		20.5	75.2	4.3		
PHF	.839	.890	.713	.876	.769	.755	.819	.817	.694	.779	.922	.837	.843	.886	.792	.915	.857

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED AM
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Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				07:15 AM			
+0 mins.	30	68	36	134	20	83	31	134	6	46	25	77	19	94	4	117
+15 mins.	36	64	33	133	20	103	41	164	6	60	29	95	18	97	8	123
+30 mins.	40	54	42	136	16	95	47	158	4	59	28	91	21	118	7	146
+45 mins.	45	56	60	161	27	139	35	201	9	78	25	112	21	76	5	102
Total Volume	151	242	171	564	83	420	154	657	25	243	107	375	79	385	24	488
% App. Total	26.8	42.9	30.3		12.6	63.9	23.4		6.7	64.8	28.5		16.2	78.9	4.9	
PHF	.839	.890	.713	.876	.769	.755	.819	.817	.694	.779	.922	.837	.940	.816	.750	.836

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED AM
Site Code : 10524081
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Page No : 1

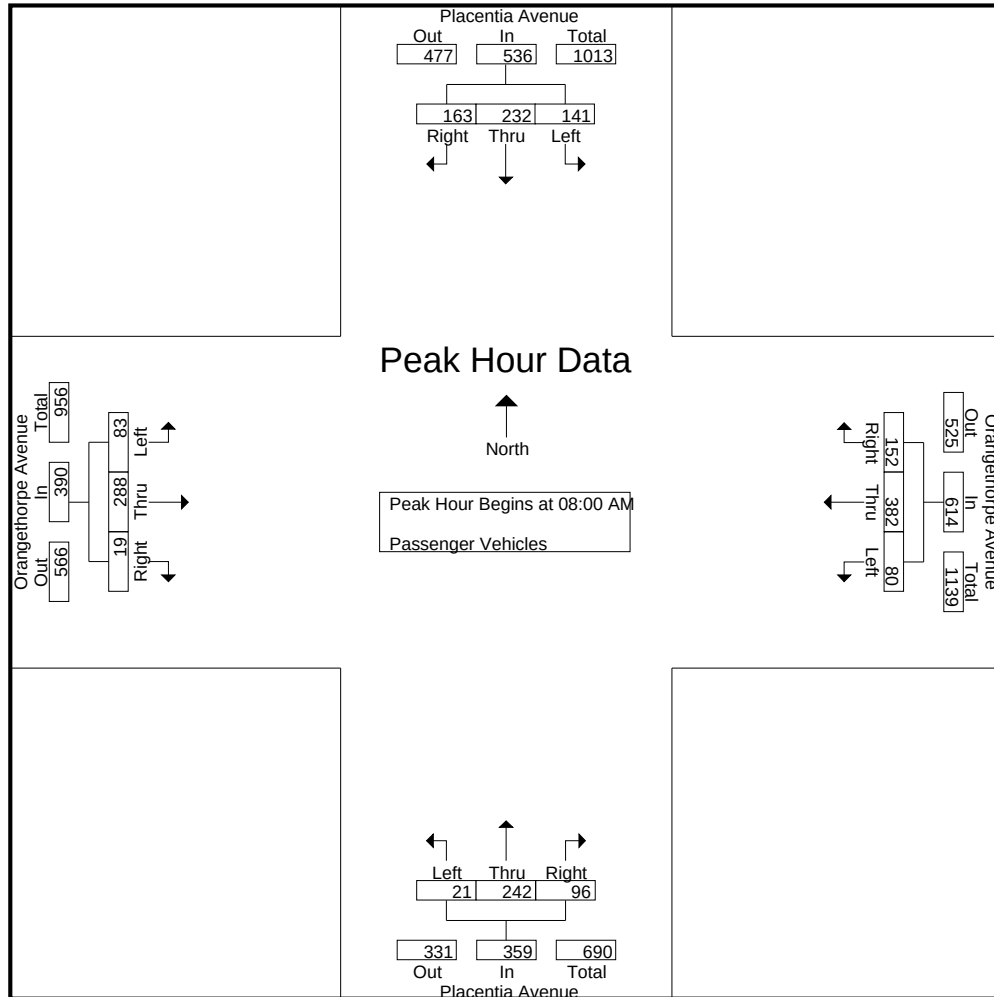
Groups Printed- Passenger Vehicles

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	21	17	7	45	17	35	20	72	3	17	10	30	10	33	1	44	191
06:15 AM	14	17	13	44	13	42	34	89	1	23	13	37	9	28	2	39	209
06:30 AM	14	18	8	40	10	46	25	81	6	18	15	39	10	40	6	56	216
06:45 AM	19	37	20	76	13	51	31	95	4	23	18	45	12	64	6	82	298
Total	68	89	48	205	53	174	110	337	14	81	56	151	41	165	15	221	914
07:00 AM	30	54	17	101	11	49	22	82	1	15	15	31	15	43	13	71	285
07:15 AM	19	37	25	81	11	67	22	100	3	25	19	47	19	81	4	104	332
07:30 AM	24	83	22	129	16	60	27	103	4	50	28	82	16	91	8	115	429
07:45 AM	28	79	38	145	27	97	50	174	7	38	28	73	19	103	7	129	521
Total	101	253	102	456	65	273	121	459	15	128	90	233	69	318	32	419	1567
08:00 AM	27	65	34	126	19	76	30	125	6	45	24	75	19	66	5	90	416
08:15 AM	32	63	30	125	20	93	41	154	3	60	23	86	23	65	3	91	456
08:30 AM	39	53	41	133	15	87	47	149	4	59	26	89	19	82	5	106	477
08:45 AM	43	51	58	152	26	126	34	186	8	78	23	109	22	75	6	103	550
Total	141	232	163	536	80	382	152	614	21	242	96	359	83	288	19	390	1899
Grand Total	310	574	313	1197	198	829	383	1410	50	451	242	743	193	771	66	1030	4380
Apprch %	25.9	48	26.1		14	58.8	27.2		6.7	60.7	32.6		18.7	74.9	6.4		
Total %	7.1	13.1	7.1	27.3	4.5	18.9	8.7	32.2	1.1	10.3	5.5	17	4.4	17.6	1.5	23.5	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	27	65	34	126	19	76	30	125	6	45	24	75	19	66	5	90	416
08:15 AM	32	63	30	125	20	93	41	154	3	60	23	86	23	65	3	91	456
08:30 AM	39	53	41	133	15	87	47	149	4	59	26	89	19	82	5	106	477
08:45 AM	43	51	58	152	26	126	34	186	8	78	23	109	22	75	6	103	550
Total Volume	141	232	163	536	80	382	152	614	21	242	96	359	83	288	19	390	1899
% App. Total	26.3	43.3	30.4		13	62.2	24.8		5.8	67.4	26.7		21.3	73.8	4.9		
PHF	.820	.892	.703	.882	.769	.758	.809	.825	.656	.776	.923	.823	.902	.878	.792	.920	.863

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED AM
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	27	65	34	126	19	76	30	125	6	45	24	75	19	66	5	90
+15 mins.	32	63	30	125	20	93	41	154	3	60	23	86	23	65	3	91
+30 mins.	39	53	41	133	15	87	47	149	4	59	26	89	19	82	5	106
+45 mins.	43	51	58	152	26	126	34	186	8	78	23	109	22	75	6	103
Total Volume	141	232	163	536	80	382	152	614	21	242	96	359	83	288	19	390
% App. Total	26.3	43.3	30.4		13	62.2	24.8		5.8	67.4	26.7		21.3	73.8	4.9	
PHF	.820	.892	.703	.882	.769	.758	.809	.825	.656	.776	.923	.823	.902	.878	.792	.920

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED AM
Site Code : 10524081
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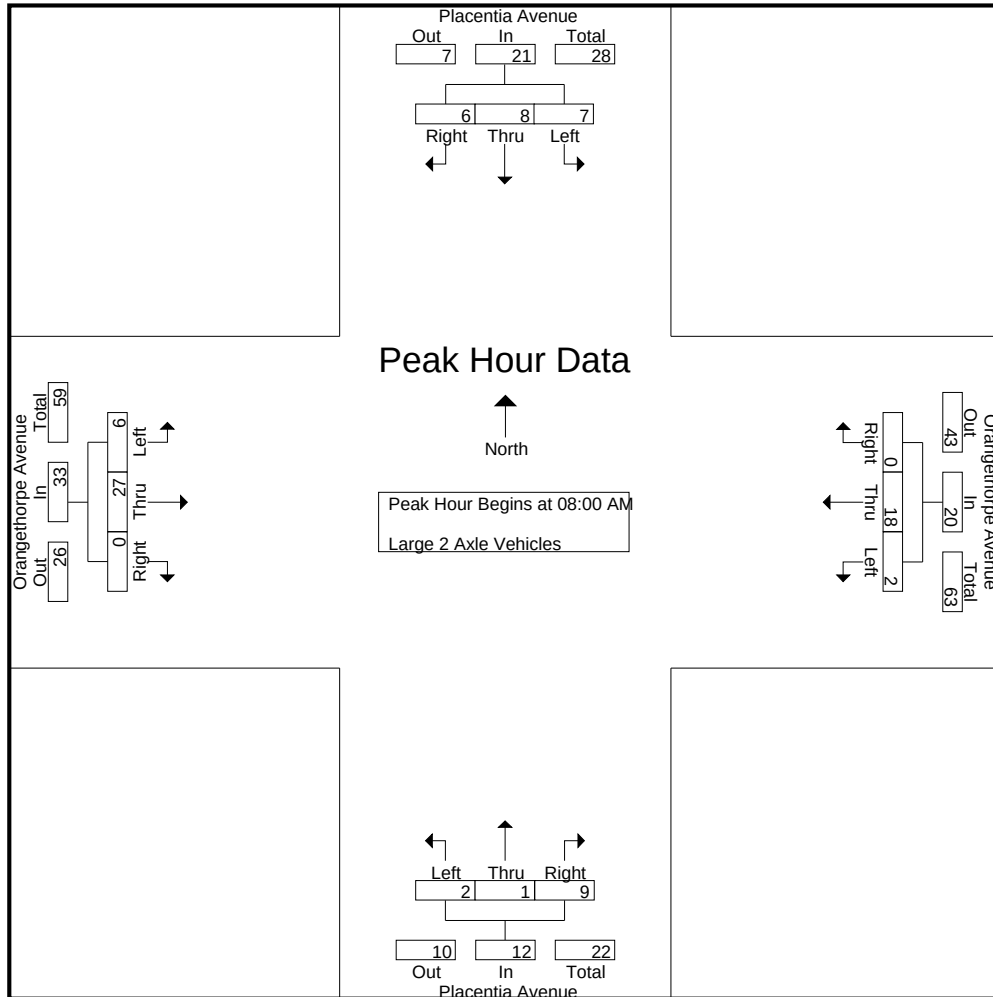
Groups Printed- Large 2 Axle Vehicles

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	1	0	1	0	1	0	1	0	0	1	1	0	3	0	3	6
06:15 AM	0	0	0	0	1	1	0	2	0	1	0	1	0	4	0	4	7
06:30 AM	1	0	0	1	0	3	0	3	0	0	1	1	0	1	0	1	6
06:45 AM	1	0	0	1	0	1	0	1	0	1	2	3	0	5	0	5	10
Total	2	1	0	3	1	6	0	7	0	2	4	6	0	13	0	13	29
07:00 AM	0	0	0	0	2	2	0	4	0	1	3	4	0	5	1	6	14
07:15 AM	0	1	1	2	0	6	0	6	0	4	2	6	0	5	0	5	19
07:30 AM	0	1	0	1	3	2	0	5	0	1	1	2	1	3	0	4	12
07:45 AM	0	3	1	4	1	5	0	6	0	2	1	3	2	7	0	9	22
Total	0	5	2	7	6	15	0	21	0	8	7	15	3	20	1	24	67
08:00 AM	3	3	1	7	0	4	0	4	0	1	1	2	2	3	0	5	18
08:15 AM	3	1	3	7	0	2	0	2	2	0	6	8	3	5	0	8	25
08:30 AM	0	1	0	1	1	5	0	6	0	0	1	1	0	9	0	9	17
08:45 AM	1	3	2	6	1	7	0	8	0	0	1	1	1	10	0	11	26
Total	7	8	6	21	2	18	0	20	2	1	9	12	6	27	0	33	86
Grand Total	9	14	8	31	9	39	0	48	2	11	20	33	9	60	1	70	182
Apprch %	29	45.2	25.8		18.8	81.2	0		6.1	33.3	60.6		12.9	85.7	1.4		
Total %	4.9	7.7	4.4	17	4.9	21.4	0	26.4	1.1	6	11	18.1	4.9	33	0.5	38.5	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	3	3	1	7	0	4	0	4	0	1	1	2	2	3	0	5	18
08:15 AM	3	1	3	7	0	2	0	2	2	0	6	8	3	5	0	8	25
08:30 AM	0	1	0	1	1	5	0	6	0	0	1	1	0	9	0	9	17
08:45 AM	1	3	2	6	1	7	0	8	0	0	1	1	1	10	0	11	26
Total Volume	7	8	6	21	2	18	0	20	2	1	9	12	6	27	0	33	86
% App. Total	33.3	38.1	28.6		10	90	0		16.7	8.3	75		18.2	81.8	0		
PHF	.583	.667	.500	.750	.500	.643	.000	.625	.250	.250	.375	.375	.500	.675	.000	.750	.827

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED AM
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	3	3	1	7	0	4	0	4	0	1	1	2	2	3	0	5
+15 mins.	3	1	3	7	0	2	0	2	2	0	6	8	3	5	0	8
+30 mins.	0	1	0	1	1	5	0	6	0	0	1	1	0	9	0	9
+45 mins.	1	3	2	6	1	7	0	8	0	0	1	1	1	10	0	11
Total Volume	7	8	6	21	2	18	0	20	2	1	9	12	6	27	0	33
% App. Total	33.3	38.1	28.6		10	90	0		16.7	8.3	75		18.2	81.8	0	
PHF	.583	.667	.500	.750	.500	.643	.000	.625	.250	.250	.375	.375	.500	.675	.000	.750

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED AM
Site Code : 10524081
Start Date : 1/31/2024
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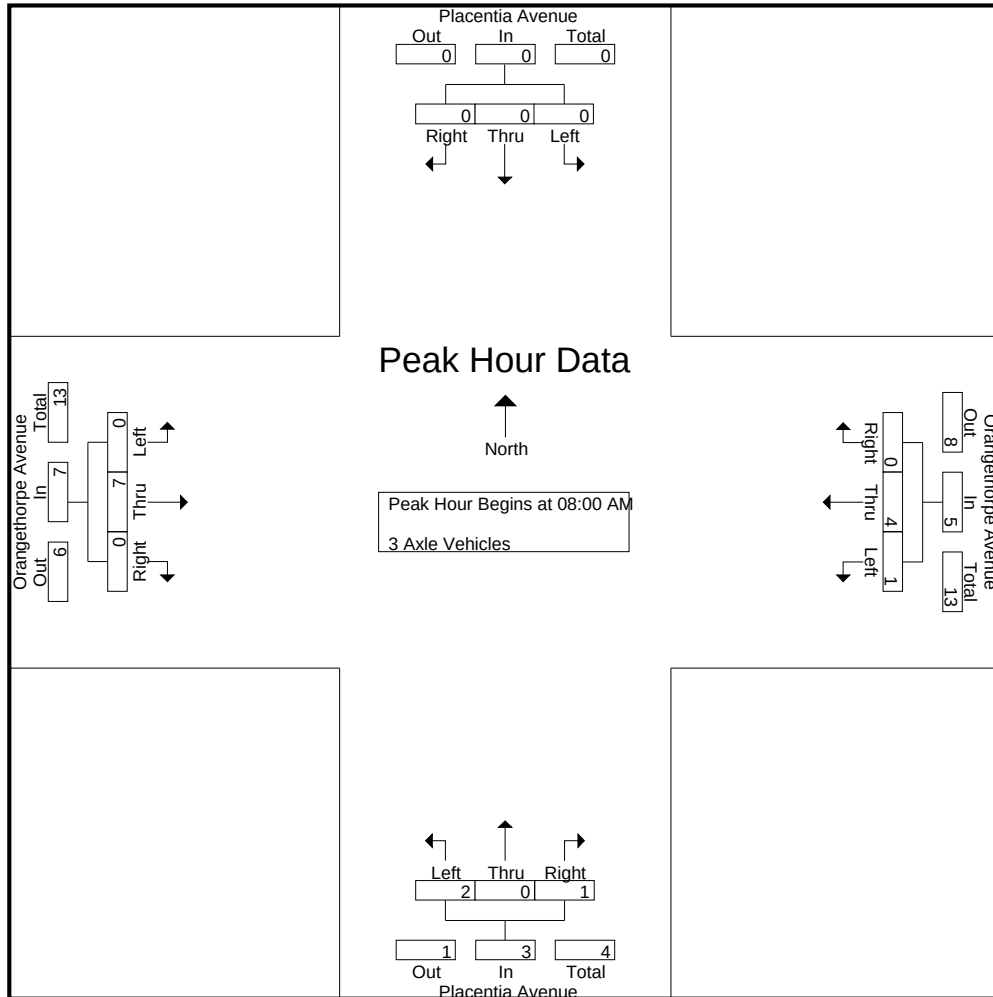
Groups Printed- 3 Axle Vehicles

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	1	1	0	1	0	1	0	0	0	0	1	1	0	2	4
06:15 AM	0	0	2	2	0	0	1	1	0	0	0	0	1	1	0	2	5
06:30 AM	0	0	0	0	0	2	0	2	1	0	0	1	1	1	0	2	5
06:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2
Total	0	0	3	3	0	3	1	4	1	0	1	2	3	4	0	7	16
07:00 AM	1	0	0	1	0	2	0	2	1	0	0	1	1	1	0	2	6
07:15 AM	1	0	0	1	0	0	0	0	0	0	1	1	0	3	0	3	5
07:30 AM	0	0	1	1	0	2	0	2	0	0	0	0	0	0	0	0	3
07:45 AM	0	0	1	1	0	1	1	2	0	0	0	0	0	1	0	1	4
Total	2	0	2	4	0	5	1	6	1	0	1	2	1	5	0	6	18
08:00 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	3	0	3	5
08:15 AM	0	0	0	0	0	2	0	2	1	0	0	1	0	1	0	1	4
08:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
08:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	0	3	0	3	5
Total	0	0	0	0	1	4	0	5	2	0	1	3	0	7	0	7	15
Grand Total	2	0	5	7	1	12	2	15	4	0	3	7	4	16	0	20	49
Apprch %	28.6	0	71.4		6.7	80	13.3		57.1	0	42.9		20	80	0		
Total %	4.1	0	10.2	14.3	2	24.5	4.1	30.6	8.2	0	6.1	14.3	8.2	32.7	0	40.8	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	3	0	3	5
08:15 AM	0	0	0	0	0	2	0	2	1	0	0	1	0	1	0	1	4
08:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
08:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	0	3	0	3	5
Total Volume	0	0	0	0	1	4	0	5	2	0	1	3	0	7	0	7	15
% App. Total	0	0	0		20	80	0		66.7	0	33.3		0	100	0		
PHF	.000	.000	.000	.000	.250	.500	.000	.625	.500	.000	.250	.750	.000	.583	.000	.583	.750

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED AM
Site Code : 10524081
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	1	1	0	2	0	0	0	0	0	3	0	3
+15 mins.	0	0	0	0	0	2	0	2	1	0	0	1	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	1	0	0	1	0	3	0	3
Total Volume	0	0	0	0	1	4	0	5	2	0	1	3	0	7	0	7
% App. Total	0	0	0	0	20	80	0		66.7	0	33.3		0	100	0	
PHF	.000	.000	.000	.000	.250	.500	.000	.625	.500	.000	.250	.750	.000	.583	.000	.583

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED AM
Site Code : 10524081
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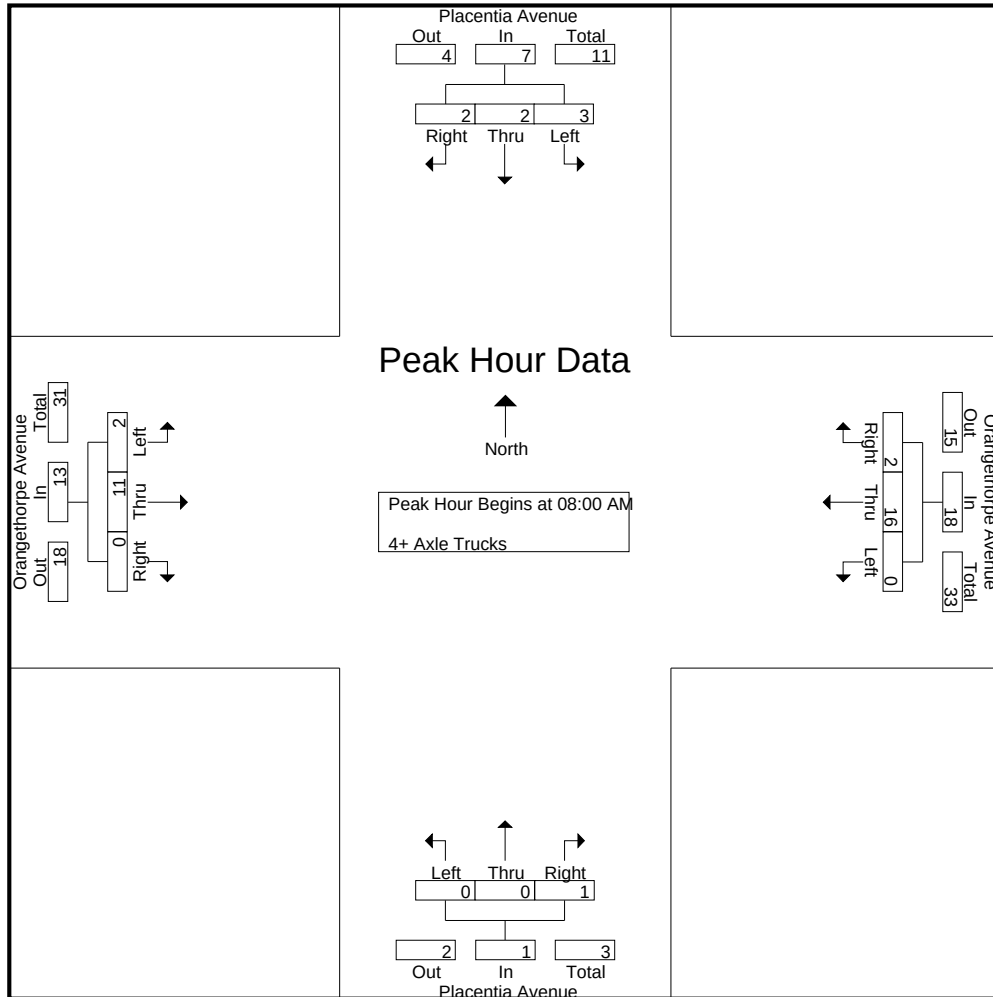
Groups Printed- 4+ Axle Trucks

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	1	0	1	2	0	2	0	2	0	0	0	0	0	1	0	1	5
06:15 AM	0	0	0	0	1	2	0	3	0	0	0	0	0	4	0	4	7
06:30 AM	1	0	0	1	0	1	0	1	0	0	0	0	0	4	0	4	6
06:45 AM	0	0	0	0	0	2	1	3	0	0	1	1	0	3	0	3	7
Total	2	0	1	3	1	7	1	9	0	0	1	1	0	12	0	12	25
07:00 AM	0	0	0	0	0	7	2	9	0	0	0	0	1	2	0	3	12
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	5	0	5	6
07:30 AM	0	0	0	0	0	2	2	4	0	0	0	0	1	3	0	4	8
07:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	7	0	7	9
Total	0	0	0	0	0	12	4	16	0	0	0	0	2	17	0	19	35
08:00 AM	0	0	1	1	0	2	1	3	0	0	0	0	0	4	0	4	8
08:15 AM	1	0	0	1	0	6	0	6	0	0	0	0	1	1	0	2	9
08:30 AM	1	0	1	2	0	3	0	3	0	0	0	0	0	3	0	3	8
08:45 AM	1	2	0	3	0	5	1	6	0	0	1	1	1	3	0	4	14
Total	3	2	2	7	0	16	2	18	0	0	1	1	2	11	0	13	39
Grand Total	5	2	3	10	1	35	7	43	0	0	2	2	4	40	0	44	99
Apprch %	50	20	30		2.3	81.4	16.3		0	0	100		9.1	90.9	0		
Total %	5.1	2	3	10.1	1	35.4	7.1	43.4	0	0	2	2	4	40.4	0	44.4	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	1	1	0	2	1	3	0	0	0	0	0	4	0	4	8
08:15 AM	1	0	0	1	0	6	0	6	0	0	0	0	1	1	0	2	9
08:30 AM	1	0	1	2	0	3	0	3	0	0	0	0	0	3	0	3	8
08:45 AM	1	2	0	3	0	5	1	6	0	0	1	1	1	3	0	4	14
Total Volume	3	2	2	7	0	16	2	18	0	0	1	1	2	11	0	13	39
% App. Total	42.9	28.6	28.6		0	88.9	11.1		0	0	100		15.4	84.6	0		
PHF	.750	.250	.500	.583	.000	.667	.500	.750	.000	.000	.250	.250	.500	.688	.000	.813	.696

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED AM
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	1	1	0	2	1	3	0	0	0	0	0	4	0	4
+15 mins.	1	0	0	1	0	6	0	6	0	0	0	0	1	1	0	2
+30 mins.	1	0	1	2	0	3	0	3	0	0	0	0	0	3	0	3
+45 mins.	1	2	0	3	0	5	1	6	0	0	1	1	1	3	0	4
Total Volume	3	2	2	7	0	16	2	18	0	0	1	1	2	11	0	13
% App. Total	42.9	28.6	28.6		0	88.9	11.1		0	0	100		15.4	84.6	0	
PHF	.750	.250	.500	.583	.000	.667	.500	.750	.000	.000	.250	.250	.500	.688	.000	.813

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

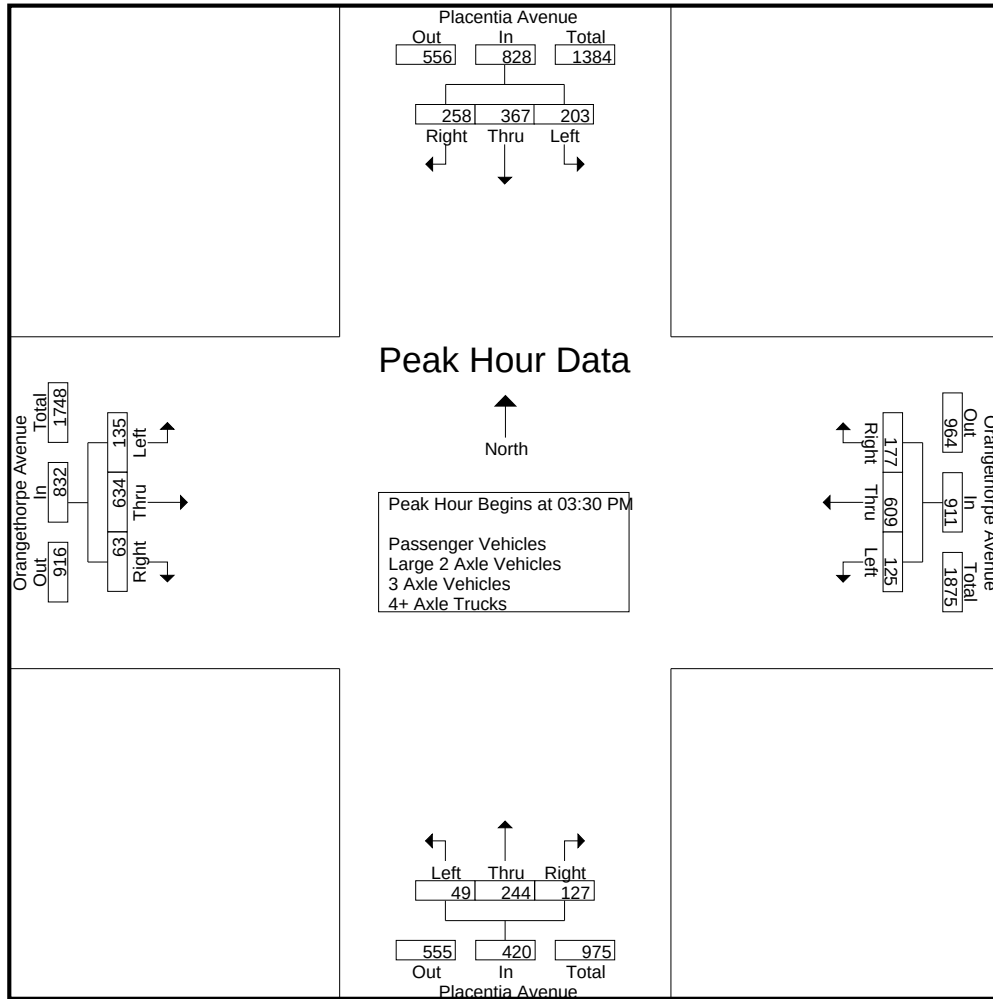
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	52	92	43	187	26	90	57	173	9	50	23	82	31	121	14	166	608
03:15 PM	50	63	43	156	30	125	50	205	16	48	24	88	43	118	16	177	626
03:30 PM	57	101	63	221	26	183	49	258	7	55	37	99	32	186	19	237	815
03:45 PM	38	74	56	168	29	133	43	205	17	68	24	109	26	141	15	182	664
Total	197	330	205	732	111	531	199	841	49	221	108	378	132	566	64	762	2713
04:00 PM	56	101	65	222	33	144	36	213	12	57	31	100	40	165	15	220	755
04:15 PM	52	91	74	217	37	149	49	235	13	64	35	112	37	142	14	193	757
04:30 PM	43	63	44	150	31	152	35	218	10	73	31	114	27	184	15	226	708
04:45 PM	42	71	62	175	31	192	47	270	13	65	37	115	44	123	10	177	737
Total	193	326	245	764	132	637	167	936	48	259	134	441	148	614	54	816	2957
05:00 PM	45	96	65	206	40	127	51	218	4	66	35	105	46	166	20	232	761
05:15 PM	47	90	66	203	34	167	45	246	12	71	25	108	41	132	9	182	739
05:30 PM	49	93	66	208	29	139	41	209	4	74	25	103	38	146	21	205	725
05:45 PM	42	69	68	179	31	153	46	230	13	45	15	73	32	113	11	156	638
Total	183	348	265	796	134	586	183	903	33	256	100	389	157	557	61	775	2863
06:00 PM	51	72	50	173	24	115	30	169	7	59	24	90	39	119	14	172	604
06:15 PM	37	64	38	139	16	80	32	128	7	61	17	85	24	91	13	128	480
06:30 PM	35	67	37	139	21	86	30	137	6	61	22	89	27	78	8	113	478
06:45 PM	39	54	34	127	19	68	38	125	15	49	21	85	29	82	8	119	456
Total	162	257	159	578	80	349	130	559	35	230	84	349	119	370	43	532	2018
Grand Total	735	1261	874	2870	457	2103	679	3239	165	966	426	1557	556	2107	222	2885	10551
Apprch %	25.6	43.9	30.5		14.1	64.9	21		10.6	62	27.4		19.3	73	7.7		
Total %	7	12	8.3	27.2	4.3	19.9	6.4	30.7	1.6	9.2	4	14.8	5.3	20	2.1	27.3	
Passenger Vehicles	725	1246	855	2826	440	1965	661	3066	151	960	410	1521	548	1998	213	2759	10172
% Passenger Vehicles	98.6	98.8	97.8	98.5	96.3	93.4	97.3	94.7	91.5	99.4	96.2	97.7	98.6	94.8	95.9	95.6	96.4
Large 2 Axle Vehicles	3	13	11	27	13	72	15	100	6	5	15	26	4	44	8	56	209
% Large 2 Axle Vehicles	0.4	1	1.3	0.9	2.8	3.4	2.2	3.1	3.6	0.5	3.5	1.7	0.7	2.1	3.6	1.9	2
3 Axle Vehicles	1	1	1	3	3	27	0	30	7	0	0	7	2	25	1	28	68
% 3 Axle Vehicles	0.1	0.1	0.1	0.1	0.7	1.3	0	0.9	4.2	0	0	0.4	0.4	1.2	0.5	1	0.6
4+ Axle Trucks	6	1	7	14	1	39	3	43	1	1	1	3	2	40	0	42	102
% 4+ Axle Trucks	0.8	0.1	0.8	0.5	0.2	1.9	0.4	1.3	0.6	0.1	0.2	0.2	0.4	1.9	0	1.5	1

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	57	101	63	221	26	183	49	258	7	55	37	99	32	186	19	237	815
03:45 PM	38	74	56	168	29	133	43	205	17	68	24	109	26	141	15	182	664
04:00 PM	56	101	65	222	33	144	36	213	12	57	31	100	40	165	15	220	755
04:15 PM	52	91	74	217	37	149	49	235	13	64	35	112	37	142	14	193	757
Total Volume	203	367	258	828	125	609	177	911	49	244	127	420	135	634	63	832	2991
% App. Total	24.5	44.3	31.2		13.7	66.8	19.4		11.7	58.1	30.2		16.2	76.2	7.6		
PHF	.890	.908	.872	.932	.845	.832	.903	.883	.721	.897	.858	.938	.844	.852	.829	.878	.917

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED PM
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Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:30 PM				04:30 PM				04:15 PM				03:30 PM			
+0 mins.	57	101	63	221	31	152	35	218	13	64	35	112	32	186	19	237
+15 mins.	38	74	56	168	31	192	47	270	10	73	31	114	26	141	15	182
+30 mins.	56	101	65	222	40	127	51	218	13	65	37	115	40	165	15	220
+45 mins.	52	91	74	217	34	167	45	246	4	66	35	105	37	142	14	193
Total Volume	203	367	258	828	136	638	178	952	40	268	138	446	135	634	63	832
% App. Total	24.5	44.3	31.2		14.3	67	18.7		9	60.1	30.9		16.2	76.2	7.6	
PHF	.890	.908	.872	.932	.850	.831	.873	.881	.769	.918	.932	.970	.844	.852	.829	.878

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
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File Name : 03_PLA_PLACE_OT WED PM
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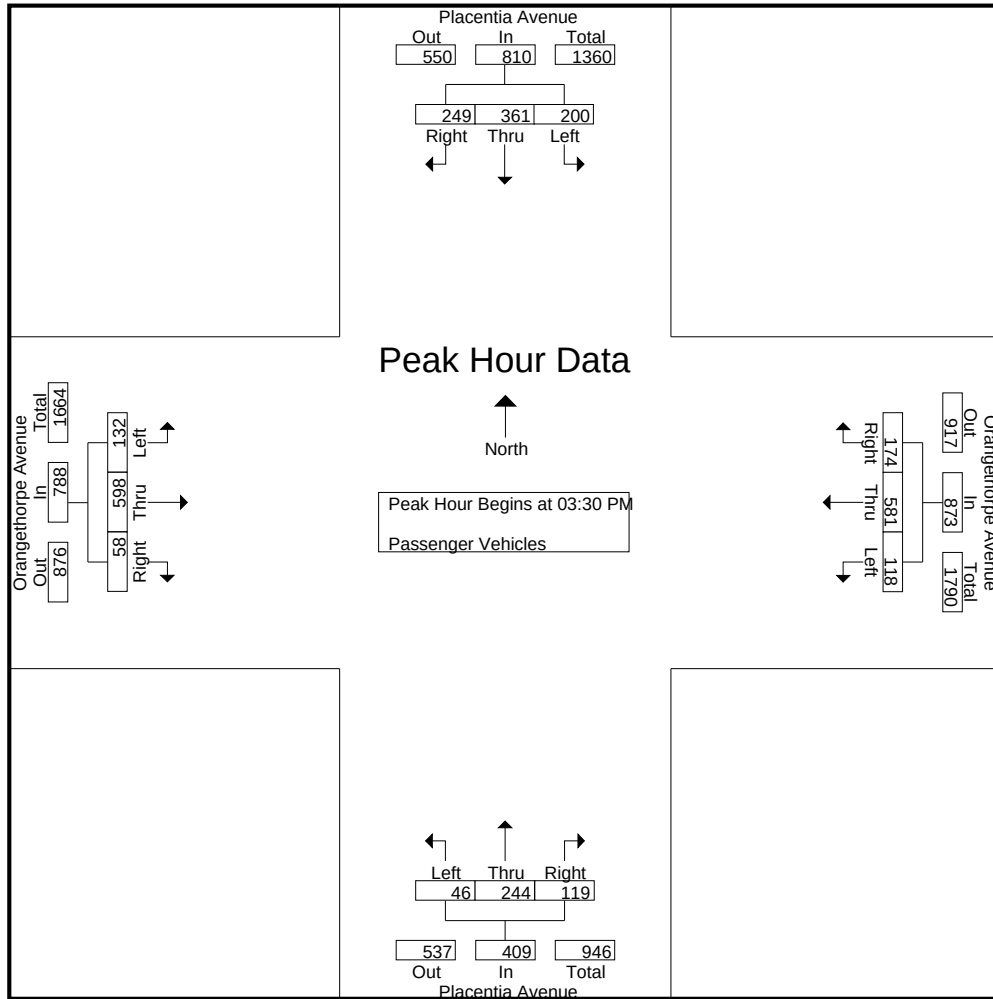
Groups Printed- Passenger Vehicles

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	52	89	43	184	22	79	55	156	8	50	22	80	31	109	14	154	574
03:15 PM	50	63	43	156	29	115	48	192	14	47	23	84	43	114	15	172	604
03:30 PM	56	96	60	212	26	174	49	249	7	55	35	97	31	181	17	229	787
03:45 PM	37	74	53	164	28	124	42	194	15	68	21	104	26	123	15	164	626
Total	195	322	199	716	105	492	194	791	44	220	101	365	131	527	61	719	2591
04:00 PM	56	101	64	221	31	139	36	206	12	57	29	98	38	158	14	210	735
04:15 PM	51	90	72	213	33	144	47	224	12	64	34	110	37	136	12	185	732
04:30 PM	42	62	43	147	29	134	32	195	7	72	30	109	26	176	15	217	668
04:45 PM	42	71	62	175	31	187	47	265	12	65	37	114	44	113	9	166	720
Total	191	324	241	756	124	604	162	890	43	258	130	431	145	583	50	778	2855
05:00 PM	45	94	64	203	40	115	50	205	4	65	34	103	44	163	19	226	737
05:15 PM	46	87	65	198	34	158	41	233	11	71	24	106	41	128	9	178	715
05:30 PM	49	93	64	206	28	123	40	191	4	74	24	102	38	136	21	195	694
05:45 PM	40	69	66	175	31	143	46	220	12	44	15	71	31	104	10	145	611
Total	180	343	259	782	133	539	177	849	31	254	97	382	154	531	59	744	2757
06:00 PM	50	72	48	170	24	111	30	165	7	59	23	89	38	115	14	167	591
06:15 PM	36	64	37	137	15	76	32	123	7	60	17	84	24	89	13	126	470
06:30 PM	34	67	37	138	20	81	29	130	5	60	21	86	27	73	8	108	462
06:45 PM	39	54	34	127	19	62	37	118	14	49	21	84	29	80	8	117	446
Total	159	257	156	572	78	330	128	536	33	228	82	343	118	357	43	518	1969
Grand Total	725	1246	855	2826	440	1965	661	3066	151	960	410	1521	548	1998	213	2759	10172
Apprch %	25.7	44.1	30.3		14.4	64.1	21.6		9.9	63.1	27		19.9	72.4	7.7		
Total %	7.1	12.2	8.4	27.8	4.3	19.3	6.5	30.1	1.5	9.4	4	15	5.4	19.6	2.1	27.1	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	56	96	60	212	26	174	49	249	7	55	35	97	31	181	17	229	787
03:45 PM	37	74	53	164	28	124	42	194	15	68	21	104	26	123	15	164	626
04:00 PM	56	101	64	221	31	139	36	206	12	57	29	98	38	158	14	210	735
04:15 PM	51	90	72	213	33	144	47	224	12	64	34	110	37	136	12	185	732
Total Volume	200	361	249	810	118	581	174	873	46	244	119	409	132	598	58	788	2880
% App. Total	24.7	44.6	30.7		13.5	66.6	19.9		11.2	59.7	29.1		16.8	75.9	7.4		
PHF	.893	.894	.865	.916	.894	.835	.888	.877	.767	.897	.850	.930	.868	.826	.853	.860	.915

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

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Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:30 PM				03:30 PM				03:30 PM				03:30 PM			
+0 mins.	56	96	60	212	26	174	49	249	7	55	35	97	31	181	17	229
+15 mins.	37	74	53	164	28	124	42	194	15	68	21	104	26	123	15	164
+30 mins.	56	101	64	221	31	139	36	206	12	57	29	98	38	158	14	210
+45 mins.	51	90	72	213	33	144	47	224	12	64	34	110	37	136	12	185
Total Volume	200	361	249	810	118	581	174	873	46	244	119	409	132	598	58	788
% App. Total	24.7	44.6	30.7		13.5	66.6	19.9		11.2	59.7	29.1		16.8	75.9	7.4	
PHF	.893	.894	.865	.916	.894	.835	.888	.877	.767	.897	.850	.930	.868	.826	.853	.860

City of Placentia
N/S: Placentia Avenue
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File Name : 03_PLA_PLACE_OT WED PM
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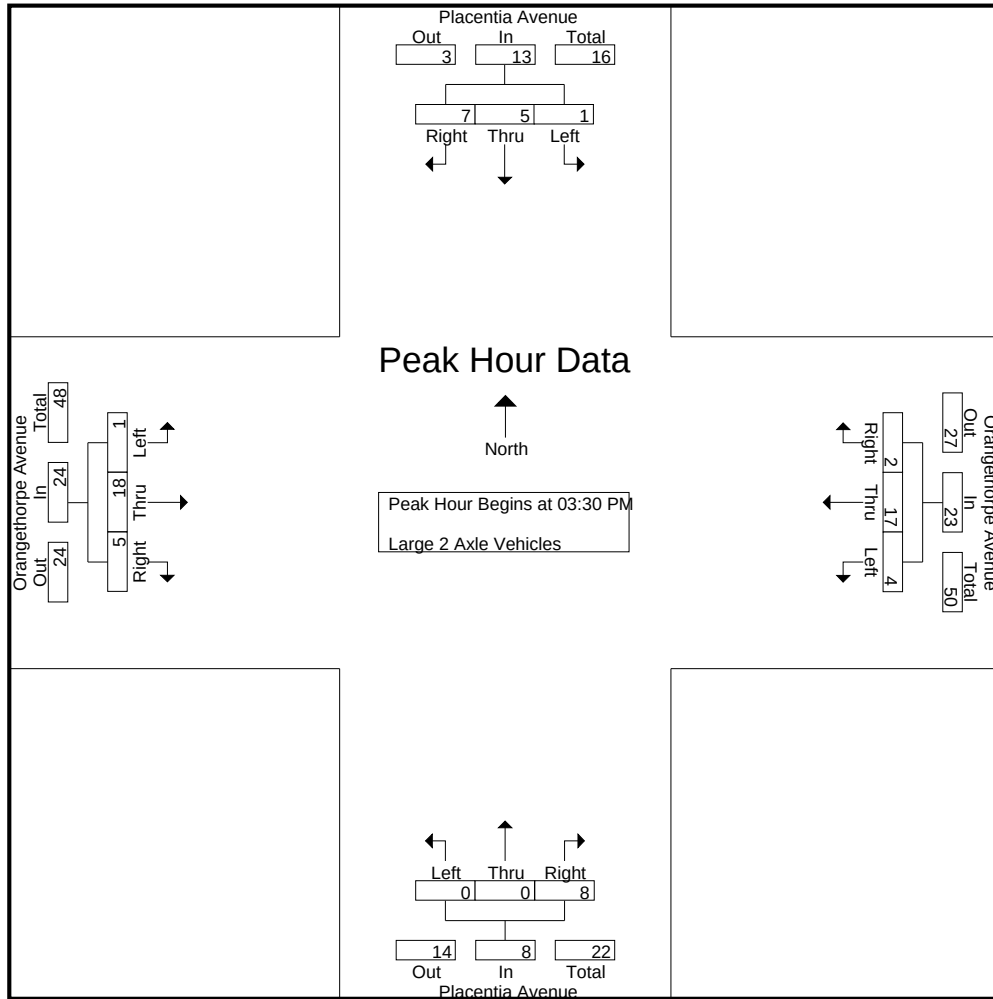
Groups Printed- Large 2 Axle Vehicles

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	2	0	2	4	4	1	9	0	0	1	1	0	7	0	7	19
03:15 PM	0	0	0	0	1	6	2	9	2	1	1	4	0	3	0	3	16
03:30 PM	0	5	3	8	0	4	0	4	0	0	2	2	0	3	2	5	19
03:45 PM	1	0	2	3	1	7	1	9	0	0	3	3	0	11	0	11	26
Total	1	7	5	13	6	21	4	31	2	1	7	10	0	24	2	26	80
04:00 PM	0	0	1	1	1	3	0	4	0	0	2	2	1	3	1	5	12
04:15 PM	0	0	1	1	2	3	1	6	0	0	1	1	0	1	2	3	11
04:30 PM	0	1	0	1	1	7	3	11	2	1	1	4	0	3	0	3	19
04:45 PM	0	0	0	0	0	2	0	2	1	0	0	1	0	5	1	6	9
Total	0	1	2	3	4	15	4	23	3	1	4	8	1	12	4	17	51
05:00 PM	0	2	0	2	0	6	1	7	0	0	1	1	2	2	1	5	15
05:15 PM	1	3	1	5	0	6	3	9	0	0	1	1	0	1	0	1	16
05:30 PM	0	0	0	0	1	9	1	11	0	0	0	0	0	2	0	2	13
05:45 PM	1	0	1	2	0	5	0	5	0	1	0	1	0	1	1	2	10
Total	2	5	2	9	1	26	5	32	0	1	2	3	2	6	2	10	54
06:00 PM	0	0	2	2	0	2	0	2	0	0	1	1	1	0	0	1	6
06:15 PM	0	0	0	0	1	2	0	3	0	1	0	1	0	1	0	1	5
06:30 PM	0	0	0	0	1	3	1	5	0	1	1	2	0	0	0	0	7
06:45 PM	0	0	0	0	0	3	1	4	1	0	0	1	0	1	0	1	6
Total	0	0	2	2	2	10	2	14	1	2	2	5	1	2	0	3	24
Grand Total	3	13	11	27	13	72	15	100	6	5	15	26	4	44	8	56	209
Apprch %	11.1	48.1	40.7		13	72	15		23.1	19.2	57.7		7.1	78.6	14.3		
Total %	1.4	6.2	5.3	12.9	6.2	34.4	7.2	47.8	2.9	2.4	7.2	12.4	1.9	21.1	3.8	26.8	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	0	5	3	8	0	4	0	4	0	0	2	2	0	3	2	5	19
03:45 PM	1	0	2	3	1	7	1	9	0	0	3	3	0	11	0	11	26
04:00 PM	0	0	1	1	1	3	0	4	0	0	2	2	1	3	1	5	12
04:15 PM	0	0	1	1	2	3	1	6	0	0	1	1	0	1	2	3	11
Total Volume	1	5	7	13	4	17	2	23	0	0	8	8	1	18	5	24	68
% App. Total	7.7	38.5	53.8		17.4	73.9	8.7		0	0	100		4.2	75	20.8		
PHF	.250	.250	.583	.406	.500	.607	.500	.639	.000	.000	.667	.667	.250	.409	.625	.545	.654

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED PM
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Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:30 PM				03:30 PM				03:30 PM				03:30 PM			
+0 mins.	0	5	3	8	0	4	0	4	0	0	2	2	0	3	2	5
+15 mins.	1	0	2	3	1	7	1	9	0	0	3	3	0	11	0	11
+30 mins.	0	0	1	1	1	3	0	4	0	0	2	2	1	3	1	5
+45 mins.	0	0	1	1	2	3	1	6	0	0	1	1	0	1	2	3
Total Volume	1	5	7	13	4	17	2	23	0	0	8	8	1	18	5	24
% App. Total	7.7	38.5	53.8		17.4	73.9	8.7		0	0	100		4.2	75	20.8	
PHF	.250	.250	.583	.406	.500	.607	.500	.639	.000	.000	.667	.667	.250	.409	.625	.545

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED PM
Site Code : 10524081
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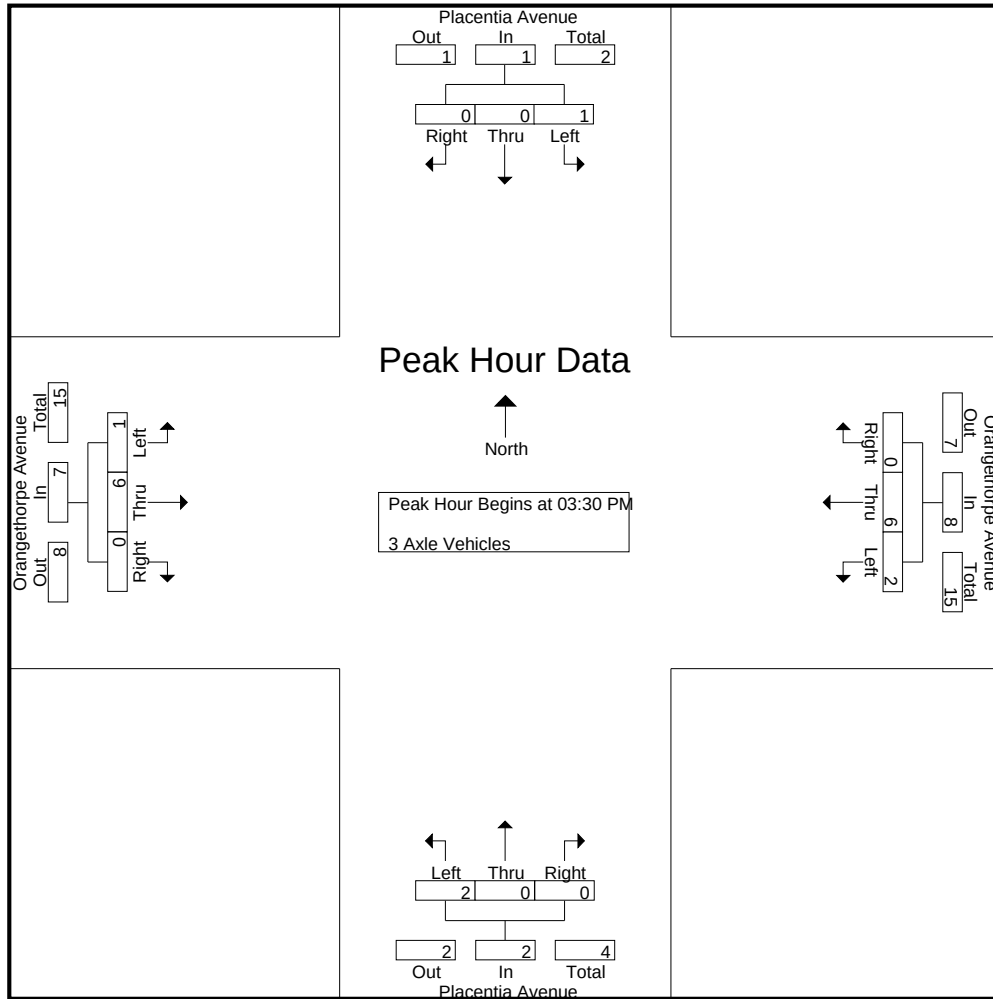
Groups Printed- 3 Axle Vehicles

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	1	0	1	0	3	0	3	1	0	0	1	0	2	0	2	7
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
03:30 PM	1	0	0	1	0	3	0	3	0	0	0	0	1	0	0	1	5
03:45 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	4	0	4	6
Total	1	1	0	2	0	7	0	7	2	0	0	2	1	6	1	8	19
04:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0	2	3
04:15 PM	0	0	0	0	1	2	0	3	1	0	0	1	0	0	0	0	4
04:30 PM	0	0	0	0	1	4	0	5	1	0	0	1	1	1	0	2	8
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
Total	0	0	0	0	3	8	0	11	2	0	0	2	1	5	0	6	19
05:00 PM	0	0	1	1	0	2	0	2	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	2	0	2	1	0	0	1	0	2	0	2	5
05:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0	4	6
05:45 PM	0	0	0	0	0	2	0	2	1	0	0	1	0	5	0	5	8
Total	0	0	1	1	0	8	0	8	2	0	0	2	0	11	0	11	22
06:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
06:45 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	4	0	4	1	0	0	1	0	3	0	3	8
Grand Total	1	1	1	3	3	27	0	30	7	0	0	7	2	25	1	28	68
Apprch %	33.3	33.3	33.3		10	90	0		100	0	0		7.1	89.3	3.6		
Total %	1.5	1.5	1.5	4.4	4.4	39.7	0	44.1	10.3	0	0	10.3	2.9	36.8	1.5	41.2	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	1	0	0	1	0	3	0	3	0	0	0	0	1	0	0	1	5
03:45 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	4	0	4	6
04:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0	2	3
04:15 PM	0	0	0	0	1	2	0	3	1	0	0	1	0	0	0	0	4
Total Volume	1	0	0	1	2	6	0	8	2	0	0	2	1	6	0	7	18
% App. Total	100	0	0		25	75	0		100	0	0		14.3	85.7	0		
PHF	.250	.000	.000	.250	.500	.500	.000	.667	.500	.000	.000	.500	.250	.375	.000	.438	.750

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 2



Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:30 PM				03:30 PM				03:30 PM				03:30 PM			
+0 mins.	1	0	0	1	0	3	0	3	0	0	0	0	1	0	0	1
+15 mins.	0	0	0	0	0	1	0	1	1	0	0	1	0	4	0	4
+30 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0	2
+45 mins.	0	0	0	0	1	2	0	3	1	0	0	1	0	0	0	0
Total Volume	1	0	0	1	2	6	0	8	2	0	0	2	1	6	0	7
% App. Total	100	0	0		25	75	0		100	0	0		14.3	85.7	0	
PHF	.250	.000	.000	.250	.500	.500	.000	.667	.500	.000	.000	.500	.250	.375	.000	.438

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

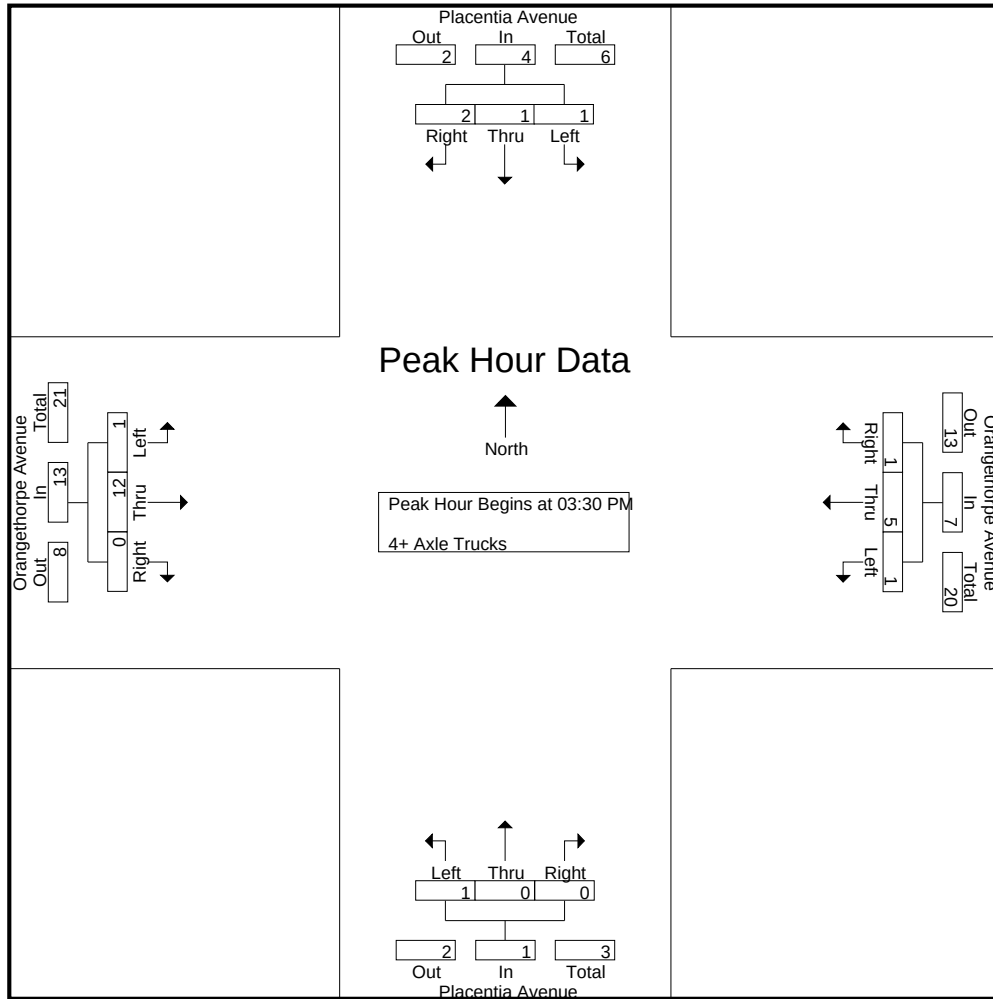
Groups Printed- 4+ Axle Trucks

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	4	1	5	0	0	0	0	0	3	0	3	8
03:15 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	1	0	1	5
03:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
03:45 PM	0	0	1	1	0	1	0	1	1	0	0	1	0	3	0	3	6
Total	0	0	1	1	0	11	1	12	1	0	0	1	0	9	0	9	23
04:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	1	2	0	3	5
04:15 PM	1	1	1	3	1	0	1	2	0	0	0	0	0	5	0	5	10
04:30 PM	1	0	1	2	0	7	0	7	0	0	0	0	0	4	0	4	13
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	4
Total	2	1	2	5	1	10	1	12	0	0	0	0	1	14	0	15	32
05:00 PM	0	0	0	0	0	4	0	4	0	1	0	1	0	1	0	1	6
05:15 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	1	0	1	3
05:30 PM	0	0	2	2	0	5	0	5	0	0	1	1	0	4	0	4	12
05:45 PM	1	0	1	2	0	3	0	3	0	0	0	0	1	3	0	4	9
Total	1	0	3	4	0	13	1	14	0	1	1	2	1	9	0	10	30
06:00 PM	1	0	0	1	0	1	0	1	0	0	0	0	0	2	0	2	4
06:15 PM	1	0	1	2	0	2	0	2	0	0	0	0	0	1	0	1	5
06:30 PM	1	0	0	1	0	2	0	2	0	0	0	0	0	4	0	4	7
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	3	0	1	4	0	5	0	5	0	0	0	0	0	8	0	8	17
Grand Total	6	1	7	14	1	39	3	43	1	1	1	3	2	40	0	42	102
Apprch %	42.9	7.1	50		2.3	90.7	7		33.3	33.3	33.3		4.8	95.2	0		
Total %	5.9	1	6.9	13.7	1	38.2	2.9	42.2	1	1	1	2.9	2	39.2	0	41.2	

	Placentia Avenue Southbound				Orangethorpe Avenue Westbound				Placentia Avenue Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
03:45 PM	0	0	1	1	0	1	0	1	1	0	0	1	0	3	0	3	6
04:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	1	2	0	3	5
04:15 PM	1	1	1	3	1	0	1	2	0	0	0	0	0	5	0	5	10
Total Volume	1	1	2	4	1	5	1	7	1	0	0	1	1	12	0	13	25
% App. Total	25	25	50		14.3	71.4	14.3		100	0	0		7.7	92.3	0		
PHF	.250	.250	.500	.333	.250	.625	.250	.875	.250	.000	.000	.250	.250	.600	.000	.650	.625

City of Placentia
N/S: Placentia Avenue
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 03_PLA_PLACE_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 2



Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:30 PM				03:30 PM				03:30 PM				03:30 PM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2
+15 mins.	0	0	1	1	0	1	0	1	1	0	0	1	0	3	0	3
+30 mins.	0	0	0	0	0	2	0	2	0	0	0	0	1	2	0	3
+45 mins.	1	1	1	3	1	0	1	2	0	0	0	0	0	5	0	5
Total Volume	1	1	2	4	1	5	1	7	1	0	0	1	1	12	0	13
% App. Total	25	25	50		14.3	71.4	14.3		100	0	0		7.7	92.3	0	
PHF	.250	.250	.500	.333	.250	.625	.250	.875	.250	.000	.000	.250	.250	.600	.000	.650

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 04_FUL_SC_OT Tue AM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 1

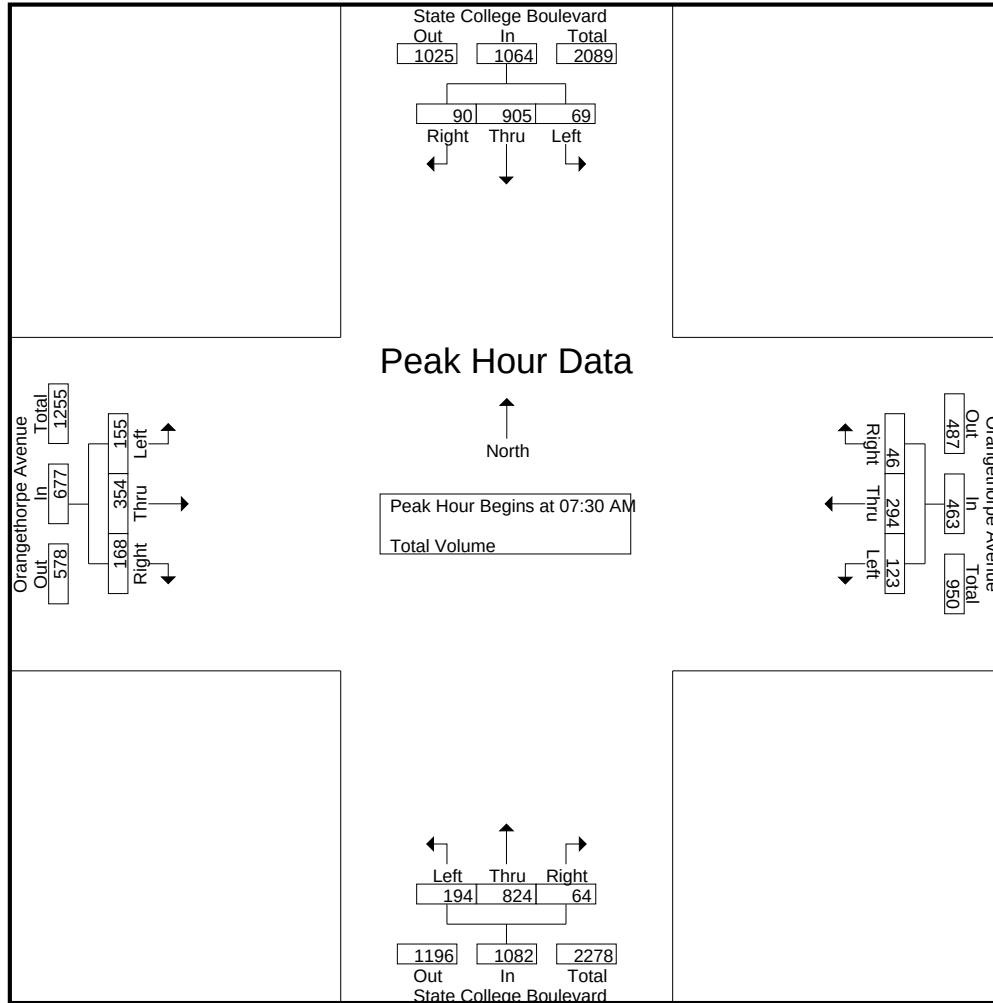
Groups Printed- Total Volume

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	4	41	5	50	19	28	7	54	27	55	16	98	4	31	18	53	255
06:15 AM	12	58	7	77	6	38	8	52	34	80	9	123	7	33	16	56	308
06:30 AM	8	106	11	125	12	44	6	62	27	85	10	122	13	33	19	65	374
06:45 AM	16	144	11	171	15	48	6	69	50	117	20	187	14	62	40	116	543
Total	40	349	34	423	52	158	27	237	138	337	55	530	38	159	93	290	1480
07:00 AM	25	223	16	264	24	50	6	80	49	116	21	186	10	66	34	110	640
07:15 AM	21	220	14	255	30	53	6	89	41	141	21	203	39	86	34	159	706
07:30 AM	16	251	17	284	28	66	8	102	47	192	18	257	31	97	49	177	820
07:45 AM	28	261	20	309	42	84	13	139	55	198	15	268	29	96	36	161	877
Total	90	955	67	1112	124	253	33	410	192	647	75	914	109	345	153	607	3043
08:00 AM	11	201	29	241	23	69	10	102	52	223	18	293	46	76	46	168	804
08:15 AM	14	192	24	230	30	75	15	120	40	211	13	264	49	85	37	171	785
08:30 AM	15	224	27	266	47	68	7	122	51	168	26	245	29	77	41	147	780
08:45 AM	19	153	30	202	28	80	9	117	45	184	21	250	18	83	44	145	714
Total	59	770	110	939	128	292	41	461	188	786	78	1052	142	321	168	631	3083
Grand Total	189	2074	211	2474	304	703	101	1108	518	1770	208	2496	289	825	414	1528	7606
Apprch %	7.6	83.8	8.5		27.4	63.4	9.1		20.8	70.9	8.3		18.9	54	27.1		
Total %	2.5	27.3	2.8	32.5	4	9.2	1.3	14.6	6.8	23.3	2.7	32.8	3.8	10.8	5.4	20.1	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	16	251	17	284	28	66	8	102	47	192	18	257	31	97	49	177	820
07:45 AM	28	261	20	309	42	84	13	139	55	198	15	268	29	96	36	161	877
08:00 AM	11	201	29	241	23	69	10	102	52	223	18	293	46	76	46	168	804
08:15 AM	14	192	24	230	30	75	15	120	40	211	13	264	49	85	37	171	785
Total Volume	69	905	90	1064	123	294	46	463	194	824	64	1082	155	354	168	677	3286
% App. Total	6.5	85.1	8.5		26.6	63.5	9.9		17.9	76.2	5.9		22.9	52.3	24.8		
PHF	.616	.867	.776	.861	.732	.875	.767	.833	.882	.924	.889	.923	.791	.912	.857	.956	.937

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 04_FUL_SC_OT Tue AM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 2



Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:45 AM				07:30 AM				07:30 AM			
+0 mins.	25	223	16	264	42	84	13	139	47	192	18	257	31	97	49	177
+15 mins.	21	220	14	255	23	69	10	102	55	198	15	268	29	96	36	161
+30 mins.	16	251	17	284	30	75	15	120	52	223	18	293	46	76	46	168
+45 mins.	28	261	20	309	47	68	7	122	40	211	13	264	49	85	37	171
Total Volume	90	955	67	1112	142	296	45	483	194	824	64	1082	155	354	168	677
% App. Total	8.1	85.9	6		29.4	61.3	9.3		17.9	76.2	5.9		22.9	52.3	24.8	
PHF	.804	.915	.838	.900	.755	.881	.750	.869	.882	.924	.889	.923	.791	.912	.857	.956

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 04_FUL_SC_OT Tue PM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 1

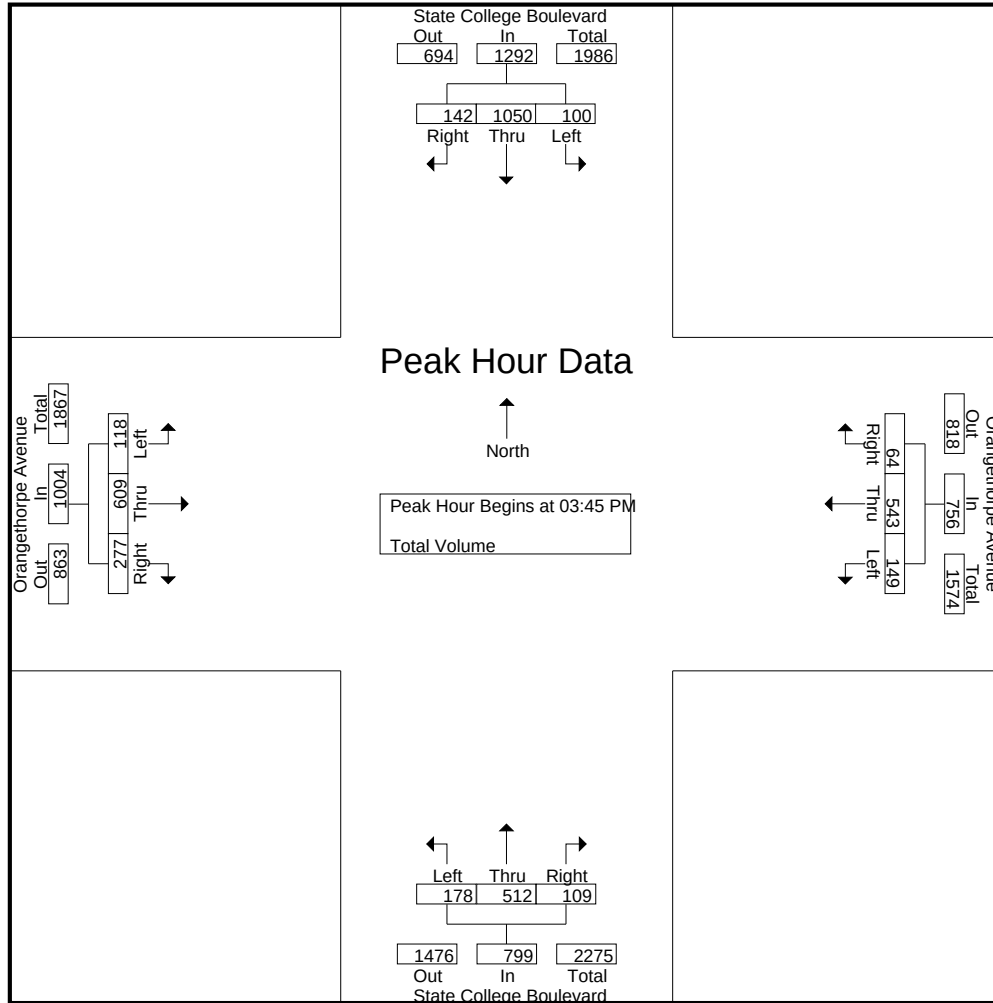
Groups Printed- Total Volume

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	30	245	19	294	37	101	22	160	41	111	16	168	26	117	56	199	821
03:15 PM	27	161	28	216	32	100	17	149	55	136	28	219	32	135	52	219	803
03:30 PM	27	214	27	268	40	128	14	182	43	143	32	218	30	150	82	262	930
03:45 PM	16	245	35	296	44	155	10	209	42	151	33	226	35	150	73	258	989
Total	100	865	109	1074	153	484	63	700	181	541	109	831	123	552	263	938	3543
04:00 PM	33	293	30	356	37	125	15	177	44	120	26	190	21	178	76	275	998
04:15 PM	25	253	39	317	32	126	17	175	43	120	19	182	28	126	59	213	887
04:30 PM	26	259	38	323	36	137	22	195	49	121	31	201	34	155	69	258	977
04:45 PM	25	189	25	239	39	138	24	201	38	147	31	216	28	150	58	236	892
Total	109	994	132	1235	144	526	78	748	174	508	107	789	111	609	262	982	3754
05:00 PM	24	235	26	285	58	129	20	207	39	172	22	233	41	148	76	265	990
05:15 PM	31	214	35	280	40	159	21	220	40	156	28	224	23	112	59	194	918
05:30 PM	17	255	26	298	36	157	22	215	31	157	21	209	28	139	60	227	949
05:45 PM	22	197	20	239	44	87	15	146	19	105	22	146	17	104	47	168	699
Total	94	901	107	1102	178	532	78	788	129	590	93	812	109	503	242	854	3556
06:00 PM	19	172	19	210	37	117	26	180	28	117	35	180	24	121	36	181	751
06:15 PM	14	170	21	205	34	83	10	127	33	142	14	189	30	84	31	145	666
06:30 PM	19	127	15	161	28	73	18	119	21	110	17	148	33	77	30	140	568
06:45 PM	14	161	17	192	21	69	10	100	15	111	24	150	28	69	35	132	574
Total	66	630	72	768	120	342	64	526	97	480	90	667	115	351	132	598	2559
Grand Total	369	3390	420	4179	595	1884	283	2762	581	2119	399	3099	458	2015	899	3372	13412
Apprch %	8.8	81.1	10.1		21.5	68.2	10.2		18.7	68.4	12.9		13.6	59.8	26.7		
Total %	2.8	25.3	3.1	31.2	4.4	14	2.1	20.6	4.3	15.8	3	23.1	3.4	15	6.7	25.1	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	16	245	35	296	44	155	10	209	42	151	33	226	35	150	73	258	989
04:00 PM	33	293	30	356	37	125	15	177	44	120	26	190	21	178	76	275	998
04:15 PM	25	253	39	317	32	126	17	175	43	120	19	182	28	126	59	213	887
04:30 PM	26	259	38	323	36	137	22	195	49	121	31	201	34	155	69	258	977
Total Volume	100	1050	142	1292	149	543	64	756	178	512	109	799	118	609	277	1004	3851
% App. Total	7.7	81.3	11		19.7	71.8	8.5		22.3	64.1	13.6		11.8	60.7	27.6		
PHF	.758	.896	.910	.907	.847	.876	.727	.904	.908	.848	.826	.884	.843	.855	.911	.913	.965

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 04_FUL_SC_OT Tue PM
Site Code : 10524081
Start Date : 1/30/2024
Page No : 2



Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:45 PM				04:45 PM				04:45 PM				03:15 PM			
+0 mins.	16	245	35	296	39	138	24	201	38	147	31	216	32	135	52	219
+15 mins.	33	293	30	356	58	129	20	207	39	172	22	233	30	150	82	262
+30 mins.	25	253	39	317	40	159	21	220	40	156	28	224	35	150	73	258
+45 mins.	26	259	38	323	36	157	22	215	31	157	21	209	21	178	76	275
Total Volume	100	1050	142	1292	173	583	87	843	148	632	102	882	118	613	283	1014
% App. Total	7.7	81.3	11		20.5	69.2	10.3		16.8	71.7	11.6		11.6	60.5	27.9	
PHF	.758	.896	.910	.907	.746	.917	.906	.958	.925	.919	.823	.946	.843	.861	.863	.922

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 04_FUL_SC_OT Wed AM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

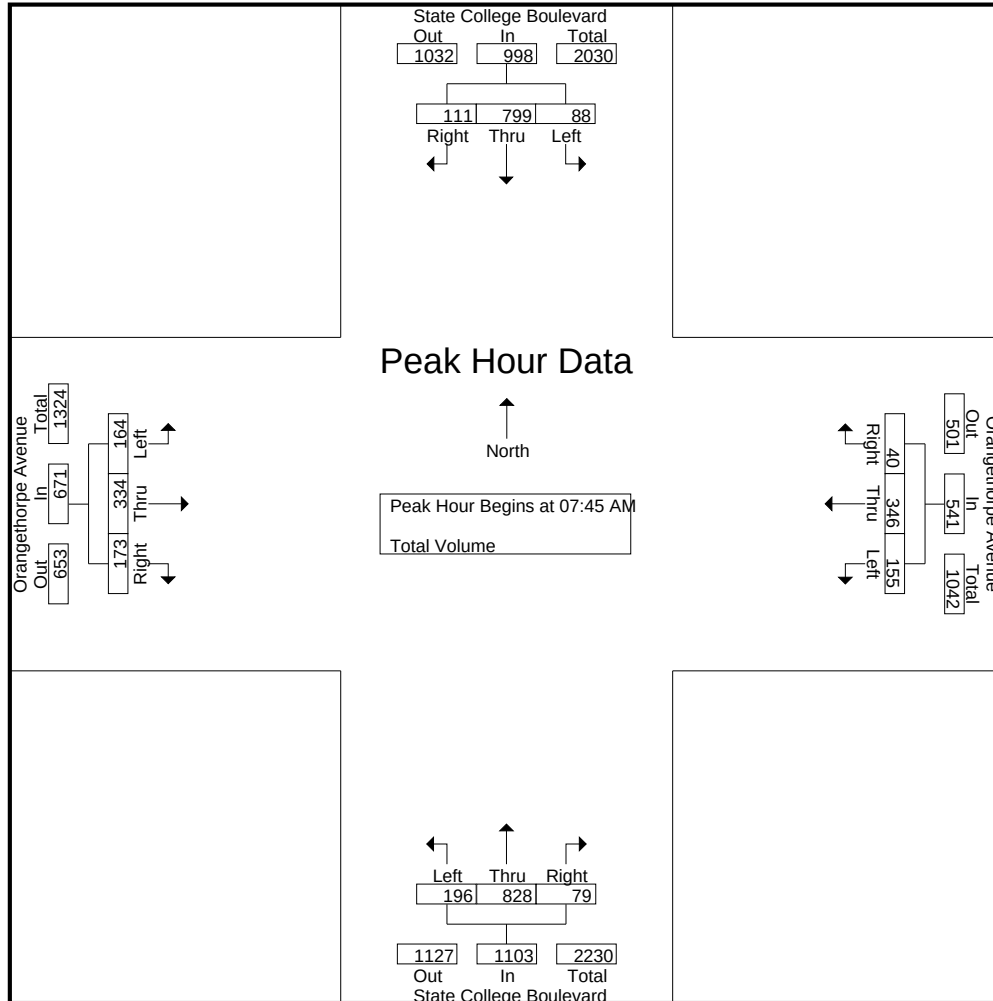
Groups Printed- Total Volume

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	6	44	8	58	13	28	4	45	30	67	12	109	8	35	18	61	273
06:15 AM	8	59	9	76	14	37	3	54	32	81	10	123	9	18	23	50	303
06:30 AM	15	86	11	112	15	46	11	72	33	94	10	137	11	47	29	87	408
06:45 AM	23	141	11	175	14	49	8	71	42	108	13	163	21	57	40	118	527
Total	52	330	39	421	56	160	26	242	137	350	45	532	49	157	110	316	1511
07:00 AM	15	224	19	258	17	43	5	65	44	138	15	197	10	58	24	92	612
07:15 AM	18	233	12	263	32	57	11	100	36	138	26	200	28	97	37	162	725
07:30 AM	21	241	31	293	25	46	9	80	56	183	21	260	24	79	39	142	775
07:45 AM	32	213	28	273	35	93	14	142	47	193	17	257	41	104	36	181	853
Total	86	911	90	1087	109	239	39	387	183	652	79	914	103	338	136	577	2965
08:00 AM	19	201	31	251	39	86	7	132	60	226	21	307	49	75	49	173	863
08:15 AM	17	196	32	245	42	73	9	124	46	225	19	290	42	77	42	161	820
08:30 AM	20	189	20	229	39	94	10	143	43	184	22	249	32	78	46	156	777
08:45 AM	18	182	29	229	80	101	17	198	44	151	15	210	29	92	42	163	800
Total	74	768	112	954	200	354	43	597	193	786	77	1056	152	322	179	653	3260
Grand Total	212	2009	241	2462	365	753	108	1226	513	1788	201	2502	304	817	425	1546	7736
Apprch %	8.6	81.6	9.8		29.8	61.4	8.8		20.5	71.5	8		19.7	52.8	27.5		
Total %	2.7	26	3.1	31.8	4.7	9.7	1.4	15.8	6.6	23.1	2.6	32.3	3.9	10.6	5.5	20	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	32	213	28	273	35	93	14	142	47	193	17	257	41	104	36	181	853
08:00 AM	19	201	31	251	39	86	7	132	60	226	21	307	49	75	49	173	863
08:15 AM	17	196	32	245	42	73	9	124	46	225	19	290	42	77	42	161	820
08:30 AM	20	189	20	229	39	94	10	143	43	184	22	249	32	78	46	156	777
Total Volume	88	799	111	998	155	346	40	541	196	828	79	1103	164	334	173	671	3313
% App. Total	8.8	80.1	11.1		28.7	64	7.4		17.8	75.1	7.2		24.4	49.8	25.8		
PHF	.688	.938	.867	.914	.923	.920	.714	.946	.817	.916	.898	.898	.837	.803	.883	.927	.960

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

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Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				07:30 AM				07:45 AM			
+0 mins.	15	224	19	258	39	86	7	132	56	183	21	260	41	104	36	181
+15 mins.	18	233	12	263	42	73	9	124	47	193	17	257	49	75	49	173
+30 mins.	21	241	31	293	39	94	10	143	60	226	21	307	42	77	42	161
+45 mins.	32	213	28	273	80	101	17	198	46	225	19	290	32	78	46	156
Total Volume	86	911	90	1087	200	354	43	597	209	827	78	1114	164	334	173	671
% App. Total	7.9	83.8	8.3		33.5	59.3	7.2		18.8	74.2	7		24.4	49.8	25.8	
PHF	.672	.945	.726	.927	.625	.876	.632	.754	.871	.915	.929	.907	.837	.803	.883	.927

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 04_FUL_SC_OT Wed PM
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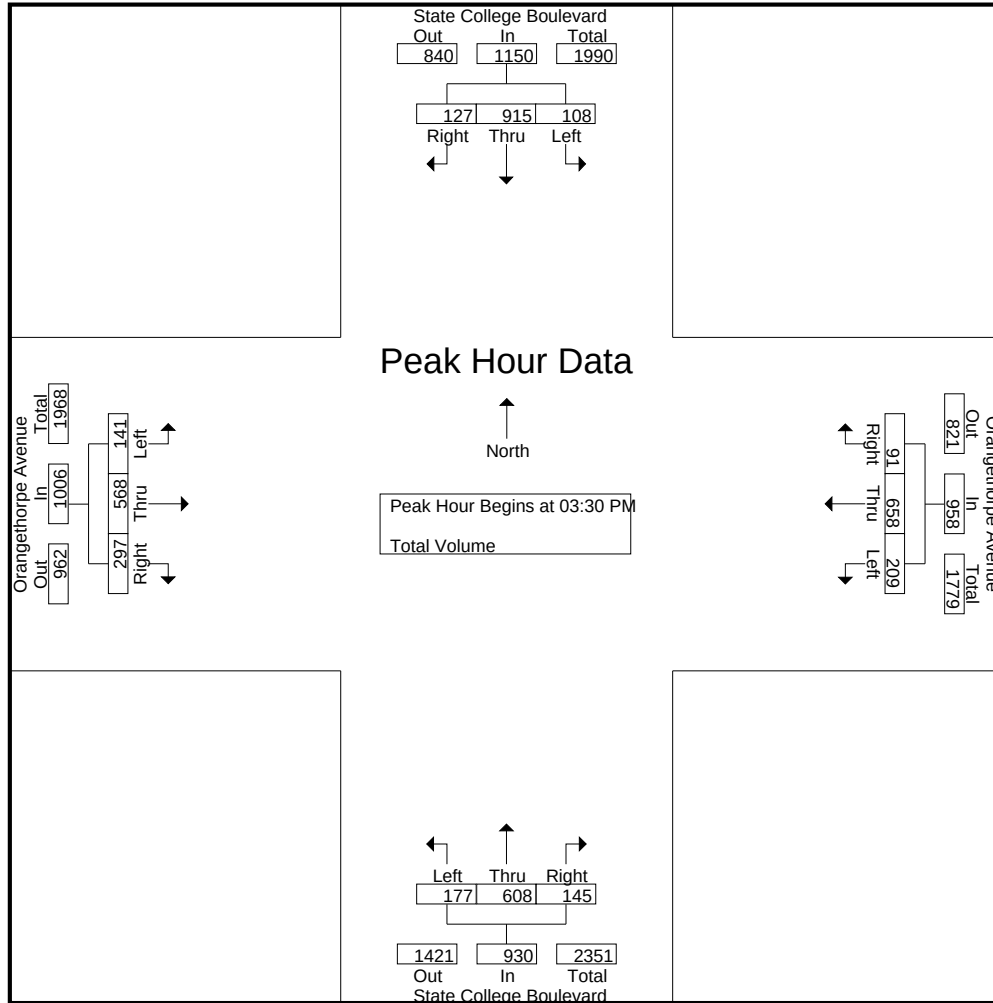
Groups Printed- Total Volume

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	17	181	28	226	45	117	16	178	34	113	26	173	31	126	77	234	811
03:15 PM	16	179	23	218	34	92	18	144	50	117	34	201	34	118	56	208	771
03:30 PM	40	224	33	297	57	149	23	229	43	155	39	237	40	136	89	265	1028
03:45 PM	23	198	29	250	40	182	20	242	50	162	31	243	41	133	69	243	978
Total	96	782	113	991	176	540	77	793	177	547	130	854	146	513	291	950	3588
04:00 PM	30	264	31	325	51	163	25	239	38	141	39	218	40	154	78	272	1054
04:15 PM	15	229	34	278	61	164	23	248	46	150	36	232	20	145	61	226	984
04:30 PM	16	185	36	237	35	150	16	201	50	168	25	243	33	176	76	285	966
04:45 PM	21	171	31	223	64	189	26	279	40	162	29	231	24	129	60	213	946
Total	82	849	132	1063	211	666	90	967	174	621	129	924	117	604	275	996	3950
05:00 PM	27	223	24	274	52	151	19	222	48	169	41	258	38	154	77	269	1023
05:15 PM	22	188	51	261	33	195	17	245	41	185	24	250	29	142	45	216	972
05:30 PM	34	202	33	269	49	138	18	205	37	141	18	196	41	147	51	239	909
05:45 PM	26	197	34	257	65	149	21	235	49	161	26	236	25	114	60	199	927
Total	109	810	142	1061	199	633	75	907	175	656	109	940	133	557	233	923	3831
06:00 PM	21	166	26	213	54	127	15	196	31	135	35	201	30	102	46	178	788
06:15 PM	20	159	15	194	40	81	14	135	36	165	22	223	29	83	42	154	706
06:30 PM	22	156	26	204	40	90	24	154	20	141	28	189	31	93	36	160	707
06:45 PM	18	185	23	226	32	84	15	131	28	131	18	177	27	74	40	141	675
Total	81	666	90	837	166	382	68	616	115	572	103	790	117	352	164	633	2876
Grand Total	368	3107	477	3952	752	2221	310	3283	641	2396	471	3508	513	2026	963	3502	14245
Apprch %	9.3	78.6	12.1		22.9	67.7	9.4		18.3	68.3	13.4		14.6	57.9	27.5		
Total %	2.6	21.8	3.3	27.7	5.3	15.6	2.2	23	4.5	16.8	3.3	24.6	3.6	14.2	6.8	24.6	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	40	224	33	297	57	149	23	229	43	155	39	237	40	136	89	265	1028
03:45 PM	23	198	29	250	40	182	20	242	50	162	31	243	41	133	69	243	978
04:00 PM	30	264	31	325	51	163	25	239	38	141	39	218	40	154	78	272	1054
04:15 PM	15	229	34	278	61	164	23	248	46	150	36	232	20	145	61	226	984
Total Volume	108	915	127	1150	209	658	91	958	177	608	145	930	141	568	297	1006	4044
% App. Total	9.4	79.6	11		21.8	68.7	9.5		19	65.4	15.6		14	56.5	29.5		
PHF	.675	.866	.934	.885	.857	.904	.910	.966	.885	.938	.929	.957	.860	.922	.834	.925	.959

City of Fullerton
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Weather: Clear

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Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:30 PM				04:00 PM				04:30 PM				03:45 PM			
+0 mins.	40	224	33	297	51	163	25	239	50	168	25	243	41	133	69	243
+15 mins.	23	198	29	250	61	164	23	248	40	162	29	231	40	154	78	272
+30 mins.	30	264	31	325	35	150	16	201	48	169	41	258	20	145	61	226
+45 mins.	15	229	34	278	64	189	26	279	41	185	24	250	33	176	76	285
Total Volume	108	915	127	1150	211	666	90	967	179	684	119	982	134	608	284	1026
% App. Total	9.4	79.6	11		21.8	68.9	9.3		18.2	69.7	12.1		13.1	59.3	27.7	
PHF	.675	.866	.934	.885	.824	.881	.865	.866	.895	.924	.726	.952	.817	.864	.910	.900

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 04_FUL_SC_OT Thu AM
Site Code : 10524081
Start Date : 2/1/2024
Page No : 1

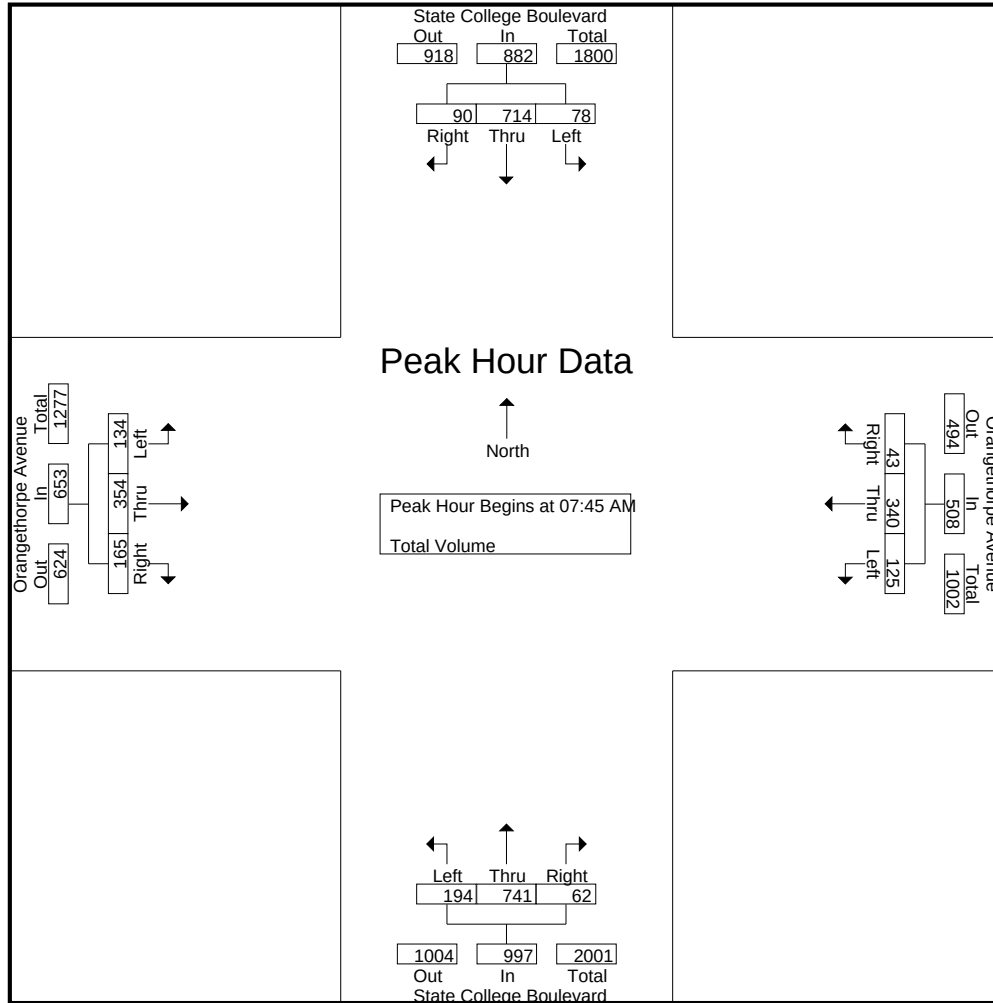
Groups Printed- Total Volume

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	6	42	8	56	27	46	7	80	44	70	8	122	14	26	18	58	316
06:15 AM	8	64	9	81	20	33	2	55	19	79	10	108	5	33	14	52	296
06:30 AM	8	95	9	112	12	46	17	75	34	100	15	149	11	40	24	75	411
06:45 AM	10	138	12	160	10	51	6	67	37	113	15	165	22	67	19	108	500
Total	32	339	38	409	69	176	32	277	134	362	48	544	52	166	75	293	1523
07:00 AM	20	206	16	242	21	34	8	63	35	118	13	166	13	59	26	98	569
07:15 AM	20	190	21	231	23	60	6	89	27	150	25	202	17	80	29	126	648
07:30 AM	11	196	21	228	32	70	8	110	66	168	13	247	26	75	38	139	724
07:45 AM	21	186	25	232	29	83	12	124	58	173	15	246	38	99	43	180	782
Total	72	778	83	933	105	247	34	386	186	609	66	861	94	313	136	543	2723
08:00 AM	13	175	25	213	26	86	7	119	48	219	14	281	36	97	35	168	781
08:15 AM	21	157	24	202	34	90	11	135	48	197	17	262	44	61	42	147	746
08:30 AM	23	196	16	235	36	81	13	130	40	152	16	208	16	97	45	158	731
08:45 AM	18	192	14	224	41	95	14	150	30	144	16	190	23	78	30	131	695
Total	75	720	79	874	137	352	45	534	166	712	63	941	119	333	152	604	2953
Grand Total	179	1837	200	2216	311	775	111	1197	486	1683	177	2346	265	812	363	1440	7199
Apprch %	8.1	82.9	9		26	64.7	9.3		20.7	71.7	7.5		18.4	56.4	25.2		
Total %	2.5	25.5	2.8	30.8	4.3	10.8	1.5	16.6	6.8	23.4	2.5	32.6	3.7	11.3	5	20	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	21	186	25	232	29	83	12	124	58	173	15	246	38	99	43	180	782
08:00 AM	13	175	25	213	26	86	7	119	48	219	14	281	36	97	35	168	781
08:15 AM	21	157	24	202	34	90	11	135	48	197	17	262	44	61	42	147	746
08:30 AM	23	196	16	235	36	81	13	130	40	152	16	208	16	97	45	158	731
Total Volume	78	714	90	882	125	340	43	508	194	741	62	997	134	354	165	653	3040
% App. Total	8.8	81	10.2		24.6	66.9	8.5		19.5	74.3	6.2		20.5	54.2	25.3		
PHF	.848	.911	.900	.938	.868	.944	.827	.941	.836	.846	.912	.887	.761	.894	.917	.907	.972

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

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Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				07:30 AM				07:45 AM			
+0 mins.	20	206	16	242	26	86	7	119	66	168	13	247	38	99	43	180
+15 mins.	20	190	21	231	34	90	11	135	58	173	15	246	36	97	35	168
+30 mins.	11	196	21	228	36	81	13	130	48	219	14	281	44	61	42	147
+45 mins.	21	186	25	232	41	95	14	150	48	197	17	262	16	97	45	158
Total Volume	72	778	83	933	137	352	45	534	220	757	59	1036	134	354	165	653
% App. Total	7.7	83.4	8.9		25.7	65.9	8.4		21.2	73.1	5.7		20.5	54.2	25.3	
PHF	.857	.944	.830	.964	.835	.926	.804	.890	.833	.864	.868	.922	.761	.894	.917	.907

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 04_FUL_SC_OT Thu PM
Site Code : 10524081
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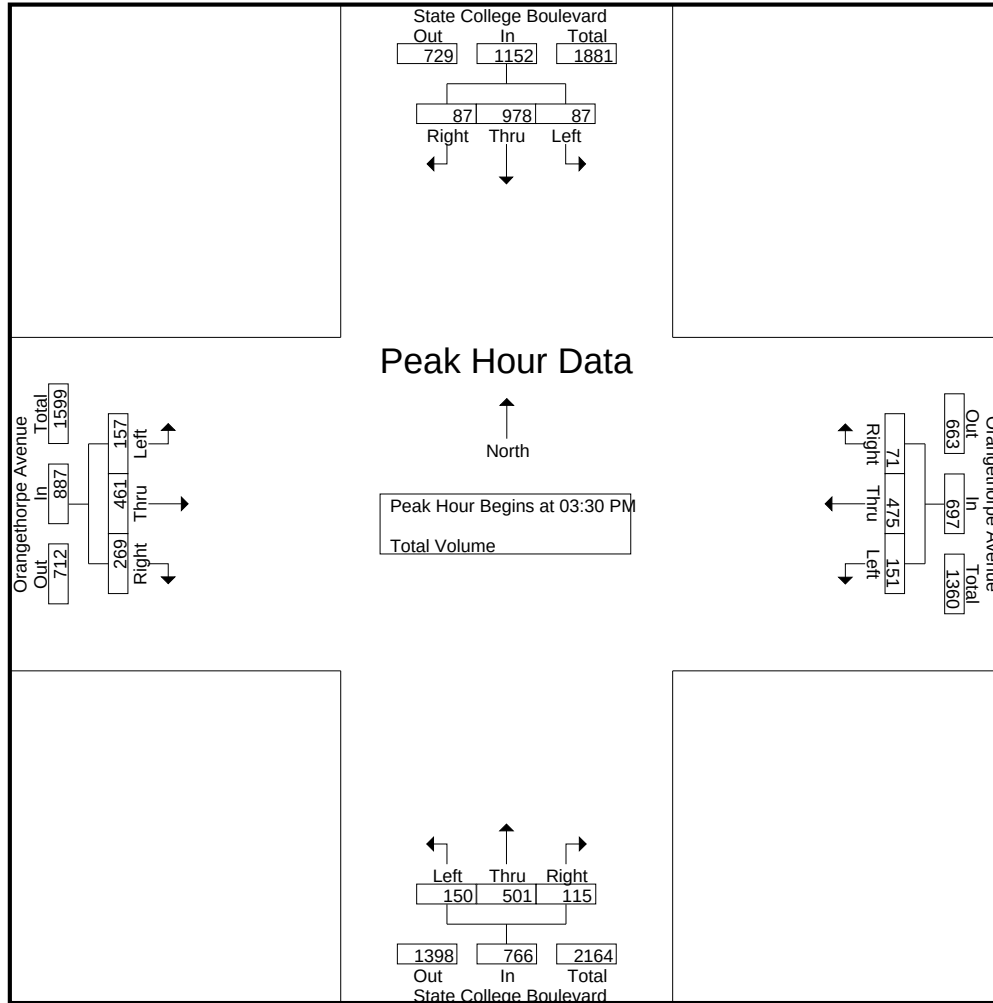
Groups Printed- Total Volume

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	22	193	24	239	29	85	19	133	33	109	21	163	32	135	50	217	752
03:15 PM	13	147	23	183	28	91	11	130	43	121	18	182	25	94	66	185	680
03:30 PM	25	205	22	252	37	125	13	175	31	127	20	178	50	112	55	217	822
03:45 PM	22	224	25	271	36	122	19	177	37	132	37	206	39	123	75	237	891
Total	82	769	94	945	130	423	62	615	144	489	96	729	146	464	246	856	3145
04:00 PM	19	286	21	326	40	126	17	183	40	131	31	202	32	130	79	241	952
04:15 PM	21	263	19	303	38	102	22	162	42	111	27	180	36	96	60	192	837
04:30 PM	23	186	17	226	43	98	14	155	31	127	26	184	29	122	57	208	773
04:45 PM	28	145	26	199	38	108	21	167	35	131	28	194	25	112	45	182	742
Total	91	880	83	1054	159	434	74	667	148	500	112	760	122	460	241	823	3304
05:00 PM	22	206	23	251	52	124	15	191	32	180	25	237	38	125	68	231	910
05:15 PM	22	225	18	265	35	121	16	172	48	135	19	202	26	128	49	203	842
05:30 PM	14	239	16	269	40	99	16	155	25	141	16	182	27	122	52	201	807
05:45 PM	20	174	25	219	50	95	12	157	23	111	27	161	18	85	36	139	676
Total	78	844	82	1004	177	439	59	675	128	567	87	782	109	460	205	774	3235
06:00 PM	23	146	25	194	42	94	15	151	34	118	25	177	20	83	29	132	654
06:15 PM	19	150	19	188	34	66	14	114	23	129	24	176	25	73	37	135	613
06:30 PM	15	130	15	160	34	61	9	104	30	120	28	178	20	76	28	124	566
06:45 PM	8	160	22	190	29	55	11	95	23	75	27	125	21	51	41	113	523
Total	65	586	81	732	139	276	49	464	110	442	104	656	86	283	135	504	2356
Grand Total	316	3079	340	3735	605	1572	244	2421	530	1998	399	2927	463	1667	827	2957	12040
Apprch %	8.5	82.4	9.1		25	64.9	10.1		18.1	68.3	13.6		15.7	56.4	28		
Total %	2.6	25.6	2.8	31	5	13.1	2	20.1	4.4	16.6	3.3	24.3	3.8	13.8	6.9	24.6	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	25	205	22	252	37	125	13	175	31	127	20	178	50	112	55	217	822
03:45 PM	22	224	25	271	36	122	19	177	37	132	37	206	39	123	75	237	891
04:00 PM	19	286	21	326	40	126	17	183	40	131	31	202	32	130	79	241	952
04:15 PM	21	263	19	303	38	102	22	162	42	111	27	180	36	96	60	192	837
Total Volume	87	978	87	1152	151	475	71	697	150	501	115	766	157	461	269	887	3502
% App. Total	7.6	84.9	7.6		21.7	68.1	10.2		19.6	65.4	15		17.7	52	30.3		
PHF	.870	.855	.870	.883	.944	.942	.807	.952	.893	.949	.777	.930	.785	.887	.851	.920	.920

City of Fullerton
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E/W: Orangethorpe Avenue
Weather: Clear

File Name : 04_FUL_SC_OT Thu PM
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Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:30 PM				03:30 PM				04:30 PM				03:30 PM			
+0 mins.	25	205	22	252	37	125	13	175	31	127	26	184	50	112	55	217
+15 mins.	22	224	25	271	36	122	19	177	35	131	28	194	39	123	75	237
+30 mins.	19	286	21	326	40	126	17	183	32	180	25	237	32	130	79	241
+45 mins.	21	263	19	303	38	102	22	162	48	135	19	202	36	96	60	192
Total Volume	87	978	87	1152	151	475	71	697	146	573	98	817	157	461	269	887
% App. Total	7.6	84.9	7.6		21.7	68.1	10.2		17.9	70.1	12		17.7	52	30.3	
PHF	.870	.855	.870	.883	.944	.942	.807	.952	.760	.796	.875	.862	.785	.887	.851	.920

City of Fullerton
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Weather: Clear

File Name : 04_FUL_SC_OT WED AM
Site Code : 10524081
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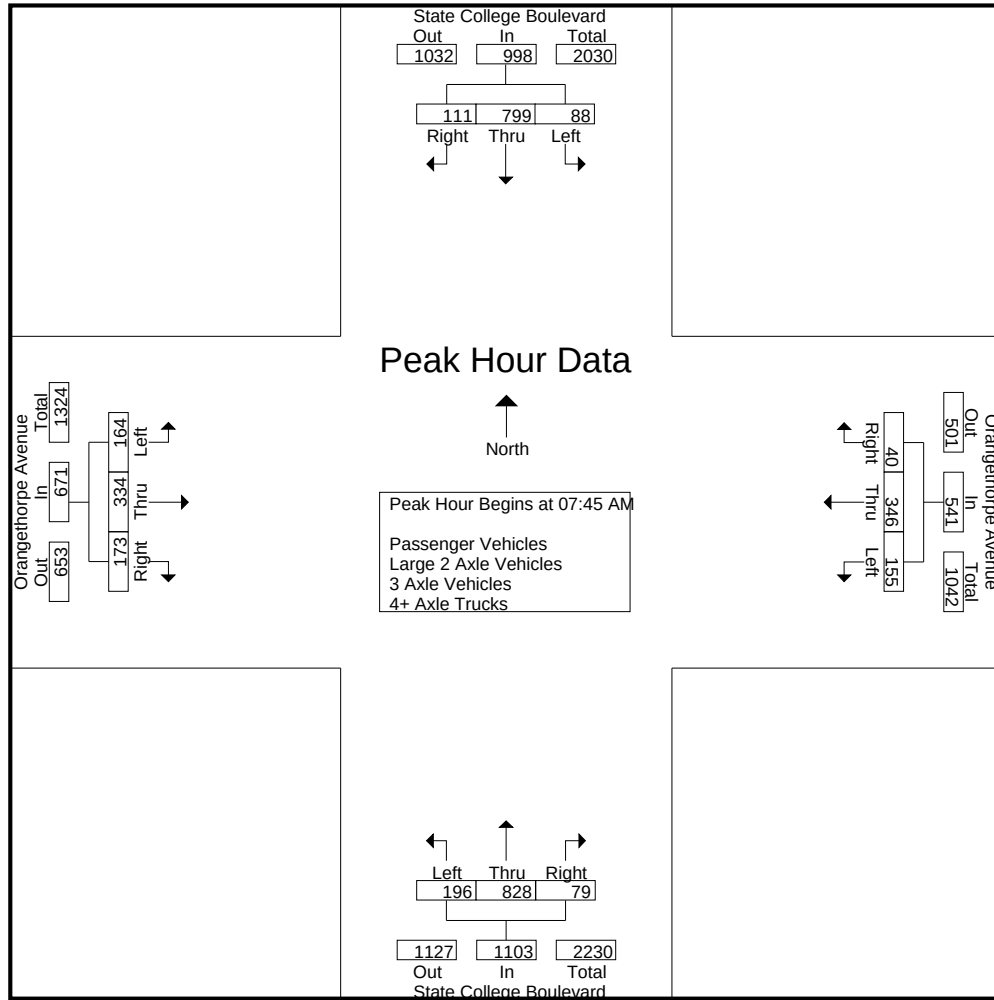
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	6	44	8	58	13	28	4	45	30	67	12	109	8	35	18	61	273
06:15 AM	8	59	9	76	14	37	3	54	32	81	10	123	9	18	23	50	303
06:30 AM	15	86	11	112	15	46	11	72	33	94	10	137	11	47	29	87	408
06:45 AM	23	141	11	175	14	49	8	71	42	108	13	163	21	57	40	118	527
Total	52	330	39	421	56	160	26	242	137	350	45	532	49	157	110	316	1511
07:00 AM	15	224	19	258	17	43	5	65	44	138	15	197	10	58	24	92	612
07:15 AM	18	233	12	263	32	57	11	100	36	138	26	200	28	97	37	162	725
07:30 AM	21	241	31	293	25	46	9	80	56	183	21	260	24	79	39	142	775
07:45 AM	32	213	28	273	35	93	14	142	47	193	17	257	41	104	36	181	853
Total	86	911	90	1087	109	239	39	387	183	652	79	914	103	338	136	577	2965
08:00 AM	19	201	31	251	39	86	7	132	60	226	21	307	49	75	49	173	863
08:15 AM	17	196	32	245	42	73	9	124	46	225	19	290	42	77	42	161	820
08:30 AM	20	189	20	229	39	94	10	143	43	184	22	249	32	78	46	156	777
08:45 AM	18	182	29	229	80	101	17	198	44	151	15	210	29	92	42	163	800
Total	74	768	112	954	200	354	43	597	193	786	77	1056	152	322	179	653	3260
Grand Total	212	2009	241	2462	365	753	108	1226	513	1788	201	2502	304	817	425	1546	7736
Apprch %	8.6	81.6	9.8		29.8	61.4	8.8		20.5	71.5	8		19.7	52.8	27.5		
Total %	2.7	26	3.1	31.8	4.7	9.7	1.4	15.8	6.6	23.1	2.6	32.3	3.9	10.6	5.5	20	
Passenger Vehicles	182	1924	228	2334	331	701	97	1129	476	1726	183	2385	293	738	360	1391	7239
% Passenger Vehicles	85.8	95.8	94.6	94.8	90.7	93.1	89.8	92.1	92.8	96.5	91	95.3	96.4	90.3	84.7	90	93.6
Large 2 Axle Vehicles	14	51	9	74	14	23	5	42	24	25	9	58	7	44	31	82	256
% Large 2 Axle Vehicles	6.6	2.5	3.7	3	3.8	3.1	4.6	3.4	4.7	1.4	4.5	2.3	2.3	5.4	7.3	5.3	3.3
3 Axle Vehicles	6	5	3	14	13	4	3	20	5	15	3	23	2	10	20	32	89
% 3 Axle Vehicles	2.8	0.2	1.2	0.6	3.6	0.5	2.8	1.6	1	0.8	1.5	0.9	0.7	1.2	4.7	2.1	1.2
4+ Axle Trucks	10	29	1	40	7	25	3	35	8	22	6	36	2	25	14	41	152
% 4+ Axle Trucks	4.7	1.4	0.4	1.6	1.9	3.3	2.8	2.9	1.6	1.2	3	1.4	0.7	3.1	3.3	2.7	2

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	32	213	28	273	35	93	14	142	47	193	17	257	41	104	36	181	853
08:00 AM	19	201	31	251	39	86	7	132	60	226	21	307	49	75	49	173	863
08:15 AM	17	196	32	245	42	73	9	124	46	225	19	290	42	77	42	161	820
08:30 AM	20	189	20	229	39	94	10	143	43	184	22	249	32	78	46	156	777
Total Volume	88	799	111	998	155	346	40	541	196	828	79	1103	164	334	173	671	3313
% App. Total	8.8	80.1	11.1		28.7	64	7.4		17.8	75.1	7.2		24.4	49.8	25.8		
PHF	.688	.938	.867	.914	.923	.920	.714	.946	.817	.916	.898	.898	.837	.803	.883	.927	.960

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

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Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				07:30 AM				07:45 AM			
+0 mins.	15	224	19	258	39	86	7	132	56	183	21	260	41	104	36	181
+15 mins.	18	233	12	263	42	73	9	124	47	193	17	257	49	75	49	173
+30 mins.	21	241	31	293	39	94	10	143	60	226	21	307	42	77	42	161
+45 mins.	32	213	28	273	80	101	17	198	46	225	19	290	32	78	46	156
Total Volume	86	911	90	1087	200	354	43	597	209	827	78	1114	164	334	173	671
% App. Total	7.9	83.8	8.3		33.5	59.3	7.2		18.8	74.2	7		24.4	49.8	25.8	
PHF	.672	.945	.726	.927	.625	.876	.632	.754	.871	.915	.929	.907	.837	.803	.883	.927

City of Fullerton
N/S: State College Boulevard
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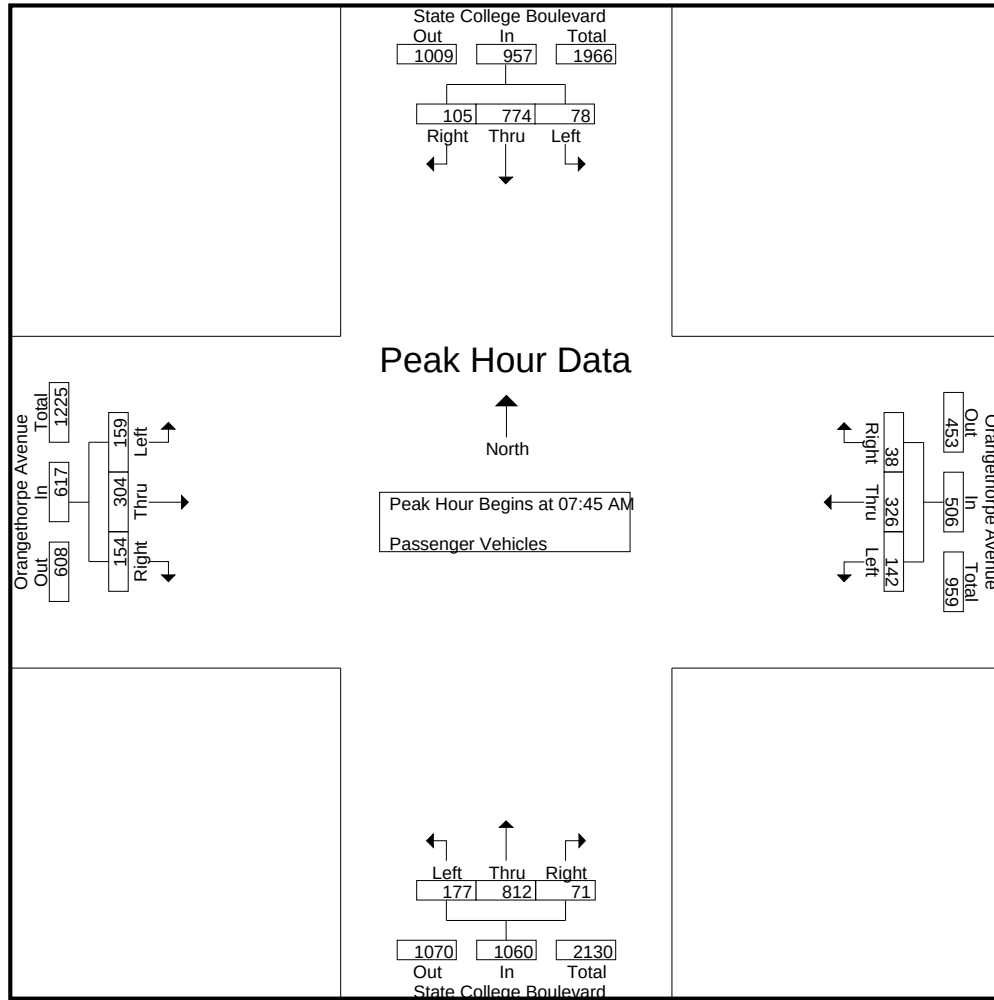
Groups Printed- Passenger Vehicles

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	6	36	8	50	11	25	4	40	26	64	12	102	8	30	11	49	241
06:15 AM	4	55	8	67	11	35	3	49	30	80	8	118	9	13	17	39	273
06:30 AM	12	82	9	103	13	42	7	62	32	90	10	132	10	42	19	71	368
06:45 AM	16	132	10	158	14	45	8	67	40	101	12	153	20	53	28	101	479
Total	38	305	35	378	49	147	22	218	128	335	42	505	47	138	75	260	1361
07:00 AM	14	213	18	245	15	37	3	55	41	133	11	185	9	52	24	85	570
07:15 AM	17	227	12	256	31	53	10	94	35	130	26	191	26	89	35	150	691
07:30 AM	21	231	29	281	21	42	8	71	55	172	21	248	23	69	33	125	725
07:45 AM	28	208	27	263	33	88	14	135	44	191	14	249	37	98	35	170	817
Total	80	879	86	1045	100	220	35	355	175	626	72	873	95	308	127	530	2803
08:00 AM	16	190	29	235	34	82	6	122	57	222	21	300	48	66	43	157	814
08:15 AM	15	193	30	238	39	67	8	114	40	223	16	279	42	72	39	153	784
08:30 AM	19	183	19	221	36	89	10	135	36	176	20	232	32	68	37	137	725
08:45 AM	14	174	29	217	73	96	16	185	40	144	12	196	29	86	39	154	752
Total	64	740	107	911	182	334	40	556	173	765	69	1007	151	292	158	601	3075
Grand Total	182	1924	228	2334	331	701	97	1129	476	1726	183	2385	293	738	360	1391	7239
Apprch %	7.8	82.4	9.8		29.3	62.1	8.6		20	72.4	7.7		21.1	53.1	25.9		
Total %	2.5	26.6	3.1	32.2	4.6	9.7	1.3	15.6	6.6	23.8	2.5	32.9	4	10.2	5	19.2	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	28	208	27	263	33	88	14	135	44	191	14	249	37	98	35	170	817
08:00 AM	16	190	29	235	34	82	6	122	57	222	21	300	48	66	43	157	814
08:15 AM	15	193	30	238	39	67	8	114	40	223	16	279	42	72	39	153	784
08:30 AM	19	183	19	221	36	89	10	135	36	176	20	232	32	68	37	137	725
Total Volume	78	774	105	957	142	326	38	506	177	812	71	1060	159	304	154	617	3140
% App. Total	8.2	80.9	11		28.1	64.4	7.5		16.7	76.6	6.7		25.8	49.3	25		
PHF	.696	.930	.875	.910	.910	.916	.679	.937	.776	.910	.845	.883	.828	.776	.895	.907	.961

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	28	208	27	263	33	88	14	135	44	191	14	249	37	98	35	170
+15 mins.	16	190	29	235	34	82	6	122	57	222	21	300	48	66	43	157
+30 mins.	15	193	30	238	39	67	8	114	40	223	16	279	42	72	39	153
+45 mins.	19	183	19	221	36	89	10	135	36	176	20	232	32	68	37	137
Total Volume	78	774	105	957	142	326	38	506	177	812	71	1060	159	304	154	617
% App. Total	8.2	80.9	11		28.1	64.4	7.5		16.7	76.6	6.7		25.8	49.3	25	
PHF	.696	.930	.875	.910	.910	.916	.679	.937	.776	.910	.845	.883	.828	.776	.895	.907

City of Fullerton
N/S: State College Boulevard
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File Name : 04_FUL_SC_OT WED AM
Site Code : 10524081
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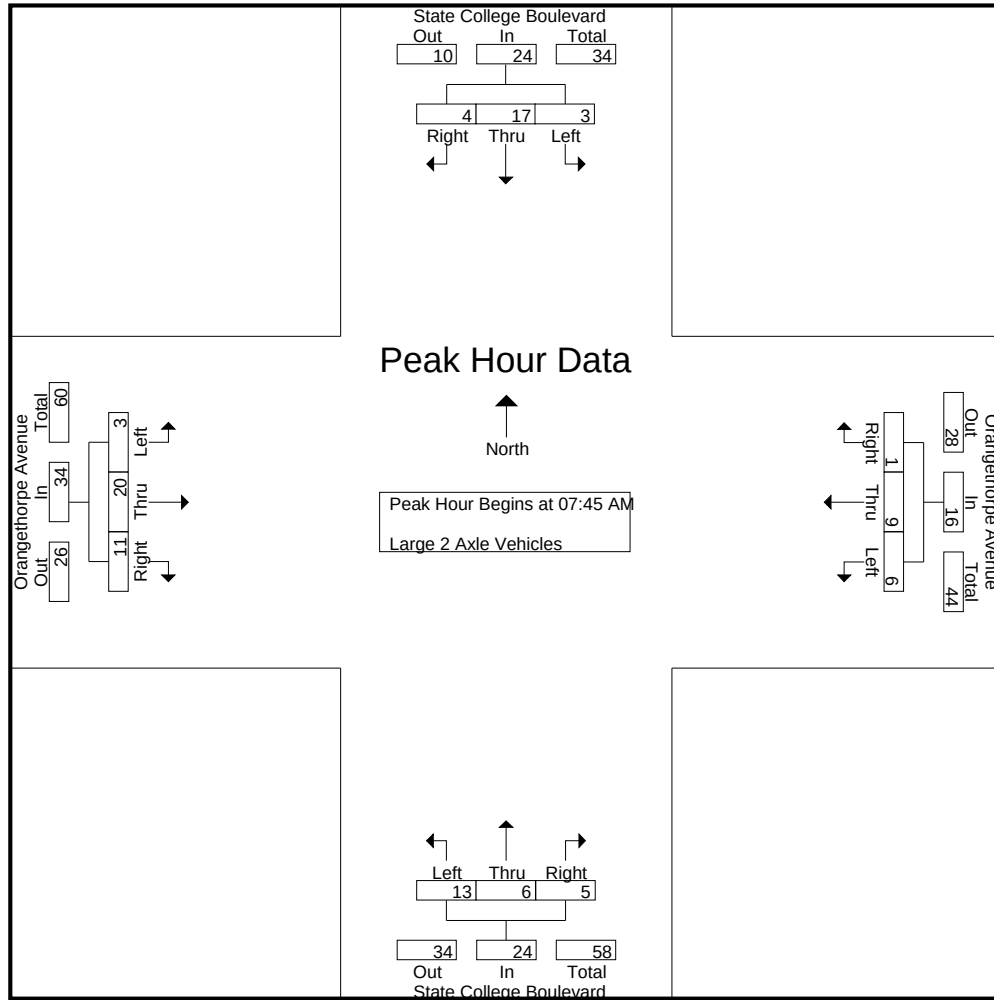
Groups Printed- Large 2 Axle Vehicles

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	2	0	2	0	1	0	1	2	1	0	3	0	2	1	3	9
06:15 AM	3	0	0	3	0	1	0	1	1	1	0	2	0	3	2	5	11
06:30 AM	0	4	1	5	1	4	2	7	1	2	0	3	0	2	6	8	23
06:45 AM	4	8	1	13	0	1	0	1	2	1	1	4	1	3	6	10	28
Total	7	14	2	23	1	7	2	10	6	5	1	12	1	10	15	26	71
07:00 AM	1	8	1	10	1	1	0	2	2	1	1	4	0	4	0	4	20
07:15 AM	0	4	0	4	0	3	1	4	1	3	0	4	2	4	0	6	18
07:30 AM	0	4	2	6	2	2	0	4	1	6	0	7	1	2	4	7	24
07:45 AM	2	4	0	6	0	2	0	2	2	1	3	6	2	3	0	5	19
Total	3	20	3	26	3	8	1	12	6	11	4	21	5	13	4	22	81
08:00 AM	0	8	1	9	4	2	1	7	2	2	0	4	1	6	3	10	30
08:15 AM	0	1	2	3	2	2	0	4	3	1	0	4	0	4	2	6	17
08:30 AM	1	4	1	6	0	3	0	3	6	2	2	10	0	7	6	13	32
08:45 AM	3	4	0	7	4	1	1	6	1	4	2	7	0	4	1	5	25
Total	4	17	4	25	10	8	2	20	12	9	4	25	1	21	12	34	104
Grand Total	14	51	9	74	14	23	5	42	24	25	9	58	7	44	31	82	256
Apprch %	18.9	68.9	12.2		33.3	54.8	11.9		41.4	43.1	15.5		8.5	53.7	37.8		
Total %	5.5	19.9	3.5	28.9	5.5	9	2	16.4	9.4	9.8	3.5	22.7	2.7	17.2	12.1	32	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	2	4	0	6	0	2	0	2	2	1	3	6	2	3	0	5	19
08:00 AM	0	8	1	9	4	2	1	7	2	2	0	4	1	6	3	10	30
08:15 AM	0	1	2	3	2	2	0	4	3	1	0	4	0	4	2	6	17
08:30 AM	1	4	1	6	0	3	0	3	6	2	2	10	0	7	6	13	32
Total Volume	3	17	4	24	6	9	1	16	13	6	5	24	3	20	11	34	98
% App. Total	12.5	70.8	16.7		37.5	56.2	6.2		54.2	25	20.8		8.8	58.8	32.4		
PHF	.375	.531	.500	.667	.375	.750	.250	.571	.542	.750	.417	.600	.375	.714	.458	.654	.766

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	2	4	0	6	0	2	0	2	2	1	3	6	2	3	0	5
+15 mins.	0	8	1	9	4	2	1	7	2	2	0	4	1	6	3	10
+30 mins.	0	1	2	3	2	2	0	4	3	1	0	4	0	4	2	6
+45 mins.	1	4	1	6	0	3	0	3	6	2	2	10	0	7	6	13
Total Volume	3	17	4	24	6	9	1	16	13	6	5	24	3	20	11	34
% App. Total	12.5	70.8	16.7		37.5	56.2	6.2		54.2	25	20.8		8.8	58.8	32.4	
PHF	.375	.531	.500	.667	.375	.750	.250	.571	.542	.750	.417	.600	.375	.714	.458	.654

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
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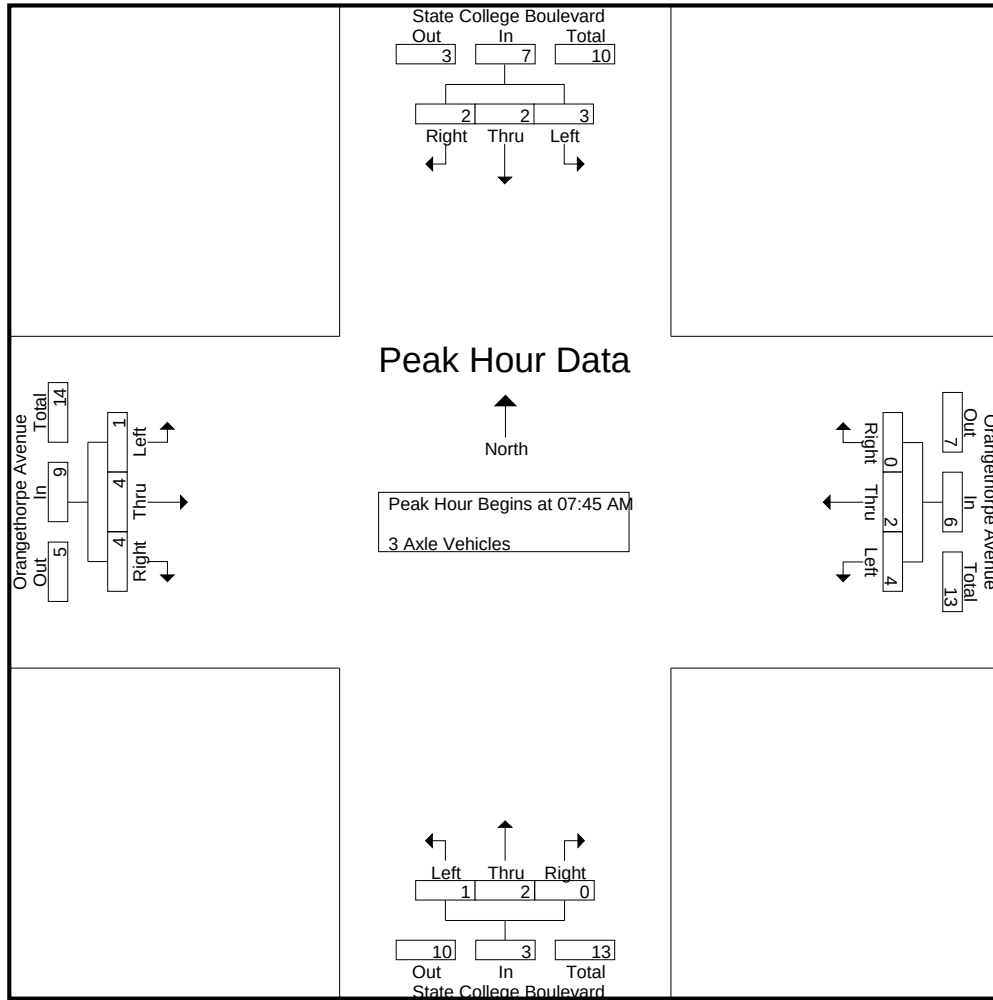
Groups Printed- 3 Axle Vehicles

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	1	0	0	1	2	0	0	2	0	2	3	5	8
06:15 AM	0	0	0	0	2	0	0	2	0	0	1	1	0	0	2	2	5
06:30 AM	0	0	1	1	1	0	2	3	0	2	0	2	1	2	4	7	13
06:45 AM	2	0	0	2	0	0	0	0	0	4	0	4	0	0	4	4	10
Total	2	0	1	3	4	0	2	6	2	6	1	9	1	4	13	18	36
07:00 AM	0	0	0	0	1	1	0	2	0	1	2	3	0	1	0	1	6
07:15 AM	0	0	0	0	1	0	0	1	0	3	0	3	0	0	2	2	6
07:30 AM	0	0	0	0	2	0	1	3	0	3	0	3	0	0	0	0	6
07:45 AM	0	0	1	1	2	1	0	3	0	0	0	0	1	1	1	3	7
Total	0	0	1	1	6	2	1	9	0	7	2	9	1	2	3	6	25
08:00 AM	2	1	1	4	0	0	0	0	0	1	0	1	0	2	2	4	9
08:15 AM	1	1	0	2	1	1	0	2	1	0	0	1	0	1	1	2	7
08:30 AM	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	2
08:45 AM	1	3	0	4	1	1	0	2	2	0	0	2	0	1	1	2	10
Total	4	5	1	10	3	2	0	5	3	2	0	5	0	4	4	8	28
Grand Total	6	5	3	14	13	4	3	20	5	15	3	23	2	10	20	32	89
Apprch %	42.9	35.7	21.4		65	20	15		21.7	65.2	13		6.2	31.2	62.5		
Total %	6.7	5.6	3.4	15.7	14.6	4.5	3.4	22.5	5.6	16.9	3.4	25.8	2.2	11.2	22.5	36	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	1	1	2	1	0	3	0	0	0	0	1	1	1	3	7
08:00 AM	2	1	1	4	0	0	0	0	0	1	0	1	0	2	2	4	9
08:15 AM	1	1	0	2	1	1	0	2	1	0	0	1	0	1	1	2	7
08:30 AM	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	2
Total Volume	3	2	2	7	4	2	0	6	1	2	0	3	1	4	4	9	25
% App. Total	42.9	28.6	28.6		66.7	33.3	0		33.3	66.7	0		11.1	44.4	44.4		
PHF	.375	.500	.500	.438	.500	.500	.000	.500	.250	.500	.000	.750	.250	.500	.500	.563	.694

City of Fullerton
N/S: State College Boulevard
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Weather: Clear

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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	0	0	1	1	2	1	0	3	0	0	0	0	1	1	1	3
+15 mins.	2	1	1	4	0	0	0	0	0	1	0	1	0	2	2	4
+30 mins.	1	1	0	2	1	1	0	2	1	0	0	1	0	1	1	2
+45 mins.	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0
Total Volume	3	2	2	7	4	2	0	6	1	2	0	3	1	4	4	9
% App. Total	42.9	28.6	28.6		66.7	33.3	0		33.3	66.7	0		11.1	44.4	44.4	
PHF	.375	.500	.500	.438	.500	.500	.000	.500	.250	.500	.000	.750	.250	.500	.500	.563

City of Fullerton
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Weather: Clear

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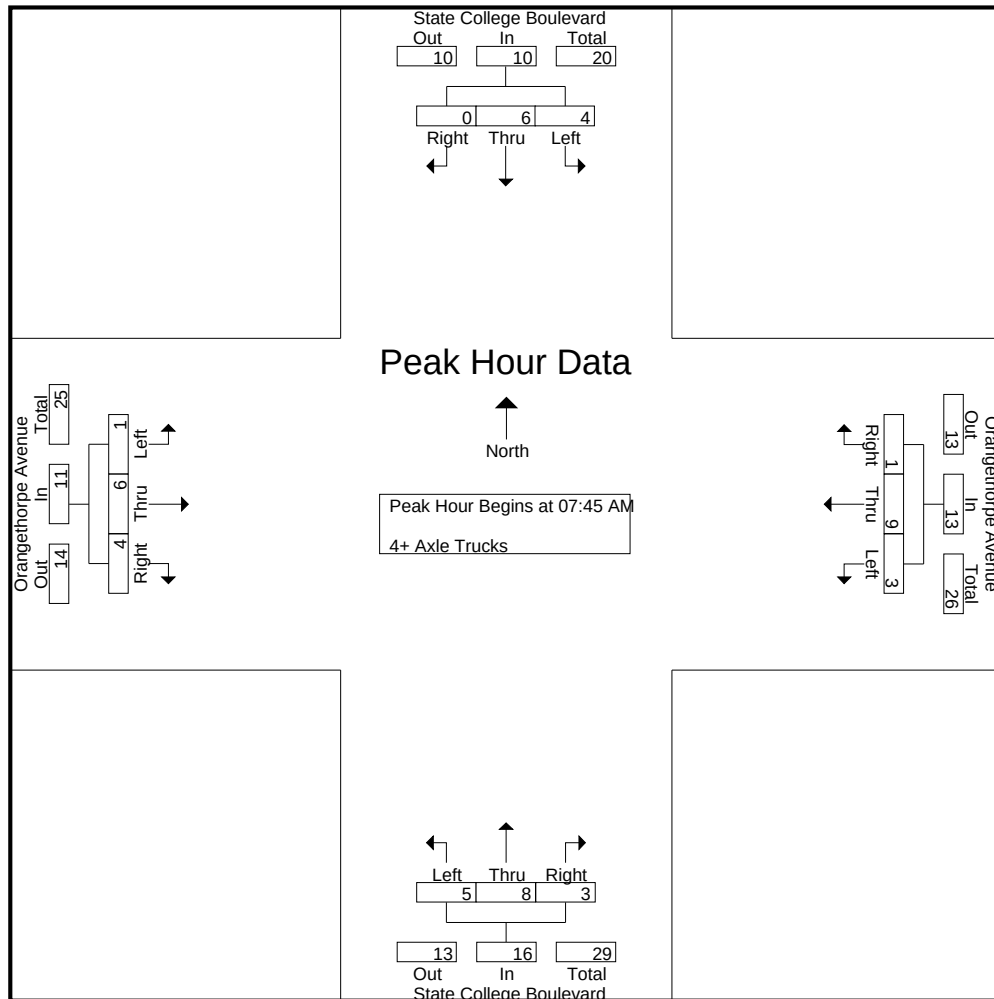
Groups Printed- 4+ Axle Trucks

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	6	0	6	1	2	0	3	0	2	0	2	0	1	3	4	15
06:15 AM	1	4	1	6	1	1	0	2	1	0	1	2	0	2	2	4	14
06:30 AM	3	0	0	3	0	0	0	0	0	0	0	0	0	1	0	1	4
06:45 AM	1	1	0	2	0	3	0	3	0	2	0	2	0	1	2	3	10
Total	5	11	1	17	2	6	0	8	1	4	1	6	0	5	7	12	43
07:00 AM	0	3	0	3	0	4	2	6	1	3	1	5	1	1	0	2	16
07:15 AM	1	2	0	3	0	1	0	1	0	2	0	2	0	4	0	4	10
07:30 AM	0	6	0	6	0	2	0	2	0	2	0	2	0	8	2	10	20
07:45 AM	2	1	0	3	0	2	0	2	1	1	0	2	1	2	0	3	10
Total	3	12	0	15	0	9	2	11	2	8	1	11	2	15	2	19	56
08:00 AM	1	2	0	3	1	2	0	3	1	1	0	2	0	1	1	2	10
08:15 AM	1	1	0	2	0	3	1	4	2	1	3	6	0	0	0	0	12
08:30 AM	0	2	0	2	2	2	0	4	1	5	0	6	0	3	3	6	18
08:45 AM	0	1	0	1	2	3	0	5	1	3	1	5	0	1	1	2	13
Total	2	6	0	8	5	10	1	16	5	10	4	19	0	5	5	10	53
Grand Total	10	29	1	40	7	25	3	35	8	22	6	36	2	25	14	41	152
Apprch %	25	72.5	2.5		20	71.4	8.6		22.2	61.1	16.7		4.9	61	34.1		
Total %	6.6	19.1	0.7	26.3	4.6	16.4	2	23	5.3	14.5	3.9	23.7	1.3	16.4	9.2	27	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	2	1	0	3	0	2	0	2	1	1	0	2	1	2	0	3	10
08:00 AM	1	2	0	3	1	2	0	3	1	1	0	2	0	1	1	2	10
08:15 AM	1	1	0	2	0	3	1	4	2	1	3	6	0	0	0	0	12
08:30 AM	0	2	0	2	2	2	0	4	1	5	0	6	0	3	3	6	18
Total Volume	4	6	0	10	3	9	1	13	5	8	3	16	1	6	4	11	50
% App. Total	40	60	0		23.1	69.2	7.7		31.2	50	18.8		9.1	54.5	36.4		
PHF	.500	.750	.000	.833	.375	.750	.250	.813	.625	.400	.250	.667	.250	.500	.333	.458	.694

City of Fullerton
N/S: State College Boulevard
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Weather: Clear

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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	2	1	0	3	0	2	0	2	1	1	0	2	1	2	0	3
+15 mins.	1	2	0	3	1	2	0	3	1	1	0	2	0	1	1	2
+30 mins.	1	1	0	2	0	3	1	4	2	1	3	6	0	0	0	0
+45 mins.	0	2	0	2	2	2	0	4	1	5	0	6	0	3	3	6
Total Volume	4	6	0	10	3	9	1	13	5	8	3	16	1	6	4	11
% App. Total	40	60	0		23.1	69.2	7.7		31.2	50	18.8		9.1	54.5	36.4	
PHF	.500	.750	.000	.833	.375	.750	.250	.813	.625	.400	.250	.667	.250	.500	.333	.458

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 04_FUL_SC_OT WED PM
Site Code : 10524081
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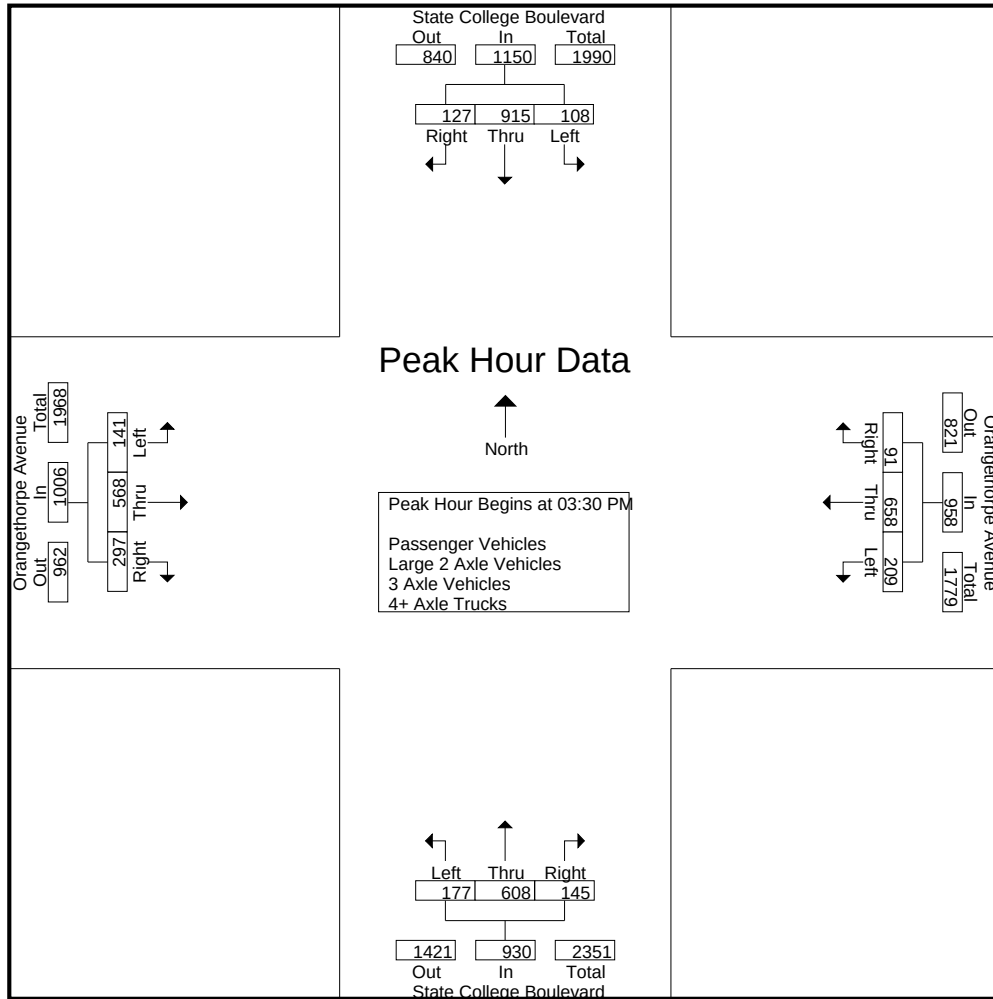
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	17	181	28	226	45	117	16	178	34	113	26	173	31	126	77	234	811
03:15 PM	16	179	23	218	34	92	18	144	50	117	34	201	34	118	56	208	771
03:30 PM	40	224	33	297	57	149	23	229	43	155	39	237	40	136	89	265	1028
03:45 PM	23	198	29	250	40	182	20	242	50	162	31	243	41	133	69	243	978
Total	96	782	113	991	176	540	77	793	177	547	130	854	146	513	291	950	3588
04:00 PM	30	264	31	325	51	163	25	239	38	141	39	218	40	154	78	272	1054
04:15 PM	15	229	34	278	61	164	23	248	46	150	36	232	20	145	61	226	984
04:30 PM	16	185	36	237	35	150	16	201	50	168	25	243	33	176	76	285	966
04:45 PM	21	171	31	223	64	189	26	279	40	162	29	231	24	129	60	213	946
Total	82	849	132	1063	211	666	90	967	174	621	129	924	117	604	275	996	3950
05:00 PM	27	223	24	274	52	151	19	222	48	169	41	258	38	154	77	269	1023
05:15 PM	22	188	51	261	33	195	17	245	41	185	24	250	29	142	45	216	972
05:30 PM	34	202	33	269	49	138	18	205	37	141	18	196	41	147	51	239	909
05:45 PM	26	197	34	257	65	149	21	235	49	161	26	236	25	114	60	199	927
Total	109	810	142	1061	199	633	75	907	175	656	109	940	133	557	233	923	3831
06:00 PM	21	166	26	213	54	127	15	196	31	135	35	201	30	102	46	178	788
06:15 PM	20	159	15	194	40	81	14	135	36	165	22	223	29	83	42	154	706
06:30 PM	22	156	26	204	40	90	24	154	20	141	28	189	31	93	36	160	707
06:45 PM	18	185	23	226	32	84	15	131	28	131	18	177	27	74	40	141	675
Total	81	666	90	837	166	382	68	616	115	572	103	790	117	352	164	633	2876
Grand Total	368	3107	477	3952	752	2221	310	3283	641	2396	471	3508	513	2026	963	3502	14245
Apprch %	9.3	78.6	12.1		22.9	67.7	9.4		18.3	68.3	13.4		14.6	57.9	27.5		
Total %	2.6	21.8	3.3	27.7	5.3	15.6	2.2	23	4.5	16.8	3.3	24.6	3.6	14.2	6.8	24.6	
Passenger Vehicles	337	3058	454	3849	718	2134	300	3152	580	2341	451	3372	502	1956	922	3380	13753
% Passenger Vehicles	91.6	98.4	95.2	97.4	95.5	96.1	96.8	96	90.5	97.7	95.8	96.1	97.9	96.5	95.7	96.5	96.5
Large 2 Axle Vehicles	12	27	11	50	13	43	3	59	38	34	13	85	6	32	25	63	257
% Large 2 Axle Vehicles	3.3	0.9	2.3	1.3	1.7	1.9	1	1.8	5.9	1.4	2.8	2.4	1.2	1.6	2.6	1.8	1.8
3 Axle Vehicles	15	8	7	30	10	15	2	27	10	8	2	20	2	10	5	17	94
% 3 Axle Vehicles	4.1	0.3	1.5	0.8	1.3	0.7	0.6	0.8	1.6	0.3	0.4	0.6	0.4	0.5	0.5	0.5	0.7
4+ Axle Trucks	4	14	5	23	11	29	5	45	13	13	5	31	3	28	11	42	141
% 4+ Axle Trucks	1.1	0.5	1	0.6	1.5	1.3	1.6	1.4	2	0.5	1.1	0.9	0.6	1.4	1.1	1.2	1

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	40	224	33	297	57	149	23	229	43	155	39	237	40	136	89	265	1028
03:45 PM	23	198	29	250	40	182	20	242	50	162	31	243	41	133	69	243	978
04:00 PM	30	264	31	325	51	163	25	239	38	141	39	218	40	154	78	272	1054
04:15 PM	15	229	34	278	61	164	23	248	46	150	36	232	20	145	61	226	984
Total Volume	108	915	127	1150	209	658	91	958	177	608	145	930	141	568	297	1006	4044
% App. Total	9.4	79.6	11		21.8	68.7	9.5		19	65.4	15.6		14	56.5	29.5		
PHF	.675	.866	.934	.885	.857	.904	.910	.966	.885	.938	.929	.957	.860	.922	.834	.925	.959

City of Fullerton
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Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:30 PM				04:00 PM				04:30 PM				03:45 PM			
+0 mins.	40	224	33	297	51	163	25	239	50	168	25	243	41	133	69	243
+15 mins.	23	198	29	250	61	164	23	248	40	162	29	231	40	154	78	272
+30 mins.	30	264	31	325	35	150	16	201	48	169	41	258	20	145	61	226
+45 mins.	15	229	34	278	64	189	26	279	41	185	24	250	33	176	76	285
Total Volume	108	915	127	1150	211	666	90	967	179	684	119	982	134	608	284	1026
% App. Total	9.4	79.6	11		21.8	68.9	9.3		18.2	69.7	12.1		13.1	59.3	27.7	
PHF	.675	.866	.934	.885	.824	.881	.865	.866	.895	.924	.726	.952	.817	.864	.910	.900

City of Fullerton
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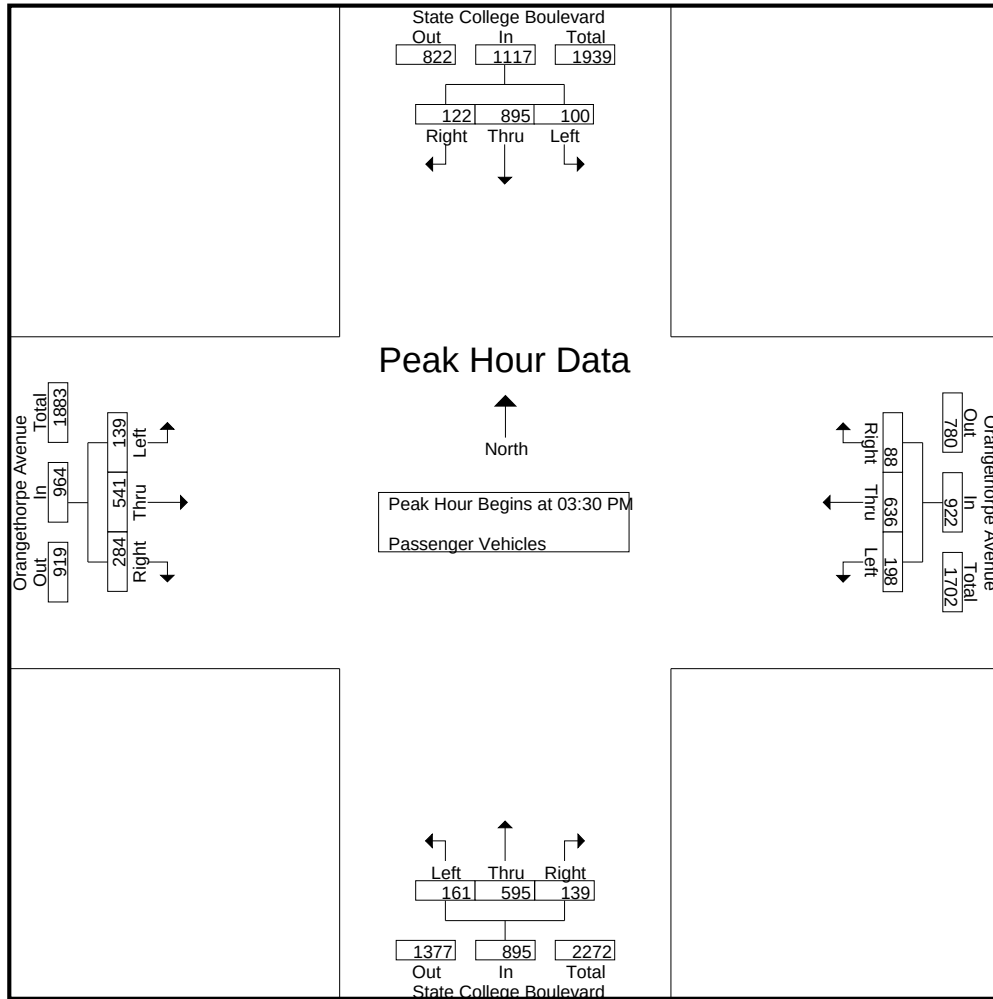
Groups Printed- Passenger Vehicles

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	16	177	27	220	43	110	16	169	29	107	24	160	31	120	73	224	773
03:15 PM	15	178	22	215	32	89	18	139	44	115	33	192	32	116	53	201	747
03:30 PM	37	217	32	286	56	141	22	219	41	150	38	229	40	132	83	255	989
03:45 PM	21	194	28	243	36	176	20	232	42	161	30	233	41	121	68	230	938
Total	89	766	109	964	167	516	76	759	156	533	125	814	144	489	277	910	3447
04:00 PM	27	262	28	317	49	160	23	232	35	136	36	207	40	149	76	265	1021
04:15 PM	15	222	34	271	57	159	23	239	43	148	35	226	18	139	57	214	950
04:30 PM	15	178	35	228	31	146	15	192	44	162	24	230	32	171	75	278	928
04:45 PM	18	169	30	217	62	181	26	269	36	160	28	224	23	124	57	204	914
Total	75	831	127	1033	199	646	87	932	158	606	123	887	113	583	265	961	3813
05:00 PM	27	219	23	269	50	149	16	215	43	162	37	242	38	151	74	263	989
05:15 PM	19	187	50	256	32	189	17	238	39	183	24	246	28	139	42	209	949
05:30 PM	30	201	32	263	47	126	17	190	32	138	17	187	40	142	51	233	873
05:45 PM	21	195	30	246	63	140	21	224	45	156	26	227	24	110	58	192	889
Total	97	802	135	1034	192	604	71	867	159	639	104	902	130	542	225	897	3700
06:00 PM	19	162	24	205	51	121	15	187	30	132	34	196	29	100	44	173	761
06:15 PM	20	159	14	193	39	78	14	131	34	163	22	219	29	81	42	152	695
06:30 PM	21	155	26	202	38	88	23	149	18	139	26	183	31	89	33	153	687
06:45 PM	16	183	19	218	32	81	14	127	25	129	17	171	26	72	36	134	650
Total	76	659	83	818	160	368	66	594	107	563	99	769	115	342	155	612	2793
Grand Total	337	3058	454	3849	718	2134	300	3152	580	2341	451	3372	502	1956	922	3380	13753
Apprch %	8.8	79.4	11.8		22.8	67.7	9.5		17.2	69.4	13.4		14.9	57.9	27.3		
Total %	2.5	22.2	3.3	28	5.2	15.5	2.2	22.9	4.2	17	3.3	24.5	3.7	14.2	6.7	24.6	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	37	217	32	286	56	141	22	219	41	150	38	229	40	132	83	255	989
03:45 PM	21	194	28	243	36	176	20	232	42	161	30	233	41	121	68	230	938
04:00 PM	27	262	28	317	49	160	23	232	35	136	36	207	40	149	76	265	1021
04:15 PM	15	222	34	271	57	159	23	239	43	148	35	226	18	139	57	214	950
Total Volume	100	895	122	1117	198	636	88	922	161	595	139	895	139	541	284	964	3898
% App. Total	9	80.1	10.9		21.5	69	9.5		18	66.5	15.5		14.4	56.1	29.5		
PHF	.676	.854	.897	.881	.868	.903	.957	.964	.936	.924	.914	.960	.848	.908	.855	.909	.954

City of Fullerton
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Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:30 PM				03:30 PM				03:30 PM				03:30 PM			
+0 mins.	37	217	32	286	56	141	22	219	41	150	38	229	40	132	83	255
+15 mins.	21	194	28	243	36	176	20	232	42	161	30	233	41	121	68	230
+30 mins.	27	262	28	317	49	160	23	232	35	136	36	207	40	149	76	265
+45 mins.	15	222	34	271	57	159	23	239	43	148	35	226	18	139	57	214
Total Volume	100	895	122	1117	198	636	88	922	161	595	139	895	139	541	284	964
% App. Total	9	80.1	10.9		21.5	69	9.5		18	66.5	15.5		14.4	56.1	29.5	
PHF	.676	.854	.897	.881	.868	.903	.957	.964	.936	.924	.914	.960	.848	.908	.855	.909

City of Fullerton
N/S: State College Boulevard
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File Name : 04_FUL_SC_OT WED PM
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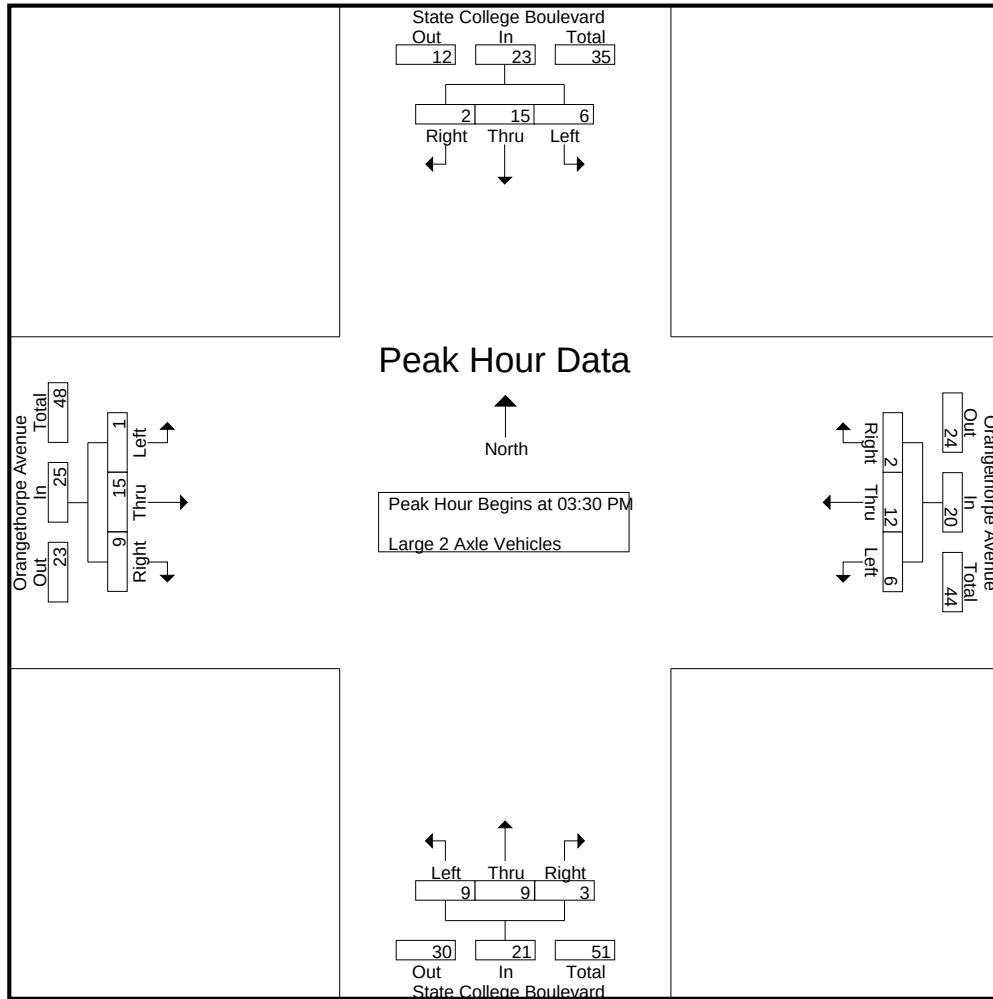
Groups Printed- Large 2 Axle Vehicles

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	1	1	2	1	2	0	3	4	5	1	10	0	3	3	6	21
03:15 PM	0	1	1	2	0	0	0	0	4	2	0	6	2	1	2	5	13
03:30 PM	2	5	0	7	0	4	0	4	1	2	1	4	0	1	5	6	21
03:45 PM	2	3	1	6	3	3	0	6	6	1	0	7	0	8	0	8	27
Total	4	10	3	17	4	9	0	13	15	10	2	27	2	13	10	25	82
04:00 PM	2	2	1	5	1	1	2	4	0	4	2	6	0	3	1	4	19
04:15 PM	0	5	0	5	2	4	0	6	2	2	0	4	1	3	3	7	22
04:30 PM	0	3	0	3	2	1	0	3	5	2	1	8	0	3	1	4	18
04:45 PM	3	1	1	5	0	4	0	4	1	1	0	2	0	1	3	4	15
Total	5	11	2	18	5	10	2	17	8	9	3	20	1	10	8	19	74
05:00 PM	0	2	0	2	0	2	0	2	3	3	4	10	0	1	1	2	16
05:15 PM	0	0	0	0	0	3	0	3	2	1	0	3	1	3	0	4	10
05:30 PM	0	0	1	1	1	6	0	7	4	2	1	7	0	1	0	1	16
05:45 PM	0	1	1	2	1	5	0	6	1	3	0	4	1	2	1	4	16
Total	0	3	2	5	2	16	0	18	10	9	5	24	2	7	2	11	58
06:00 PM	0	2	2	4	1	4	0	5	0	2	0	2	0	1	2	3	14
06:15 PM	0	0	0	0	0	1	0	1	2	1	0	3	0	0	0	0	4
06:30 PM	1	0	0	1	1	1	0	2	1	2	2	5	0	0	1	1	9
06:45 PM	2	1	2	5	0	2	1	3	2	1	1	4	1	1	2	4	16
Total	3	3	4	10	2	8	1	11	5	6	3	14	1	2	5	8	43
Grand Total	12	27	11	50	13	43	3	59	38	34	13	85	6	32	25	63	257
Apprch %	24	54	22		22	72.9	5.1		44.7	40	15.3		9.5	50.8	39.7		
Total %	4.7	10.5	4.3	19.5	5.1	16.7	1.2	23	14.8	13.2	5.1	33.1	2.3	12.5	9.7	24.5	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	2	5	0	7	0	4	0	4	1	2	1	4	0	1	5	6	21
03:45 PM	2	3	1	6	3	3	0	6	6	1	0	7	0	8	0	8	27
04:00 PM	2	2	1	5	1	1	2	4	0	4	2	6	0	3	1	4	19
04:15 PM	0	5	0	5	2	4	0	6	2	2	0	4	1	3	3	7	22
Total Volume	6	15	2	23	6	12	2	20	9	9	3	21	1	15	9	25	89
% App. Total	26.1	65.2	8.7		30	60	10		42.9	42.9	14.3		4	60	36		
PHF	.750	.750	.500	.821	.500	.750	.250	.833	.375	.563	.375	.750	.250	.469	.450	.781	.824

City of Fullerton
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Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:30 PM				03:30 PM				03:30 PM				03:30 PM			
+0 mins.	2	5	0	7	0	4	0	4	1	2	1	4	0	1	5	6
+15 mins.	2	3	1	6	3	3	0	6	6	1	0	7	0	8	0	8
+30 mins.	2	2	1	5	1	1	2	4	0	4	2	6	0	3	1	4
+45 mins.	0	5	0	5	2	4	0	6	2	2	0	4	1	3	3	7
Total Volume	6	15	2	23	6	12	2	20	9	9	3	21	1	15	9	25
% App. Total	26.1	65.2	8.7		30	60	10		42.9	42.9	14.3		4	60	36	
PHF	.750	.750	.500	.821	.500	.750	.250	.833	.375	.563	.375	.750	.250	.469	.450	.781

City of Fullerton
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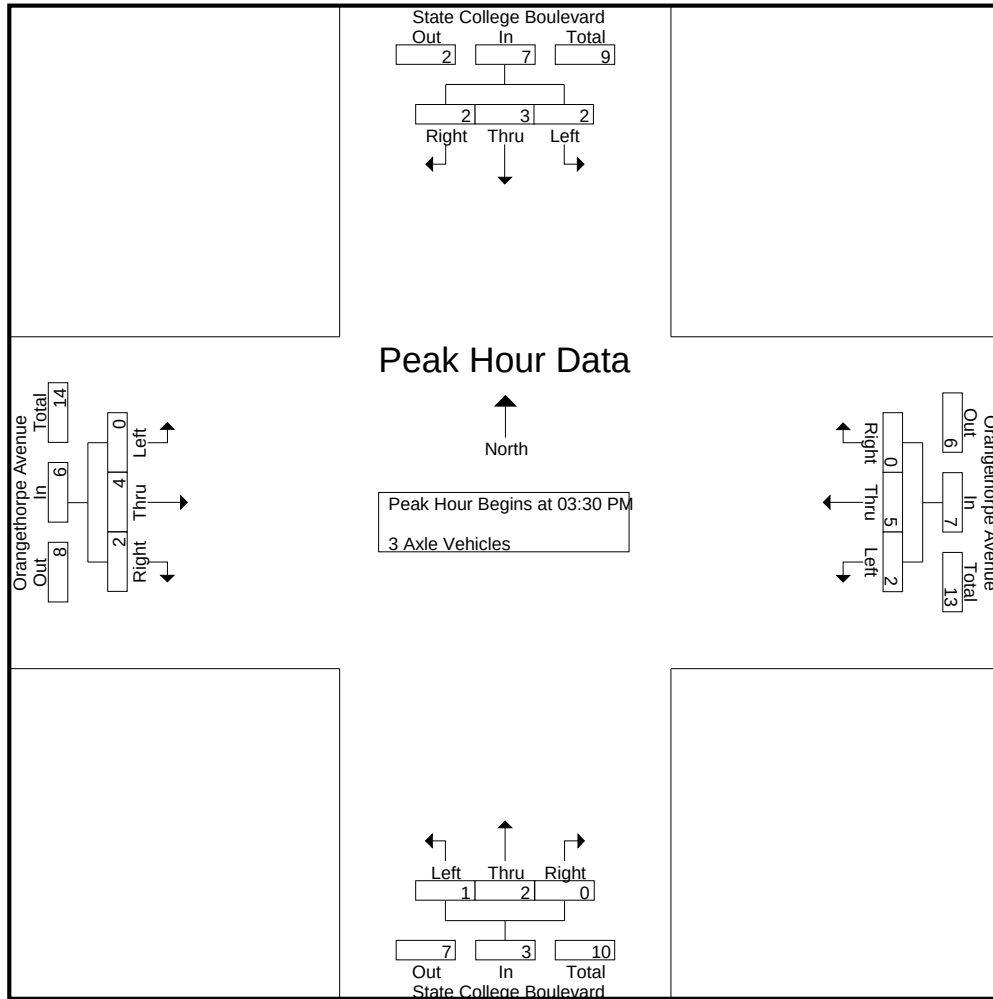
Groups Printed- 3 Axle Vehicles

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	1	2	0	3	1	2	0	3	0	1	1	2	0	0	0	0	8
03:15 PM	0	0	0	0	1	0	0	1	1	0	1	2	0	1	0	1	4
03:30 PM	1	1	1	3	0	2	0	2	0	1	0	1	0	0	1	1	7
03:45 PM	0	1	0	1	1	1	0	2	0	0	0	0	0	2	0	2	5
Total	2	4	1	7	3	5	0	8	1	2	2	5	0	3	1	4	24
04:00 PM	1	0	1	2	0	1	0	1	1	1	0	2	0	1	0	1	6
04:15 PM	0	1	0	1	1	1	0	2	0	0	0	0	0	1	1	2	5
04:30 PM	0	1	0	1	0	0	1	1	1	0	0	1	0	1	0	1	4
04:45 PM	0	0	0	0	1	1	0	2	2	1	0	3	0	1	0	1	6
Total	1	2	1	4	2	3	1	6	4	2	0	6	0	4	1	5	21
05:00 PM	0	0	0	0	2	0	1	3	1	1	0	2	0	1	0	1	6
05:15 PM	2	1	1	4	1	2	0	3	0	0	0	0	0	0	0	0	7
05:30 PM	4	0	0	4	0	2	0	2	1	0	0	1	1	1	0	2	9
05:45 PM	4	1	2	7	0	2	0	2	1	1	0	2	0	0	0	0	11
Total	10	2	3	15	3	6	1	10	3	2	0	5	1	2	0	3	33
06:00 PM	2	0	0	2	1	0	0	1	0	1	0	1	1	0	0	1	5
06:15 PM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2
06:30 PM	0	0	0	0	1	0	0	1	1	0	0	1	0	1	1	2	4
06:45 PM	0	0	1	1	0	1	0	1	1	0	0	1	0	0	2	2	5
Total	2	0	2	4	2	1	0	3	2	2	0	4	1	1	3	5	16
Grand Total	15	8	7	30	10	15	2	27	10	8	2	20	2	10	5	17	94
Apprch %	50	26.7	23.3		37	55.6	7.4		50	40	10		11.8	58.8	29.4		
Total %	16	8.5	7.4	31.9	10.6	16	2.1	28.7	10.6	8.5	2.1	21.3	2.1	10.6	5.3	18.1	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	1	1	1	3	0	2	0	2	0	1	0	1	0	0	1	1	7
03:45 PM	0	1	0	1	1	1	0	2	0	0	0	0	0	2	0	2	5
04:00 PM	1	0	1	2	0	1	0	1	1	1	0	2	0	1	0	1	6
04:15 PM	0	1	0	1	1	1	0	2	0	0	0	0	0	1	1	2	5
Total Volume	2	3	2	7	2	5	0	7	1	2	0	3	0	4	2	6	23
% App. Total	28.6	42.9	28.6		28.6	71.4	0		33.3	66.7	0		0	66.7	33.3		
PHF	.500	.750	.500	.583	.500	.625	.000	.875	.250	.500	.000	.375	.000	.500	.500	.750	.821

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 04_FUL_SC_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 2



Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:30 PM				03:30 PM				03:30 PM				03:30 PM			
+0 mins.	1	1	1	3	0	2	0	2	0	1	0	1	0	0	1	1
+15 mins.	0	1	0	1	1	1	0	2	0	0	0	0	0	2	0	2
+30 mins.	1	0	1	2	0	1	0	1	1	1	0	2	0	1	0	1
+45 mins.	0	1	0	1	1	1	0	2	0	0	0	0	0	1	1	2
Total Volume	2	3	2	7	2	5	0	7	1	2	0	3	0	4	2	6
% App. Total	28.6	42.9	28.6		28.6	71.4	0		33.3	66.7	0		0	66.7	33.3	
PHF	.500	.750	.500	.583	.500	.625	.000	.875	.250	.500	.000	.375	.000	.500	.500	.750

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 04_FUL_SC_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 1

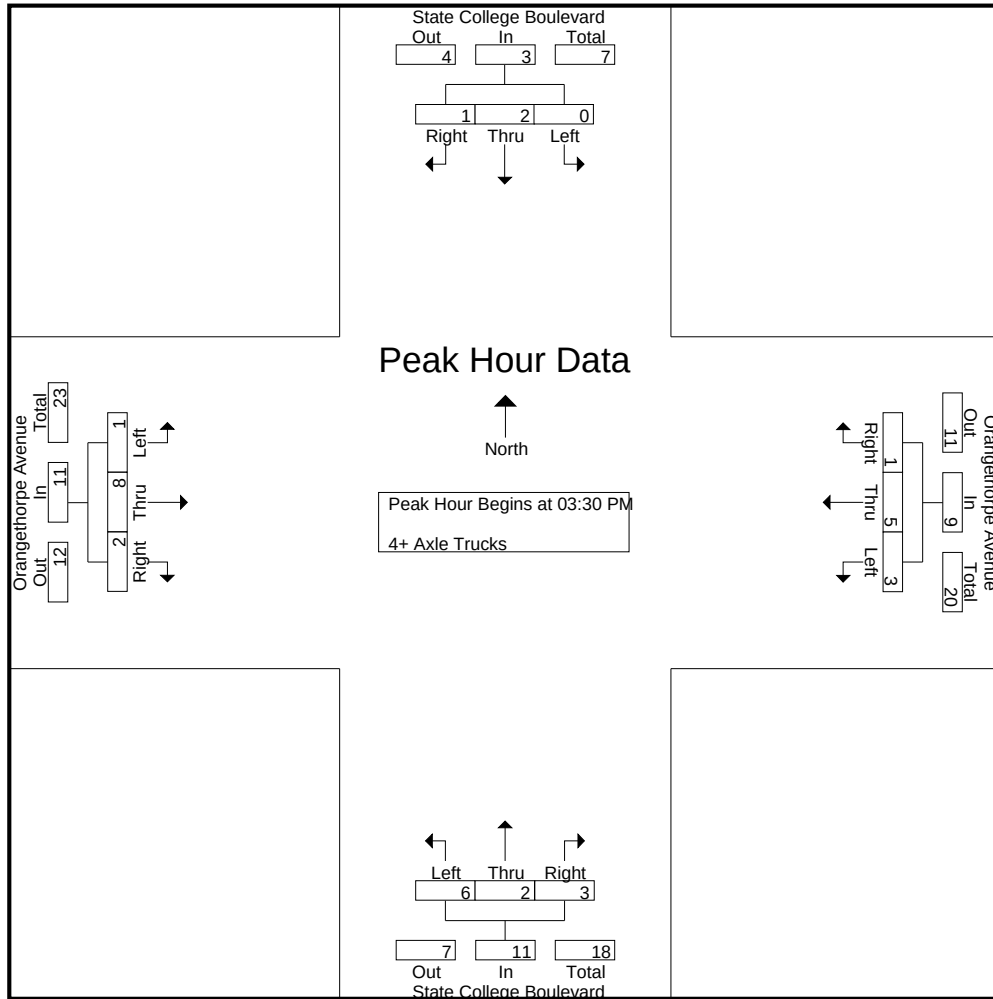
Groups Printed- 4+ Axle Trucks

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	1	0	1	0	3	0	3	1	0	0	1	0	3	1	4	9
03:15 PM	1	0	0	1	1	3	0	4	1	0	0	1	0	0	1	1	7
03:30 PM	0	1	0	1	1	2	1	4	1	2	0	3	0	3	0	3	11
03:45 PM	0	0	0	0	0	2	0	2	2	0	1	3	0	2	1	3	8
Total	1	2	0	3	2	10	1	13	5	2	1	8	0	8	3	11	35
04:00 PM	0	0	1	1	1	1	0	2	2	0	1	3	0	1	1	2	8
04:15 PM	0	1	0	1	1	0	0	1	1	0	1	2	1	2	0	3	7
04:30 PM	1	3	1	5	2	3	0	5	0	4	0	4	1	1	0	2	16
04:45 PM	0	1	0	1	1	3	0	4	1	0	1	2	1	3	0	4	11
Total	1	5	2	8	5	7	0	12	4	4	3	11	3	7	1	11	42
05:00 PM	0	2	1	3	0	0	2	2	1	3	0	4	0	1	2	3	12
05:15 PM	1	0	0	1	0	1	0	1	0	1	0	1	0	0	3	3	6
05:30 PM	0	1	0	1	1	4	1	6	0	1	0	1	0	3	0	3	11
05:45 PM	1	0	1	2	1	2	0	3	2	1	0	3	0	2	1	3	11
Total	2	3	2	7	2	7	3	12	3	6	0	9	0	6	6	12	40
06:00 PM	0	2	0	2	1	2	0	3	1	0	1	2	0	1	0	1	8
06:15 PM	0	0	0	0	1	2	0	3	0	0	0	0	0	2	0	2	5
06:30 PM	0	1	0	1	0	1	1	2	0	0	0	0	0	3	1	4	7
06:45 PM	0	1	1	2	0	0	0	0	0	1	0	1	0	1	0	1	4
Total	0	4	1	5	2	5	1	8	1	1	1	3	0	7	1	8	24
Grand Total	4	14	5	23	11	29	5	45	13	13	5	31	3	28	11	42	141
Apprch %	17.4	60.9	21.7		24.4	64.4	11.1		41.9	41.9	16.1		7.1	66.7	26.2		
Total %	2.8	9.9	3.5	16.3	7.8	20.6	3.5	31.9	9.2	9.2	3.5	22	2.1	19.9	7.8	29.8	

	State College Boulevard Southbound				Orangethorpe Avenue Westbound				State College Boulevard Northbound				Orangethorpe Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	0	1	0	1	1	2	1	4	1	2	0	3	0	3	0	3	11
03:45 PM	0	0	0	0	0	2	0	2	2	0	1	3	0	2	1	3	8
04:00 PM	0	0	1	1	1	1	0	2	2	0	1	3	0	1	1	2	8
04:15 PM	0	1	0	1	1	0	0	1	1	0	1	2	1	2	0	3	7
Total Volume	0	2	1	3	3	5	1	9	6	2	3	11	1	8	2	11	34
% App. Total	0	66.7	33.3		33.3	55.6	11.1		54.5	18.2	27.3		9.1	72.7	18.2		
PHF	.000	.500	.250	.750	.750	.625	.250	.563	.750	.250	.750	.917	.250	.667	.500	.917	.773

City of Fullerton
N/S: State College Boulevard
E/W: Orangethorpe Avenue
Weather: Clear

File Name : 04_FUL_SC_OT WED PM
Site Code : 10524081
Start Date : 1/31/2024
Page No : 2



Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:30 PM				03:30 PM				03:30 PM				03:30 PM			
+0 mins.	0	1	0	1	1	2	1	4	1	2	0	3	0	3	0	3
+15 mins.	0	0	0	0	0	2	0	2	2	0	1	3	0	2	1	3
+30 mins.	0	0	1	1	1	1	0	2	2	0	1	3	0	1	1	2
+45 mins.	0	1	0	1	1	0	0	1	1	0	1	2	1	2	0	3
Total Volume	0	2	1	3	3	5	1	9	6	2	3	11	1	8	2	11
% App. Total	0	66.7	33.3		33.3	55.6	11.1		54.5	18.2	27.3		9.1	72.7	18.2	
PHF	.000	.500	.250	.750	.750	.625	.250	.563	.750	.250	.750	.917	.250	.667	.500	.917



Appendix B-II

Existing Truck Percentage Calculations

Passenger Vehicle Approach Volumes (1)

Study Intersection	AM Peak Hour					PM Peak Hour				
	Northbound Approach	Southbound Approach	Eastbound Approach	Westbound Approach	Total	Northbound Approach	Southbound Approach	Eastbound Approach	Westbound Approach	Total
1. SR-57 NB Ramps at Orangethrope Avenue	787	0	623	959	2,369	833	0	818	1,389	3,040
2. SR-57 SB Ramps at Orangethrope Avenue	31	222	540	1,024	1,817	22	257	911	1,161	2,351
3. Placentia Avenue at Orangethrope Avenue	359	536	390	614	1,899	409	810	788	873	2,880
4. State College Boulevard at Orangethrope Avenue	1,060	957	617	506	3,140	895	1,117	964	922	3,898
5. Placentia Avenue at Project Access 1	477	536			1,013	550	810			1,360
6. Project Access 2 at Orangethrope Avenue			525	614	1,139			917	873	1,790

Total Vehicle Approach Volumes (2)

Study Intersection	AM Peak Hour					PM Peak Hour				
	Northbound Approach	Southbound Approach	Eastbound Approach	Westbound Approach	Total	Northbound Approach	Southbound Approach	Eastbound Approach	Westbound Approach	Total
1. SR-57 NB Ramps at Orangethrope Avenue	840	0	718	1,039	2,597	881	0	874	1,446	3,201
2. SR-57 SB Ramps at Orangethrope Avenue	33	272	611	1,084	2,000	22	306	942	1,214	2,484
3. Placentia Avenue at Orangethrope Avenue	375	564	443	657	2,039	420	828	832	911	2,991
4. State College Boulevard at Orangethrope Avenue	1,103	998	671	541	3,313	930	1,150	1,006	958	4,044
5. Placentia Avenue at Project Access 1	488	564			1,052	556	828			1,384
6. Project Access 2 at Orangethrope Avenue			591	657	1,248			964	911	1,875

Heavy Vehicle Approach Volumes [(2)-(1)]

Study Intersection	AM Peak Hour					PM Peak Hour				
	Northbound Approach	Southbound Approach	Eastbound Approach	Westbound Approach	Total	Northbound Approach	Southbound Approach	Eastbound Approach	Westbound Approach	Total
1. SR-57 NB Ramps at Orangethrope Avenue	53	0	95	80	228	48	0	56	57	161
2. SR-57 SB Ramps at Orangethrope Avenue	2	50	71	60	183	0	49	31	53	133
3. Placentia Avenue at Orangethrope Avenue	16	28	53	43	140	11	18	44	38	111
4. State College Boulevard at Orangethrope Avenue	43	41	54	35	173	35	33	42	36	146
5. Placentia Avenue at Project Access 1	11	28	0	0	39	6	18	0	0	24
6. Project Access 2 at Orangethrope Avenue	0	0	66	43	109	0	0	47	38	85

Heavy Vehicle Percentages (%) Per Approach

Study Intersection	AM Peak Hour				PM Peak Hour			
	Northbound Approach	Southbound Approach	Eastbound Approach	Westbound Approach	Northbound Approach	Southbound Approach	Eastbound Approach	Westbound Approach
1. SR-57 NB Ramps at Orangethrope Avenue	6.3%	0.0%	13.2%	7.7%	5.4%	0.0%	6.4%	3.9%
2. SR-57 SB Ramps at Orangethrope Avenue	6.1%	18.4%	11.6%	5.5%	0.0%	16.0%	3.3%	4.4%
3. Placentia Avenue at Orangethrope Avenue	4.3%	5.0%	12.0%	6.5%	2.6%	2.2%	5.3%	4.2%
4. State College Boulevard at Orangethrope Avenue	3.9%	4.1%	8.0%	6.5%	3.8%	2.9%	4.2%	3.8%
5. Placentia Avenue at Project Access 1	2.3%	5.0%	0.0%	2.0%	1.1%	2.2%	0.0%	2.0%
6. Project Access 2 at Orangethrope Avenue	0.0%	2.0%	11.2%	6.5%	0.0%	2.0%	4.9%	4.2%

Passenger Vehicle On-Ramp Departure Volumes (3)

Study Intersection	AM Peak Hour	PM Peak Hour
	Southbound Departure	Southbound Departure
1. SR-57 NB Ramps at Orangethrope Avenue	252	576
2. SR-57 SB Ramps at Orangethrope Avenue	544	595

Total Vehicle On-Ramp Departure Volumes (4)

Study Intersection	AM Peak Hour	PM Peak Hour
	Southbound Departure	Southbound Departure
1. SR-57 NB Ramps at Orangethrope Avenue	307	602
2. SR-57 SB Ramps at Orangethrope Avenue	592	608

Heavy Vehicle On-Ramp Departure Volumes [(4)-(3)]

Study Intersection	AM Peak Hour	PM Peak Hour
	Southbound Departure	Southbound Departure
1. SR-57 NB Ramps at Orangethrope Avenue	55	26
2. SR-57 SB Ramps at Orangethrope Avenue	48	13

On-Ramp Departure Heavy Vehicle Percentages (%)

Study Intersection	AM Peak Hour	PM Peak Hour
	Southbound Departure	Southbound Departure
1. SR-57 NB Ramps at Orangethrope Avenue	17.9%	4.3%
2. SR-57 SB Ramps at Orangethrope Avenue	8.1%	2.1%



Appendix B-III

Existing State Route 57 Mainline Truck Percentages

**Caltrans Traffic Census Program
2022 Annual Average Daily Truck Traffic**

RTE	RTE_SFX	DIST	CNTY	PM_PFX	POSTMILE	PM_SFX	LEG	DESCRIPTION	VEHICLE_AADT_TOTAL	TOT_TRK_AADT	TRK_PERCENT_TOTAL	TRK_2_AXLE	TRK_2_AXLE_PCT	TRK_3_AXLE	TRK_3_AXLE_PCT	TRK_4_AXLE	TRK_4_AXLE_PCT	TRK_5_AXLE	TRK_5_AXLE_PCT	EAL	EST/VER_YEAR	EST/VER_CODE
057	12	ORA			15.600	A		ANAHEIM, JCT. RTE. 91, RIVERSIDE FREEWAY	190600	17154	9.00	5795	33.78	1398	8.15	432	2.52	9531	55.56	3,683	19	E
057	12	ORA			19.858	B		BREA, JCT. RTE. 90	131300	13130	10.00	4435	33.78	1070	8.15	331	2.52	7295	55.56	2,819	19	E



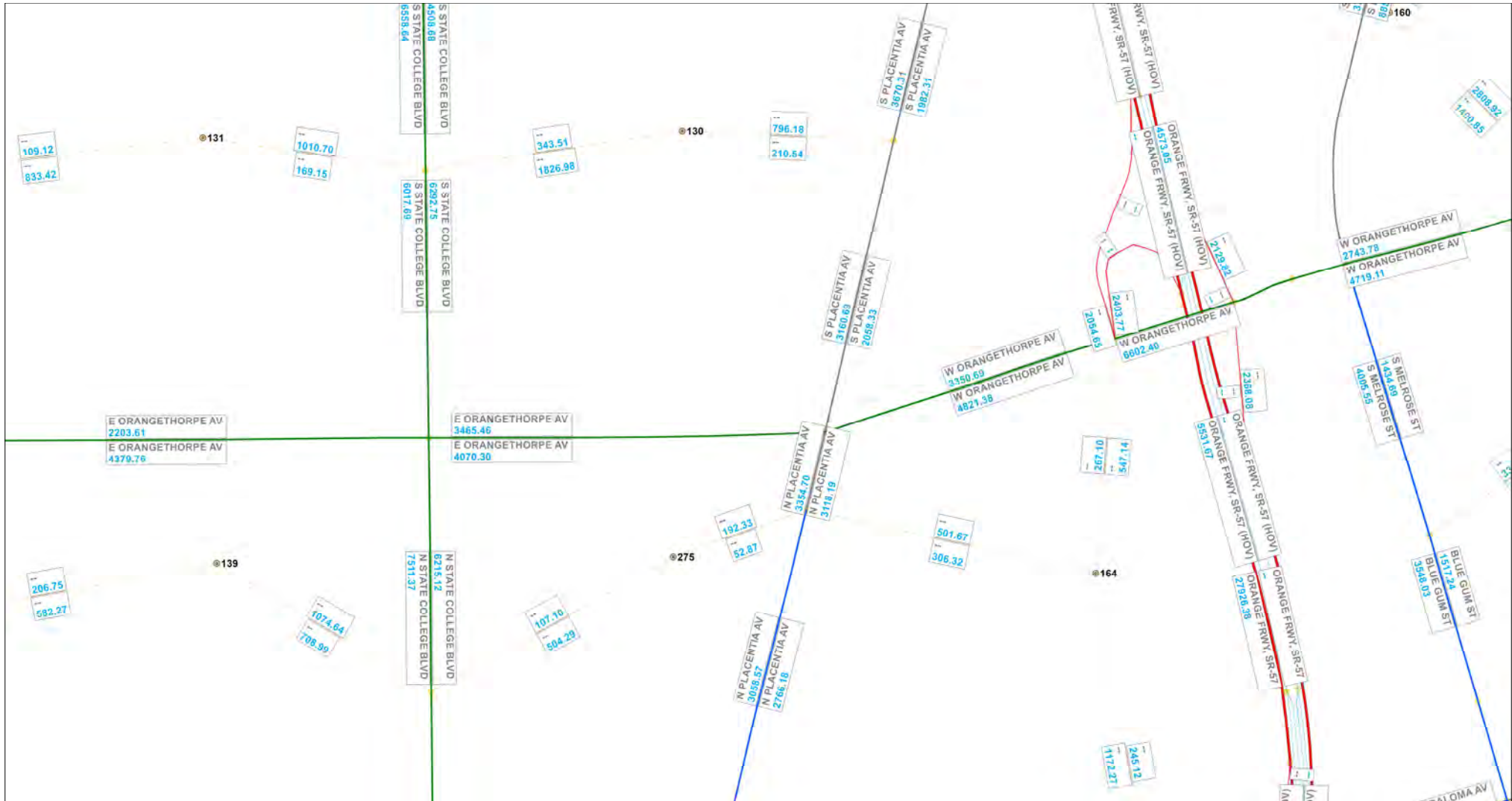
Appendix C

OCTAM Peak Hour Link Volume Model Plots,
Post-Processed Turning Movement Volumes &
Adjusted Buildout Year (2045) Traffic Volumes

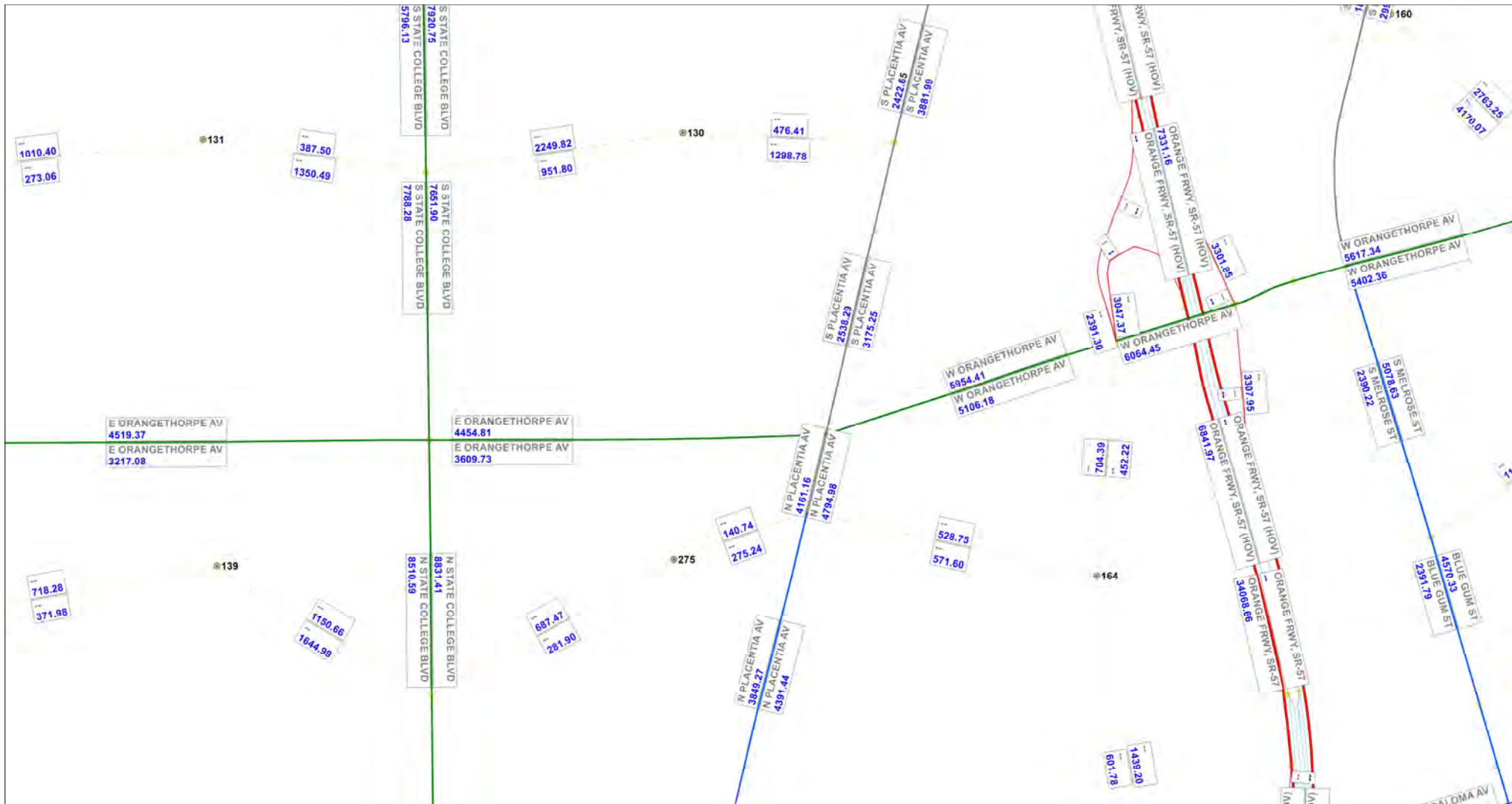
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OCTAM
2045 AM Peak



OCTAM
2045 PM Peak



SR-57 NB Ramps at Orangethorpe Avenue
FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL
NORTH BOUND	LEFT	152	SOUTH LEG		NORTH BOUND	LEFT	218	SOUTH LEG	
	THRU	0		900		THRU	0		950
	RIGHT	688		0		RIGHT	663		0
SOUTH BOUND	LEFT	0	NORTH LEG		SOUTH BOUND	LEFT	0	NORTH LEG	
	THRU	0		0		THRU	0		0
	RIGHT	0		400		RIGHT	0		640
EAST BOUND	LEFT	95	WEST LEG		EAST BOUND	LEFT	144	WEST LEG	
	THRU	623		1,210		THRU	730		1,050
	RIGHT	0		1,240		RIGHT	0		1,560
WEST BOUND	LEFT	0	EAST LEG		WEST BOUND	LEFT	0	EAST LEG	
	THRU	827		1,280		THRU	988		1,740
	RIGHT	212		1,640		RIGHT	458		1,520

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH BOUND	LEFT	152	212	NORTH LEG RATIO 8.9% ADT 4,500	NORTH BOUND	LEFT	218	287	NORTH LEG RATIO 14.2% ADT 4,500
	THRU	0	0			THRU	0	0	
	RIGHT	688	656			RIGHT	663	656	
SOUTH BOUND	LEFT	0	0	SOUTH LEG RATIO 20.2% ADT 4,300	SOUTH BOUND	LEFT	0	0	SOUTH LEG RATIO 21.9% ADT 4,300
	THRU	0	0			THRU	0	0	
	RIGHT	0	0			RIGHT	0	0	
EAST BOUND	LEFT	95	182	EAST LEG RATIO 187.3% ADT 1,541	EAST BOUND	LEFT	144	178	EAST LEG RATIO 211.2% ADT 1,541
	THRU	623	984			THRU	730	864	
	RIGHT	0	0			RIGHT	0	0	
WEST BOUND	LEFT	0	0	WEST LEG RATIO 60.1% ADT 4,000	WEST BOUND	LEFT	0	0	WEST LEG RATIO 65.0% ADT 4,000
	THRU	827	1,028			THRU	988	1,273	
	RIGHT	212	218			RIGHT	458	462	

SR-57 SB Ramps at Orangethorpe Avenue
FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL
NORTH BOUND	LEFT	3	SOUTH LEG		NORTH BOUND	LEFT	4	SOUTH LEG	
	THRU	8		30		THRU	8		20
	RIGHT	22		10		RIGHT	10		10
SOUTH BOUND	LEFT	201	NORTH LEG		SOUTH BOUND	LEFT	161	NORTH LEG	
	THRU	0		290		THRU	3		340
	RIGHT	71		630		RIGHT	142		650
EAST BOUND	LEFT	116	WEST LEG		EAST BOUND	LEFT	210	WEST LEG	
	THRU	494		1,110		THRU	728		1,090
	RIGHT	1		890		RIGHT	4		1,350
WEST BOUND	LEFT	9	EAST LEG		WEST BOUND	LEFT	5	EAST LEG	
	THRU	607		1,340		THRU	819		1,560
	RIGHT	468		1,210		RIGHT	390		1,080

YEAR 2045 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS					
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH BOUND	LEFT	3	2	NORTH LEG	NORTH BOUND	LEFT	4	4	NORTH LEG	
	THRU	8	5	RATIO 20.4%		THRU	8	7	RATIO 22.2%	
	RIGHT	22	22	ADT 4,500		RIGHT	10	10	ADT 4,500	
SOUTH BOUND	LEFT	201	224	SOUTH LEG	SOUTH BOUND	LEFT	161	175	SOUTH LEG	
	THRU	0	0	RATIO 0.9%		THRU	3	2	RATIO 0.7%	
	RIGHT	71	64	ADT 4,300		RIGHT	142	172	ADT 4,300	
EAST BOUND	LEFT	116	140	EAST LEG	EAST BOUND	LEFT	210	219	EAST LEG	
	THRU	494	964	RATIO 164.0%		THRU	728	896	RATIO 174.1%	
	RIGHT	1	1	ADT 1,541		RIGHT	4	3	ADT 1,541	
WEST BOUND	LEFT	9	9	WEST LEG	WEST BOUND	LEFT	5	4	WEST LEG	
	THRU	607	823	RATIO 49.9%		THRU	819	1,174	RATIO 61.7%	
	RIGHT	468	485	ADT 4,000		RIGHT	390	425	ADT 4,000	

Placentia Avenue at Orangethorpe Avenue
FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL
NORTH BOUND	LEFT	25	SOUTH LEG		NORTH BOUND	LEFT	49	SOUTH LEG	
	THRU	243		620		THRU	244		490
	RIGHT	107		360		RIGHT	127		790
SOUTH BOUND	LEFT	151	NORTH LEG		SOUTH BOUND	LEFT	203	NORTH LEG	
	THRU	242		600		THRU	367		950
	RIGHT	171		710		RIGHT	258		620
EAST BOUND	LEFT	91	WEST LEG		EAST BOUND	LEFT	135	WEST LEG	
	THRU	333		920		THRU	634		970
	RIGHT	19		800		RIGHT	63		1,190
WEST BOUND	LEFT	83	EAST LEG		WEST BOUND	LEFT	125	EAST LEG	
	THRU	420		870		THRU	609		1,290
	RIGHT	154		1,090		RIGHT	177		1,110

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH BOUND	LEFT	25	43	NORTH LEG RATIO 28.9% ADT 4,500	NORTH BOUND	LEFT	49	63	NORTH LEG RATIO 34.9% ADT 4,500
	THRU	243	367			THRU	244	268	
	RIGHT	107	199			RIGHT	127	160	
SOUTH BOUND	LEFT	151	177	SOUTH LEG RATIO 22.6% ADT 4,300	SOUTH BOUND	LEFT	203	208	SOUTH LEG RATIO 29.8% ADT 4,300
	THRU	242	228			THRU	367	476	
	RIGHT	171	185			RIGHT	258	268	
EAST BOUND	LEFT	91	158	EAST LEG RATIO 126.2% ADT 1,541	EAST BOUND	LEFT	135	137	EAST LEG RATIO 156.0% ADT 1,541
	THRU	333	714			THRU	634	742	
	RIGHT	19	33			RIGHT	63	93	
WEST BOUND	LEFT	83	99	WEST LEG RATIO 42.6% ADT 4,000	WEST BOUND	LEFT	125	220	WEST LEG RATIO 54.1% ADT 4,000
	THRU	420	572			THRU	609	859	
	RIGHT	154	184			RIGHT	177	214	

State College Boulevard at Orangethorpe Avenue
FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL
NORTH BOUND	LEFT	196	SOUTH LEG		NORTH BOUND	LEFT	177	SOUTH LEG	
	THRU	828		1,260		THRU	608		1,260
	RIGHT	79		1,450		RIGHT	145		1,640
SOUTH BOUND	LEFT	88	NORTH LEG		SOUTH BOUND	LEFT	108	NORTH LEG	
	THRU	799		1,450		THRU	915		1,610
	RIGHT	111		1,430		RIGHT	127		1,260
EAST BOUND	LEFT	164	WEST LEG		EAST BOUND	LEFT	141	WEST LEG	
	THRU	334		1,140		THRU	568		1,110
	RIGHT	173		710		RIGHT	297		1,340
WEST BOUND	LEFT	155	EAST LEG		WEST BOUND	LEFT	209	EAST LEG	
	THRU	346		720		THRU	658		1,230
	RIGHT	40		980		RIGHT	91		960

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH BOUND	LEFT	196	133	NORTH LEG RATIO 63.9% ADT 4,500	NORTH BOUND	LEFT	177	214	NORTH LEG RATIO 63.6% ADT 4,500
	THRU	828	1,031			THRU	608	893	
	RIGHT	79	103			RIGHT	145	153	
SOUTH BOUND	LEFT	88	223	SOUTH LEG RATIO 63.2% ADT 4,300	SOUTH BOUND	LEFT	108	177	SOUTH LEG RATIO 67.4% ADT 4,300
	THRU	799	1,074			THRU	915	1,187	
	RIGHT	111	147			RIGHT	127	240	
EAST BOUND	LEFT	164	308	EAST LEG RATIO 110.2% ADT 1,541	EAST BOUND	LEFT	141	218	EAST LEG RATIO 142.0% ADT 1,541
	THRU	334	654			THRU	568	630	
	RIGHT	173	179			RIGHT	297	260	
WEST BOUND	LEFT	155	196	WEST LEG RATIO 46.3% ADT 4,000	WEST BOUND	LEFT	209	193	WEST LEG RATIO 61.2% ADT 4,000
	THRU	346	431			THRU	658	886	
	RIGHT	40	92			RIGHT	91	149	

Placentia Avenue at Project Access 1
FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL
NORTH BOUND	LEFT	0	SOUTH LEG		NORTH BOUND	LEFT	0	SOUTH LEG	
	THRU	488		710		THRU	556		620
	RIGHT	0		600		RIGHT	0		950
SOUTH BOUND	LEFT	0	NORTH LEG		SOUTH BOUND	LEFT	0	NORTH LEG	
	THRU	564		600		THRU	828		950
	RIGHT	0		710		RIGHT	0		620
EAST BOUND	LEFT	0	WEST LEG		EAST BOUND	LEFT	0	WEST LEG	
	THRU	0		0		THRU	0		0
	RIGHT	0		0		RIGHT	0		0
WEST BOUND	LEFT	0	EAST LEG		WEST BOUND	LEFT	0	EAST LEG	
	THRU	0		0		THRU	0		0
	RIGHT	0		0		RIGHT	0		0

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH BOUND	LEFT	0	0	NORTH LEG RATIO 29.1% ADT 4,500	NORTH BOUND	LEFT	0	0	NORTH LEG RATIO 34.9% ADT 4,500
	THRU	488	710			THRU	556	620	
	RIGHT	0	0			RIGHT	0	0	
SOUTH BOUND	LEFT	0	0	SOUTH LEG RATIO 30.5% ADT 4,300	SOUTH BOUND	LEFT	0	0	SOUTH LEG RATIO 36.5% ADT 4,300
	THRU	564	600			THRU	828	950	
	RIGHT	0	0			RIGHT	0	0	
EAST BOUND	LEFT	0	0	EAST LEG RATIO 0.0% ADT 1,541	EAST BOUND	LEFT	0	0	EAST LEG RATIO 0.0% ADT 1,541
	THRU	0	0			THRU	0	0	
	RIGHT	0	0			RIGHT	0	0	
WEST BOUND	LEFT	0	0	WEST LEG RATIO 0.0% ADT 4,000	WEST BOUND	LEFT	0	0	WEST LEG RATIO 0.0% ADT 4,000
	THRU	0	0			THRU	0	0	
	RIGHT	0	0			RIGHT	0	0	

Project Access 2 at Orangethorpe Avenue
FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL
NORTH BOUND	LEFT	0	SOUTH LEG		NORTH BOUND	LEFT	0	SOUTH LEG	
	THRU	0		0		THRU	0		0
	RIGHT	0		0		RIGHT	0		0
SOUTH BOUND	LEFT	0	NORTH LEG		SOUTH BOUND	LEFT	0	NORTH LEG	
	THRU	0		0		THRU	0		0
	RIGHT	0		0		RIGHT	0		0
EAST BOUND	LEFT	0	WEST LEG		EAST BOUND	LEFT	0	WEST LEG	
	THRU	591		1,200		THRU	964		1,110
	RIGHT	0		870		RIGHT	0		1,290
WEST BOUND	LEFT	0	EAST LEG		WEST BOUND	LEFT	0	EAST LEG	
	THRU	657		870		THRU	911		1,290
	RIGHT	0		1,200		RIGHT	0		1,110

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH BOUND	LEFT	0	0	NORTH LEG	NORTH BOUND	LEFT	0	0	NORTH LEG
	THRU	0	0	RATIO 0.0%		THRU	0	0	RATIO 0.0%
	RIGHT	0	0	ADT 4,500		RIGHT	0	0	ADT 4,500
SOUTH BOUND	LEFT	0	0	SOUTH LEG	SOUTH BOUND	LEFT	0	0	SOUTH LEG
	THRU	0	0	RATIO 0.0%		THRU	0	0	RATIO 0.0%
	RIGHT	0	0	ADT 4,300		RIGHT	0	0	ADT 4,300
EAST BOUND	LEFT	0	0	EAST LEG	EAST BOUND	LEFT	0	0	EAST LEG
	THRU	591	1,200	RATIO 134.3%		THRU	964	1,110	RATIO 155.7%
	RIGHT	0	0	ADT 1,541		RIGHT	0	0	ADT 1,541
WEST BOUND	LEFT	0	0	WEST LEG	WEST BOUND	LEFT	0	0	WEST LEG
	THRU	657	870	RATIO 51.8%		THRU	911	1,290	RATIO 60.0%
	RIGHT	0	0	ADT 4,000		RIGHT	0	0	ADT 4,000

Project Name	Orangethorpe & Placentia Avenue
Project Number	2984-2024-01
Project Engineer	SA
Date	3/29/2024
TIA Opening Year	2027
TIA General Plan Year	2045
Additional Growth (As Needed)	5%

INTERSECTION #1						
Movement	Year 2027 Opening Year Traffic Volumes	Year 2045 Buildout Year Traffic Volumes	Difference Between Year 2027 and Year 2045 Traffic Volumes	Adjusted Year 2045 Traffic Volumes	Additional Growth?	Adjusted Year 2045 Traffic Volumes
Nb Left	188	212	24	212	No Additional Growth	212
Nb Thru	0	0	0	0	No Additional Growth	0
Nb Right	747	656	-91	747	Add Additional Growth	784
Sb Left	0	0	0	0	No Additional Growth	0
Sb Thru	0	0	0	0	No Additional Growth	0
Sb Right	0	0	0	0	No Additional Growth	0
Eb Left	109	182	73	182	No Additional Growth	182
Eb Thru	682	984	302	984	No Additional Growth	984
Eb Right	0	0	0	0	No Additional Growth	0
Wb Left	0	0	0	0	No Additional Growth	0
Wb Thru	994	1028	34	1028	No Additional Growth	1028
Wb Right	307	218	-89	307	Add Additional Growth	322
Total Vol.	3027	3280	253	3460	0	3512
INTERSECTION #2						
Movement	Year 2027 Opening Year Traffic Volumes	Year 2045 Buildout Year Traffic Volumes	Difference Between Year 2027 and Year 2045 Traffic Volumes	Adjusted Year 2045 Traffic Volumes	Additional Growth?	Adjusted Year 2045 Traffic Volumes
Nb Left	3	2	-1	3	Add Additional Growth	3
Nb Thru	8	5	-3	8	Add Additional Growth	8
Nb Right	23	22	-1	23	Add Additional Growth	24
Sb Left	237	224	-13	237	Add Additional Growth	249
Sb Thru	0	0	0	0	No Additional Growth	0
Sb Right	105	64	-41	105	Add Additional Growth	110
Eb Left	129	140	11	140	No Additional Growth	140
Eb Thru	530	964	434	964	No Additional Growth	964
Eb Right	1	1	0	1	No Additional Growth	1
Wb Left	9	9	0	9	Add Additional Growth	9
Wb Thru	667	823	156	823	No Additional Growth	823
Wb Right	609	485	-124	609	Add Additional Growth	639
Total Vol.	2321	2740	419	2922	0	2970
INTERSECTION #3						
Movement	Year 2027 Opening Year Traffic Volumes	Year 2045 Buildout Year Traffic Volumes	Difference Between Year 2027 and Year 2045 Traffic Volumes	Adjusted Year 2045 Traffic Volumes	Additional Growth?	Adjusted Year 2045 Traffic Volumes
Nb Left	30	43	13	43	No Additional Growth	43
Nb Thru	265	367	102	367	No Additional Growth	367
Nb Right	121	199	78	199	No Additional Growth	199
Sb Left	156	177	21	177	No Additional Growth	177
Sb Thru	295	228	-67	295	Add Additional Growth	310
Sb Right	199	185	-14	199	Add Additional Growth	209
Eb Left	101	158	57	158	No Additional Growth	158
Eb Thru	364	714	350	714	No Additional Growth	714
Eb Right	31	33	2	33	No Additional Growth	33
Wb Left	111	99	-12	111	Add Additional Growth	117
Wb Thru	482	572	90	572	No Additional Growth	572
Wb Right	159	184	25	184	No Additional Growth	184
Total Vol.	2314	2960	646	3053	0	3083
INTERSECTION #4						
Movement	Year 2027 Opening Year Traffic Volumes	Year 2045 Buildout Year Traffic Volumes	Difference Between Year 2027 and Year 2045 Traffic Volumes	Adjusted Year 2045 Traffic Volumes	Additional Growth?	Adjusted Year 2045 Traffic Volumes
Nb Left	228	133	-95	228	Add Additional Growth	239
Nb Thru	883	1031	148	1031	No Additional Growth	1031
Nb Right	88	103	15	103	No Additional Growth	103
Sb Left	102	223	121	223	No Additional Growth	223
Sb Thru	840	1074	234	1074	No Additional Growth	1074
Sb Right	116	147	31	147	No Additional Growth	147
Eb Left	171	308	137	308	No Additional Growth	308
Eb Thru	364	654	290	654	No Additional Growth	654
Eb Right	186	179	-7	186	Add Additional Growth	195
Wb Left	163	196	33	196	No Additional Growth	196
Wb Thru	405	431	26	431	No Additional Growth	431
Wb Right	63	92	29	92	No Additional Growth	92
Total Vol.	3609	4570	961	4672	0	4693
INTERSECTION #5						
Movement	Year 2027 Opening Year Traffic Volumes	Year 2045 Buildout Year Traffic Volumes	Difference Between Year 2027 and Year 2045 Traffic Volumes	Adjusted Year 2045 Traffic Volumes	Additional Growth?	Adjusted Year 2045 Traffic Volumes
Nb Left	0	0	0	0	No Additional Growth	0
Nb Thru	522	710	188	710	No Additional Growth	710
Nb Right	0	0	0	0	No Additional Growth	0
Sb Left	0	0	0	0	No Additional Growth	0
Sb Thru	645	600	-45	645	Add Additional Growth	677
Sb Right	0	0	0	0	No Additional Growth	0
Eb Left	0	0	0	0	No Additional Growth	0
Eb Thru	0	0	0	0	No Additional Growth	0
Eb Right	0	0	0	0	No Additional Growth	0
Wb Left	0	0	0	0	No Additional Growth	0
Wb Thru	0	0	0	0	No Additional Growth	0
Wb Right	0	0	0	0	No Additional Growth	0
Total Vol.	1167	1310	143	1355	0	1387
INTERSECTION #6						
Movement	Year 2027 Opening Year Traffic Volumes	Year 2045 Buildout Year Traffic Volumes	Difference Between Year 2027 and Year 2045 Traffic Volumes	Adjusted Year 2045 Traffic Volumes	Additional Growth?	Adjusted Year 2045 Traffic Volumes
Nb Left	0	0	0	0	No Additional Growth	0
Nb Thru	0	0	0	0	No Additional Growth	0
Nb Right	0	0	0	0	No Additional Growth	0
Sb Left	0	0	0	0	No Additional Growth	0
Sb Thru	0	0	0	0	No Additional Growth	0
Sb Right	0	0	0	0	No Additional Growth	0
Eb Left	0	0	0	0	No Additional Growth	0
Eb Thru	641	1200	559	1200	No Additional Growth	1200
Eb Right	0	0	0	0	No Additional Growth	0
Wb Left	0	0	0	0	No Additional Growth	0
Wb Thru	752	870	118	870	No Additional Growth	870
Wb Right	0	0	0	0	No Additional Growth	0
Total Vol.	1393	2070	677	2070	0	2070

Project Name	Orangethorpe & Placentia Avenue
Project Number	2984-2024-01
Project Engineer	SA
Date	3/29/2024
TIA Opening Year	2027
TIA General Plan Year	2045
Additional Growth (As Needed)	5%

INTERSECTION #1						
Movement	Year 2027 Opening Year Traffic Volumes	Year 2045 Buildout Year Traffic Volumes	Difference Between Year 2027 and Year 2045 Traffic Volumes	Adjusted Year 2045 Traffic Volumes	Additional Growth?	Adjusted Year 2045 Traffic Volumes
Nb Left	240	287	47	287	No Additional Growth	287.000
Nb Thru	0	0	0	0	No Additional Growth	0
Nb Right	793	656	-137	793	Add Additional Growth	833
Sb Left	0	0	0	0	No Additional Growth	0
Sb Thru	0	0	0	0	No Additional Growth	0
Sb Right	0	0	0	0	No Additional Growth	0
Eb Left	185	178	-7	185	Add Additional Growth	194
Eb Thru	846	864	18	864	No Additional Growth	864
Eb Right	0	0	0	0	No Additional Growth	0
Wb Left	0	0	0	0	No Additional Growth	0
Wb Thru	1091	1273	182	1273	No Additional Growth	1273
Wb Right	513	462	-51	513	Add Additional Growth	539
Total Vol.	3668	3720	52	3915	0	3990
INTERSECTION #2						
Movement	Year 2027 Opening Year Traffic Volumes	Year 2045 Buildout Year Traffic Volumes	Difference Between Year 2027 and Year 2045 Traffic Volumes	Adjusted Year 2045 Traffic Volumes	Additional Growth?	Adjusted Year 2045 Traffic Volumes
Nb Left	4	4	0	4	No Additional Growth	4
Nb Thru	8	7	-1	8	Add Additional Growth	8
Nb Right	10	10	0	10	Add Additional Growth	11
Sb Left	240	175	-65	240	Add Additional Growth	252
Sb Thru	3	2	-1	3	Add Additional Growth	3
Sb Right	164	172	8	172	No Additional Growth	172
Eb Left	250	219	-31	250	Add Additional Growth	263
Eb Thru	808	896	88	896	No Additional Growth	896
Eb Right	4	3	-1	4	Add Additional Growth	4
Wb Left	5	4	-1	5	Add Additional Growth	5
Wb Thru	873	1174	301	1174	No Additional Growth	1174
Wb Right	460	425	-35	460	Add Additional Growth	483
Total Vol.	2829	3090	261	3226	0	3275
INTERSECTION #3						
Movement	Year 2027 Opening Year Traffic Volumes	Year 2045 Buildout Year Traffic Volumes	Difference Between Year 2027 and Year 2045 Traffic Volumes	Adjusted Year 2045 Traffic Volumes	Additional Growth?	Adjusted Year 2045 Traffic Volumes
Nb Left	60	63	3	63	No Additional Growth	63
Nb Thru	293	268	-25	293	Add Additional Growth	308
Nb Right	164	160	-4	164	Add Additional Growth	172
Sb Left	209	208	-1	209	Add Additional Growth	219
Sb Thru	402	476	74	476	No Additional Growth	476
Sb Right	276	268	-8	276	Add Additional Growth	290
Eb Left	160	137	-23	160	Add Additional Growth	168
Eb Thru	713	742	29	742	No Additional Growth	742
Eb Right	69	93	24	93	No Additional Growth	93
Wb Left	150	220	70	220	No Additional Growth	220
Wb Thru	656	859	203	859	No Additional Growth	859
Wb Right	182	214	32	214	No Additional Growth	214
Total Vol.	3334	3710	376	3770	0	3824
INTERSECTION #4						
Movement	Year 2027 Opening Year Traffic Volumes	Year 2045 Buildout Year Traffic Volumes	Difference Between Year 2027 and Year 2045 Traffic Volumes	Adjusted Year 2045 Traffic Volumes	Additional Growth?	Adjusted Year 2045 Traffic Volumes
Nb Left	193	214	21	214	No Additional Growth	214
Nb Thru	649	893	244	893	No Additional Growth	893
Nb Right	152	153	1	153	No Additional Growth	153
Sb Left	137	177	40	177	No Additional Growth	177
Sb Thru	980	1187	207	1187	No Additional Growth	1187
Sb Right	132	240	108	240	No Additional Growth	240
Eb Left	146	218	72	218	No Additional Growth	218
Eb Thru	638	630	-8	638	Add Additional Growth	670
Eb Right	336	260	-76	336	Add Additional Growth	353
Wb Left	221	193	-28	221	Add Additional Growth	232
Wb Thru	706	886	180	886	No Additional Growth	886
Wb Right	108	149	41	149	No Additional Growth	149
Total Vol.	4398	5200	802	5312	0	5372
INTERSECTION #5						
Movement	Year 2027 Opening Year Traffic Volumes	Year 2045 Buildout Year Traffic Volumes	Difference Between Year 2027 and Year 2045 Traffic Volumes	Adjusted Year 2045 Traffic Volumes	Additional Growth?	Adjusted Year 2045 Traffic Volumes
Nb Left	0	0	0	0	No Additional Growth	0
Nb Thru	630	620	-10	630	Add Additional Growth	662
Nb Right	0	0	0	0	No Additional Growth	0
Sb Left	0	0	0	0	No Additional Growth	0
Sb Thru	883	950	67	950	No Additional Growth	950
Sb Right	0	0	0	0	No Additional Growth	0
Eb Left	0	0	0	0	No Additional Growth	0
Eb Thru	0	0	0	0	No Additional Growth	0
Eb Right	0	0	0	0	No Additional Growth	0
Wb Left	0	0	0	0	No Additional Growth	0
Wb Thru	0	0	0	0	No Additional Growth	0
Wb Right	0	0	0	0	No Additional Growth	0
Total Vol.	1513	1570	57	1580	0	1612
INTERSECTION #6						
Movement	Year 2027 Opening Year Traffic Volumes	Year 2045 Buildout Year Traffic Volumes	Difference Between Year 2027 and Year 2045 Traffic Volumes	Adjusted Year 2045 Traffic Volumes	Additional Growth?	Adjusted Year 2045 Traffic Volumes
Nb Left	0	0	0	0	No Additional Growth	0
Nb Thru	0	0	0	0	No Additional Growth	0
Nb Right	0	0	0	0	No Additional Growth	0
Sb Left	0	0	0	0	No Additional Growth	0
Sb Thru	0	0	0	0	No Additional Growth	0
Sb Right	0	0	0	0	No Additional Growth	0
Eb Left	0	0	0	0	No Additional Growth	0
Eb Thru	1086	1110	24	1110	No Additional Growth	1110
Eb Right	0	0	0	0	No Additional Growth	0
Wb Left	0	0	0	0	No Additional Growth	0
Wb Thru	988	1290	302	1290	No Additional Growth	1290
Wb Right	0	0	0	0	No Additional Growth	0
Total Vol.	2074	2400	326	2400	0	2400



Appendix D

Detailed CA MUTCD Traffic Signal Warrant Analysis Worksheets

Signal Warrants Report For Intersection 5: Placentia Avenue (N/S) and Project Access 1 (E/W)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	E
1	568	507	73
2	551	492	71
3	540	482	69
4	506	451	65
5	449	401	58
6	443	395	57
7	437	390	56
8	398	355	51
9	392	350	50
10	386	345	50
11	335	299	43
12	312	279	40
13	307	274	39
14	227	203	29
15	227	203	29
16	159	142	20
17	91	81	12
18	91	81	12
19	51	46	7
20	28	25	4
21	17	15	2
22	6	5	1
23	6	5	1
24	6	5	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1075	1	73	No	No	No	No	No	Yes	Yes	Yes	No	No
2	2	1043	1	71	No	No	No	No	No	Yes	Yes	Yes	No	No
3	2	1022	1	69	No	No	No	No	No	Yes	Yes	Yes	No	No
4	2	957	1	65	No	No	No	No	No	Yes	Yes	Yes	No	No
5	2	850	1	58	No	No	No	No	No	No	Yes	Yes	No	No
6	2	838	1	57	No	No	No	No	No	No	Yes	Yes	No	No
7	2	827	1	56	No	No	No	No	No	No	Yes	Yes	No	No
8	2	753	1	51	No	No	No	No	No	No	No	Yes	No	No
9	2	742	1	50	No	No	No	No	No	No	No	Yes	No	No
10	2	731	1	50	No	No	No	No	No	No	No	Yes	No	No
11	2	634	1	43	No	No	No	No	No	No	No	Yes	No	No
12	2	591	1	40	No	No	No	No	No	No	No	No	No	No
13	2	581	1	39	No	No	No	No	No	No	No	No	No	No
14	2	430	1	29	No	No	No	No	No	No	No	No	No	No
15	2	430	1	29	No	No	No	No	No	No	No	No	No	No
16	2	301	1	20	No	No	No	No	No	No	No	No	No	No
17	2	172	1	12	No	No	No	No	No	No	No	No	No	No
18	2	172	1	12	No	No	No	No	No	No	No	No	No	No
19	2	97	1	7	No	No	No	No	No	No	No	No	No	No
20	2	53	1	4	No	No	No	No	No	No	No	No	No	No
21	2	32	1	2	No	No	No	No	No	No	No	No	No	No
22	2	11	1	1	No	No	No	No	No	No	No	No	No	No
23	2	11	1	1	No	No	No	No	No	No	No	No	No	No
24	2	11	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	4	7	11	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:15
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	73
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1148
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No

Signal Warrants Report For Intersection 5: Placentia Avenue (N/S) and Project Access 1 (E/W)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	E
1	841	607	45
2	816	589	44
3	799	577	43
4	748	540	40
5	664	480	36
6	656	473	35
7	648	467	35
8	589	425	31
9	580	419	31
10	572	413	31
11	496	358	27
12	463	334	25
13	454	328	24
14	336	243	18
15	336	243	18
16	235	170	13
17	135	97	7
18	135	97	7
19	76	55	4
20	42	30	2
21	25	18	1
22	8	6	0
23	8	6	0
24	8	6	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1448	1	45	No	No	No	No	No	No	No	Yes	No	No
2	2	1405	1	44	No	No	No	No	No	No	No	Yes	No	No
3	2	1376	1	43	No	No	No	No	No	No	No	Yes	No	No
4	2	1288	1	40	No	No	No	No	No	No	No	No	No	No
5	2	1144	1	36	No	No	No	No	No	No	No	No	No	No
6	2	1129	1	35	No	No	No	No	No	No	No	No	No	No
7	2	1115	1	35	No	No	No	No	No	No	No	No	No	No
8	2	1014	1	31	No	No	No	No	No	No	No	No	No	No
9	2	999	1	31	No	No	No	No	No	No	No	No	No	No
10	2	985	1	31	No	No	No	No	No	No	No	No	No	No
11	2	854	1	27	No	No	No	No	No	No	No	No	No	No
12	2	797	1	25	No	No	No	No	No	No	No	No	No	No
13	2	782	1	24	No	No	No	No	No	No	No	No	No	No
14	2	579	1	18	No	No	No	No	No	No	No	No	No	No
15	2	579	1	18	No	No	No	No	No	No	No	No	No	No
16	2	405	1	13	No	No	No	No	No	No	No	No	No	No
17	2	232	1	7	No	No	No	No	No	No	No	No	No	No
18	2	232	1	7	No	No	No	No	No	No	No	No	No	No
19	2	131	1	4	No	No	No	No	No	No	No	No	No	No
20	2	72	1	2	No	No	No	No	No	No	No	No	No	No
21	2	43	1	1	No	No	No	No	No	No	No	No	No	No
22	2	14	1	0	No	No	No	No	No	No	No	No	No	No
23	2	14	1	0	No	No	No	No	No	No	No	No	No	No
24	2	14	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	3	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:10
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	45
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1493
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No

Signal Warrants Report For Intersection 5: Placentia Avenue (N/S) and Project Access 1 (E/W)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	E
1	649	541	73
2	630	525	71
3	617	514	69
4	578	481	65
5	513	427	58
6	506	422	57
7	500	417	56
8	454	379	51
9	448	373	50
10	441	368	50
11	383	319	43
12	357	298	40
13	350	292	39
14	260	216	29
15	260	216	29
16	182	151	20
17	104	87	12
18	104	87	12
19	58	49	7
20	32	27	4
21	19	16	2
22	6	5	1
23	6	5	1
24	6	5	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1190	1	73	No	No	No	No	No	Yes	Yes	Yes	No	No
2	2	1155	1	71	No	No	No	No	No	Yes	Yes	Yes	No	No
3	2	1131	1	69	No	No	No	No	No	Yes	Yes	Yes	No	No
4	2	1059	1	65	No	No	No	No	No	Yes	Yes	Yes	No	No
5	2	940	1	58	No	No	No	No	No	No	Yes	Yes	No	No
6	2	928	1	57	No	No	No	No	No	No	Yes	Yes	No	No
7	2	917	1	56	No	No	No	No	No	No	Yes	Yes	No	No
8	2	833	1	51	No	No	No	No	No	No	No	Yes	No	No
9	2	821	1	50	No	No	No	No	No	No	No	Yes	No	No
10	2	809	1	50	No	No	No	No	No	No	No	Yes	No	No
11	2	702	1	43	No	No	No	No	No	No	No	Yes	No	No
12	2	655	1	40	No	No	No	No	No	No	No	No	No	No
13	2	642	1	39	No	No	No	No	No	No	No	No	No	No
14	2	476	1	29	No	No	No	No	No	No	No	No	No	No
15	2	476	1	29	No	No	No	No	No	No	No	No	No	No
16	2	333	1	20	No	No	No	No	No	No	No	No	No	No
17	2	191	1	12	No	No	No	No	No	No	No	No	No	No
18	2	191	1	12	No	No	No	No	No	No	No	No	No	No
19	2	107	1	7	No	No	No	No	No	No	No	No	No	No
20	2	59	1	4	No	No	No	No	No	No	No	No	No	No
21	2	35	1	2	No	No	No	No	No	No	No	No	No	No
22	2	11	1	1	No	No	No	No	No	No	No	No	No	No
23	2	11	1	1	No	No	No	No	No	No	No	No	No	No
24	2	11	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	4	7	11	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.6
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:16
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	73
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1263
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No

Signal Warrants Report For Intersection 5: Placentia Avenue (N/S) and Project Access 1 (E/W)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	E
1	896	681	45
2	869	661	44
3	851	647	43
4	797	606	40
5	708	538	36
6	699	531	35
7	690	524	35
8	627	477	31
9	618	470	31
10	609	463	31
11	529	402	27
12	493	375	25
13	484	368	24
14	358	272	18
15	358	272	18
16	251	191	13
17	143	109	7
18	143	109	7
19	81	61	4
20	45	34	2
21	27	20	1
22	9	7	0
23	9	7	0
24	9	7	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1577	1	45	No	No	No	No	No	No	No	Yes	No	No
2	2	1530	1	44	No	No	No	No	No	No	No	Yes	No	No
3	2	1498	1	43	No	No	No	No	No	No	No	Yes	No	No
4	2	1403	1	40	No	No	No	No	No	No	No	No	No	No
5	2	1246	1	36	No	No	No	No	No	No	No	No	No	No
6	2	1230	1	35	No	No	No	No	No	No	No	No	No	No
7	2	1214	1	35	No	No	No	No	No	No	No	No	No	No
8	2	1104	1	31	No	No	No	No	No	No	No	No	No	No
9	2	1088	1	31	No	No	No	No	No	No	No	No	No	No
10	2	1072	1	31	No	No	No	No	No	No	No	No	No	No
11	2	931	1	27	No	No	No	No	No	No	No	No	No	No
12	2	868	1	25	No	No	No	No	No	No	No	No	No	No
13	2	852	1	24	No	No	No	No	No	No	No	No	No	No
14	2	630	1	18	No	No	No	No	No	No	No	No	No	No
15	2	630	1	18	No	No	No	No	No	No	No	No	No	No
16	2	442	1	13	No	No	No	No	No	No	No	No	No	No
17	2	252	1	7	No	No	No	No	No	No	No	No	No	No
18	2	252	1	7	No	No	No	No	No	No	No	No	No	No
19	2	142	1	4	No	No	No	No	No	No	No	No	No	No
20	2	79	1	2	No	No	No	No	No	No	No	No	No	No
21	2	47	1	1	No	No	No	No	No	No	No	No	No	No
22	2	16	1	0	No	No	No	No	No	No	No	No	No	No
23	2	16	1	0	No	No	No	No	No	No	No	No	No	No
24	2	16	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	3	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	15
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:11
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	45
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1622
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No

Signal Warrants Report For Intersection 5: Placentia Avenue (N/S) and Project Access 1 (E/W)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	E
1	681	729	73
2	661	707	71
3	647	693	69
4	606	649	65
5	538	576	58
6	531	569	57
7	524	561	56
8	477	510	51
9	470	503	50
10	463	496	50
11	402	430	43
12	375	401	40
13	368	394	39
14	272	292	29
15	272	292	29
16	191	204	20
17	109	117	12
18	109	117	12
19	61	66	7
20	34	36	4
21	20	22	2
22	7	7	1
23	7	7	1
24	7	7	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1410	1	73	No	No	No	No	No	Yes	Yes	Yes	No	No
2	2	1368	1	71	No	No	No	No	No	Yes	Yes	Yes	No	No
3	2	1340	1	69	No	No	No	No	No	Yes	Yes	Yes	No	No
4	2	1255	1	65	No	No	No	No	No	Yes	Yes	Yes	No	No
5	2	1114	1	58	No	No	No	No	No	No	Yes	Yes	No	No
6	2	1100	1	57	No	No	No	No	No	No	Yes	Yes	No	No
7	2	1085	1	56	No	No	No	No	No	No	Yes	Yes	No	No
8	2	987	1	51	No	No	No	No	No	No	No	Yes	No	No
9	2	973	1	50	No	No	No	No	No	No	No	Yes	No	No
10	2	959	1	50	No	No	No	No	No	No	No	Yes	No	No
11	2	832	1	43	No	No	No	No	No	No	No	Yes	No	No
12	2	776	1	40	No	No	No	No	No	No	No	No	No	No
13	2	762	1	39	No	No	No	No	No	No	No	No	No	No
14	2	564	1	29	No	No	No	No	No	No	No	No	No	No
15	2	564	1	29	No	No	No	No	No	No	No	No	No	No
16	2	395	1	20	No	No	No	No	No	No	No	No	No	No
17	2	226	1	12	No	No	No	No	No	No	No	No	No	No
18	2	226	1	12	No	No	No	No	No	No	No	No	No	No
19	2	127	1	7	No	No	No	No	No	No	No	No	No	No
20	2	70	1	4	No	No	No	No	No	No	No	No	No	No
21	2	42	1	2	No	No	No	No	No	No	No	No	No	No
22	2	14	1	1	No	No	No	No	No	No	No	No	No	No
23	2	14	1	1	No	No	No	No	No	No	No	No	No	No
24	2	14	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	4	7	11	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	16
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:19
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	73
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1483
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No

Signal Warrants Report For Intersection 5: Placentia Avenue (N/S) and Project Access 1 (E/W)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	E
1	963	713	45
2	934	692	44
3	915	677	43
4	857	635	40
5	761	563	36
6	751	556	35
7	742	549	35
8	674	499	31
9	664	492	31
10	655	485	31
11	568	421	27
12	530	392	25
13	520	385	24
14	385	285	18
15	385	285	18
16	270	200	13
17	154	114	7
18	154	114	7
19	87	64	4
20	48	36	2
21	29	21	1
22	10	7	0
23	10	7	0
24	10	7	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1676	1	45	No	No	No	No	No	No	No	Yes	No	No
2	2	1626	1	44	No	No	No	No	No	No	No	Yes	No	No
3	2	1592	1	43	No	No	No	No	No	No	No	Yes	No	No
4	2	1492	1	40	No	No	No	No	No	No	No	No	No	No
5	2	1324	1	36	No	No	No	No	No	No	No	No	No	No
6	2	1307	1	35	No	No	No	No	No	No	No	No	No	No
7	2	1291	1	35	No	No	No	No	No	No	No	No	No	No
8	2	1173	1	31	No	No	No	No	No	No	No	No	No	No
9	2	1156	1	31	No	No	No	No	No	No	No	No	No	No
10	2	1140	1	31	No	No	No	No	No	No	No	No	No	No
11	2	989	1	27	No	No	No	No	No	No	No	No	No	No
12	2	922	1	25	No	No	No	No	No	No	No	No	No	No
13	2	905	1	24	No	No	No	No	No	No	No	No	No	No
14	2	670	1	18	No	No	No	No	No	No	No	No	No	No
15	2	670	1	18	No	No	No	No	No	No	No	No	No	No
16	2	470	1	13	No	No	No	No	No	No	No	No	No	No
17	2	268	1	7	No	No	No	No	No	No	No	No	No	No
18	2	268	1	7	No	No	No	No	No	No	No	No	No	No
19	2	151	1	4	No	No	No	No	No	No	No	No	No	No
20	2	84	1	2	No	No	No	No	No	No	No	No	No	No
21	2	50	1	1	No	No	No	No	No	No	No	No	No	No
22	2	17	1	0	No	No	No	No	No	No	No	No	No	No
23	2	17	1	0	No	No	No	No	No	No	No	No	No	No
24	2	17	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	3	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.6
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:11
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	45
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1721
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No



Appendix E

Intersection Analysis Worksheets – Existing Conditions

Intersection Level Of Service Report

Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	28.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.591

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	152	0	688	0	0	0	95	623	0	0	827	212
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 [%]	6.31	2.00	6.31	2.00	2.00	2.00	13.23	13.23	2.00	2.00	7.70	7.70
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	152	0	688	0	0	0	95	623	0	0	827	212
Peak Hour Factor	0.9140	1.0000	0.9140	1.0000	1.0000	1.0000	0.9140	0.9140	1.0000	1.0000	0.9140	0.9140
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	0	188	0	0	0	26	170	0	0	226	58
Total Analysis Volume [veh/h]	166	0	753	0	0	0	104	682	0	0	905	232
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	117.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	4	0	4	0	0	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Maximum Green [s]	60	0	60	0	0	0	30	60	0	0	60	60
Amber [s]	3.9	0.0	3.9	0.0	0.0	0.0	3.6	4.3	0.0	0.0	4.3	4.3
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	5	0	5	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	27	0	27	0	0	0	0	8	0	0	8	8
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	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.9	0.0	2.9	0.0	0.0	0.0	2.6	3.3	0.0	0.0	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	55	0	55	0	0	0	25	75	0	0	50	50
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	15	0	0	15	15
Vehicle Extension [s]	5.0	0.0	5.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No						No	Yes			Yes	
Maximum Recall	No						No	No			No	
Pedestrian Recall	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	R		L	C	C	C
C, Calculated Cycle Length [s]	130	130		130	130	130	130
L, Total Lost Time per Cycle [s]	4.90	4.90		4.60	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90		2.60	3.30	3.30	3.30
g_i, Effective Green Time [s]	42	42		6	78	67	67
g / C, Green / Cycle	0.32	0.32		0.05	0.60	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.10	0.28		0.03	0.15	0.22	0.23
s, saturation flow rate [veh/h]	1719	2716		3147	4635	3398	1675
c, Capacity [veh/h]	555	877		154	2775	1748	862
d1, Uniform Delay [s]	32.99	41.24		60.81	12.27	19.72	19.81
k, delay calibration	0.23	0.23		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.64	5.33		5.11	0.21	0.79	1.63
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.86		0.68	0.25	0.43	0.44
d, Delay for Lane Group [s/veh]	33.63	46.56		65.92	12.49	20.51	21.44
Lane Group LOS	C	D		E	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.98	11.65		1.77	2.97	7.11	7.34
50th-Percentile Queue Length [ft/ln]	99.46	291.21		44.13	74.16	177.74	183.43
95th-Percentile Queue Length [veh/ln]	7.16	17.25		3.18	5.34	11.48	11.78
95th-Percentile Queue Length [ft/ln]	179.03	431.14		79.43	133.49	287.06	294.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.63	0.00	46.56	0.00	0.00	0.00	65.92	12.49	0.00	0.00	20.66	21.44
Movement LOS	C		D				E	B			C	C
d_A, Approach Delay [s/veh]	44.23			0.00			19.56			20.82		
Approach LOS	D			A			B			C		
d_I, Intersection Delay [s/veh]	28.04											
Intersection LOS	C											
Intersection V/C	0.591											

Emissions

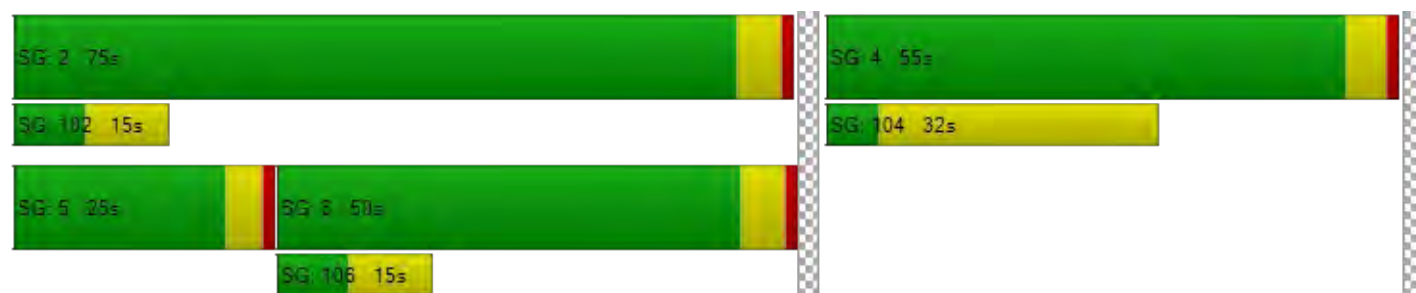
Vehicle Miles Traveled [mph]	7.24	32.84		2.21	14.47	21.41	10.71
Stops [stops/h]	110.17	645.14		97.76	246.45	393.76	203.18
Fuel consumption [US gal/h]	2.48	14.65		2.69	5.29	7.80	4.03
CO [g/h]	173.18	1023.93		187.77	369.99	545.14	281.89
NOx [g/h]	33.69	199.22		36.53	71.99	106.06	54.84
VOC [g/h]	40.14	237.30		43.52	85.75	126.34	65.33

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.47	54.47	0.00	56.31
I_p,int, Pedestrian LOS Score for Intersectio	2.356	1.896	0.000	3.029
Crosswalk LOS	B	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	0	1072	688
d_b, Bicycle Delay [s]	24.55	65.00	13.98	27.98
I_b,int, Bicycle LOS Score for Intersection	1.560	4.132	1.992	2.185
Bicycle LOS	A	D	A	B

Sequence

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



Intersection Level Of Service Report

Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	19.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.549

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	3	8	22	201	0	71	116	494	1	9	607	468
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 [%]	6.06	6.06	6.06	18.38	18.38	18.38	11.62	11.62	11.62	5.54	5.54	5.54
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	8	22	201	0	71	116	494	1	9	607	468
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	6	54	0	19	31	133	0	2	163	126
Total Analysis Volume [veh/h]	3	9	24	216	0	76	125	532	1	10	653	504
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	83.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	7	7	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	30	30	30	40	40	40	30	60	60	20	60	60
Amber [s]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.3	4.3
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	0	0	5	5	5	0	7	7	0	6	6
Pedestrian Clearance [s]	0	0	0	20	20	20	0	10	10	0	11	11
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.3	3.3	2.5	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	17	17	17	43	43	43	20	30	30	20	30	30
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	15	15	5	15	15
Vehicle Extension [s]	3.0	3.0	3.0	2.5	2.5	2.5	2.5	5.0	5.0	2.5	5.0	5.0
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	L	C	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.30	5.30	4.50	5.30	5.30
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
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	3.30	3.30	2.50	3.30	3.30
g_i, Effective Green Time [s]	3	13	13	6	74	74	1	69	69
g / C, Green / Cycle	0.03	0.11	0.11	0.06	0.67	0.67	0.01	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.02	0.09	0.09	0.04	0.11	0.11	0.01	0.13	0.31
s, saturation flow rate [veh/h]	1613	1609	1511	3192	3286	1724	1730	4949	1606
c, Capacity [veh/h]	49	185	174	181	2205	1157	22	3102	1007
d1, Uniform Delay [s]	52.86	47.51	47.56	50.92	6.66	6.66	53.95	8.83	11.17
k, delay calibration	0.11	0.08	0.08	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
d2, Incremental Delay [s]	18.35	6.24	6.91	3.44	0.15	0.29	11.04	0.15	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.81	0.82	0.69	0.16	0.16	0.46	0.21	0.50
d, Delay for Lane Group [s/veh]	71.21	53.75	54.47	54.36	6.81	6.95	64.99	8.98	12.95
Lane Group LOS	E	D	D	D	A	A	E	A	B
Critical Lane Group	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.24	4.24	4.05	1.73	1.31	1.42	0.34	2.06	6.41
50th-Percentile Queue Length [ft/ln]	31.12	105.98	101.33	43.24	32.79	35.54	8.41	51.60	160.31
95th-Percentile Queue Length [veh/ln]	2.24	7.62	7.30	3.11	2.36	2.56	0.61	3.71	10.57
95th-Percentile Queue Length [ft/ln]	56.02	190.40	182.40	77.84	59.03	63.98	15.13	92.87	264.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	71.21	71.21	71.21	53.97	54.47	54.47	54.36	6.86	6.95	64.99	8.98	12.95
Movement LOS	E	E	E	D	D	D	D	A	A	E	A	B
d_A, Approach Delay [s/veh]	71.21			54.10			15.88			11.18		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	19.44											
Intersection LOS	B											
Intersection V/C	0.549											

Emissions

Vehicle Miles Traveled [mph]	1.24	6.08	5.77	6.19	17.30	9.08	0.51	33.27	25.68
Stops [stops/h]	40.74	138.74	132.65	113.21	85.86	46.53	11.00	202.63	209.87
Fuel consumption [US gal/h]	0.73	3.22	3.08	3.00	2.15	1.15	0.26	4.38	4.31
CO [g/h]	51.29	225.08	215.64	209.87	149.94	80.34	18.07	305.89	301.24
NOx [g/h]	9.98	43.79	41.95	40.83	29.17	15.63	3.52	59.52	58.61
VOC [g/h]	11.89	52.16	49.98	48.64	34.75	18.62	4.19	70.89	69.81

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	10.0	9.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	45.45	46.37	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.744	2.444	2.991	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	227	700	449	449
d_b, Bicycle Delay [s]	43.21	23.24	33.07	33.07
I_b,int, Bicycle LOS Score for Intersection	1.619	2.041	1.922	2.201
Bicycle LOS	A	B	A	B

Sequence

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



Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.548

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	196	828	79	88	799	111	164	334	173	155	346	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.90	3.90	3.90	4.11	4.11	4.11	8.05	8.05	8.05	6.47	6.47	6.47
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	196	828	79	88	799	111	164	334	173	155	346	40
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]	51	216	21	23	208	29	43	87	45	40	90	10
Total Analysis Volume [veh/h]	204	863	82	92	832	116	171	348	180	161	360	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Active Pattern	Pattern 1
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]	16.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Maximum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	26	26	0	21	21
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 1

Split [s]	10	39	39	10	39	39	12	46	46	10	44	44
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	68	58	58	68	58	58	29	19	19	29	17	17
g / C, Green / Cycle	0.65	0.56	0.56	0.65	0.55	0.55	0.28	0.18	0.18	0.28	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.29	0.25	0.05	0.13	0.18	0.18	0.15	0.10	0.12	0.15	0.08	0.08
s, saturation flow rate [veh/h]	708	3506	1565	702	3500	1726	1126	3388	1512	1109	3433	1709
c, Capacity [veh/h]	509	1979	884	479	1962	967	333	585	261	298	528	263
d1, Uniform Delay [s]	7.83	13.21	10.51	7.81	12.38	12.39	32.00	40.04	40.78	32.03	40.77	40.84
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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]	2.35	0.70	0.21	0.89	0.44	0.89	5.57	0.97	3.22	1.52	0.75	1.56
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	0.40	0.44	0.09	0.19	0.32	0.32	0.51	0.59	0.69	0.54	0.51	0.52
d, Delay for Lane Group [s/veh]	10.18	13.91	10.72	8.70	12.82	13.29	37.57	41.01	44.00	33.54	41.52	42.40
Lane Group LOS	B	B	B	A	B	B	D	D	D	C	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.90	5.57	0.86	0.77	3.80	3.89	4.02	4.15	4.52	3.37	3.17	3.28
50th-Percentile Queue Length [ft/ln]	47.44	139.28	21.61	19.36	95.00	97.30	100.42	103.70	113.04	84.13	79.20	82.04
95th-Percentile Queue Length [veh/ln]	3.42	9.44	1.56	1.39	6.84	7.01	7.23	7.47	8.01	6.06	5.70	5.91
95th-Percentile Queue Length [ft/ln]	85.40	236.06	38.89	34.85	171.00	175.14	180.75	186.67	200.22	151.44	142.56	147.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.18	13.91	10.72	8.70	12.93	13.29	37.57	41.01	44.00	33.54	41.75	42.40
Movement LOS	B	B	B	A	B	B	D	D	D	C	D	D
d_A, Approach Delay [s/veh]	13.02			12.59			40.94			39.45		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.86											
Intersection LOS	C											
Intersection V/C	0.548											

Emissions

Vehicle Miles Traveled [mph]	11.62	49.15	4.67	4.14	28.55	14.15	16.82	34.24	17.71	9.36	15.50	7.87
Stops [stops/h]	65.06	382.03	29.63	26.55	260.57	133.44	137.72	284.45	155.02	115.38	217.24	112.51
Fuel consumption [US gal/h]	1.63	8.88	0.71	0.64	5.87	2.99	2.76	5.89	3.20	2.12	4.09	2.11
CO [g/h]	113.93	620.58	49.44	44.39	410.43	209.24	192.97	411.36	223.49	148.32	285.94	147.76
NOx [g/h]	22.17	120.74	9.62	8.64	79.86	40.71	37.54	80.04	43.48	28.86	55.63	28.75
VOC [g/h]	26.41	143.82	11.46	10.29	95.12	48.49	44.72	95.34	51.80	34.37	66.27	34.25

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	42.08			42.08			42.08			42.08		
I_p,int, Pedestrian LOS Score for Intersectio	3.132			3.087			2.959			2.827		
Crosswalk LOS	C			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]	667			667			800			762		
d_b, Bicycle Delay [s]	23.33			23.33			18.90			20.12		
I_b,int, Bicycle LOS Score for Intersection	2.508			2.132			1.944			1.869		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report

Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	152	0	688	0	0	0	95	623	0	0	827	212
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 [%]	6.31	2.00	6.31	2.00	2.00	2.00	13.23	13.23	2.00	2.00	7.70	7.70
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]	152	0	688	0	0	0	95	623	0	0	827	212
Peak Hour 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
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]	38	0	172	0	0	0	24	156	0	0	207	53
Total Analysis Volume [veh/h]	152	0	688	0	0	0	95	623	0	0	827	212
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.20	0.00	0.00	0.00	0.03	0.12	0.00	0.00	0.20	0.20
Intersection LOS	A											
Intersection V/C	0.484											

Intersection Level Of Service Report

Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.459

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	3	8	22	201	0	71	116	494	1	9	607	468
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 [%]	6.06	6.06	6.06	18.38	18.38	18.38	11.62	11.62	11.62	5.54	5.54	5.54
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]	3	8	22	201	0	71	116	494	1	9	607	468
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	6	50	0	18	29	124	0	2	152	117
Total Analysis Volume [veh/h]	3	8	22	201	0	71	116	494	1	9	607	468
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.06	0.00	0.08	0.03	0.10	0.10	0.01	0.12	0.28
Intersection LOS	A											
Intersection V/C	0.459											

Intersection Level Of Service Report**Intersection 3: S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.330

Intersection Setup

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	11.00	11.00	12.00	11.00	14.00	11.00	11.00	14.00	11.00	11.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	210.00	100.00	225.00	205.00	100.00	100.00	250.00	100.00	100.00	200.00	100.00	275.00
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]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	25	243	107	151	242	171	91	333	19	83	420	154
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 [%]	4.27	4.27	4.27	4.96	4.96	4.96	11.96	11.96	11.96	6.54	6.54	6.54
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]	25	243	107	151	242	171	91	333	19	83	420	154
Peak Hour 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
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	61	27	38	61	43	23	83	5	21	105	39
Total Analysis Volume [veh/h]	25	243	107	151	242	171	91	333	19	83	420	154
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.07	0.06	0.04	0.12	0.12	0.05	0.00	0.00	0.05	0.00	0.09
Intersection LOS	A											
Intersection V/C	0.330											

Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.538

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	196	828	79	88	799	111	164	334	173	155	346	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.90	3.90	3.90	4.11	4.11	4.11	8.05	8.05	8.05	6.47	6.47	6.47
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]	196	828	79	88	799	111	164	334	173	155	346	40
Peak Hour 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
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]	49	207	20	22	200	28	41	84	43	39	87	10
Total Analysis Volume [veh/h]	196	828	79	88	799	111	164	334	173	155	346	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.24	0.05	0.05	0.18	0.18	0.10	0.10	0.10	0.09	0.08	0.08
Intersection LOS	A											
Intersection V/C	0.538											

Intersection Level Of Service Report

Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

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):	0.650

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	218	0	663	0	0	0	144	730	0	0	988	458
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.45	2.00	5.45	2.00	2.00	2.00	6.41	6.41	2.00	2.00	3.94	3.94
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	218	0	663	0	0	0	144	730	0	0	988	458
Peak Hour Factor	0.9820	1.0000	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820
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]	55	0	169	0	0	0	37	186	0	0	252	117
Total Analysis Volume [veh/h]	222	0	675	0	0	0	147	743	0	0	1006	466
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	3.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	4	0	4	0	0	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Maximum Green [s]	60	0	60	0	0	0	30	60	0	0	60	60
Amber [s]	3.9	0.0	3.9	0.0	0.0	0.0	3.6	4.3	0.0	0.0	4.3	4.3
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	5	0	5	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	27	0	27	0	0	0	0	8	0	0	8	8
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	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.9	0.0	2.9	0.0	0.0	0.0	2.6	3.3	0.0	0.0	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	55	0	55	0	0	0	25	75	0	0	50	50
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	15	0	0	15	15
Vehicle Extension [s]	5.0	0.0	5.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No						No	Yes			Yes	
Maximum Recall	No						No	No			No	
Pedestrian Recall	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	R		L	C	C	C
C, Calculated Cycle Length [s]	130	130		130	130	130	130
L, Total Lost Time per Cycle [s]	4.90	4.90		4.60	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90		2.60	3.30	3.30	3.30
g_i, Effective Green Time [s]	39	39		8	81	69	69
g / C, Green / Cycle	0.30	0.30		0.06	0.63	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.13	0.25		0.04	0.15	0.28	0.30
s, saturation flow rate [veh/h]	1732	2735		3336	4914	3505	1640
c, Capacity [veh/h]	514	812		206	3070	1850	866
d1, Uniform Delay [s]	36.88	42.69		59.87	10.78	20.12	20.68
k, delay calibration	0.23	0.23		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.23	4.77		4.58	0.19	1.09	2.69
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.83		0.71	0.24	0.53	0.57
d, Delay for Lane Group [s/veh]	38.11	47.46		64.45	10.96	21.22	23.36
Lane Group LOS	D	D		E	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.79	10.42		2.46	2.96	9.61	10.23
50th-Percentile Queue Length [ft/ln]	144.85	260.61		61.59	74.10	240.18	255.71
95th-Percentile Queue Length [veh/ln]	9.74	15.72		4.43	5.34	14.69	15.47
95th-Percentile Queue Length [ft/ln]	243.54	392.99		110.86	133.39	367.26	386.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.11	0.00	47.46	0.00	0.00	0.00	64.45	10.96	0.00	0.00	21.27	23.36
Movement LOS	D		D				E	B			C	C
d_A, Approach Delay [s/veh]	45.15			0.00			19.80			21.93		
Approach LOS	D			A			B			C		
d_I, Intersection Delay [s/veh]	27.74											
Intersection LOS	C											
Intersection V/C	0.650											

Emissions

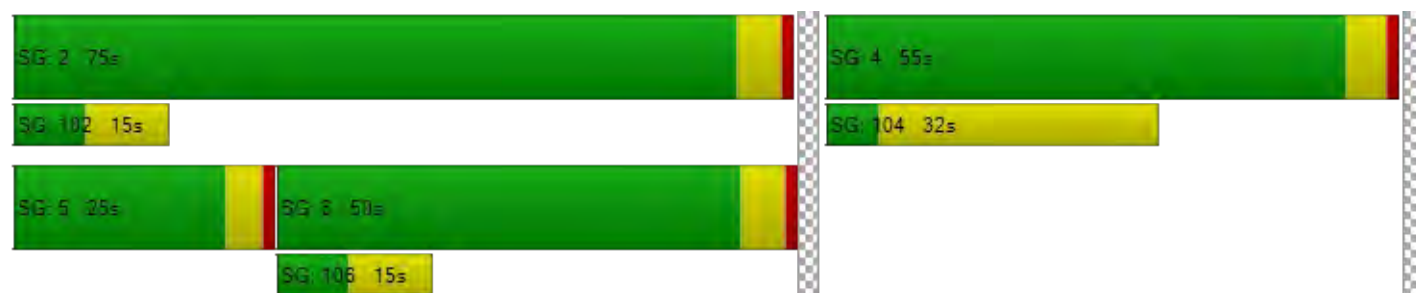
Vehicle Miles Traveled [mph]	10.09	30.67		3.12	15.77	27.72	13.86
Stops [stops/h]	160.45	577.35		136.45	246.25	532.10	283.25
Fuel consumption [US gal/h]	3.66	13.29		3.73	5.26	10.46	5.61
CO [g/h]	255.77	928.89		260.81	367.67	730.96	392.26
NOx [g/h]	49.76	180.73		50.74	71.53	142.22	76.32
VOC [g/h]	59.28	215.28		60.45	85.21	169.41	90.91

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.47	54.47	0.00	56.31
I_p,int, Pedestrian LOS Score for Intersectio	2.347	2.031	0.000	3.098
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	0	1072	688
d_b, Bicycle Delay [s]	24.55	65.00	13.98	27.98
I_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.049	2.369
Bicycle LOS	A	D	B	B

Sequence

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



Intersection Level Of Service Report

Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	19.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.508

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	4	8	10	161	3	142	210	728	4	5	819	390
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	16.01	16.01	16.01	3.29	3.29	3.29	4.37	4.37	4.37
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	8	10	161	3	142	210	728	4	5	819	390
Peak Hour Factor	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	3	42	1	37	55	191	1	1	215	103
Total Analysis Volume [veh/h]	4	8	11	169	3	149	221	766	4	5	861	410
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	68.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	7	7	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	30	30	30	40	40	40	30	60	60	20	60	60
Amber [s]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.3	4.3
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	0	0	5	5	5	0	7	7	0	6	6
Pedestrian Clearance [s]	0	0	0	20	20	20	0	10	10	0	11	11
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.3	3.3	2.5	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	17	17	17	35	35	35	27	38	38	20	31	31
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	15	15	5	15	15
Vehicle Extension [s]	3.0	3.0	3.0	2.5	2.5	2.5	2.5	5.0	5.0	2.5	5.0	5.0
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	L	C	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.30	5.30	4.50	5.30	5.30
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
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	3.30	3.30	2.50	3.30	3.30
g_i, Effective Green Time [s]	3	14	14	9	74	74	1	66	66
g / C, Green / Cycle	0.02	0.12	0.12	0.08	0.67	0.67	0.01	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.01	0.10	0.10	0.06	0.14	0.14	0.00	0.17	0.25
s, saturation flow rate [veh/h]	1738	1644	1472	3423	3524	1846	1747	4997	1622
c, Capacity [veh/h]	40	205	184	290	2375	1244	12	2980	967
d1, Uniform Delay [s]	53.17	46.95	47.01	49.26	6.82	6.82	54.39	10.82	11.99
k, delay calibration	0.11	0.08	0.08	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
d2, Incremental Delay [s]	11.89	6.03	7.08	3.10	0.20	0.39	15.62	0.25	1.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.82	0.83	0.76	0.21	0.21	0.41	0.29	0.42
d, Delay for Lane Group [s/veh]	65.06	52.98	54.09	52.36	7.02	7.21	70.01	11.07	13.35
Lane Group LOS	E	D	D	D	A	A	E	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.77	4.74	4.35	3.01	1.95	2.11	0.19	3.18	5.29
50th-Percentile Queue Length [ft/ln]	19.19	118.40	108.66	75.20	48.69	52.63	4.71	79.55	132.36
95th-Percentile Queue Length [veh/ln]	1.38	8.31	7.77	5.41	3.51	3.79	0.34	5.73	9.07
95th-Percentile Queue Length [ft/ln]	34.54	207.63	194.13	135.36	87.64	94.74	8.47	143.19	226.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	65.06	65.06	65.06	53.03	54.09	54.09	52.36	7.09	7.21	70.01	11.07	13.35
Movement LOS	E	E	E	D	D	D	D	A	A	E	B	B
d_A, Approach Delay [s/veh]	65.06			53.50			17.18			12.04		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	19.55											
Intersection LOS	B											
Intersection V/C	0.508											

Emissions

Vehicle Miles Traveled [mph]	0.45	6.84	6.19	10.94	25.00	13.10	0.25	43.87	20.89
Stops [stops/h]	25.12	155.00	142.24	196.89	127.48	68.90	6.16	312.41	173.27
Fuel consumption [US gal/h]	0.42	3.58	3.30	5.18	3.16	1.69	0.14	6.58	3.56
CO [g/h]	29.45	250.45	230.57	361.90	221.18	118.42	9.85	459.94	249.17
NOx [g/h]	5.73	48.73	44.86	70.41	43.03	23.04	1.92	89.49	48.48
VOC [g/h]	6.83	58.04	53.44	83.87	51.26	27.45	2.28	106.60	57.75

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	10.0	9.0	0.0
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]	44.55	45.45	46.37	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.739	2.453	3.103	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	227	555	595	467
d_b, Bicycle Delay [s]	43.21	28.73	27.16	32.30
I_b,int, Bicycle LOS Score for Intersection	1.598	2.089	2.105	2.261
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	26.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.651

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	177	608	145	108	915	127	141	568	297	209	658	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.76	3.76	3.76	2.87	2.87	2.87	4.17	4.17	4.17	3.76	3.76	3.76
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	177	608	145	108	915	127	141	568	297	209	658	91
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
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]	46	158	38	28	239	33	37	148	77	54	172	24
Total Analysis Volume [veh/h]	185	634	151	113	954	132	147	592	310	218	686	95
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Active Pattern	Pattern 1
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]	16.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Maximum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	26	26	0	21	21
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 1

Split [s]	11	35	35	11	35	35	18	49	49	10	41	41
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	53	43	43	53	42	42	44	34	34	44	32	32
g / C, Green / Cycle	0.50	0.41	0.41	0.50	0.40	0.40	0.42	0.33	0.33	0.42	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.26	0.18	0.10	0.14	0.21	0.21	0.17	0.17	0.20	0.26	0.15	0.15
s, saturation flow rate [veh/h]	709	3510	1567	831	3536	1744	866	3498	1562	831	3510	1732
c, Capacity [veh/h]	371	1431	639	422	1400	690	390	1147	512	352	1081	533
d1, Uniform Delay [s]	16.95	22.49	20.39	15.23	24.11	24.13	20.15	28.55	29.59	23.29	29.53	29.57
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.20	0.11	0.11
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]	4.72	1.00	0.87	1.55	1.38	2.79	2.76	0.36	1.16	3.20	0.34	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	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	0.50	0.44	0.24	0.27	0.52	0.52	0.38	0.52	0.61	0.62	0.48	0.49
d, Delay for Lane Group [s/veh]	21.67	23.49	21.26	16.78	25.49	26.92	22.91	28.91	30.75	26.49	29.87	30.25
Lane Group LOS	C	C	C	B	C	C	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.78	5.51	2.45	1.52	6.70	6.89	2.56	6.01	6.63	3.79	5.36	5.37
50th-Percentile Queue Length [ft/ln]	69.43	137.65	61.17	37.88	167.48	172.37	63.92	150.32	165.73	94.73	133.92	134.36
95th-Percentile Queue Length [veh/ln]	5.00	9.35	4.40	2.73	10.94	11.20	4.60	10.03	10.85	6.82	9.15	9.18
95th-Percentile Queue Length [ft/ln]	124.97	233.85	110.11	68.18	273.60	280.02	115.05	250.85	271.30	170.52	228.81	229.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.67	23.49	21.26	16.78	25.83	26.92	22.91	28.91	30.75	26.49	29.96	30.25
Movement LOS	C	C	C	B	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	22.79			25.10			28.61			29.23		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	26.42											
Intersection LOS	C											
Intersection V/C	0.651											

Emissions

Vehicle Miles Traveled [mph]	10.54	36.11	8.60	5.09	32.74	16.18	14.46	58.25	30.50	12.68	30.36	15.07
Stops [stops/h]	95.21	377.55	83.90	51.95	459.38	236.39	87.66	412.30	227.29	129.92	367.32	184.26
Fuel consumption [US gal/h]	2.36	8.96	1.99	1.21	10.60	5.46	1.77	8.16	4.45	2.41	6.45	3.23
CO [g/h]	165.02	626.46	139.19	84.32	741.26	381.73	123.38	570.26	311.12	168.79	450.97	225.98
NOx [g/h]	32.11	121.89	27.08	16.41	144.22	74.27	24.01	110.95	60.53	32.84	87.74	43.97
VOC [g/h]	38.24	145.19	32.26	19.54	171.79	88.47	28.60	132.16	72.11	39.12	104.52	52.37

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	42.08			42.08			42.08			42.08		
I_p,int, Pedestrian LOS Score for Intersectio	3.221			3.103			2.996			2.928		
Crosswalk LOS	C			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]	590			590			857			705		
d_b, Bicycle Delay [s]	26.08			26.08			17.14			22.02		
I_b,int, Bicycle LOS Score for Intersection	2.360			2.219			2.137			2.109		
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 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	218	0	663	0	0	0	144	730	0	0	988	458
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.45	2.00	5.45	2.00	2.00	2.00	6.41	6.41	2.00	2.00	3.94	3.94
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]	218	0	663	0	0	0	144	730	0	0	988	458
Peak Hour 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
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]	55	0	166	0	0	0	36	183	0	0	247	115
Total Analysis Volume [veh/h]	218	0	663	0	0	0	144	730	0	0	988	458
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.20	0.00	0.00	0.00	0.04	0.14	0.00	0.00	0.28	0.28
Intersection LOS	A											
Intersection V/C	0.571											

Intersection Level Of Service Report

Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.444

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	4	8	10	161	3	142	210	728	4	5	819	390
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	16.01	16.01	16.01	3.29	3.29	3.29	4.37	4.37	4.37
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]	4	8	10	161	3	142	210	728	4	5	819	390
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	3	40	1	36	53	182	1	1	205	98
Total Analysis Volume [veh/h]	4	8	10	161	3	142	210	728	4	5	819	390
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.05	0.09	0.09	0.06	0.14	0.14	0.00	0.16	0.23
Intersection LOS	A											
Intersection V/C	0.444											

Intersection Level Of Service Report

Intersection 3: S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.446

Intersection Setup

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	11.00	11.00	12.00	11.00	14.00	11.00	11.00	14.00	11.00	11.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	210.00	100.00	225.00	205.00	100.00	100.00	250.00	100.00	100.00	200.00	100.00	275.00
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]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	49	244	127	203	367	258	135	634	63	125	609	177
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 [%]	2.62	2.62	2.62	2.17	2.17	2.17	5.29	5.29	5.29	4.17	4.17	4.17
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]	49	244	127	203	367	258	135	634	63	125	609	177
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	61	32	51	92	65	34	159	16	31	152	44
Total Analysis Volume [veh/h]	49	244	127	203	367	258	135	634	63	125	609	177
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.07	0.07	0.06	0.18	0.18	0.08	0.00	0.00	0.07	0.00	0.10
Intersection LOS	A											
Intersection V/C	0.446											

Intersection Level Of Service Report

Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.651

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	177	608	145	108	915	127	141	568	297	209	658	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.76	3.76	3.76	2.87	2.87	2.87	4.17	4.17	4.17	3.76	3.76	3.76
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]	177	608	145	108	915	127	141	568	297	209	658	91
Peak Hour 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
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	152	36	27	229	32	35	142	74	52	165	23
Total Analysis Volume [veh/h]	177	608	145	108	915	127	141	568	297	209	658	91
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.18	0.09	0.06	0.20	0.20	0.08	0.17	0.17	0.12	0.15	0.15
Intersection LOS	B											
Intersection V/C	0.651											



Appendix F

Intersection Analysis Worksheets –
Existing Plus Project Conditions

Intersection Level Of Service Report

Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	28.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.596

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	156	0	688	0	0	0	106	630	0	0	829	212
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 [%]	6.31	2.00	6.31	2.00	2.00	2.00	13.23	13.23	2.00	2.00	7.70	7.70
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	156	0	688	0	0	0	106	630	0	0	829	212
Peak Hour Factor	0.9140	1.0000	0.9140	1.0000	1.0000	1.0000	0.9140	0.9140	1.0000	1.0000	0.9140	0.9140
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	0	188	0	0	0	29	172	0	0	227	58
Total Analysis Volume [veh/h]	171	0	753	0	0	0	116	689	0	0	907	232
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	117.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	4	0	4	0	0	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Maximum Green [s]	60	0	60	0	0	0	30	60	0	0	60	60
Amber [s]	3.9	0.0	3.9	0.0	0.0	0.0	3.6	4.3	0.0	0.0	4.3	4.3
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	5	0	5	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	27	0	27	0	0	0	0	8	0	0	8	8
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	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.9	0.0	2.9	0.0	0.0	0.0	2.6	3.3	0.0	0.0	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	55	0	55	0	0	0	25	75	0	0	50	50
Lead / Lag	Lag	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	15	0	0	15	15
Vehicle Extension [s]	5.0	0.0	5.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No						No	Yes			Yes	
Maximum Recall	No						No	No			No	
Pedestrian Recall	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	R		L	C	C	C
C, Calculated Cycle Length [s]	130	130		130	130	130	130
L, Total Lost Time per Cycle [s]	4.90	4.90		4.60	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90		2.60	3.30	3.30	3.30
g_i, Effective Green Time [s]	42	42		7	78	66	66
g / C, Green / Cycle	0.32	0.32		0.05	0.60	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.10	0.28		0.04	0.15	0.22	0.23
s, saturation flow rate [veh/h]	1719	2716		3147	4635	3398	1675
c, Capacity [veh/h]	555	878		169	2774	1730	853
d1, Uniform Delay [s]	33.07	41.21		60.43	12.31	20.15	20.24
k, delay calibration	0.23	0.23		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.67	5.30		4.85	0.21	0.81	1.68
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.86		0.69	0.25	0.44	0.45
d, Delay for Lane Group [s/veh]	33.74	46.51		65.28	12.53	20.97	21.92
Lane Group LOS	C	D		E	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.11	11.64		1.96	3.00	7.21	7.45
50th-Percentile Queue Length [ft/ln]	102.78	291.05		48.96	75.11	180.33	186.13
95th-Percentile Queue Length [veh/ln]	7.40	17.24		3.53	5.41	11.62	11.92
95th-Percentile Queue Length [ft/ln]	185.00	430.94		88.13	135.19	290.45	298.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.74	0.00	46.51	0.00	0.00	0.00	65.28	12.53	0.00	0.00	21.12	21.92
Movement LOS	C		D				E	B			C	C
d_A, Approach Delay [s/veh]	44.14			0.00			20.13			21.28		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	28.32											
Intersection LOS	C											
Intersection V/C	0.596											

Emissions

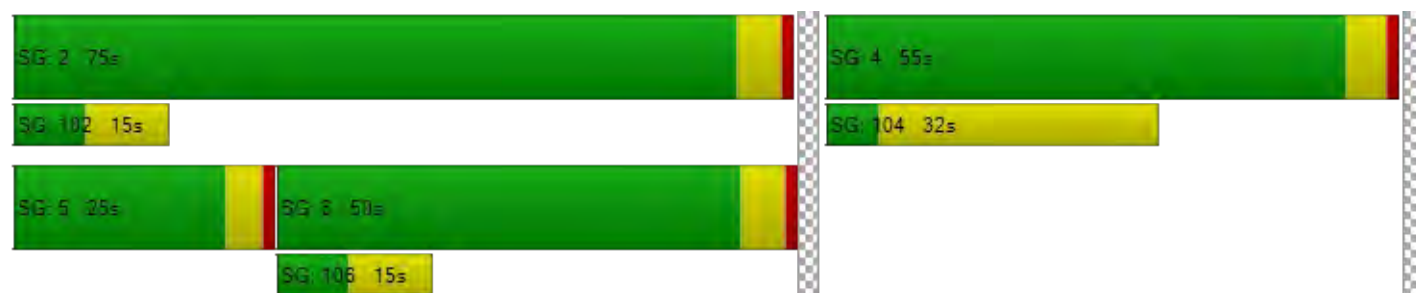
Vehicle Miles Traveled [mph]	7.77	34.21		2.46	14.62	21.45	10.72
Stops [stops/h]	113.84	644.79		108.47	249.58	399.51	206.18
Fuel consumption [US gal/h]	2.57	14.69		2.97	5.36	7.93	4.10
CO [g/h]	179.69	1026.52		207.86	374.70	554.48	286.79
NOx [g/h]	34.96	199.72		40.44	72.90	107.88	55.80
VOC [g/h]	41.64	237.90		48.17	86.84	128.51	66.47

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.47	54.47	0.00	56.31
I_p,int, Pedestrian LOS Score for Intersectio	2.358	1.902	0.000	3.031
Crosswalk LOS	B	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	0	1072	688
d_b, Bicycle Delay [s]	24.55	65.00	13.98	27.98
I_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.002	2.186
Bicycle LOS	A	D	B	B

Sequence

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



Intersection Level Of Service Report

Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	19.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.556

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	3	8	22	201	0	75	127	513	1	9	613	468
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 [%]	6.06	6.06	6.06	18.38	18.38	18.38	11.62	11.62	11.62	5.54	5.54	5.54
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	8	22	201	0	75	127	513	1	9	613	468
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	6	54	0	20	34	138	0	2	165	126
Total Analysis Volume [veh/h]	3	9	24	216	0	81	137	552	1	10	660	504
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	83.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	7	7	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	30	30	30	40	40	40	30	60	60	20	60	60
Amber [s]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.3	4.3
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	0	0	5	5	5	0	7	7	0	6	6
Pedestrian Clearance [s]	0	0	0	20	20	20	0	10	10	0	11	11
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.3	3.3	2.5	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	17	17	17	43	43	43	20	30	30	20	30	30
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	15	15	5	15	15
Vehicle Extension [s]	3.0	3.0	3.0	2.5	2.5	2.5	2.5	5.0	5.0	2.5	5.0	5.0
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	L	C	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.30	5.30	4.50	5.30	5.30
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
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	3.30	3.30	2.50	3.30	3.30
g_i, Effective Green Time [s]	3	13	13	7	74	74	1	68	68
g / C, Green / Cycle	0.03	0.12	0.12	0.06	0.67	0.67	0.01	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.02	0.09	0.10	0.04	0.11	0.11	0.01	0.13	0.31
s, saturation flow rate [veh/h]	1613	1609	1507	3192	3286	1724	1730	4949	1606
c, Capacity [veh/h]	49	188	176	195	2199	1154	22	3072	997
d1, Uniform Delay [s]	52.86	47.41	47.46	50.68	6.76	6.76	53.95	9.13	11.52
k, delay calibration	0.11	0.08	0.08	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
d2, Incremental Delay [s]	18.35	6.24	6.93	3.44	0.16	0.31	11.04	0.16	1.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.81	0.82	0.70	0.16	0.16	0.46	0.21	0.51
d, Delay for Lane Group [s/veh]	71.21	53.65	54.39	54.12	6.92	7.07	64.99	9.29	13.35
Lane Group LOS	E	D	D	D	A	A	E	A	B
Critical Lane Group	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.24	4.32	4.11	1.89	1.38	1.49	0.34	2.14	6.55
50th-Percentile Queue Length [ft/ln]	31.12	107.90	102.87	47.29	34.46	37.35	8.41	53.39	163.86
95th-Percentile Queue Length [veh/ln]	2.24	7.72	7.41	3.41	2.48	2.69	0.61	3.84	10.75
95th-Percentile Queue Length [ft/ln]	56.02	193.07	185.16	85.13	62.03	67.23	15.13	96.11	268.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	71.21	71.21	71.21	53.87	54.39	54.39	54.12	6.97	7.07	64.99	9.29	13.35
Movement LOS	E	E	E	D	D	D	D	A	A	E	A	B
d_A, Approach Delay [s/veh]	71.21			54.01			16.33			11.51		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	19.75											
Intersection LOS	B											
Intersection V/C	0.556											

Emissions

Vehicle Miles Traveled [mph]	0.71	6.20	5.86	6.78	17.95	9.42	0.51	33.63	25.68
Stops [stops/h]	40.74	141.24	134.67	123.83	90.23	48.89	11.00	209.69	214.51
Fuel consumption [US gal/h]	0.71	3.28	3.13	3.28	2.25	1.20	0.26	4.51	4.40
CO [g/h]	49.62	229.00	218.79	229.32	157.14	84.21	18.07	315.36	307.34
NOx [g/h]	9.65	44.56	42.57	44.62	30.57	16.38	3.52	61.36	59.80
VOC [g/h]	11.50	53.07	50.71	53.15	36.42	19.52	4.19	73.09	71.23

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	10.0	9.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	45.45	46.37	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.744	2.449	2.999	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	227	700	449	449
d_b, Bicycle Delay [s]	43.21	23.24	33.07	33.07
I_b,int, Bicycle LOS Score for Intersection	1.619	2.050	1.939	2.205
Bicycle LOS	A	B	A	B

Sequence

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



Intersection Level Of Service Report

Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.554

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	196	828	83	88	799	111	164	338	173	166	357	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.90	3.90	3.90	4.11	4.11	4.11	8.05	8.05	8.05	6.47	6.47	6.47
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	196	828	83	88	799	111	164	338	173	166	357	40
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]	51	216	22	23	208	29	43	88	45	43	93	10
Total Analysis Volume [veh/h]	204	863	86	92	832	116	171	352	180	173	372	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Active Pattern	Pattern 1
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]	16.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Maximum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	26	26	0	21	21
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 1

Split [s]	10	39	39	10	39	39	12	46	46	10	44	44
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	66	56	56	66	56	56	31	21	21	31	19	19
g / C, Green / Cycle	0.63	0.53	0.53	0.63	0.53	0.53	0.30	0.20	0.20	0.30	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.29	0.25	0.05	0.13	0.18	0.18	0.16	0.10	0.12	0.16	0.08	0.08
s, saturation flow rate [veh/h]	714	3506	1565	706	3500	1726	1096	3388	1512	1082	3433	1712
c, Capacity [veh/h]	491	1870	835	459	1854	914	355	690	308	323	634	316
d1, Uniform Delay [s]	9.16	15.16	12.09	9.08	14.19	14.20	29.43	37.14	37.78	30.10	37.93	37.99
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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]	2.59	0.82	0.25	0.98	0.50	1.03	4.63	0.58	1.76	1.37	0.47	0.97
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	0.42	0.46	0.10	0.20	0.34	0.34	0.48	0.51	0.58	0.53	0.43	0.44
d, Delay for Lane Group [s/veh]	11.75	15.98	12.34	10.07	14.69	15.23	34.06	37.73	39.54	31.48	38.40	38.96
Lane Group LOS	B	B	B	B	B	B	C	D	D	C	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.06	5.95	0.97	0.84	4.05	4.15	3.84	4.06	4.31	3.51	3.16	3.26
50th-Percentile Queue Length [ft/ln]	51.58	148.73	24.23	21.04	101.30	103.82	95.95	101.38	107.76	87.79	79.06	81.50
95th-Percentile Queue Length [veh/ln]	3.71	9.95	1.74	1.52	7.29	7.48	6.91	7.30	7.72	6.32	5.69	5.87
95th-Percentile Queue Length [ft/ln]	92.84	248.73	43.62	37.88	182.34	186.88	172.72	182.48	192.88	158.03	142.30	146.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.75	15.98	12.34	10.07	14.82	15.23	34.06	37.73	39.54	31.48	38.54	38.96
Movement LOS	B	B	B	B	B	B	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	14.96			14.45			37.30			36.49		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.94											
Intersection LOS	C											
Intersection V/C	0.554											

Emissions

Vehicle Miles Traveled [mph]	11.62	49.15	4.90	4.14	28.55	14.15	16.82	34.63	17.71	10.06	15.97	8.11
Stops [stops/h]	70.74	407.94	33.23	28.86	277.84	142.38	131.59	278.06	147.79	120.40	216.84	111.77
Fuel consumption [US gal/h]	1.77	9.56	0.80	0.69	6.33	3.23	2.60	5.66	2.99	2.19	4.00	2.06
CO [g/h]	123.41	668.49	55.71	48.18	442.36	225.71	182.07	395.93	209.26	152.90	279.63	143.76
NOx [g/h]	24.01	130.06	10.84	9.37	86.07	43.92	35.42	77.03	40.71	29.75	54.41	27.97
VOC [g/h]	28.60	154.93	12.91	11.17	102.52	52.31	42.20	91.76	48.50	35.44	64.81	33.32

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	42.08			42.08			42.08			42.08		
I_p,int, Pedestrian LOS Score for Intersectio	3.144			3.093			2.955			2.829		
Crosswalk LOS	C			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]	667			667			800			762		
d_b, Bicycle Delay [s]	23.33			23.33			18.90			20.12		
I_b,int, Bicycle LOS Score for Intersection	2.511			2.132			1.946			1.882		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report**Intersection 5: Placentia Avenue (N/S) and Project Access 1 (E/W)**

Control Type:	Two-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.128

Intersection Setup

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

Volumes

Name	Placentia Avenue		Placentia Avenue		Project Access 1	
Base Volume Input [veh/h]	488	19	4	564	59	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.25	2.25	4.96	4.96	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	488	19	4	564	59	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	128	5	1	148	16	4
Total Analysis Volume [veh/h]	514	20	4	594	62	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.13	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	8.57	0.00	13.62	11.13
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.52	0.52
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.17	0.08	12.94	12.94
d_A, Approach Delay [s/veh]	0.00		0.06		13.14	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.87					
Intersection LOS	B					

Intersection Level Of Service Report**Intersection 6: Project Access 2 (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Project Access 2		Orangethorpe Avenue		Orangethorpe Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Access 2		Orangethorpe Avenue		Orangethorpe Avenue	
Base Volume Input [veh/h]	1	0	1	620	666	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	11.17	11.17	6.54	6.54
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]	1	0	1	620	666	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	163	175	1
Total Analysis Volume [veh/h]	1	0	1	653	701	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	16.20	11.57	12.03	0.00	0.00	0.00
Movement LOS	C	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.23	0.23	0.15	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.20		0.02		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	C					

Intersection Level Of Service Report

Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.488

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	156	0	688	0	0	0	106	630	0	0	829	212
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 [%]	6.31	2.00	6.31	2.00	2.00	2.00	13.23	13.23	2.00	2.00	7.70	7.70
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]	156	0	688	0	0	0	106	630	0	0	829	212
Peak Hour 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
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	0	172	0	0	0	27	158	0	0	207	53
Total Analysis Volume [veh/h]	156	0	688	0	0	0	106	630	0	0	829	212
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.20	0.00	0.00	0.00	0.03	0.12	0.00	0.00	0.20	0.20
Intersection LOS	A											
Intersection V/C	0.488											

Intersection Level Of Service Report

Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.463

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	3	8	22	201	0	75	127	513	1	9	613	468
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 [%]	6.06	6.06	6.06	18.38	18.38	18.38	11.62	11.62	11.62	5.54	5.54	5.54
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]	3	8	22	201	0	75	127	513	1	9	613	468
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	6	50	0	19	32	128	0	2	153	117
Total Analysis Volume [veh/h]	3	8	22	201	0	75	127	513	1	9	613	468
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.06	0.00	0.08	0.04	0.10	0.10	0.01	0.12	0.28
Intersection LOS	A											
Intersection V/C	0.463											

Intersection Level Of Service Report
Intersection 3: S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.348

Intersection Setup

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	11.00	11.00	12.00	11.00	14.00	11.00	11.00	14.00	11.00	11.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	210.00	100.00	225.00	205.00	100.00	100.00	250.00	100.00	100.00	200.00	100.00	275.00
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]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	25	246	107	179	249	193	98	333	19	83	420	162
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 [%]	4.27	4.27	4.27	4.96	4.96	4.96	11.96	11.96	11.96	6.54	6.54	6.54
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]	25	246	107	179	249	193	98	333	19	83	420	162
Peak Hour 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
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	62	27	45	62	48	25	83	5	21	105	41
Total Analysis Volume [veh/h]	25	246	107	179	249	193	98	333	19	83	420	162
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.07	0.06	0.05	0.13	0.13	0.06	0.00	0.00	0.05	0.00	0.10
Intersection LOS	A											
Intersection V/C	0.348											

Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.543

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	196	828	83	88	799	111	164	338	173	166	357	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.90	3.90	3.90	4.11	4.11	4.11	8.05	8.05	8.05	6.47	6.47	6.47
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]	196	828	83	88	799	111	164	338	173	166	357	40
Peak Hour 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
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]	49	207	21	22	200	28	41	85	43	42	89	10
Total Analysis Volume [veh/h]	196	828	83	88	799	111	164	338	173	166	357	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.24	0.05	0.05	0.18	0.18	0.10	0.10	0.10	0.10	0.08	0.08
Intersection LOS	A											
Intersection V/C	0.543											

Intersection Level Of Service Report

Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	28.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.654

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	228	0	663	0	0	0	151	735	0	0	995	458
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.45	2.00	5.45	2.00	2.00	2.00	6.41	6.41	2.00	2.00	3.94	3.94
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	228	0	663	0	0	0	151	735	0	0	995	458
Peak Hour Factor	0.9820	1.0000	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820
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]	58	0	169	0	0	0	38	187	0	0	253	117
Total Analysis Volume [veh/h]	232	0	675	0	0	0	154	748	0	0	1013	466
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	3.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	4	0	4	0	0	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Maximum Green [s]	60	0	60	0	0	0	30	60	0	0	60	60
Amber [s]	3.9	0.0	3.9	0.0	0.0	0.0	3.6	4.3	0.0	0.0	4.3	4.3
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	5	0	5	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	27	0	27	0	0	0	0	8	0	0	8	8
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	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.9	0.0	2.9	0.0	0.0	0.0	2.6	3.3	0.0	0.0	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	55	0	55	0	0	0	25	75	0	0	50	50
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	15	0	0	15	15
Vehicle Extension [s]	5.0	0.0	5.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No						No	Yes			Yes	
Maximum Recall	No						No	No			No	
Pedestrian Recall	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	R		L	C	C	C
C, Calculated Cycle Length [s]	130	130		130	130	130	130
L, Total Lost Time per Cycle [s]	4.90	4.90		4.60	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90		2.60	3.30	3.30	3.30
g_i, Effective Green Time [s]	39	39		8	81	68	68
g / C, Green / Cycle	0.30	0.30		0.06	0.62	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.13	0.25		0.05	0.15	0.28	0.30
s, saturation flow rate [veh/h]	1732	2735		3336	4914	3505	1641
c, Capacity [veh/h]	514	813		213	3068	1841	862
d1, Uniform Delay [s]	37.09	42.64		59.73	10.81	20.38	20.94
k, delay calibration	0.23	0.23		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.32	4.73		4.61	0.19	1.12	2.75
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.83		0.72	0.24	0.54	0.57
d, Delay for Lane Group [s/veh]	38.41	47.37		64.33	11.00	21.50	23.69
Lane Group LOS	D	D		E	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.10	10.41		2.58	2.99	9.74	10.37
50th-Percentile Queue Length [ft/ln]	152.40	260.35		64.48	74.80	243.48	259.25
95th-Percentile Queue Length [veh/ln]	10.15	15.71		4.64	5.39	14.86	15.65
95th-Percentile Queue Length [ft/ln]	253.64	392.66		116.06	134.64	371.43	391.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.41	0.00	47.37	0.00	0.00	0.00	64.33	11.00	0.00	0.00	21.56	23.69
Movement LOS	D		D				E	B			C	C
d_A, Approach Delay [s/veh]	45.08			0.00			20.11			22.23		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	27.95											
Intersection LOS	C											
Intersection V/C	0.654											

Emissions

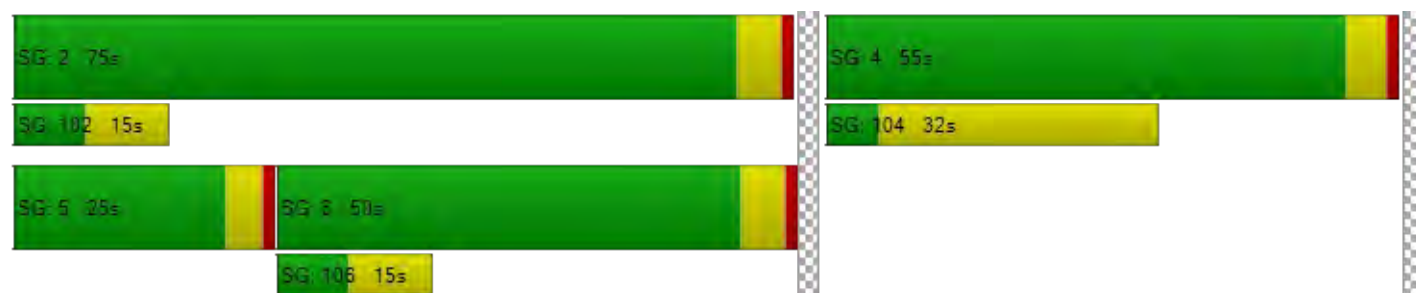
Vehicle Miles Traveled [mph]	10.54	30.67		3.27	15.87	27.85	13.93
Stops [stops/h]	168.82	576.78		142.84	248.57	539.41	287.17
Fuel consumption [US gal/h]	3.85	13.27		3.90	5.31	10.61	5.70
CO [g/h]	269.06	927.64		272.88	371.12	741.73	398.21
NOx [g/h]	52.35	180.49		53.09	72.21	144.31	77.48
VOC [g/h]	62.36	214.99		63.24	86.01	171.90	92.29

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.47	54.47	0.00	56.31
I_p,int, Pedestrian LOS Score for Intersectio	2.351	2.035	0.000	3.101
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	0	1072	688
d_b, Bicycle Delay [s]	24.55	65.00	13.98	27.98
I_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.056	2.373
Bicycle LOS	A	D	B	B

Sequence

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



Intersection Level Of Service Report

Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	19.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	4	8	10	161	3	152	217	740	4	5	836	390
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	16.01	16.01	16.01	3.29	3.29	3.29	4.37	4.37	4.37
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	8	10	161	3	152	217	740	4	5	836	390
Peak Hour Factor	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	3	42	1	40	57	195	1	1	220	103
Total Analysis Volume [veh/h]	4	8	11	169	3	160	228	778	4	5	879	410
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	68.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	7	7	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	30	30	30	40	40	40	30	60	60	20	60	60
Amber [s]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.3	4.3
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	0	0	5	5	5	0	7	7	0	6	6
Pedestrian Clearance [s]	0	0	0	20	20	20	0	10	10	0	11	11
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.3	3.3	2.5	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	17	17	17	35	35	35	27	38	38	20	31	31
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	15	15	5	15	15
Vehicle Extension [s]	3.0	3.0	3.0	2.5	2.5	2.5	2.5	5.0	5.0	2.5	5.0	5.0
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	L	C	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.30	5.30	4.50	5.30	5.30
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
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	3.30	3.30	2.50	3.30	3.30
g_i, Effective Green Time [s]	3	14	14	10	73	73	1	65	65
g / C, Green / Cycle	0.02	0.13	0.13	0.09	0.67	0.67	0.01	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.01	0.10	0.11	0.07	0.15	0.15	0.00	0.18	0.25
s, saturation flow rate [veh/h]	1738	1644	1471	3423	3524	1846	1747	4997	1622
c, Capacity [veh/h]	40	217	194	297	2350	1231	12	2934	952
d1, Uniform Delay [s]	53.17	46.20	46.62	49.14	7.14	7.14	54.39	11.38	12.55
k, delay calibration	0.11	0.08	0.08	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
d2, Incremental Delay [s]	11.89	4.51	7.13	3.11	0.21	0.41	15.62	0.26	1.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.78	0.84	0.77	0.22	0.22	0.41	0.30	0.43
d, Delay for Lane Group [s/veh]	65.06	50.71	53.75	52.25	7.35	7.55	70.01	11.64	13.97
Lane Group LOS	E	D	D	D	A	A	E	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.77	4.64	4.64	3.10	2.05	2.21	0.19	3.37	5.46
50th-Percentile Queue Length [ft/ln]	19.19	116.01	115.89	77.54	51.24	55.36	4.71	84.13	136.49
95th-Percentile Queue Length [veh/ln]	1.38	8.17	8.17	5.58	3.69	3.99	0.34	6.06	9.29
95th-Percentile Queue Length [ft/ln]	34.54	204.33	204.16	139.57	92.24	99.65	8.47	151.43	232.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	65.06	65.06	65.06	50.77	53.75	53.75	52.25	7.42	7.55	70.01	11.64	13.97
Movement LOS	E	E	E	D	D	D	D	A	A	E	B	B
d_A, Approach Delay [s/veh]	65.06			52.20			17.54			12.60		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	19.88											
Intersection LOS	B											
Intersection V/C	0.519											

Emissions

Vehicle Miles Traveled [mph]	0.45	6.86	6.62	11.28	25.39	13.30	0.25	44.78	20.89
Stops [stops/h]	25.12	151.86	151.71	203.01	134.17	72.48	6.16	330.38	178.68
Fuel consumption [US gal/h]	0.42	3.48	3.51	5.33	3.31	1.77	0.14	6.93	3.67
CO [g/h]	29.45	243.36	245.34	372.91	231.12	123.73	9.85	484.51	256.46
NOx [g/h]	5.73	47.35	47.74	72.55	44.97	24.07	1.92	94.27	49.90
VOC [g/h]	6.83	56.40	56.86	86.43	53.56	28.68	2.28	112.29	59.44

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	10.0	9.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	45.45	46.37	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.739	2.459	3.112	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	227	555	595	467
d_b, Bicycle Delay [s]	43.21	28.73	27.16	32.30
I_b,int, Bicycle LOS Score for Intersection	1.598	2.107	2.115	2.271
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	26.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.654

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	177	608	155	108	915	127	141	578	297	216	665	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.76	3.76	3.76	2.87	2.87	2.87	4.17	4.17	4.17	3.76	3.76	3.76
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	177	608	155	108	915	127	141	578	297	216	665	91
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
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]	46	158	40	28	239	33	37	151	77	56	173	24
Total Analysis Volume [veh/h]	185	634	162	113	954	132	147	603	310	225	693	95
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Active Pattern	Pattern 1
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]	16.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Maximum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	26	26	0	21	21
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 1

Split [s]	11	35	35	11	35	35	18	49	49	10	41	41
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	52	42	42	52	41	41	45	35	35	45	33	33
g / C, Green / Cycle	0.49	0.40	0.40	0.49	0.39	0.39	0.43	0.34	0.34	0.43	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.26	0.18	0.10	0.14	0.21	0.21	0.17	0.17	0.20	0.27	0.15	0.15
s, saturation flow rate [veh/h]	712	3510	1567	828	3536	1744	857	3498	1562	822	3510	1732
c, Capacity [veh/h]	366	1401	625	414	1370	676	394	1176	525	357	1113	549
d1, Uniform Delay [s]	17.48	23.13	21.14	15.73	24.78	24.80	19.60	27.95	28.86	23.13	28.81	28.84
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.22	0.11	0.11
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]	4.91	1.06	1.00	1.63	1.47	2.98	2.70	0.35	1.06	3.63	0.31	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	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	0.51	0.45	0.26	0.27	0.53	0.53	0.37	0.51	0.59	0.63	0.47	0.48
d, Delay for Lane Group [s/veh]	22.40	24.19	22.14	17.36	26.26	27.77	22.30	28.30	29.92	26.77	29.12	29.48
Lane Group LOS	C	C	C	B	C	C	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.85	5.62	2.70	1.55	6.83	7.04	2.51	6.05	6.52	3.90	5.32	5.34
50th-Percentile Queue Length [ft/ln]	71.13	140.42	67.53	38.81	170.82	175.96	62.73	151.22	162.92	97.41	133.03	133.44
95th-Percentile Queue Length [veh/ln]	5.12	9.50	4.86	2.79	11.12	11.39	4.52	10.08	10.70	7.01	9.10	9.13
95th-Percentile Queue Length [ft/ln]	128.04	237.58	121.55	69.86	277.99	284.74	112.92	252.06	267.59	175.34	227.61	228.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.40	24.19	22.14	17.36	26.62	27.77	22.30	28.30	29.92	26.77	29.21	29.48
Movement LOS	C	C	C	B	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	23.51			25.87			27.94			28.69		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	26.52											
Intersection LOS	C											
Intersection V/C	0.654											

Emissions

Vehicle Miles Traveled [mph]	10.54	36.11	9.23	5.09	32.74	16.18	14.46	59.33	30.50	13.09	30.63	15.20
Stops [stops/h]	97.55	385.14	92.61	53.23	468.54	241.32	86.03	414.79	223.43	133.59	364.88	183.00
Fuel consumption [US gal/h]	2.42	9.15	2.20	1.24	10.83	5.59	1.74	8.21	4.38	2.50	6.40	3.20
CO [g/h]	168.97	639.41	153.63	86.35	757.11	390.40	121.47	573.61	305.99	174.91	447.20	224.02
NOx [g/h]	32.88	124.41	29.89	16.80	147.31	75.96	23.63	111.60	59.54	34.03	87.01	43.59
VOC [g/h]	39.16	148.19	35.60	20.01	175.47	90.48	28.15	132.94	70.92	40.54	103.64	51.92

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	42.08			42.08			42.08			42.08		
I_p,int, Pedestrian LOS Score for Intersectio	3.231			3.105			2.996			2.932		
Crosswalk LOS	C			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]	590			590			857			705		
d_b, Bicycle Delay [s]	26.08			26.08			17.14			22.02		
I_b,int, Bicycle LOS Score for Intersection	2.369			2.219			2.143			2.117		
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 5: Placentia Avenue (N/S) and Project Access 1 (E/W)**

Control Type:	Two-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.093

Intersection Setup

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

Volumes

Name	Placentia Avenue		Placentia Avenue		Project Access 1	
Base Volume Input [veh/h]	556	51	13	828	36	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.08	1.08	2.17	2.17	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	556	51	13	828	36	9
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	146	13	3	218	9	2
Total Analysis Volume [veh/h]	585	54	14	872	38	9
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.09	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	8.85	0.00	14.81	11.30
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.01	0.36	0.36
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.59	0.29	8.89	8.89
d_A, Approach Delay [s/veh]	0.00		0.14		14.14	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.50					
Intersection LOS	B					

Intersection Level Of Service Report**Intersection 6: Project Access 2 (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Two-way stop	Delay (sec / veh):	23.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Project Access 2		Orangethorpe Avenue		Orangethorpe Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Access 2		Orangethorpe Avenue		Orangethorpe Avenue	
Base Volume Input [veh/h]	2	1	1	982	936	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	4.88	4.88	4.17	4.17
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]	2	1	1	982	936	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	258	246	1
Total Analysis Volume [veh/h]	2	1	1	1034	985	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	23.82	13.26	14.29	0.00	0.00	0.00
Movement LOS	C	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.95	0.95	0.19	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	20.30		0.01		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.04					
Intersection LOS	C					

Intersection Level Of Service Report**Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	228	0	663	0	0	0	151	735	0	0	995	458
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.45	2.00	5.45	2.00	2.00	2.00	6.41	6.41	2.00	2.00	3.94	3.94
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]	228	0	663	0	0	0	151	735	0	0	995	458
Peak Hour 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
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]	57	0	166	0	0	0	38	184	0	0	249	115
Total Analysis Volume [veh/h]	228	0	663	0	0	0	151	735	0	0	995	458
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.20	0.00	0.00	0.00	0.04	0.14	0.00	0.00	0.28	0.28
Intersection LOS	A											
Intersection V/C	0.574											

Intersection Level Of Service Report
Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.449

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	4	8	10	161	3	152	217	740	4	5	836	390
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	16.01	16.01	16.01	3.29	3.29	3.29	4.37	4.37	4.37
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]	4	8	10	161	3	152	217	740	4	5	836	390
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	3	40	1	38	54	185	1	1	209	98
Total Analysis Volume [veh/h]	4	8	10	161	3	152	217	740	4	5	836	390
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.05	0.09	0.09	0.06	0.15	0.15	0.00	0.16	0.23
Intersection LOS	A											
Intersection V/C	0.449											

Intersection Level Of Service Report

Intersection 3: S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.476

Intersection Setup

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	11.00	11.00	12.00	11.00	14.00	11.00	11.00	14.00	11.00	11.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	210.00	100.00	225.00	205.00	100.00	100.00	250.00	100.00	100.00	200.00	100.00	275.00
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]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	49	251	127	219	372	272	154	635	63	125	610	200
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 [%]	2.62	2.62	2.62	2.17	2.17	2.17	5.29	5.29	5.29	4.17	4.17	4.17
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]	49	251	127	219	372	272	154	635	63	125	610	200
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	63	32	55	93	68	39	159	16	31	153	50
Total Analysis Volume [veh/h]	49	251	127	219	372	272	154	635	63	125	610	200
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.07	0.07	0.06	0.19	0.19	0.09	0.00	0.00	0.07	0.00	0.12
Intersection LOS	A											
Intersection V/C	0.476											

Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.657

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	177	608	155	108	915	127	141	578	297	216	665	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.76	3.76	3.76	2.87	2.87	2.87	4.17	4.17	4.17	3.76	3.76	3.76
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]	177	608	155	108	915	127	141	578	297	216	665	91
Peak Hour 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
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	152	39	27	229	32	35	145	74	54	166	23
Total Analysis Volume [veh/h]	177	608	155	108	915	127	141	578	297	216	665	91
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.18	0.09	0.06	0.20	0.20	0.08	0.17	0.17	0.13	0.15	0.15
Intersection LOS	B											
Intersection V/C	0.657											



Appendix G

Intersection Analysis Worksheets –
Project Opening Year (2027) Without Project Conditions

Intersection Level Of Service Report**Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	29.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.690

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	188	0	747	0	0	0	109	682	0	0	994	307
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 [%]	6.31	2.00	6.31	2.00	2.00	2.00	13.23	13.23	2.00	2.00	7.70	7.70
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	188	0	747	0	0	0	109	682	0	0	994	307
Peak Hour Factor	0.9140	1.0000	0.9140	1.0000	1.0000	1.0000	0.9140	0.9140	1.0000	1.0000	0.9140	0.9140
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	0	204	0	0	0	30	187	0	0	272	84
Total Analysis Volume [veh/h]	206	0	817	0	0	0	119	746	0	0	1088	336
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	117.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	4	0	4	0	0	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Maximum Green [s]	60	0	60	0	0	0	30	60	0	0	60	60
Amber [s]	3.9	0.0	3.9	0.0	0.0	0.0	3.6	4.3	0.0	0.0	4.3	4.3
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	5	0	5	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	27	0	27	0	0	0	0	8	0	0	8	8
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	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.9	0.0	2.9	0.0	0.0	0.0	2.6	3.3	0.0	0.0	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	55	0	55	0	0	0	25	75	0	0	50	50
Lead / Lag	Lag	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	15	0	0	15	15
Vehicle Extension [s]	5.0	0.0	5.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No						No	Yes			Yes	
Maximum Recall	No						No	No			No	
Pedestrian Recall	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	R		L	C	C	C
C, Calculated Cycle Length [s]	130	130		130	130	130	130
L, Total Lost Time per Cycle [s]	4.90	4.90		4.60	5.30	5.30	5.30
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.90	2.90		2.60	3.30	3.30	3.30
g_i, Effective Green Time [s]	45	45		7	75	63	63
g / C, Green / Cycle	0.34	0.34		0.05	0.58	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.12	0.30		0.04	0.16	0.28	0.29
s, saturation flow rate [veh/h]	1719	2716		3147	4635	3398	1650
c, Capacity [veh/h]	591	934		172	2677	1656	804
d1, Uniform Delay [s]	31.78	40.01		60.36	13.82	23.70	23.98
k, delay calibration	0.23	0.23		0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.75	5.65		4.86	0.26	1.45	3.17
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.87		0.69	0.28	0.57	0.59
d, Delay for Lane Group [s/veh]	32.53	45.66		65.21	14.08	25.15	27.15
Lane Group LOS	C	D		E	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.89	12.62		2.01	3.53	10.31	10.80
50th-Percentile Queue Length [ft/ln]	122.18	315.62		50.20	88.20	257.76	270.05
95th-Percentile Queue Length [veh/ln]	8.51	18.45		3.61	6.35	15.58	16.19
95th-Percentile Queue Length [ft/ln]	212.82	461.30		90.36	158.76	389.42	404.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.53	0.00	45.66	0.00	0.00	0.00	65.21	14.08	0.00	0.00	25.40	27.15
Movement LOS	C		D				E	B			C	C
d_A, Approach Delay [s/veh]	43.02			0.00			21.12			25.82		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	29.90											
Intersection LOS	C											
Intersection V/C	0.690											

Emissions

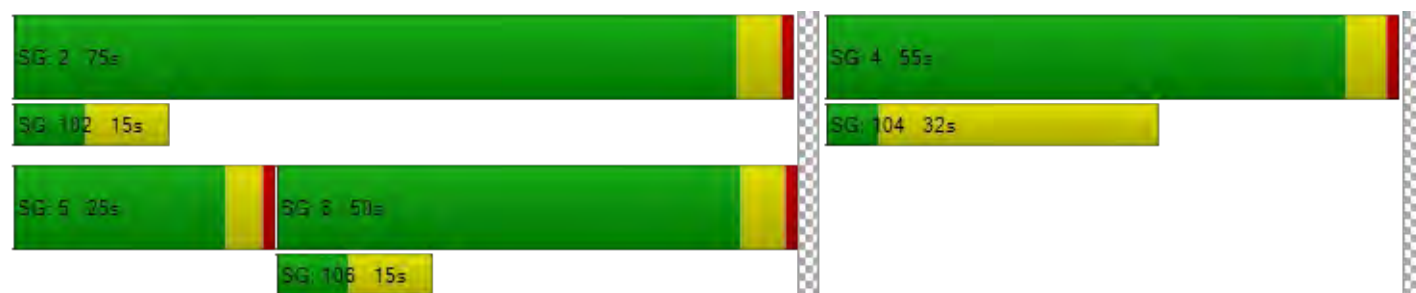
Vehicle Miles Traveled [mph]	9.36	37.12		2.52	15.83	26.81	13.41
Stops [stops/h]	135.34	699.23		111.21	293.09	571.05	299.13
Fuel consumption [US gal/h]	3.03	15.79		3.05	6.32	11.43	6.04
CO [g/h]	211.70	1103.67		213.08	442.09	798.88	422.27
NOx [g/h]	41.19	214.73		41.46	86.02	155.43	82.16
VOC [g/h]	49.06	255.79		49.38	102.46	185.15	97.87

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.47	54.47	0.00	56.31
I_p,int, Pedestrian LOS Score for Intersectio	2.401	1.954	0.000	3.119
Crosswalk LOS	B	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	0	1072	688
d_b, Bicycle Delay [s]	24.55	65.00	13.98	27.98
I_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.035	2.343
Bicycle LOS	A	D	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	22.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.695

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	3	8	23	237	0	105	129	530	1	9	667	609
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 [%]	6.06	6.06	6.06	18.38	18.38	18.38	11.62	11.62	11.62	5.54	5.54	5.54
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	8	23	237	0	105	129	530	1	9	667	609
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	6	64	0	28	35	143	0	2	179	164
Total Analysis Volume [veh/h]	3	9	25	255	0	113	139	571	1	10	718	656
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	83.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	7	7	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	30	30	30	40	40	40	30	60	60	20	60	60
Amber [s]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.3	4.3
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	0	0	5	5	5	0	7	7	0	6	6
Pedestrian Clearance [s]	0	0	0	20	20	20	0	10	10	0	11	11
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.3	3.3	2.5	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	17	17	17	43	43	43	20	30	30	20	30	30
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	15	15	5	15	15
Vehicle Extension [s]	3.0	3.0	3.0	2.5	2.5	2.5	2.5	5.0	5.0	2.5	5.0	5.0
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	L	C	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.30	5.30	4.50	5.30	5.30
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
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	3.30	3.30	2.50	3.30	3.30
g_i, Effective Green Time [s]	3	15	15	7	71	71	1	66	66
g / C, Green / Cycle	0.03	0.14	0.14	0.06	0.65	0.65	0.01	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.02	0.12	0.12	0.04	0.11	0.11	0.01	0.15	0.41
s, saturation flow rate [veh/h]	1610	1609	1494	3192	3286	1724	1730	4949	1606
c, Capacity [veh/h]	50	225	209	197	2120	1113	22	2951	958
d1, Uniform Delay [s]	52.85	46.12	46.15	50.64	7.81	7.81	53.95	10.49	15.16
k, delay calibration	0.11	0.08	0.08	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
d2, Incremental Delay [s]	18.91	6.37	6.97	3.45	0.18	0.35	11.04	0.20	3.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.84	0.85	0.71	0.18	0.18	0.46	0.24	0.69
d, Delay for Lane Group [s/veh]	71.75	52.49	53.12	54.08	7.99	8.16	64.99	10.69	19.14
Lane Group LOS	E	D	D	D	A	A	E	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.28	5.35	5.03	1.92	1.59	1.72	0.34	2.57	11.02
50th-Percentile Queue Length [ft/ln]	32.09	133.84	125.72	47.97	39.74	42.99	8.41	64.24	275.62
95th-Percentile Queue Length [veh/ln]	2.31	9.15	8.71	3.45	2.86	3.10	0.61	4.63	16.47
95th-Percentile Queue Length [ft/ln]	57.77	228.71	217.66	86.35	71.54	77.39	15.13	115.64	411.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	71.75	71.75	71.75	52.66	53.12	53.12	54.08	8.05	8.16	64.99	10.69	19.14
Movement LOS	E	E	E	D	D	D	D	A	A	E	B	B
d_A, Approach Delay [s/veh]	71.75			52.80			17.05			15.08		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	22.03											
Intersection LOS	C											
Intersection V/C	0.695											

Emissions

Vehicle Miles Traveled [mph]	0.73	7.73	7.21	6.88	18.56	9.74	0.51	36.58	33.42
Stops [stops/h]	42.01	175.21	164.58	125.60	104.05	56.28	11.00	252.30	360.82
Fuel consumption [US gal/h]	0.73	4.03	3.79	3.33	2.54	1.36	0.26	5.35	7.30
CO [g/h]	51.32	281.84	265.23	232.56	177.55	95.11	18.07	373.98	510.03
NOx [g/h]	9.99	54.84	51.60	45.25	34.55	18.50	3.52	72.76	99.23
VOC [g/h]	11.89	65.32	61.47	53.90	41.15	22.04	4.19	86.67	118.20

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	10.0	9.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	45.45	46.37	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.744	2.522	3.019	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	227	700	449	449
d_b, Bicycle Delay [s]	43.21	23.24	33.07	33.07
I_b,int, Bicycle LOS Score for Intersection	1.621	2.167	1.951	2.321
Bicycle LOS	A	B	A	B

Sequence

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



Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	25.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	228	883	88	102	840	116	171	364	186	163	405	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.90	3.90	3.90	4.11	4.11	4.11	8.05	8.05	8.05	6.47	6.47	6.47
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	228	883	88	102	840	116	171	364	186	163	405	63
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]	59	230	23	27	219	30	45	95	48	42	105	16
Total Analysis Volume [veh/h]	238	920	92	106	875	121	178	379	194	170	422	66
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
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]	16.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Maximum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	26	26	0	21	21
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 1

Split [s]	20	45	45	10	35	35	15	45	45	10	40	40
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	67	57	57	67	54	54	35	25	25	35	20	20
g / C, Green / Cycle	0.61	0.52	0.52	0.61	0.49	0.49	0.32	0.23	0.23	0.32	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.32	0.26	0.06	0.16	0.19	0.19	0.16	0.11	0.13	0.16	0.10	0.10
s, saturation flow rate [veh/h]	746	3506	1565	676	3500	1727	1095	3388	1512	1037	3252	1594
c, Capacity [veh/h]	483	1832	818	414	1709	843	364	763	341	330	585	286
d1, Uniform Delay [s]	11.17	17.01	13.33	10.92	17.78	17.80	29.67	37.18	37.88	29.98	41.12	41.21
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
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]	3.57	0.99	0.28	1.49	0.67	1.36	4.63	0.50	1.50	1.25	0.83	1.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.50	0.11	0.26	0.39	0.39	0.49	0.50	0.57	0.52	0.56	0.57
d, Delay for Lane Group [s/veh]	14.74	18.00	13.61	12.41	18.45	19.16	34.30	37.68	39.38	31.22	41.95	42.98
Lane Group LOS	B	B	B	B	B	B	C	D	D	C	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.79	7.13	1.14	1.11	5.12	5.24	4.09	4.49	4.77	3.52	4.08	4.16
50th-Percentile Queue Length [ft/ln]	69.71	178.19	28.53	27.82	127.99	130.88	102.35	112.24	119.23	87.97	101.90	104.00
95th-Percentile Queue Length [veh/ln]	5.02	11.51	2.05	2.00	8.83	8.99	7.37	7.96	8.35	6.33	7.34	7.49
95th-Percentile Queue Length [ft/ln]	125.47	287.65	51.35	50.07	220.75	224.69	184.23	199.12	208.77	158.35	183.43	187.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.74	18.00	13.61	12.41	18.62	19.16	34.30	37.68	39.38	31.22	42.19	42.98
Movement LOS	B	B	B	B	B	B	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	17.05			18.08			37.32			39.43		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	25.32											
Intersection LOS	C											
Intersection V/C	0.581											

Emissions

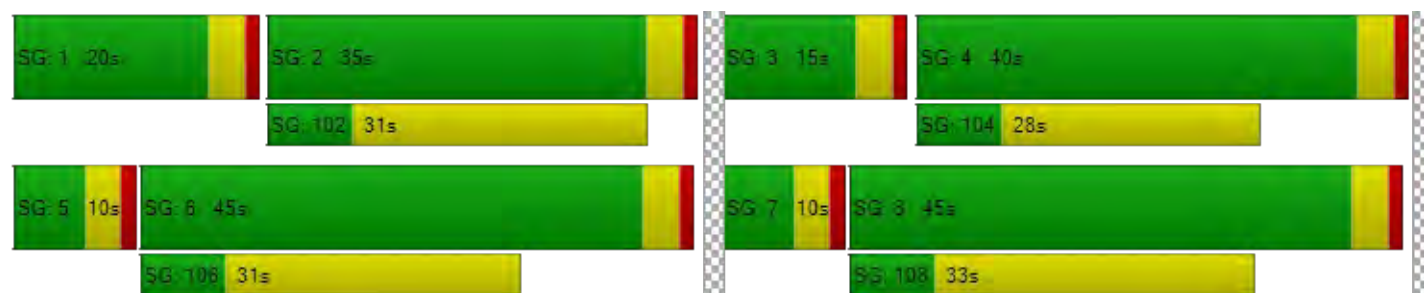
Vehicle Miles Traveled [mph]	13.56	52.40	5.24	4.77	30.00	14.85	17.51	37.29	19.09	9.89	18.92	9.46
Stops [stops/h]	91.25	466.53	37.35	36.42	335.09	171.33	133.99	293.87	156.08	115.16	266.80	136.15
Fuel consumption [US gal/h]	2.31	10.97	0.90	0.88	7.70	3.93	2.70	6.06	3.20	2.12	5.03	2.56
CO [g/h]	161.70	766.53	62.82	61.80	537.96	274.39	188.98	423.91	223.86	148.42	351.56	179.28
NOx [g/h]	31.46	149.14	12.22	12.02	104.67	53.39	36.77	82.48	43.55	28.88	68.40	34.88
VOC [g/h]	37.47	177.65	14.56	14.32	124.68	63.59	43.80	98.25	51.88	34.40	81.48	41.55

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	44.55			44.55			44.55			44.55		
I_p,int, Pedestrian LOS Score for Intersectio	3.182			3.127			2.988			2.857		
Crosswalk LOS	C			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]	745			564			745			655		
d_b, Bicycle Delay [s]	21.64			28.37			21.64			24.89		
I_b,int, Bicycle LOS Score for Intersection	2.591			2.166			1.973			1.922		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report

Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.557

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	188	0	747	0	0	0	109	682	0	0	994	307
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 [%]	6.31	2.00	6.31	2.00	2.00	2.00	13.23	13.23	2.00	2.00	7.70	7.70
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]	188	0	747	0	0	0	109	682	0	0	994	307
Peak Hour 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
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]	47	0	187	0	0	0	27	171	0	0	249	77
Total Analysis Volume [veh/h]	188	0	747	0	0	0	109	682	0	0	994	307
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.22	0.00	0.00	0.00	0.03	0.13	0.00	0.00	0.26	0.26
Intersection LOS	A											
Intersection V/C	0.557											

Intersection Level Of Service Report**Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.567

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	3	8	23	237	0	105	129	530	1	9	667	609
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 [%]	6.06	6.06	6.06	18.38	18.38	18.38	11.62	11.62	11.62	5.54	5.54	5.54
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]	3	8	23	237	0	105	129	530	1	9	667	609
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	6	59	0	26	32	133	0	2	167	152
Total Analysis Volume [veh/h]	3	8	23	237	0	105	129	530	1	9	667	609
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.07	0.00	0.10	0.04	0.10	0.10	0.01	0.13	0.36
Intersection LOS	A											
Intersection V/C	0.567											

Intersection Level Of Service Report**Intersection 3: S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.366

Intersection Setup

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	11.00	11.00	12.00	11.00	14.00	11.00	11.00	14.00	11.00	11.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	210.00	100.00	225.00	205.00	100.00	100.00	250.00	100.00	100.00	200.00	100.00	275.00
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]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	30	265	121	156	295	199	101	364	31	111	482	159
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 [%]	4.27	4.27	4.27	4.96	4.96	4.96	11.96	11.96	11.96	6.54	6.54	6.54
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]	30	265	121	156	295	199	101	364	31	111	482	159
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	66	30	39	74	50	25	91	8	28	121	40
Total Analysis Volume [veh/h]	30	265	121	156	295	199	101	364	31	111	482	159
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.08	0.07	0.05	0.15	0.15	0.06	0.00	0.00	0.07	0.00	0.09
Intersection LOS	A											
Intersection V/C	0.366											

Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.577

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	228	883	88	102	840	116	171	364	186	163	405	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.90	3.90	3.90	4.11	4.11	4.11	8.05	8.05	8.05	6.47	6.47	6.47
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]	228	883	88	102	840	116	171	364	186	163	405	63
Peak Hour 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
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]	57	221	22	26	210	29	43	91	47	41	101	16
Total Analysis Volume [veh/h]	228	883	88	102	840	116	171	364	186	163	405	63
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100											
Lost time [s]	5.00											

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.26	0.05	0.06	0.19	0.19	0.10	0.11	0.11	0.10	0.09	0.09
Intersection LOS	A											
Intersection V/C	0.577											

Intersection Level Of Service Report**Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	31.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.754

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	240	0	793	0	0	0	185	846	0	0	1091	513
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.45	2.00	5.45	2.00	2.00	2.00	6.41	6.41	2.00	2.00	3.94	3.94
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	0	793	0	0	0	185	846	0	0	1091	513
Peak Hour Factor	0.9820	1.0000	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820
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]	61	0	202	0	0	0	47	215	0	0	278	131
Total Analysis Volume [veh/h]	244	0	808	0	0	0	188	862	0	0	1111	522
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	3.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	4	0	4	0	0	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Maximum Green [s]	60	0	60	0	0	0	30	60	0	0	60	60
Amber [s]	3.9	0.0	3.9	0.0	0.0	0.0	3.6	4.3	0.0	0.0	4.3	4.3
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	5	0	5	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	27	0	27	0	0	0	0	8	0	0	8	8
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	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.9	0.0	2.9	0.0	0.0	0.0	2.6	3.3	0.0	0.0	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	55	0	55	0	0	0	25	75	0	0	50	50
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	15	0	0	15	15
Vehicle Extension [s]	5.0	0.0	5.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No						No	Yes			Yes	
Maximum Recall	No						No	No			No	
Pedestrian Recall	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	R		L	C	C	C
C, Calculated Cycle Length [s]	130	130		130	130	130	130
L, Total Lost Time per Cycle [s]	4.90	4.90		4.60	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90		2.60	3.30	3.30	3.30
g_i, Effective Green Time [s]	44	44		10	75	61	61
g / C, Green / Cycle	0.34	0.34		0.07	0.58	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.14	0.30		0.06	0.18	0.31	0.33
s, saturation flow rate [veh/h]	1732	2735		3336	4914	3505	1637
c, Capacity [veh/h]	590	932		248	2853	1651	771
d1, Uniform Delay [s]	32.87	40.08		59.03	13.86	26.38	27.25
k, delay calibration	0.23	0.23		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.99	5.32		4.73	0.27	2.08	5.38
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.87		0.76	0.30	0.66	0.71
d, Delay for Lane Group [s/veh]	33.86	45.40		63.76	14.13	28.47	32.63
Lane Group LOS	C	D		E	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.98	12.42		3.14	4.11	12.91	13.99
50th-Percentile Queue Length [ft/ln]	149.38	310.60		78.49	102.64	322.74	349.78
95th-Percentile Queue Length [veh/ln]	9.98	18.20		5.65	7.39	18.80	20.13
95th-Percentile Queue Length [ft/ln]	249.60	455.11		141.28	184.76	470.05	503.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.86	0.00	45.40	0.00	0.00	0.00	63.76	14.13	0.00	0.00	28.55	32.63
Movement LOS	C		D				E	B			C	C
d_A, Approach Delay [s/veh]	42.72			0.00			23.02			29.85		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	31.56											
Intersection LOS	C											
Intersection V/C	0.754											

Emissions

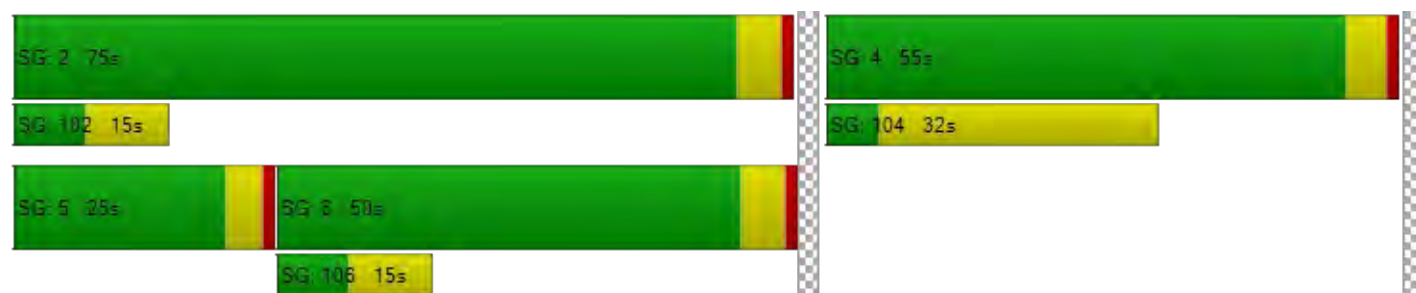
Vehicle Miles Traveled [mph]	11.09	36.71		3.99	18.29	30.75	15.38
Stops [stops/h]	165.47	688.09		173.88	341.09	714.99	387.45
Fuel consumption [US gal/h]	3.70	15.54		4.74	7.35	14.43	7.97
CO [g/h]	258.89	1086.17		331.17	513.59	1008.77	557.16
NOx [g/h]	50.37	211.33		64.43	99.93	196.27	108.40
VOC [g/h]	60.00	251.73		76.75	119.03	233.79	129.13

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.47	54.47	0.00	56.31
I_p,int, Pedestrian LOS Score for Intersectio	2.414	2.079	0.000	3.187
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	0	1072	688
d_b, Bicycle Delay [s]	24.55	65.00	13.98	27.98
I_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.137	2.458
Bicycle LOS	A	D	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	22.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.614

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	4	8	10	240	3	164	250	808	4	5	873	460
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	16.01	16.01	16.01	3.29	3.29	3.29	4.37	4.37	4.37
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	8	10	240	3	164	250	808	4	5	873	460
Peak Hour Factor	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	3	63	1	43	66	212	1	1	229	121
Total Analysis Volume [veh/h]	4	8	11	252	3	172	263	850	4	5	918	484
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	68.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	7	7	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	30	30	30	40	40	40	30	60	60	20	60	60
Amber [s]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.3	4.3
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	0	0	5	5	5	0	7	7	0	6	6
Pedestrian Clearance [s]	0	0	0	20	20	20	0	10	10	0	11	11
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.3	3.3	2.5	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	17	17	17	35	35	35	27	38	38	20	31	31
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	15	15	5	15	15
Vehicle Extension [s]	3.0	3.0	3.0	2.5	2.5	2.5	2.5	5.0	5.0	2.5	5.0	5.0
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	L	C	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.30	5.30	4.50	5.30	5.30
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
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	3.30	3.30	2.50	3.30	3.30
g_i, Effective Green Time [s]	3	17	17	11	71	71	1	61	61
g / C, Green / Cycle	0.02	0.16	0.16	0.10	0.64	0.64	0.01	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.01	0.14	0.14	0.08	0.16	0.16	0.00	0.18	0.30
s, saturation flow rate [veh/h]	1738	1644	1493	3423	3524	1846	1747	4997	1622
c, Capacity [veh/h]	40	260	236	333	2258	1183	12	2751	893
d1, Uniform Delay [s]	53.17	45.14	45.15	48.55	8.43	8.43	54.39	13.61	15.83
k, delay calibration	0.11	0.08	0.08	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
d2, Incremental Delay [s]	11.89	6.29	6.92	3.15	0.26	0.50	15.62	0.33	2.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.86	0.86	0.79	0.25	0.25	0.41	0.33	0.54
d, Delay for Lane Group [s/veh]	65.06	51.43	52.07	51.71	8.69	8.93	70.01	13.93	18.19
Lane Group LOS	E	D	D	D	A	A	E	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.77	6.25	5.73	3.57	2.54	2.75	0.19	3.98	7.75
50th-Percentile Queue Length [ft/ln]	19.19	156.26	143.14	89.19	63.62	68.64	4.71	99.38	193.70
95th-Percentile Queue Length [veh/ln]	1.38	10.35	9.65	6.42	4.58	4.94	0.34	7.16	12.31
95th-Percentile Queue Length [ft/ln]	34.54	258.77	241.25	160.54	114.52	123.55	8.47	178.89	307.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	65.06	65.06	65.06	51.52	52.07	52.07	51.71	8.78	8.93	70.01	13.93	18.19
Movement LOS	E	E	E	D	D	D	D	A	A	E	B	B
d_A, Approach Delay [s/veh]	65.06			51.74			18.88			15.60		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	22.40											
Intersection LOS	C											
Intersection V/C	0.614											

Emissions

Vehicle Miles Traveled [mph]	0.45	9.08	8.26	13.01	27.73	14.53	0.25	46.77	24.66
Stops [stops/h]	25.12	204.56	187.38	233.52	166.57	89.85	6.16	390.30	253.57
Fuel consumption [US gal/h]	0.42	4.68	4.29	6.12	4.01	2.15	0.14	8.11	5.17
CO [g/h]	29.45	326.80	299.96	427.55	280.52	150.23	9.85	567.06	361.10
NOx [g/h]	5.73	63.58	58.36	83.19	54.58	29.23	1.92	110.33	70.26
VOC [g/h]	6.83	75.74	69.52	99.09	65.01	34.82	2.28	131.42	83.69

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	10.0	9.0	0.0
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]	44.55	45.45	46.37	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.739	2.526	3.141	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	227	555	595	467
d_b, Bicycle Delay [s]	43.21	28.73	27.16	32.30
I_b,int, Bicycle LOS Score for Intersection	1.598	2.264	2.174	2.333
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	27.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	193	649	152	137	980	132	146	638	336	221	706	108
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.76	3.76	3.76	2.87	2.87	2.87	4.17	4.17	4.17	3.76	3.76	3.76
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	193	649	152	137	980	132	146	638	336	221	706	108
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
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]	50	169	40	36	255	34	38	166	88	58	184	28
Total Analysis Volume [veh/h]	201	677	158	143	1022	138	152	665	350	230	736	113
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Active Pattern	Pattern 1
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]	16.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Maximum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	26	26	0	21	21
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 1

Split [s]	10	36	36	11	37	37	12	48	48	10	46	46
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	48	37	37	48	38	38	49	39	39	49	37	37
g / C, Green / Cycle	0.46	0.35	0.35	0.46	0.36	0.36	0.47	0.37	0.37	0.47	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.30	0.19	0.10	0.17	0.22	0.22	0.19	0.19	0.22	0.30	0.16	0.16
s, saturation flow rate [veh/h]	675	3510	1567	845	3536	1746	807	3498	1562	759	3510	1721
c, Capacity [veh/h]	320	1237	552	381	1280	632	402	1299	580	356	1246	611
d1, Uniform Delay [s]	20.76	27.27	24.48	18.66	27.39	27.39	17.50	25.61	26.74	21.06	26.06	26.09
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.12	0.28	0.11	0.11
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]	9.05	1.74	1.30	2.81	2.14	4.30	2.69	0.31	1.10	4.97	0.26	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.63	0.55	0.29	0.38	0.61	0.61	0.38	0.51	0.60	0.65	0.46	0.46
d, Delay for Lane Group [s/veh]	29.81	29.02	25.78	21.47	29.53	31.69	20.19	25.93	27.84	26.03	26.33	26.62
Lane Group LOS	C	C	C	C	C	C	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.61	6.72	2.89	2.21	7.86	8.15	2.43	6.40	7.15	3.85	5.46	5.43
50th-Percentile Queue Length [ft/ln]	90.18	168.09	72.28	55.36	196.55	203.75	60.77	160.03	178.71	96.37	136.45	135.69
95th-Percentile Queue Length [veh/ln]	6.49	10.98	5.20	3.99	12.46	12.83	4.38	10.55	11.53	6.94	9.29	9.25
95th-Percentile Queue Length [ft/ln]	162.32	274.40	130.10	99.65	311.51	320.79	109.39	263.76	288.33	173.47	232.23	231.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.81	29.02	25.78	21.47	30.05	31.69	20.19	25.93	27.84	26.03	26.39	26.62
Movement LOS	C	C	C	C	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	28.68			29.28			25.75			26.34		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	27.55											
Intersection LOS	C											
Intersection V/C	0.707											

Emissions

Vehicle Miles Traveled [mph]	11.45	38.56	9.00	6.44	34.97	17.28	14.95	65.43	34.44	13.38	33.08	16.29
Stops [stops/h]	123.67	461.05	99.12	75.92	539.10	279.42	83.35	438.94	245.09	132.16	374.25	186.09
Fuel consumption [US gal/h]	3.15	11.05	2.37	1.79	12.57	6.54	1.70	8.63	4.75	2.50	6.48	3.22
CO [g/h]	220.14	772.51	165.65	125.08	878.41	457.18	118.87	603.04	332.32	174.69	452.73	224.86
NOx [g/h]	42.83	150.30	32.23	24.34	170.91	88.95	23.13	117.33	64.66	33.99	88.09	43.75
VOC [g/h]	51.02	179.04	38.39	28.99	203.58	105.96	27.55	139.76	77.02	40.49	104.93	52.11

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	42.08			42.08			42.08			42.08		
I_p,int, Pedestrian LOS Score for Intersectio	3.280			3.151			3.022			2.962		
Crosswalk LOS	C			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]	610			629			838			800		
d_b, Bicycle Delay [s]	25.38			24.69			17.72			18.90		
I_b,int, Bicycle LOS Score for Intersection	2.414			2.276			2.201			2.153		
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 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.652

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	240	0	793	0	0	0	185	846	0	0	1091	513
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.45	2.00	5.45	2.00	2.00	2.00	6.41	6.41	2.00	2.00	3.94	3.94
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]	240	0	793	0	0	0	185	846	0	0	1091	513
Peak Hour 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
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]	60	0	198	0	0	0	46	212	0	0	273	128
Total Analysis Volume [veh/h]	240	0	793	0	0	0	185	846	0	0	1091	513
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.23	0.00	0.00	0.00	0.05	0.17	0.00	0.00	0.31	0.31
Intersection LOS	B											
Intersection V/C	0.652											

Intersection Level Of Service Report

Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.527

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	4	8	10	240	3	164	250	808	4	5	873	460
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	16.01	16.01	16.01	3.29	3.29	3.29	4.37	4.37	4.37
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]	4	8	10	240	3	164	250	808	4	5	873	460
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	3	60	1	41	63	202	1	1	218	115
Total Analysis Volume [veh/h]	4	8	10	240	3	164	250	808	4	5	873	460
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100												
Lost time [s]	5.00												

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.07	0.12	0.12	0.07	0.16	0.16	0.00	0.17	0.27
Intersection LOS	A											
Intersection V/C	0.527											

Intersection Level Of Service Report

Intersection 3: S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.486

Intersection Setup

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	11.00	11.00	12.00	11.00	14.00	11.00	11.00	14.00	11.00	11.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	210.00	100.00	225.00	205.00	100.00	100.00	250.00	100.00	100.00	200.00	100.00	275.00
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]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	60	293	164	209	402	276	160	713	69	150	656	182
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 [%]	2.62	2.62	2.62	2.17	2.17	2.17	5.29	5.29	5.29	4.17	4.17	4.17
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]	60	293	164	209	402	276	160	713	69	150	656	182
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	73	41	52	101	69	40	178	17	38	164	46
Total Analysis Volume [veh/h]	60	293	164	209	402	276	160	713	69	150	656	182
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.09	0.10	0.06	0.20	0.20	0.09	0.00	0.00	0.09	0.00	0.11
Intersection LOS	A											
Intersection V/C	0.486											

Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.703

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	193	649	152	137	980	132	146	638	336	221	706	108
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.76	3.76	3.76	2.87	2.87	2.87	4.17	4.17	4.17	3.76	3.76	3.76
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]	193	649	152	137	980	132	146	638	336	221	706	108
Peak Hour 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
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	162	38	34	245	33	37	160	84	55	177	27
Total Analysis Volume [veh/h]	193	649	152	137	980	132	146	638	336	221	706	108
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.19	0.09	0.08	0.22	0.22	0.09	0.19	0.19	0.13	0.16	0.16
Intersection LOS	C											
Intersection V/C	0.703											



Appendix H

Intersection Analysis Worksheets –
Project Opening Year (2027) With Project Conditions

Intersection Level Of Service Report**Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)**

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):	0.695

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	192	0	747	0	0	0	120	689	0	0	996	307
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 [%]	6.31	2.00	6.31	2.00	2.00	2.00	13.23	13.23	2.00	2.00	7.70	7.70
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	192	0	747	0	0	0	120	689	0	0	996	307
Peak Hour Factor	0.9140	1.0000	0.9140	1.0000	1.0000	1.0000	0.9140	0.9140	1.0000	1.0000	0.9140	0.9140
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]	53	0	204	0	0	0	33	188	0	0	272	84
Total Analysis Volume [veh/h]	210	0	817	0	0	0	131	754	0	0	1090	336
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	117.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	4	0	4	0	0	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Maximum Green [s]	60	0	60	0	0	0	30	60	0	0	60	60
Amber [s]	3.9	0.0	3.9	0.0	0.0	0.0	3.6	4.3	0.0	0.0	4.3	4.3
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	5	0	5	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	27	0	27	0	0	0	0	8	0	0	8	8
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	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.9	0.0	2.9	0.0	0.0	0.0	2.6	3.3	0.0	0.0	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	55	0	55	0	0	0	25	75	0	0	50	50
Lead / Lag	Lag	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	15	0	0	15	15
Vehicle Extension [s]	5.0	0.0	5.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No						No	Yes			Yes	
Maximum Recall	No						No	No			No	
Pedestrian Recall	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	R		L	C	C	C
C, Calculated Cycle Length [s]	130	130		130	130	130	130
L, Total Lost Time per Cycle [s]	4.90	4.90		4.60	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90		2.60	3.30	3.30	3.30
g_i, Effective Green Time [s]	45	45		8	75	63	63
g / C, Green / Cycle	0.34	0.34		0.06	0.58	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.12	0.30		0.04	0.16	0.28	0.29
s, saturation flow rate [veh/h]	1719	2716		3147	4635	3398	1650
c, Capacity [veh/h]	592	934		185	2676	1642	797
d1, Uniform Delay [s]	31.86	40.00		60.07	13.86	24.10	24.38
k, delay calibration	0.23	0.23		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.77	5.63		4.89	0.26	1.50	3.27
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.87		0.71	0.28	0.58	0.60
d, Delay for Lane Group [s/veh]	32.63	45.63		64.97	14.12	25.60	27.65
Lane Group LOS	C	D		E	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.00	12.62		2.21	3.57	10.44	10.94
50th-Percentile Queue Length [ft/ln]	124.88	315.54		55.16	89.36	260.95	273.48
95th-Percentile Queue Length [veh/ln]	8.66	18.45		3.97	6.43	15.74	16.36
95th-Percentile Queue Length [ft/ln]	216.52	461.20		99.29	160.85	393.42	409.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.63	0.00	45.63	0.00	0.00	0.00	64.97	14.12	0.00	0.00	25.86	27.65
Movement LOS	C		D				E	B			C	C
d_A, Approach Delay [s/veh]	42.97			0.00			21.65			26.28		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	30.19											
Intersection LOS	C											
Intersection V/C	0.695											

Emissions

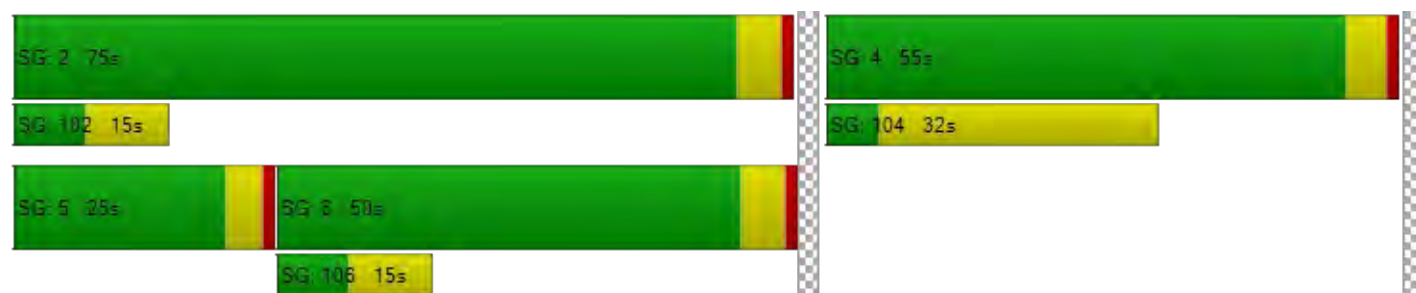
Vehicle Miles Traveled [mph]	9.54	37.12		2.78	16.00	26.85	13.43
Stops [stops/h]	138.33	699.03		122.21	296.95	578.11	302.94
Fuel consumption [US gal/h]	3.10	15.78		3.35	6.41	11.59	6.13
CO [g/h]	216.35	1103.24		233.92	447.87	810.35	428.61
NOx [g/h]	42.09	214.65		45.51	87.14	157.66	83.39
VOC [g/h]	50.14	255.69		54.21	103.80	187.81	99.34

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.47	54.47	0.00	56.31
I_p,int, Pedestrian LOS Score for Intersectio	2.403	1.960	0.000	3.121
Crosswalk LOS	B	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	0	1072	688
d_b, Bicycle Delay [s]	24.55	65.00	13.98	27.98
I_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.046	2.344
Bicycle LOS	A	D	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	3	8	23	237	0	109	140	549	1	9	673	609
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 [%]	6.06	6.06	6.06	18.38	18.38	18.38	11.62	11.62	11.62	5.54	5.54	5.54
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	8	23	237	0	109	140	549	1	9	673	609
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	6	64	0	29	38	148	0	2	181	164
Total Analysis Volume [veh/h]	3	9	25	255	0	117	151	591	1	10	724	656
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	83.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	7	7	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	30	30	30	40	40	40	30	60	60	20	60	60
Amber [s]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.3	4.3
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	0	0	5	5	5	0	7	7	0	6	6
Pedestrian Clearance [s]	0	0	0	20	20	20	0	10	10	0	11	11
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.3	3.3	2.5	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	17	17	17	43	43	43	20	30	30	20	30	30
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	15	15	5	15	15
Vehicle Extension [s]	3.0	3.0	3.0	2.5	2.5	2.5	2.5	5.0	5.0	2.5	5.0	5.0
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	L	C	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.30	5.30	4.50	5.30	5.30
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
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	3.30	3.30	2.50	3.30	3.30
g_i, Effective Green Time [s]	3	16	16	7	71	71	1	65	65
g / C, Green / Cycle	0.03	0.14	0.14	0.07	0.64	0.64	0.01	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.02	0.12	0.12	0.05	0.12	0.12	0.01	0.15	0.41
s, saturation flow rate [veh/h]	1610	1609	1491	3192	3286	1724	1730	4949	1606
c, Capacity [veh/h]	50	228	211	209	2116	1110	22	2924	949
d1, Uniform Delay [s]	52.85	46.04	46.07	50.40	7.91	7.91	53.95	10.79	15.57
k, delay calibration	0.11	0.08	0.08	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
d2, Incremental Delay [s]	18.91	6.37	6.98	3.46	0.19	0.36	11.04	0.20	4.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.85	0.85	0.72	0.18	0.18	0.46	0.25	0.69
d, Delay for Lane Group [s/veh]	71.75	52.42	53.05	53.86	8.10	8.27	64.99	10.99	19.70
Lane Group LOS	E	D	D	D	A	A	E	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.28	5.42	5.08	2.08	1.66	1.80	0.34	2.64	11.24
50th-Percentile Queue Length [ft/ln]	32.09	135.38	126.91	52.03	41.56	44.97	8.41	66.06	280.97
95th-Percentile Queue Length [veh/ln]	2.31	9.23	8.77	3.75	2.99	3.24	0.61	4.76	16.74
95th-Percentile Queue Length [ft/ln]	57.77	230.78	219.29	93.65	74.81	80.94	15.13	118.91	418.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	71.75	71.75	71.75	52.58	53.05	53.05	53.86	8.16	8.27	64.99	10.99	19.70
Movement LOS	E	E	E	D	D	D	D	A	A	E	B	B
d_A, Approach Delay [s/veh]	71.75			52.72			17.45			15.49		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	22.33											
Intersection LOS	C											
Intersection V/C	0.701											

Emissions

Vehicle Miles Traveled [mph]	0.73	7.82	7.28	7.47	19.21	10.08	0.51	36.89	33.42
Stops [stops/h]	42.01	177.22	166.14	136.21	108.82	58.86	11.00	259.45	367.82
Fuel consumption [US gal/h]	0.73	4.08	3.83	3.60	2.65	1.42	0.26	5.49	7.44
CO [g/h]	51.32	284.92	267.62	251.97	185.33	99.30	18.07	383.72	520.06
NOx [g/h]	9.99	55.44	52.07	49.02	36.06	19.32	3.52	74.66	101.18
VOC [g/h]	11.89	66.03	62.02	58.40	42.95	23.01	4.19	88.93	120.53

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	10.0	9.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	45.45	46.37	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.744	2.528	3.027	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	227	700	449	449
d_b, Bicycle Delay [s]	43.21	23.24	33.07	33.07
I_b,int, Bicycle LOS Score for Intersection	1.621	2.173	1.968	2.324
Bicycle LOS	A	B	A	B

Sequence

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



Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	25.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	228	883	92	102	840	116	171	368	186	174	416	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.90	3.90	3.90	4.11	4.11	4.11	8.05	8.05	8.05	6.47	6.47	6.47
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	228	883	92	102	840	116	171	368	186	174	416	63
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]	59	230	24	27	219	30	45	96	48	45	108	16
Total Analysis Volume [veh/h]	238	920	96	106	875	121	178	383	194	181	433	66
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
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]	16.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Maximum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	26	26	0	21	21
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 1

Split [s]	20	45	45	10	35	35	15	45	45	10	40	40
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	66	56	56	66	52	52	36	26	26	36	21	21
g / C, Green / Cycle	0.60	0.51	0.51	0.60	0.48	0.48	0.33	0.24	0.24	0.33	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.32	0.26	0.06	0.16	0.19	0.19	0.16	0.11	0.13	0.18	0.10	0.10
s, saturation flow rate [veh/h]	752	3506	1565	676	3500	1727	1082	3388	1512	1029	3252	1596
c, Capacity [veh/h]	477	1796	802	406	1668	823	371	798	356	339	618	303
d1, Uniform Delay [s]	11.76	17.75	13.94	11.48	18.61	18.63	28.82	36.25	36.88	29.88	40.20	40.29
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.12	0.11	0.11
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]	3.69	1.05	0.31	1.56	0.72	1.46	4.40	0.45	1.30	1.39	0.73	1.55
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	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	0.50	0.51	0.12	0.26	0.40	0.40	0.48	0.48	0.54	0.53	0.54	0.55
d, Delay for Lane Group [s/veh]	15.45	18.79	14.25	13.04	19.33	20.09	33.22	36.70	38.18	31.27	40.93	41.83
Lane Group LOS	B	B	B	B	B	C	C	D	D	C	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.89	7.34	1.23	1.15	5.28	5.40	4.01	4.47	4.68	3.72	4.11	4.19
50th-Percentile Queue Length [ft/ln]	72.23	183.52	30.72	28.86	132.01	135.04	100.33	111.72	117.09	92.91	102.80	104.74
95th-Percentile Queue Length [veh/ln]	5.20	11.78	2.21	2.08	9.05	9.21	7.22	7.94	8.23	6.69	7.40	7.54
95th-Percentile Queue Length [ft/ln]	130.02	294.61	55.30	51.94	226.23	230.33	180.59	198.39	205.81	167.24	185.03	188.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.45	18.79	14.25	13.04	19.51	20.09	33.22	36.70	38.18	31.27	41.14	41.83
Movement LOS	B	B	B	B	B	C	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	17.81			18.95			36.26			38.58		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	25.54											
Intersection LOS	C											
Intersection V/C	0.586											

Emissions

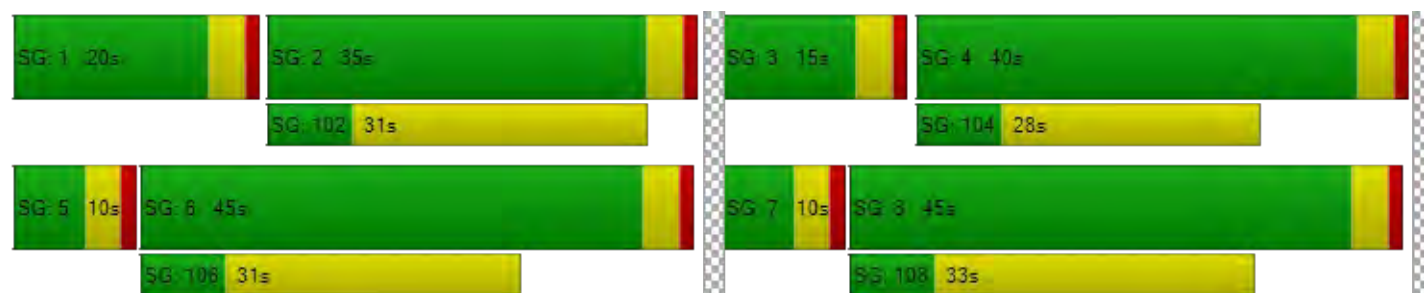
Vehicle Miles Traveled [mph]	13.56	52.40	5.47	4.77	30.00	14.85	17.51	37.68	19.09	10.53	19.34	9.68
Stops [stops/h]	94.56	480.49	40.22	37.78	345.64	176.78	131.34	292.51	153.28	121.63	269.14	137.12
Fuel consumption [US gal/h]	2.39	11.29	0.97	0.91	7.95	4.06	2.65	6.03	3.14	2.26	5.05	2.57
CO [g/h]	166.95	789.10	67.52	63.93	555.47	283.47	185.22	421.32	219.48	157.76	353.25	179.79
NOx [g/h]	32.48	153.53	13.14	12.44	108.07	55.15	36.04	81.97	42.70	30.69	68.73	34.98
VOC [g/h]	38.69	182.88	15.65	14.82	128.73	65.70	42.93	97.64	50.87	36.56	81.87	41.67

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	44.55			44.55			44.55			44.55		
I_p,int, Pedestrian LOS Score for Intersectio	3.192			3.130			2.986			2.860		
Crosswalk LOS	C			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]	745			564			745			655		
d_b, Bicycle Delay [s]	21.64			28.37			21.64			24.89		
I_b,int, Bicycle LOS Score for Intersection	2.594			2.166			1.975			1.934		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report**Intersection 5: Placentia Avenue (N/S) and Project Access 1 (E/W)**

Control Type:	Two-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.135

Intersection Setup

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

Volumes

Name	Placentia Avenue		Placentia Avenue		Project Access 1	
Base Volume Input [veh/h]	522	19	4	645	59	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.25	2.25	4.96	4.96	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	522	19	4	645	59	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	137	5	1	170	16	4
Total Analysis Volume [veh/h]	549	20	4	679	62	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.14	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	8.68	0.00	14.19	11.40
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.55	0.55
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.17	0.08	13.73	13.73
d_A, Approach Delay [s/veh]	0.00		0.05		13.64	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.82					
Intersection LOS	B					

Intersection Level Of Service Report**Intersection 6: Project Access 2 (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Two-way stop	Delay (sec / veh):	17.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Project Access 2		Orangethorpe Avenue		Orangethorpe Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Access 2		Orangethorpe Avenue		Orangethorpe Avenue	
Base Volume Input [veh/h]	1	0	1	670	761	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	11.17	11.17	6.54	6.54
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]	1	0	1	670	761	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	176	200	1
Total Analysis Volume [veh/h]	1	0	1	705	801	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	17.89	12.09	12.88	0.00	0.00	0.00
Movement LOS	C	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.27	0.27	0.16	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.89		0.02		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	C					

Intersection Level Of Service Report

Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	192	0	747	0	0	0	120	689	0	0	996	307
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 [%]	6.31	2.00	6.31	2.00	2.00	2.00	13.23	13.23	2.00	2.00	7.70	7.70
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]	192	0	747	0	0	0	120	689	0	0	996	307
Peak Hour 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
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	0	187	0	0	0	30	172	0	0	249	77
Total Analysis Volume [veh/h]	192	0	747	0	0	0	120	689	0	0	996	307
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.22	0.00	0.00	0.00	0.04	0.14	0.00	0.00	0.26	0.26
Intersection LOS	A											
Intersection V/C	0.560											

Intersection Level Of Service Report

Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	3	8	23	237	0	109	140	549	1	9	673	609
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 [%]	6.06	6.06	6.06	18.38	18.38	18.38	11.62	11.62	11.62	5.54	5.54	5.54
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]	3	8	23	237	0	109	140	549	1	9	673	609
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	6	59	0	27	35	137	0	2	168	152
Total Analysis Volume [veh/h]	3	8	23	237	0	109	140	549	1	9	673	609
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.07	0.00	0.10	0.04	0.11	0.11	0.01	0.13	0.36
Intersection LOS	A											
Intersection V/C	0.571											

Intersection Level Of Service Report**Intersection 3: S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.383

Intersection Setup

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	11.00	11.00	12.00	11.00	14.00	11.00	11.00	14.00	11.00	11.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	210.00	100.00	225.00	205.00	100.00	100.00	250.00	100.00	100.00	200.00	100.00	275.00
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]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	30	268	121	184	302	221	108	364	31	111	482	167
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 [%]	4.27	4.27	4.27	4.96	4.96	4.96	11.96	11.96	11.96	6.54	6.54	6.54
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]	30	268	121	184	302	221	108	364	31	111	482	167
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	67	30	46	76	55	27	91	8	28	121	42
Total Analysis Volume [veh/h]	30	268	121	184	302	221	108	364	31	111	482	167
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.08	0.07	0.05	0.15	0.15	0.06	0.00	0.00	0.07	0.00	0.10
Intersection LOS	A											
Intersection V/C	0.383											

Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.583

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	228	883	92	102	840	116	171	368	186	174	416	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.90	3.90	3.90	4.11	4.11	4.11	8.05	8.05	8.05	6.47	6.47	6.47
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]	228	883	92	102	840	116	171	368	186	174	416	63
Peak Hour 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
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]	57	221	23	26	210	29	43	92	47	44	104	16
Total Analysis Volume [veh/h]	228	883	92	102	840	116	171	368	186	174	416	63
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.26	0.05	0.06	0.19	0.19	0.10	0.11	0.11	0.10	0.09	0.09
Intersection LOS	A											
Intersection V/C	0.583											

Intersection Level Of Service Report**Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	31.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.758

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	250	0	793	0	0	0	192	851	0	0	1098	513
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.45	2.00	5.45	2.00	2.00	2.00	6.41	6.41	2.00	2.00	3.94	3.94
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	250	0	793	0	0	0	192	851	0	0	1098	513
Peak Hour Factor	0.9820	1.0000	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820
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]	64	0	202	0	0	0	49	217	0	0	280	131
Total Analysis Volume [veh/h]	255	0	808	0	0	0	196	867	0	0	1118	522
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	3.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	4	0	4	0	0	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Maximum Green [s]	60	0	60	0	0	0	30	60	0	0	60	60
Amber [s]	3.9	0.0	3.9	0.0	0.0	0.0	3.6	4.3	0.0	0.0	4.3	4.3
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	5	0	5	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	27	0	27	0	0	0	0	8	0	0	8	8
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	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.9	0.0	2.9	0.0	0.0	0.0	2.6	3.3	0.0	0.0	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	55	0	55	0	0	0	25	75	0	0	50	50
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	15	0	0	15	15
Vehicle Extension [s]	5.0	0.0	5.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No						No	Yes			Yes	
Maximum Recall	No						No	No			No	
Pedestrian Recall	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	R		L	C	C	C
C, Calculated Cycle Length [s]	130	130		130	130	130	130
L, Total Lost Time per Cycle [s]	4.90	4.90		4.60	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90		2.60	3.30	3.30	3.30
g_i, Effective Green Time [s]	44	44		10	75	61	61
g / C, Green / Cycle	0.34	0.34		0.08	0.58	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.15	0.30		0.06	0.18	0.31	0.33
s, saturation flow rate [veh/h]	1732	2735		3336	4914	3505	1638
c, Capacity [veh/h]	591	933		256	2852	1641	767
d1, Uniform Delay [s]	33.08	40.04		58.87	13.90	26.71	27.58
k, delay calibration	0.23	0.23		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.07	5.29		4.76	0.28	2.16	5.57
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.87		0.77	0.30	0.67	0.71
d, Delay for Lane Group [s/veh]	34.15	45.33		63.63	14.17	28.87	33.15
Lane Group LOS	C	D		E	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.29	12.41		3.27	4.14	13.08	14.19
50th-Percentile Queue Length [ft/ln]	157.29	310.35		81.78	103.47	327.00	354.67
95th-Percentile Queue Length [veh/ln]	10.41	18.19		5.89	7.45	19.01	20.36
95th-Percentile Queue Length [ft/ln]	260.14	454.80		147.20	186.24	475.28	509.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.15	0.00	45.33	0.00	0.00	0.00	63.63	14.17	0.00	0.00	28.96	33.15
Movement LOS	C		D				E	B			C	C
d_A, Approach Delay [s/veh]	42.65			0.00			23.29			30.30		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	31.81											
Intersection LOS	C											
Intersection V/C	0.758											

Emissions

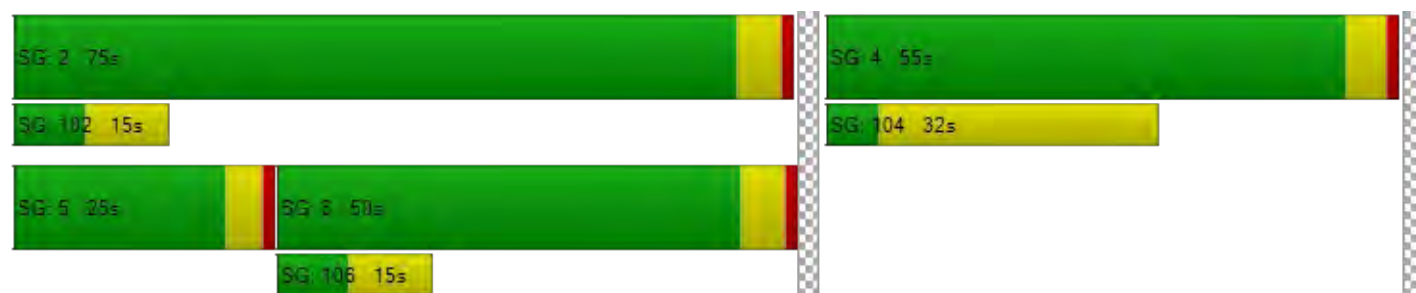
Vehicle Miles Traveled [mph]	11.59	36.71		4.16	18.40	30.88	15.44
Stops [stops/h]	174.23	687.54		181.17	343.82	724.43	392.86
Fuel consumption [US gal/h]	3.90	15.52		4.93	7.41	14.64	8.10
CO [g/h]	272.52	1084.98		344.81	517.71	1023.68	566.22
NOx [g/h]	53.02	211.10		67.09	100.73	199.17	110.17
VOC [g/h]	63.16	251.45		79.91	119.98	237.25	131.23

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.47	54.47	0.00	56.31
I_p,int, Pedestrian LOS Score for Intersectio	2.418	2.082	0.000	3.190
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	0	1072	688
d_b, Bicycle Delay [s]	24.55	65.00	13.98	27.98
I_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.144	2.462
Bicycle LOS	A	D	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	22.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.621

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	4	8	10	240	3	174	257	820	4	5	890	460
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	16.01	16.01	16.01	3.29	3.29	3.29	4.37	4.37	4.37
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	8	10	240	3	174	257	820	4	5	890	460
Peak Hour Factor	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	3	63	1	46	68	216	1	1	234	121
Total Analysis Volume [veh/h]	4	8	11	252	3	183	270	862	4	5	936	484
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	68.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	7	7	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	30	30	30	40	40	40	30	60	60	20	60	60
Amber [s]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.3	4.3
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	0	0	5	5	5	0	7	7	0	6	6
Pedestrian Clearance [s]	0	0	0	20	20	20	0	10	10	0	11	11
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.3	3.3	2.5	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	17	17	17	35	35	35	27	38	38	20	31	31
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	15	15	5	15	15
Vehicle Extension [s]	3.0	3.0	3.0	2.5	2.5	2.5	2.5	5.0	5.0	2.5	5.0	5.0
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	L	C	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.30	5.30	4.50	5.30	5.30
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
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	3.30	3.30	2.50	3.30	3.30
g_i, Effective Green Time [s]	3	18	18	11	70	70	1	60	60
g / C, Green / Cycle	0.02	0.16	0.16	0.10	0.64	0.64	0.01	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.01	0.14	0.14	0.08	0.16	0.16	0.00	0.19	0.30
s, saturation flow rate [veh/h]	1738	1644	1487	3423	3524	1846	1747	4997	1622
c, Capacity [veh/h]	40	266	241	340	2245	1176	12	2722	883
d1, Uniform Delay [s]	53.17	44.93	44.94	48.43	8.63	8.63	54.39	14.03	16.25
k, delay calibration	0.11	0.08	0.08	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
d2, Incremental Delay [s]	11.89	6.29	6.93	3.16	0.27	0.52	15.62	0.35	2.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.86	0.87	0.79	0.25	0.25	0.41	0.34	0.55
d, Delay for Lane Group [s/veh]	65.06	51.22	51.87	51.60	8.91	9.15	70.01	14.37	18.69
Lane Group LOS	E	D	D	D	A	A	E	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.77	6.42	5.85	3.66	2.63	2.83	0.19	4.14	7.89
50th-Percentile Queue Length [ft/ln]	19.19	160.44	146.37	91.52	65.69	70.86	4.71	103.56	197.15
95th-Percentile Queue Length [veh/ln]	1.38	10.57	9.82	6.59	4.73	5.10	0.34	7.46	12.49
95th-Percentile Queue Length [ft/ln]	34.54	264.30	245.58	164.73	118.24	127.55	8.47	186.40	312.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	65.06	65.06	65.06	51.30	51.87	51.87	51.60	8.99	9.15	70.01	14.37	18.69
Movement LOS	E	E	E	D	D	D	D	A	A	E	B	B
d_A, Approach Delay [s/veh]	65.06			51.53			19.12			16.03		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	22.71											
Intersection LOS	C											
Intersection V/C	0.621											

Emissions

Vehicle Miles Traveled [mph]	0.45	9.33	8.45	13.36	28.12	14.73	0.25	47.69	24.66
Stops [stops/h]	25.12	210.03	191.61	239.61	171.99	92.77	6.16	406.69	258.08
Fuel consumption [US gal/h]	0.42	4.79	4.38	6.27	4.13	2.21	0.14	8.44	5.26
CO [g/h]	29.45	335.04	306.30	438.40	288.84	154.70	9.85	590.03	367.63
NOx [g/h]	5.73	65.19	59.59	85.30	56.20	30.10	1.92	114.80	71.53
VOC [g/h]	6.83	77.65	70.99	101.60	66.94	35.85	2.28	136.75	85.20

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	10.0	9.0	0.0
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]	44.55	45.45	46.37	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.739	2.531	3.150	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	227	555	595	467
d_b, Bicycle Delay [s]	43.21	28.73	27.16	32.30
I_b,int, Bicycle LOS Score for Intersection	1.598	2.282	2.184	2.343
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	27.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.711

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	193	649	162	137	980	132	146	648	336	228	713	108
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.76	3.76	3.76	2.87	2.87	2.87	4.17	4.17	4.17	3.76	3.76	3.76
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	193	649	162	137	980	132	146	648	336	228	713	108
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
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]	50	169	42	36	255	34	38	169	88	59	186	28
Total Analysis Volume [veh/h]	201	677	169	143	1022	138	152	676	350	238	743	113
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Active Pattern	Pattern 1
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]	16.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Maximum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	26	26	0	21	21
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 1

Split [s]	10	36	36	11	37	37	12	48	48	10	46	46
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	47	36	36	47	37	37	50	40	40	50	39	39
g / C, Green / Cycle	0.44	0.34	0.34	0.44	0.35	0.35	0.48	0.38	0.38	0.48	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.30	0.19	0.11	0.17	0.22	0.22	0.19	0.19	0.22	0.32	0.16	0.16
s, saturation flow rate [veh/h]	681	3510	1567	845	3536	1746	797	3498	1562	749	3510	1722
c, Capacity [veh/h]	314	1193	533	373	1235	610	407	1343	600	362	1292	634
d1, Uniform Delay [s]	21.58	28.34	25.64	19.43	28.47	28.48	16.78	24.70	25.68	20.75	25.05	25.07
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.12	0.31	0.11	0.11
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]	9.60	1.96	1.56	2.98	2.43	4.86	2.62	0.29	0.98	5.65	0.24	0.49
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	0.64	0.57	0.32	0.38	0.63	0.63	0.37	0.50	0.58	0.66	0.44	0.45
d, Delay for Lane Group [s/veh]	31.18	30.30	27.21	22.41	30.90	33.34	19.40	24.99	26.66	26.40	25.29	25.56
Lane Group LOS	C	C	C	C	C	C	B	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.73	6.91	3.21	2.29	8.09	8.41	2.36	6.37	6.96	3.96	5.37	5.33
50th-Percentile Queue Length [ft/ln]	93.27	172.82	80.17	57.16	202.30	210.27	59.01	159.15	173.96	98.96	134.14	133.37
95th-Percentile Queue Length [veh/ln]	6.72	11.22	5.77	4.12	12.76	13.17	4.25	10.50	11.28	7.13	9.16	9.12
95th-Percentile Queue Length [ft/ln]	167.89	280.62	144.31	102.88	318.93	329.18	106.22	262.59	282.12	178.14	229.11	228.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.18	30.30	27.21	22.41	31.49	33.34	19.40	24.99	26.66	26.40	25.35	25.56
Movement LOS	C	C	C	C	C	C	B	C	C	C	C	C
d_A, Approach Delay [s/veh]	29.97			30.69			24.77			25.60		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	27.81											
Intersection LOS	C											
Intersection V/C	0.711											

Emissions

Vehicle Miles Traveled [mph]	11.45	38.56	9.63	6.44	34.97	17.28	14.95	66.51	34.44	13.84	33.35	16.43
Stops [stops/h]	127.91	474.02	109.95	78.39	554.87	288.37	80.93	436.52	238.58	135.72	367.92	182.91
Fuel consumption [US gal/h]	3.26	11.39	2.63	1.85	12.98	6.78	1.66	8.59	4.63	2.60	6.36	3.16
CO [g/h]	227.74	796.18	184.02	129.14	907.28	473.96	116.23	600.27	323.96	181.61	444.38	220.65
NOx [g/h]	44.31	154.91	35.80	25.13	176.52	92.22	22.61	116.79	63.03	35.34	86.46	42.93
VOC [g/h]	52.78	184.52	42.65	29.93	210.27	109.85	26.94	139.12	75.08	42.09	102.99	51.14

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	42.08			42.08			42.08			42.08		
I_p,int, Pedestrian LOS Score for Intersectio	3.293			3.154			3.021			2.964		
Crosswalk LOS	C			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]	610			629			838			800		
d_b, Bicycle Delay [s]	25.38			24.69			17.72			18.90		
I_b,int, Bicycle LOS Score for Intersection	2.423			2.276			2.208			2.161		
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 5: Placentia Avenue (N/S) and Project Access 1 (E/W)**

Control Type:	Two-way stop	Delay (sec / veh):	15.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.102

Intersection Setup

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

Volumes

Name	Placentia Avenue		Placentia Avenue		Project Access 1	
Base Volume Input [veh/h]	630	51	13	883	36	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.08	1.08	2.17	2.17	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	630	51	13	883	36	9
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	166	13	3	232	9	2
Total Analysis Volume [veh/h]	663	54	14	929	38	9
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.01	0.10	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	9.11	0.00	15.79	11.80
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.01	0.39	0.39
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.59	0.29	9.73	9.73
d_A, Approach Delay [s/veh]	0.00		0.14		15.02	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.49					
Intersection LOS	C					

Intersection Level Of Service Report

Intersection 6: Project Access 2 (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Two-way stop	Delay (sec / veh):	27.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Project Access 2		Orangethorpe Avenue		Orangethorpe Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Access 2		Orangethorpe Avenue		Orangethorpe Avenue	
Base Volume Input [veh/h]	2	1	1	1104	1013	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	4.88	4.88	4.17	4.17
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]	2	1	1	1104	1013	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	291	267	1
Total Analysis Volume [veh/h]	2	1	1	1162	1066	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	27.08	13.83	15.18	0.00	0.00	0.00
Movement LOS	D	B	C	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.10	1.10	0.21	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	22.66		0.01		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.04					
Intersection LOS	D					

Intersection Level Of Service Report

Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.656

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	250	0	793	0	0	0	192	851	0	0	1098	513
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.45	2.00	5.45	2.00	2.00	2.00	6.41	6.41	2.00	2.00	3.94	3.94
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]	250	0	793	0	0	0	192	851	0	0	1098	513
Peak Hour 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
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]	63	0	198	0	0	0	48	213	0	0	275	128
Total Analysis Volume [veh/h]	250	0	793	0	0	0	192	851	0	0	1098	513
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.00	0.23	0.00	0.00	0.00	0.06	0.17	0.00	0.00	0.32	0.32
Intersection LOS	B											
Intersection V/C	0.656											

Intersection Level Of Service Report

Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.532

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	4	8	10	240	3	174	257	820	4	5	890	460
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	16.01	16.01	16.01	3.29	3.29	3.29	4.37	4.37	4.37
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]	4	8	10	240	3	174	257	820	4	5	890	460
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	3	60	1	44	64	205	1	1	223	115
Total Analysis Volume [veh/h]	4	8	10	240	3	174	257	820	4	5	890	460
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100												
Lost time [s]	5.00												

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.07	0.12	0.12	0.08	0.16	0.16	0.00	0.17	0.27
Intersection LOS	A											
Intersection V/C	0.532											

Intersection Level Of Service Report

Intersection 3: S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

Intersection Setup

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	11.00	11.00	12.00	11.00	14.00	11.00	11.00	14.00	11.00	11.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	210.00	100.00	225.00	205.00	100.00	100.00	250.00	100.00	100.00	200.00	100.00	275.00
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]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	60	300	164	225	407	290	179	714	69	150	657	205
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 [%]	2.62	2.62	2.62	2.17	2.17	2.17	5.29	5.29	5.29	4.17	4.17	4.17
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]	60	300	164	225	407	290	179	714	69	150	657	205
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	75	41	56	102	73	45	179	17	38	164	51
Total Analysis Volume [veh/h]	60	300	164	225	407	290	179	714	69	150	657	205
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.09	0.10	0.07	0.21	0.21	0.11	0.00	0.00	0.09	0.00	0.12
Intersection LOS	A											
Intersection V/C	0.516											

Intersection Level Of Service Report

Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.709

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	193	649	162	137	980	132	146	648	336	228	713	108
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.76	3.76	3.76	2.87	2.87	2.87	4.17	4.17	4.17	3.76	3.76	3.76
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]	193	649	162	137	980	132	146	648	336	228	713	108
Peak Hour 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
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	162	41	34	245	33	37	162	84	57	178	27
Total Analysis Volume [veh/h]	193	649	162	137	980	132	146	648	336	228	713	108
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.19	0.10	0.08	0.22	0.22	0.09	0.19	0.19	0.13	0.16	0.16
Intersection LOS	C											
Intersection V/C	0.709											



Appendix I

Intersection Analysis Worksheets –
Buildout Year (2045) Without Project Conditions

Intersection Level Of Service Report**Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	31.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.747

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	212	0	784	0	0	0	182	984	0	0	1028	322
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 [%]	6.31	2.00	6.31	2.00	2.00	2.00	13.23	13.23	2.00	2.00	7.70	7.70
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	212	0	784	0	0	0	182	984	0	0	1028	322
Peak Hour Factor	0.9140	1.0000	0.9140	1.0000	1.0000	1.0000	0.9140	0.9140	1.0000	1.0000	0.9140	0.9140
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]	58	0	214	0	0	0	50	269	0	0	281	88
Total Analysis Volume [veh/h]	232	0	858	0	0	0	199	1077	0	0	1125	352
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	117.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	4	0	4	0	0	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Maximum Green [s]	60	0	60	0	0	0	30	60	0	0	60	60
Amber [s]	3.9	0.0	3.9	0.0	0.0	0.0	3.6	4.3	0.0	0.0	4.3	4.3
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	5	0	5	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	27	0	27	0	0	0	0	8	0	0	8	8
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	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.9	0.0	2.9	0.0	0.0	0.0	2.6	3.3	0.0	0.0	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	55	0	55	0	0	0	25	75	0	0	50	50
Lead / Lag	Lag	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	15	0	0	15	15
Vehicle Extension [s]	5.0	0.0	5.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No						No	Yes			Yes	
Maximum Recall	No						No	No			No	
Pedestrian Recall	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	R		L	C	C	C
C, Calculated Cycle Length [s]	130	130		130	130	130	130
L, Total Lost Time per Cycle [s]	4.90	4.90		4.60	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90		2.60	3.30	3.30	3.30
g_i, Effective Green Time [s]	46	46		10	74	58	58
g / C, Green / Cycle	0.36	0.36		0.08	0.57	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.13	0.32		0.06	0.23	0.29	0.30
s, saturation flow rate [veh/h]	1719	2716		3147	4635	3398	1648
c, Capacity [veh/h]	612	966		255	2622	1527	740
d1, Uniform Delay [s]	31.18	39.43		58.60	15.97	27.76	28.11
k, delay calibration	0.23	0.23		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.83	6.09		5.15	0.48	2.11	4.68
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.89		0.78	0.41	0.65	0.66
d, Delay for Lane Group [s/veh]	32.01	45.51		63.75	16.45	29.87	32.79
Lane Group LOS	C	D		E	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.48	13.31		3.33	5.78	11.91	12.57
50th-Percentile Queue Length [ft/ln]	137.12	332.82		83.25	144.55	297.72	314.23
95th-Percentile Queue Length [veh/ln]	9.33	19.30		5.99	9.73	17.57	18.38
95th-Percentile Queue Length [ft/ln]	233.14	482.41		149.86	243.14	439.20	459.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.01	0.00	45.51	0.00	0.00	0.00	63.75	16.45	0.00	0.00	30.24	32.79
Movement LOS	C		D				E	B			C	C
d_A, Approach Delay [s/veh]	42.64			0.00			23.82			30.84		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	31.86											
Intersection LOS	C											
Intersection V/C	0.747											

Emissions

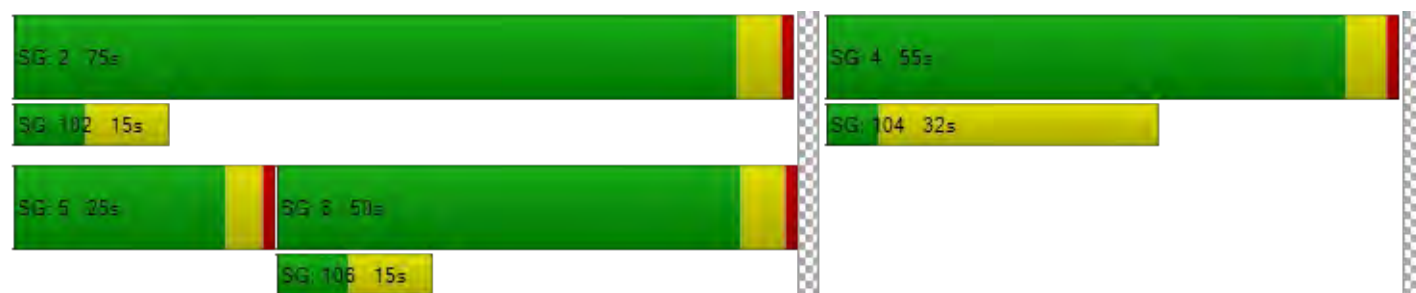
Vehicle Miles Traveled [mph]	10.54	38.99		4.22	22.85	27.81	13.91
Stops [stops/h]	151.89	737.32		184.44	480.35	659.56	348.06
Fuel consumption [US gal/h]	3.38	16.59		5.02	10.36	13.46	7.20
CO [g/h]	236.32	1159.35		350.84	724.20	940.90	503.45
NOx [g/h]	45.98	225.57		68.26	140.90	183.07	97.95
VOC [g/h]	54.77	268.69		81.31	167.84	218.06	116.68

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.47	54.47	0.00	56.31
I_p,int, Pedestrian LOS Score for Intersectio	2.430	2.001	0.000	3.211
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	0	1072	688
d_b, Bicycle Delay [s]	24.55	65.00	13.98	27.98
I_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.261	2.372
Bicycle LOS	A	D	B	B

Sequence

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



Intersection Level Of Service Report

Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.730

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	3	8	24	249	0	110	140	964	1	9	823	639
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 [%]	6.06	6.06	6.06	18.38	18.38	18.38	11.62	11.62	11.62	5.54	5.54	5.54
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	8	24	249	0	110	140	964	1	9	823	639
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	6	67	0	30	38	259	0	2	221	172
Total Analysis Volume [veh/h]	3	9	26	268	0	118	151	1038	1	10	886	688
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	83.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	7	7	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	30	30	30	40	40	40	30	60	60	20	60	60
Amber [s]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.3	4.3
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	0	0	5	5	5	0	7	7	0	6	6
Pedestrian Clearance [s]	0	0	0	20	20	20	0	10	10	0	11	11
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.3	3.3	2.5	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	17	17	17	43	43	43	20	30	30	20	30	30
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	15	15	5	15	15
Vehicle Extension [s]	3.0	3.0	3.0	2.5	2.5	2.5	2.5	5.0	5.0	2.5	5.0	5.0
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	L	C	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.30	5.30	4.50	5.30	5.30
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
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	3.30	3.30	2.50	3.30	3.30
g_i, Effective Green Time [s]	3	16	16	7	70	70	1	64	64
g / C, Green / Cycle	0.03	0.15	0.15	0.07	0.64	0.64	0.01	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.02	0.12	0.12	0.05	0.21	0.21	0.01	0.18	0.43
s, saturation flow rate [veh/h]	1608	1609	1495	3192	3286	1725	1730	4949	1606
c, Capacity [veh/h]	51	235	218	209	2100	1102	22	2900	941
d1, Uniform Delay [s]	52.83	45.80	45.82	50.40	9.04	9.04	53.95	11.49	16.50
k, delay calibration	0.11	0.08	0.08	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
d2, Incremental Delay [s]	19.50	6.40	6.96	3.46	0.41	0.78	11.04	0.27	4.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.85	0.85	0.72	0.32	0.32	0.46	0.31	0.73
d, Delay for Lane Group [s/veh]	72.34	52.20	52.78	53.86	9.45	9.82	64.99	11.76	21.49
Lane Group LOS	E	D	D	D	A	A	E	B	C
Critical Lane Group	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.32	5.61	5.26	2.08	3.32	3.60	0.34	3.42	12.50
50th-Percentile Queue Length [ft/ln]	33.08	140.27	131.57	52.03	83.00	89.99	8.41	85.49	312.54
95th-Percentile Queue Length [veh/ln]	2.38	9.50	9.02	3.75	5.98	6.48	0.61	6.16	18.30
95th-Percentile Queue Length [ft/ln]	59.55	237.38	225.62	93.65	149.41	161.98	15.13	153.88	457.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.34	72.34	72.34	52.36	52.78	52.78	53.86	9.58	9.82	64.99	11.76	21.49
Movement LOS	E	E	E	D	D	D	D	A	A	E	B	C
d_A, Approach Delay [s/veh]	72.34			52.48			15.20			16.32		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	20.93											
Intersection LOS	C											
Intersection V/C	0.730											

Emissions

Vehicle Miles Traveled [mph]	0.75	8.11	7.56	7.47	33.71	17.70	0.51	45.14	35.05
Stops [stops/h]	43.31	183.62	172.23	136.21	217.32	117.80	11.00	335.75	409.15
Fuel consumption [US gal/h]	0.76	4.22	3.96	3.60	5.17	2.79	0.26	7.04	8.28
CO [g/h]	53.07	294.76	276.97	251.97	361.24	194.76	18.07	491.78	579.04
NOx [g/h]	10.33	57.35	53.89	49.02	70.28	37.89	3.52	95.68	112.66
VOC [g/h]	12.30	68.31	64.19	58.40	83.72	45.14	4.19	113.98	134.20

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	10.0	9.0	0.0
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]	44.55	45.45	46.37	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.744	2.542	3.138	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	227	700	449	449
d_b, Bicycle Delay [s]	43.21	23.24	33.07	33.07
I_b,int, Bicycle LOS Score for Intersection	1.622	2.197	2.214	2.431
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	32.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.775

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	239	1031	103	223	1074	147	308	654	195	196	431	92
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.90	3.90	3.90	4.11	4.11	4.11	8.05	8.05	8.05	6.47	6.47	6.47
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	239	1031	103	223	1074	147	308	654	195	196	431	92
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]	62	268	27	58	280	38	80	170	51	51	112	24
Total Analysis Volume [veh/h]	249	1074	107	232	1119	153	321	681	203	204	449	96
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
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]	16.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Maximum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	26	26	0	21	21
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 1

Split [s]	17	40	40	12	35	35	28	51	51	12	35	35
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	65	53	53	65	49	49	42	30	30	42	18	18
g / C, Green / Cycle	0.56	0.46	0.46	0.56	0.43	0.43	0.37	0.27	0.27	0.37	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.36	0.31	0.07	0.35	0.24	0.24	0.27	0.18	0.18	0.23	0.11	0.11
s, saturation flow rate [veh/h]	693	3506	1565	655	3500	1727	1175	3388	1578	872	3252	1560
c, Capacity [veh/h]	387	1559	696	331	1449	715	458	939	437	332	545	262
d1, Uniform Delay [s]	19.05	25.57	19.04	21.09	26.10	26.10	28.79	36.55	36.57	26.85	44.89	45.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.31	0.11	0.11
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]	7.99	2.51	0.47	11.78	1.75	3.52	8.68	0.74	1.59	5.13	1.44	3.16
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	0.64	0.69	0.15	0.70	0.59	0.59	0.70	0.64	0.64	0.61	0.67	0.68
d, Delay for Lane Group [s/veh]	27.04	28.08	19.51	32.86	27.85	29.62	37.48	37.28	38.16	31.98	46.33	48.17
Lane Group LOS	C	C	B	C	C	C	D	D	D	C	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.92	11.22	1.67	3.90	8.65	8.88	8.10	7.64	7.25	4.48	5.08	5.12
50th-Percentile Queue Length [ft/ln]	98.07	280.54	41.87	97.57	216.13	222.12	202.53	190.98	181.30	111.91	127.12	127.94
95th-Percentile Queue Length [veh/ln]	7.06	16.72	3.01	7.03	13.47	13.77	12.77	12.17	11.67	7.95	8.78	8.83
95th-Percentile Queue Length [ft/ln]	176.52	417.88	75.37	175.63	336.68	344.32	319.22	304.30	291.71	198.66	219.57	220.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.04	28.08	19.51	32.86	28.27	29.62	37.48	37.39	38.16	31.98	46.67	48.17
Movement LOS	C	C	B	C	C	C	D	D	D	C	D	D
d_A, Approach Delay [s/veh]	27.26			29.12			37.54			42.86		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	32.76											
Intersection LOS	C											
Intersection V/C	0.775											

Emissions

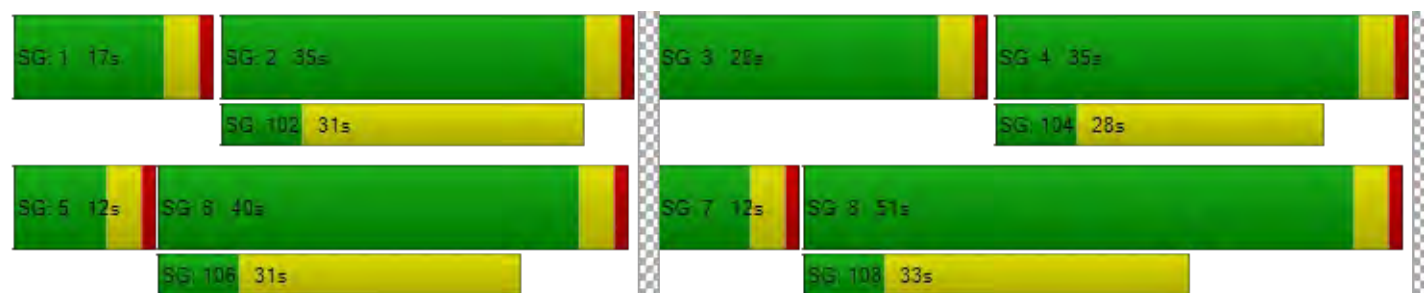
Vehicle Miles Traveled [mph]	14.18	61.17	6.09	10.45	38.36	18.93	31.58	59.27	27.71	11.86	21.27	10.42
Stops [stops/h]	122.80	702.57	52.43	122.17	541.26	278.13	253.60	478.28	227.02	140.14	318.35	160.20
Fuel consumption [US gal/h]	3.38	16.97	1.29	3.43	12.87	6.64	5.15	9.65	4.58	2.59	6.08	3.07
CO [g/h]	236.48	1186.14	89.86	239.66	899.70	464.17	359.93	674.69	320.29	181.05	425.19	214.62
NOx [g/h]	46.01	230.78	17.48	46.63	175.05	90.31	70.03	131.27	62.32	35.23	82.73	41.76
VOC [g/h]	54.81	274.90	20.83	55.54	208.51	107.57	83.42	156.37	74.23	41.96	98.54	49.74

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	47.03			47.03			47.03			47.03		
I_p,int, Pedestrian LOS Score for Intersectio	3.305			3.310			3.049			3.008		
Crosswalk LOS	C			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]	626			539			817			539		
d_b, Bicycle Delay [s]	27.13			30.68			20.10			30.68		
I_b,int, Bicycle LOS Score for Intersection	2.739			2.387			2.222			1.972		
Bicycle LOS	B			B			B			A		

Sequence

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



Intersection Level Of Service Report

Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.599

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	212	0	784	0	0	0	182	984	0	0	1028	322
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 [%]	6.31	2.00	6.31	2.00	2.00	2.00	13.23	13.23	2.00	2.00	7.70	7.70
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]	212	0	784	0	0	0	182	984	0	0	1028	322
Peak Hour 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
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]	53	0	196	0	0	0	46	246	0	0	257	81
Total Analysis Volume [veh/h]	212	0	784	0	0	0	182	984	0	0	1028	322
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.00	0.23	0.00	0.00	0.00	0.05	0.19	0.00	0.00	0.26	0.26
Intersection LOS	A											
Intersection V/C	0.599											

Intersection Level Of Service Report

Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.593

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	3	8	24	249	0	110	140	964	1	9	823	639
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 [%]	6.06	6.06	6.06	18.38	18.38	18.38	11.62	11.62	11.62	5.54	5.54	5.54
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]	3	8	24	249	0	110	140	964	1	9	823	639
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	6	62	0	28	35	241	0	2	206	160
Total Analysis Volume [veh/h]	3	8	24	249	0	110	140	964	1	9	823	639
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.07	0.00	0.11	0.04	0.19	0.19	0.01	0.16	0.38
Intersection LOS	A											
Intersection V/C	0.593											

Intersection Level Of Service Report

Intersection 3: S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.429

Intersection Setup

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	11.00	11.00	12.00	11.00	14.00	11.00	11.00	14.00	11.00	11.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	210.00	100.00	225.00	205.00	100.00	100.00	250.00	100.00	100.00	200.00	100.00	275.00
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]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	43	367	199	177	310	209	158	714	33	117	572	184
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 [%]	4.27	4.27	4.27	4.96	4.96	4.96	11.96	11.96	11.96	6.54	6.54	6.54
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]	43	367	199	177	310	209	158	714	33	117	572	184
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	92	50	44	78	52	40	179	8	29	143	46
Total Analysis Volume [veh/h]	43	367	199	177	310	209	158	714	33	117	572	184
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.11	0.12	0.05	0.15	0.15	0.09	0.00	0.00	0.07	0.00	0.11
Intersection LOS	A											
Intersection V/C	0.429											

Intersection Level Of Service Report

Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.768

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	239	1031	103	223	1074	147	308	654	195	196	431	92
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.90	3.90	3.90	4.11	4.11	4.11	8.05	8.05	8.05	6.47	6.47	6.47
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]	239	1031	103	223	1074	147	308	654	195	196	431	92
Peak Hour 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
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]	60	258	26	56	269	37	77	164	49	49	108	23
Total Analysis Volume [veh/h]	239	1031	103	223	1074	147	308	654	195	196	431	92
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.30	0.06	0.13	0.24	0.24	0.18	0.17	0.17	0.12	0.10	0.10
Intersection LOS	C											
Intersection V/C	0.768											

Intersection Level Of Service Report**Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	34.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.817

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	287	0	833	0	0	0	194	864	0	0	1273	539
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.45	2.00	5.45	2.00	2.00	2.00	6.41	6.41	2.00	2.00	3.94	3.94
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	287	0	833	0	0	0	194	864	0	0	1273	539
Peak Hour Factor	0.9820	1.0000	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820
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]	73	0	212	0	0	0	49	220	0	0	324	137
Total Analysis Volume [veh/h]	292	0	848	0	0	0	198	880	0	0	1296	549
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	3.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	4	0	4	0	0	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Maximum Green [s]	60	0	60	0	0	0	30	60	0	0	60	60
Amber [s]	3.9	0.0	3.9	0.0	0.0	0.0	3.6	4.3	0.0	0.0	4.3	4.3
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	5	0	5	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	27	0	27	0	0	0	0	8	0	0	8	8
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	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.9	0.0	2.9	0.0	0.0	0.0	2.6	3.3	0.0	0.0	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	55	0	55	0	0	0	25	75	0	0	50	50
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	15	0	0	15	15
Vehicle Extension [s]	5.0	0.0	5.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No						No	Yes			Yes	
Maximum Recall	No						No	No			No	
Pedestrian Recall	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	R		L	C	C	C
C, Calculated Cycle Length [s]	130	130		130	130	130	130
L, Total Lost Time per Cycle [s]	4.90	4.90		4.60	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90		2.60	3.30	3.30	3.30
g_i, Effective Green Time [s]	46	46		10	74	59	59
g / C, Green / Cycle	0.35	0.35		0.08	0.57	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.17	0.31		0.06	0.18	0.35	0.37
s, saturation flow rate [veh/h]	1732	2735		3336	4914	3505	1654
c, Capacity [veh/h]	611	966		258	2793	1597	754
d1, Uniform Delay [s]	32.71	39.42		58.83	14.75	29.67	30.65
k, delay calibration	0.23	0.23		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.24	5.62		4.77	0.30	3.65	9.50
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.88		0.77	0.32	0.77	0.82
d, Delay for Lane Group [s/veh]	33.95	45.04		63.60	15.05	33.31	40.15
Lane Group LOS	C	D		E	B	C	D
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.24	13.06		3.30	4.37	16.25	17.95
50th-Percentile Queue Length [ft/ln]	181.07	326.45		82.60	109.28	406.29	448.64
95th-Percentile Queue Length [veh/ln]	11.66	18.98		5.95	7.80	22.86	24.89
95th-Percentile Queue Length [ft/ln]	291.42	474.61		148.68	195.00	571.58	622.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.95	0.00	45.04	0.00	0.00	0.00	63.60	15.05	0.00	0.00	33.66	40.15
Movement LOS	C		D				E	B			C	D
d_A, Approach Delay [s/veh]	42.20			0.00			23.96			35.59		
Approach LOS	D			A			C			D		
d_I, Intersection Delay [s/veh]	34.36											
Intersection LOS	C											
Intersection V/C	0.817											

Emissions

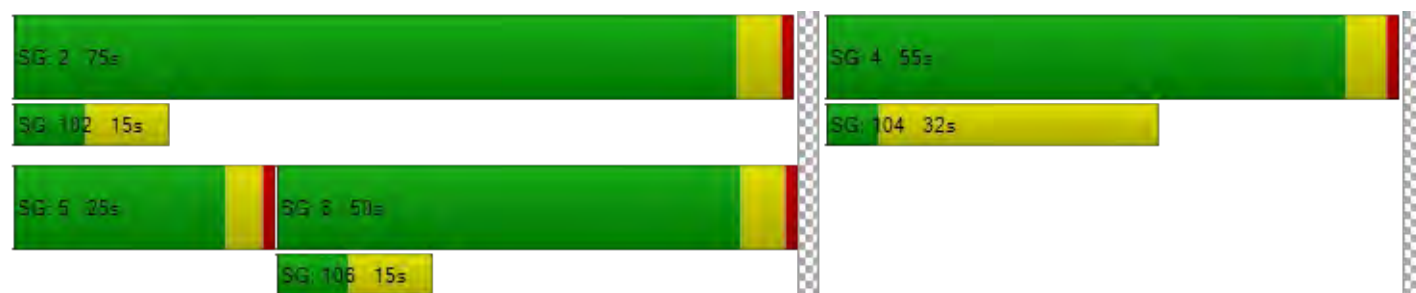
Vehicle Miles Traveled [mph]	13.27	38.53		4.20	18.67	34.74	17.37
Stops [stops/h]	200.57	723.21		183.00	363.14	900.10	496.96
Fuel consumption [US gal/h]	4.46	16.26		4.98	7.85	18.42	10.53
CO [g/h]	311.96	1136.29		348.21	548.69	1287.87	735.97
NOx [g/h]	60.70	221.08		67.75	106.75	250.57	143.19
VOC [g/h]	72.30	263.35		80.70	127.16	298.48	170.57

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.47	54.47	0.00	56.31
I_p,int, Pedestrian LOS Score for Intersectio	2.452	2.097	0.000	3.246
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	0	1072	688
d_b, Bicycle Delay [s]	24.55	65.00	13.98	27.98
I_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.153	2.574
Bicycle LOS	A	D	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	22.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	4	8	11	252	3	172	263	896	4	5	1174	483
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	16.01	16.01	16.01	3.29	3.29	3.29	4.37	4.37	4.37
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	8	11	252	3	172	263	896	4	5	1174	483
Peak Hour Factor	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	3	66	1	45	69	236	1	1	309	127
Total Analysis Volume [veh/h]	4	8	12	265	3	181	277	942	4	5	1234	508
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	68.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	7	7	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	30	30	30	40	40	40	30	60	60	20	60	60
Amber [s]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.3	4.3
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	0	0	5	5	5	0	7	7	0	6	6
Pedestrian Clearance [s]	0	0	0	20	20	20	0	10	10	0	11	11
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.3	3.3	2.5	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	17	17	17	35	35	35	27	38	38	20	31	31
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	15	15	5	15	15
Vehicle Extension [s]	3.0	3.0	3.0	2.5	2.5	2.5	2.5	5.0	5.0	2.5	5.0	5.0
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	L	C	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.30	5.30	4.50	5.30	5.30
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
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	3.30	3.30	2.50	3.30	3.30
g_i, Effective Green Time [s]	3	18	18	11	70	70	1	59	59
g / C, Green / Cycle	0.02	0.16	0.16	0.10	0.63	0.63	0.01	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.01	0.14	0.14	0.08	0.18	0.18	0.00	0.25	0.31
s, saturation flow rate [veh/h]	1733	1644	1493	3423	3524	1847	1747	4997	1622
c, Capacity [veh/h]	42	271	246	347	2231	1169	12	2692	874
d1, Uniform Delay [s]	53.13	44.75	44.76	48.32	8.98	8.98	54.39	15.54	17.04
k, delay calibration	0.11	0.08	0.08	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
d2, Incremental Delay [s]	12.05	6.30	6.90	3.17	0.31	0.59	15.62	0.56	2.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.87	0.87	0.80	0.28	0.28	0.41	0.46	0.58
d, Delay for Lane Group [s/veh]	65.18	51.05	51.65	51.49	9.29	9.58	70.01	16.11	19.87
Lane Group LOS	E	D	D	D	A	A	E	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.80	6.56	6.00	3.75	2.97	3.20	0.19	6.01	8.63
50th-Percentile Queue Length [ft/ln]	20.01	164.09	150.10	93.84	74.25	80.12	4.71	150.28	215.87
95th-Percentile Queue Length [veh/ln]	1.44	10.77	10.02	6.76	5.35	5.77	0.34	10.03	13.45
95th-Percentile Queue Length [ft/ln]	36.01	269.13	250.57	168.91	133.65	144.22	8.47	250.81	336.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	65.18	65.18	65.18	51.13	51.65	51.65	51.49	9.39	9.58	70.01	16.11	19.87
Movement LOS	E	E	E	D	D	D	D	A	A	E	B	B
d_A, Approach Delay [s/veh]	65.18			51.34			18.93			17.35		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	22.68											
Intersection LOS	C											
Intersection V/C	0.645											

Emissions

Vehicle Miles Traveled [mph]	0.47	9.55	8.68	13.71	30.71	16.10	0.25	62.87	25.88
Stops [stops/h]	26.19	214.81	196.50	245.69	194.41	104.88	6.16	590.21	282.60
Fuel consumption [US gal/h]	0.44	4.90	4.49	6.43	4.64	2.49	0.14	12.10	5.76
CO [g/h]	30.76	342.24	313.68	449.23	324.62	174.04	9.85	845.44	402.41
NOx [g/h]	5.99	66.59	61.03	87.40	63.16	33.86	1.92	164.49	78.29
VOC [g/h]	7.13	79.32	72.70	104.11	75.23	40.34	2.28	195.94	93.26

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	10.0	9.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	45.45	46.37	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.739	2.545	3.220	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	227	555	595	467
d_b, Bicycle Delay [s]	43.21	28.73	27.16	32.30
I_b,int, Bicycle LOS Score for Intersection	1.599	2.300	2.232	2.520
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	35.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.806

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	214	893	153	177	1187	240	218	670	353	232	886	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.76	3.76	3.76	2.87	2.87	2.87	4.17	4.17	4.17	3.76	3.76	3.76
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	214	893	153	177	1187	240	218	670	353	232	886	149
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
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]	56	233	40	46	309	63	57	175	92	60	231	39
Total Analysis Volume [veh/h]	223	931	160	185	1238	250	227	699	368	242	924	155
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
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]	16.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Maximum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	26	26	0	21	21
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 1

Split [s]	15	40	40	14	39	39	20	49	49	12	41	41
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	54	41	41	54	39	39	53	41	41	53	36	36
g / C, Green / Cycle	0.47	0.35	0.35	0.47	0.34	0.34	0.46	0.36	0.36	0.46	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.35	0.27	0.10	0.25	0.28	0.28	0.28	0.20	0.24	0.31	0.21	0.21
s, saturation flow rate [veh/h]	639	3510	1567	743	3536	1702	822	3498	1562	788	3510	1711
c, Capacity [veh/h]	318	1379	616	340	1347	648	358	1102	492	328	970	473
d1, Uniform Delay [s]	23.85	28.85	23.61	21.34	30.77	30.79	25.22	33.72	35.30	27.45	37.94	37.95
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.17	0.37	0.11	0.16
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]	12.13	2.67	1.02	6.14	3.78	7.66	8.31	0.61	3.54	10.45	1.17	3.43
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	0.70	0.68	0.26	0.54	0.75	0.75	0.63	0.63	0.75	0.74	0.75	0.75
d, Delay for Lane Group [s/veh]	35.98	31.52	24.63	27.48	34.55	38.45	33.53	34.33	38.84	37.90	39.12	41.38
Lane Group LOS	D	C	C	C	C	D	C	C	D	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.51	11.32	3.21	3.36	12.96	13.21	4.63	7.82	9.00	4.99	8.86	8.94
50th-Percentile Queue Length [ft/ln]	112.84	282.91	80.36	83.97	324.10	330.21	115.67	195.47	224.99	124.80	221.43	223.47
95th-Percentile Queue Length [veh/ln]	8.00	16.83	5.79	6.05	18.87	19.17	8.15	12.40	13.92	8.66	13.74	13.84
95th-Percentile Queue Length [ft/ln]	199.95	420.84	144.65	151.14	471.72	479.22	203.86	310.12	347.98	216.40	343.45	346.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.98	31.52	24.63	27.48	35.29	38.45	33.53	34.33	38.84	37.90	39.60	41.38
Movement LOS	D	C	C	C	D	D	C	C	D	D	D	D
d_A, Approach Delay [s/veh]	31.44			34.90			35.47			39.50		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	35.30											
Intersection LOS	D											
Intersection V/C	0.806											

Emissions

Vehicle Miles Traveled [mph]	12.70	53.03	9.11	8.33	45.21	21.80	22.33	68.77	36.21	14.07	42.18	20.58
Stops [stops/h]	141.30	708.51	100.63	105.14	811.66	413.49	144.84	489.54	281.72	156.27	554.53	279.83
Fuel consumption [US gal/h]	3.82	16.60	2.37	2.63	18.70	9.68	3.27	10.42	5.96	3.31	10.57	5.37
CO [g/h]	267.35	1160.20	165.36	183.66	1307.15	676.38	228.47	728.24	416.26	231.31	739.02	375.48
NOx [g/h]	52.02	225.73	32.17	35.73	254.32	131.60	44.45	141.69	80.99	45.00	143.79	73.06
VOC [g/h]	61.96	268.89	38.32	42.56	302.94	156.76	52.95	168.78	96.47	53.61	171.28	87.02

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	47.03			47.03			47.03			47.03		
I_p,int, Pedestrian LOS Score for Intersectio	3.395			3.336			3.094			3.033		
Crosswalk LOS	C			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]	626			609			783			643		
d_b, Bicycle Delay [s]	27.13			27.83			21.30			26.45		
I_b,int, Bicycle LOS Score for Intersection	2.644			2.480			2.271			2.286		
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 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	287	0	833	0	0	0	194	864	0	0	1273	539
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.45	2.00	5.45	2.00	2.00	2.00	6.41	6.41	2.00	2.00	3.94	3.94
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]	287	0	833	0	0	0	194	864	0	0	1273	539
Peak Hour 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
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]	72	0	208	0	0	0	49	216	0	0	318	135
Total Analysis Volume [veh/h]	287	0	833	0	0	0	194	864	0	0	1273	539
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.00	0.25	0.00	0.00	0.00	0.06	0.17	0.00	0.00	0.36	0.36
Intersection LOS	C											
Intersection V/C	0.707											

Intersection Level Of Service Report**Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	4	8	11	252	3	172	263	896	4	5	1174	483
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	16.01	16.01	16.01	3.29	3.29	3.29	4.37	4.37	4.37
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]	4	8	11	252	3	172	263	896	4	5	1174	483
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	3	63	1	43	66	224	1	1	294	121
Total Analysis Volume [veh/h]	4	8	11	252	3	172	263	896	4	5	1174	483
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.07	0.13	0.13	0.08	0.18	0.18	0.00	0.23	0.28
Intersection LOS	A											
Intersection V/C	0.551											

Intersection Level Of Service Report

Intersection 3: S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.537

Intersection Setup

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	11.00	11.00	12.00	11.00	14.00	11.00	11.00	14.00	11.00	11.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	210.00	100.00	225.00	205.00	100.00	100.00	250.00	100.00	100.00	200.00	100.00	275.00
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]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	63	308	172	219	476	290	168	742	93	220	859	214
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 [%]	2.62	2.62	2.62	2.17	2.17	2.17	5.29	5.29	5.29	4.17	4.17	4.17
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]	63	308	172	219	476	290	168	742	93	220	859	214
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	77	43	55	119	73	42	186	23	55	215	54
Total Analysis Volume [veh/h]	63	308	172	219	476	290	168	742	93	220	859	214
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.09	0.10	0.06	0.23	0.23	0.10	0.00	0.00	0.13	0.00	0.13
Intersection LOS	A											
Intersection V/C	0.537											

Intersection Level Of Service Report

Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.793

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	214	893	153	177	1187	240	218	670	353	232	886	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.76	3.76	3.76	2.87	2.87	2.87	4.17	4.17	4.17	3.76	3.76	3.76
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]	214	893	153	177	1187	240	218	670	353	232	886	149
Peak Hour 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
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]	54	223	38	44	297	60	55	168	88	58	222	37
Total Analysis Volume [veh/h]	214	893	153	177	1187	240	218	670	353	232	886	149
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.26	0.09	0.10	0.28	0.28	0.13	0.20	0.20	0.14	0.20	0.20
Intersection LOS	C											
Intersection V/C	0.793											



Appendix J

Intersection Analysis Worksheets –
Buildout Year (2045) With Project Conditions

Intersection Level Of Service Report

Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	32.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.751

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	216	0	784	0	0	0	193	991	0	0	1030	322
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 [%]	6.31	2.00	6.31	2.00	2.00	2.00	13.23	13.23	2.00	2.00	7.70	7.70
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	216	0	784	0	0	0	193	991	0	0	1030	322
Peak Hour Factor	0.9140	1.0000	0.9140	1.0000	1.0000	1.0000	0.9140	0.9140	1.0000	1.0000	0.9140	0.9140
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]	59	0	214	0	0	0	53	271	0	0	282	88
Total Analysis Volume [veh/h]	236	0	858	0	0	0	211	1084	0	0	1127	352
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	117.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	4	0	4	0	0	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Maximum Green [s]	60	0	60	0	0	0	30	60	0	0	60	60
Amber [s]	3.9	0.0	3.9	0.0	0.0	0.0	3.6	4.3	0.0	0.0	4.3	4.3
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	5	0	5	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	27	0	27	0	0	0	0	8	0	0	8	8
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	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.9	0.0	2.9	0.0	0.0	0.0	2.6	3.3	0.0	0.0	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	55	0	55	0	0	0	25	75	0	0	50	50
Lead / Lag	Lag	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	15	0	0	15	15
Vehicle Extension [s]	5.0	0.0	5.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No						No	Yes			Yes	
Maximum Recall	No						No	No			No	
Pedestrian Recall	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	R		L	C	C	C
C, Calculated Cycle Length [s]	130	130		130	130	130	130
L, Total Lost Time per Cycle [s]	4.90	4.90		4.60	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90		2.60	3.30	3.30	3.30
g_i, Effective Green Time [s]	46	46		11	74	58	58
g / C, Green / Cycle	0.36	0.36		0.08	0.57	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.14	0.32		0.07	0.23	0.29	0.30
s, saturation flow rate [veh/h]	1719	2716		3147	4635	3398	1648
c, Capacity [veh/h]	612	967		267	2622	1513	734
d1, Uniform Delay [s]	31.26	39.42		58.35	16.01	28.17	28.53
k, delay calibration	0.23	0.23		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.85	6.07		5.19	0.48	2.19	4.86
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.89		0.79	0.41	0.65	0.67
d, Delay for Lane Group [s/veh]	32.11	45.49		63.54	16.49	30.36	33.38
Lane Group LOS	C	D		E	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.59	13.31		3.53	5.83	12.04	12.72
50th-Percentile Queue Length [ft/ln]	139.87	332.74		88.20	145.82	301.06	317.96
95th-Percentile Queue Length [veh/ln]	9.47	19.29		6.35	9.79	17.73	18.57
95th-Percentile Queue Length [ft/ln]	236.85	482.31		158.76	244.84	443.33	464.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.11	0.00	45.49	0.00	0.00	0.00	63.54	16.49	0.00	0.00	30.74	33.38
Movement LOS	C		D				E	B			C	C
d_A, Approach Delay [s/veh]	42.61			0.00			24.16			31.37		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	32.13											
Intersection LOS	C											
Intersection V/C	0.751											

Emissions

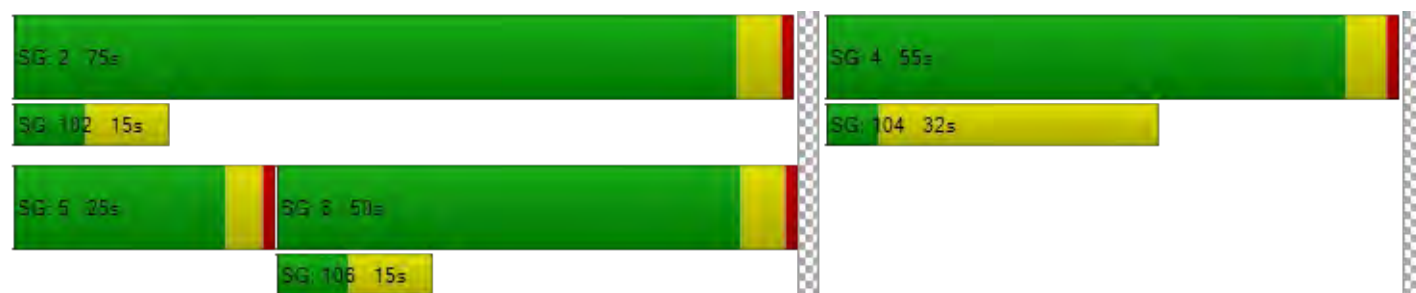
Vehicle Miles Traveled [mph]	10.72	38.99		4.48	23.00	27.85	13.93
Stops [stops/h]	154.93	737.14		195.40	484.57	666.96	352.21
Fuel consumption [US gal/h]	3.45	16.58		5.31	10.45	13.64	7.31
CO [g/h]	241.02	1158.97		371.24	730.52	953.53	510.80
NOx [g/h]	46.89	225.49		72.23	142.13	185.52	99.38
VOC [g/h]	55.86	268.60		86.04	169.30	220.99	118.38

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.47	54.47	0.00	56.31
I_p,int, Pedestrian LOS Score for Intersectio	2.432	2.007	0.000	3.213
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	0	1072	688
d_b, Bicycle Delay [s]	24.55	65.00	13.98	27.98
I_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.272	2.373
Bicycle LOS	A	D	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.736

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	3	8	24	249	0	114	151	983	1	9	829	639
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 [%]	6.06	6.06	6.06	18.38	18.38	18.38	11.62	11.62	11.62	5.54	5.54	5.54
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	8	24	249	0	114	151	983	1	9	829	639
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	6	67	0	31	41	265	0	2	223	172
Total Analysis Volume [veh/h]	3	9	26	268	0	123	163	1058	1	10	892	688
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	83.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	7	7	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	30	30	30	40	40	40	30	60	60	20	60	60
Amber [s]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.3	4.3
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	0	0	5	5	5	0	7	7	0	6	6
Pedestrian Clearance [s]	0	0	0	20	20	20	0	10	10	0	11	11
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.3	3.3	2.5	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	17	17	17	43	43	43	20	30	30	20	30	30
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	15	15	5	15	15
Vehicle Extension [s]	3.0	3.0	3.0	2.5	2.5	2.5	2.5	5.0	5.0	2.5	5.0	5.0
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	L	C	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.30	5.30	4.50	5.30	5.30
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
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	3.30	3.30	2.50	3.30	3.30
g_i, Effective Green Time [s]	3	16	16	8	70	70	1	64	64
g / C, Green / Cycle	0.03	0.15	0.15	0.07	0.64	0.64	0.01	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.02	0.13	0.13	0.05	0.21	0.21	0.01	0.18	0.43
s, saturation flow rate [veh/h]	1608	1609	1491	3192	3286	1725	1730	4949	1606
c, Capacity [veh/h]	51	238	220	222	2094	1099	22	2872	932
d1, Uniform Delay [s]	52.83	45.71	45.72	50.17	9.17	9.17	53.95	11.82	16.96
k, delay calibration	0.11	0.08	0.08	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
d2, Incremental Delay [s]	19.50	6.40	6.97	3.48	0.43	0.81	11.04	0.28	5.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.85	0.85	0.73	0.33	0.33	0.46	0.31	0.74
d, Delay for Lane Group [s/veh]	72.34	52.11	52.69	53.66	9.60	9.98	64.99	12.11	22.17
Lane Group LOS	E	D	D	D	A	A	E	B	C
Critical Lane Group	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.32	5.69	5.32	2.24	3.43	3.71	0.34	3.51	12.76
50th-Percentile Queue Length [ft/ln]	33.08	142.18	133.05	56.08	85.65	92.86	8.41	87.81	318.93
95th-Percentile Queue Length [veh/ln]	2.38	9.60	9.11	4.04	6.17	6.69	0.61	6.32	18.62
95th-Percentile Queue Length [ft/ln]	59.55	239.95	227.64	100.94	154.17	167.15	15.13	158.06	465.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.34	72.34	72.34	52.26	52.69	52.69	53.66	9.73	9.98	64.99	12.11	22.17
Movement LOS	E	E	E	D	D	D	D	A	A	E	B	C
d_A, Approach Delay [s/veh]	72.34			52.39			15.59			16.79		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	21.29											
Intersection LOS	C											
Intersection V/C	0.736											

Emissions

Vehicle Miles Traveled [mph]	0.75	8.23	7.65	8.07	34.36	18.04	0.51	45.44	35.05
Stops [stops/h]	43.31	186.12	174.18	146.83	224.25	121.56	11.00	344.86	417.51
Fuel consumption [US gal/h]	0.76	4.27	4.00	3.88	5.32	2.87	0.26	7.21	8.46
CO [g/h]	53.07	298.59	279.92	271.33	372.06	200.65	18.07	504.20	591.46
NOx [g/h]	10.33	58.09	54.46	52.79	72.39	39.04	3.52	98.10	115.08
VOC [g/h]	12.30	69.20	64.87	62.88	86.23	46.50	4.19	116.85	137.08

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	10.0	9.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	45.45	46.37	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.744	2.548	3.146	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	227	700	449	449
d_b, Bicycle Delay [s]	43.21	23.24	33.07	33.07
I_b,int, Bicycle LOS Score for Intersection	1.622	2.205	2.232	2.434
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	33.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.775

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	239	1031	107	223	1074	147	308	658	195	207	442	92
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.90	3.90	3.90	4.11	4.11	4.11	8.05	8.05	8.05	6.47	6.47	6.47
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	239	1031	107	223	1074	147	308	658	195	207	442	92
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]	62	268	28	58	280	38	80	171	51	54	115	24
Total Analysis Volume [veh/h]	249	1074	111	232	1119	153	321	685	203	216	460	96
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
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]	16.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Maximum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	26	26	0	21	21
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 1

Split [s]	17	40	40	12	35	35	28	51	51	12	35	35
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	63	51	51	63	47	47	44	32	32	44	20	20
g / C, Green / Cycle	0.55	0.44	0.44	0.55	0.41	0.41	0.38	0.28	0.28	0.38	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.35	0.31	0.07	0.35	0.24	0.24	0.28	0.18	0.18	0.26	0.11	0.12
s, saturation flow rate [veh/h]	717	3506	1565	670	3500	1727	1130	3388	1579	845	3252	1563
c, Capacity [veh/h]	376	1405	627	319	1294	639	476	1088	507	346	690	332
d1, Uniform Delay [s]	21.00	29.77	22.23	22.73	30.19	30.19	25.39	32.27	32.29	24.23	40.31	40.42
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.34	0.11	0.11
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]	8.90	4.01	0.62	13.56	2.63	5.25	7.43	0.45	0.96	5.69	0.66	1.43
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	0.66	0.76	0.18	0.73	0.66	0.66	0.67	0.56	0.56	0.62	0.54	0.55
d, Delay for Lane Group [s/veh]	29.90	33.78	22.84	36.29	32.83	35.45	32.82	32.72	33.26	29.93	40.98	41.85
Lane Group LOS	C	C	C	D	C	D	C	C	C	C	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.13	11.83	1.81	4.15	9.10	9.45	7.79	7.47	7.07	4.70	5.01	4.99
50th-Percentile Queue Length [ft/ln]	103.31	295.76	45.31	103.80	227.61	236.28	194.65	186.86	176.74	117.55	125.32	124.83
95th-Percentile Queue Length [veh/ln]	7.44	17.47	3.26	7.47	14.05	14.49	12.36	11.96	11.43	8.26	8.68	8.66
95th-Percentile Queue Length [ft/ln]	185.97	436.78	81.56	186.84	351.32	362.32	309.06	298.95	285.76	206.46	217.12	216.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.90	33.78	22.84	36.29	33.45	35.45	32.82	32.78	33.26	29.93	41.14	41.85
Movement LOS	C	C	C	D	C	D	C	C	C	C	D	D
d_A, Approach Delay [s/veh]	32.26			34.09			32.87			38.09		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	33.89											
Intersection LOS	C											
Intersection V/C	0.775											

Emissions

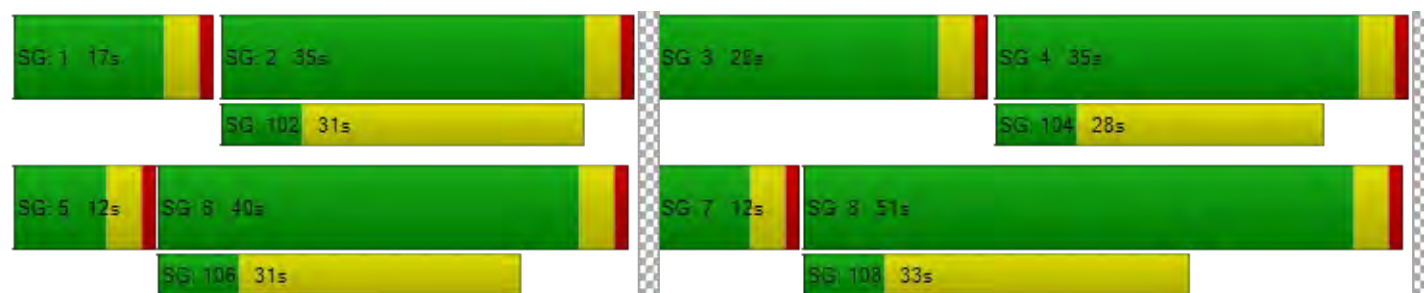
Vehicle Miles Traveled [mph]	14.18	61.17	6.32	10.45	38.36	18.93	31.58	59.53	27.84	12.56	21.70	10.63
Stops [stops/h]	129.37	740.69	56.74	129.98	570.02	295.86	243.74	467.96	221.31	147.20	313.85	156.31
Fuel consumption [US gal/h]	3.61	18.69	1.44	3.69	14.09	7.36	4.79	9.06	4.28	2.65	5.74	2.86
CO [g/h]	252.32	1306.29	100.53	257.75	984.99	514.41	334.88	633.57	299.46	184.94	401.16	199.77
NOx [g/h]	49.09	254.16	19.56	50.15	191.64	100.09	65.16	123.27	58.26	35.98	78.05	38.87
VOC [g/h]	58.48	302.75	23.30	59.74	228.28	119.22	77.61	146.84	69.40	42.86	92.97	46.30

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	47.03			47.03			47.03			47.03		
I_p,int, Pedestrian LOS Score for Intersectio	3.318			3.319			3.045			3.008		
Crosswalk LOS	C			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]	626			539			817			539		
d_b, Bicycle Delay [s]	27.13			30.68			20.10			30.68		
I_b,int, Bicycle LOS Score for Intersection	2.743			2.387			2.225			1.984		
Bicycle LOS	B			B			B			A		

Sequence

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



Intersection Level Of Service Report**Intersection 5: Placentia Avenue (N/S) and Project Access 1 (E/W)**

Control Type:	Two-way stop	Delay (sec / veh):	16.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.166

Intersection Setup

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

Volumes

Name	Placentia Avenue		Placentia Avenue		Project Access 1	
Base Volume Input [veh/h]	710	19	4	677	59	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.25	2.25	4.96	4.96	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	710	19	4	677	59	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	187	5	1	178	16	4
Total Analysis Volume [veh/h]	747	20	4	713	62	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.17	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	9.38	0.00	16.71	12.94
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.69	0.69
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.17	0.08	17.34	17.34
d_A, Approach Delay [s/veh]	0.00		0.05		15.98	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.81					
Intersection LOS	C					

Intersection Level Of Service Report**Intersection 6: Project Access 2 (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Two-way stop	Delay (sec / veh):	24.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Project Access 2		Orangethorpe Avenue		Orangethorpe Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Access 2		Orangethorpe Avenue		Orangethorpe Avenue	
Base Volume Input [veh/h]	1	0	1	1229	879	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	11.17	11.17	6.54	6.54
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]	1	0	1	1229	879	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	323	231	1
Total Analysis Volume [veh/h]	1	0	1	1294	925	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	24.73	12.83	14.08	0.00	0.00	0.00
Movement LOS	C	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.41	0.41	0.19	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	24.73		0.01		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	C					

Intersection Level Of Service Report

Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	216	0	784	0	0	0	193	991	0	0	1030	322
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 [%]	6.31	2.00	6.31	2.00	2.00	2.00	13.23	13.23	2.00	2.00	7.70	7.70
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]	216	0	784	0	0	0	193	991	0	0	1030	322
Peak Hour 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
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]	54	0	196	0	0	0	48	248	0	0	258	81
Total Analysis Volume [veh/h]	216	0	784	0	0	0	193	991	0	0	1030	322
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.23	0.00	0.00	0.00	0.06	0.19	0.00	0.00	0.27	0.27
Intersection LOS	B											
Intersection V/C	0.602											

Intersection Level Of Service Report

Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.598

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	3	8	24	249	0	114	151	983	1	9	829	639
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 [%]	6.06	6.06	6.06	18.38	18.38	18.38	11.62	11.62	11.62	5.54	5.54	5.54
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]	3	8	24	249	0	114	151	983	1	9	829	639
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	6	62	0	29	38	246	0	2	207	160
Total Analysis Volume [veh/h]	3	8	24	249	0	114	151	983	1	9	829	639
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.07	0.00	0.11	0.04	0.19	0.19	0.01	0.16	0.38
Intersection LOS	A											
Intersection V/C	0.598											

Intersection Level Of Service Report**Intersection 3: S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.446

Intersection Setup

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	11.00	11.00	12.00	11.00	14.00	11.00	11.00	14.00	11.00	11.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	210.00	100.00	225.00	205.00	100.00	100.00	250.00	100.00	100.00	200.00	100.00	275.00
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]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	43	370	199	205	317	231	165	714	33	117	572	192
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 [%]	4.27	4.27	4.27	4.96	4.96	4.96	11.96	11.96	11.96	6.54	6.54	6.54
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]	43	370	199	205	317	231	165	714	33	117	572	192
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	93	50	51	79	58	41	179	8	29	143	48
Total Analysis Volume [veh/h]	43	370	199	205	317	231	165	714	33	117	572	192
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.11	0.12	0.06	0.16	0.16	0.10	0.00	0.00	0.07	0.00	0.11
Intersection LOS	A											
Intersection V/C	0.446											

Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.773

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	239	1031	107	223	1074	147	308	658	195	207	442	92
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.90	3.90	3.90	4.11	4.11	4.11	8.05	8.05	8.05	6.47	6.47	6.47
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]	239	1031	107	223	1074	147	308	658	195	207	442	92
Peak Hour 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
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]	60	258	27	56	269	37	77	165	49	52	111	23
Total Analysis Volume [veh/h]	239	1031	107	223	1074	147	308	658	195	207	442	92
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.30	0.06	0.13	0.24	0.24	0.18	0.17	0.17	0.12	0.10	0.10
Intersection LOS	C											
Intersection V/C	0.773											

Intersection Level Of Service Report**Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	34.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.820

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	297	0	833	0	0	0	201	869	0	0	1280	539
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.45	2.00	5.45	2.00	2.00	2.00	6.41	6.41	2.00	2.00	3.94	3.94
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	297	0	833	0	0	0	201	869	0	0	1280	539
Peak Hour Factor	0.9820	1.0000	0.9820	1.0000	1.0000	1.0000	0.9820	0.9820	1.0000	1.0000	0.9820	0.9820
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]	76	0	212	0	0	0	51	221	0	0	326	137
Total Analysis Volume [veh/h]	302	0	848	0	0	0	205	885	0	0	1303	549
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	3.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	4	0	4	0	0	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Maximum Green [s]	60	0	60	0	0	0	30	60	0	0	60	60
Amber [s]	3.9	0.0	3.9	0.0	0.0	0.0	3.6	4.3	0.0	0.0	4.3	4.3
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	5	0	5	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	27	0	27	0	0	0	0	8	0	0	8	8
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	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.9	0.0	2.9	0.0	0.0	0.0	2.6	3.3	0.0	0.0	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	55	0	55	0	0	0	25	75	0	0	50	50
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	15	0	0	15	15
Vehicle Extension [s]	5.0	0.0	5.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No						No	Yes			Yes	
Maximum Recall	No						No	No			No	
Pedestrian Recall	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	R		L	C	C	C
C, Calculated Cycle Length [s]	130	130		130	130	130	130
L, Total Lost Time per Cycle [s]	4.90	4.90		4.60	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90		2.60	3.30	3.30	3.30
g_i, Effective Green Time [s]	46	46		10	74	59	59
g / C, Green / Cycle	0.35	0.35		0.08	0.57	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.17	0.31		0.06	0.18	0.35	0.37
s, saturation flow rate [veh/h]	1732	2735		3336	4914	3505	1655
c, Capacity [veh/h]	612	967		265	2792	1589	750
d1, Uniform Delay [s]	32.92	39.39		58.69	14.78	29.98	30.98
k, delay calibration	0.23	0.23		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.32	5.59		4.79	0.30	3.80	9.91
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.88		0.77	0.32	0.78	0.82
d, Delay for Lane Group [s/veh]	34.24	44.98		63.48	15.08	33.79	40.89
Lane Group LOS	C	D		E	B	C	D
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.55	13.05		3.42	4.40	16.45	18.20
50th-Percentile Queue Length [ft/ln]	188.64	326.24		85.48	110.11	411.35	454.96
95th-Percentile Queue Length [veh/ln]	12.05	18.97		6.15	7.85	23.11	25.19
95th-Percentile Queue Length [ft/ln]	301.26	474.35		153.87	196.16	577.66	629.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.24	0.00	44.98	0.00	0.00	0.00	63.48	15.08	0.00	0.00	34.16	40.89
Movement LOS	C		D				E	B			C	D
d_A, Approach Delay [s/veh]	42.16			0.00			24.19			36.16		
Approach LOS	D			A			C			D		
d_I, Intersection Delay [s/veh]	34.65											
Intersection LOS	C											
Intersection V/C	0.820											

Emissions

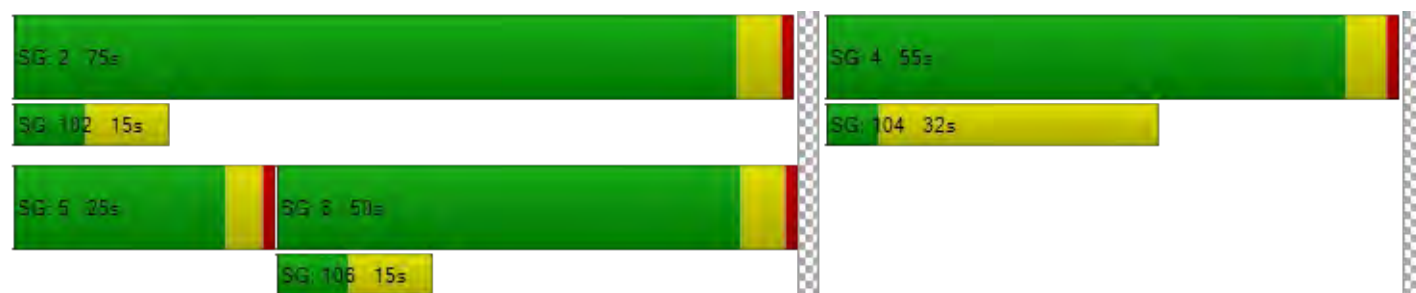
Vehicle Miles Traveled [mph]	13.72	38.53		4.35	18.78	34.87	17.44
Stops [stops/h]	208.95	722.76		189.37	365.91	911.30	503.96
Fuel consumption [US gal/h]	4.65	16.24		5.15	7.91	18.69	10.71
CO [g/h]	324.91	1135.31		360.10	552.88	1306.45	748.78
NOx [g/h]	63.22	220.89		70.06	107.57	254.19	145.68
VOC [g/h]	75.30	263.12		83.46	128.14	302.78	173.54

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.47	54.47	0.00	56.31
I_p,int, Pedestrian LOS Score for Intersectio	2.456	2.100	0.000	3.249
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	0	1072	688
d_b, Bicycle Delay [s]	24.55	65.00	13.98	27.98
I_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.159	2.578
Bicycle LOS	A	D	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.651

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	4	8	11	252	3	182	270	908	4	5	1191	483
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	16.01	16.01	16.01	3.29	3.29	3.29	4.37	4.37	4.37
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	8	11	252	3	182	270	908	4	5	1191	483
Peak Hour Factor	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	3	66	1	48	71	239	1	1	313	127
Total Analysis Volume [veh/h]	4	8	12	265	3	191	284	955	4	5	1252	508
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 2
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	68.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	7	7	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	30	30	30	40	40	40	30	60	60	20	60	60
Amber [s]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.3	4.3
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	0	0	5	5	5	0	7	7	0	6	6
Pedestrian Clearance [s]	0	0	0	20	20	20	0	10	10	0	11	11
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.3	3.3	2.5	3.3	3.3
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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]	17	17	17	35	35	35	27	38	38	20	31	31
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	15	15	5	15	15
Vehicle Extension [s]	3.0	3.0	3.0	2.5	2.5	2.5	2.5	5.0	5.0	2.5	5.0	5.0
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	L	C	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	5.30	5.30	4.50	5.30	5.30
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
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	3.30	3.30	2.50	3.30	3.30
g_i, Effective Green Time [s]	3	19	19	11	69	69	1	59	59
g / C, Green / Cycle	0.02	0.17	0.17	0.10	0.63	0.63	0.01	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.01	0.15	0.15	0.08	0.18	0.18	0.00	0.25	0.31
s, saturation flow rate [veh/h]	1733	1644	1488	3423	3524	1847	1747	4997	1622
c, Capacity [veh/h]	42	277	251	354	2219	1163	12	2664	865
d1, Uniform Delay [s]	53.13	44.56	44.56	48.20	9.18	9.18	54.39	16.00	17.46
k, delay calibration	0.11	0.08	0.08	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
d2, Incremental Delay [s]	12.05	6.29	6.90	3.18	0.32	0.61	15.62	0.60	2.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.87	0.87	0.80	0.28	0.28	0.41	0.47	0.59
d, Delay for Lane Group [s/veh]	65.18	50.85	51.46	51.38	9.50	9.79	70.01	16.59	20.38
Lane Group LOS	E	D	D	D	A	A	E	B	C
Critical Lane Group	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.80	6.71	6.12	3.85	3.06	3.30	0.19	6.23	8.78
50th-Percentile Queue Length [ft/ln]	20.01	167.85	153.03	96.16	76.53	82.57	4.71	155.67	219.43
95th-Percentile Queue Length [veh/ln]	1.44	10.96	10.18	6.92	5.51	5.95	0.34	10.32	13.64
95th-Percentile Queue Length [ft/ln]	36.01	274.09	254.47	173.09	137.76	148.63	8.47	257.98	340.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	65.18	65.18	65.18	50.93	51.46	51.46	51.38	9.60	9.79	70.01	16.59	20.38
Movement LOS	E	E	E	D	D	D	D	A	A	E	B	C
d_A, Approach Delay [s/veh]	65.18			51.14			19.15			17.83		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	23.01											
Intersection LOS	C											
Intersection V/C	0.651											

Emissions

Vehicle Miles Traveled [mph]	0.47	9.78	8.85	14.05	31.14	16.32	0.25	63.79	25.88
Stops [stops/h]	26.19	219.73	200.33	251.77	200.38	108.09	6.16	611.35	287.25
Fuel consumption [US gal/h]	0.44	5.00	4.57	6.58	4.78	2.56	0.14	12.52	5.86
CO [g/h]	30.76	349.61	319.38	460.02	333.80	178.99	9.85	875.02	409.29
NOx [g/h]	5.99	68.02	62.14	89.50	64.95	34.82	1.92	170.25	79.63
VOC [g/h]	7.13	81.03	74.02	106.62	77.36	41.48	2.28	202.79	94.86

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	10.0	9.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	45.45	46.37	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.739	2.551	3.228	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	227	555	595	467
d_b, Bicycle Delay [s]	43.21	28.73	27.16	32.30
I_b,int, Bicycle LOS Score for Intersection	1.599	2.317	2.243	2.530
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report**Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Signalized	Delay (sec / veh):	35.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.809

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	214	893	163	177	1187	240	218	680	353	239	893	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.76	3.76	3.76	2.87	2.87	2.87	4.17	4.17	4.17	3.76	3.76	3.76
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	214	893	163	177	1187	240	218	680	353	239	893	149
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
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]	56	233	42	46	309	63	57	177	92	62	233	39
Total Analysis Volume [veh/h]	223	931	170	185	1238	250	227	709	368	249	931	155
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
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]	16.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Maximum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	26	26	0	21	21
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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 1

Split [s]	15	40	40	14	39	39	20	49	49	12	41	41
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	6	6	6	6	6	6
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	54	40	40	54	39	39	53	41	41	53	37	37
g / C, Green / Cycle	0.47	0.35	0.35	0.47	0.34	0.34	0.46	0.36	0.36	0.46	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.35	0.27	0.11	0.25	0.28	0.28	0.28	0.20	0.24	0.32	0.21	0.21
s, saturation flow rate [veh/h]	641	3510	1567	744	3536	1702	812	3498	1562	783	3510	1712
c, Capacity [veh/h]	314	1363	608	334	1335	643	360	1113	497	334	988	482
d1, Uniform Delay [s]	24.16	29.29	24.14	22.01	31.10	31.12	24.76	33.53	34.98	27.64	37.47	37.48
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.17	0.39	0.11	0.16
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]	12.77	2.79	1.14	6.46	3.95	7.97	8.13	0.61	3.38	11.23	1.10	3.21
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	0.71	0.68	0.28	0.55	0.75	0.75	0.63	0.64	0.74	0.75	0.74	0.74
d, Delay for Lane Group [s/veh]	36.93	32.09	25.28	28.47	35.05	39.10	32.89	34.14	38.35	38.87	38.57	40.69
Lane Group LOS	D	C	C	C	D	D	C	C	D	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.58	11.41	3.47	3.40	13.05	13.32	4.59	7.92	8.94	5.19	8.86	8.93
50th-Percentile Queue Length [ft/ln]	114.42	285.15	86.68	84.90	326.33	332.88	114.79	198.05	223.56	129.81	221.59	223.36
95th-Percentile Queue Length [veh/ln]	8.09	16.94	6.24	6.11	18.98	19.30	8.11	12.54	13.85	8.93	13.75	13.84
95th-Percentile Queue Length [ft/ln]	202.13	423.62	156.02	152.82	474.46	482.49	202.64	313.45	346.17	223.24	343.66	345.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.93	32.09	25.28	28.47	35.81	39.10	32.89	34.14	38.35	38.87	39.03	40.69
Movement LOS	D	C	C	C	D	D	C	C	D	D	D	D
d_A, Approach Delay [s/veh]	32.03			35.49			35.11			39.19		
Approach LOS	C			D			D			D		
d_I, Intersection Delay [s/veh]	35.47											
Intersection LOS	D											
Intersection V/C	0.809											

Emissions

Vehicle Miles Traveled [mph]	12.70	53.03	9.68	8.33	45.21	21.80	22.33	69.76	36.21	14.48	42.45	20.71
Stops [stops/h]	143.27	714.11	108.54	106.31	817.24	416.82	143.74	495.98	279.94	162.54	554.94	279.69
Fuel consumption [US gal/h]	3.89	16.78	2.56	2.68	18.87	9.78	3.23	10.54	5.91	3.46	10.54	5.35
CO [g/h]	272.07	1172.59	178.67	187.28	1319.06	683.72	225.96	736.56	413.05	242.10	736.87	373.73
NOx [g/h]	52.94	228.14	34.76	36.44	256.64	133.03	43.96	143.31	80.36	47.10	143.37	72.71
VOC [g/h]	63.06	271.76	41.41	43.40	305.70	158.46	52.37	170.71	95.73	56.11	170.78	86.62

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	47.03			47.03			47.03			47.03		
I_p,int, Pedestrian LOS Score for Intersectio	3.403			3.338			3.096			3.037		
Crosswalk LOS	C			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]	626			609			783			643		
d_b, Bicycle Delay [s]	27.13			27.83			21.30			26.45		
I_b,int, Bicycle LOS Score for Intersection	2.652			2.480			2.277			2.294		
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 5: Placentia Avenue (N/S) and Project Access 1 (E/W)**

Control Type:	Two-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.107

Intersection Setup

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

Volumes

Name	Placentia Avenue		Placentia Avenue		Project Access 1	
Base Volume Input [veh/h]	662	51	13	950	36	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.08	1.08	2.17	2.17	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	662	51	13	950	36	9
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	174	13	3	250	9	2
Total Analysis Volume [veh/h]	697	54	14	1000	38	9
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.01	0.11	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	9.24	0.00	16.40	12.07
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.01	0.41	0.41
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.59	0.29	10.26	10.26
d_A, Approach Delay [s/veh]	0.00		0.13		15.57	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.48					
Intersection LOS	C					

Intersection Level Of Service Report**Intersection 6: Project Access 2 (N/S) and Orangethorpe Avenue (E/W)**

Control Type:	Two-way stop	Delay (sec / veh):	38.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Project Access 2		Orangethorpe Avenue		Orangethorpe Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Access 2		Orangethorpe Avenue		Orangethorpe Avenue	
Base Volume Input [veh/h]	2	1	1	1128	1315	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	4.88	4.88	4.17	4.17
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]	2	1	1	1128	1315	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	297	346	1
Total Analysis Volume [veh/h]	2	1	1	1187	1384	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	38.09	16.42	19.64	0.00	0.00	0.00
Movement LOS	E	C	C	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.61	1.61	0.30	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	30.87		0.02		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.04					
Intersection LOS	E					

Intersection Level Of Service Report

Intersection 1: SR-57 NB Ramps (N/S) at Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.711

Intersection Setup

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	11.00	11.00	12.00	12.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	0
Entry Pocket Length [ft]	345.00	100.00	345.00	100.00	100.00	100.00	350.00	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]	40.00			30.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	SR-57 NB Ramps			SR-57 NB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	297	0	833	0	0	0	201	869	0	0	1280	539
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.45	2.00	5.45	2.00	2.00	2.00	6.41	6.41	2.00	2.00	3.94	3.94
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]	297	0	833	0	0	0	201	869	0	0	1280	539
Peak Hour 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
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]	74	0	208	0	0	0	50	217	0	0	320	135
Total Analysis Volume [veh/h]	297	0	833	0	0	0	201	869	0	0	1280	539
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.00	0.25	0.00	0.00	0.00	0.06	0.17	0.00	0.00	0.36	0.36
Intersection LOS	C											
Intersection V/C	0.711											

Intersection Level Of Service Report
Intersection 2: SR-57 SB Ramps (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.556

Intersection Setup

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
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	16.00	12.00	12.00	11.00	11.00	11.00	10.00	12.00	14.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00	50.00	100.00	70.00
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			40.00			45.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	SR-57 SB Ramps			SR-57 SB Ramps			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	4	8	11	252	3	182	270	908	4	5	1191	483
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	16.01	16.01	16.01	3.29	3.29	3.29	4.37	4.37	4.37
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]	4	8	11	252	3	182	270	908	4	5	1191	483
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	3	63	1	46	68	227	1	1	298	121
Total Analysis Volume [veh/h]	4	8	11	252	3	182	270	908	4	5	1191	483
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.07	0.13	0.13	0.08	0.18	0.18	0.00	0.23	0.28
Intersection LOS	A											
Intersection V/C	0.556											

Intersection Level Of Service Report

Intersection 3: S. Placentia Avenue (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.567

Intersection Setup

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	11.00	11.00	12.00	11.00	14.00	11.00	11.00	14.00	11.00	11.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	210.00	100.00	225.00	205.00	100.00	100.00	250.00	100.00	100.00	200.00	100.00	275.00
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]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. Placentia Avenue			S. Placentia Avenue			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	63	315	172	235	481	304	187	743	93	220	860	237
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 [%]	2.62	2.62	2.62	2.17	2.17	2.17	5.29	5.29	5.29	4.17	4.17	4.17
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]	63	315	172	235	481	304	187	743	93	220	860	237
Peak Hour 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
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	79	43	59	120	76	47	186	23	55	215	59
Total Analysis Volume [veh/h]	63	315	172	235	481	304	187	743	93	220	860	237
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.09	0.10	0.07	0.23	0.23	0.11	0.00	0.00	0.13	0.00	0.14
Intersection LOS	A											
Intersection V/C	0.567											

Intersection Level Of Service Report

Intersection 4: S. State College Boulevard (N/S) and Orangethorpe Avenue (E/W)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.799

Intersection Setup

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	11.00	10.00	9.00	12.00	12.00	14.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	205.00	100.00	100.00	140.00	100.00	100.00	330.00	100.00	100.00	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S. State College Boulevard			S. State College Boulevard			Orangethorpe Avenue			Orangethorpe Avenue		
Base Volume Input [veh/h]	214	893	163	177	1187	240	218	680	353	239	893	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.76	3.76	3.76	2.87	2.87	2.87	4.17	4.17	4.17	3.76	3.76	3.76
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]	214	893	163	177	1187	240	218	680	353	239	893	149
Peak Hour 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
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]	54	223	41	44	297	60	55	170	88	60	223	37
Total Analysis Volume [veh/h]	214	893	163	177	1187	240	218	680	353	239	893	149
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.26	0.10	0.10	0.28	0.28	0.13	0.20	0.20	0.14	0.20	0.20
Intersection LOS	C											
Intersection V/C	0.799											



Appendix K

Freeway Ramp Analysis Worksheets – Existing Conditions

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Conditions - AM Peak Hour
Project Description	SR-57 SB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	4	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7158	272
Peak Hour Factor (PHF)	0.94	0.91
Total Trucks, %	10.00	18.40
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.845
Flow Rate (vi), pc/h	8377	355
Capacity (cmd), pc/h	9400	2000
Initial Adjusted Capacity (cmda), pc/h	9400	-
Final Adjusted Capacity (cmda), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.89	0.18

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2262
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	3853	Outer Lanes Freeway Speed (SO), mi/h	69.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	62.8
Number of Outer Lanes on Freeway (No), In	2	Average Density (D), pc/mi/ln	33.3
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	35.6

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Conditions - PM Peak Hour
Project Description	SR-57 SB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	6930	306
Peak Hour Factor (PHF)	0.94	0.90
Total Trucks, %	10.00	16.80
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.856
Flow Rate (vi), pc/h	8110	397
Capacity (cmd), pc/h	9400	2000
Initial Adjusted Capacity (cmda), pc/h	9400	-
Final Adjusted Capacity (cmda), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.86	0.20

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2175
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	56.0
Flow in Lanes 1 and 2 (v12), pc/h	3760	Outer Lanes Freeway Speed (So), mi/h	70.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	62.8
Number of Outer Lanes on Freeway (No), ln	2	Average Density (D), pc/mi/ln	32.3
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	34.8

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Conditions - AM Peak Hour
Project Description	SR-57 SB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	6886	592
Peak Hour Factor (PHF)	0.94	0.90
Total Trucks, %	10.00	8.10
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.925
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	8059 8772	713
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.75	0.36

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1729
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	60.4
Flow in Lanes 1 and 2 (v12), pc/h	2305	Outer Lanes Freeway Speed (So), mi/h	63.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	3018	Ramp Junction Speed (S), mi/h	62.1
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	20.9
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	19.4

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Conditions - PM Peak Hour
Project Description	SR-57 SB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	6624	608
Peak Hour Factor (PHF)	0.94	0.84
Total Trucks, %	10.00	2.10
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.979
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	7752 8488	736
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.72	0.37

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1663
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	60.5
Flow in Lanes 1 and 2 (v12), pc/h	2217	Outer Lanes Freeway Speed (So), mi/h	63.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	2953	Ramp Junction Speed (S), mi/h	62.3
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	20.2
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	18.8

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Conditions - AM Peak Hour
Project Description	SR-57 NB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	6	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	160
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	8644	840
Peak Hour Factor (PHF)	0.94	0.89
Total Trucks, %	10.00	6.30
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.941
Flow Rate (vi), pc/h	10116	1003
Capacity (cmd), pc/h	14100	2000
Initial Adjusted Capacity (cmda), pc/h	14100	-
Final Adjusted Capacity (cmda), pc/h	14100	2000
Volume-to-Capacity Ratio (v/c)	0.72	0.50

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1857
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	54.6
Flow in Lanes 1 and 2 (v12), pc/h	3874	Outer Lanes Freeway Speed (SO), mi/h	71.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	61.7
Number of Outer Lanes on Freeway (No), In	2	Average Density (D), pc/mi/ln	20.5
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	36.1

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Conditions - PM Peak Hour
Project Description	SR-57 NB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	6	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	160
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	9110	881
Peak Hour Factor (PHF)	0.94	0.85
Total Trucks, %	10.00	5.40
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.949
Flow Rate (vi), pc/h	10662	1087
Capacity (cmd), pc/h	14100	2000
Initial Adjusted Capacity (cmda), pc/h	14100	-
Final Adjusted Capacity (cmda), pc/h	14100	2000
Volume-to-Capacity Ratio (v/c)	0.76	0.54

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	1948
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	54.4
Flow in Lanes 1 and 2 (v12), pc/h	4100	Outer Lanes Freeway Speed (SO), mi/h	71.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	61.4
Number of Outer Lanes on Freeway (No), In	2	Average Density (D), pc/mi/ln	21.7
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	38.1

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Conditions - AM Peak Hour
Project Description	SR-57 NB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	310
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7804	307
Peak Hour Factor (PHF)	0.94	0.85
Total Trucks, %	10.00	17.90
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.848
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	9133 9557	424
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.81	0.21

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1990
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	58.1
Flow in Lanes 1 and 2 (v12), pc/h	2653	Outer Lanes Freeway Speed (So), mi/h	62.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	3077	Ramp Junction Speed (S), mi/h	60.6
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	23.3
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	27.4

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Conditions - PM Peak Hour
Project Description	SR-57 NB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	310
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	8229	602
Peak Hour Factor (PHF)	0.94	0.96
Total Trucks, %	10.00	4.30
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.959
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	9631 10286	655
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.88	0.33

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2140
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	56.9
Flow in Lanes 1 and 2 (v12), pc/h	2852	Outer Lanes Freeway Speed (So), mi/h	62.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	3507	Ramp Junction Speed (S), mi/h	59.7
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	26.1
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	30.7



Appendix L

Freeway Ramp Analysis Worksheets –
Existing Plus Project Conditions

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Plus Project Conditions - AM Peak Hour
Project Description	SR-57 SB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	4	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7162	276
Peak Hour Factor (PHF)	0.94	0.91
Total Trucks, %	10.00	18.40
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.845
Flow Rate (vi), pc/h	8382	360
Capacity (cmd), pc/h	9400	2000
Initial Adjusted Capacity (cmda), pc/h	9400	-
Final Adjusted Capacity (cmda), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.89	0.18

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2262
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	3858	Outer Lanes Freeway Speed (SO), mi/h	69.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	62.7
Number of Outer Lanes on Freeway (No), In	2	Average Density (D), pc/mi/ln	33.4
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	35.6

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Plus Project Conditions - PM Peak Hour
Project Description	SR-57 SB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	4	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	6940	316
Peak Hour Factor (PHF)	0.94	0.90
Total Trucks, %	10.00	16.80
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.856
Flow Rate (vi), pc/h	8122	410
Capacity (cmd), pc/h	9400	2000
Initial Adjusted Capacity (cmda), pc/h	9400	-
Final Adjusted Capacity (cmda), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.86	0.21

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	2175
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	56.0
Flow in Lanes 1 and 2 (v12), pc/h	3772	Outer Lanes Freeway Speed (So), mi/h	70.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	62.8
Number of Outer Lanes on Freeway (No), In	2	Average Density (D), pc/mi/ln	32.3
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	34.9

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Plus Project Conditions - AM Peak Hour
Project Description	SR-57 SB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	6886	603
Peak Hour Factor (PHF)	0.94	0.90
Total Trucks, %	10.00	8.10
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.925
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	8059 8786	727
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.75	0.36

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1729
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	60.3
Flow in Lanes 1 and 2 (v12), pc/h	2305	Outer Lanes Freeway Speed (So), mi/h	63.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	3032	Ramp Junction Speed (S), mi/h	62.1
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	20.9
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	19.5

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Plus Project Conditions - PM Peak Hour
Project Description	SR-57 SB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	6624	615
Peak Hour Factor (PHF)	0.94	0.84
Total Trucks, %	10.00	2.10
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.979
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	7752 8496	744
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.72	0.37

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1663
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	60.5
Flow in Lanes 1 and 2 (v12), pc/h	2217	Outer Lanes Freeway Speed (So), mi/h	63.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	2961	Ramp Junction Speed (S), mi/h	62.3
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	20.2
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	18.9

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Plus Project Conditions - AM Peak Hour
Project Description	SR-57 NB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	6	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	160
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	8648	844
Peak Hour Factor (PHF)	0.94	0.89
Total Trucks, %	10.00	6.30
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.941
Flow Rate (vi), pc/h	10121	1008
Capacity (cmd), pc/h	14100	2000
Initial Adjusted Capacity (cmda), pc/h	14100	-
Final Adjusted Capacity (cmda), pc/h	14100	2000
Volume-to-Capacity Ratio (v/c)	0.72	0.50

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1856
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	54.6
Flow in Lanes 1 and 2 (v12), pc/h	3878	Outer Lanes Freeway Speed (SO), mi/h	71.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	61.7
Number of Outer Lanes on Freeway (No), In	2	Average Density (D), pc/mi/ln	20.5
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	36.2

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Plus Project Conditions - PM Peak Hour
Project Description	SR-57 NB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	6	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	160
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	9120	891
Peak Hour Factor (PHF)	0.94	0.85
Total Trucks, %	10.00	5.40
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.949
Flow Rate (vi), pc/h	10673	1099
Capacity (cmd), pc/h	14100	2000
Initial Adjusted Capacity (cmda), pc/h	14100	-
Final Adjusted Capacity (cmda), pc/h	14100	2000
Volume-to-Capacity Ratio (v/c)	0.76	0.55

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1947
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	54.3
Flow in Lanes 1 and 2 (v12), pc/h	4110	Outer Lanes Freeway Speed (So), mi/h	71.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	61.3
Number of Outer Lanes on Freeway (No), In	2	Average Density (D), pc/mi/ln	21.8
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	38.2

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Plus Project Conditions - AM Peak Hour
Project Description	SR-57 NB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	310
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7804	318
Peak Hour Factor (PHF)	0.94	0.85
Total Trucks, %	10.00	17.90
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.848
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	9133 9573	440
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.81	0.22

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1990
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	58.1
Flow in Lanes 1 and 2 (v12), pc/h	2653	Outer Lanes Freeway Speed (So), mi/h	62.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	3093	Ramp Junction Speed (S), mi/h	60.6
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	23.3
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	27.5

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Existing Year (2024)
Jurisdiction	City of Placentia	Time Analyzed	Existing Plus Project Conditions - PM Peak Hour
Project Description	SR-57 NB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	310
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	8229	609
Peak Hour Factor (PHF)	0.94	0.96
Total Trucks, %	10.00	4.30
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.959
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	9631 10293	662
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.88	0.33

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2140
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	56.9
Flow in Lanes 1 and 2 (v12), pc/h	2852	Outer Lanes Freeway Speed (So), mi/h	62.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	3514	Ramp Junction Speed (S), mi/h	59.7
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	26.1
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	30.7



Appendix M

Freeway Ramp Analysis Worksheets –
Project Opening Year (2027) Without Project Conditions

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) Without Project Conditions - AM Peak Hour
Project Description	SR-57 SB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	4	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7620	342
Peak Hour Factor (PHF)	0.94	0.91
Total Trucks, %	10.00	18.40
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.845
Flow Rate (vi), pc/h	8918	446
Capacity (cmd), pc/h	9400	2000
Initial Adjusted Capacity (cmda), pc/h	9400	-
Final Adjusted Capacity (cmda), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.95	0.22

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2389
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	55.9
Flow in Lanes 1 and 2 (v12), pc/h	4140	Outer Lanes Freeway Speed (SO), mi/h	69.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	62.4
Number of Outer Lanes on Freeway (NO), In	2	Average Density (D), pc/mi/ln	35.7
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	38.1

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) Without Project Conditions - PM Peak Hour
Project Description	SR-57 SB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	4	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7385	407
Peak Hour Factor (PHF)	0.94	0.90
Total Trucks, %	10.00	16.80
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.856
Flow Rate (vi), pc/h	8643	528
Capacity (cmd), pc/h	9400	2000
Initial Adjusted Capacity (cmda), pc/h	9400	-
Final Adjusted Capacity (cmda), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.92	0.26

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2289
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	55.7
Flow in Lanes 1 and 2 (v12), pc/h	4066	Outer Lanes Freeway Speed (SO), mi/h	69.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	62.3
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	34.7
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	37.4

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) Without Project Conditions - AM Peak Hour
Project Description	SR-57 SB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7278	746
Peak Hour Factor (PHF)	0.94	0.90
Total Trucks, %	10.00	8.10
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.925
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	8518 9417	899
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.80	0.45

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1806
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	59.7
Flow in Lanes 1 and 2 (v12), pc/h	2407	Outer Lanes Freeway Speed (SO), mi/h	63.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	3306	Ramp Junction Speed (S), mi/h	61.6
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	22.5
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	21.5

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) Without Project Conditions - PM Peak Hour
Project Description	SR-57 SB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	6978	718
Peak Hour Factor (PHF)	0.94	0.84
Total Trucks, %	10.00	2.10
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.979
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	8167 9036	869
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.77	0.43

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1752
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	60.0
Flow in Lanes 1 and 2 (v12), pc/h	2336	Outer Lanes Freeway Speed (SO), mi/h	63.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	3205	Ramp Junction Speed (S), mi/h	61.8
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	21.7
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	20.7

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) Without Project Conditions - AM Peak Hour
Project Description	SR-57 NB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	6	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	160
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	9111	935
Peak Hour Factor (PHF)	0.94	0.89
Total Trucks, %	10.00	6.30
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.941
Flow Rate (vi), pc/h	10663	1116
Capacity (cmd), pc/h	14100	2000
Initial Adjusted Capacity (cmda), pc/h	14100	-
Final Adjusted Capacity (cmda), pc/h	14100	2000
Volume-to-Capacity Ratio (v/c)	0.76	0.56

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1941
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	54.3
Flow in Lanes 1 and 2 (v12), pc/h	4116	Outer Lanes Freeway Speed (SO), mi/h	71.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	61.3
Number of Outer Lanes on Freeway (NO), In	2	Average Density (D), pc/mi/ln	21.7
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	38.2

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) Without Project Conditions - PM Peak Hour
Project Description	SR-57 NB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	6	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	160
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	9710	1033
Peak Hour Factor (PHF)	0.94	0.85
Total Trucks, %	10.00	5.40
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.949
Flow Rate (vi), pc/h	11364	1275
Capacity (cmd), pc/h	14100	2000
Initial Adjusted Capacity (cmda), pc/h	14100	-
Final Adjusted Capacity (cmda), pc/h	14100	2000
Volume-to-Capacity Ratio (v/c)	0.81	0.64

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2044
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	53.9
Flow in Lanes 1 and 2 (v12), pc/h	4435	Outer Lanes Freeway Speed (SO), mi/h	70.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	60.8
Number of Outer Lanes on Freeway (NO), In	2	Average Density (D), pc/mi/ln	23.4
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	41.0

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) Without Project Conditions - AM Peak Hour
Project Description	SR-57 NB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	310
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	8176	416
Peak Hour Factor (PHF)	0.94	0.85
Total Trucks, %	10.00	17.90
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.848
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	9569 10144	575
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.86	0.29

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2121
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	57.2
Flow in Lanes 1 and 2 (v12), pc/h	2828	Outer Lanes Freeway Speed (SO), mi/h	62.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	3403	Ramp Junction Speed (S), mi/h	59.9
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	25.5
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	29.9

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) Without Project Conditions - PM Peak Hour
Project Description	SR-57 NB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	310
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	8677	698
Peak Hour Factor (PHF)	0.94	0.96
Total Trucks, %	10.00	4.30
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.959
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	10155 10914	759
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.93	0.38

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2297
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	55.7
Flow in Lanes 1 and 2 (v12), pc/h	3062	Outer Lanes Freeway Speed (SO), mi/h	61.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	3821	Ramp Junction Speed (S), mi/h	58.8
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	28.6
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	33.1



Appendix N

Freeway Ramp Analysis Worksheets –
Project Opening Year (2027) With Project Conditions

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) With Project Conditions - AM Peak Hour
Project Description	SR-57 SB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	4	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFC _{CAV})	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	7624	346
Peak Hour Factor (PHF)	0.94	0.91
Total Trucks, %	10.00	18.40
Heavy Vehicle Adjustment Factor (f _{HV})	0.909	0.845
Flow Rate (v _i), pc/h	8923	451
Capacity (c _{md}), pc/h	9400	2000
Initial Adjusted Capacity (c _{mda}), pc/h	9400	-
Final Adjusted Capacity (c _{mda}), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.95	0.23

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2389
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (S _R), mi/h	55.9
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4145	Outer Lanes Freeway Speed (S _O), mi/h	69.3
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Ramp Junction Speed (S), mi/h	62.4
Number of Outer Lanes on Freeway (N _O), ln	2	Average Density (D), pc/mi/ln	35.7
Level of Service (LOS)	E	Density in Ramp Influence Area (D _R), pc/mi/ln	38.1

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) With Project Conditions - PM Peak Hour
Project Description	SR-57 SB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	4	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7395	417
Peak Hour Factor (PHF)	0.94	0.90
Total Trucks, %	10.00	16.80
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.856
Flow Rate (vi), pc/h	8655	541
Capacity (cmd), pc/h	9400	2000
Initial Adjusted Capacity (cmda), pc/h	9400	-
Final Adjusted Capacity (cmda), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.92	0.27

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2288
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	55.7
Flow in Lanes 1 and 2 (v12), pc/h	4079	Outer Lanes Freeway Speed (SO), mi/h	69.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	62.3
Number of Outer Lanes on Freeway (NO), In	2	Average Density (D), pc/mi/ln	34.7
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	37.5

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) With Project Conditions - AM Peak Hour
Project Description	SR-57 SB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7278	757
Peak Hour Factor (PHF)	0.94	0.90
Total Trucks, %	10.00	8.10
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.925
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	8518 9430	912
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.80	0.46

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1806
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	59.6
Flow in Lanes 1 and 2 (v12), pc/h	2407	Outer Lanes Freeway Speed (SO), mi/h	63.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	3319	Ramp Junction Speed (S), mi/h	61.5
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	22.5
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	21.6

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) With Project Conditions - PM Peak Hour
Project Description	SR-57 SB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFC _{CAV})	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6978	725
Peak Hour Factor (PHF)	0.94	0.84
Total Trucks, %	10.00	2.10
Heavy Vehicle Adjustment Factor (f _{HV})	0.909	0.979
Demand Flow Rate (v _i), pc/h Total Flow Rate (v _{FO}), pc/h	8167 9044	877
Capacity (c _{md}), pc/h	11750	2000
Adjusted Capacity (c _{mda}), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.77	0.44

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1752
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	59.9
Flow in Lanes 1 and 2 (v ₁₂), pc/h	2336	Outer Lanes Freeway Speed (S _O), mi/h	63.6
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	3213	Ramp Junction Speed (S), mi/h	61.8
Number of Outer Lanes on Freeway (N _O), ln	2	Average Density (D), pc/mi/ln	21.7
Level of Service (LOS)	C	Density in Ramp Influence Area (D _R), pc/mi/ln	20.8

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) With Project Conditions - AM Peak Hour
Project Description	SR-57 NB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	6	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	160
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	9115	939
Peak Hour Factor (PHF)	0.94	0.89
Total Trucks, %	10.00	6.30
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.941
Flow Rate (vi), pc/h	10668	1121
Capacity (cmd), pc/h	14100	2000
Initial Adjusted Capacity (cmda), pc/h	14100	-
Final Adjusted Capacity (cmda), pc/h	14100	2000
Volume-to-Capacity Ratio (v/c)	0.76	0.56

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1940
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	54.3
Flow in Lanes 1 and 2 (v12), pc/h	4121	Outer Lanes Freeway Speed (SO), mi/h	71.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	61.3
Number of Outer Lanes on Freeway (NO), In	2	Average Density (D), pc/mi/ln	21.8
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	38.3

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) With Project Conditions - PM Peak Hour
Project Description	SR-57 NB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	6	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	160
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	9720	1043
Peak Hour Factor (PHF)	0.94	0.85
Total Trucks, %	10.00	5.40
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.949
Flow Rate (vi), pc/h	11376	1287
Capacity (cmd), pc/h	14100	2000
Initial Adjusted Capacity (cmda), pc/h	14100	-
Final Adjusted Capacity (cmda), pc/h	14100	2000
Volume-to-Capacity Ratio (v/c)	0.81	0.64

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2043
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	53.9
Flow in Lanes 1 and 2 (v12), pc/h	4446	Outer Lanes Freeway Speed (SO), mi/h	70.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	60.8
Number of Outer Lanes on Freeway (NO), In	2	Average Density (D), pc/mi/ln	23.4
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	41.0

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) With Project Conditions - AM Peak Hour
Project Description	SR-57 NB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	310
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	8176	427
Peak Hour Factor (PHF)	0.94	0.85
Total Trucks, %	10.00	17.90
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.848
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	9569 10159	590
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.86	0.30

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2121
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	57.2
Flow in Lanes 1 and 2 (v12), pc/h	2828	Outer Lanes Freeway Speed (SO), mi/h	62.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	3418	Ramp Junction Speed (S), mi/h	59.9
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	25.6
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	30.0

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Project Opening Year (2027)
Jurisdiction	City of Placentia	Time Analyzed	Project Opening Year (2027) With Project Conditions - PM Peak Hour
Project Description	SR-57 NB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	310
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	8677	705
Peak Hour Factor (PHF)	0.94	0.96
Total Trucks, %	10.00	4.30
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.959
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	10155 10922	767
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.93	0.38

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2297
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	55.6
Flow in Lanes 1 and 2 (v12), pc/h	3062	Outer Lanes Freeway Speed (SO), mi/h	61.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	3829	Ramp Junction Speed (S), mi/h	58.7
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	28.7
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	33.1



Appendix O

Freeway Ramp Analysis Worksheets –
Buildout Year (2045) Without Project Conditions

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) Without Project Conditions - AM Peak Hour
Project Description	SR-57 SB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	4	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7749	359
Peak Hour Factor (PHF)	0.94	0.91
Total Trucks, %	10.00	18.40
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.845
Flow Rate (vi), pc/h	9069	468
Capacity (cmd), pc/h	9400	2000
Initial Adjusted Capacity (cmda), pc/h	9400	-
Final Adjusted Capacity (cmda), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.96	0.23

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2426
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	55.8
Flow in Lanes 1 and 2 (v12), pc/h	4218	Outer Lanes Freeway Speed (SO), mi/h	69.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	62.2
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	36.5
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	38.7

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) Without Project Conditions - PM Peak Hour
Project Description	SR-57 SB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	4	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7527	427
Peak Hour Factor (PHF)	0.94	0.90
Total Trucks, %	10.00	16.80
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.856
Flow Rate (vi), pc/h	8809	554
Capacity (cmd), pc/h	9400	2000
Initial Adjusted Capacity (cmda), pc/h	9400	-
Final Adjusted Capacity (cmda), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.94	0.28

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2328
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	55.6
Flow in Lanes 1 and 2 (v12), pc/h	4153	Outer Lanes Freeway Speed (SO), mi/h	69.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	62.2
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	35.4
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	38.2

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) Without Project Conditions - AM Peak Hour
Project Description	SR-57 SB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFC _{CAV})	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	7390	787
Peak Hour Factor (PHF)	0.94	0.90
Total Trucks, %	10.00	8.10
Heavy Vehicle Adjustment Factor (f _{HV})	0.909	0.925
Demand Flow Rate (v _i), pc/h Total Flow Rate (v _{FO}), pc/h	8649 9598	949
Capacity (c _{md}), pc/h	11750	2000
Adjusted Capacity (c _{mda}), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.82	0.47

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1845
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	59.4
Flow in Lanes 1 and 2 (v ₁₂), pc/h	2460	Outer Lanes Freeway Speed (S _O), mi/h	63.3
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	3409	Ramp Junction Speed (S), mi/h	61.4
Number of Outer Lanes on Freeway (N _O), ln	2	Average Density (D), pc/mi/ln	23.1
Level of Service (LOS)	C	Density in Ramp Influence Area (D _R), pc/mi/ln	22.3

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) Without Project Conditions - PM Peak Hour
Project Description	SR-57 SB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7100	754
Peak Hour Factor (PHF)	0.94	0.84
Total Trucks, %	10.00	2.10
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.979
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	8309 9222	913
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.78	0.46

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1782
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	59.7
Flow in Lanes 1 and 2 (v12), pc/h	2376	Outer Lanes Freeway Speed (SO), mi/h	63.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	3289	Ramp Junction Speed (S), mi/h	61.6
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	22.3
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	21.4

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) Without Project Conditions - AM Peak Hour
Project Description	SR-57 NB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	6	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	160
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	9356	996
Peak Hour Factor (PHF)	0.94	0.89
Total Trucks, %	10.00	6.30
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.941
Flow Rate (vi), pc/h	10950	1189
Capacity (cmd), pc/h	14100	2000
Initial Adjusted Capacity (cmda), pc/h	14100	-
Final Adjusted Capacity (cmda), pc/h	14100	2000
Volume-to-Capacity Ratio (v/c)	0.78	0.59

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1981
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	54.1
Flow in Lanes 1 and 2 (v12), pc/h	4251	Outer Lanes Freeway Speed (SO), mi/h	70.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	61.1
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	22.4
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	39.4

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) Without Project Conditions - PM Peak Hour
Project Description	SR-57 NB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	6	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	160
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	9940	1120
Peak Hour Factor (PHF)	0.94	0.85
Total Trucks, %	10.00	5.40
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.949
Flow Rate (vi), pc/h	11633	1382
Capacity (cmd), pc/h	14100	2000
Initial Adjusted Capacity (cmda), pc/h	14100	-
Final Adjusted Capacity (cmda), pc/h	14100	2000
Volume-to-Capacity Ratio (v/c)	0.83	0.69

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2071
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	53.7
Flow in Lanes 1 and 2 (v12), pc/h	4583	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	60.5
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	24.0
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	42.2

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) Without Project Conditions - AM Peak Hour
Project Description	SR-57 NB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	310
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	8360	504
Peak Hour Factor (PHF)	0.94	0.85
Total Trucks, %	10.00	17.90
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.848
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	9784 10481	697
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.89	0.35

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2185
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	56.5
Flow in Lanes 1 and 2 (v12), pc/h	2914	Outer Lanes Freeway Speed (SO), mi/h	62.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	3611	Ramp Junction Speed (S), mi/h	59.4
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	26.9
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	31.4

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) Without Project Conditions - PM Peak Hour
Project Description	SR-57 NB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	310
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFC _{CAV})	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	8820	733
Peak Hour Factor (PHF)	0.94	0.96
Total Trucks, %	10.00	4.30
Heavy Vehicle Adjustment Factor (f _{HV})	0.909	0.959
Demand Flow Rate (v _i), pc/h Total Flow Rate (v _{FO}), pc/h	10322 11119	797
Capacity (c _{md}), pc/h	11750	2000
Adjusted Capacity (c _{mda}), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.95	0.40

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2347
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	55.1
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3129	Outer Lanes Freeway Speed (S _O), mi/h	61.3
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	3926	Ramp Junction Speed (S), mi/h	58.3
Number of Outer Lanes on Freeway (N _O), ln	2	Average Density (D), pc/mi/ln	29.6
Level of Service (LOS)	D	Density in Ramp Influence Area (D _R), pc/mi/ln	33.9



Appendix P

Freeway Ramp Analysis Worksheets –
Buildout Year (2045) With Project Conditions

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) With Project Conditions - AM Peak Hour
Project Description	SR-57 SB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	4	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7753	363
Peak Hour Factor (PHF)	0.94	0.91
Total Trucks, %	10.00	18.40
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.845
Flow Rate (vi), pc/h	9074	474
Capacity (cmd), pc/h	9400	2000
Initial Adjusted Capacity (cmda), pc/h	9400	-
Final Adjusted Capacity (cmda), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.97	0.24

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2425
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	55.8
Flow in Lanes 1 and 2 (v12), pc/h	4224	Outer Lanes Freeway Speed (SO), mi/h	69.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	62.2
Number of Outer Lanes on Freeway (No), In	2	Average Density (D), pc/mi/ln	36.5
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	38.8

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) With Project Conditions - PM Peak Hour
Project Description	SR-57 SB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7537	437
Peak Hour Factor (PHF)	0.94	0.90
Total Trucks, %	10.00	16.80
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.856
Flow Rate (vi), pc/h	8821	567
Capacity (cmd), pc/h	9400	2000
Initial Adjusted Capacity (cmda), pc/h	9400	-
Final Adjusted Capacity (cmda), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.94	0.28

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2328
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	55.6
Flow in Lanes 1 and 2 (v12), pc/h	4166	Outer Lanes Freeway Speed (So), mi/h	69.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	62.2
Number of Outer Lanes on Freeway (No), ln	2	Average Density (D), pc/mi/ln	35.5
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	38.3

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) With Project Conditions - AM Peak Hour
Project Description	SR-57 SB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7390	798
Peak Hour Factor (PHF)	0.94	0.90
Total Trucks, %	10.00	8.10
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.925
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	8649 9611	962
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.82	0.48

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1845
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	59.4
Flow in Lanes 1 and 2 (v12), pc/h	2460	Outer Lanes Freeway Speed (So), mi/h	63.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	3422	Ramp Junction Speed (S), mi/h	61.4
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	23.2
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	22.4

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) With Project Conditions - PM Peak Hour
Project Description	SR-57 SB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7100	761
Peak Hour Factor (PHF)	0.94	0.84
Total Trucks, %	10.00	2.10
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.979
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	8309 9230	921
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.79	0.46

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1782
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	59.7
Flow in Lanes 1 and 2 (v12), pc/h	2376	Outer Lanes Freeway Speed (So), mi/h	63.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	3297	Ramp Junction Speed (S), mi/h	61.6
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	22.3
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	21.4

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) With Project Conditions - AM Peak Hour
Project Description	SR-57 NB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	160
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	9360	1000
Peak Hour Factor (PHF)	0.94	0.89
Total Trucks, %	10.00	6.30
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.941
Flow Rate (vi), pc/h	10954	1194
Capacity (cmd), pc/h	14100	2000
Initial Adjusted Capacity (cmda), pc/h	14100	-
Final Adjusted Capacity (cmda), pc/h	14100	2000
Volume-to-Capacity Ratio (v/c)	0.78	0.60

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1980
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	54.1
Flow in Lanes 1 and 2 (v12), pc/h	4255	Outer Lanes Freeway Speed (SO), mi/h	70.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	61.1
Number of Outer Lanes on Freeway (No), ln	2	Average Density (D), pc/mi/ln	22.4
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	39.4

HCS Freeway Diverge Report

Project Information

Analyst	RK Engineering Group, Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) With Project Conditions - PM Peak Hour
Project Description	SR-57 NB Off-Ramp to Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	160
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	9950	1130
Peak Hour Factor (PHF)	0.94	0.85
Total Trucks, %	10.00	5.40
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.949
Flow Rate (vi), pc/h	11645	1394
Capacity (cmd), pc/h	14100	2000
Initial Adjusted Capacity (cmda), pc/h	14100	-
Final Adjusted Capacity (cmda), pc/h	14100	2000
Volume-to-Capacity Ratio (v/c)	0.83	0.70

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2070
Downstream Equilibrium Distance (LEQ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	53.7
Flow in Lanes 1 and 2 (v12), pc/h	4594	Outer Lanes Freeway Speed (So), mi/h	70.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Ramp Junction Speed (S), mi/h	60.5
Number of Outer Lanes on Freeway (No), ln	2	Average Density (D), pc/mi/ln	24.1
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	42.3

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) With Project Conditions - AM Peak Hour
Project Description	SR-57 NB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	310
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	8360	515
Peak Hour Factor (PHF)	0.94	0.85
Total Trucks, %	10.00	17.90
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.848
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	9784 10496	712
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.89	0.36

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2185
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	56.5
Flow in Lanes 1 and 2 (v12), pc/h	2914	Outer Lanes Freeway Speed (So), mi/h	62.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	3626	Ramp Junction Speed (S), mi/h	59.4
Number of Outer Lanes on Freeway (NO), In	2	Average Density (D), pc/mi/ln	26.9
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	31.6

HCS Freeway Merge Report

Project Information

Analyst	RK Engineering Group Inc.	Date	04/09/2024
Agency	Caltrans	Analysis Year	Buildout Year (2045)
Jurisdiction	City of Placentia	Time Analyzed	Buildout Year (2045) With Project Conditions - PM Peak Hour
Project Description	SR-57 NB On-Ramp from Orangethorpe Ave.	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	68.1	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	310
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs (CAFCAV)	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	8820	740
Peak Hour Factor (PHF)	0.94	0.96
Total Trucks, %	10.00	4.30
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.959
Demand Flow Rate (vi), pc/h Total Flow Rate (vFO), pc/h	10322 11127	805
Capacity (cmd), pc/h	11750	2000
Adjusted Capacity (cmda), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.95	0.40

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2347
Downstream Equilibrium Distance (LEQ), ft	-	On-Ramp Influence Area Speed (SR), mi/h	55.1
Flow in Lanes 1 and 2 (v12), pc/h	3129	Outer Lanes Freeway Speed (So), mi/h	61.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	3934	Ramp Junction Speed (S), mi/h	58.3
Number of Outer Lanes on Freeway (NO), ln	2	Average Density (D), pc/mi/ln	29.6
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	33.9