



City of Santa Fe Springs

Special Planning Commission Meeting

AGENDA

MEETING OF THE SANTA FE SPRINGS PLANNING COMMISSION

November 9, 2022

6:00 p.m.

David Ayala, Commissioner

Johnny Hernandez, Commissioner

William K. Rounds, Commissioner

Francis Carbajal, Vice Chairperson

Gabriel Jimenez, Chairperson

You may also attend the Planning Commission meeting telephonically or electronically using the following means:

Electronically using Zoom: Go to Zoom.us and click on "Join A Meeting" or use the following link: <https://zoom.us/j/558333944?pwd=b0FqbKV2aDZneVRnQ3BjYU12SmJlQT09>

Zoom Meeting ID: 558 333 944

Password: 554545

Telephonically: Dial: 888-475-4499

Meeting ID: 558 333 944

Public Comment: The public is encouraged to address the Commission on any matter listed on the agenda or on any other matter within its jurisdiction. If you wish to address the Commission, please complete the card that is provided at the rear entrance to the Council Chambers and hand the card to the Secretary or a member of staff. The Commission will hear public comment on items listed on the agenda during discussion of the matter and prior to a vote. The Commission will hear public comment on matters not listed on the agenda during the Oral Communications period. All written comments received by 12:00 p.m. the day of the Planning Commission meeting will be distributed to the Planning Commissioners and made a part of the official record of the meeting. Written comments will not be read the meeting, only the name of the person submitting the comment will be announced.

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

Pursuant to provisions of the Brown Act, no action may be taken on a matter unless it is listed on the agenda or unless certain emergency or special circumstances exist. The Commission may direct staff to investigate and/or schedule certain matters for consideration at a future Commission meeting.

Please Note: Staff reports and supplemental attachments, are available for inspection in the Planning Department, City Hall, 11710 E. Telegraph Road, during regular business hours 7:30 a.m. – 5:30 p.m., Monday – Friday (closed every other Friday) Telephone (562) 868-0511.

1. CALL TO ORDER**2. PLEDGE OF ALLEGIANCE****3. ROLL CALL**

Commissioners Ayala, Hernandez, Rounds, Carbajal, and Jimenez.

4. EX PARTE COMMUNICATIONS

This section is intended to allow all officials the opportunity to reveal any disclosure regarding site visits or ex parte communications about public hearings.

5. PUBLIC COMMENT

This is the time when comments may be made by members of the public on matters within the jurisdiction of the Planning Commission, on the agenda and not on the agenda. The time limit for each speaker is three (3) minutes unless otherwise specified by the Chair.

6. PUBLIC HEARING

Categorical Exemption – CEQA Guidelines Section 15332, Class 32
Conditional Use Permit (CUP) Case No. 831

A request to allow the establishment, operation, and maintenance of a truck and trailer storage yard use on the subject approximately 4.7-acre property located at 12133 Greenstone Avenue (APN: 8026-020-017), within the M-2, Heavy Manufacturing, Zone. (Rexford Industrial – 12133 Greenstone LLC)

7. ANNOUNCEMENTS

- ♦ Commissioners
- ♦ Staff

8. ADJOURNMENT

I, Cuong Nguyen, hereby certify under penalty of perjury under the laws of the State of California, that the foregoing agenda has been posted at the following locations; city's website at www.santafesprings.com; City Hall, 11710 Telegraph Road; City Library, 11700 Telegraph Road, and the Town Center Plaza (Kiosk), 11740 Telegraph Road, not less than 72 hours prior to the meeting.


Cuong Nguyen
Assistant Director of Planning

November 4, 2022
Date



PUBLIC HEARING

Categorical Exemption – CEQA Guidelines Section 15332, Class 32

Conditional Use Permit (CUP) Case No. 831

A request to allow the establishment, operation, and maintenance of a truck and trailer storage yard use on the subject approximately 4.7-acre property located at 12133 Greenstone Avenue (APN: 8026-020-017), within the M-2, Heavy Manufacturing, Zone. (Rexford Industrial – 12133 Greenstone LLC)

RECOMMENDATIONS:

- Open the Public Hearing and receive the staff report and any comments from the public regarding CUP Case No. 831, and thereafter, close the Public Hearing; and
- Find and determine that the proposed project will not be detrimental to persons or properties in the surrounding area or to the City in general, and will be in conformance with the overall purpose and objective of the Zoning Ordinance and consistent with the goals, policies and program of the City's General Plan; and
- Find that the applicant's CUP request meets the criteria set forth in §155.716 of the City's Zoning Ordinance, for the granting of a Conditional Use Permit; and
- Find and determine that pursuant to Section 15332, Class 32 (In-Fill Development Projects) of the California Environmental Quality Act (CEQA), the project is Categorical Exempt; and
- Approve Conditional Use Permit Case No. 831, subject to the conditions of approval as contained within Resolution No. 218-2022; and
- Adopt Resolution No. 218-2022, which incorporates the Planning Commission's findings and actions regarding this matter

GENERAL INFORMATION

A.	Applicant:	Rexford Industrial – 12133 Greenstone LLC 11620 Wilshire Blvd. Suite 610 Los Angeles, CA 90025
B.	Property Owner	Same as Applicant
C.	Existing Zone:	M-2 (Heavy Manufacturing)
D.	General Plan:	Industrial

- E. CEQA Recommendation: Categorically Exempt, Section 15332
Class 32 (In Fill Development Project)
- F. Staff Contact: Cuong Nguyen, Assistant Director of Planning
cuongnguyen@santafesprings.org

LOCATION / BACKGROUND

The subject property is located along the west side of Greenstone Avenue, just north of Sunshine Avenue at 12133 Greenstone Avenue. The subject property is comprised of a single parcel (APN: 8026-020-017) measuring approximately 4.7-acres. The property is zoned M-2 (Heavy Manufacturing) and is currently undeveloped. Previously, before the site was recently cleared, it was developed with a truck terminal that was originally approved in 1966 via Conditional Use Permit (CUP) Case No. 61. Because the site is a former landfill (Kalico Dump No. 3), development of the site is very challenging and thus why the site has only been occupied by various trucking uses for the last 50 plus years. Additionally, any proposed development is subject to review and approval by the Local Enforcement Agency (LEA).

In July of 2021, the Planning Commission approved an Amendment to CUP Case No. 61, to allow an expansion of the previous truck terminal use. Concurrently with said approval, the Planning Commission also approved Development Plan Approval (DPA) Case No. 983, to allow the re-cladding of the existing approximately 12,500 square foot metal building located at the rear of the site. The applicant has since decided not to move forward with said project and instead has cleared the site and demolished the two existing buildings on-site: a 13,800 sq. ft. warehouse building and a 3,270 sq. ft. maintenance building.

CONDITIONAL USE PERMIT CASE NO. 831.

The applicant, Rexford Industrial – 12133 Greenstone LLC, is now requesting approval for a new Conditional Use Permit (CUP Case No. 831) to allow the establishment, operation and maintenance of an open truck and trailer storage yard use on the subject 4.7-acre property. The tenant is anticipated to be United Parcel Service (UPS).

United Parcel Service is an American multinational shipping & receiving and supply chain management company founded in 1907. Originally known as the American Messenger Company specializing in telegraphs, UPS has grown to become a Fortune 500 company and one of the world's largest shipping couriers.

Details of Operations

UPS will utilize the site for truck and trailer storage, minor repairs, and open storage. The proposed operation will occur 24 hours a day, 7 days a week. Shifts

will vary between an estimated 5 to 30 employees per shift and up to three 8-hour shifts per day. Drivers will use company trucks to drop-off and/or pick up empty trailers and leave. There will be no loading or unloading at this site and UPS employees will not be domiciled or stationed on-site. The applicant has estimated that the number of drivers at the site will range from 2 to 8 visits an hour.

Proposed Site Plan

As mentioned previously, Rexford industrial is proposing to use the site for an open truck and trailer storage yard use for step vans, parcel trucks, and other vehicles. As proposed, the truck yard will provide a total of 127 stalls: 77 stalls at a length of 53'; 46 stalls at a length of 70'; and 4 remaining stalls at a length of roughly 40'. It should be noted that the previous truck terminal use recognized under the recent CUP amendment that was approved in July of 2021 had recognized a total of 128 stalls: 74 truck/trailer stalls, 4 truck tractor stalls, 33 standard stalls, 2 accessible stalls, and 15 dock positions. While the overall number of stalls will decrease by one, there is a net increase of 35 stalls designated for trucks and/or trailers.

On-Site Circulation

Within the truck/trailer parking area, the proposed layout provides more than adequate space for truck maneuvering. On-site circulation conveys that trucks will be able to enter and exit the subject property in a forward manner as required by Section 155.490 (A) of the City's Zoning Ordinance. There is a central driveway in the middle of the truck yard that measures between 74' wide to 104' wide which should be more than sufficient room for trucks to back up or otherwise maneuver on-site.

Parking Requirements

Access to and from the site is obtained via a single, approximately 35' wide, two-way driveway located along the southeast east corner of the site. A motorized gate will be installed along both the entrance and exit points and setback approximately 75', which would provide sufficient room for at least one-truck to queue (whether entering or exiting). Nevertheless, it should be noted that staff has conditioned that, if truck queuing is later determined to be an issue, the applicant shall immediately set the gate back to accommodate additional queueing of trucks.

Proposed Screening

It should be noted that a 10' foot high vinyl fence, similar to the existing fence on the adjacent site immediately south of the subject property, will be installed along the east end of the truck yard to help screen the truck yard from public view. Additionally, as suggested by staff, the applicant has removed the two easterly truck parking stalls from the proposed striping plan. While it is not represented on the site plan, staff has conditioned that the applicant install several trees within the front setback area to provide additional curb appeal and to further screen the truck yard activities. Vinyl fencing and trees were also installed for the nearly identical

truck yard just south of the subject property. The proposed screening for the subject truck yard will therefore continue with the existing theme established for the property to the south.

Proposed LFG Treatment Facility

Since the subject property is part of a former landfill, the applicant will be installing a Landfill Gas (LFG) treatment facility along the northwest portion of the site. Landfill gas (LFG) is a natural byproduct of the decomposition of organic material in landfills. LFG is composed of roughly 50 percent methane (the primary component of natural gas), 50 percent carbon dioxide (CO₂) and a small amount of non-methane organic compounds. The proposed LFG treatment facility will help reduce odors and other hazards associated with LFG emissions and also prevent methane from migrating into the atmosphere and contributing to local smog and global climate change. According to the applicant, the facility will continue to be operational until Methane is no longer an issue on the subject property. That time period is estimated to be approximately 20 years.

STREETS AND HIGHWAYS

The subject site is located on the west side of Greenstone Avenue. Greenstone Avenue is designated as a local industrial street, within the Circulation Element of the City's General Plan.

ZONING AND LAND USE

The subject property is zoned M-2 (Heavy Manufacturing). The property has a General Plan Land Use designation of Industrial. The zoning, General Plan and land use of the surrounding properties are as follows:

Surrounding Zoning, General Plan Designation, Land Use			
Direction	Zoning District	General Plan	Land Use (Address/Business Name)
North	M-2, Heavy Manufacturing, Zone	Industrial	Truck Yard - Satellite Parking Lot #7 (12017 Greenstone Avenue/FedEx) ----- Trucking Storage and Repair 12027 Greenstone Avenue/R&R Transportation
South	M-2, Heavy Manufacturing, Zone	Industrial	Truck Yard – Satellite Parking Lot #6 (12211 Greenstone Avenue/FedEx)
East	M-2, Heavy Manufacturing, Zone	Industrial	Metal Drilling & Honing (12805 Sunshine Avenue./Roberts Honing and Gun Drilling)
West	M-2, Heavy Manufacturing, Zone	Industrial	Vacant – New industrial building under construction

LEGAL NOTICE OF PUBLIC HEARING

This matter was set for Public Hearing in accordance with the requirements of Sections 65090 through 65096 of the State Planning, Zoning and Development Laws and the requirements of Sections 155.860 through 155.864 of the City's Municipal Code.

Legal notice of the Public Hearing for the proposed project was sent by first class mail to all property owners whose names and addresses appear on the latest County Assessor's Roll within 500 feet of the exterior boundaries of the subject property on October 27, 2022. The legal notice was also posted in Santa Fe Springs City Hall, the City's Town Center Kiosk, the City's Library, and published in a newspaper of general circulation (Whittier Daily News) on October 27, 2022, as required by the State Zoning and Development Laws and by the City's Zoning Ordinance. As of the date of this report, staff has not received any comments and/or inquiries regarding the proposed project.

ZONING REQUIREMENTS

The procedures set forth in Section 155.243 (I)(7) of the City's Zoning Ordinance states that a truck yard use shall be permitted in the M-2 Zone, only after a valid Conditional Use Permit has first been issued.

Code Section:	Conditional Use Permit
155.243	Section 155.243 The following uses shall be permitted in the M-2 Zone only after a valid conditional use permit has first been issued: (I) Trucking, transit and transportation facilities of the following kinds: (7) Truck, truck trailer or truck tractor storage

ENVIRONMENTAL DOCUMENTS

After review and analysis, Staff made a preliminary determination that the project qualifies for a categorical exemption from CEQA. The specific exemption is Class 32, Section 15332 (In-fill Development Projects). Staff intends to file a Notice of Exemption (NOE) with the Los Angeles County Clerk and the State Clearinghouse (if the Planning Commission agrees), finding that the proposed project is Categorically Exempt pursuant to Class 32, Section 15332 (In-fill Development Project) of the California Environmental Quality Act (CEQA).

A detailed Class 32 Categorical Exemption report has been prepared and is included as Exhibit A of the Resolution No. 218-2022. The report provides written justification that the proposed Project meets the following criteria:

- a. The project is consistent with the applicable General Plan designation and all

- applicable policies as well as with applicable zoning designation and regulations;
- b. The proposed project occurs within the city limits on a site of no more than 5-acres substantially surrounding by urban use;
 - c. The project site has no value, as a habitat for endangered, rare or threatened species;
 - d. Approval of the project will not result in any significant effects relating to traffic, noise, air quality, or water quality impacts; and
 - e. The site can be adequately served by all required utilities and public services.

Additionally, the project site is not listed on the Hazardous Waste and Substance Site List (Cortese List) as set forth in Government Code Section 65962.5.

AUTHORITY OF PLANNING COMMISSION

The Planning Commission has the authority, subject to the procedures set forth in the City's Zoning Ordinance, to grant a Conditional Use Permit when it has been found that said approval is consistent with the requirements, intent and purpose of the City's Zoning Ordinance. The Commission may grant, conditionally grant or deny a Conditional Use Permit based on the evidence submitted and its own study and knowledge of the circumstances. All conditions of approval shall: be binding upon the applicants, their successors and assigns; run with the land; limit and control the issuance and validity of certificates of occupancy; and restrict and limit the construction, location, use and maintenance of all land and structures within the development.

CRITERIA FOR GRANTING A CONDITIONAL USE PERMIT

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

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

STAFF REMARKS

Based on the findings set forth in the attached Resolution No. 218-2022 (see attachment 5), staff finds that the applicant's request meets the criteria set forth in §155.716 of the City's Zoning Ordinance, for the granting of a Conditional Use Permit. Staff is therefore recommending approval of Conditional Use Permit Case No. 831, subject to the conditions of approval.

CONDITIONS OF APPROVAL

Conditions of approval for CUP Case No. 831 are attached to Resolution No. 218-2022 as Exhibit C.



Wayne M. Morrell
Director of Planning

Attachments:

1. Aerial Photograph
2. Full Set of Proposed Plans
3. Public Hearing Notice
4. Radius Map for Public Hearing Notice
5. Resolution No. 218-2022
 - a. Exhibit A - Class 32 CEQA Categorical Exemption Report
 - b. Exhibit B - Traffic Impact Analysis
 - c. Exhibit C - Conditions of Approval

Attachment #1: Aerial Photograph



CITY OF SANTA FE SPRINGS
AERIAL PHOTOGRAPH



12133 Greenstone Avenue (APN: 8026-020-017)

PROJECT

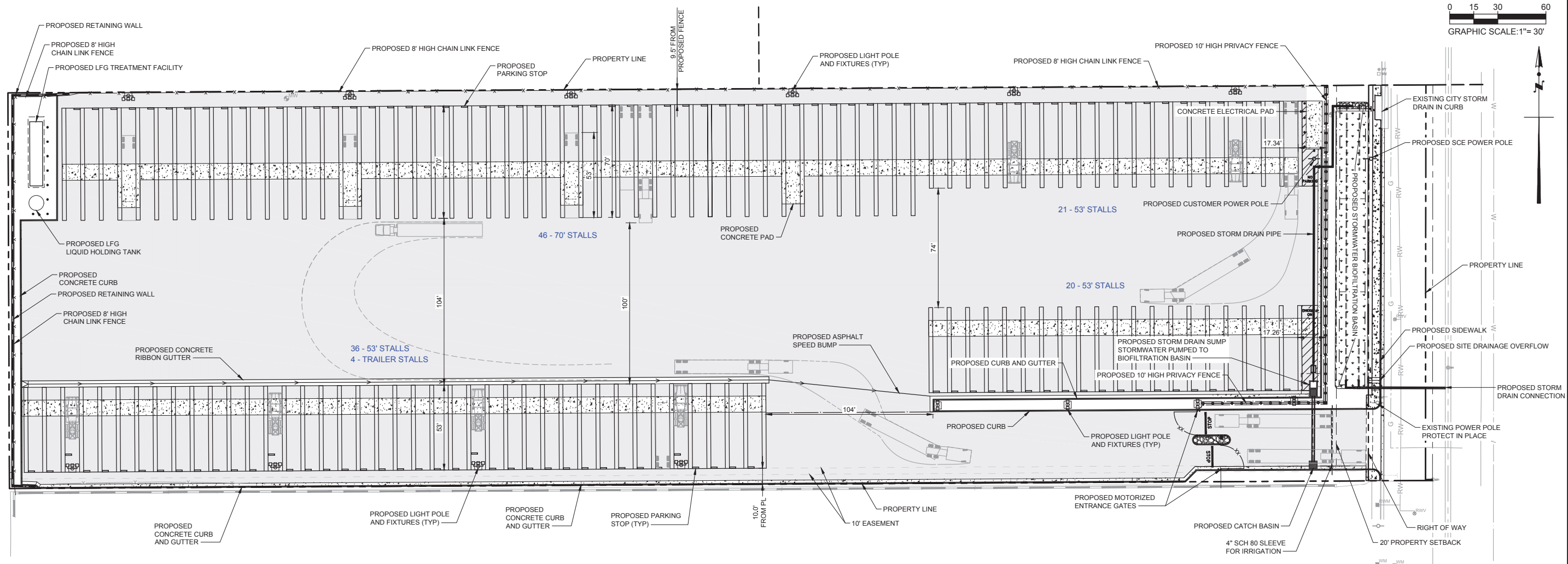
Conditional Use Permit (CUP) Case No. 831

APPLICANT

Rexford Industrial – 12133 Greenstone LLC

Attachment #2: Full Set of Proposed Plans

P:\Redford Industrial\Greenstone Lot\Improvements\CAD\Sheets\Figures\C-100 Site Plan_2022-08-23.dwg 8/23/2022 10:27 AM



ABBREVIATIONS

AC ASPHALTIC CONCRETE
LFG LANDFILL GAS
PL PROPERTY LINE
TYP TYPICAL

LEGEND

--- APPROXIMATE LIMIT OF PROPERTY LINE
--- EASEMENT RIGHT-OF-WAY
--- 20' PROPERTY SETBACK
--- CENTERLINE OF ROAD
--- UTILITY EASEMENT
-x-x- EXISTING FENCE
-RW- EXISTING RECYCLED WATER MAIN
-W- EXISTING WATER MAIN
-G- EXISTING HIGH PRESSURE GAS MAIN
-x-x- PROPOSED CHAIN LINK FENCE
-x-x- PROPOSED 10' HIGH PRIVACY FENCE
--- FLOWLINE
--- PROPOSED PAVED AC ROAD
--- PROPOSED PAVED PCC ROAD
--- PROPOSED LIGHT POLE AND FIXTURES

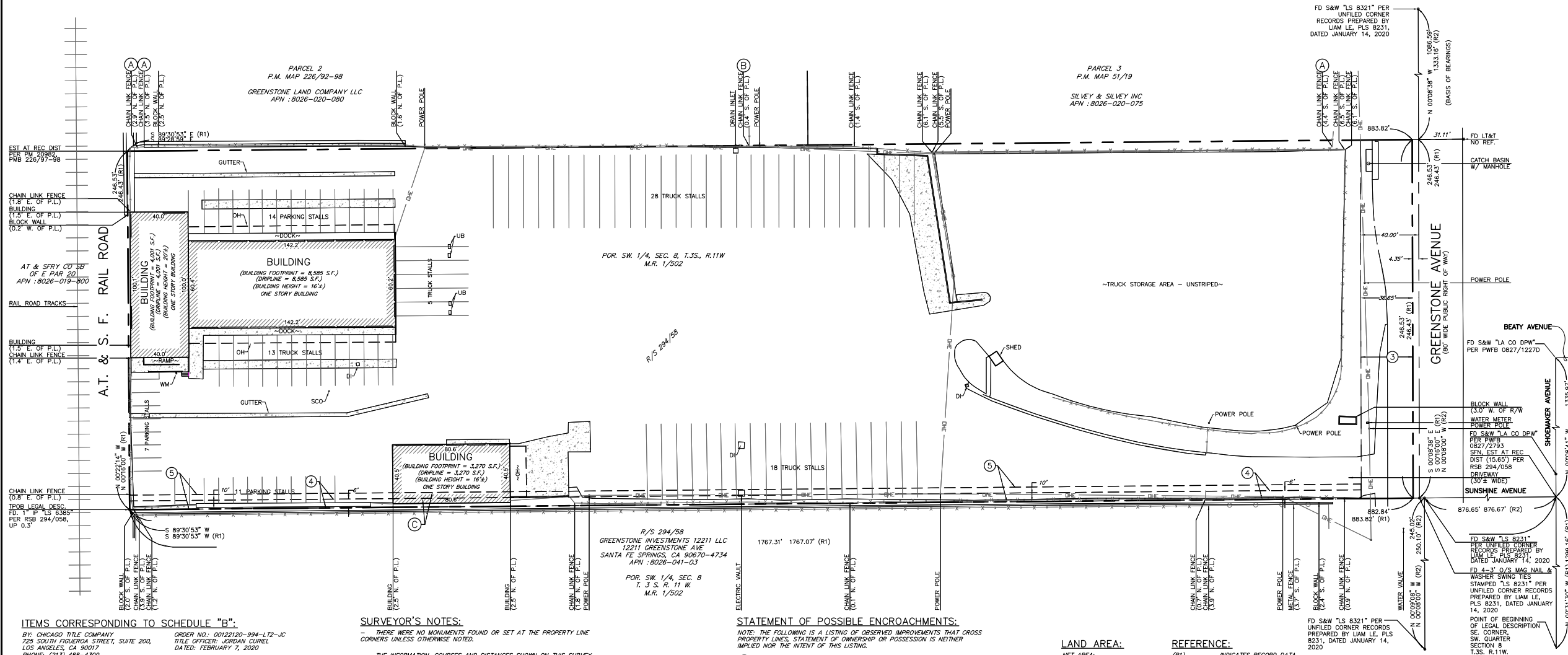
NO.	REVISION DESCRIPTION	DATE

TETRA TECH
21700 Copley Drive, Suite 200
Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

REXFORD INDUSTRIAL - 12133 GREENSTONE AVE, SANTA FE SPRINGS, CA			
SITE PLAN			
DESIGNED BY :	C.L.M.	FILE :	C-100 Site Plan_2022-08-23.dwg
DRAWN BY :	C.L.M.	DATE :	02-2022
CHECKED BY :	J.W.	SCALE :	AS SHOWN
APPROVED BY :	J.W.	DATE :	02-2022
		C-100	SHEET OF

ALTA/NSPS LAND TITLE SURVEY

12133 GREENSTONE AVENUE
SANTA FE SPRINGS, CA



ITEMS CORRESPONDING TO SCHEDULE "B":

- BY: CHICAGO TITLE COMPANY
725 SOUTH FIGUEROA STREET, SUITE 200,
LOS ANGELES, CA 90017
PHONE: (213) 488-4300
- ORDER NO.: 00121210-994-LT2-JC
TITLE OFFICER: JORDAN CUREL
DATED: FEBRUARY 1, 2020
- THE FOLLOWING ITEMS WERE FOUND IN SAID COMMITMENT AND ARE REFERENCED ON THIS MAP. COVENANTS AND AGREEMENTS HEREON CONTAIN NUMEROUS ITEMS THAT AFFECT THE SUBJECT PROPERTY, CONTENTS THEREIN BEING REFERRED TO DISCERN SPECIFICS.
- WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT DISCLOSED BY THE PUBLIC RECORDS, THE EXTENT TO WHICH THIS ITEM AFFECTS THE SUBJECT PROPERTY CAN NOT BE DETERMINED FROM THE TITLE REPORT OR DOCUMENTS PROVIDED AND IS NOT PLOTTED HEREON.
 - EASEMENT FOR STREET, PUBLIC UTILITY, AND MUNICIPAL PURPOSES. RECORDING DATE: DECEMBER 07, 1964. RECORDING NO: 689 OF OFFICIAL RECORDS. THIS ITEM AFFECTS THE SUBJECT PROPERTY AND IS PLOTTED HEREON, ASSUMING THE EASTERLY 35.65'.
 - EASEMENT FOR COMMUNICATION FACILITIES. RECORDING DATE: FEBRUARY 08, 1968. RECORDING NO: 1878 OF OFFICIAL RECORDS. THIS ITEM AFFECTS THE SUBJECT PROPERTY AND IS PLOTTED HEREON.
 - EASEMENT FOR AERIAL AND UNDERGROUND ELECTRIC AND COMMUNICATION LINES. RECORDING DATE: FEBRUARY 13, 1968. RECORDING NO: 4786 OF OFFICIAL RECORDS. THIS ITEM AFFECTS THE SUBJECT PROPERTY AND IS PLOTTED HEREON.
 - THE AGREEMENTS, COVENANTS AND PROVISIONS CONTAINED IN EACH OF THE DOCUMENTS, RECORDED JULY 20, 1977 AS INSTRUMENT NOS. 77-784437, 77-784438, AND 77-784439, ALL OF OFFICIAL RECORDS, EXECUTED BY WILLIAM H. PERLOFF, CAROL CAPPER, AND LOUIS RANTZ, RESPECTIVELY, WHEREIN SAID PARTIES STATE THAT THEY ARE THE OWNERS OF SAID LAND. THIS ITEM AFFECTS THE SUBJECT PROPERTY, IS BLANKET IN NATURE AND IS NOT PLOTTED HEREON.
- ITEMS #5 SHOWN HEREON ARE STATED AS EXCEPTIONS ON ABOVE REFERENCED COMMITMENT. NO RESPONSIBILITY FOR THE COMPLETENESS, ACCURACY, OR CONTENT OF SAID REPORT IS ASSUMED BY THIS MAP.

LEGAL DESCRIPTION:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF SANTA FE SPRINGS, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THAT PORTION OF THE SOUTHWEST QUARTER OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 11 WEST, IN THE RANCHO SANTA GERTRUDES, IN THE CITY OF SANTA FE SPRINGS, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 1, PAGE 502 OF MISCELLANEOUS RECORDS IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF THE SOUTHWEST CORNER OF SAID SECTION 8; THENCE NORTH 00°31'30" EAST 1299.16 FEET ALONG THE EASTERLY LINE OF SAID QUARTER SECTION; THENCE NORTH 89°50'53" WEST 1767.07 FEET TO THE EASTERLY LINE OF THE 100 FOOT RIGHT OF WAY OF THE CALIFORNIA CENTRAL RAILWAY COMPANY (ATCHAFSON, TOPEKA AND SANTA FE COMPANY), AS PER DEED FROM J. B. NICHOLS, ET AL., TO THE CALIFORNIA CENTRAL RAILWAY COMPANY, RECORDED JANUARY 03, 1989 IN BOOK 358, PAGE 434 OF DEEDS, SAID LAST MENTIONED POINT BEING THE TRUE POINT OF BEGINNING; THENCE FROM SAID TRUE POINT OF BEGINNING, NORTH 00°16'00" EAST 246.43 FEET ALONG THE EASTERLY LINE OF SAID 100 FOOT RIGHT OF WAY; THENCE SOUTH 89°50'53" EAST 883.82 FEET; THENCE SOUTH 00°16'00" WEST 246.43 FEET TO A POINT IN A LINE WHICH BEARS SOUTH 89°50'53" EAST 883.82 FEET TO SAID TRUE POINT OF BEGINNING; THENCE NORTH 89°50'53" WEST 883.82 FEET TO SAID TRUE POINT OF BEGINNING.

EXCEPT A ONE-HALF INTEREST IN AND TO ALL OIL, GAS, OR OTHER HYDROCARBON SUBSTANCES IN AND UNDER SAID LAND, AS RESERVED IN THE DEED FROM ARTHUR J. WHITE, RECORDED AUGUST 31, 1945 IN BOOK 22208, PAGE 283 OF OFFICIAL RECORDS.

ALSO EXCEPT A ONE-FOURTH INTEREST IN AND TO ALL OIL, GAS, OR OTHER HYDROCARBON SUBSTANCES IN AND UNDER SAID LAND, WITHOUT RIGHT TO DRILL AND BORE FOR SAID SUBSTANCES, AS RESERVED IN THE DEED FROM JOHN METZ RECORDED MARCH 13, 1953 AS INSTRUMENT NO. 1871, IN BOOK 41004, PAGE 37 OF OFFICIAL RECORDS.

APN: 8026-020-017

SURVEYOR'S NOTES:

- THERE WERE NO MONUMENTS FOUND OR SET AT THE PROPERTY LINE CORNERS UNLESS OTHERWISE NOTED.
- THE INFORMATION, COURSES AND DISTANCES SHOWN ON THIS SURVEY PRINT ARE TRUE AND CORRECT. THIS SURVEY ACCURATELY REPRESENTS THE BOUNDARIES AND AREA OF THE PREMISES DENOTED ON THE TITLE ORDER REFERENCED HEREON AND IS THE SAME PROPERTY AS DESCRIBED THEREIN.
- AT THE TIME OF SURVEY, NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR ADDITIONS WERE OBSERVED UNLESS OTHERWISE NOTED HEREON.
- NO RECENT CHANGES IN STREET RIGHTS-OF-WAY WERE OBSERVED AT THE TIME OF THE SURVEY UNLESS OTHERWISE NOTED HEREON.
- THIS SURVEY HAS BEEN PREPARED FOR TITLE INSURANCE PURPOSES ONLY. THIS SURVEY DOES NOT CONTAIN SUFFICIENT DETAIL FOR DESIGN PURPOSES. THE BOUNDARY DATA AND TITLE MATTERS AS SHOWN HEREON HAVE BEEN DEVELOPED FROM THE REFERENCED TITLE REPORT ONLY.
- UNLESS THIS PLAN HAS THE SEAL AND SIGNATURE OF THE SURVEYOR RESPONSIBLE FOR ITS PREPARATION, THIS IS NOT AN AUTHENTIC COPY OF THE ORIGINAL SURVEY AND SHALL NOT BE DEEMED RELIABLE.
- JRN CIVIL ENGINEERS ASSUMES NO LIABILITY FOR THE ACCURACY OR COMPLETENESS OF ANY THIRD PARTY INFORMATION REFERENCED OR REPRESENTED HEREON. ANY OF SAID INFORMATION SHOWN HEREON HAS BEEN PROVIDED FOR INFORMATIONAL PURPOSES ONLY.
- THERE WERE NO OFFSITE APPURTENANT EASEMENTS OR SERVITUDES DISCLOSED IN DOCUMENTS PROVIDED TO OR OBTAINED BY THIS OFFICE.
- THERE WERE NO WETLANDS MARKINGS OBSERVED DURING THE COURSE OF THIS SURVEY. IT IS THE RESPONSIBILITY OF THE CLIENT TO HAVE THE WETLANDS MARKED BY A QUALIFIED SPECIALIST, IF REQUIRED.
- AS OUTLINED IN SECTION 8770.6 OF THE BUSINESS AND PROFESSIONS CODE OF THE STATE OF CALIFORNIA "THE USE OF THE WORD 'CERTIFY' OR 'CERTIFICATION' BY A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER IN THE PRACTICE OF PROFESSIONAL ENGINEERING OR LAND SURVEYING OR THE PREPARATION OF MAPS, PLATS, REPORTS, DESCRIPTIONS OR OTHER SURVEYING DOCUMENTS ONLY CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THOSE FACTS OR FINDINGS WHICH ARE THE SUBJECT OF THE CERTIFICATION, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED.

BASIS OF BEARINGS:

THE BEARING OF N 00°08'38" W ALONG THE CENTERLINE OF GREENSTONE AVENUE PER RSB 294/58 IN THE CITY OF SANTA FE SPRINGS, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, WAS USED AS THE BASIS OF BEARINGS FOR THIS SURVEY.

FLOOD NOTE:

ZONE "X" PER FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NO. 06037C1841F, EFFECTIVE ON 09/26/2008.

ZONE "X" DENOTES AREAS SUBJECT TO MINIMAL FLOODING

THE ABOVE STATEMENT IS FOR INFORMATION ONLY AND THIS SURVEYOR ASSUMES NO LIABILITY FOR THE CORRECTNESS OF THE QTED MAP(S). IN ADDITION, THE ABOVE STATEMENT DOES NOT REPRESENT THIS SURVEYOR'S OPINION OF THE PROBABILITY OF FLOODING.

STATEMENT OF POSSIBLE ENCROACHMENTS:

NOTE: THE FOLLOWING IS A LISTING OF OBSERVED IMPROVEMENTS THAT CROSS PROPERTY LINES, STATEMENT OF OWNERSHIP OR POSSESSION IS NEITHER IMPLIED NOR THE INTENT OF THIS LISTING.

- (A) CHAIN LINK FENCE LIES 2.9' UP TO 4.4' NORTH OF P.L.
- (B) CHAIN LINK FENCE LIES 0.4' SOUTH OF P.L.
- (C) BUILDING LIES OVER SCHEDULE B ITEM NOS. 4 & 5.

PARKING SPACE TABLE	
TYPE OF SPACE	TOTAL EXISTING
STANDARD	32
HANDICAP	0
TRUCK	64
TOTAL	96

ZONING INFORMATION:

ZONE: M-2, HEAVY MANUFACTURING.

CITY OF SANTA FE SPRINGS
1710 TELEGRAPH ROAD
SANTA FE SPRINGS, CA 90670
(952)868-0511

LETTER DATED: JANUARY 27, 2020

DATUM STATEMENT:

BENCH MARK NUMBER: EY11461

DESCRIPTION: WND DISK IN N CB @ BOR NW COR IMPERIAL HWY & SHOEMAKER AVE MUD (JUA 53 1968)

ELEVATION: 123.684 (NAVD88)

LAND AREA:

NET AREA:
208,976 SQUARE FEET
4.80 ACRES

GROSS AREA:
217,764 SQUARE FEET
5.00 ACRES

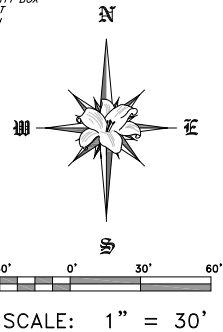
REFERENCE:

- (R1) - INDICATES RECORD DATA PER LEGAL DESCRIPTION
- (R2) - INDICATES RECORD DATA PER RSB 294/58



LEGEND:

- (TYP) - TYPICAL
- AC - ASPHALTIC CONCRETE
- APN - ASSESSORS PARCEL NUMBER
- BC - BOOK
- BW - BLOCK WALL
- CLF - CHAIN LINK FENCE
- D/W - DRIVEWAY
- DI - DRAIN INLET
- E - EAST
- FD - FOUND
- FT - FOOT
- LP - LIGHT POLE
- LT&T - LEAD TACK & TAG
- L.S. - LICENSED SURVEYOR
- M.R. - MISCELLANEOUS RECORD
- N - NORTH
- NW - NORTHWEST
- OH - OVERHANG
- OE - OVERHEAD ELECTRIC LINES
- OR - OFFICIAL RECORDS
- PG - PAGE
- PL - PROPERTY LINE
- P.S. - PARKING STALL(S)
- R - RANGE
- S - SOUTH
- SCO - SEWER CLEAN OUT
- SE - SOUTHEAST
- S.F. - SQUARE FEET
- SW - SOUTHWEST
- TOWNSHIP - TOWNSHIP
- T.R. - TITLE REPORT
- UB - UTILITY BOX
- W - WITH



SURVEYOR'S CERTIFICATE:

TO: REXFORD INDUSTRIAL REALTY, L.P., REXFORD INDUSTRIAL - 12133 GREENSTONE, LLC, ITS SUCCESSORS AND ASSIGNS, AND CHICAGO TITLE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5, 6, 7(A), 7(B)(1), 7(C), 8, 9, 13, 14, 16, 17, 18, 19, AND 21 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON JANUARY 21, 2020.

DATE OF PLAT OR MAP: JANUARY 29, 2020.

Jeffery L. Mays
JEFFERY L. MAYS L.S. NO. 6379



REVISIONS

JRN CIVIL ENGINEERS

ALTA/NSPS LAND TITLE SURVEY

SHEET 1 OF 2

DATE: 01/29/2020

ADDRESS:

12133 GREENSTONE AVENUE
SANTA FE SPRINGS, CA

PHONE (949) 248-4685
FAX (949) 248-4687

232 AVENIDA FABRICANTE, STE. 107
SAN CLEMENTE, CALIFORNIA 92672

02/03/2020: ADDED ZONING INFORMATION.

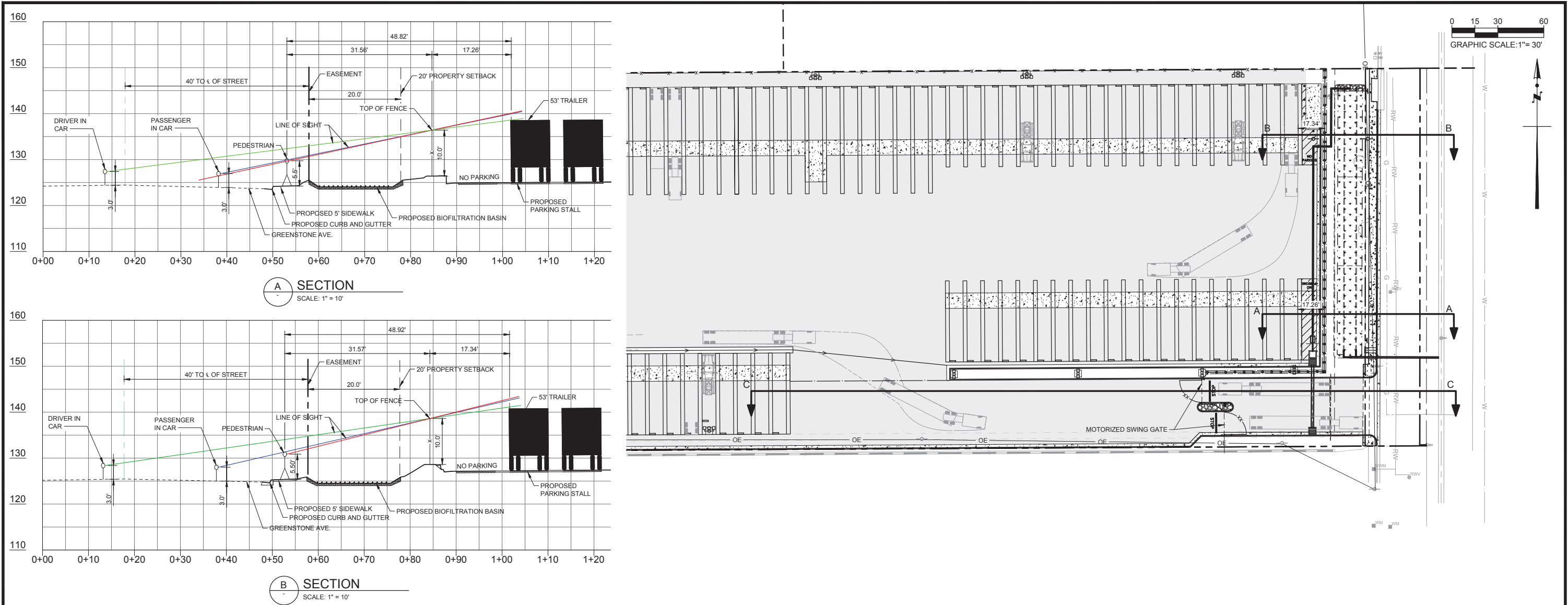
02/05/2020: REVISED ADDRESS.

02/25/2020: REVISED PER NEW TITLE REPORT.

CLIENT: REXFORD INDUSTRIAL REALTY

PROJECT COORDINATOR:

JESUS OSUNA(JOSUNA@JRN-CIVIL.COM)



P:\Rexford Industrial\Greenstone Lot\Improvements\CAD\Sheets\Figures\C-801 Line Of Sight_2022-06-03.dwg 8/23/2022 10:53 AM

NO.	REVISION DESCRIPTION	DATE

Tt **TETRA TECH**
21700 Copley Drive, Suite 200
Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

REXFORD INDUSTRIAL - 12133 GREENSTONE AVE, SANTA FE SPRINGS, CA

LINE OF SIGHT

DESIGNED BY :	C.L.M	FILE :	C-801 Line Of Sight_2022-06-03.dwg
DRAWN BY :	C.L.M.	DATE :	06-2022
CHECKED BY :	J.W.	SCALE:	AS SHOWN
APPROVED BY :	J.W.	DATE :	06-2022

FIGURE 1
SHEET
OF



Attachment #3: Public Hearing Notice**FILE COPY**

11710 Telegraph Road • CA • 90670-3679 • (562) 868-0511 • Fax (562) 868-7112 • www.santafesprings.org

"A great place to live, work, and play"



**NOTICE OF PUBLIC HEARING
CONDITIONAL USE PERMIT (CUP) CASE NO. 831**

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

CONDITIONAL USE PERMIT CASE NO. 831: A request to allow the establishment, operation, and maintenance of a truck and trailer storage yard on the subject approximately 4.7-acre property.

PROJECT LOCATION: 12133 Greenstone Avenue (APN: 8026-020-017)

THE HEARING will be held before the Planning Commission of the City of Santa Fe Springs in the Council Chambers of the City Hall, 11710 Telegraph Road, Santa Fe Springs, on **Wednesday, November 9, 2022 at 6:00 p.m.**

You may also attend the meeting telephonically or electronically using the following means:

Electronically using Zoom

Go to Zoom.us and click on "Join A Meeting" or use the following link:

<https://zoom.us/j/558333944?pwd=b0FqbKV2aDZneVRnQ3BjYU12SmJlQT09>

Zoom Meeting ID: 558 333 944

Password: 554545

Telephonically

Dial: 888-475-4499

Meeting ID: 558 333 944

CEQA STATUS: After review and analysis, staff intends to file a Notice of Exemption (NOE) with the Los Angeles County Clerk within five (5) days of project approval (if the Planning Commission agrees), specifically Class 32, Section 15332 (In-Fill Development Project) of the California Environmental Quality Act (CEQA). The proposed project is consistent with the City's General Plan and zoning requirements. In addition, the project will not result in any significant traffic, noise, air quality, or water quality impacts. Furthermore, the project site is not listed on the Hazardous Waste and Substance Site List (Cortese List) as set forth in Government Code Section 65962.5.

Annette Rodriguez, Mayor • Joe Angel Zamora, Mayor Pro Tem

City Council

Juanita Martin • John M. Mora • Jay Sarno

City Manager

Raymond R. Cruz

Attachment #3: Public Hearing Notice (Cont.)

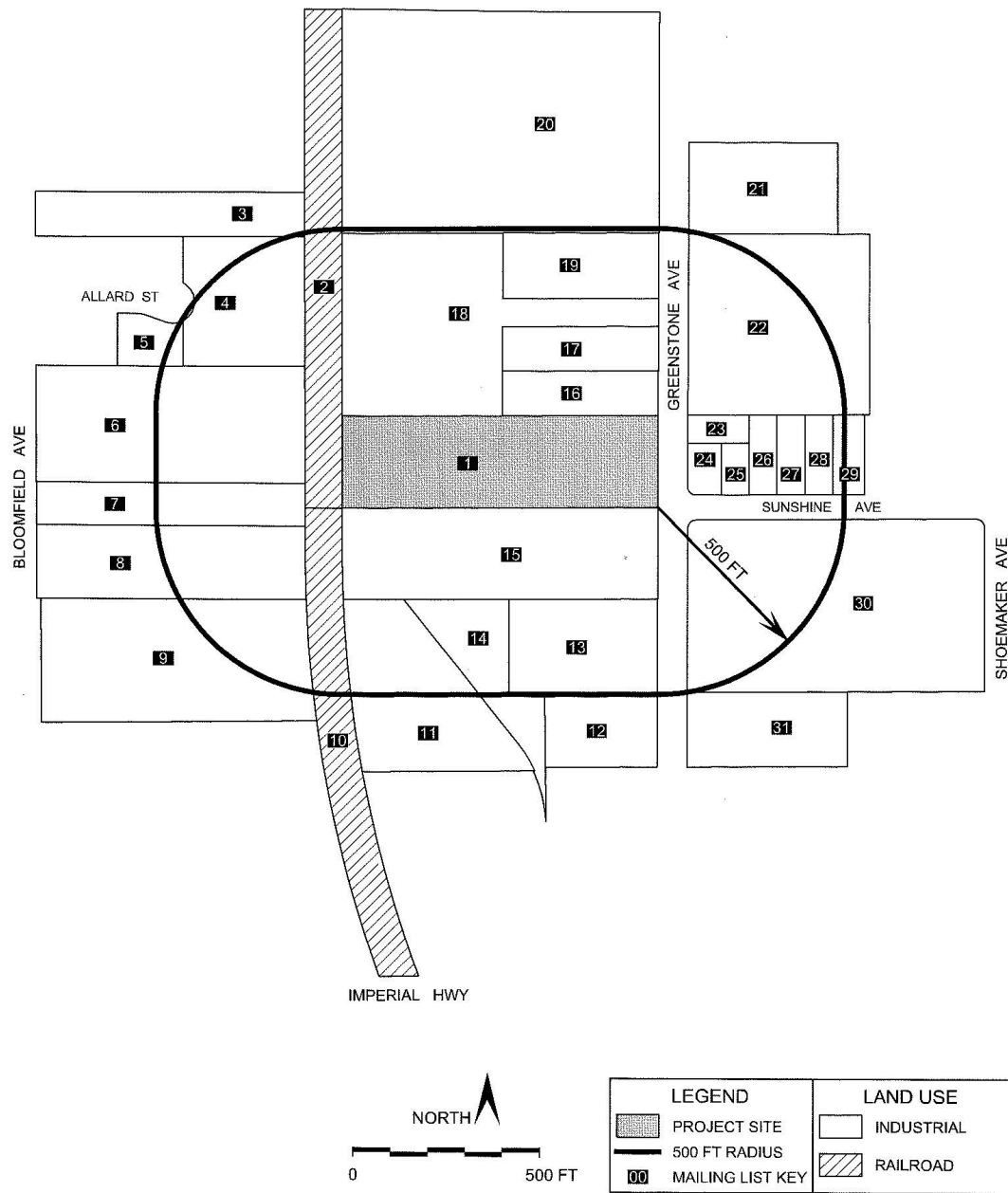
ALL INTERESTED PERSONS are invited to participate in the Public Hearing before the Planning Commission and express their opinion on the subject item listed above. Please note that if you challenge the afore-mentioned item in court, you may be limited to raising only those issues you or someone else raised at the Public Hearing described in this notice, or in written correspondence delivered to the office of the Commission at, or prior to, the Public Hearing.

PUBLIC COMMENTS may be submitted in writing to the Planning Program Assistant at teresacavallo@santafesprings.org. Please submit your written comments by 12:00 p.m. on the day of the Planning Commission meeting. You may also contact the Planning Department at (562) 868-0511 ext. 7550.

FURTHER INFORMATION on this item may be obtained from Cuong Nguyen, Assistant Director of Planning, via e-mail at: CuongNguyen@santafesprings.org or otherwise by phone at: (562) 868-0511 ext. 7359.

Wayne M. Morrell
Director of Planning
City of Santa Fe Springs
11710 Telegraph Road
Santa Fe Springs, CA 90670

Annette Rodriguez, Mayor • Joe Angel Zamora, Mayor Pro Tem
City Council
Juanita Martin • John M. Mora • Jay Sarno
City Manager
Raymond R. Cruz

Attachment #4: Radius Map for Public Hearing Notice

RADIUS MAP 500 FT ON ASSESSOR'S PARCEL BASE	PROJECT SITE 12133 GREENSTONE AVE SANTA FE SPRINGS, CA 90670 APN 8026-020-017	APPLICANT REXFORD INDUSTRIAL - 12133 GREENSTONE, LLC, A DELAWARE LIMITED LIABILITY COMPANY	REQUESTING AGENCY CITY OF SANTA FE SPRINGS	8/19/2022	PREPARED BY CITY RADIUS MAPS ROBERT SIMPSON 818-850-3382 P 22455 Copyright CRN

Attachment #5: Resolution No. 217-2022

CITY OF SANTA FE SPRINGS
RESOLUTION NO. 218-2022

**A RESOLUTION OF THE PLANNING COMMISSION OF
THE CITY OF SANTA FE SPRINGS REGARDING
CONDITIONAL USE PERMIT CASE NO. 831**

WHEREAS, a request was filed for Conditional Use Permit (CUP) Case No. 831 to allow the establishment, operation, and maintenance of a truck and trailer storage yard use on the subject approximately 4.7-acre property; and

WHEREAS, the subject property is located at 12133 Greenstone Avenue, with Assessor's Parcel Number of 8026-020-017, as shown in the latest rolls of the Los Angeles County Office of the Assessor; and

WHEREAS, the applicant and property owner is Rexford Industrial – 12133 Greenstone LLC, 11620 Wilshire Boulevard, Suite 610, Los Angeles, CA 90025; and

WHEREAS, the proposed conditional use permit request is considered a project as defined by the California Environmental Quality Act (CEQA), Article 20, Section 15378(a); and

WHEREAS, based on the information received from the applicant, the environmental consultant, and the provided written and oral staff report, the Planning Commission has found and determined that the proposed project meets the criteria for a Categorical Exemption, pursuant to the California Environmental Quality Act (CEQA), Section 15332, Class 32 (In-Fill Development Projects); and

WHEREAS, the City of Santa Fe Springs Planning and Development Department on October 27, 2022 published a legal notice in the *Whitter Daily News*, a local paper of general circulation, indicating the date and time of the public hearing, and also mailed said public hearing notice on October 27, 2022 to each property owner within a 500 foot radius of the project site in accordance with state law; and

WHEREAS, the City of Santa Fe Springs Planning Commission has considered the application, the written and oral staff report, the General Plan and zoning of the subject property, the testimony, written comments, or other materials presented at the Special Planning Commission Meeting on November 9, 2022 concerning Conditional Use Permit Case No. 831.

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

SECTION I. ENVIRONMENTAL FINDINGS AND DETERMINATION

The proposed project is considered a project under the California Environmental Quality Act (CEQA); and as a result, the project is subject to the City's environmental review process. The project, however, is categorically exempt pursuant to Section 15332, Class 32: In-Fill Development Project. A detailed Class 32 Categorical Exemption report, including a Traffic Impact Analysis, has been prepared and is attached hereto as Exhibits A and B, respectively. The report provides written justification that the proposed Project meets the following criteria:

- a. The project is consistent with the applicable General Plan designation and policies as well as with applicable zoning designation and regulations;
- b. The proposed project occurs within the city limits on a site of no more than 5-acres;
- c. The project site has no value as a habitat for endangered, rare or threatened species;
- d. Approval of the project will not result in any significant effects relating to traffic, noise, air quality, or water quality impacts; and
- e. The site can be adequately served by all required utilities and public services.

Lastly, the project site is not listed on the Hazardous Waste and Substance Site List (Cortese List) as set forth in Government Code Section 65962.5 and is not identified on the EPA's database (Environfacts).

SECTION II. CONDITIONAL USE PERMIT FINDINGS

Pursuant to Section 155.716 of the City of Santa Fe Springs Zoning Ordinance, the Planning Commission has made the following findings:

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

The subject site is a former landfill (Kalico Dump No. 3). Due to typical issues surrounding landfill properties such as ongoing subsidence and the presence of landfill gas, development of the site is very challenging and thus why the site has only been occupied by various trucking uses for over 50 years. Any proposed development, including the proposed truck yard, is subject to review and approval by the Local Enforcement Agency.

The proposed project involves the redevelopment of a former truck terminal site to a truck and trailer storage yard use. The main difference will be the removal of all existing buildings to maximize the yard area. The number of overall on-site parking stalls, however, will decrease from 128 stalls to 127 stalls. While the overall number of stalls will decrease by one, there is a net increase of 35 stalls designated for trucks and/or trailers. Nevertheless, according to the Traffic Impact Analysis (TIA) that was prepared by Minagar & Associates, the project is projected to generate 109 trips per day. Per the state of California's OPR's (Office of Planning & Research) Technical Advisory, a project can be assumed to generate a less than significant impact if it is

found to produce less than 110 project vehicular trips per day. Since the proposed project will generate 109 project trips per day, it is therefore considered as being screened out of further VMT analysis. As a result, the impacts are considered less than significant.

Additionally, the proposed truck and trailer storage yard, which will be occupied by UPS, has been designed to match the adjacent satellite parking lot immediately south of the subject site and occupied by FedEx. Similar to the adjacent lot, the design of the truck and trailer storage yard has considered on-site circulation, lighting, visibility of trucks and trailers, and the curb appeal. For the reasons mentioned, the proposed use will not be detrimental to persons or property in the immediate vicinity and thus will not adversely affect the city in general.

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

As mentioned previously, the proposed truck and trailer storage yard was designed to match the adjacent satellite parking lot immediately south of the subject site. As proposed, the applicant not only considered the visual impacts of proposed structures but also considered the visual impacts of the trucks and trailers that will be stored on-site. For example, the project involves a 10' high vinyl fence, landscaping and trees throughout the front setback area. The plan continues the theme that was established for the truck yard immediately south of the subject site. Additionally, as suggested by staff, the applicant has removed the two easterly truck parking stalls from the proposed striping plan. Therefore, trucks will not be immediately adjacent to the fence and thus their visibility will be minimized by additional setback provided from the fence. The applicant has therefore given due consideration to the appearance of new structures, including the trucks and trailers that will be stored onsite and thus the general appearance and welfare of the community will be preserved.

SECTION III. PLANNING COMMISSION ACTION

The Planning Commission hereby adopts Resolution No. 218-2022 to approve Conditional Use Permit Case No. 831, to allow the establishment, operation, and maintenance of a truck and trailer storage yard on the subject approximately 4.7-acre property, and to determine that the proposed project is categorically exempt pursuant to the California Environmental Quality Act (CEQA), Section 15322, Class 32 (In-Fill Development Project) for the subject property located at 12133 Greenstone Avenue (APN: 8026-020-017), subject to conditions attached hereto as Exhibit C.

ADOPTED and APPROVED this 9th day of November, 2022 BY THE PLANNING COMMISSION OF THE CITY OF SANTA FE SPRINGS.

Gabriel Jimenez, Chairperson

ATTEST:

Teresa Cavallo, Planning Secretary

Exhibit A – Class 32 CEQA Categorical Exemption Report

CEQA CATEGORICAL EXEMPTION

REXFORD PROJECT
CONDITIONAL USE PERMIT (CUP) 831
12133 GREENSTONE AVENUE
SANTA FE SPRINGS, CALIFORNIA



LEAD AGENCY:

CITY OF SANTA FE SPRINGS
PLANNING AND DEVELOPMENT DEPARTMENT
11710 E. TELEGRAPH ROAD
SANTA FE SPRINGS, CALIFORNIA 90670

REPORT PREPARED BY:

BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING
2211 SOUTH HACIENDA BOULEVARD, SUITE 107
HACIENDA HEIGHTS, CALIFORNIA 91745

OCTOBER 24, 2022

SFSP 072

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

CATEGORICAL EXEMPTION

NAME: Rexford Project, Amendment to Conditional Use Permit (CUP) 831

ADDRESS: The project site's legal address is 12133 Greenstone Avenue, Santa Fe Springs, California 90670. The Assessor Parcel Number (APN) associated with this project is 8026-020-017.

CITY/COUNTY: City of Santa Fe Springs, Los Angeles County.

APPLICANT: Mr. RJ Rieves, PE, Project Manager. Rexford Industrial Realty, Inc. 11620 Wilshire Boulevard, Suite 1000, Los Angeles, California, 90025.

PROJECT: The City of Santa Fe Springs, in its capacity as Lead Agency, is considering an application for the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces for the parking of trucks and/or trailers. In addition, an existing warehouse and maintenance building, consisting of 17,219 square feet of floor area, will be demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines) will be installed, new lighting will be installed, new fencing along Greenstone Avenue and new perimeter fencing will be constructed. The site address is 12133 Greenstone Avenue and the corresponding assessor's parcel number (APN) is 8026-020-017. This property has a General Plan and Zoning designation of Industrial and M-2 (Manufacturing).

CONCLUSIONS: The environmental analysis provided in the attached Categorical Exemption (CE) indicates that the proposed project would not result in any significant adverse unmitigable impacts to the physical and human environment. These conclusions and the supporting findings are provided in the attached Categorical Exemption. The requisite environmental analysis is also provided in the attached CE.

EXEMPTION: The project qualifies as exempt pursuant to Section 15132 (Infill Exemption).

STATUS:

- ☐ Ministerial (Section 21080 (b)(1); (Section No. _____);
- ☐ Declared Emergency (Section 21080 (b)(3); (Section No. _____);
- ☐ Emergency Project (Section 21080 (b)(4); (Section No. _____);
- ☐ Statutory Exemption (Section No. _____);
- ☒ Categorical Exemption (Section No. 15132);
- ☐ The activity is not subject to CEQA (Section No. _____);
- ☐ Other

Signature
City of Santa Fe Springs, Planning and Development Department

Date

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

TABLE OF CONTENTS

<u>Section No.</u>	<u>Page</u>
1 Purpose & Scope	7
2 Categorical Exemption	7
3 Applicable CEQA Exemption	8
4 Project Location.....	8
5 Environmental Setting	12
6 Project Description	12
7 Discussion of Findings Supporting the Applicable CEQA Exemptions.....	17

LIST OF EXHIBITS

<u>Exhibit No.</u>	<u>Page</u>
1 Regional Map	9
2 Citywide Map	10
3 Local Map.....	11
4 Aerial Map.....	13
5 Conceptual Site Plan.....	15
6 Aerial Site Plan Overlay	16

APPENDICES

<u>Appendix Letter.</u>	<u>Page</u>
1 Appendix A: Environmental Analysis & Checklist	19

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

1. PURPOSE & SCOPE

The City of Santa Fe Springs, in its capacity as Lead Agency, is considering an application for the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building, consisting of 17,219 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines) will be installed, new lighting will be installed, new fencing along Greenstone Avenue and new perimeter fencing will be constructed. The site address is 12133 Greenstone Avenue and the corresponding assessor's parcel number (APN) is 8026-020-017. This property has a General Plan and Zoning designation of Industrial and M-2 (Manufacturing), respectively.¹

For this project, the City of Santa Fe Springs has reviewed the proposed project and has determined that it is categorically exempt and qualifies for a Class 32 Infill Exemption (refer to [California Environmental Quality Act] CEQA Guidelines §15332). While this Categorical Exemption (CE) has been prepared with the assistance of an environmental consultant, the findings of the analysis represent the independent judgment of the City of Santa Fe Springs, in its capacity as Lead Agency for the project. Questions and/or comments should be submitted to the following contact person:

Cuong Nguyen, Assistant Director of Planning
City of Santa Fe Springs Planning Department
11710 E. Telegraph Road
Santa Fe Springs, California 90670

2. CATEGORICAL EXEMPTION

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, a Categorical Exemption (CE) may be prepared if the City of Santa Fe Springs, in its capacity as the Lead Agency, determines that a proposed action or project is exempt from CEQA. According to the CEQA Guidelines, a CE must contain the following information:

- A brief description of the project;
- The location of the project (either by street address and cross street for a project in an urbanized area);
- A finding that the project is exempt from CEQA, including a citation to the State Guidelines section or statute under which it is found to be exempt;
- A brief statement of reasons to support the finding; and,
- The applicant's name.²

This CE provides a description of the proposed project, indicates the applicable sections of CEQA that support the findings for the CEQA exemption, and discusses the Lead Agency's findings that are applicable to the proposed project. This CE represents the independent judgment and position of the City of Santa Fe Springs, acting as the Lead Agency. An environmental assessment is provided in Appendix A that includes

¹ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. February 2022.

² CEQA Guidelines California Code of Regulations, Title 14, Division 6, Chapter 3, Article 19. Categorical Exemptions. (Section 15300).

an environmental analysis of key issue areas to support the conclusion that the proposed project will not result in any significant environmental impacts associated with the proposed project's implementation.

3. APPLICABLE CEQA EXEMPTION

The preparers of this document (Blodgett Baylosis Environmental Planning) have determined that a CE is appropriate based on the findings contained herein. Additionally, the preparers have determined that the proposed project is categorically exempt and qualifies for a Class 32 Infill Development Project (CEQA Guidelines §15332). The Class 32 exemption consists of projects characterized as an infill development that meets the following conditions:³

- The project is consistent with the applicable General Plan designation and all applicable General Plan policies as well as with applicable zoning designation and regulations;
- The proposed undertaking will occur within the corporate boundaries of the City of Santa Fe Springs on a project site of no more than five acres (the site has a total land area of just 4.7 -acres) that is surrounded by urban development;
- The project site has no value as a habitat for endangered, rare, or threatened species;
- The approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality; and,
- The site can be adequately served by all required utilities and public services.

4. PROJECT LOCATION

The project site is located in the central portion of the City of Santa Fe Springs. The City is located approximately 13 miles southeast of Downtown Los Angeles, and 18 miles northwest of Downtown Santa Ana. Santa Fe Springs is bounded on the north by the City of Whittier and unincorporated West Whittier; on the east by Whittier, La Mirada, and unincorporated East Whittier; on the south by Cerritos and Norwalk; and on the west by Pico Rivera and Downey. Major physiographic features located in the vicinity of the City include the Puente Hills Preserve (located approximately 4 miles northeast of the site), the North Fork of Coyote Creek (La Canada Verde Creek), which is located approximately three-quarters of a mile east of the project site, and the San Gabriel River which is located approximately 3 miles west of the site.⁴

Regional access to the City of Santa Fe Springs and the project site is provided by two freeways: the Santa Ana Freeway (I-5) and the San Gabriel River Freeway (I-605). The I-5 Freeway extends along the City's western and southern portions in a northwest-southeast orientation, and the I-605 Freeway extends along the City's westerly side in a southwest-northeast orientation. The location of Santa Fe Springs in a regional context is shown in Exhibit 1. A citywide map is provided in Exhibit 2. The proposed project site is located on the west side of Greenstone Avenue between Imperial Highway (on the south) and Lakeland Avenue (on the north). The project site is located approximately 1,400 feet north of Imperial Highway. The project site's legal address is 12133 Greenstone Avenue, Santa Fe Springs, California 90670. The Assessor Parcel Number (APN) associated with this project is 8026-020-017. A local map is provided in Exhibit 3.

³ CEQA Guidelines California Code of Regulations, Title 14, Division 6, Chapter 3, Article 19. Categorical Exemptions. (Section 153332).

⁴ Google Earth. Website accessed February 1, 2021.

CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE

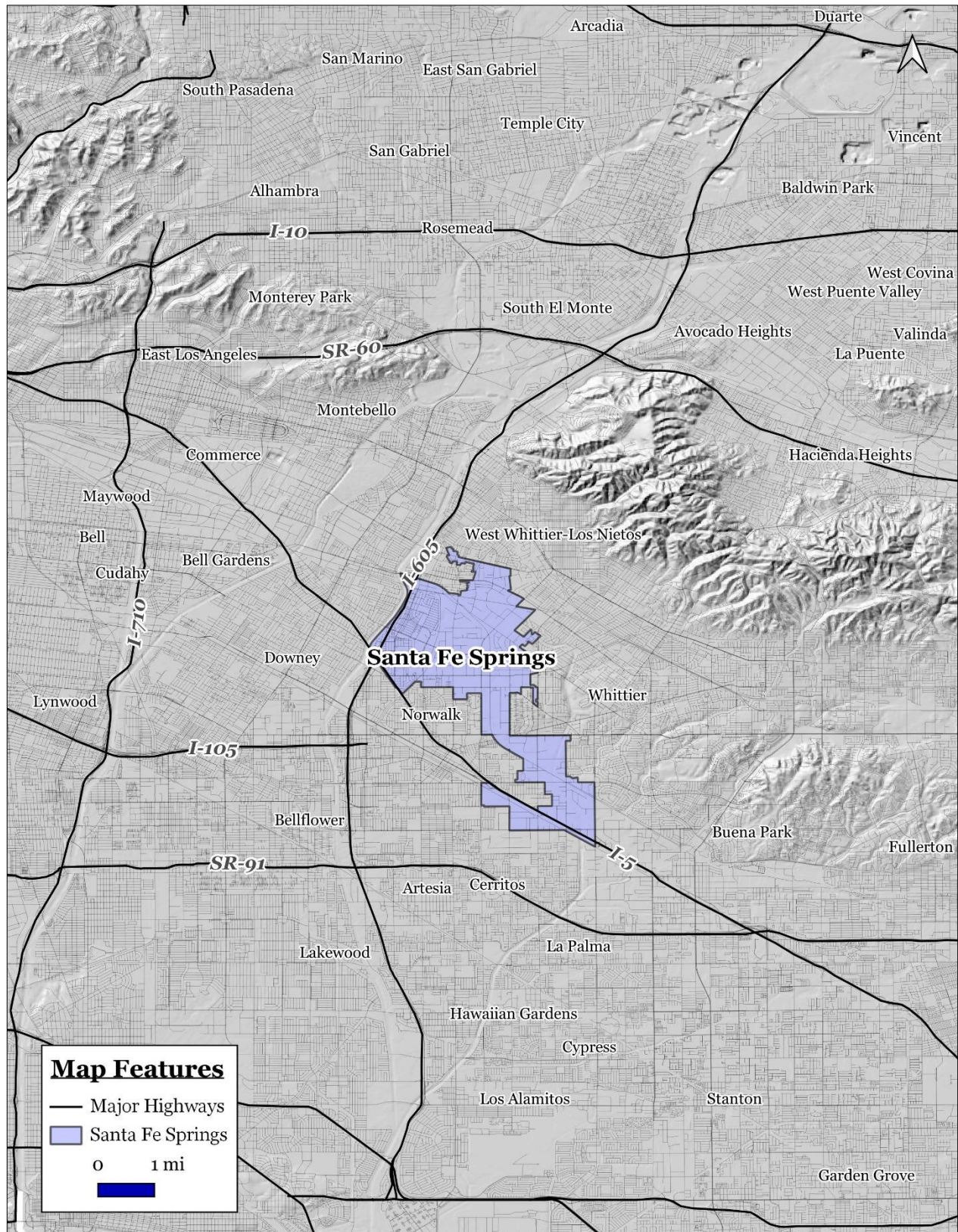


EXHIBIT 1
REGIONAL MAP

SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING

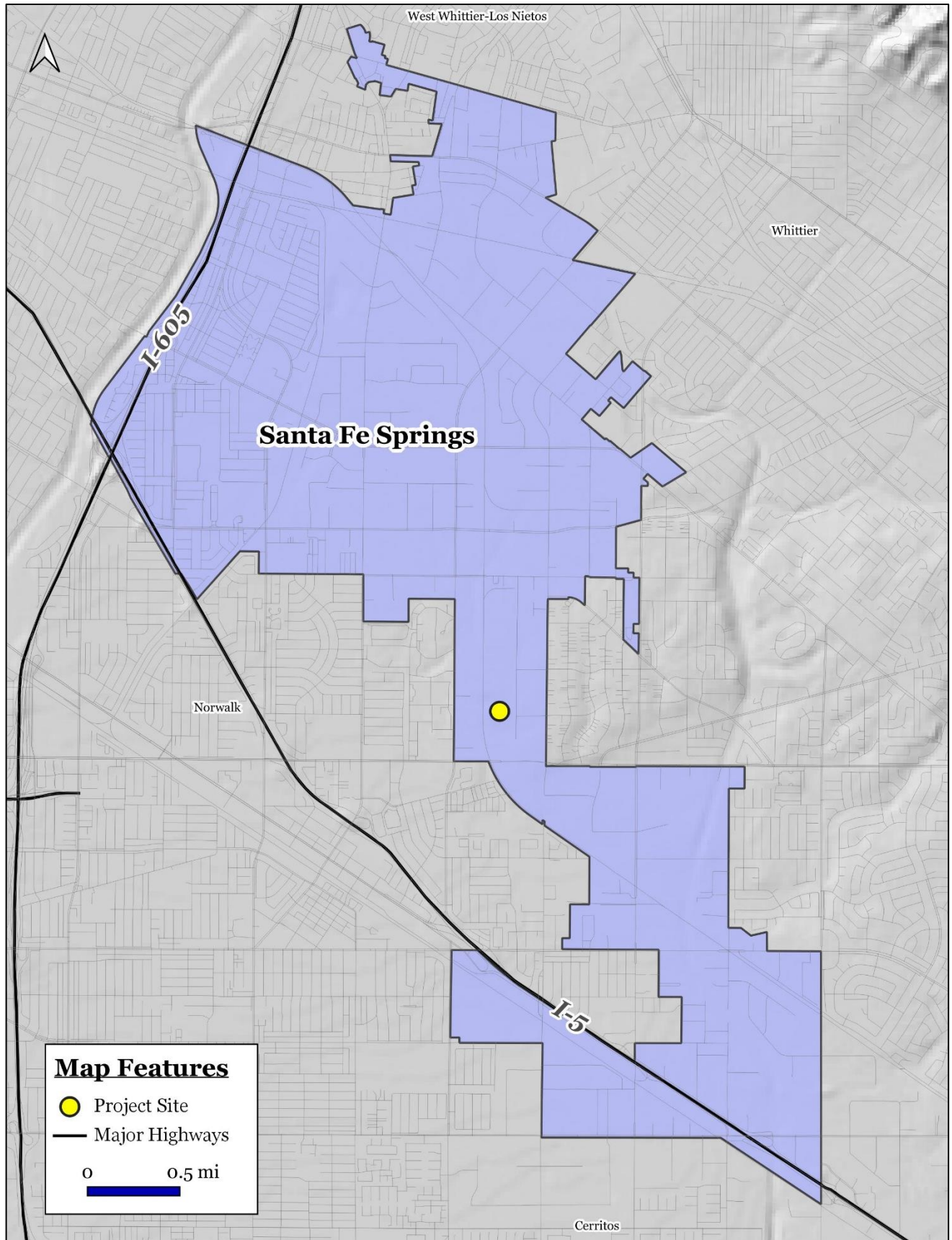


EXHIBIT 2 CITYWIDE MAP

SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING

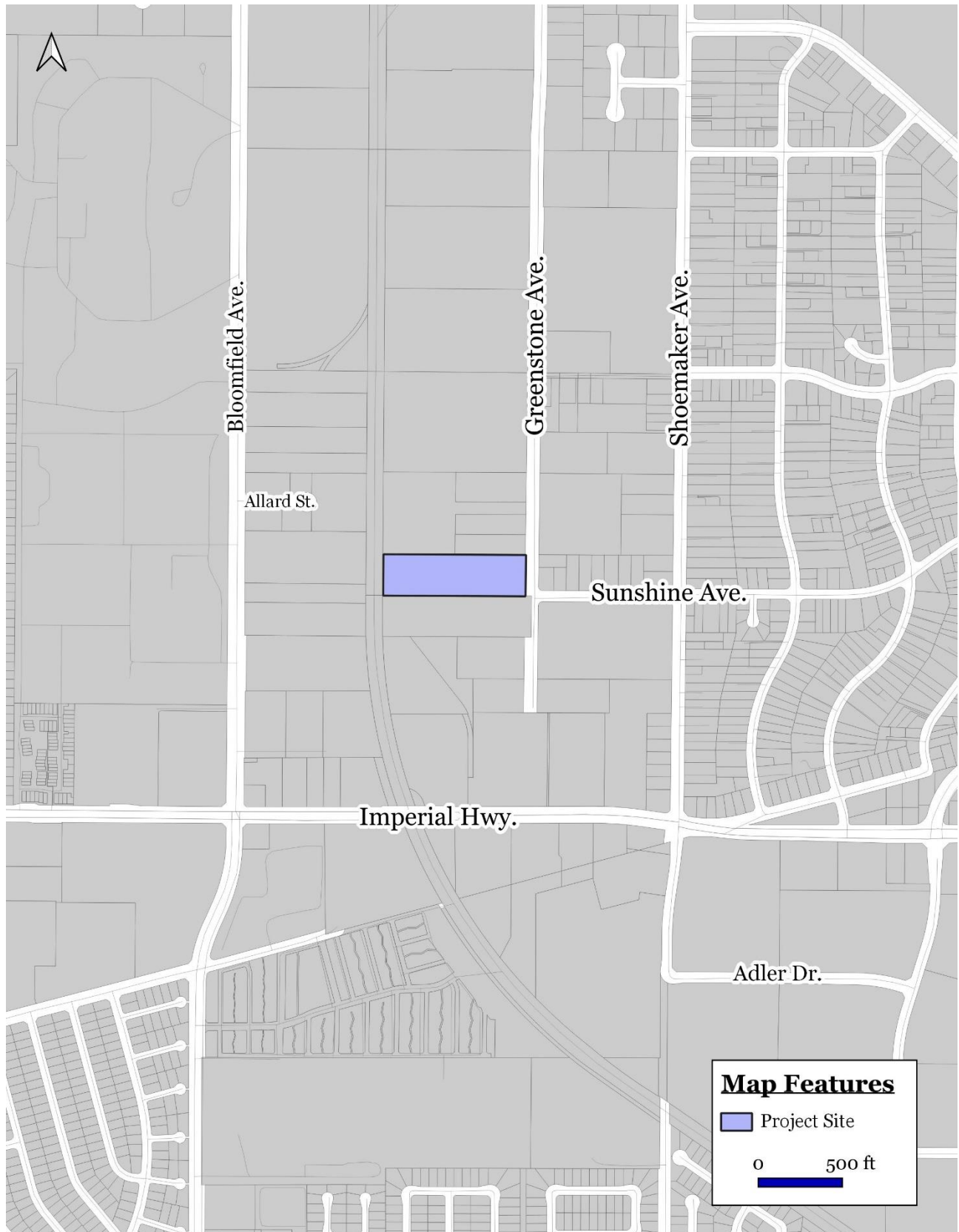


EXHIBIT 3 LOCAL MAP

SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING

5. ENVIRONMENTAL SETTING

The proposed project site's legal address is 12133 Greenstone Avenue. The project site consists of approximately 4.7 acres and is located in the midst of an industrial area in the northeastern portion of the City that extended along Greenstone Avenue. The following land uses are located near the project site:⁵

- *North of the project site.* A truck yard is located to the north of the project site (12027 Greenstone Avenue). The site is occupied by R&R Transportation.
- *East of the project site.* Greenstone Avenue extends along the site east side. Further east, opposite the project site, is a small industrial park.
- *South of the project site.* A truck yard is located to the south of the project site.
- *West of the project site.* A railroad right-of-way extends along the project site's west side. Further west, west of the aforementioned railroad ROW, is a large manufacturing use (Crown Fence, 12118 Bloomfield Avenue).

Other significant land uses in the area includes John Glenn High School, located approximately 4,300 feet to the southeast of the project site; the Santa Fe Springs Civic Center, located approximately 3,800 feet to the southwest; and the Norwalk-Santa Fe Springs Transportation Center, located approximately 1,650 feet to the south. The nearest residential neighborhood to the project site is located approximately 1,300 feet to the east in unincorporated East Whittier, east of Shoemaker Avenue.⁶

The project site itself was previously developed and occupied by a trucking terminal. In fact, various trucking uses have occupied the site since the 1960s. The existing 12,586 square foot building, previously used by the truck terminal operations, have been demolished. A number of smaller buildings along the south property line and three trailers used for driver sleeping quarters have been removed. An aerial photograph of the surrounding area is provided in Exhibit 4.

6. PROJECT DESCRIPTION

The proposed project would involve the redevelopment of an of an existing truck terminal within the 4.7-acre project site to a truck yard. Key elements of the proposed project are summarized below:

- *Project Site.* The proposed project would include the redevelopment of a single 4.7-acre parcel. The site address is 12133 Greenstone Avenue and the corresponding assessor's parcel number (APN) is 8026-020-017. The former 12,586 square foot building along with the other existing three smaller buildings located along the site's south side and three trailers used for sleeping quarters have been demolished or removed.⁷

⁵ Google Earth. Website accessed on February 1, 2021.

⁶ Ibid.

⁷ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan.* February 2022.



EXHIBIT 4 AERIAL MAP

SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING

- *Parking.* The new lot will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). These spaces would be located as shown in Exhibit 5 (Conceptual Site Plan).⁸ UPS will be the site's future tenant.
- *Access and Circulation.* Vehicular access to the project site will be provided by a single driveway connection with the west side of Greenstone Avenue. This driveway will have a curb-to-curb width of 36-feet and will accommodate both trucks and passenger vehicles. Gated access is set back from Greenstone Avenue by approximately 75-feet. An internal roadway drive aisle will be used for both access to the parking stalls and truck maneuvering.⁹
- *Landscaping.* Landscaped areas will total approximately 8,000 square feet and will be installed along the site's frontage with Greenstone Avenue. This landscaped area will serve as a stormwater vegetated swale to accommodate stormwater runoff.¹⁰
- *Utilities.* A new storm drain inlet will transect the site and will ultimately connect to the proposed drainage swale. In addition, a new sanitary sewer line and water line will be installed. These new lines will connect to existing lines in Greenstone Avenue.¹¹ A new landfill gas (LFG) treatment unit will be installed in the northwest portion of the site to address the methane and other gasses meaning from the former landfill.
- *Security.* A new 10-foot high decorative vinyl fence will be installed along the Greenstone Avenue frontage. A new 8-foot-high security fence will be installed along the property's south and north side. A new retaining wall and 10-foot-high fence will be located along the site's west property line, there will also be security fences installed within the interior of the site to secure the trailer parking area. New lighting will also be installed throughout the site.
- *Operations.* The proposed project will serve as an "open storage" facility for UPS trucks and/or trailers. No loading or unloading of the trailers will occur within the facility. The employees onsite will be limited to drivers that will be onsite at the facility at any given time. According to the traffic analysis, the proposed project's peak hour traffic generation would be 19 AM peak hour trips (5 in, 14 out) and 8 PM peak hour trips (3 in, 5 out). In other words, 5 trucks will enter and 14 trucks will exit during the morning peak hour. A total of 3 trucks will enter and 5 trucks will exit during the busiest evening peak hour traffic period.

The project site's zoning designation is Heavy Industrial (M-2).¹² The proposed project's site plan is illustrated in Exhibit 5. The site plan is superimposed over an aerial photograph of the site in Exhibit 6.

Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. February 2022.

⁹ Ibid.

¹⁰ Ibid.

¹¹ Ibid.

¹² Ibid.

SOURCE: TETRA TECH BAS

[illegible]

PAGE 16

7. DISCUSSION OF FINDINGS SUPPORTING THE APPLICABLE CEQA EXEMPTIONS

The City of Santa Fe Springs, in its capacity as Lead Agency, is considering an application for the redevelopment of an existing truck and trailer terminal with a total land area of approximately 4.7-acres to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building, consisting of 17,219 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines) will be installed, new lighting will be installed, new fencing along Greenstone Avenue and new perimeter fencing will be constructed.¹³

The City of Santa Fe Springs has determined, following a detailed evaluation, that the proposed project would not result in any significant effects on the environment. This finding is supported by the analysis provided in the remainder of this section and in the appendices. The City of Santa Fe Springs makes the following findings in support of the Infill Exemption (refer to CEQA Guidelines §15332):¹⁴

- *The project is consistent with the applicable General Plan designation and all applicable General Plan policies as well as with applicable zoning designation and regulations.* The proposed project would not require a general plan amendment or zone change as part of its implementation. The proposed project would not result in any land use conflicts (refer to Appendix A, Environmental Analysis and Checklist, Land Use).
- *The approval of the proposed project would not result in any significant effects relating to traffic, noise, air quality, or water quality.* The proposed project will not result in any significant increase in traffic, noise, or air quality impact (refer to Appendix A, Environmental Analysis and Checklist). The proposed project would involve the redevelopment of an existing truck terminal parking lot with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces for the parking of trailers. In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines) will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.¹⁵
- *The site can be adequately served by all required utilities and public services.* The proposed project will not result in any significant adverse impacts on utilities and public services (refer to Appendix A, Environmental Analysis and Checklist, Utilities, Public Services, and Service Systems). The water, sewer, and power lines that serve the existing use can adequately serve the proposed use.
- *The proposed project will be limited to the project site and no dislocation of off-site structural improvements will be required to accommodate the proposed project.* The project's construction and operation will be restricted to the project site and no off-site improvements other than the continued access to Greenstone Avenue will be required to accommodate the proposed use (refer to Appendix A, Environmental Analysis and Checklist).
- *The project site does not contain any sensitive environmental resources.* No sensitive habitats (e.g., wetlands, vernal pools, critical habitats for sensitive species, etc.) were observed on the site during the field

¹³ Ibid.

¹⁴ CEQA Guidelines California Code of Regulations, Title 14, Division 6, Chapter 3, Article 19. Categorical Exemptions. (Section 153332).

¹⁵ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. February 2022.

investigations (refer to Appendix A, Environmental Analysis and Checklist, Biological Resources). The site utility as a habitat is further constrained by the site's land area, the location of major roadways adjacent to the site and the presence of surrounding urban development. The site was previously used as a truck terminal.

- *The project site is located within an urban area of the City of Santa Fe Springs.* No scenic resources or scenic corridors will be affected by the proposed project (refer to Appendix A, Environmental Analysis and Checklist, Aesthetics). As a result, the project will not result in any impacts to sensitive visual resources in the area.
- *The project site is not located within an area, nor does it include a site, the Department of Toxic Substances Control (DTSC) and the Secretary for Environmental Protection has identified as being affected by hazardous wastes.* The project site is not located on the California Department of Toxic Substances Control's Hazardous Waste and Substances Site List - Site Cleanup (Cortese List).
- *The proposed project will not result in any adverse impacts on historic resources.* A review of the U.S. National Park Service's National Register of Historic Places and the State registrar indicated that there are no Federal- or State-recognized historic structures located within the project site. (refer to Appendix A, Environmental Analysis and Checklist, Cultural Resources).
- *The proposed project will not require any review by a State trustee or responsible agency.* No State trustee and responsible agencies approvals are required as part of this project's environmental review. CalRecycle and the South Coast Air Quality Management District (SCAQMD) may be required to issue permits because the site is part of a former landfill and will continue to employ a landfill gas treatment unit.

Based on the analysis provided in this Categorical Exemption, the project meets and complies with the conditions and requirements of CEQA Guidelines Section 15332 (Class 32 – Infill Exemption) and will not have any significant environmental impacts. As indicated above, an Environmental Analysis and Checklist is included in Appendix A.

APPENDIX A

ENVIRONMENTAL ANALYSIS & CHECKLIST

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

AESTHETICS

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Except as provided in Public Resources Code Section 21099, would the project have a substantial adverse effect on a scenic vista?				X
B. Except as provided in Public Resources Code Section 21099, would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?				X
C. Except as provided in Public Resources Code Section 21099, would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?				X
D. Except as provided in Public Resources Code Section 21099, would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X

- A.** The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.¹⁶ The project site was previously being used as a truck trailer parking facility. In addition, the project site is surrounded on all sides by industrial developments. Once redeveloped, public viewsheds of the surrounding areas would continue to be visible from the public right-of-way. The proposed project will facilitate the redevelopment of a site previously occupied with two older industrial buildings and a temporary office trailer. As a result, no impacts will occur.
- B.** According to the California Department of Transportation (Caltrans), Greenstone Avenue is not located within close proximity to a designated State or County designated scenic highway.¹⁷ The closest designated scenic highway to the project site is a 7-mile segment of the Orange Freeway (SR-57), located approximately 12 miles to the east of the project site.¹⁸ Two locations in the City are recorded on the National Register of Historic Places and the list of California Historical Resources: the Clarke Estate and the Hawkins-Nimocks Estate (also known as the Patricio Ontiveros Adobe or Ontiveros Adobe). The Clarke Estate is located at 10211 Pioneer Boulevard and the Ontiveros Adobe is located at 12100

¹⁶ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. February 2022.

¹⁷ California Department of Transportation. *Official Designated Scenic Highways*. www.dot.ca.gov

¹⁸ Google Earth. Website accessed November 23, 2020.

CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE

Telegraph Road. The project sites do not contain any buildings listed in the State or National registrar. As a result, no impacts will occur.

- C.** The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The existing lot will include 80 designated parking spaces for the parking of trucks and trailers, 35 standard parking stalls, and 15 stalls for docking. The current buildings on the site have been demolished. The site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and the site's perimeter will be constructed.¹⁹ As a result, no impacts will occur.
- D.** Exterior lighting can be a nuisance to adjacent land uses that are sensitive to this lighting. This nuisance lighting is referred to as *light trespass* which is typically defined as the presence of unwanted light on properties located adjacent to the source of lighting. The project site is surrounded on all sides by industrial development. No light sensitive uses are located within 1,000 feet of the project site. Any potential light and glare from the parking areas would be required to comply with Section 155.496 of the City of Santa Fe Springs Municipal Code. As a result, no significant impacts are anticipated to result.

¹⁹ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. February 2022.

AGRICULTURE & FORESTRY RESOURCES

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
B. Would the project conflict with existing zoning for agricultural use, or a Williamson Act Contract?				X
C. Would the project conflict with existing zoning for or cause rezoning of, forest land (as defined in Public Resources Code section §12220(g)), timberland (as defined by Public Resources Code section §4526), or timberland zoned Timberland Production (as defined by Government Code section §51104(g))?				X
D. Would the project result in the loss of forest land or the conversion of forest land to a non-forest use?				X
E. Would the project involve other changes in the existing environment which, due to their location or nature, could result in the conversion of farmland to non-agricultural use or the conversion of forest land to a non-forest use?				X

- A. The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.²⁰ The project site was previously developed as a truck terminal. The implementation of the proposed project would not involve the conversion of prime farmland, unique farmland, or farmland of statewide importance to urban uses. As a result, no impacts will occur.
- B. The site is currently developed as a truck trailer parking facility and is zoned for Heavy Manufacturing (M-2). According to the California Department of Conservation Division of Land Resource Protection, the project site is not subject to a Williamson Act Contract.²¹ There are no agricultural uses located within the site that would be affected by the project's implementation. As a result, no impacts will occur.
- C. No forest lands are located within the vicinity of either site. Furthermore, the site's existing zoning designation does not contemplate forest land uses. As a result, no impacts will occur.

²⁰ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. February 2022.

²¹ California Department of Conservation. *State of California Williamson Act Contract Land*.

CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE

- D.** No forest lands are located within the project site or surrounding area. No loss or conversion of forest lands to urban uses would result from the proposed project's implementation. As a result, no impacts will occur.

- E.** The project would not involve the disruption or damage of the existing environment that would result in a loss of farmland to nonagricultural use or conversion of forest land to non-forest use because the project site is not located in close proximity to farmland or forest land. As a result, no impacts will occur.

AIR QUALITY

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project conflict with or obstruct implementation of the applicable air quality plan?				X
B. Would the project violate any air quality standard or contribute substantially to result in a cumulatively considerable net increase in an existing or projected air quality violation?			X	
C. Would the project expose sensitive receptors to substantial pollutant concentrations?			X	
D. Would the project result in substantial emissions (such as odors or dust) adversely affecting a substantial number of people?				X

A. The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.²² Specific criteria for determining a project's conformity with the AQMP is defined in Section 12.3 of the SCAQMD's CEQA Air Quality Handbook. The Air Quality Handbook refers to the following criteria as a means to determine a project's conformity with the AQMP:²³

- *Consistency Criteria 1* refers to a proposed project's potential for resulting in an increase in the frequency or severity of an existing air quality violation or its potential for contributing to the continuation of an existing air quality violation.
- *Consistency Criteria 2* refers to a proposed project's potential for exceeding the assumptions included in the AQMP or other regional growth projections relevant to the AQMP's implementation.

In terms of Criteria 1, the proposed project's long-term (operational) airborne emissions will be below levels that the SCAQMD considers to be a significant adverse impact (refer to the analysis included in the next section where the long-term stationary and mobile emissions for the proposed project are summarized in Tables A-1 and A-2). The proposed project will also conform to Consistency Criteria 2 since it will not significantly affect any regional population, housing, and employment projections prepared for the City of Santa Fe Springs. Projects that are consistent with the projections of employment and population forecasts identified in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) prepared by SCAG are considered consistent with the AQMP growth projections, since the RTP/SCS forms the basis of the land use and transportation control portions of

²² Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

²³ South Coast Air Quality Management District. *CEQA Air Quality Handbook*. April 1993.

CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE

the AQMP. The proposed project will not result in any exceedance of the SCAG's employment projections for the City. As a result, no impacts related to the implementation of the AQMP are anticipated.

- B.** The analysis of daily construction and operational emissions was prepared utilizing the California Emissions Estimator Model (CalEEMod V. 2016.3.2). As shown in Table A-1, daily construction emissions will not exceed the SCAQMD significance thresholds.

Table A-1
Estimated Daily Construction Emissions

Construction Phase	ROG	NO_x	CO	SO₂	PM₁₀	PM_{2.5}
Demolition (on-site)	3.16	31.44	21.56	0.03	1.55	1.44
Demolition (off-site)	0.06	0.04	0.56	--	0.16	0.04
Total Demolition	3.22	31.48	22.12	0.03	1.71	1.48
Site Preparation (on-site)	3.88	40.49	21.15	0.03	9.09	5.75
Site Preparation (off-site)	0.07	0.04	0.67	--	0.20	0.05
Total Site Preparation	3.95	40.53	21.82	0.03	9.29	5.80
Grading (on-site)	2.29	24.73	15.85	0.02	3.54	2.36
Grading (off-site)	0.06	0.04	0.56	--	0.16	0.04
Total Grading	2.35	24.77	16.41	0.02	3.70	2.40
Building Construction (on-site)	1.90	17.43	16.57	0.02	0.95	0.90
Building Construction (off-site)	0.46	1.70	4.10	0.01	1.22	0.33
Total Building Construction	2.36	19.13	20.67	0.03	2.15	1.23
Paving (on-site)	1.09	10.83	12.26	0.01	0.57	0.53
Paving (off-site)	0.08	0.05	0.75	--	0.22	0.06
Total Paving	1.17	10.88	13.01	0.01	0.79	0.59
Architectural Coatings (on-site)	32.09	1.52	1.81	--	0.09	0.09
Architectural Coatings (off-site)	0.08	0.05	0.75	--	0.22	0.06
Total Architectural Coatings	32.17	1.57	2.56	--	0.31	0.15
Maximum Daily Emissions	32.17	40.54	22.13	0.04	9.29	5.80
Daily Thresholds	75	100	550	150	150	55

Source: Cameoed V. 2016.3.2.

Long-term emissions refer to those air quality impacts that will occur once the proposed project has been constructed and is operational. These impacts will continue over the operational life of the project. The long-term air quality impacts associated with the proposed project include mobile emissions associated with vehicular traffic. The analysis of long-term operational impacts also used the CalEEMod V. 2016.3.2 computer model. Table A-2 depicts the estimated operational emissions generated by the proposed project.

Table A-2
Estimated Operational Emissions in lbs./day

Emission Source	ROG	NO ₂	CO	SO ₂	PM ₁₀	PM _{2.5}
Area-wide (lbs./day)	4.73	0.13	11.48	--	0.06	0.06
Energy (lbs./day)	0.06	0.57	0.24	--	0.04	0.04
Mobile (lbs./day)	1.78	9.23	24.66	0.09	7.85	2.14
Total (lbs./day)	6.57	9.93	36.38	0.09	7.95	3.14
Daily Thresholds	55	55	550	150	150	55

Source: CalEEMod 2016.3.2.

As indicated in Table A-2, the projected long-term emissions are below thresholds considered to represent a significant adverse impact. Since the project area is located in a non-attainment area for Ozone and particulates, the contractors will be required to ensure that the grading and building contractors adhere to all pertinent provisions of SCAQMD Rule 403 pertaining to the generation of fugitive dust during grading and/or the use of equipment on unpaved surfaces.²⁴ The contractors will be responsible for being familiar with and implementing any pertinent best available control measures. These are SCAQMD Rules that will be standard conditions. Therefore, the impacts will be less than significant.

- C. The potential long-term (operational) and short-term (construction) emissions associated with the proposed project are compared to the SCAQMD's daily emissions thresholds in Tables A-1 and A-2, respectively. As indicated in these tables, the short-term and long-term emissions will not exceed the SCAQMD's daily thresholds. While the proposed project would result in additional vehicle trips, there would be a regional benefit in terms of a reduction in vehicle miles traveled (VMT) because it is an infill project that is consistent with the regional and the State sustainable growth objectives. The proposed project would not exceed the adopted projections used in the preparation of the Regional Transportation Plan/Sustainable Communities Strategy). As a result, the potential air quality impacts related to the generation of criteria pollutants are less than significant.
- D. The SCAQMD has identified those land uses that are typically associated with odor complaints. These uses include activities involving livestock, rendering facilities, food processing plants, chemical plants, composting activities, refineries, landfills, and businesses involved in fiberglass molding.²⁵ The proposed project will not result in the generation of any odors. In addition, construction truck drivers must adhere to Title 13 - §2485 of the California Code of Regulations, which limits the idling of diesel-powered vehicles to less than five minutes.²⁶ Furthermore, the project's contractors must adhere to SCAQMD rules and regulations that govern fugitive dust during site preparation which will significantly reduce the generation of fugitive dust. As a result, no impacts will occur.

²⁴ South Coast Air Quality Management District. *Rule 403, Fugitive Dust*. As Amended June 3, 2005.

²⁵ South Coast Air Quality Management District. *CEQA Air Quality Handbook, Appendix 9*. As amended 2017.

²⁶ California, State of. *California Code of Regulations, Title 13, Section 2485 Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling*.

BIOLOGICAL RESOURCES

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project, either directly or through habitat modifications, have a substantial adverse effect on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U. S. Fish and Wildlife Service?				X
B. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				X
C. Would the project have a substantial adverse effect on State or Federally protected wetlands as defined (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
D. Would the project interfere substantially with the movement of any native resident or migratory fish, wildlife species or with established native resident or migratory life corridors, or impede the use of native wildlife nursery sites?				X
E. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
F. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plans?				X

A. The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.²⁷ Specific criteria for determining a project's conformity with the AQMP is defined in Section 12.3 of the SCAQMD's CEQA Air Quality Handbook. The Air Quality Handbook refers to the following criteria as a means to determine a project's conformity with the AQMP:²⁸ A review of the California Department of Fish and Wildlife California Natural Biodiversity Database (CNDDb) Bios Viewer for the Whittier Quadrangle indicated that there are six threatened or endangered species

²⁷ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

²⁸ South Coast Air Quality Management District. *CEQA Air Quality Handbook*. April 1993.

**CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE**

located within the Whittier Quadrangle (the City of Santa Fe Springs is listed under the Whittier Quadrangle).²⁹ These species include:

- The *Coastal California Gnatcatcher* is not likely to be found on-site due to the existing surrounding development and the lack of habitat suitable for the California Gnatcatcher. The absence of coastal sage scrub, the coastal California Gnatcatcher's primary habitat, further diminishes the likelihood of encountering such birds.³⁰
- The *Least Bell's Vireo* lives in a riparian habitat, with a majority of the species living in San Diego County. As a result, it is not likely that any Least Bell's Vireos will be encountered in the project area due to the lack of riparian habitat in the surrounding area.³¹
- The *Santa Ana Sucker* will not be found on-site because the Santa Ana Sucker is a fish and there are no bodies of water present on-site.³² The nearest body of water is the La Canada Verde Creek, located approximately 0.54 miles east of the project site.
- The *Bank Swallow* lives in a riparian habitat and nests along rivers or streams. The nearest stream or body of water is the La Canada Verde Creek, located approximately 0.54 miles east of the project site; therefore, it is not likely that the Bank Swallow will be found on the project site. Additionally, the current level of development in the surrounding area is not an ideal environment for the Bank Swallow.³³
- The *Western Yellow-Billed Cuckoo* is an insect-eating bird found in riparian woodland habitats. The likelihood of encountering a Western Yellow-Billed Cuckoo is low due to the level of development present within the City of Santa Fe Springs. Furthermore, the lack of riparian habitat further diminishes the likelihood of encountering populations of Western Yellow-Billed Cuckoos.³⁴
- *California Orcutt Grass* is found near vernal pools throughout Los Angeles, Riverside, and San Diego Counties.³⁵ As indicated previously, the project site is located in the midst of an urban area. There are no bodies of water located on-site that would be capable of supporting populations of California Orcutt Grass nor does the site have the capacity to form vernal pools during wet seasons.

The proposed project will have no impact on the aforementioned species because the project site is located in the midst of an urban area. In addition, the site was previously being used as a truck terminal.

²⁹ California Department of Fish and Wildlife, *Bios Viewer*.

³⁰ Audubon, *California Gnatcatcher (Poliophtila californica)*.

³¹ California Partners in Flight Riparian Bird Conservation Plan, *Least Bell's Vireo (Vireo bellii pusillus)*.

³² Blodgett Baylosis Environmental Planning, *Site Survey*. Survey was completed on November 23, 2020.

³³ Audubon, *Bank Swallow (Riparia riparia)*.

³⁴ US Fish and Wildlife Service, *Sacramento Fish and Wildlife Office, Public Advisory*.
http://www.fws.gov/sacramento/outreach/Public-Advisories/WesternYellow-BilledCuckoo/outreach_PA_Western-Yellow-Billed-Cuckoo.htm.

³⁵ County of Los Angeles Department of Public Works, *Listed Species in the County of Los Angeles*.

**CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE**

The project site and the surrounding areas are not conducive to the survival of the aforementioned species due to the lack of suitable habitat. As a result, no impacts on any candidate, sensitive, or special status species will result from proposed project's implementation.

- B.** According to the United States Fish and Wildlife Service, there are no riverine areas located within the project boundary or adjacent parcels.³⁶ The project site and the surrounding properties are developed in industrial uses. In addition, the site was previously being used as a truck terminal. There is no riparian habitat located on-site or in the surrounding areas and no offsite riverine areas would be affected by the proposed development since the project's construction would be limited to the project site. As a result, no impacts will occur.
- C.** No sensitive wetland habitats (e.g., vernal pools, critical habitats for sensitive species, etc.) were observed on the site during the field investigations. In addition, according to the United States Fish and Wildlife Service there are no riverine areas located within the project boundary or adjacent parcels. No offsite riverine areas would be affected by the proposed development since the project's construction would be limited to the proposed project site. As a result, no impacts will occur.
- D.** The project site has no utility as a wildlife migration corridor due to the proposed site location in the midst of an urban area. Given the disturbed character of the project site, no impacts will occur.
- E.** General Regulations of the City of Santa Fe Springs Municipal Code Tree Ordinance establishes strict guidelines regarding the removal or tampering of trees located within any public right-of-way (such as streets and alleys). Any plans to cut, trim, prune, plant, remove, injure or interfere with any tree, shrub or plant upon any street, alley or public right-of-way within the city must be approved in advance by the City. No trees will be removed with the implementation of the proposed project. In fact, new trees will be required as part of the conditions of approval. As a result, no impacts will occur.
- F.** The project sites and the surrounding areas are urban. In addition, the site was previously being used as a truck terminal. The proposed project's implementation would not be in conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plans. In addition, the Puente Hills Significant Ecological Area (SEA #15) is the closest protected SEA and is located approximately 3.3 miles northeast from the project site. The construction and operation of the proposed project will not affect the Puente Hills SEA because the proposed development will be restricted to the project site. Therefore, no impacts will occur.

³⁶ United States Fish and Wildlife Service. *National Wetlands Inventory*.

CULTURAL RESOURCES

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5 of the CEQA Guidelines?				X
B. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the CEQA Guidelines?			X	
C. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?			X	

- A. The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.³⁷ Specific criteria for determining a project's conformity with the AQMP is defined in Section 12.3 of the SCAQMD's CEQA Air Quality Handbook. The Air Quality Handbook refers to the following criteria as a means to determine a project's conformity with the AQMP:³⁸

Historic structures and sites are defined by local, State, and Federal criteria. The State, through the State Historic Preservation Office (SHPO), maintains an inventory of those sites and structures that are historically significant. Finally, the U.S. Department of Interior has established specific Federal guidelines and criteria that indicate the manner in which a site, structure, or district is to be defined as having historic significance and in the determination of its eligibility for listing on the National Register of Historic Places.³⁹ The State regulations that govern historic resources and structures include Public Resources Code (PRC) Section 5024.1 and CEQA Guidelines Sections 15064.5(a) and 15064.5(b). In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains. CEQA, as codified at PRC Sections 21000 et seq., is the principal statute governing the environmental review of projects in the State. Two locations in the City are recorded on the National Register of Historic Places and the list of California Historical Resources: the Clarke Estate and the Hawkins-Nimocks Estate (also known as the Patricio Ontiveros Adobe or Ontiveros Adobe). The Clarke Estate is located at 10211 Pioneer Boulevard and the Ontiveros Adobe is located at 12100 Telegraph Road. The proposed project site is not within proximity to either of these historic landmarks and is presently vacant and undeveloped. The project site is not present on the list of historic resources identified by the

³⁷ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

³⁸ South Coast Air Quality Management District. *CEQA Air Quality Handbook*. April 1993.

³⁹ U.S. Department of the Interior, National Park Service. *National Register of Historic Places*. Website accessed on February 2, 2021.

CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE

State Office of Historic Preservation (SHPO).⁴⁰ Since the project's implementation will not impact any Federal, State, or locally designated historic resources, no impacts will occur.

- B.** The greater Los Angeles Basin was previously inhabited by the Gabrieleño people, named after the San Gabriel Mission. The Gabrieleño tribe has lived in this region for around 7,000 years. Prior to Spanish contact, approximately 5,000 Gabrieleño people lived in villages throughout the Los Angeles Basin. Villages were typically located near major rivers such as the San Gabriel, Rio Hondo, or Los Angeles Rivers. Two village sites were located in the Los Nietos area: Naxaaw'na and Sehat. The sites of Naxaaw'na and Sehat are thought to be near the adobe home of Jose Manuel Nietos that was located near the San Gabriel River. In the unlikely event that human remains are uncovered by construction crews and/or the Native American Monitors, all excavation and grading activities shall be halted, and the City of Santa Fe Springs Department of Police Services will be contacted (the Department will then contact the County Coroner). Title 14; Chapter 3; Article 5; Section 15064.5 of CEQA will apply in terms of the identification of significant archaeological resources and their salvage. Adherence to the abovementioned mitigation will reduce potential impacts to levels that are less than significant.
- C.** There are no dedicated cemeteries located within the vicinity of the project site.⁴¹ The proposed project will be restricted to the project site and will not affect any dedicated cemeteries within the surrounding area. Notwithstanding, in the unlikely event that remains are uncovered by construction crews, all excavation and grading activities shall be halted, and the Los Angeles County Sheriff's Department would be contacted (the Department would then contact the County Coroner). This is a standard condition under California Health and Safety Code Section 7050.5(b), which states:

“In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with (b) Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.”

Adherence to the aforementioned standard condition will ensure potential impacts remain at levels that are less than significant.

⁴⁰ California Department of Parks and Recreation. *California Historical Resources*. Website accessed on February 2, 2021.

⁴¹ Google Earth. Website accessed February 2, 2021.

ENERGY

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy, resources, during project construction or operation?			X	
B. Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?				X

- A.** The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.⁴² Following redevelopment, there will be no net increase in floor since no buildings will occupy the property. The project site is served by Southern California Edison (electricity) and the Southern California Gas Company (SCG). The project Applicant will work with the local electrical utility company to identify existing and future strategies that will be effective in reducing energy consumption including but not limited to the installation of new LED lighting. As a result, the impact will be less than significant.
- B.** On January 12, 2010, the State Building Standards Commission adopted updates to the California Green Building Standards Code (Code) which became effective on January 1, 2011. The California Code of Regulations (CCR) Title 24, Part 11: California Green Building Standards (Title 24) became effective to aid efforts to reduce GHG emissions associated with energy consumption. Title 24 now requires that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. The 2016 version of the standards became effective as of January 1, 2017. Due to the proposed use of the site, no impacts are expected.

⁴² Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

GEOLOGY & SOILS

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides?			X	
B. Would the project result in substantial soil erosion or the loss of topsoil?			X	
C. Would the project be located on a soil or geologic unit that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			X	
D. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (2012) creating substantial direct or indirect risks to life or property?			X	
E. Would the project be located on soils that are incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
F. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?			X	

- A.** The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.⁴³

The City of Santa Fe Springs is located within a seismically active region. Many major and minor local faults traverse the entire Southern California region and earthquakes from several active and potentially active faults in the Southern California region could affect the project site. The site is located within a seismically active region prone to occasional damaging earthquakes. The nearest active fault is the Whittier Fault, located approximately three miles northeast of the project site. In addition, the project will comply with the 2020 California Building Code, which is effective in minimizing any potential seismic-related impacts to structures. According to the United States Geological Survey, liquefaction is the process by which water-saturated sediment temporarily loses strength and acts as a fluid. Essentially, liquefaction is the process by which the ground soil loses strength due to an increase in water pressure following seismic activity. The project site is not located in an area that is subject to liquefaction. Lastly, the project site is not subject to the risk of landslides because there are no hills or

⁴³ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

**CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE**

mountains within the vicinity of the project site. As a result, the potential impacts in regard to ground shaking, liquefaction, and landslides are less than significant since the risk is no greater in and around the project site than for the rest of the area.

- B.** The project site is underlain by artificial fill that was previously part of a landfill. The material consists largely of crushed rock. The project must comply with all pertinent requirements of the California Building Code. It is also important to note that no new habitable structures will be constructed on the site. As a result, the potential impacts would be less than significant.
- C.** The project's construction will not result in soil erosion since the project's contractors must implement the construction best management practices (BMPs) identified in the mandatory storm water pollution prevention plan (SWPPP). The BMPs will minimize soil erosion and the discharge of sediment off-site. Additionally, the project site is not located within an area that could be subject to landslides or liquefaction.⁴⁴ The soils that underlie the project site possess a low potential for shrinking and swelling. Soils that exhibit certain shrink swell characteristics become sticky when wet and expand according to the moisture content present at the time. Since the soils have a low shrink-swell potential, lateral spreading resulting from an influx of groundwater is slim. The likelihood of lateral spreading will be further reduced since the project's implementation will not require grading and excavation that would extend to depths required to encounter groundwater. Moreover, the project will not result in the direct extraction of groundwater located below ground surface (BGS). As a result, the potential impacts will be less than significant.
- D.** The site is underlain by artificial fill to a depth of approximately 45 feet. The project contractors will be required to comply with the structural engineer's recommendations. As a result, the potential impacts will be less than significant.
- E.** No septic tanks will be used for the proposed project since the new development will be connected to the sanitary sewer system. The existing building is using a septic tank system. As a result, no impacts associated with the use of septic tanks will occur as part of the proposed project's implementation.
- F.** According to the State of California Geological Survey, the site's geology is classified as Urban Land-Thums-Pierview complex. Alluvium soil deposits that are present in a natural and undisturbed condition may contain paleontological resources, though these resources are more typically found in marine terraces and shales. The on-site soils have undergone disturbance due to the previous development, the demolition activities within the property, and the other on-site activities. Furthermore, the on-site soils that underlie the property are Holocene-aged deposits that have a low potential for the discovery of paleontological resources. These soils are recent deposits that do not contain fossil deposits. Thus, the proposed project is not anticipated to disturb any paleontological resources and the impacts are less than significant.

⁴⁴ United States Department of Agriculture, Natural Resources Conservation Service. *Web Soil Survey*. Website accessed February 2, 2021.

GREENHOUSE GAS EMISSIONS

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
B. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases?				X

- A. Greenhouse gasses (GHG) are emitted by both natural processes and human activities. Examples of GHG that are produced both by natural and industrial processes include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). The South Coast Air Quality Management District (SCAQMD) has recommended several GHG thresholds of significance. These thresholds include 1,400 metric tons of CO₂E (MTCO₂E) per year for commercial projects, 3,500 MTCO₂E per year for residential projects, 3,000 MTCO₂E per year for mixed-use projects, and 10,000 MTCO₂E per year for industrial projects. Table A-3 summarizes annual greenhouse gas (CO₂E) emissions from build-out of the proposed project.⁴⁵ Carbon dioxide equivalent, or CO₂E, is a term that is used for describing different greenhouse gases in a common and collective unit. As indicated in Table A-3, the CO₂E total for the project is 10,374.34 pounds per day or 4.66 MTCO₂E per day. This translates into an annual emission of 1,721 MTCO₂E, which is well below the aforementioned threshold. Note: there is 2,200 pounds in a metric ton.

Table A-3
Greenhouse Gas Emissions Inventory

Source	GHG Emissions (Lbs./Day)			
	CO ₂	CH ₄	N ₂ O	CO ₂ E
Construction Phase - Demolition	3,747.94	1.05	--	3,774.31
Construction Phase - Site Preparation	3,685.65	1.19	--	3,715.45
Construction Phase - Grading	2,871.92	0.92	--	2,895.14
Construction Phase - Construction	2,533.36	0.61	--	2,568.76
Construction Phase - Paving	1,804.55	0.56	--	1,818.72
Construction Phase - Coatings	281.44	0.01	--	281.93
Long-term Area Emissions	20.64	0.01	--	21.14
Long-term Energy Emissions	732.06	0.01	0.01	736.41
Long-term Mobile Emissions	9,605.84	0.41	--	9,616.79
Total Long-term Emissions	10,358.55	0.43	0.01	10,374.34

Source: CalEEMod V.2016.3.2.

This figure (1,703.98 MTCO₂E) does not take into account the implementation of Low Impact Development (LID) requirements (drought tolerant landscaping, water efficient appliances, and

⁴⁵ The CalEEMod Air Quality Worksheets are provided in Appendix B.

**CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE**

energy efficient appliances) and compliance to Transportation Demand Management (TDM) requirements. As indicated in the table, the great majority of the GHG emissions will be generated from mobile sources. For this reason, the project's use of trip reduction incentives (the use of alternative forms of transportation, the installation of electric vehicle charging stations and bicycle racks, and other TDM measures will be important). The project is also an infill development within an urban area. Therefore, the project's GHG impacts are less than significant.

- B.** AB-32 requires the reduction of GHG emissions to 1990 levels, which would require a minimum 28% in "business as usual" GHG emissions for the entire State. Additionally, Governor Edmund G. Brown signed into law Executive Order (E.O.) B-30-15 on April 29, 2015, the Country's most ambitious policy for reducing Greenhouse Gas Emissions. Executive Order B-30-15 calls for a 40% reduction in greenhouse gas emissions below 1990 levels by 2030.⁴⁶ The proposed project will not involve or require any variance from an adopted plan, policy, or regulation governing GHG emissions. As a result, no potential conflict with an applicable greenhouse gas policy plan, policy, or regulation will occur and no impacts will occur.

⁴⁶ Office of Governor Edmund G. Brown Jr. *New California Goal Aims to Reduce Emissions 40 Percent Below 1990 Levels by 2030.*

HAZARDS & HAZARDOUS MATERIALS

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
B. Would the project create a significant hazard to the public or the environment or result in reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
C. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?				X
D. Would the project be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code §65962.5, and as a result, would it create a significant hazard to the public or the environment?			X	
E. For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X
F. Would the project impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
G. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?				X

- A.** The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.⁴⁷

The project site was a former landfill that is presently closed. In addition, waste disposal sites have the potential for subsurface migration of landfill gas (LFG) through the porous surrounding soils. Monitoring probes are typically installed in accordance with CalRecycle and the South Coast Air Quality Management District (SCAQMD) requirements to monitor gas migration in surrounding land areas. Monitoring probes have not been installed at the project site in accordance with CalRecycle and the SCAQMD requirements. Temporary subsurface monitoring probes should be installed in order to

⁴⁷ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

determine the potential of subsurface migration of landfill gas, in the absence of a complete monitoring network. Lastly, it should be noted that according to Los Angeles County Solid Waste Management Program, the project site would be subject to regulations and redevelopment activities similar to that on the south adjoining property (southern half of Kalico 3) which have included construction of site perimeter security improvements, site grading and drainage improvements and the installation of a landfill gas extraction and treatment system. This work has been subject to review and permitting by the City of Santa Fe Springs, the County of Los Angeles Department of Public Works Environmental Health, the SCAQMD, and the Los Angeles Regional Water Quality Control Board (LARWQCB). The landfill gas system consists of 14 perimeter monitoring probes, and 11 gas extraction wells, delivering extracted gas to a granular activated carbon treatment system and operating under an SCAQMD Rule 1150.1 permit. The requirements will be conditions of approval. As a result, the impacts will be less than significant.

- B.** The project site comprises the northern portion of Kalico Dump No. 3. The three contiguous sites were originally excavated in the mid-1950s as borrow pits to supply clean fill soil for construction of ramps and embankments for the nearby Santa Ana Freeway (Interstate 5). The sites were operated separately as cut and cover dumps between 1954 and 1972. Since their closure, the sites have been used for such commercial or industrial activities as storage yards, trucking terminal facilities, and asphalt crushing operations. The combined solid waste solid waste assessment test (SWAT) investigation addressed the three sites collectively due to their contiguous spatial relationship, small size and similarity in historical disposal operations. This collective or combined approach was approved by the California RWQCB with the agreement of the various site owners and/or potential responsible parties. The Kalico Dump No. 3, which the project site is the northern portion of, was reportedly operated as a borrow pit and a cut and cover dump by the Mojave Corporation from 1956 to 1960 and is known to have been operated as a dump site by Kalico, Inc., from 1960 to 1962. Kalico, Inc.'s operation of the property is well documented. During this time period (1960 to 1962), the dump was open to the public and was used by commercial refuse haulers and private individuals. The Industrial Waste Permit No. 2265 for the Kalico Dump No. 3 indicates that solid, liquid and semiliquid materials were permitted for disposal at the Kalico Dump No. 3 during operation by Kalico, Inc (1960 to 1962). With the adherence to the pertinent protocols, the impacts will be less than significant.
- C.** The nearest schools in the area includes Southeast Academy High School (4,557 feet to the southeast) and Paddisson Elementary School (4,800 feet to the northeast) of the project site, respectively. The nearest residential neighborhood to the project site is located approximately 1,000 feet to the east in unincorporated East Whittier, east of Shoemaker Avenue.⁴⁸ As a result, no impacts are anticipated.
- D.** The California Department of Toxic Substances Control (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) *EnviroStor* database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including military facilities, and State Superfund; Voluntary Clean-up sites; and school sites. *EnviroStor* provides similar information to the information that was available in CalSites, and provides additional site information including, but not limited to, identification of formerly contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent

⁴⁸ [Google Maps](#). Website Accessed February 2, 2021.

inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites. A search of the 2019 *EnviroStor* Database identified twenty-three (23) sites within the 1.0-mile database search range. The closest site, Life Paint Company located at 12911 Sunshine Avenue (approximately 355 feet east of the subject Property), is a closed site. Based on its status (no further remedial action planned (NFRAP)), it is unlikely that this site represents an environmental concern to the project site. It is unlikely that the remaining sites represent an environmental concern to the project site due to their distance (>0.114 miles) from the project site, their regulatory status (certified as having been satisfactorily remediated or no further action required), and/or their cross- or down-gradient locations with respect to groundwater flow direction.

The Cortese list contains hazardous waste and substance sites compiled pursuant to Assembly Bill 3750 (Cortese, Chapter 1048, Statutes of 1986). The information included in this list comes from the State Department of Health Services (public drinking water wells with detectable levels of contamination; hazardous substance sites selected for remedial action; historic Cortese sites; and sites with known toxic material identified through the abandoned site assessment program). This includes the State Water Resources Control Board (sites with known Underground Storage Tanks having a reportable release), and the California Waste Management Board (solid waste disposal facilities from which there is a known migration). A search of the 2022 of the DTSC Environstor database did not identify environmental records for this site. This site is not currently listed as a “Superfund” site on the DTSC’s Environstor database.⁴⁹ As a result, the impacts will be less than significant.

- E.** Fullerton Airport is located approximately 5.17 miles southeast of the project site and the Long Beach Airport is located approximately 8.98 miles to the southwest.⁵⁰ The proposed project is not located within the Runway Protection Zones (RPZ) of any of the aforementioned airports. In addition, the proposed project will not penetrate the designated slopes for any of the local airports. The proposed project will not introduce a building that will interfere with the approach and take-off of airplanes utilizing any of the aforementioned airports and will not risk the safety of the people residing or working in the project area. As a result, no impacts are anticipated.
- F.** At no time will Greenstone Avenue be completely closed to traffic during the project’s construction. All construction staging must occur on-site. As a result, no impacts are associated with the proposed project’s implementation.
- G.** The project site is not located within a “very high fire hazard severity zone.”⁵¹ The project site and all of the surrounding properties are all developed. As a result, no impacts are anticipated.

⁴⁹ <https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=12133+greenstone+santa+fe+springs+ca>

⁵⁰ Toll-Free Airline. *Los Angeles County Public and Private Airports, California*.

⁵¹ CalFire. *Very High Fire Hazard Severity Zone Map for Los Angeles County*

HYDROLOGY & WATER QUALITY

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
B. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				X
C. Would the project substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site, substantially increase the rate or amount of surface runoff in a manner in which would result in flooding on- or off-site, create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff, or impede or redirect flood flows?			X	
D. Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
E. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X

- A. The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.⁵²

In the absence of any requirements or regulations, a significant number of impervious surfaces (i.e., buildings, internal driveways, parking areas, etc.) may result in debris, leaves, soils, oil/grease, and other pollutants. The proposed project would be required to implement storm water pollution control measures pursuant to the National Pollutant Discharge Elimination System (NPDES) requirements. The contractors would also be required to prepare a Water Quality Management Plan (WQMP) utilizing Best Management Practices to control or reduce the discharge of pollutants to the maximum extent practicable. The WQMP will also identify post-construction best management practices (BMPs) that will be the responsibility of the contractors to implement over the life of the project. Prior to issuance of any grading permit for the project that would result in soil disturbance of one or more acres of land, the Applicant shall demonstrate that coverage has been obtained under California's General Permit for

⁵² Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

**CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE**

Storm Water Discharges Associated with Construction Activity by providing a copy of the Notice of Intent (NOI) submitted to the State Water Resources Control Board, and a copy of the subsequent notification of the issuance of a Waste Discharge Identification (WDID) Number or other proof of filing shall be provided to the Chief Building Official and the City Engineer. In addition, the contractors would be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would be submitted to the Chief Building Official and City Engineer prior to the issuance of a grading permit. With the above-mentioned standard conditions, the impacts would be reduced to levels that are considered to be less than significant.

- B.** A search was conducted through the Regional Water Quality Control Board's on-line database Geotracker to identify the presence of any natural underground water wells within the project site. The search yielded no results.⁵³ According to an August 6, 2018 Tetra Tech BAS (Tetra Tech) *Phase II Environmental Site Assessment Report* for the Kalico Dump #1 at 11811 Greenstone Avenue (located approximately 500 feet north of the project site), the depth to shallow groundwater was reported to be approximately 125-135 feet below ground surface (bgs) and the groundwater flow was measured to the southwest. In addition, the proposed project will be connected to the City's utility lines and will not deplete groundwater supplies. Since there are no underground wells on-site that would be impacted by the proposed project, no impacts will occur.
- C.** The project's construction will be restricted to the designated project site and the project will not alter the course of any stream or river that would lead to on- or off-site siltation or erosion. The site is currently occupied and developed as a trucking use. No grading and/or excavation into the local aquifer will occur. No additional undisturbed land will be affected. As a result, the potential impacts will be less than significant.
- D.** As indicated previously, the impervious surfaces (asphalt and concrete surfaces, building slabs, etc.) that will be constructed will result in the generation of storm water runoff. However, the project will be properly drained and is not expected to result in flooding on- or off-site. A City-approved grading plan will be used, which will ensure that the site will be graded so that storm water runoff will be directed to the curbs and gutters and the on-site detention. Vehicular access to the project site will be provided by a single driveway connection with the west side of Greenstone Avenue. This driveway will have a curb-to-curb width of 36-feet and will accommodate both trucks and passenger vehicles. Gated access is set back from Greenstone Avenue by approximately 75-feet. An internal roadway drive aisle will be used for both access to the parking stalls and truck maneuvering.⁵⁴ Landscaped areas will total approximately 8,000 square feet and will be installed along the site's frontage with Greenstone Avenue. This landscaped area will serve as a stormwater vegetated swale to accommodate stormwater runoff.⁵⁵ A new storm drain inlet will transect the site and will ultimately connect to the proposed drainage swale. As a result, less than significant impacts are anticipated.

⁵³ Geotracker GAMA. Website accessed November 24, 2020.

⁵⁴ Ibid.

⁵⁵ Ibid.

CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE

- E.** The proposed project will be in compliance with the City of Santa Fe Springs Municipal Code that outlines the local requirements for the implementation of the NPDES and MS4 stormwater runoff requirements. As a result, no impacts will occur.

LAND USE & PLANNING

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project physically divide an established community?			X	
B. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				X

A. The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.⁵⁶ The project site consists of approximately five acres and is located in the midst of an industrial area in the central portion of the City that extended along Greenstone Avenue. The following land uses are located near the project site:⁵⁷

- *North of the project site.* A truck yard is located to the north of the project site (12027 Greenstone Avenue). The site is occupied by R&R Transportation.
- *East of the project site.* Greenstone Avenue extends along the site east side. Further east, opposite the project site, is a small industrial park.
- *South of the project site.* A truck yard is located to the south of the project site.
- *West of the project site.* A railroad right-of-way extends along the project site's west side. Further west, west of the aforementioned railroad ROW, is a large manufacturing use (Crown Fence, 12118 Bloomfield Avenue).

Other significant land uses in the area include Southeast Academy High School (4,557 feet to the southeast) and Paddisson Elementary School (4,800 feet to the northeast) of the project site, respectively, John Glenn High School and Carmela Elementary School, located approximately 4,400 feet to the southeast and northeast of the project site, respectively, the Norwalk Civic Center, located approximately 3,800 feet to the southwest; and the Norwalk-Santa Fe Springs Transportation Center, located approximately 1,650 feet to the south. The nearest residential neighborhood to the project site

⁵⁶ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

⁵⁷ Google Earth. Website accessed on February 1, 2021.

CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE

is located approximately 1,300 feet to the east in unincorporated East Whittier, east of Shoemaker Avenue.⁵⁸ The project site itself is currently vacant/undeveloped and occupied by trucking terminal. In fact, various trucking uses have occupied the site since the 1960s. The existing 12,586 square foot building along with a number of smaller buildings along the south property line have been demolished.

- B.** As indicated in the previous subsection, the proposed use will not require the approval of either a Zone Change or a General Plan Amendment. The proposed project is consistent with the zoning and general plan land use designations that are applicable to the project site. As a result, no impacts will occur.

⁵⁸ Google Earth. Website accessed on February 1, 2021.

MINERAL RESOURCES

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?				X
B. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X

- A.** The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.⁵⁹

The project site is not located in a Significant Mineral Aggregate Resource Area (SMARA) nor is it located in an area with active mineral extraction activities. A review of California Division of Oil, Gas, and Geothermal Resources well finder indicates that there are no wells located within the site boundaries. There are five plugged wells located within the site located to the east of the project site.⁶⁰ The project site is located within Mineral Resource Zone (MRZ-3A), which means there may be significant mineral resources present.⁶¹ In addition, there are no active mineral extraction activities occurring on-site or in the adjacent properties. As a result, no impacts to mineral resources will occur.

- B.** As previously mentioned, no mineral, oil, or energy extraction and/or generation activities are located within the project site. Moreover, the proposed project will not interfere with any resource extraction activity. Therefore, no impacts will result from the implementation of the proposed project.

⁵⁹ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

⁶⁰ California, State of. Department of Conservation. *California Oil, Gas, and Geothermal Resources Well Finder*.

⁶¹ California Department of Conservation. *Mineral Land Classification Map for the Santa Fe Springs Quadrangle*. Map accessed November 24, 2020.

NOISE

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
B. Would the project result in generation of excessive ground-borne vibration or ground-borne noise levels?			X	

- A.** Noise levels may be described using a number of methods designed to evaluate the “loudness” of a particular noise. The most commonly used unit for measuring the level of sound is the decibel (dB). Zero on the decibel scale represents the lowest limit of sound that can be heard by humans. The eardrum may rupture at 140 dB. In general, an increase of between 3.0 dB and 5.0 dB in the ambient noise level is considered to represent the threshold for human sensitivity. Changes of 3.0 dB or less are not generally perceptible to persons with average hearing abilities.⁶²

The proposed project would involve the redevelopment of an existing truck terminal with a truck yard the proposed project site has a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site’s perimeter will be constructed.⁶³

A change in noise levels of between 3.0 dBA and 5.0 dBA is generally considered to be the limit where the change in the ambient noise levels may be perceived by persons with normal hearing. It typically requires a doubling of traffic volumes to register a perceptible change (increase) in traffic noise. The net trip generation for the project, adjusted for trucks, will result in 19 AM peak hour PCE trips (5 in, 14 out) and 8 PM peak hour PCE trips (3 in, 5 out). The daily trip generation is estimated to be 109 trips. As a result, the impacts will be less than significant.

- B.** Construction activities for the proposed project have the potential to generate low levels of ground-borne vibration. The operation of construction equipment generates vibrations that propagate through the ground and diminishes in intensity with distance from the source. No noise sensitive land uses are located within 1,000 feet of the project site. The nearest noise sensitive receptors in the area include Southeast Academy High School (4,557 feet to the southeast) and Paddisson Elementary School (4,800 feet to the northeast) of the project site, respectively and John Glenn High School and Carmela Elementary School (4,400 feet to the southeast of the project site), respectively. The nearest residential

⁶² Bugliarello, et. al. *The Impact of Noise Pollution*, Chapter 127, 1975.

⁶³ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE

neighborhood to the project site is located approximately 1,300 feet to the east in unincorporated East Whittier, east of Shoemaker Avenue.⁶⁴ The operation of equipment or the construction of projects is prohibited in between the hours of 7:00 p.m. of one day and 7:00 a.m. of the next day when the project is located within a radius of 500 feet from a residential area. The City of Santa Fe Springs has not adopted policies or guidelines relative to ground-borne vibration resulting from construction. The City Municipal Code (Section 155.428) states, “Every use shall be so operated that the ground vibration generated by said use is not harmful or injurious to the use or development of surrounding properties. No vibration shall be permitted which is perceptible without instruments at any use alone the property line on which said use is located.”⁶⁵ However, this threshold applies to ground-borne vibrations from long-term operational activities, not construction. As a result, the potential ground-borne noise impacts are considered to be less than significant.

⁶⁴ Google Earth. Website accessed on February 1, 2021.

⁶⁵ City of Santa Fe Springs Municipal Code. *Title XV, Land Usage*. Chapter 155, Code 155.428.

POPULATION & HOUSING

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project induce substantial unplanned population growth in an area, either directly or indirectly?				X
B. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

A. The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.⁶⁶ The project site is located in the midst of an industrial area. Growth-inducing impacts include the following:

- *New development in an area presently undeveloped and economic factors which may influence development.* The site was previously developed as a truck terminal and is surrounded on all sides by industrial land uses.
- *Extension of roadways and other transportation facilities.* No roadway extensions will be required to accommodate the proposed development.
- *Extension of infrastructure and other improvements.* The installation of any new utility lines will not lead to subsequent offsite development since these utility lines will serve the proposed project only.
- *Major off-site public projects (treatment plants, etc.).* The project's increase in demand for utility services can be accommodated without the construction or expansion of landfills, water treatment plants, or wastewater treatment plants.
- *The removal of housing requiring replacement housing elsewhere.* There are no housing units located on either property. As a result, no replacement housing will be required.
- *Additional population growth leading to increased demand for goods and services.* The project's construction would result in a limited increase in construction employment which can be accommodated by the local labor market.

⁶⁶ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE

- *Short-term growth-inducing impacts related to the project's construction.* The project will result in temporary employment during the construction phase. Given the area's unemployment rate, this additional employment demand will be beneficial.

The proposed project will not induce substantial unplanned population growth in an area. As a result, no impacts will occur.

- B.** No housing units will be displaced as a result of the proposed project's implementation. As a result, no housing displacement impacts will occur, and no impacts will result.

PUBLIC SERVICES

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives in <i>fire protection services</i> ?			X	
B. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives in <i>police protection services</i> ?			X	
C. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives in <i>school services</i> ?				X
D. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives in <i>other public facilities</i> ?				X

The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.⁶⁷

- A.** The City of Santa Fe Springs Fire Department provides fire prevention and emergency medical services within the City. The department consists of three separate divisions: Operations, Fire Prevention and Environmental Protection. The Operations Division provides fire suppression, emergency medical services (EMS), hazardous materials response, and urban search and rescue. The Fire Prevention Division provides plan check, inspections, and public education. The Environmental Protection Division is responsible for responding to emergencies involving hazardous materials. The Fire Department operates from four stations: Station No. 1 (11300 Greenstone Avenue), Station No. 2 (8634 Dice Road), Station No. 3 (15517 Carmenita Road), and Station No. 4 (11736 Telegraph

⁶⁷ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

Road). The first response station to the site is station No. 1. The Fire Department currently reviews all new development plans, and future development will be required to conform to all fire protection and prevention requirements, including, but not limited to, building setbacks and emergency access. The proposed project would only place an incremental demand on fire services since the project will involve the construction of modern structures that will be subject to all pertinent fire and building codes. Like all development projects within the City, the proposed project will undergo review by the City of Santa Fe Springs Fire Department to ensure that sprinklers, hydrants, fire flow, etc. are adequate in meeting the Department's requirements. The Department will also review the project's emergency access and clearance. Compliance with the abovementioned requirement, as well as the pertinent codes and ordinances, would reduce the impacts to levels that are less than significant.

Construction activities also have the potential to affect fire protection services, such as emergency vehicle response times, by adding construction traffic to local roadways and potentially requiring partial lane closures during street improvements and utility installations. However, at no time will Greenstone Avenue or any nearby street be completely closed to traffic. All construction staging areas will be located within the project site. As a result, the project would not impair the implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan and less than significant impacts are associated with the proposed project's implementation.

- B.** The City of Santa Fe Springs Department of Police Services (DPS) is responsible for management of all law enforcement services within the City. The DPS is staffed by both City personnel and officers from the City of Whittier Police Department (WPD) that provide contract law enforcement services to Santa Fe Springs. The police services contract between the two cities provides for a specified number of WPD patrolling officers though the DPS has the ability to request an increased level of service. WPD law enforcement personnel assigned to the City includes 35 sworn officers and six support personnel. The proposed project would only place an incremental demand on police protection services since the project is not anticipated to be an attractor for crime due to the lack of unsecure vacant space. The new truck yard layout would include crime prevention features, such as nighttime security lighting and secure parking facilities (such as the proposed gate next to the trailer parking area). Adherence to the abovementioned requirement will reduce potential impacts to levels that are less than significant.
- C.** The proposed project will not involve any activities that will result in a demand on parks and recreational services and facilities. The proposed trucking use will not involve any residential development and no direct enrollment impacts would occur. As a result, the impacts will be less than significant.
- D.** No new governmental services will be needed, and the proposed project is not expected to have any significant impact on existing governmental services. The proposed project will not directly increase demand for governmental services. As a result, no impacts are anticipated.

RECREATION

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
B. Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

- A.** The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.⁶⁸ Due to the non-residential nature of the proposed project, the proposed project is not expected to place an incremental demand for recreational open space and services. As a result, the impacts anticipated are less than significant.
- B.** The proposed project does not involve recreational facilities or the construction or expansion of recreational facilities. As a result, no impacts are anticipated.

⁶⁸ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

TRANSPORTATION & CIRCULATION

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project conflict with a plan, ordinance, or policy establishing measures addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths?			X	
B. For a land use project, would the project conflict or be inconsistent with CEQA Guidelines §15064.3 subdivision (b)(1)?				X
C. For a transportation project, would the project conflict with or be inconsistent with CEQA Guidelines §15064.3 subdivision (b)(2)?				X
D. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
E. Would the project result in inadequate emergency access?				X

- A.** The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.⁶⁹

Since the proposed truck container storage is not identified in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition), Minagar & Associates, Inc. collected vehicle traffic count from an adjacent existing FedEx facility with a 128 container/trailers capacity located at 12211 Greenstone Avenue on Wednesday, June 30 and Thursday, July 1 during morning and afternoon peak periods (7:00 AM – 11:00 AM and 4:00 PM – 6 PM). The traffic purpose of the existing FedEx facility is similar to the proposed truck container storage located at 12133 Greenstone Avenue, therefore, the same trip generation rates were applied. Minagar & Associates, Inc. considered the following two field surveys to generate trip rates for the proposed truck yard project:

- *Field Survey Location 1:* Trip Generation Rates from adjacent existing FedEx Trailer/Container Storage Project Site (128 Container/Trailers Capacity) located at 12211 Greenstone Avenue, City of Santa Fe Springs.

⁶⁹ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

- *Field Survey Location 2:* Trip Generation Rates from Trailer/Container Storage Project Site (760 Container/Trailers Capacity) located at South End of 99th Street, City of San Bernardino.

The worst-case field survey which was identified as field survey 1 (Wednesday, June 30) was utilized in the analysis as a conservative approach. The same trip generation rates were used since the existing FedEx facility has 128 parking stalls, a number that is almost identical to the proposed number of 127 parking stalls that is currently proposed. The net trip generation for the project, adjusted for trucks, will result in 19 AM peak hour PCE trips (5 in, 14 out) and 8 PM peak hour PCE trips (3 in, 5 out). The daily trip generation is estimated to be 109 trips. This figure was based on a parking lot design concept that allowed for 133 parking stalls instead of the 127 that is now proposed. As a result, the traffic analysis represents a “worse case” analysis.

Project trips were distributed to the study area roadway network through a comprehensive evaluation of existing/baseline peak hour traffic volume patterns, the project site and access plan, prevailing truck routes in the City of Santa Fe Springs, and logical travel routes between regional connectors and the project site. In addition, regional statistical area trip distribution projections from the Los Angeles County Congestion Management Program (RSA #22) were used to approximate the work and non-work based trip distribution percentages to and from the site within the subregion and surrounding areas. Based on the anticipated land use, project trip distributions and size of the project, along with the prior consultation with the City of Santa Fe Springs, the following locations have been included in the project study area. Three (3) of the intersections are unsignalized with the remaining intersections being signalized.

- 1.) Greenstone Avenue and Sunshine Avenue;
- 2.) Greenstone Avenue and Lakeland Road;
- 3.) Shoemaker Avenue and Sunshine Avenue;
- 4.) Shoemaker Avenue and Imperial Highway;
- 5.) Carmenita Road and Imperial Highway;
- 6.) Carmenita Road and Rosecrans Avenue;
- 7.) Shoemaker Avenue and Lakeland Road;
- 8.) Shoemaker Avenue and Florence Avenue; and,
- 9.) Bloomfield Avenue and Imperial Highway.

A comparison of "Pre-Project" and "With Project" traffic conditions was performed to assess the significance level of potential traffic impacts due to the project on the surrounding study area intersections. Using the significance thresholds established by the City of Santa Fe Springs, the Opening Year 2021 volume-to-capacity ratios and LOS were compared without and with the project conditions. The analysis of potential impacts related to traffic and circulation indicate that the proposed project will result in minimal impacts in the surround traffic network for all the analyzed scenarios. Table 4-1 included in the Traffic Study, summarizes the above comparative analyses illustrating the change in ICU (i.e., intersection delay change due to the project) and LOS at each study location. As none of the observed changed in LOS and/or V/C ratio meet the criterion set by the City of Santa Fe Springs and Los Angeles County, there are no significant impacts on the City's Street Network from the proposed project. Therefore, no mitigation is required. As a result, the impacts will be less than significant.

- B.** California Senate Bill 743 (SB 743) directs the State Office of Planning and Research (OPR) to amend the California Environmental Quality Act (CEQA) Guidelines for evaluating transportation impacts to provide alternatives to Level of Service that “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” In December 2018, the California Natural Resources Agency certified and adopted the updated CEQA Guidelines package. The amended CEQA Guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Travelled (VMT) as the primary metric for the evaluation of transportation impacts associated with land use and transportation projects. In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. Agencies may currently opt-in to applying the updated CEQA guidelines for VMT analysis and implementation is required State-wide by July 1, 2020. The updated CEQA Guidelines allow for lead agency discretion in establishing methodologies and thresholds provided there is substantial evidence to demonstrate that the established procedures promote the intended goals of the legislation. Where quantitative models or methods are unavailable, Section 15064.3 allows agencies to assess VMT qualitatively using factors such as availability of transit and proximity to other destinations.

The Technical Advisory on Evaluating Transportation Impacts in CEQA (State of California, December 2018) [“Technical Advisory”] provides technical considerations regarding methodologies and thresholds with a focus on office, residential, and retail developments as these projects tend to have the greatest influence on VMT. At publishing of this report, many jurisdictions are currently in the process of developing updated procedures for VMT analysis. Per the state of California’s OPR’s (Office of Planning & Research) Technical Advisory, a project can be assumed to generate a less than significant impact if it is found to attract less than 110 project vehicular trips per day. Since our project will generate 109 project trips per day, it is therefore considered as being screened out of further VMT analysis. As a result, the impacts are less than significant. This figure was based on a parking lot design concept that allowed for 133 parking stalls instead of the 127 that is now proposed. As a result, the traffic analysis represents a “worse case” analysis.

- C.** The proposed project is not a roadway or similar transportation facility improvement project. As a result, no impacts on this issue will result.
- D.** Vehicular access to the project site will be provided by a single driveway connection with the west side of Greenstone Avenue. This driveway will have a curb-to-curb width of 36-feet and will accommodate both trucks and passenger vehicles. Gated access is set back from Greenstone Avenue by approximately 75-feet. An internal roadway drive aisle will be used for both access to the parking stalls and truck maneuvering.⁷⁰ The design of driveways will be based on City Code, which sets standards for such design. The proposed project will not subject drivers to dangerous intersections or sharp curves and the proposed project will not introduce incompatible equipment or vehicles to the adjacent roads. As a result, no impacts are anticipated.
- E.** The project would not affect emergency access to any adjacent parcels. At no time will any local streets or parcels be closed to traffic. As a result, the proposed project’s implementation will not result in any impacts.

⁷⁰ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2020.

TRIBAL CULTURAL RESOURCES

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k). Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?			X	

A. The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.⁷¹ The proposed project site was previously being used as a trucking use similar to that which is proposed. A Tribal Resource is defined in Public Resources Code section 21074 and includes the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: included or determined to be eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

⁷¹ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

**CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE**

- A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
- A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “non-unique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

In the unlikely event that remains are uncovered by construction crews, all excavation and grading activities shall be halted, and the Los Angeles County Sheriff's Department would be contacted (the Department would then contact the County Coroner). This is a standard condition under California Health and Safety Code Section 7050.5(b), which states:

“In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with (b) Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.”

Adherence to the aforementioned standard condition will ensure potential impacts remain at levels that are less than significant.

UTILITIES & SERVICE SYSTEMS

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project require or result in the relocation or construction of new or expanded water or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental impacts?				X
B. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?				X
C. Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
D. Would the project generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure?				X
E. Would the project negatively impact the provision of solid waste services or impair the attainment of solid waste reduction goals?				X

- A.** The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.⁷²

The City of Santa Fe Springs is located within the service area of the Sanitation District 2 of Los Angeles County. The nearest wastewater treatment plant to Santa Fe Springs is the Los Coyotes Water Reclamation Plant (WRP) located in Cerritos. The Los Coyotes WRP is located at 16515 Piuma Avenue in the City of Cerritos and occupies 34 acres at the northwest junction of the San Gabriel River (I-605) and the Artesia (SR-91) Freeways. The plant was placed in operation on May 25, 1970, and initially had a capacity of 12.5 million gallons per day and consisted of primary treatment and secondary treatment with activated sludge. The Los Coyotes WRP provides primary, secondary and tertiary treatment for 37.5 million gallons of wastewater per day. The plant serves a population of approximately 370,000 people. Over 5 million gallons per day of the reclaimed water is reused at over 270 reuse sites. Reuse includes landscape irrigation of schools, golf courses, parks, nurseries, and greenbelts; and industrial use at local companies for carpet dying and concrete mixing. The remainder of the effluent is discharged to the San Gabriel River. Treated wastewater is disinfected with chlorine and conveyed to the Pacific Ocean. The reclamation projects utilize pump stations from the two largest Sanitation Districts' Water

⁷² Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

Reclamation plants includes the San Jose Creek WRP in Whittier and Los Coyotes WRP in Cerritos.⁷³ The Los Coyotes WRP has a design capacity of 37.5 million gallons per day (mgd) and currently processes an average flow of 20.36 mgd. the proposed project would consume limited additional water for landscaping. No new or expanded sewage and/or water treatment facilities will be required to accommodate the proposed project and as a result, no significant impacts are anticipated.

- B.** Water in the local area is supplied by the Santa Fe Springs Water Utility Authority (SFSWUA). Water is derived from two sources: groundwater and surface water. The SFSWUA pumps groundwater from the local well and disinfects this water with chlorine before distributing it to customers. SFSWUA also obtains treated and disinfected groundwater through the City of Whittier from eight active deep wells located in the Whittier Narrows area. In addition, SFSWUA receives treated groundwater from the Central Basin Water Quality Protection Program facility located in the Central Basin, through the City of Whittier. Lastly, the SFSWUA also receives Metropolitan Water District of Southern California's (MWD) filtered and disinfected surface water, which is a blend of water from both the Colorado River and the State Water Project in Northern California.

The proposed project would consume limited additional water for landscaping. The existing water supply facilities can accommodate this additional demand. Therefore, no new water and wastewater treatment facilities will be needed to accommodate the excess effluent generated by the proposed project and no impacts are anticipated to occur.

- C.** The County of Los Angeles, acting as the Los Angeles County Flood Control District (LACFCD), has the regional, County-wide flood control responsibility. LACFCD responsibilities include planning for developing and maintaining flood control facilities of regional significance which serve large drainage areas. The proposed project will be required to comply with all pertinent Federal Clean Water Act requirements. The site proposes new internal roadways and hardscape areas that will be subject to the National Pollutant Discharge Elimination System (NPDES) permit from the Regional Water Quality Control Board. The project will also be required to comply with the City's storm water management guidelines. As a result, no significant impacts are anticipated.
- D.** As previously indicated, the proposed project would consume limited additional water for landscaping. The previous use which included a warehouse building consumed up to 2,901 gallons of water on a daily basis. As a result, no significant impacts are anticipated.
- E.** The Sanitation Districts operate a comprehensive solid waste management system serving the needs of a large portion of Los Angeles County. This system includes sanitary landfills, recycling centers, materials recovery/transfer facilities, and energy recovery facilities. The two operational sites are the Calabasas Landfill, located near the City of Agoura Hills, and the Scholl Canyon Landfill, located in the City of Glendale. The Puente Hills Landfill was permanently closed in October 2013 and is only currently accepting clean dirt.⁷⁴ The Sanitation Districts continue to maintain environmental control systems at the other closed landfills, which include the Spadra, Palos Verdes, and Mission Canyon landfills. Local municipal solid waste collection services are currently provided by Consolidated Disposal Services, CR and R Waste and Recycling, and Serv-Wel Disposal Company. The proposed

⁷³ Los Angeles County Sanitation Districts.

⁷⁴ Los Angeles County Sanitation Districts, *Solid Waste Facilities*.

**CATEGORICAL EXEMPTION • CITY OF SANTA FE SPRINGS
REXFORD PROJECT • CUP 831 • 12133 GREENSTONE AVENUE**

project would be used for the short-term parking of empty truck and trailers only. As a result, no significant solid waste generation is anticipated.

The Sanitation Districts operate a comprehensive solid waste management system serving the needs of a large portion of Los Angeles County. This system includes sanitary landfills, recycling centers, materials recovery/transfer facilities, and energy recovery facilities. The two operational sites are the Calabasas Landfill, located near the City of Agoura Hills, and the Scholl Canyon Landfill, located in the City of Glendale. The Puente Hills Landfill was permanently closed in October 2013 and is only currently accepting clean dirt.⁷⁵ The Sanitation Districts continue to maintain environmental control systems at the other closed landfills, which include the Spadra, Palos Verdes, and Mission Canyon landfills. Local municipal solid waste collection services are currently provided by Consolidated Disposal Services, CR and R Waste and Recycling, and Serv-Wel Disposal Company. Operational waste that cannot be recycled or taken to area landfills will be transported to the Commerce incinerator. Trash collection is provided by the Consolidated Disposal Service, CR and R Waste and Recycling, and Serv-Wel Disposal Company. The proposed project will contribute a limited amount to the waste stream. As a result, no impacts on solid waste generation are anticipated.

⁷⁵ Los Angeles County Sanitation Districts, *Solid Waste Facilities*.

WILDFIRE

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project impair an adopted emergency response plan or emergency evacuation plan?				X
B. Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
C. Would the project require the installation of maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
D. Would the project expose people or structure to significant risks, including down slope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X

- A.** The proposed project would involve the redevelopment of an existing truck terminal with a total land area of approximately 4.7-acres, to a truck yard. The new truck yard will include 127 designated parking spaces including 77 stalls for trailers only (53-feet in length), 46 stalls for tractors and trailers (70-feet in length) and 4 shorter stalls (40-feet in length). In addition, an existing warehouse and maintenance building consisting of 12,586 square feet of floor area, have been demolished. Finally, the site will be repaved, new infrastructure improvements (water, drainage, and sewer lines will be installed, new lighting will be installed, and new fencing along Greenstone Avenue and the site's perimeter will be constructed.⁷⁶ The proposed project would not involve the closure or alteration of any existing evacuation routes that would be important in the event of a wildfire. As a result, no impacts will occur.
- B.** The project site is slated for redevelopment. The proposed project may be exposed to particulate emissions generated by wildland fires in the surrounding region. However, the potential impacts would not be exclusive to the project site since criteria pollutant emissions from wildland fires may affect the entire City as well as the surrounding cities and unincorporated county areas. As a result, no impacts will occur.
- C.** The project will not require, nor will it involve the extension of new utility lines such as gas lines, water lines, etc. other than connections to the site itself. As a result, no impacts will result.
- D.** There is no risk from wildfire within the project site or the surrounding area given the project site's distance from any area that may be subject to a wildfire event. Therefore, the project will not result in any impacts related to flooding or landslides facilitated by runoff flowing down barren and charred slopes and no impacts will occur.

⁷⁶ Tetra Tech BAS. Rexford Industrial, Santa Fe Springs. *Site Plan. C-100 Site Plan*. October 2022.

Exhibit B – Traffic Impact Analysis

Traffic Impact Study
Truck Container Storage
12133 Greenstone Avenue, Santa Fe Springs, CA



PRESENTED TO:



City of Santa Fe Springs
Public Works Department
11710 Telegraph Road
Santa Fe Springs, CA 90670



PREPARED BY:



MINAGAR & ASSOCIATES, INC.
Traffic Engineering – Transportation Planning – ITS Consultants
23282 Mill Creek Dr, Suite 120
Laguna Hills, CA 92653
Tel: (949)707-1199
Web: www.minagarinc.com



28 Years of Excellence

July 14, 2021



TABLE OF CONTENTS

Executive Summary	4
1.0 Introduction	5
1.1 Project Summary and Purpose of Traffic Study	5
1.2 Report and Study Guidelines	6
1.3 Analysis Methodology	6
1.3.1 Study Area	6
1.3.2 Traffic Data Collection	8
1.3.3 Analysis Scenarios	8
1.3.4 Level of Service (LOS) Criteria	8
1.3.5 Significant Impact Criteria	9
2.0 Existing/Baseline Conditions	9
2.1 Local Setting and General Plan Context	9
2.2 Existing Roadways	11
2.3 Study Area Intersections	11
2.4 Existing Intersection Conditions and LOS	14
3.0 Future Conditions	15
3.1 Opening Year 2021 Baseline Conditions (Without Project)	15
3.1.1 Annual Background Traffic Growth	15
3.1.2 Year 2021 Baseline Intersection LOS	15
3.2 Opening Year 2021 Project Conditions, With Project	18
3.2.1 Project Description	18
3.2.2 Project Trip Generation	19
3.2.3 Project Trip Distribution	20
3.2.4 Opening Year 2021, With Project Intersection LOS	24
4.0 Traffic Impact Analysis and Project Mitigation	26
5.0 Congestion Management Program (CMP) Impact Significance	28
6.0 VMT Analysis	28
7.0 Conclusion	29



LIST OF TABLES

1-1	Van Buren Plaza Study Intersections and Signalization.....	5
1-2	Study Intersections and Weekday Peak Traffic Hours.....	6
1-3	City of Santa Fe Springs Intersection Level of Service (LOS) Criteria.....	8
1-4	City of Santa Fe Springs Traffic Impact Significance Thresholds.....	9
2-1	Intersection Levels of Service – Existing/Baseline Year (2020).....	14
3-1	Intersection Levels of Service - Opening Year (2021) Conditions without Project.....	16
3-2.1	Field Survey Locations 1 and 2 Trip Generation Summary.....	18
3-2.2	Passenger Car Equivalent Factors	19
3-2.3	Field Survey Location 1 Trip Generation	19
3-2.4	Field Survey Location 2 Trip Generation	19
3-3	Intersection Levels of Service - Opening Year (2021) Conditions With Project.....	24
4-1	Comparison of Intersection LOS and Project Impact Significance.....	27
6-1	Project Screening for VMT Analysis.....	29

LIST OF FIGURES

1-1	Vicinity Map and Study Area Intersections.....	7
2-1	Existing Land Use.....	10
2-2	Existing Intersection Lane Configurations and Controls.....	12
2-3	Existing/Baseline Year 2020 PCE Traffic Volumes – Weekday AM/PM Peak Hour.....	13
3-1	Opening Year 2021 Without Project PCE Traffic Volumes – Weekday AM/PM Peak Hour.....	17
3-2	Project Site Plan.....	21
3-3	Project Trip Distributions.....	22
3-4	Project Trip Assignment – Weekday AM/PM Peak Hour.....	23
3-5	Opening Year 2021 With Project PCE Traffic Volumes – Weekday AM/PM Peak Hour.....	25

APPENDICES

A	Intersection Turning Movement Traffic Volume Count Sheets
B	FedEx Trailer/Container Storage Project Site Located at 12211 Greenstone Avenue, City of Santa Fe Springs, CA Traffic Volume Count Sheets
C	Trailer/Container Storage Project Site Located at South End of 99 th Street, City of San Bernardino, CA Traffic Volume Count Sheets
D	Intersection Capacity Utilization Level of Service (ICU LOS) Worksheets





Executive Summary

The project applicant Rexford Industrial for the *Truck Container Storage* is proposing the modification of an existing warehouse in the City of Santa Fe Springs to a proposed truck container storage that will include a maximum 133 parking stalls. The Project site is located at 12133 Greenstone Avenue, approximately 3/4 mile south of Lakeland Road and 1/4 mile north of Imperial Highway. The site is bound by Greenstone Avenue to the east, Metrolink tracks along the west side of the property, and existing industrial sites to the north and south.

The Project will generate passenger vehicle and truck traffic during the weekday morning and afternoon peak hours, including 19 Passenger-Car-Equivalent (PCE) vehicle trips in the AM peak hour, 8 PCE vehicle trips in the PM peak hour, and 109 vehicle trips for the Average Daily Traffic (ADT). Site traffic will enter and exit the property site at the proposed 36-foot gated full-access driveway on the east side of the property along Greenstone Avenue.

The Project is estimated to be constructed and occupied by the end of 2021. Year 2021 Without Project traffic conditions were developed by increasing the Existing Year 2020 baseline traffic baseline volumes by a conservative factor of one percent (1%) to account for potential ambient traffic growth in the area which could occur prior to opening of the Project. With this combined assumed traffic growth, the analysis showed that following study area intersections operate at deficient Levels of Service for the Existing/Baseline Year 2020, Opening Year (2021) without the Project, and Opening Year (2021) with the Project.

- Shoemaker Avenue and Imperial Highway – AM and PM Peak Hours
- Carmenita Road and Imperial Highway – PM Peak Hour
- Carmenita Road and Rosecrans Avenue – AM and PM Peak Hours
- Bloomfield Avenue and Imperial Highway – AM and PM Peak Hours

The Opening Year (2021) With Project scenario was modeled to incorporate the addition of site traffic generated by the proposed Project during the weekday AM and PM peak hours. An analysis of this scenario revealed that the additional vehicle and truck trips generated by the Project **would not** cause a potentially significant traffic impact at any of the study intersections. ***Therefore, mitigation measures are NOT required to offset the potential future impact of site-generated traffic on the City's street system.***

Additionally, the Project is projected to generate 109 Average Daily Trips (ADT), which per the threshold set by Los Angeles County (TIA Guidelines, July 23, 2020) and therefore Santa Fe Springs, is less than the VMT screening criteria of 110 ADT. ***Therefore, the Project is not required to perform any further analysis for VMT since the screening criteria is satisfied.***



1.0 INTRODUCTION

1.1 Project Summary and Purpose of Traffic Study

This report summarizes the findings and recommendation of a traffic impact analysis performed by Minagar & Associates, Inc. for the proposed Truck Container Storage Project in the City of Santa Fe Springs. The study serves to identify and evaluate the potential traffic impacts associated with the development of the proposed Project and determine if feasible mitigation measures are needed to reduce any of such impacts to less-than-significant levels in order to meet the requirements of the California Environmental Quality Act (CEQA). The proposed project is located on the west side of Greenstone Avenue, approximately 3/4 mile south of Lakeland Road and 1/4 mile north of Imperial Highway.

The analysis described in the following sections focused on the potential project-generated traffic impacts to the surrounding roadway network in the City of Santa Fe Springs, and the identification of required mitigation measures, as appropriate. Traffic conditions were analyzed for nine (9) intersections within the City, and evaluated under Year (2020) baseline conditions and for Opening Year (2021) conditions without and with the Project. Six of the nine study intersections currently operate under signalized traffic controls while three of the nine study intersection currently operate using stop signs. The list of Study Intersections are provided in **Table 1-1** below.

Table 1-1: Van Buren Plaza Study Intersections and Signalization

Study Intersection Name	Signalized or Unsignalized
1. Greenstone Ave/Project Driveway & Sunshine Ave	 Unsignalized
2. Greenstone Ave & Lakeland Rd	 Unsignalized
3. Shoemaker Ave & Sunshine Ave	 Unsignalized
4. Shoemaker Ave & Imperial Hwy	 Signalized
5. Carmenita Rd & Imperial Hwy	 Signalized
6. Carmenita Rd & Rosecrans Ave	 Signalized
7. Shoemaker Ave & Lakeland Rd	 Signalized
8. Shoemaker Ave & Florence Ave	 Signalized
9. Bloomfield Ave & Imperial Hwy	 Signalized

Future conditions were estimated using industry-standard traffic engineering principles and methodologies, as well as the guidelines, assumptions and criteria established by the City of Santa Fe Springs and Los Angeles County for traffic impact studies. Future traffic volumes and project trip distribution patterns were developed based on the Los Angeles County Congestion Management Program regional trip-making distribution factors, as well as the traffic volume data collected by Minagar & Associates, Inc. at each of the study intersections. The following subsections highlight the key findings of the traffic impact study.



1.2 Report and Study Guidelines

The traffic impact analysis was conducted in accordance with the goals, objectives, requirements, assumptions, policies and procedures of the following:

- City of Santa Fe Springs traffic impact study guidelines
- City of Santa Fe Springs General Plan and Circulation Element
- City of Santa Fe Springs Municipal Code; and the
- County of Los Angeles Congestion Management Program (CMP)

Traffic analysis and level of service (LOS) parameters, such as LOS and intersection performance metrics, significant impact thresholds, and other factors were applied in accordance with the City's currently adopted methods for traffic studies.

1.3 Analysis Methodology

1.3.1 Study Area

Prior to conducting the analysis Minagar & Associates, Inc. assessed the general project vicinity with respect to the City of Santa Fe Springs' surrounding access and circulation system to define the study scope and area. **Figure 1-1** depicts the project site, project vicinity, and the location of study intersections with respect to the local street system.

1.3.2 Intersection Traffic Data Collection

Minagar & Associates, Inc. field staff collected intersection turning movement traffic volume counts at each of the nine study locations. Traffic counts were conducted during the morning and afternoon peak periods (7:00-9:00am, 4:00-6:00pm) during typical non-holiday weekdays. Traffic count sheets are provided in **Appendix A**. Traffic counts for all locations were collected on November 17, 2020.

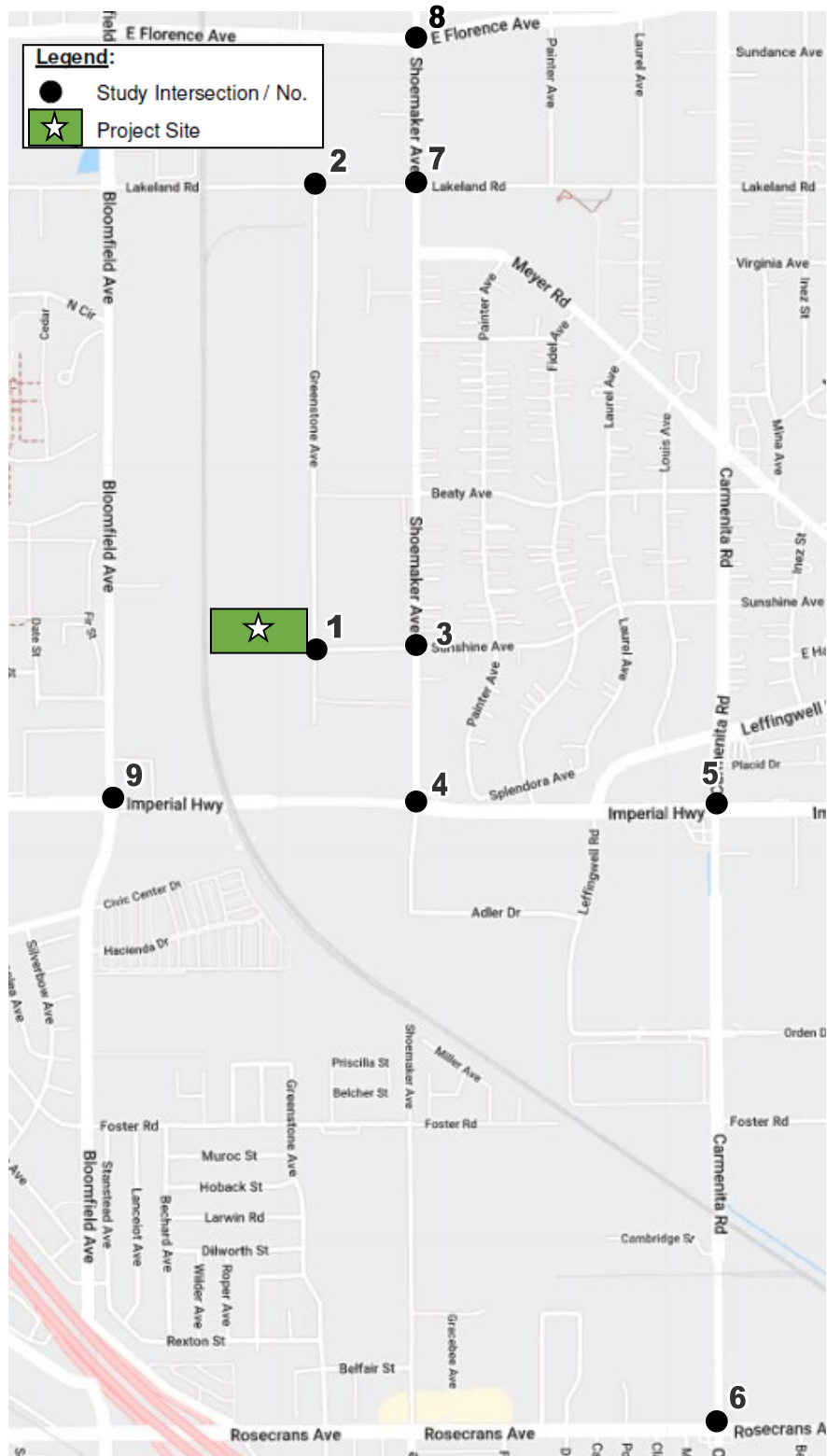
Table 1-2. Study Intersections and Weekday Peak Traffic Hours

#	Location	Intersection Control	Peak Hour	
			AM Period	PM Period
1	Greenstone Avenue and Sunshine Avenue	Stop Sign	7:15 – 8:15am	4:15 – 5:15pm
2	Greenstone Avenue and Lakeland Road	Stop Sign	7:15 – 8:15am	4:15 – 5:15pm
3	Shoemaker Avenue and Sunshine Avenue	Stop Sign	7:00 – 8:00am	4:30 – 5:30pm
4	Shoemaker Avenue and Imperial Highway	Signalized	7:15 – 8:15am	4:30 – 5:30pm
5	Carmenita Road and Imperial Highway	Signalized	7:15 – 8:15am	4:30 – 5:30pm
6	Carmenita Road and Rosecrans Avenue	Signalized	7:15 – 8:15am	4:30 – 5:30pm
7	Shoemaker Avenue and Lakeland Road	Signalized	7:15 – 8:15am	4:15 – 5:15pm
8	Shoemaker Avenue and Florence Avenue	Signalized	7:15 – 8:15am	4:15 – 5:15pm
9	Bloomfield Avenue and Imperial Highway	Signalized	7:15 – 8:15am	4:15 – 5:15pm

Table 1-2 lists the locations of the study intersections, and the AM/PM peak traffic hours identified from the traffic counts, which were subsequently used in the analysis.



Figure 1-1. Vicinity Map, Project Location and Study Area Intersections





1.3.3 Analysis Scenarios

The following evaluation scenarios were considered in the traffic analysis:

- Existing/Baseline Year 2020
- Opening Year 2021, Without Project
- Opening Year 2021, With Project

1.3.4 Level of Service (LOS) Criteria

The analysis methodology used in the TIS is based on the City of Santa Fe Springs' traffic study criteria. Intersection operating conditions are defined in terms of "Level of Service" (LOS), a grading scale used to represent the quality of traffic flow at an intersection. Level of Service ranges from LOS "A," representing free-flow conditions, to LOS "F," which indicates failing or severely congested traffic flow. The City of Santa Fe Springs recognizes LOS "D" as the minimum satisfactory Level of Service during peak hour conditions.

Table 1-3. City of Santa Fe Springs Intersection Level of Service (LOS) Criteria

Service	ICU	Description
A	< 0.61	At LOS A, there are no cycles that are fully loaded, and few are even close to loaded. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation.
B	0.61 – 0.70	LOS B represents stable operation. An occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel somewhat restricted with platoons of vehicles.
C	0.71 – 0.80	In LOS C stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasionally drivers may have to wait though more than one red signal indication, and back-ups may develop behind turning vehicles.
D	0.81 – 0.90	LOS D encompasses a zone of increasing restriction, approaching instability. Delays to approaching vehicles may be substantial during short peaks within the peak period, but enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive back-ups.
E	0.91 – 1.00	LOS E represents the most vehicles that any particular intersection approach can accommodate. At capacity ($V/C = 1.00$) there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).
F	> 1.00	LOS F represents jammed conditions. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration; hence, volumes carried are not predictable, V/C values are highly variable, because full utilization of the approach may be prevented by outside conditions.

Source: "LOS for Arterial Intersections," L.A. County Congestion Management Program, 2010.



To determine the peak-hour intersection LOS values as defined above for each intersection, the intersection capacity utilization (ICU) methodology was used. The resulting ICU is expressed in terms of the overall volume-to-capacity of the intersection, and adapted to a simplistic grading scale in terms of level of service (LOS), where LOS "A" represents free-flow activity and LOS "F" represents overcapacity operation.

1.3.5 Significant Impact Criteria

The impact significance criteria for intersections are based a sliding scale, as shown in **Table 1-4** below, which signifies the need for project mitigation where the anticipated project trips would trigger an increase in the delay change of a study intersection by an amount equal to or greater than the values shown in the table.

Table 1-4. City of Santa Fe Springs Traffic Impact Significance Thresholds

Signalized Intersections			Unsignalized Intersections	
Pre-Project V/C (Level of Service)		Project-Related increase in V/C	Pre-Project Level of Service	Project-Related increase in Average Total Delay
>0.70 to 0.80	(C)	+0.04 or more	C or better	5 seconds/vehicle or more
>0.80 to 0.90	(D)	+0.02 or more	D	4 seconds/vehicle or more
> 0.90	(E to F)	+0.01 or more	E or F	3 seconds/vehicle or more

2.0 EXISTING/BASELINE CONDITIONS

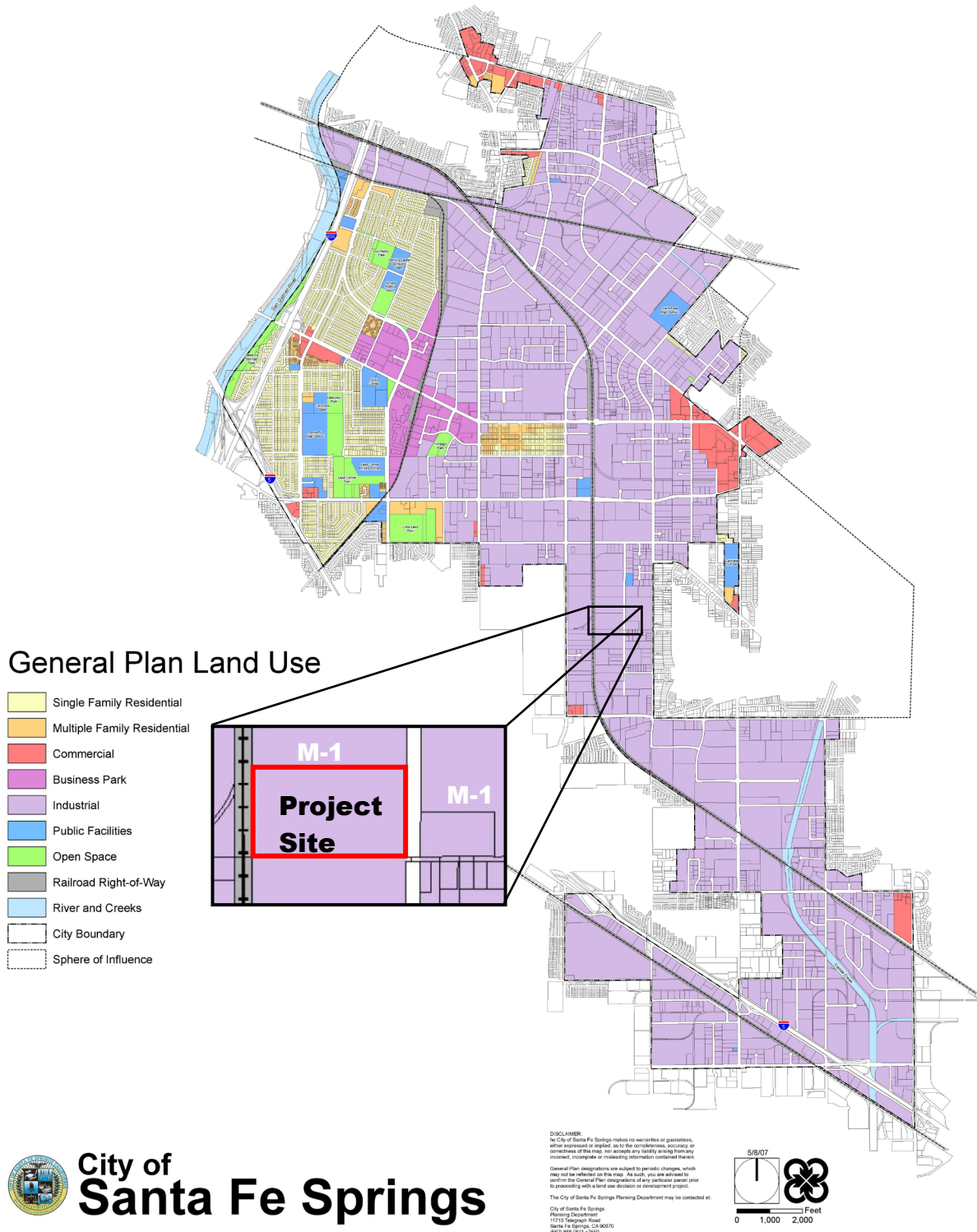
This section describes existing conditions regarding land use, existing roadway network, site access and circulation conditions, and the Existing/Baseline Year (2020) intersection levels of service.

2.1 Local Setting and General Plan Context

As shown in **Figure 2-1**, the project site is located within an existing industrial zone (M1 - Light Manufacturing) in the central part of the City, with neighboring industrial properties to the north and south, an existing railway along the westerly property line, and frontage to Greenstone Avenue along the east side of the site.



Figure 2-1. Existing Land Use



Source: City of Santa Fe Springs General Plan



2.2 Existing Roadways

The following discussion provides an overview of the surrounding regional and local transportation and circulation system in the vicinity of the project site.

Interstate 5 (I-5) is located approximately 1 mile south of the project site, and provides regional access to the site from Orange County, and indirectly from Central and West Los Angeles via the adjacent I-605 Freeway. Within the project study area, I-5 is oriented in a northwest-southeast direction and provides access to the project site primarily at the interchange at Imperial Highway, south of the I-5/I-605 confluence. The freeway currently provides three northbound and four southbound mixed-use lanes in the vicinity of the project.

Interstate 605 (I-605) provides regional access to the area from Long Beach and the South Bay from the south, and from the San Gabriel Valley and Inland regions from the north. I-605 is oriented northeast-southwest through the City of Santa Fe Springs, and provides access to the site primarily at the interchanges at Florence Avenue, south of the I-5/I-605 confluence. The freeway currently provides three (3) mixed-use lanes and one (1) HOV lane in each direction.

Florence Avenue is a four-lane divided roadway with a raised center median, and a curb-to-curb pavement width of 80 feet. Florence Avenue is classified as a Major Arterial in the City of Santa Fe Springs' General Plan, serving east-west between the City of Downey (to the west) and unincorporated L.A. County (to the east). Florence Avenue has freeway interchanges at both I-5 and I-605, and will provide indirect access to the site via Norwalk Boulevard.

Imperial Highway is a six-lane divided roadway with a raised center median. Imperial Highway and serves western traffic from unincorporated L.A. County to the east, and runs next to the I-5 between the City of Downey to the West and La Mirada to the east. Imperial Highway provides local access from neighboring cities to the east and west of Santa Fe Springs, and sub-regional access from the South Bay and Long Beach areas via the I-5 and I-605 interchange on Imperial Highway.

2.3 Study Area Intersections

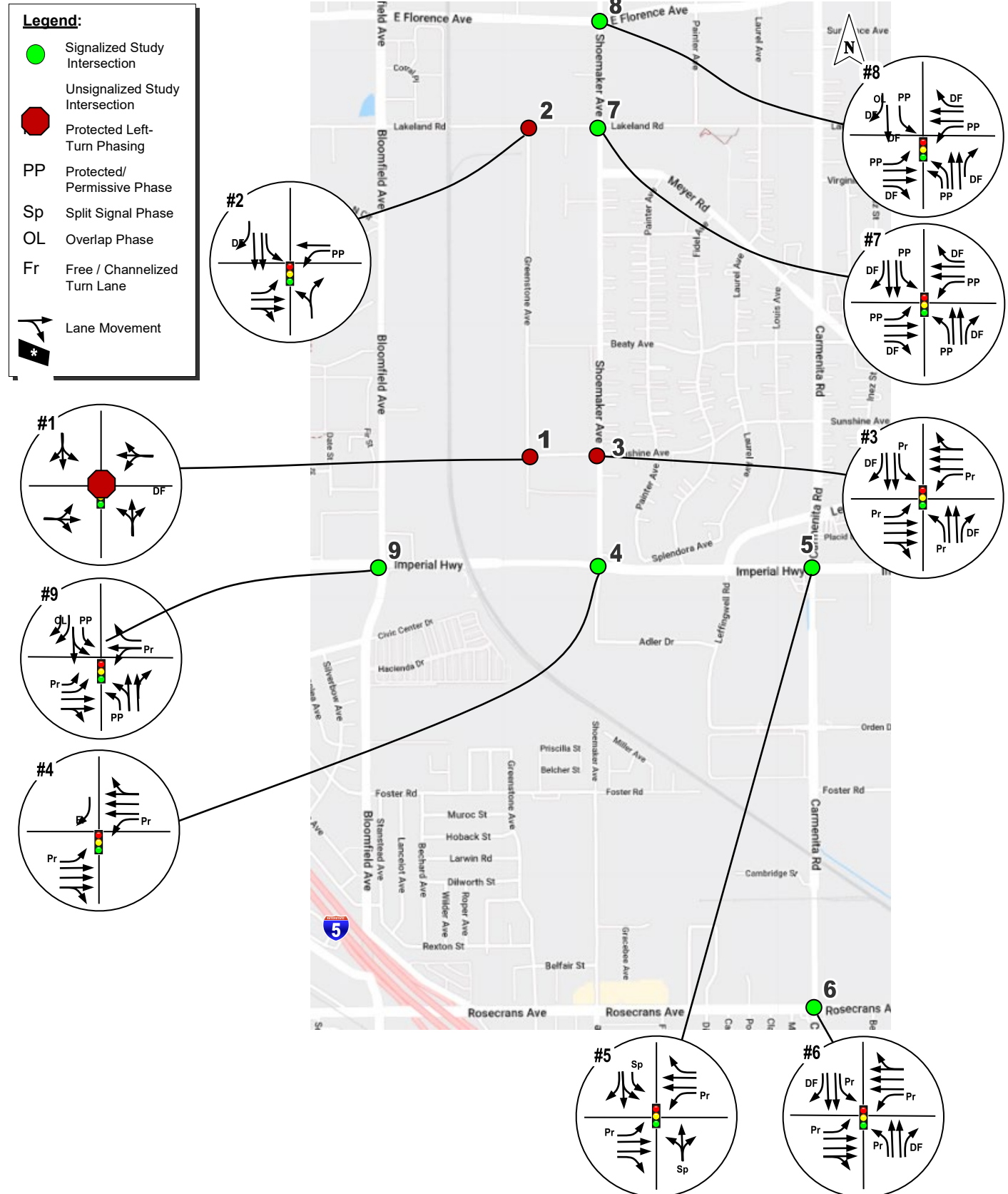
Based on the anticipated land use, project trip distributions and size of the project, along with the prior consultation with the City of Santa Fe Springs, the following locations have been included in the project study area. Three (3) of the intersections are unsignalized with the remaining intersections being signalized.

- 1.) Greenstone Avenue and Sunshine Avenue
- 2.) Greenstone Avenue and Lakeland Road
- 3.) Shoemaker Avenue and Sunshine Avenue
- 4.) Shoemaker Avenue and Imperial Highway
- 5.) Carmenita Road and Imperial Highway
- 6.) Carmenita Road and Rosecrans Avenue
- 7.) Shoemaker Avenue and Lakeland Road
- 8.) Shoemaker Avenue and Florence Avenue
- 9.) Bloomfield Avenue and Imperial Highway

Figure 2-2 shows the locations of each study intersection with respect to the project site and study area, including the existing traffic controls and lane geometrics. Existing/Baseline peak-hour traffic volumes (in Passenger Car Equivalent [PCE] volumes) at each intersection and approach are shown on **Figure 2-3**.



Figure 2-2. Existing Intersection Lane Configurations and Controls





2.4 Existing/Baseline Intersection Operations and Levels of Service

Existing/Baseline Year 2020 weekday peak hour intersection Levels of Service (LOS) were determined by developing a computerized traffic model based of the prevailing intersection and roadway lane configurations, traffic signal and signage controls, and weekday AM/PM peak hour traffic volumes observed and documented in the field and collected from other recently-completed traffic impact studies in the City of Santa Fe Springs. The overall intersection LOS were determined using the ICU analysis module in Synchro-10.0, a traffic modeling, analysis and microsimulation computer program commonly used in regulatory traffic impact studies. Detailed LOS calculation worksheets are provided in **Appendix D**.

Table 2-1 below summarizes the results of the Existing/Baseline Year 2020 intersection LOS analysis, completed using the methodologies described in Section 1.3.4.

Table 2-1. Intersection Levels of Service – Existing/Baseline Year (2020)

No.	Intersection	Peak Hour	Existing/Baseline Year 2020	
			Delay (sec)	LOS ^[1]
1	 Greenstone Avenue and Sunshine Avenue	AM	7.1	A
		PM	6.8	A
2	 Greenstone Avenue and Lakeland Road	AM	3.1	A
		PM	4.1	A
3	 Shoemaker Avenue and Sunshine Avenue	AM	3.9	A
		PM	3.2	A
4	Shoemaker Avenue and Imperial Highway	AM	59.8	E
		PM	72.8	E
5	 Carmenita Road and Imperial Highway	AM	37.5	D
		PM	65.6	E
6	 Carmenita Road and Rosecrans Avenue	AM	73.0	E
		PM	112.8	F
7	 Shoemaker Avenue and Lakeland Road	AM	16.4	B
		PM	17.3	B
8	 Shoemaker Avenue and Florence Avenue	AM	32.2	C
		PM	43.1	D
9	 Bloomfield Avenue and Imperial Highway	AM	67.4	E
		PM	59.0	E

^[1] LOS: Level of Service.

As shown **Table 2-1**, the following intersections are operating at unacceptable Levels of Service (LOS “E” or worse) under the Existing/Baseline Year 2020 conditions. The remaining study intersections are currently operating at acceptable LOS (LOS “D” or better) during one or both weekday peak hours.

- Shoemaker Avenue and Imperial Highway – AM and PM Peak Hours
- Carmenita Road and Imperial Highway – PM Peak Hour
- Carmenita Road and Rosecrans Avenue – AM and PM Peak Hours
- Bloomfield Avenue and Imperial Highway – AM and PM Peak Hours



3.0 FUTURE CONDITIONS

Analysis of future traffic conditions compares the anticipated traffic levels at each study intersection before and after the Project is developed, to identify locations where the added Project traffic could potentially cause significant impacts on the surrounding street network.

3.1 Opening Year 2021 Without Project Conditions

The Opening Year 2021 Without Project scenario represents local traffic conditions anticipated just prior to the opening of the Project. Based on the information provided by the developer, the truck container storage would be constructed and occupied with approved building permits in the Year 2021.

3.1.1 Annual Background Traffic Growth

The Opening Year 2021 baseline traffic volumes were developed by first identifying an annual ambient traffic growth factor. Previously, Minagar & Associates, Inc. collected average daily traffic (ADT) volume machine counts on various street segments in the City of Santa Fe Springs between the years 2009 and 2014, and subsequently compiled a report summarizing the changes in traffic volumes and patterns over this five-year period.

The results of the 2014 report showed that on average, citywide traffic volumes are decreasing overall by an average of -0.10% per year over the previous five years. While some locations are experiencing annual increases and fluctuations in traffic flow patterns, particularly where Caltrans is completing freeway construction along I-5, this historical traffic volume data suggests that volumes for the Opening Year 2021 scenario could be adjusted downwards from the Existing/Baseline Year 2020 conditions. However, in order to provide a reasonably conservative analysis it has been consistently recommended by the City of Santa Fe Springs that the traffic analysis should conservatively assume a +1% annual change in ambient traffic, rather than to apply a negative adjustment factor.

3.1.2 Opening Year 2021 Baseline Intersection LOS

Peak hour traffic operations at each study intersection were evaluated for the Opening Year 2021 baseline conditions (without the Project) based on the above traffic volume adjustments. As shown in **Table 3-1**, the same set of intersections are operating at unacceptable Levels of Service (LOS "E" or worse) under the Opening Year 2021 conditions as the Existing/Baseline Year 2020 conditions. Similarly, the remaining study intersections are to operate at acceptable LOS (LOS "D" or better) during one or both weekday peak hours.

- Shoemaker Avenue and Imperial Highway – AM and PM Peak Hours
- Carmenita Road and Imperial Highway – PM Peak Hour
- Carmenita Road and Rosecrans Avenue – AM and PM Peak Hours
- Bloomfield Avenue and Imperial Highway – AM and PM Peak Hours



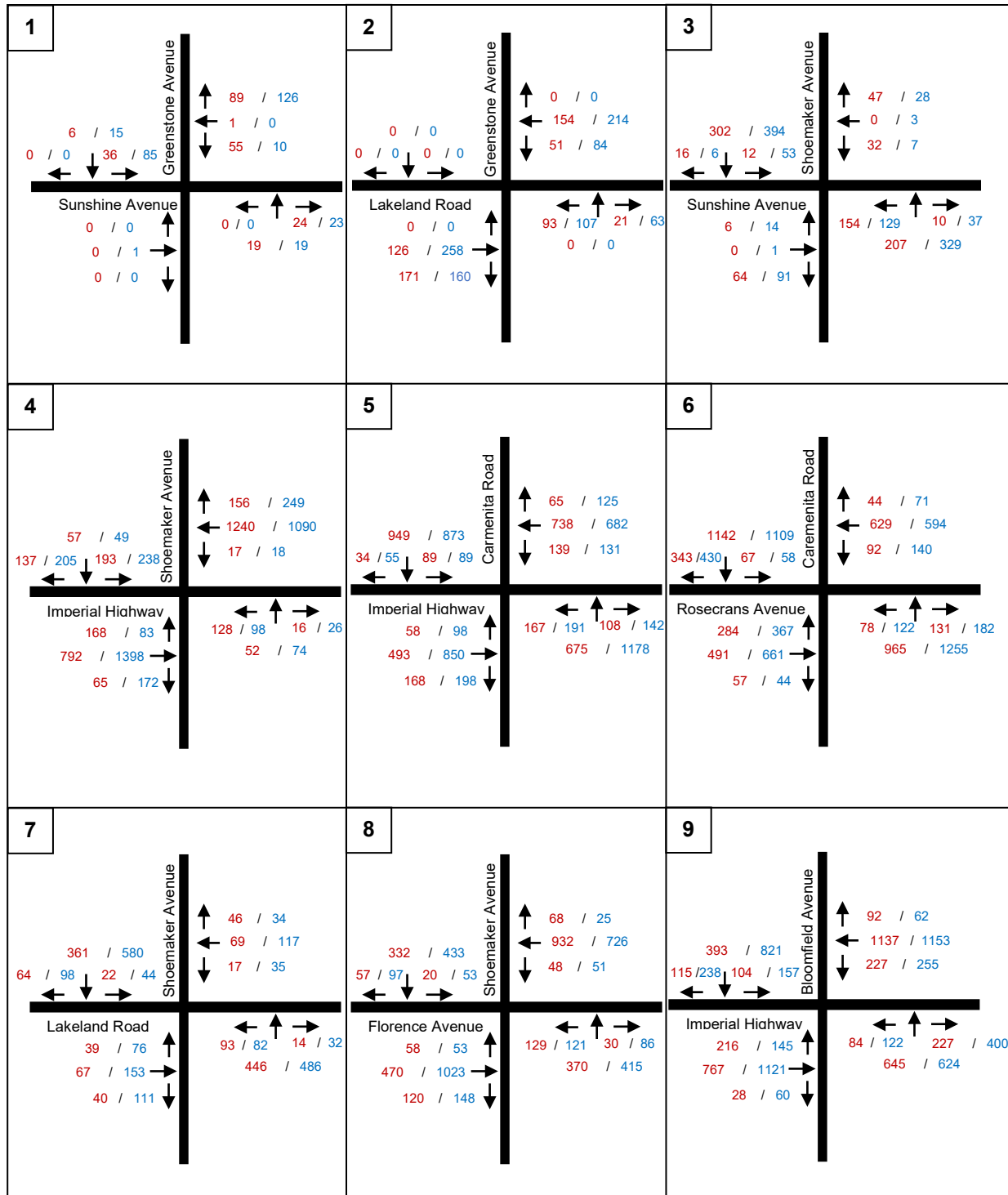
Table 3-1. Intersection Levels of Service - Opening Year (2021) Conditions Without Project

No.	Intersection	Peak Hour	Opening Year 2021 (Without Project)	
			Delay (sec)	LOS ^[1]
1	Greenstone Avenue and Sunshine Avenue	AM	7.1	A
		PM	6.8	A
2	Greenstone Avenue and Lakeland Road	AM	3.1	A
		PM	4.1	A
3	Shoemaker Avenue and Sunshine Avenue	AM	4.0	A
		PM	3.2	A
4	Shoemaker Avenue and Imperial Highway	AM	62.0	E
		PM	75.8	E
5	Carmenita Road and Imperial Highway	AM	38.5	D
		PM	67.6	E
6	Carmenita Road and Rosecrans Avenue	AM	73.0	E
		PM	116.2	F
7	Shoemaker Avenue and Lakeland Road	AM	16.4	B
		PM	17.4	B
8	Shoemaker Avenue and Florence Avenue	AM	33.1	C
		PM	44.5	D
9	Bloomfield Avenue and Imperial Highway	AM	68.5	E
		PM	60.2	E

^[1] LOS: Level of Service.



Figure 3-1. Opening Year 2021 Without Project PCE Traffic Volumes – Weekday AM/PM Peak Hours





3.2 Opening Year 2021 Project Conditions, With Project

3.2.1 Project Description

The Truck Container Storage project will be consisting of 133 parking stalls. Vehicular access will be provided from one driveway along the east side of the site on Greenstone Avenue. **Figure 3-2** shows the current project site plan which includes 133 parking stalls.

3.2.2 Project Trip Generation

Since the proposed truck container storage is not identified in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition), Minagar & Associates, Inc. collected vehicle traffic count from an adjacent existing FedEx facility with a 128 container/trailers capacity located at 12211 Greenstone Avenue on Wednesday, June 30 and Thursday, July 1 during morning and afternoon peak periods (7:00 AM – 11:00 AM and 4:00 PM – 6 PM). The traffic purpose of the existing FedEx facility is similar to the proposed truck container storage located at 12133 Greenstone Avenue therefore, the same trip generation rates were applied. Minagar & Associates, Inc. considered the following two field surveys to generate trip rates for the proposed truck container storage project:

- **Field Survey Location 1:** Trip Generation Rates from adjacent existing FedEx Trailer/Container Storage Project Site (128 Container/Trailers Capacity) located at 12211 Greenstone Avenue, City of Santa Fe Springs, CA
- **Field Survey Location 2:** Trip Generation Rates from Trailer/Container Storage Project Site (760 Container/Trailers Capacity) located at South End of 99th Street, City of San Bernardino, CA

Table 3-2.1. Field Survey Locations 1 and 2 Trip Generation

	AM Peak PCE Trip Generation			PM Peak PCE Trip Generation		
	In	Out	Total	In	Out	Total
Field Survey Location 1 ^[1]	5	14	19	2	5	7
Field Survey Location 2 ^[2]	7	6	12	3	3	6

^[1] Location 1: 12211 Greenstone Avenue, City of Santa Fe Springs, CA

^[2] Location 2: South End of 99th Street, City of San Bernardino, CA

The worst-case field survey which was identified as field survey 1 (Wednesday, June 30) was utilized in the analysis as a conservative approach. The same trip generation rates were used since the existing FedEx facility has 128 parking stalls, a number that is almost identical to the proposed number of 133 parking stalls. Trip generations for field surveys 1 and 2 are shown in **Table 3-2.3** and **Table 3-2.4**. Driveway volume counts for Field Survey 1 are found in **Appendix B**. Driveway volume counts and trip generation for Field Survey 2 for the San Bernardino Trailer/Container Storage Project are found in **Appendix C**.

Project traffic will consist of a mix of passenger car and heavy vehicle (truck) traffic taken from the South Coast Air Quality Management District's (SCAQMD) *Warehouse Truck*



Trip Study performed in June 2014. The Passenger Car Equivalents (PCEs) for the truck mix is provided below:

Table 3-2.2. Passenger Car Equivalent Conversion Factors

Vehicle Type	Passenger Car Equivalent (PCE) Factor
4+ Axle Truck	3.0
3 Axle Truck	2.0
2 Axle Truck	1.5
Passenger Car	1.0

Table 3-2.3. Field Survey Location 1 Trip Generation

	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Passenger Vehicles	0	0	0	0	0	0
2-Axle Trucks	2	0	2	2	0	2
3-Axle Trucks	1	1	2	0	1	1
4-Axle Trucks	0	4	4	0	1	1
Total Vehicles	3	5	8	2	2	4
PCE Passenger Vehicles	0	0	0	0	0	0
PCE Trips (2-Axle Trucks)	3	0	3	3	0	3
PCE Trips (3-Axle Trucks)	2	2	4	0	2	2
PCE Trips (4+Axle Trucks)	0	12	12	0	3	3
Total PCE Trips	5	14	19	3	5	8

As aforementioned, the traffic purpose of the existing FedEx facility is similar to the proposed truck container storage therefore, the same trip generation rates are being applied since the existing FedEx facility has 128 parking stalls, a number that is almost identical to the proposed number of 133 parking stalls. **Table 3-2.3** summarizes the anticipated PCE-based AM/PM peak hour project trip generation.

Table 3-2.4. Field Survey Location 2 Trip Generation

	A.M. Peak Hour			P.M. Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Trips/Unit (Cars)	0.005	0.004	0.009	0.000	0.001	0.001	0.145
Trips/Unit (2-Axle Trucks)	0.000	0.000	0.000	0.000	0.000	0.000	0.008
Trips/Unit (3-Axle Trucks)	0.003	0.011	0.014	0.004	0.004	0.008	0.343
Trips/Unit (4+Axle Trucks)	0.013	0.005	0.018	0.005	0.004	0.009	0.320
Trips/Unit (Total)	0.021	0.020	0.041	0.009	0.009	0.018	0.816

133 Trailers

	A.M. Peak Hour			P.M. Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Trips Generation (Cars)	1	1	1	0	0	0	19
Trip Generation (2-Axle Trucks)	0	0	0	0	0	0	1
Trips Generation (3-Axle Trucks)	0	1	2	1	1	1	46
Trip Generation (4+Axle Trucks)	2	1	2	1	1	1	43
Trip Generation (Total)	3	3	5	2	2	2	109

	A.M. Peak Hour			P.M. Peak Hour			Daily
	In	Out	Total	In	Out	Total	
PCE Generation (Cars)	1	1	1	0	0	0	19
PCE Trip Generation (2-Axle Trucks)	0	0	0	0	0	0	2
PCE Trips Generation (3-Axle Trucks)	1	3	4	1	1	2	91
PCE Trip Generation (4+Axle Trucks)	5	2	7	2	2	4	128
PCE Trip Generation (Total)	7	6	13	3	3	6	240



Utilizing field survey 2, the net trip generation for the project, adjusted for trucks, will result in 19 AM peak hour PCE trips (5 in, 14 out) and 8 PM peak hour PCE trips (3 in, 5 out). A daily trip generation of 109 trips has been generated from the daily trip rate generated by field survey 1.

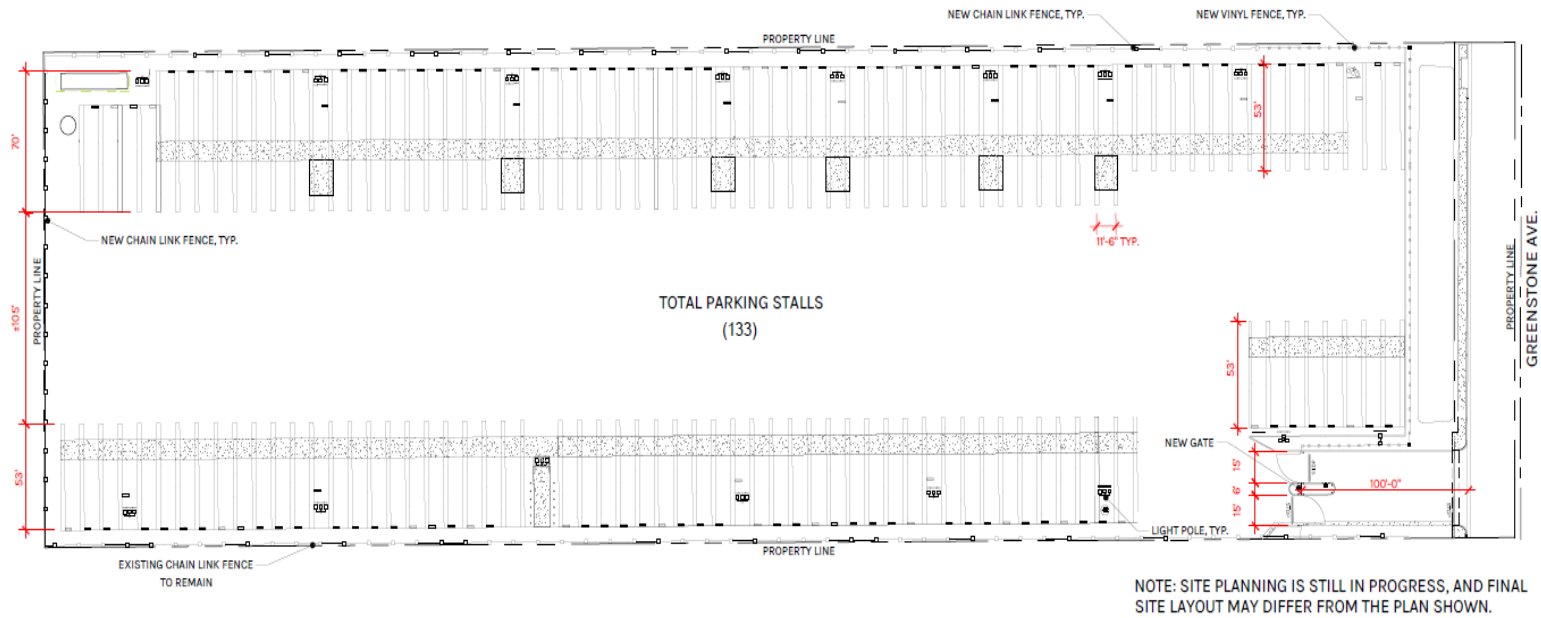
3.2.3 Project Trip Distribution

Project trips were distributed to the study area roadway network through a comprehensive evaluation of existing/baseline peak hour traffic volume patterns, the project site and access plan, prevailing truck routes in the City of Santa Fe Springs, and logical travel routes between regional connectors and the project site. In addition, regional statistical area trip distribution projections from the Los Angeles County Congestion Management Program (RSA #22) were used to approximate the work and non-work based trip distribution percentages to and from the site within the subregion and surrounding areas.

The weekday AM and PM peak hour project trip generation estimates were then assigned to the surrounding street network, as shown in **Figures 3-3** and **3-4**, below.



Figure 3-2. Site Plan



SCALE: 1/8"=1'-0"
DATE: 2021.06.18

PLAN LAYOUT SUBJECT TO FIELD CONDITIONS & MAY DIFFER FROM PLAN AS SHOWN. ALL INFORMATION PRESENTED ON THIS DRAWING IS PRESUMED TO BE ACCURATE, HOWEVER TENANT SHOULD VERIFY PERTINENT INFORMATION PRIOR TO COMMITTING TO A LEASE. ANY FURNITURE OR APPLIANCES SHOWN ON PLAN ARE FOR CONCEPT ONLY AND WILL BE TENANT PROVIDED.

12133 GREENSTONE AVE. | SANTA FE SPRINGS

PROPOSED SITE PLAN



Figure 3-3. Project Trip Distributions

Inbound, (Outbound)

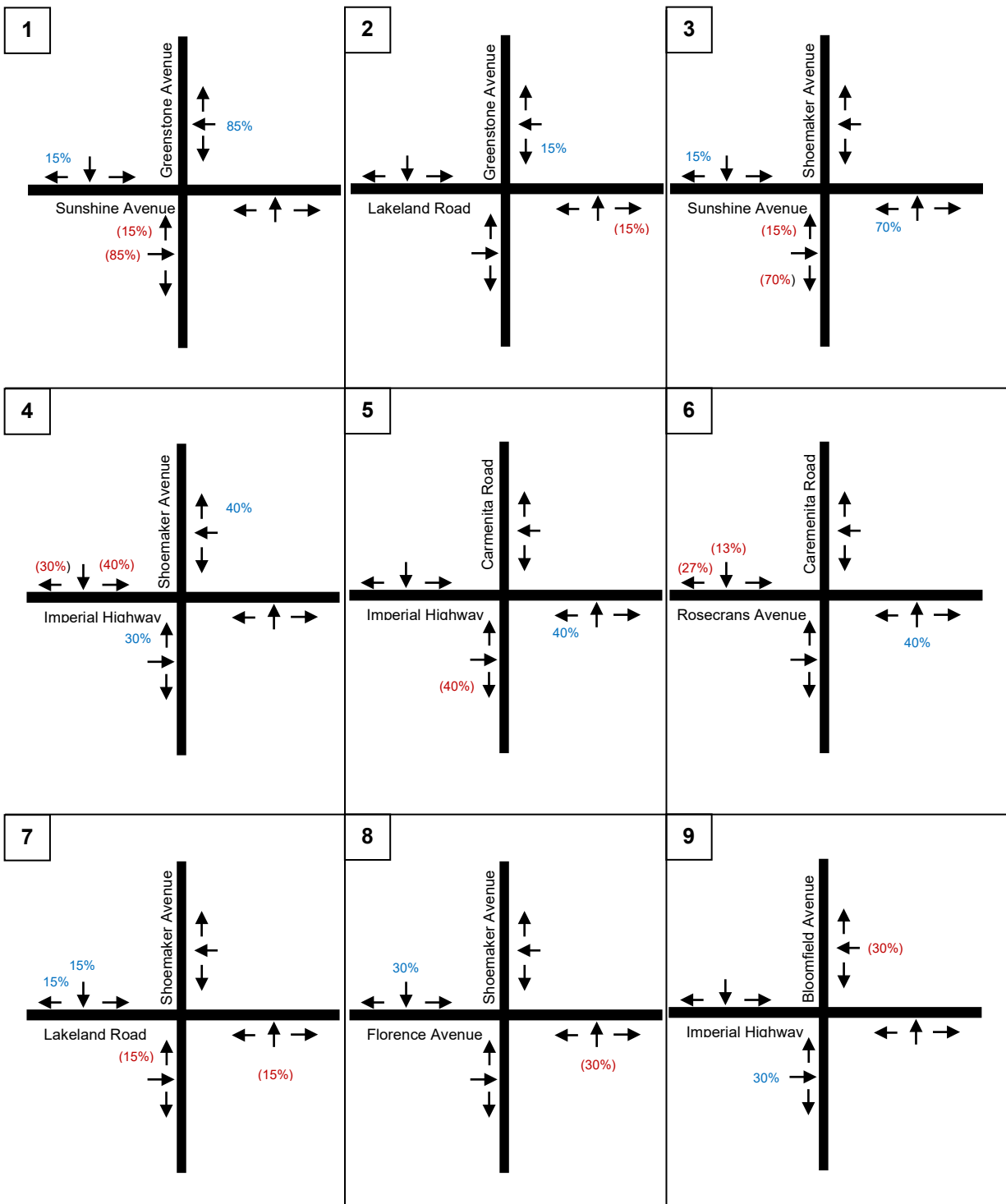
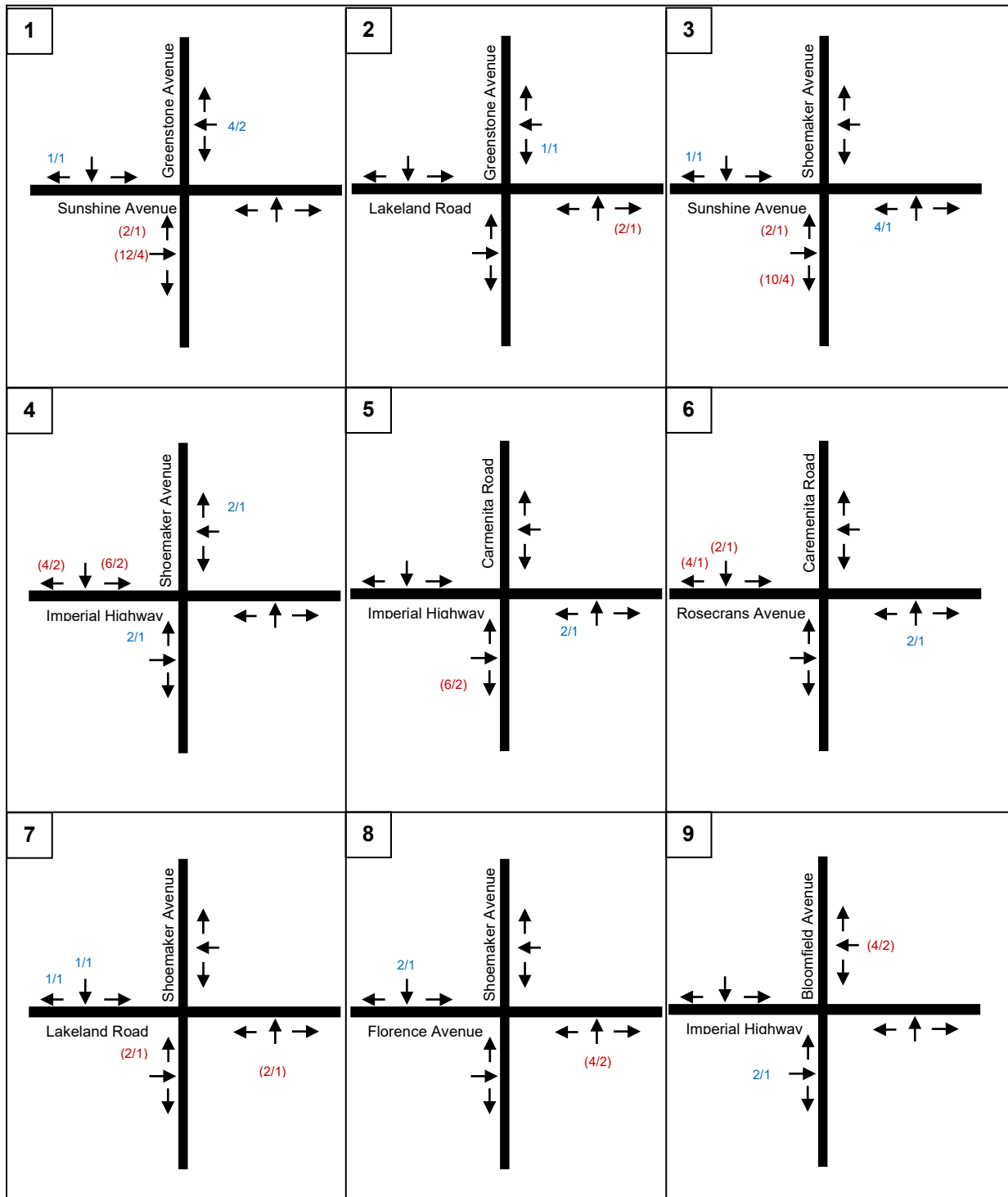




Figure 3-4. Project Trip Assignment – Weekday AM/PM Peak Hour

Inbound, (Outbound)





3.2.4 Opening Year 2021, With Project Intersection LOS

The Opening Year 2021 Plus Project analysis scenario represents the added weekday AM and PM peak hour project traffic to the future roadway and traffic conditions. As shown in **Table 3-3** below, based on the level of service analysis, all nine study intersections will continue to operate at their pre-project LOS in the AM and PM peak hours during the typical weekday.

Table 3-3. Intersection Levels of Service - Opening Year (2021) Conditions With Project

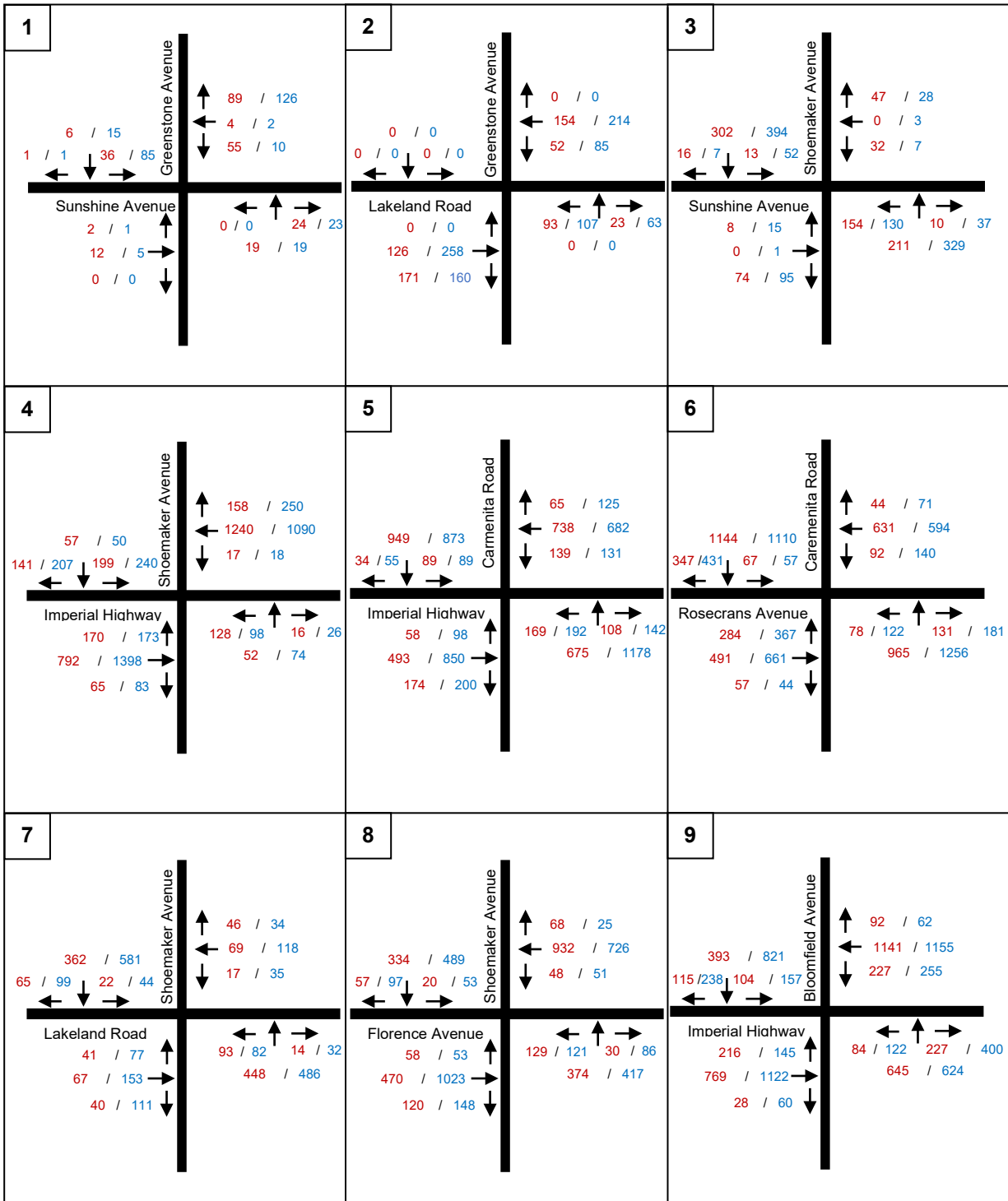
No.	Intersection	Peak Hour	Opening Year 2021 (With Project)	
			Delay (sec)	LOS ^[1]
1	Greenstone Avenue and Sunshine Avenue	AM	7.4	A
		PM	6.9	A
2	Greenstone Avenue and Lakeland Road	AM	3.1	A
		PM	4.2	A
3	Shoemaker Avenue and Sunshine Avenue	AM	4.1	A
		PM	3.3	A
4	Shoemaker Avenue and Imperial Highway	AM	62.5	E
		PM	76.0	E
5	Carmenita Road and Imperial Highway	AM	38.5	D
		PM	67.6	E
6	Carmenita Road and Rosecrans Avenue	AM	73.3	E
		PM	116.6	F
7	Shoemaker Avenue and Lakeland Road	AM	16.4	B
		PM	17.4	B
8	Shoemaker Avenue and Florence Avenue	AM	33.1	C
		PM	44.5	D
9	Bloomfield Avenue and Imperial Highway	AM	68.5	E
		PM	60.2	E

^[1] LOS: Level of Service.

Figure 3-5 illustrates the Opening Year 2021 With Project AM and PM peak hour traffic volumes at each of the nine study intersections.



Figure 3-5. Opening Year 2021 With Project PCE Traffic Volumes – Weekday AM/PM Peak Hours





4.0 TRAFFIC IMPACT ANALYSIS AND PROJECT MITIGATION

A comparison of "Pre-Project" and "With Project" traffic conditions was performed to assess the significance level of potential traffic impacts due to the project on the surrounding study area intersections. Using the significance thresholds established by the City of Santa Fe Springs, the Opening Year 2021 volume-to-capacity ratios and LOS were compared without and with the project conditions. The analysis of potential impacts related to traffic and circulation indicate that the proposed project will result in minimal impacts in the surround traffic network for all the analyzed scenarios.

Table 4-1 summarizes the above comparative analyses illustrating the change in ICU (i.e., intersection delay change due to the Project) and LOS at each study location.

As none of the observed changed in LOS and/or V/C ratio meet the criterion set by the City of Santa Fe Springs and Los Angeles County, ***there are no significant impacts on the City's Street Network from the proposed Project. Therefore, no mitigation is required.***



Table 4-1. Comparison of Intersection LOS and Project Impact Significance

Intersection	Peak Hour	Existing/Baseline Conditions (Year 2020)		Opening Year 2021				Significant Impact	
				Without Project		With Project			Delay Change
				Delay (sec)	LOS	Delay (sec)	LOS		
1.) Greenstone Ave & Sunshine Ave	AM	7.1	B	7.1	B	7.4	A	+0.3	NO
	PM	6.8	B	6.8	B	6.9	A	+0.1	NO
2.) Greenstone Ave & Lakeland Rd	AM	3.1	A	3.1	A	3.1	A	0.0	NO
	PM	4.1	A	4.1	A	4.2	A	+0.1	NO
3.) Shoemaker Ave & Sunshine Ave	AM	3.9	A	4.0	A	4.1	A	+0.1	NO
	PM	3.3	A	3.3	A	3.3	A	0.0	NO
4.) Shoemaker Ave & Imperial Hwy	AM	59.8	E	62.0	E	62.5	E	+0.5	NO
	PM	72.8	E	75.8	E	76.0	E	+0.2	NO
5.) Carmenita Rd & Imperial Hwy	AM	37.5	D	38.5	D	38.5	D	0.0	NO
	PM	65.6	E	67.6	E	67.6	E	0.0	NO
6.) Carmenita Rd & Rosecrans Ave	AM	73.0	E	73.0	E	73.3	E	+0.3	NO
	PM	112.8	F	116.2	F	116.6	F	+0.4	NO
7.) Shoemaker Ave & Lakeland Rd	AM	16.4	B	16.4	B	16.4	B	0.0	NO
	PM	17.3	B	17.4	B	17.4	B	0.0	NO
8.) Shoemaker Ave & Florence Ave	AM	32.2	C	33.1	C	33.1	C	0.0	NO
	PM	43.1	D	44.5	D	44.5	D	0.0	NO
9.) Bloomfield Ave & Imperial Hwy	AM	67.4	E	68.5	E	68.5	E	0.0	NO
	PM	59.0	E	60.2	E	60.2	E	0.0	NO



5.0 CONGESTION MANAGEMENT PROGRAM (CMP) IMPACT SIGNIFICANCE

The County of Los Angeles is included in the Los Angeles County Congestion Management Program (CMP), which is prepared and maintained by the Los Angeles County Metropolitan Transportation Authority (Metro). The requirements of the CMP became effective with voter approval of Proposition 111. The purpose of the CMP is to link land use, transportation, and air quality decisions, to develop a partnership among transportation decision-makers in devising appropriate transportation solutions that include all modes of travel, and to propose transportation projects that are eligible to compete for State gas tax funds. The CMP also serves to consistently track trends during peak traffic hours at major intersections in the country and identify areas in great need of improvements where traffic congestion is worsening. The CMP requires that intersections which are designated as being officially monitored by the Program be analyzed under the County's CMP criteria if the proposed project is expected to generate 50 or more peak hour trips on a CMP-designated facility.

The CMP requires that intersections which are designated as under official monitoring by the Program be analyzed using CMP criteria, should the proposed project generate 50 or more peak hour trips on the subject intersection. As the maximum number of peak hour trips applied to any intersection for both the AM and PM peak hours is 4 trips, none of the studied intersections apply to the CMP.

6.0 VMT ANALYSIS

California Senate Bill 743 (SB 743) directs the State Office of Planning and Research (OPR) to amend the California Environmental Quality Act (CEQA) Guidelines for evaluating transportation impacts to provide alternatives to Level of Service that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses."

In December 2018, the California Natural Resources Agency certified and adopted the updated CEQA Guidelines package. The amended CEQA Guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Travelled (VMT) as the primary metric for the evaluation of transportation impacts associated with land use and transportation projects. In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. Agencies may currently opt-in to applying the updated CEQA guidelines for VMT analysis and implementation is required State-wide by July 1, 2020.

The updated CEQA Guidelines allow for lead agency discretion in establishing methodologies and thresholds provided there is substantial evidence to demonstrate that the established procedures promote the intended goals of the legislation. Where quantitative models or methods are unavailable, Section 15064.3 allows agencies to assess VMT qualitatively using factors such as availability of transit and proximity to other destinations.





The Technical Advisory on Evaluating Transportation Impacts in CEQA (State of California, December 2018) ["Technical Advisory"] provides technical considerations regarding methodologies and thresholds with a focus on office, residential, and retail developments as these projects tend to have the greatest influence on VMT. At publishing of this report, many jurisdictions are currently in the process of developing updated procedures for VMT analysis.

Per the state of California's OPR's (Office of Planning & Research) Technical Advisory, a project can be assumed to generate a less than significant impact if it is found to attract less than 110 project vehicular trips per day. Since our project will generate 109 project trips per day, it is therefore considered as being screened out of further VMT analysis.

Table 6-1. Project Screening for VMT Analysis

VMT Screening Evaluation			
Project Type	Project ADT	VMT Threshold	Significant Impact?
Non-Retail	109	110	NO

As shown in **Table 6-1**, the Project's ADT of 109 vehicular trips **does not** exceed the VMT threshold, **therefore further VMT analysis for the Project is not required.**



7.0 CONCLUSION

- The project owner, *Rexford Industrial*, has proposed to convert an existing warehouse to a truck container storage located on the west side of Greenstone Avenue, approximately 3/4 mile south of Lakeland Road and 1/4 mile north of Imperial Highway.
- The project site located within an existing M-1 (Light Industrial) zone in the central part of the City.
- The project is estimated to generate 109 daily trips, with 19 PCE trips (5 inbound, 14 outbound) occurring in the AM Peak Hour and 8 PCE trips (3 inbound, 5 outbound) occurring in the PM Peak Hour.
- The traffic impact analysis evaluated typical weekday AM and PM peak hour intersections operations at nine (9) study intersections in the vicinity of the proposed site.
- The results of the Existing/Baseline Conditions analysis show that the signalized intersections of
 - Shoemaker Avenue and Imperial Highway – AM and PM Peak Hours
 - Carmenita Road and Imperial Highway – PM Peak Hour
 - Carmenita Road and Rosecrans Avenue – AM and PM Peak Hours
 - Bloomfield Avenue and Imperial Highway – AM and PM Peak Hoursare operating at an unacceptable level of service (LOS) “E” or worse during the weekday AM and PM peak hours for all Project scenarios. The remaining five (5) study intersections are operating at acceptable levels of service LOS “D” or better for all the Project scenarios.
- The anticipated Project Completion Year is in 2021. Minagar & Associates, Inc. applied a conservative +1.0% annual growth factor to account for any ambient traffic growth in the area prior to the opening of the Project.
- Evaluation of the Project Opening Year 2021 (Without and With Project) scenario revealed **none of the study intersections would be significantly impacted** by project-related traffic and would not require mitigations.
- Vehicle Miles Traveled (VMT) Assessment reveals that the Project’s Average Daily Traffic (ADT) of 109 is less than the City’s/Los Angeles County’s screening threshold of 110 ADT, and the Project therefore **would NOT be required to perform any further VMT analysis**.



APPENDIX A

Intersection Turning Movement Traffic Volume Count Sheets



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
Tue, Nov 17, 20

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Greenstone
Sunshine

PROJECT #:
LOCATION #:
CONTROL:

SC2728
1
STOP E/W

NOTES:

AM
PM
MD
OTHER
OTHER

◀ W

▶ E

▲ N
▼ S

☒ Add U-Turns to Left Turns

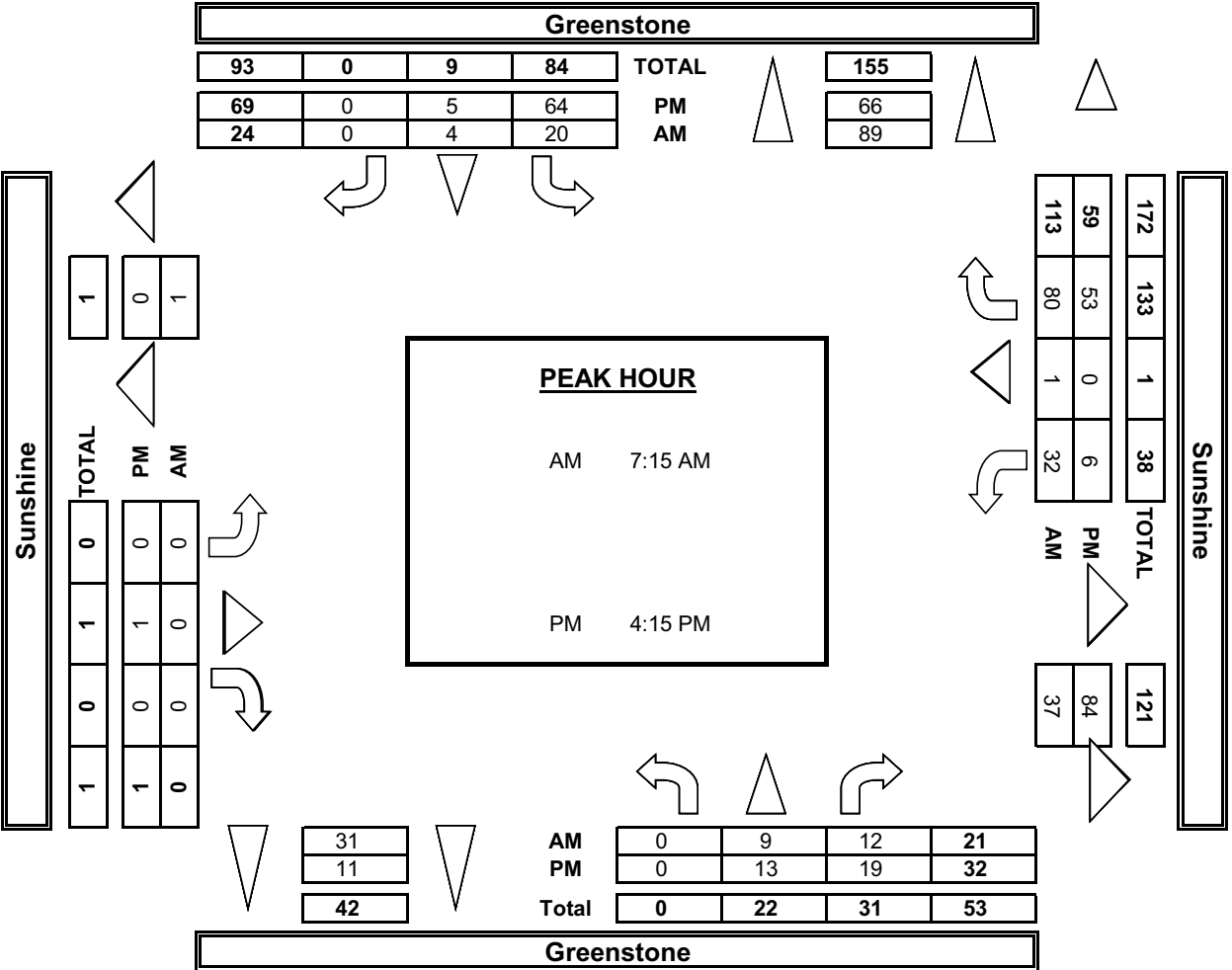
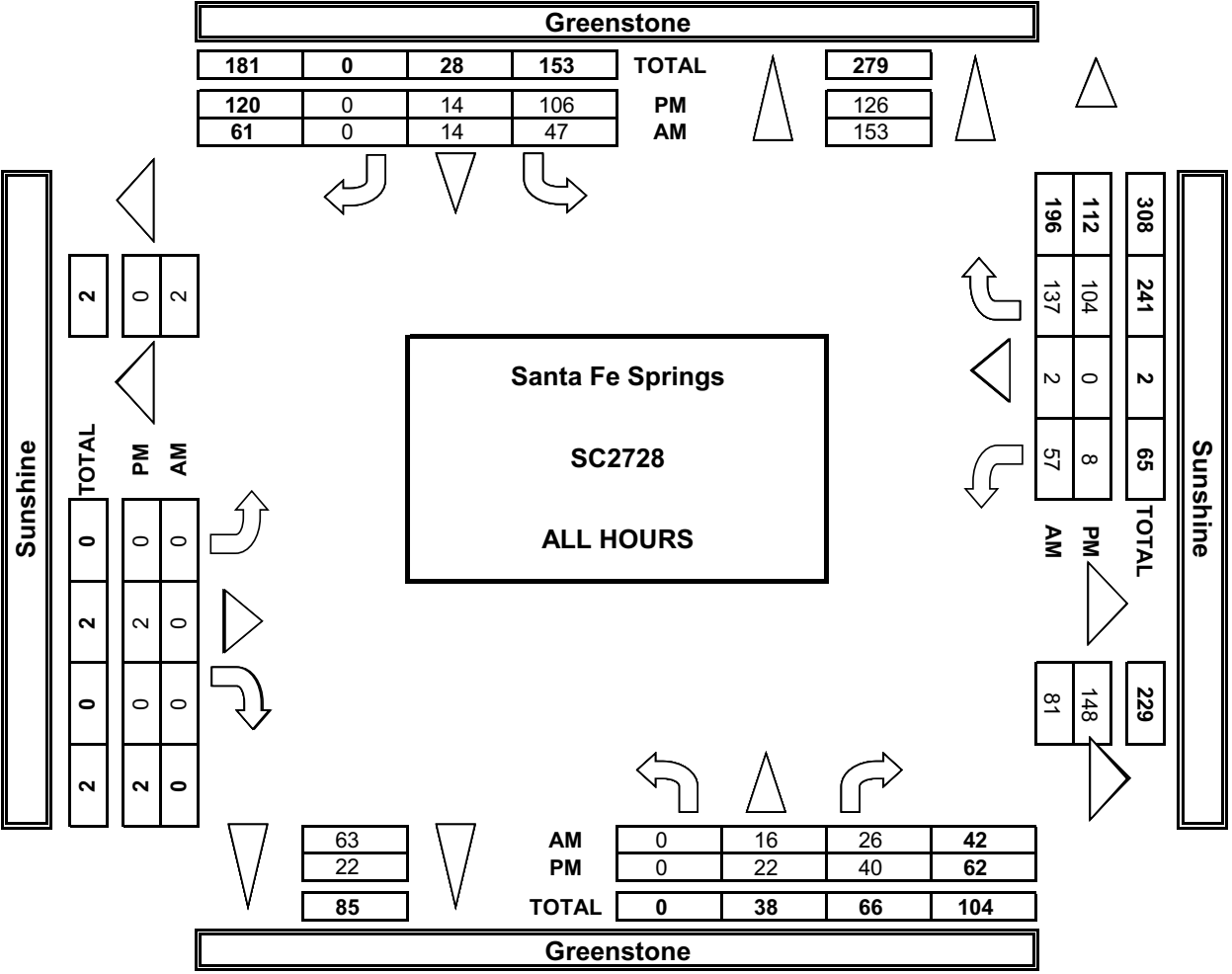
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Greenstone			Greenstone			Sunshine			Sunshine			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
7:00 AM	0	0	2	7	2	0	0	0	0	4	0	20	35
7:15 AM	0	4	5	5	0	0	0	0	0	5	1	24	44
7:30 AM	0	2	2	8	2	0	0	0	0	7	0	13	34
7:45 AM	0	2	0	3	1	0	0	0	0	10	0	27	43
8:00 AM	0	1	5	4	1	0	0	0	0	10	0	16	37
8:15 AM	0	1	5	6	1	0	0	0	0	11	0	15	39
8:30 AM	0	3	3	7	4	0	0	0	0	3	1	10	31
8:45 AM	0	3	4	7	3	0	0	0	0	7	0	12	36
VOLUMES	0	16	26	47	14	0	0	0	0	57	2	137	299
APPROACH %	0%	38%	62%	77%	23%	0%	0%	0%	0%	29%	1%	70%	
APP/DEPART	42	/	153	61	/	63	0	/	81	196	/	2	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	0	9	12	20	4	0	0	0	0	32	1	80	158
APPROACH %	0%	43%	57%	83%	17%	0%	0%	0%	0%	28%	1%	71%	
PEAK HR FACTOR	0.583			0.600			0.000			0.764			0.898
APP/DEPART	21	/	89	24	/	31	0	/	37	113	/	1	0
04:00 PM	0	5	12	12	2	0	0	0	0	0	0	10	41
4:15 PM	0	4	5	8	1	0	0	0	0	0	0	12	30
4:30 PM	0	5	8	15	1	0	0	0	0	4	0	10	43
4:45 PM	0	2	3	17	3	0	0	0	0	1	0	18	44
5:00 PM	0	2	3	24	0	0	0	1	0	1	0	13	44
5:15 PM	0	1	1	6	0	0	0	0	0	1	0	16	25
5:30 PM	0	3	7	16	5	0	0	0	0	1	0	15	47
5:45 PM	0	0	1	8	2	0	0	1	0	0	0	10	22
VOLUMES	0	22	40	106	14	0	0	2	0	8	0	104	296
APPROACH %	0%	35%	65%	88%	12%	0%	0%	100%	0%	7%	0%	93%	
APP/DEPART	62	/	126	120	/	22	2	/	148	112	/	0	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	0	13	19	64	5	0	0	1	0	6	0	53	161
APPROACH %	0%	41%	59%	93%	7%	0%	0%	100%	0%	10%	0%	90%	
PEAK HR FACTOR	0.615			0.719			0.250			0.776			0.915
APP/DEPART	32	/	66	69	/	11	1	/	84	59	/	0	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	4	4
0	0	0	1	1
0	0	0	0	0
0	0	0	2	2
0	0	0	0	0
0	0	0	1	1
0	0	0	8	8

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
11/17/20
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Greenstone
Sunshine

PROJECT #:
LOCATION #:
CONTROL:

SC2728
1
STOP E/W

CLASS 1:	NOTES:	AM		▲	
PASSENGER VEHICLES		PM		N	
		MD	◀ W		E ▶
		OTHER		S	
		OTHER		▼	

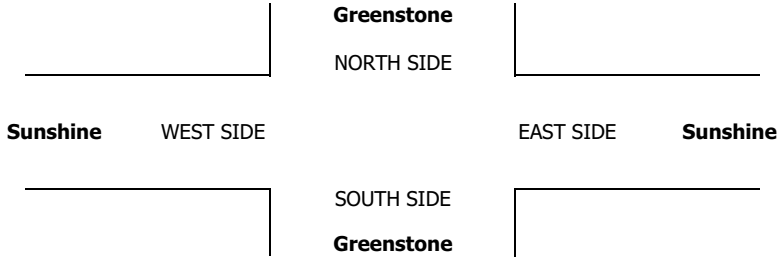
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Greenstone			Greenstone			Sunshine			Sunshine			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	0	0	1	3	2	0	0	0	0	2	0	20	28
	7:15 AM	0	1	3	1	0	0	0	0	0	4	1	23	33
	7:30 AM	0	2	1	6	2	0	0	0	0	4	0	12	27
	7:45 AM	0	0	0	3	1	0	0	0	0	7	0	25	36
	8:00 AM	0	1	2	2	0	0	0	0	0	6	0	16	27
	8:15 AM	0	1	1	5	0	0	0	0	0	6	0	14	27
	8:30 AM	0	0	2	5	1	0	0	0	0	2	1	8	19
	8:45 AM	0	1	2	3	1	0	0	0	0	4	0	9	20
	VOLUMES	0	6	12	28	7	0	0	0	0	35	2	127	217
	APPROACH %	0%	33%	67%	80%	20%	0%	0%	0%	0%	21%	1%	77%	
PM	APP/DEPART	18	/	133	35	/	37	0	/	45	164	/	2	0
	BEGIN PEAK HR	7:00 AM												
	VOLUMES	0	3	5	13	5	0	0	0	0	13	1	80	124
	APPROACH %	0%	38%	63%	72%	28%	0%	0%	0%	0%	13%	1%	82%	
	PEAK HR FACTOR	0.500			0.563			0.000			0.766			0.861
	APP/DEPART	8	/	83	18	/	18	0	/	22	98	/	1	0
	04:00 PM	0	5	8	9	1	0	0	0	0	0	0	2	25
	4:15 PM	0	4	5	4	0	0	0	0	0	0	0	5	18
	4:30 PM	0	4	8	13	0	0	0	0	0	3	0	3	31
	4:45 PM	0	1	3	14	0	0	0	0	0	0	0	5	23
	5:00 PM	0	1	1	23	0	0	0	1	0	1	0	4	31
	5:15 PM	0	1	1	4	0	0	0	0	0	1	0	6	13
	5:30 PM	0	2	6	12	5	0	0	0	0	1	0	10	36
	5:45 PM	0	0	1	7	1	0	0	1	0	0	0	4	14
	VOLUMES	0	18	33	86	7	0	0	2	0	6	0	39	191
	APPROACH %	0%	35%	65%	92%	8%	0%	0%	100%	0%	13%	0%	87%	
	APP/DEPART	51	/	57	93	/	13	2	/	121	45	/	0	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	0	5	11	53	5	0	0	1	0	3	0	25	103
	APPROACH %	0%	31%	69%	91%	9%	0%	0%	100%	0%	11%	0%	89%	
	PEAK HR FACTOR	0.333			0.630			0.250			0.636			0.715
	APP/DEPART	16	/	30	58	/	8	1	/	65	28	/	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	3	3
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	5	5

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
11/17/20
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Greenstone
Sunshine

PROJECT #: SC2728
LOCATION #: 1
CONTROL: STOP E/W

CLASS 2:	NOTES:	AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
TRUCKS				

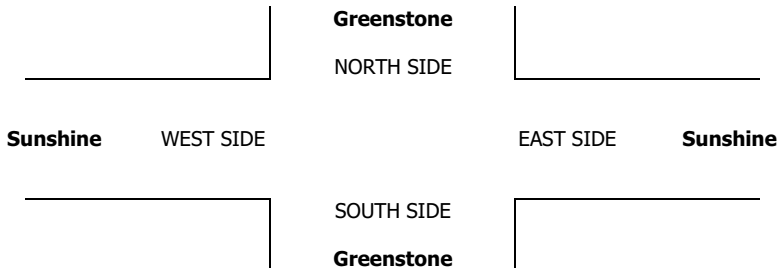
	NORTHBOUND Greenstone			SOUTHBOUND Greenstone			EASTBOUND Sunshine			WESTBOUND Sunshine			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	0	0	1	4	0	0	0	0	0	2	0	0	7
	7:15 AM	0	3	2	4	0	0	0	0	0	1	0	1	11
	7:30 AM	0	0	1	2	0	0	0	0	0	3	0	1	7
	7:45 AM	0	2	0	0	0	0	0	0	0	3	0	2	7
	8:00 AM	0	0	3	2	1	0	0	0	0	4	0	0	10
	8:15 AM	0	0	4	1	1	0	0	0	0	5	0	1	12
	8:30 AM	0	3	1	2	3	0	0	0	0	1	0	2	12
	8:45 AM	0	2	2	4	2	0	0	0	0	3	0	3	16
	VOLUMES	0	10	14	19	7	0	0	0	0	22	0	10	82
	APPROACH %	0%	42%	58%	73%	27%	0%	0%	0%	0%	69%	0%	31%	
APP/DEPART	24	/	20	26	/	26	0	/	36	32	/	0	0	
BEGIN PEAK HR	8:00 AM													
VOLUMES	0	5	10	9	7	0	0	0	0	11	0	6	50	
APPROACH %	0%	33%	67%	56%	44%	0%	0%	0%	0%	58%	0%	32%		
PEAK HR FACTOR	0.938			0.667			0.000			0.792			0.781	
APP/DEPART	15	/	11	16	/	18	0	/	21	19	/	0	0	
PM	04:00 PM	0	0	4	3	1	0	0	0	0	0	0	8	16
	4:15 PM	0	0	0	4	1	0	0	0	0	0	0	7	12
	4:30 PM	0	1	0	2	1	0	0	0	0	1	0	7	12
	4:45 PM	0	1	0	3	3	0	0	0	0	1	0	13	21
	5:00 PM	0	1	2	1	0	0	0	0	0	0	0	9	13
	5:15 PM	0	0	0	2	0	0	0	0	0	0	0	10	12
	5:30 PM	0	1	1	4	0	0	0	0	0	0	0	5	11
	5:45 PM	0	0	0	1	1	0	0	0	0	0	0	6	8
	VOLUMES	0	4	7	20	7	0	0	0	0	2	0	65	105
	APPROACH %	0%	36%	64%	74%	26%	0%	0%	0%	0%	3%	0%	97%	
APP/DEPART	11	/	69	27	/	9	0	/	27	67	/	0	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	0	2	4	12	6	0	0	0	0	2	0	35	61	
APPROACH %	0%	33%	67%	67%	33%	0%	0%	0%	0%	5%	0%	95%		
PEAK HR FACTOR	0.375			0.750			0.000			0.661			0.726	
APP/DEPART	6	/	37	18	/	8	0	/	16	37	/	0	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2
0	0	0	0	0
0	0	0	0	0
0	0	0	3	3

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
Tue, Nov 17, 20

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Greenstone
Lakeland

PROJECT #:
LOCATION #:
CONTROL:

SC2728
2
STOP N

NOTES:

AM
PM
MD
OTHER
OTHER

◀ W

▶ E

▲ N
▼ S

☐ Add U-Turns to Left Turns

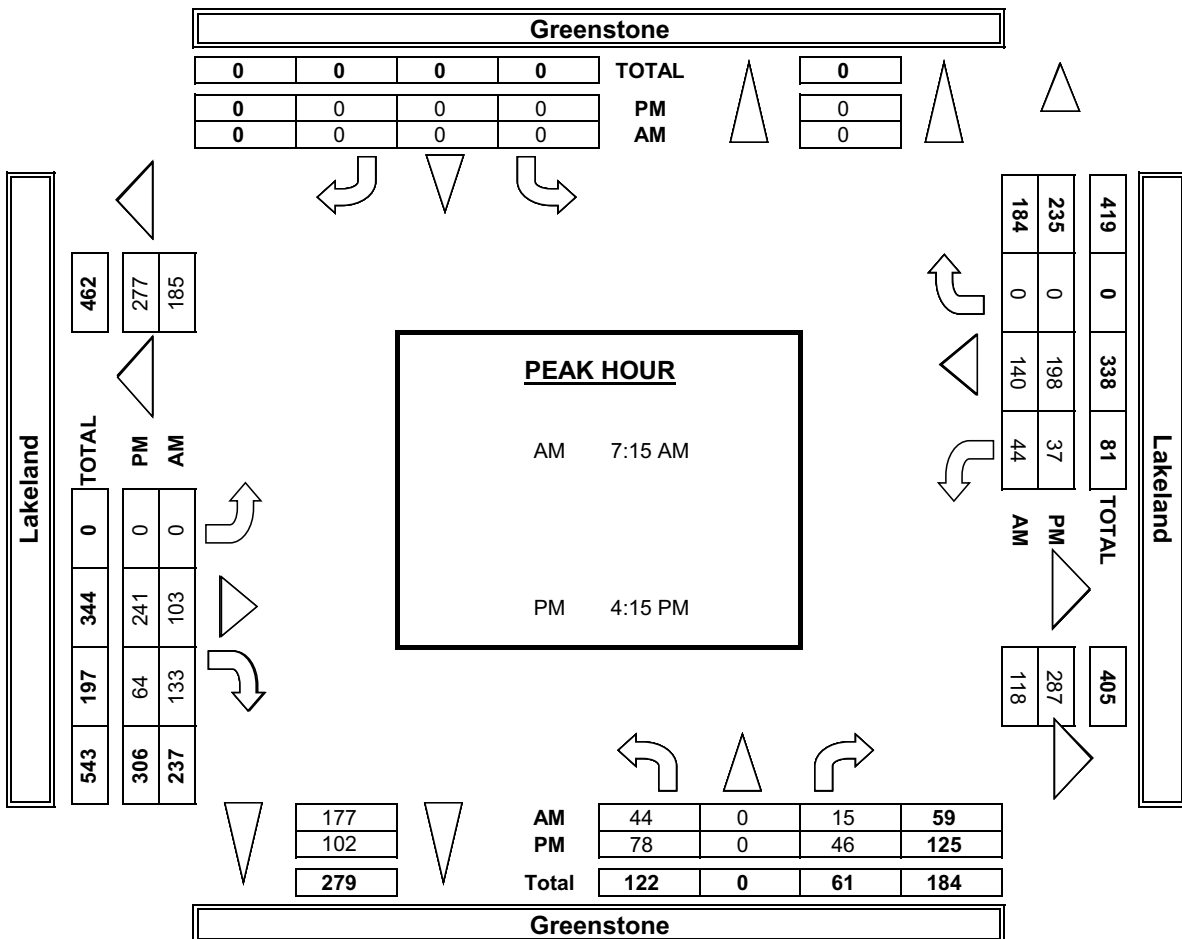
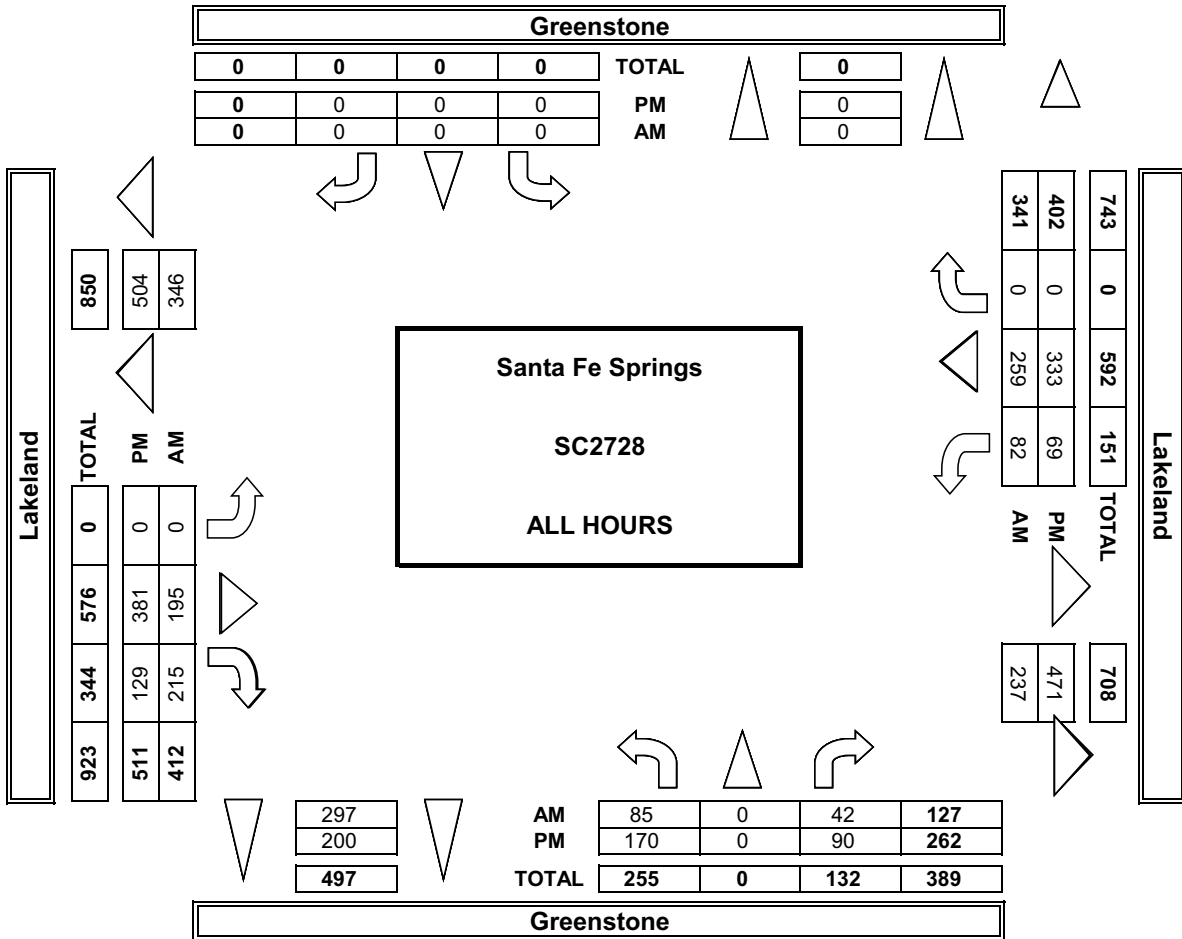
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Greenstone			Greenstone			Lakeland			Lakeland			
LANES:	NL 0	NT X	NR 0	SL X	ST X	SR X	EL X	ET 1	ER 0	WL 1	WT 1	WR X	TOTAL
7:00 AM	7	0	1	0	0	0	0	23	17	8	22	0	78
7:15 AM	11	0	4	0	0	0	0	19	40	12	39	0	125
7:30 AM	11	0	0	0	0	0	0	29	26	11	35	0	112
7:45 AM	10	0	5	0	0	0	0	29	42	13	38	0	137
8:00 AM	12	0	6	0	0	0	0	26	25	8	28	0	105
8:15 AM	6	0	8	0	0	0	0	21	21	11	32	0	99
8:30 AM	20	0	8	0	0	0	0	22	21	12	37	0	120
8:45 AM	8	0	10	0	0	0	0	26	23	7	28	0	102
VOLUMES	85	0	42	0	0	0	0	195	215	82	259	0	880
APPROACH %	67%	0%	33%	0%	0%	0%	0%	47%	52%	24%	76%	0%	
APP/DEPART	127	/	0	0	/	297	412	/	237	341	/	346	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	44	0	15	0	0	0	0	103	133	44	140	0	480
APPROACH %	75%	0%	25%	0%	0%	0%	0%	43%	56%	24%	76%	0%	
PEAK HR FACTOR	0.819			0.000			0.835			0.902			0.876
APP/DEPART	59	/	0	0	/	177	237	/	118	184	/	185	0
04:00 PM	24	0	9	0	0	0	0	31	10	3	41	0	118
4:15 PM	19	0	9	0	0	0	0	63	19	11	45	0	166
4:30 PM	19	0	13	0	0	0	0	79	18	8	53	0	190
4:45 PM	12	0	13	0	0	0	0	46	9	9	47	0	136
5:00 PM	28	0	11	0	0	0	0	53	18	9	53	0	172
5:15 PM	22	0	12	0	0	0	0	38	13	6	33	0	124
5:30 PM	23	0	15	0	0	0	0	34	21	16	35	0	144
5:45 PM	23	0	8	0	0	0	0	37	21	7	26	0	122
VOLUMES	170	0	90	0	0	0	0	381	129	69	333	0	1,175
APPROACH %	65%	0%	34%	0%	0%	0%	0%	75%	25%	17%	83%	0%	
APP/DEPART	262	/	0	0	/	200	511	/	471	402	/	504	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	78	0	46	0	0	0	0	241	64	37	198	0	666
APPROACH %	62%	0%	37%	0%	0%	0%	0%	79%	21%	16%	84%	0%	
PEAK HR FACTOR	0.801			0.000			0.789			0.948			0.876
APP/DEPART	125	/	0	0	/	102	306	/	287	235	/	277	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	2	0	2

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	1	0	2
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
2	0	1	0	3



AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

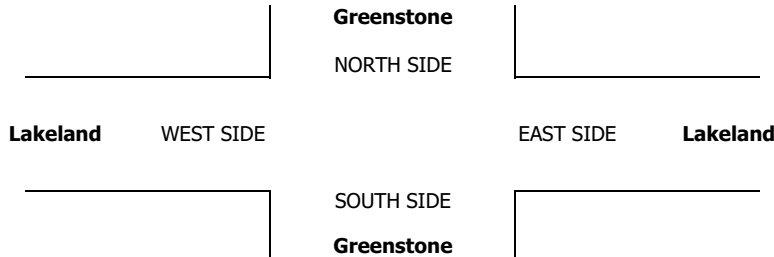
DATE: 11/17/20 TUESDAY	LOCATION: NORTH & SOUTH: Santa Fe Springs EAST & WEST: Greenstone Lakeland	PROJECT #: SC2728 LOCATION #: 2 CONTROL: STOP N
CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER ▲ ◀ W S ▼ N E ▶

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Greenstone			Greenstone			Lakeland			Lakeland			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	X	0	X	X	X	X	1	0	1	1	X	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	1	0	1

AM	7:00 AM	4	0	0	0	0	0	22	15	6	21	0	68	
	7:15 AM	4	0	4	0	0	0	18	36	12	38	0	112	
	7:30 AM	8	0	0	0	0	0	23	24	9	34	0	98	
	7:45 AM	3	0	3	0	0	0	26	36	12	37	0	117	
	8:00 AM	5	0	5	0	0	0	25	19	8	25	0	87	
	8:15 AM	4	0	7	0	0	0	19	17	9	28	0	84	
	8:30 AM	14	0	5	0	0	0	22	10	11	37	0	99	
	8:45 AM	4	0	7	0	0	0	25	14	7	26	0	83	
	VOLUMES	46	0	31	0	0	0	180	171	74	246	0	749	
	APPROACH %	60%	0%	40%	0%	0%	0%	51%	49%	23%	77%	0%		
APP/DEPART	77	/	0	0	/	245	352	/	211	320	/	293	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	20	0	12	0	0	0	92	115	41	134	0	414		
APPROACH %	63%	0%	38%	0%	0%	0%	44%	56%	23%	77%	0%			
PEAK HR FACTOR	0.800			0.000			0.835			0.875			0.885	
APP/DEPART	32	/	0	0	/	156	207	/	104	175	/	154	0	
PM	04:00 PM	18	0	6	0	0	0	28	5	2	40	0	99	
	4:15 PM	17	0	7	0	0	0	62	7	6	42	0	141	
	4:30 PM	17	0	13	0	0	0	76	3	3	51	0	163	
	4:45 PM	11	0	8	0	0	0	45	3	2	46	0	115	
	5:00 PM	19	0	10	0	0	0	51	4	3	52	0	139	
	5:15 PM	20	0	10	0	0	0	37	7	3	32	0	109	
	5:30 PM	18	0	15	0	0	0	33	12	9	34	0	121	
	5:45 PM	21	0	7	0	0	0	34	9	6	23	0	100	
	VOLUMES	141	0	76	0	0	0	366	50	34	320	0	990	
	APPROACH %	64%	0%	35%	0%	0%	0%	88%	12%	10%	90%	0%		
	APP/DEPART	219	/	0	0	/	86	417	/	442	354	/	462	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	64	0	38	0	0	0	234	17	14	191	0	560	
APPROACH %	62%	0%	37%	0%	0%	0%	93%	7%	7%	93%	0%			
PEAK HR FACTOR	0.858			0.000			0.797			0.932			0.859	
APP/DEPART	103	/	0	0	/	32	252	/	272	205	/	256	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	1	0	2
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
2	0	1	0	3



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
11/17/20
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Greenstone
Lakeland

PROJECT #:
LOCATION #:
CONTROL:

SC2728
2
STOP N

CLASS 2:	NOTES:	AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
TRUCKS				

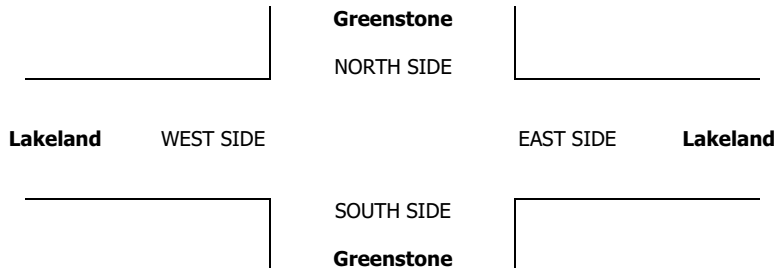
	NORTHBOUND Greenstone			SOUTHBOUND Greenstone			EASTBOUND Lakeland			WESTBOUND Lakeland			TOTAL
LANES:	NL 0	NT X	NR 0	SL X	ST X	SR X	EL X	ET 1	ER 0	WL 1	WT 1	WR X	

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	3	0	1	0	0	0	0	1	2	2	1	0	10
	7:15 AM	7	0	0	0	0	0	0	1	4	0	1	0	13
	7:30 AM	3	0	0	0	0	0	0	6	2	2	1	0	14
	7:45 AM	7	0	2	0	0	0	0	3	6	1	1	0	20
	8:00 AM	7	0	1	0	0	0	0	1	6	0	3	0	18
	8:15 AM	2	0	1	0	0	0	0	2	4	2	4	0	15
	8:30 AM	6	0	3	0	0	0	0	0	11	1	0	0	21
	8:45 AM	4	0	3	0	0	0	0	1	9	0	2	0	19
	VOLUMES	39	0	11	0	0	0	0	15	44	8	13	0	131
	APPROACH %	78%	0%	22%	0%	0%	0%	0%	25%	73%	38%	62%	0%	
PM	APP/DEPART	50	/	0	0	/	52	60	/	26	21	/	53	0
	BEGIN PEAK HR	7:45 AM												
	VOLUMES	22	0	7	0	0	0	0	6	27	4	8	0	74
	APPROACH %	76%	0%	24%	0%	0%	0%	0%	18%	82%	33%	67%	0%	
	PEAK HR FACTOR	0.806			0.000			0.750			0.500			0.881
	APP/DEPART	29	/	0	0	/	31	33	/	13	12	/	30	0
	04:00 PM	6	0	3	0	0	0	0	3	5	1	1	0	19
	4:15 PM	2	0	2	0	0	0	0	1	12	5	3	0	25
	4:30 PM	2	0	0	0	0	0	0	3	15	5	2	0	27
	4:45 PM	1	0	5	0	0	0	0	1	6	7	1	0	21
	5:00 PM	9	0	1	0	0	0	0	2	14	6	1	0	33
	5:15 PM	2	0	2	0	0	0	0	1	6	3	1	0	15
	5:30 PM	5	0	0	0	0	0	0	1	9	7	1	0	23
	5:45 PM	2	0	1	0	0	0	0	3	12	1	3	0	22
	VOLUMES	29	0	14	0	0	0	0	15	79	35	13	0	185
	APPROACH %	67%	0%	33%	0%	0%	0%	0%	16%	84%	73%	27%	0%	
	APP/DEPART	43	/	0	0	/	114	94	/	29	48	/	42	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	14	0	8	0	0	0	0	7	47	23	7	0	106
	APPROACH %	64%	0%	36%	0%	0%	0%	0%	13%	87%	77%	23%	0%	
	PEAK HR FACTOR	0.550			0.000			0.750			0.938			0.803
	APP/DEPART	22	/	0	0	/	70	54	/	15	30	/	21	0

0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
Tue, Nov 17, 20

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Shoemaker
Sunshine

PROJECT #:
LOCATION #:
CONTROL:

SC2728
3
STOP E/W

NOTES:

AM
PM
MD
OTHER
OTHER

◀ W

▲ N

S

▼

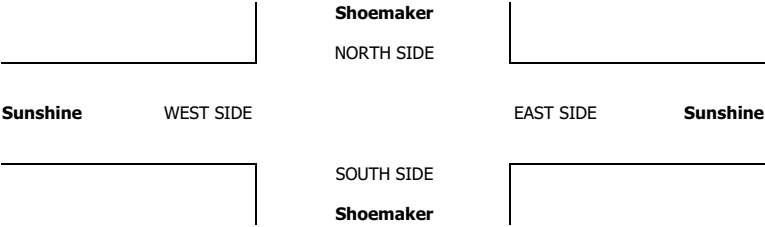
E ▶

☒ Add U-Turns to Left Turns

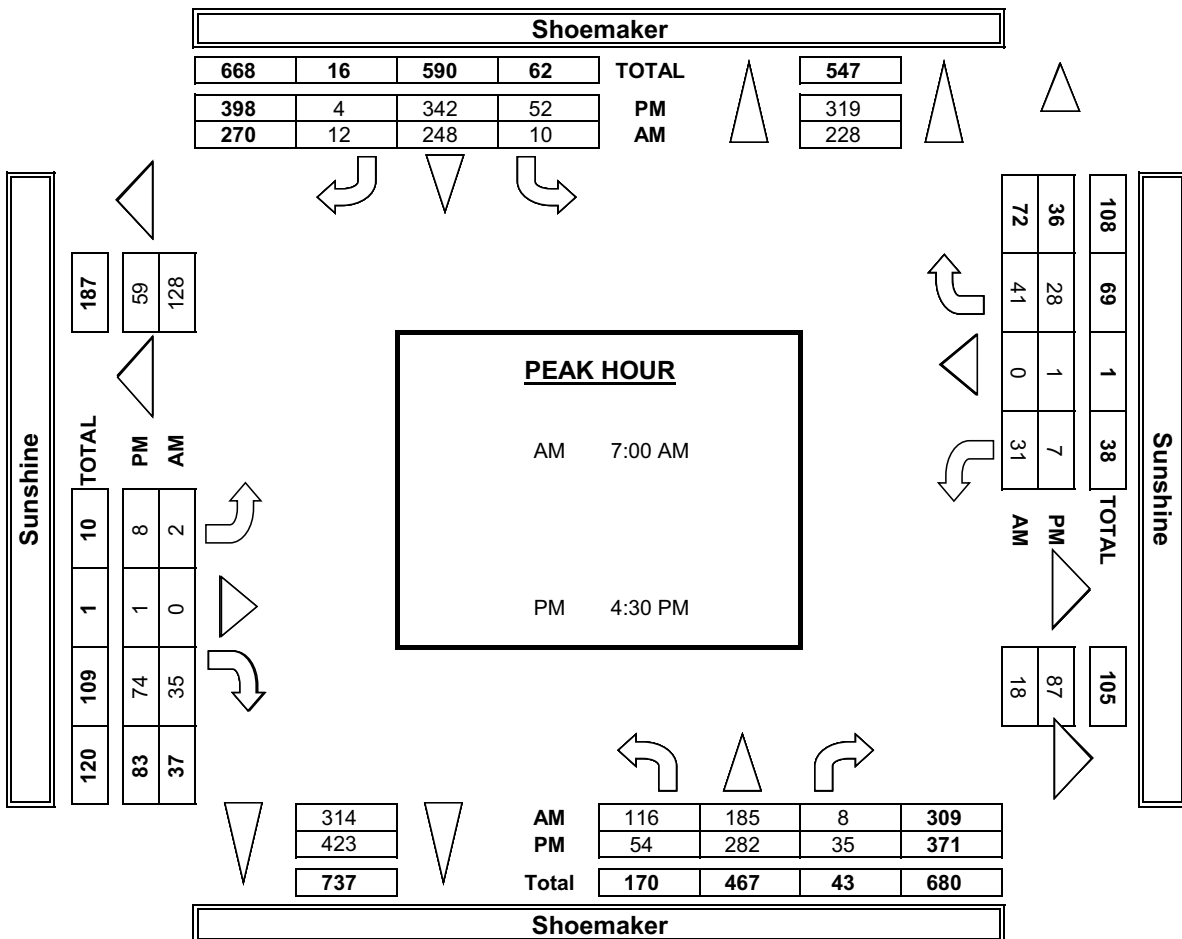
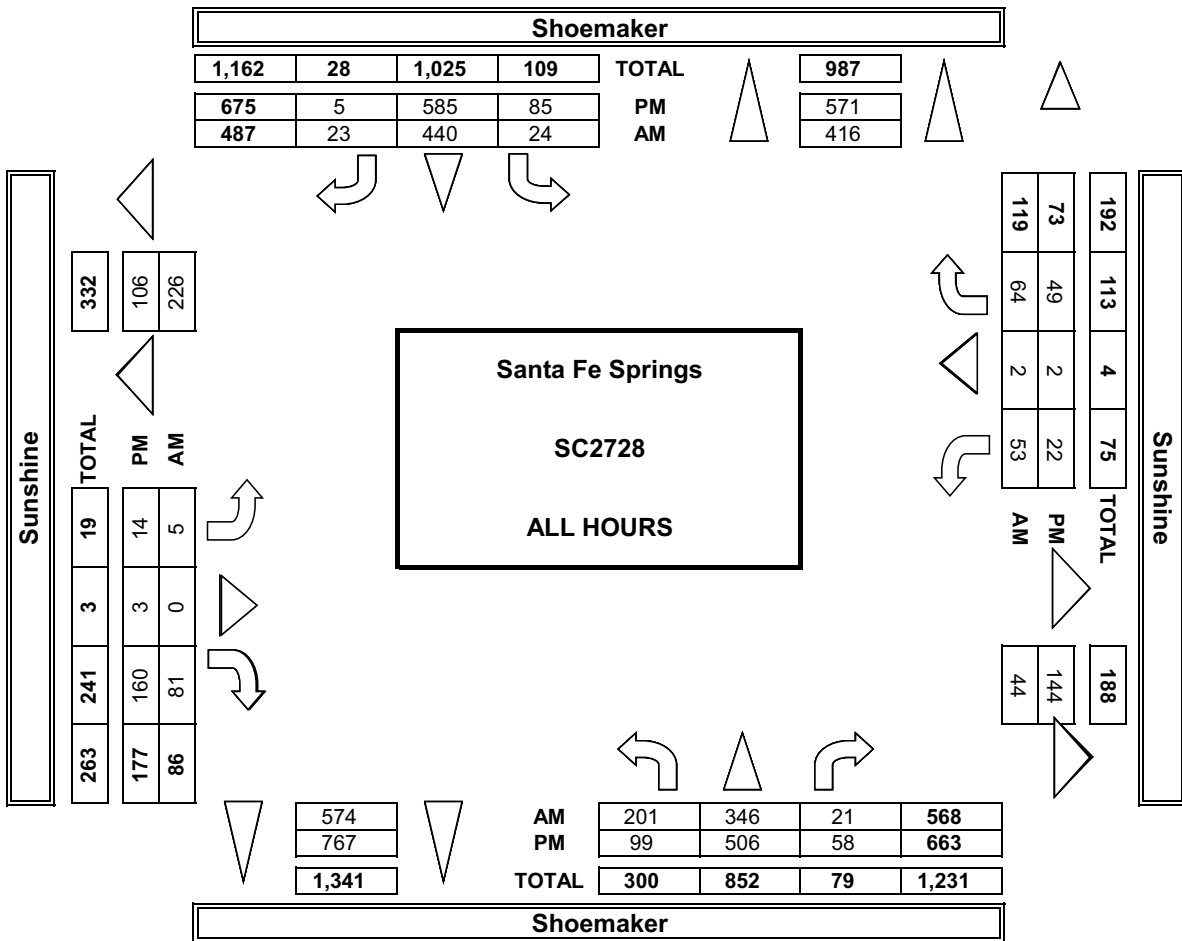
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				
	Shoemaker			Shoemaker			Sunshine			Sunshine				
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	
	7:00 AM	34	40	3	2	52	5	2	0	8	4	0	8	158
	7:15 AM	30	42	2	4	53	2	2	0	10	7	0	9	161
	7:30 AM	23	40	1	4	64	2	0	0	11	8	0	14	167
	7:45 AM	41	51	2	0	74	3	0	0	2	13	0	16	202
	8:00 AM	22	52	3	2	57	5	0	0	12	3	0	2	158
	8:15 AM	24	40	4	3	43	1	1	0	12	6	2	7	143
	8:30 AM	10	44	3	5	54	3	0	0	12	5	0	5	141
	8:45 AM	17	37	3	4	43	2	0	0	14	7	0	3	130
VOLUMES	201	346	21	24	440	23	5	0	81	53	2	64	1,260	
APPROACH %	35%	61%	4%	5%	90%	5%	6%	0%	94%	45%	2%	54%		
APP/DEPART	568	/	416	487	/	574	86	/	44	119	/	226	0	
BEGIN PEAK HR	7:00 AM													
VOLUMES	116	185	8	10	248	12	2	0	35	31	0	41	688	
APPROACH %	38%	60%	3%	4%	92%	4%	5%	0%	95%	43%	0%	57%		
PEAK HR FACTOR	0.822			0.877			0.771			0.621			0.851	
APP/DEPART	309	/	228	270	/	314	37	/	18	72	/	128	0	
	04:00 PM	10	65	8	5	62	1	3	1	35	1	0	5	196
	4:15 PM	10	64	3	9	66	0	3	0	17	1	1	2	176
	4:30 PM	10	83	10	10	94	0	2	1	22	1	1	6	240
	4:45 PM	17	59	5	11	80	2	4	0	17	2	0	7	204
	5:00 PM	13	79	9	17	96	2	2	0	26	2	0	4	250
	5:15 PM	14	61	11	14	72	0	0	0	9	2	0	11	194
	5:30 PM	16	46	8	10	58	0	0	0	22	6	0	7	173
	5:45 PM	9	49	4	9	57	0	0	1	12	7	0	7	155
VOLUMES	99	506	58	85	585	5	14	3	160	22	2	49	1,588	
APPROACH %	15%	76%	9%	13%	87%	1%	8%	2%	90%	30%	3%	67%		
APP/DEPART	663	/	571	675	/	767	177	/	144	73	/	106	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	54	282	35	52	342	4	8	1	74	7	1	28	888	
APPROACH %	15%	76%	9%	13%	86%	1%	10%	1%	89%	19%	3%	78%		
PEAK HR FACTOR	0.900			0.865			0.741			0.692			0.888	
APP/DEPART	371	/	319	398	/	423	83	/	87	36	/	59	0	

U-TURNS				
NB	SB	EB	WB	TTL
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	2	0	0	2



AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
11/17/20
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Shoemaker
Sunshine

PROJECT #:
LOCATION #:
CONTROL:

SC2728
3
STOP E/W

CLASS 1:	NOTES:	AM		▲	
PASSENGER VEHICLES		PM		N	
		MD	◀ W		E ▶
		OTHER		S	
		OTHER		▼	

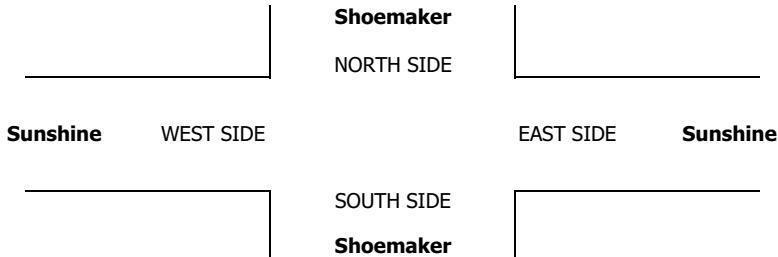
	NORTHBOUND Shoemaker			SOUTHBOUND Shoemaker			EASTBOUND Sunshine			WESTBOUND Sunshine			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	32	37	3	1	44	5	2	0	2	4	0	8	138
	7:15 AM	29	41	2	4	46	2	1	0	4	7	0	9	145
	7:30 AM	19	32	0	4	59	2	0	0	8	8	0	14	146
	7:45 AM	36	47	2	0	66	1	0	0	1	13	0	16	182
	8:00 AM	18	45	3	2	51	5	0	0	7	3	0	2	136
	8:15 AM	17	33	4	3	34	1	0	0	6	6	1	6	111
	8:30 AM	9	42	3	5	45	3	0	0	9	5	0	5	126
	8:45 AM	13	26	3	4	35	0	0	0	8	7	0	3	99
	VOLUMES	173	303	20	23	380	19	3	0	45	53	1	63	1,083
	APPROACH %	35%	61%	4%	5%	90%	5%	6%	0%	94%	45%	1%	54%	
	APP/DEPART	496	/	370	422	/	478	48	/	42	117	/	193	0
PM	BEGIN PEAK HR	7:00 AM												
	VOLUMES	116	157	7	8	215	10	3	0	15	32	0	47	611
	APPROACH %	41%	56%	3%	3%	92%	4%	17%	0%	83%	41%	0%	59%	
	PEAK HR FACTOR	0.824			0.873			0.563			0.681			0.839
	APP/DEPART	280	/	208	234	/	262	18	/	15	79	/	126	0
	04:00 PM	4	62	8	4	56	0	3	1	29	1	0	4	172
	4:15 PM	2	54	3	9	58	0	3	0	13	1	1	2	146
	4:30 PM	4	76	9	10	88	0	2	1	20	1	0	6	217
	4:45 PM	4	54	5	11	73	1	2	0	15	2	0	7	174
	5:00 PM	3	73	9	17	92	2	1	0	24	2	0	4	227
	5:15 PM	6	57	11	14	65	0	0	0	7	2	0	11	173
	5:30 PM	10	42	8	10	54	0	0	0	18	6	0	7	155
	5:45 PM	4	46	4	9	52	0	0	1	11	6	0	7	140
	VOLUMES	37	464	57	84	538	3	11	3	137	21	1	48	1,404
	APPROACH %	7%	83%	10%	13%	86%	0%	7%	2%	91%	30%	1%	69%	
	APP/DEPART	558	/	525	625	/	696	151	/	142	70	/	41	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	17	260	34	51	318	3	5	1	66	7	0	28	791
	APPROACH %	5%	84%	11%	14%	85%	1%	7%	1%	92%	20%	0%	80%	
	PEAK HR FACTOR	0.874			0.840			0.720			0.673			0.871
	APP/DEPART	311	/	294	373	/	391	72	/	86	35	/	20	0

0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	2	0	0	2



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
11/17/20
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Shoemaker
Sunshine

PROJECT #: SC2728
LOCATION #: 3
CONTROL: STOP E/W

CLASS 2:	NOTES:	AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
TRUCKS				

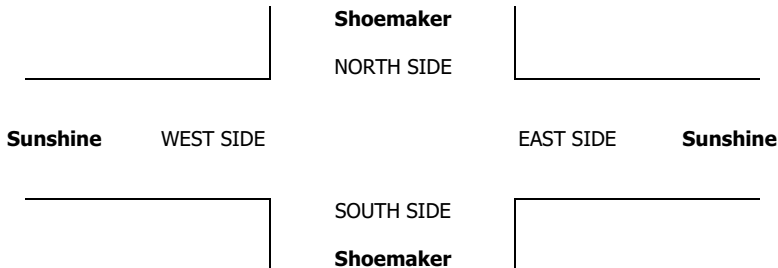
	NORTHBOUND Shoemaker			SOUTHBOUND Shoemaker			EASTBOUND Sunshine			WESTBOUND Sunshine			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	2	3	0	1	8	0	0	0	6	0	0	0	20
	7:15 AM	1	1	0	0	7	0	1	0	6	0	0	0	16
	7:30 AM	4	8	1	0	5	0	0	0	3	0	0	0	21
	7:45 AM	5	4	0	0	8	2	0	0	1	0	0	0	20
	8:00 AM	4	7	0	0	6	0	0	0	5	0	0	0	22
	8:15 AM	7	7	0	0	9	0	1	0	6	0	1	1	32
	8:30 AM	1	2	0	0	9	0	0	0	3	0	0	0	15
	8:45 AM	4	11	0	0	8	2	0	0	6	0	0	0	31
	VOLUMES	28	43	1	1	60	4	2	0	36	0	1	1	177
	APPROACH %	39%	60%	1%	2%	92%	6%	5%	0%	95%	0%	50%	50%	
PM	APP/DEPART	72	/	46	65	/	96	38	/	2	2	/	33	0
	BEGIN PEAK HR	8:00 AM												
	VOLUMES	16	27	0	0	32	2	1	0	20	0	1	1	100
	APPROACH %	37%	63%	0%	0%	94%	6%	5%	0%	95%	0%	50%	50%	
	PEAK HR FACTOR	0.717			0.850			0.750			0.250			0.781
	APP/DEPART	43	/	29	34	/	52	21	/	0	2	/	19	0
	04:00 PM	6	3	0	1	6	1	0	0	6	0	0	1	24
	4:15 PM	8	10	0	0	8	0	0	0	4	0	0	0	30
	4:30 PM	6	7	1	0	6	0	0	0	2	0	1	0	23
	4:45 PM	13	5	0	0	7	1	2	0	2	0	0	0	30
	5:00 PM	10	6	0	0	4	0	1	0	2	0	0	0	23
	5:15 PM	8	4	0	0	7	0	0	0	2	0	0	0	21
	5:30 PM	6	4	0	0	4	0	0	0	4	0	0	0	18
	5:45 PM	5	3	0	0	5	0	0	0	1	1	0	0	15
	VOLUMES	62	42	1	1	47	2	3	0	23	1	1	1	184
	APPROACH %	59%	40%	1%	2%	94%	4%	12%	0%	88%	33%	33%	33%	
	APP/DEPART	105	/	46	50	/	71	26	/	2	3	/	65	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	33	25	1	1	27	2	2	0	14	0	1	1	107
	APPROACH %	56%	42%	2%	3%	90%	7%	13%	0%	88%	0%	50%	50%	
	PEAK HR FACTOR	0.819			0.938			0.667			0.500			0.892
	APP/DEPART	59	/	28	30	/	41	16	/	2	2	/	36	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
Tue, Nov 17, 20

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Shoemaker
Imperial

PROJECT #:
LOCATION #:
CONTROL:

SC2728
4
SIGNAL

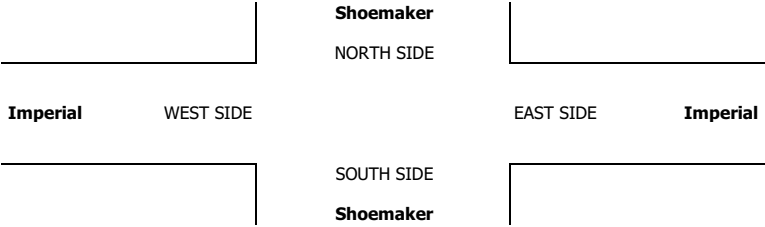
NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

☒ Add U-Turns to Left Turns

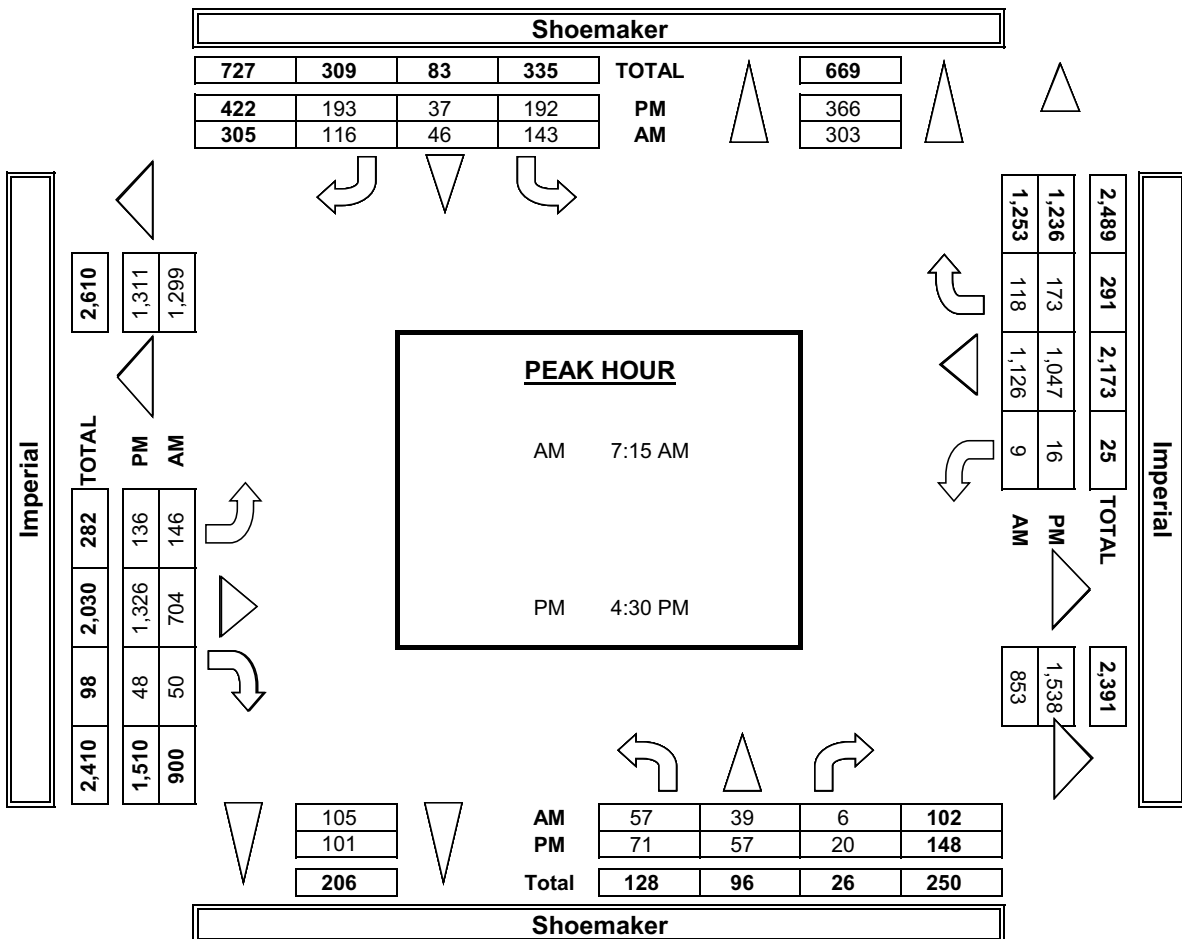
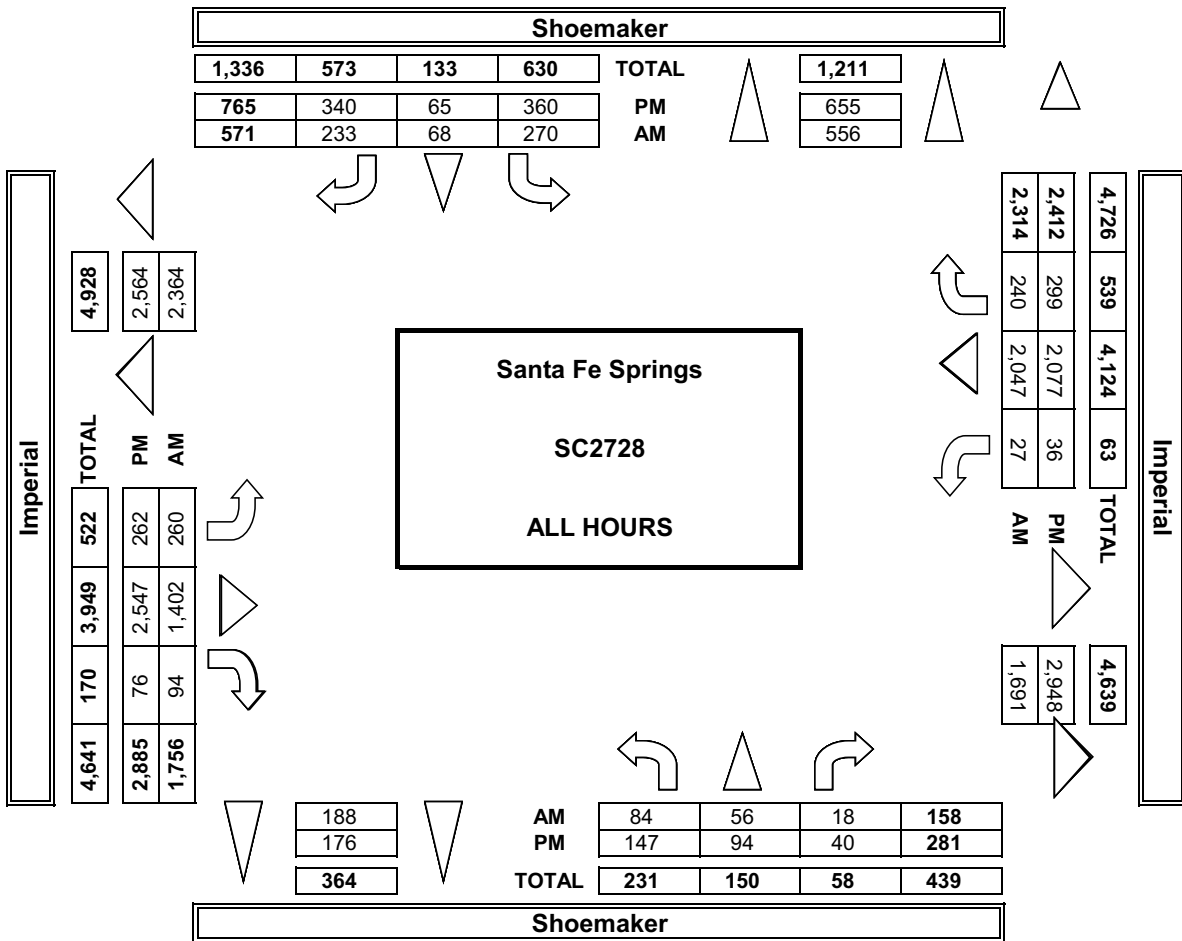
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Shoemaker			Shoemaker			Imperial			Imperial			
LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL
7:00 AM	9	3	3	40	4	21	40	170	22	4	234	29	579
7:15 AM	11	10	1	36	13	22	38	167	12	1	289	32	632
7:30 AM	13	9	2	37	12	28	23	178	16	2	305	24	649
7:45 AM	19	12	1	40	13	38	50	186	12	3	268	34	676
8:00 AM	14	8	2	30	8	28	35	173	10	3	264	28	603
8:15 AM	9	4	3	39	3	24	29	180	12	5	223	30	561
8:30 AM	5	4	4	22	8	40	16	171	8	5	248	37	568
8:45 AM	4	6	2	26	7	32	29	177	2	4	216	26	531
VOLUMES	84	56	18	270	68	233	260	1,402	94	27	2,047	240	4,799
APPROACH %	53%	35%	11%	47%	12%	41%	15%	80%	5%	1%	88%	10%	
APP/DEPART	158	/	556	571	/	188	1,756	/	1,691	2,314	/	2,364	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	57	39	6	143	46	116	146	704	50	9	1,126	118	2,560
APPROACH %	56%	38%	6%	47%	15%	38%	16%	78%	6%	1%	90%	9%	
PEAK HR FACTOR	0.797			0.838			0.907			0.946			0.947
APP/DEPART	102	/	303	305	/	105	900	/	853	1,253	/	1,299	0
04:00 PM	29	18	6	52	10	47	32	330	7	3	241	31	806
4:15 PM	18	6	6	43	8	37	36	314	8	8	262	31	777
4:30 PM	19	17	4	52	8	62	36	297	10	7	244	50	806
4:45 PM	22	13	5	51	9	35	28	340	15	4	261	46	829
5:00 PM	19	14	7	52	11	68	36	349	11	2	264	41	874
5:15 PM	11	13	4	37	9	28	36	340	12	3	278	36	807
5:30 PM	12	9	3	41	8	35	28	306	7	5	269	37	760
5:45 PM	17	4	5	32	2	28	30	271	6	4	258	27	684
VOLUMES	147	94	40	360	65	340	262	2,547	76	36	2,077	299	6,343
APPROACH %	52%	33%	14%	47%	8%	44%	9%	88%	3%	1%	86%	12%	
APP/DEPART	281	/	655	765	/	176	2,885	/	2,948	2,412	/	2,564	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	71	57	20	192	37	193	136	1,326	48	16	1,047	173	3,316
APPROACH %	48%	39%	14%	45%	9%	46%	9%	88%	3%	1%	85%	14%	
PEAK HR FACTOR	0.925			0.805			0.953			0.975			0.949
APP/DEPART	148	/	366	422	/	101	1,510	/	1,538	1,236	/	1,311	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1



AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 11/17/20 TUESDAY	LOCATION: NORTH & SOUTH: Santa Fe Springs EAST & WEST: Shoemaker Imperial	PROJECT #: SC2728 LOCATION #: 4 CONTROL: SIGNAL
CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER ▲ ◀ W S ▼ N E ▶

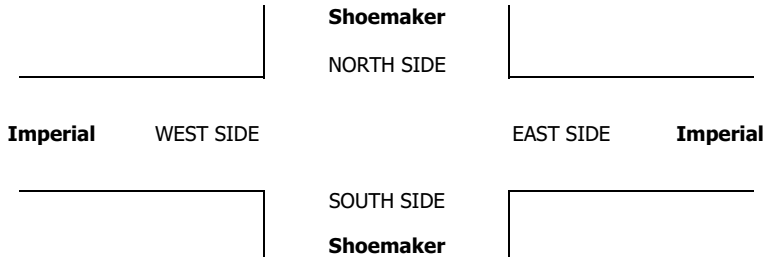
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Shoemaker			Shoemaker			Imperial			Imperial			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	1	1	1	1	0	1	3	0	1	3	0	

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	3	2	1	31	3	19	39	164	21	3	226	26	538
	7:15 AM	3	10	0	31	10	19	36	160	10	1	272	28	580
	7:30 AM	0	8	1	30	12	26	21	166	15	1	292	19	591
	7:45 AM	11	10	0	35	12	35	46	174	11	2	256	29	621
	8:00 AM	8	5	0	23	7	26	33	164	7	1	255	24	553
	8:15 AM	7	2	1	32	2	16	25	168	10	5	213	22	503
	8:30 AM	4	3	4	16	8	34	15	159	6	2	231	34	516
	8:45 AM	2	5	1	18	5	30	24	169	2	2	206	17	481
	VOLUMES	38	45	8	216	59	205	239	1,324	82	17	1,951	199	4,383
	APPROACH %	42%	49%	9%	45%	12%	43%	15%	80%	5%	1%	90%	9%	
	APP/DEPART	91	/	483	480	/	157	1,645	/	1,549	2,167	/	2,194	0
PM	BEGIN PEAK HR	7:15 AM												
	VOLUMES	22	33	1	119	41	106	136	664	43	5	1,075	100	2,345
	APPROACH %	39%	59%	2%	45%	15%	40%	16%	79%	5%	0%	91%	8%	
	PEAK HR FACTOR	0.667			0.811			0.912			0.946			0.944
	APP/DEPART	56	/	269	266	/	89	843	/	784	1,180	/	1,203	0
	04:00 PM	28	17	3	43	10	47	28	320	6	1	233	27	763
	4:15 PM	12	5	4	36	6	36	28	300	7	4	254	23	715
	4:30 PM	17	14	3	45	7	61	32	293	7	7	241	42	769
	4:45 PM	14	9	3	46	7	32	23	331	10	4	256	37	772
	5:00 PM	17	14	7	46	11	68	30	341	7	1	261	31	834
	5:15 PM	10	12	4	33	6	27	34	332	7	3	273	26	767
	5:30 PM	9	7	3	34	7	34	25	299	6	5	266	33	728
	5:45 PM	17	3	5	30	1	28	24	260	5	4	254	25	656
	VOLUMES	124	81	32	313	55	333	224	2,476	55	29	2,038	244	6,004
	APPROACH %	52%	34%	14%	45%	8%	48%	8%	90%	2%	1%	88%	11%	
	APP/DEPART	237	/	549	701	/	138	2,755	/	2,822	2,311	/	2,495	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	58	49	17	170	31	188	119	1,297	31	15	1,031	136	3,142
	APPROACH %	47%	40%	14%	44%	8%	48%	8%	90%	2%	1%	87%	12%	
	PEAK HR FACTOR	0.816			0.778			0.957			0.978			0.942
	APP/DEPART	124	/	304	389	/	77	1,447	/	1,484	1,182	/	1,277	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
11/17/20
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Shoemaker
Imperial

PROJECT #:
LOCATION #:
CONTROL:

SC2728
4
SIGNAL

CLASS 2:	NOTES:	AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
TRUCKS				

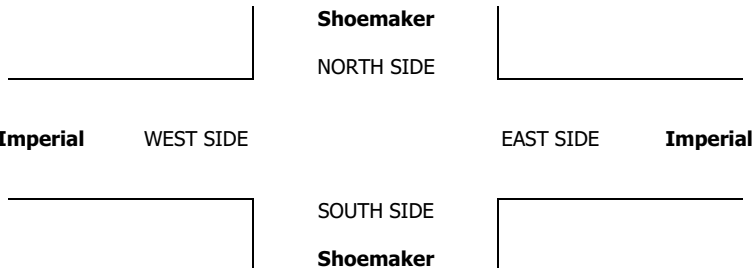
	NORTHBOUND Shoemaker			SOUTHBOUND Shoemaker			EASTBOUND Imperial			WESTBOUND Imperial			
LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	6	1	2	9	1	2	1	6	1	1	8	3	41
	7:15 AM	8	0	1	5	3	3	2	7	2	0	17	4	52
	7:30 AM	13	1	1	7	0	2	2	12	1	1	13	5	58
	7:45 AM	8	2	1	5	1	3	4	12	1	1	12	5	55
	8:00 AM	6	3	2	7	1	2	2	9	3	2	9	4	50
	8:15 AM	2	2	2	7	1	8	4	12	2	0	10	8	58
	8:30 AM	1	1	0	6	0	6	1	12	2	3	17	3	52
	8:45 AM	2	1	1	8	2	2	5	8	0	2	10	9	50
	VOLUMES	46	11	10	54	9	28	21	78	12	10	96	41	416
	APPROACH %	69%	16%	15%	59%	10%	31%	19%	70%	11%	7%	65%	28%	
	APP/DEPART	67	/	73	91	/	31	111	/	142	147	/	170	0
	BEGIN PEAK HR	7:30 AM												
PM	VOLUMES	29	8	6	26	3	15	12	45	7	4	44	22	221
	APPROACH %	67%	19%	14%	59%	7%	34%	19%	70%	11%	6%	63%	31%	
	PEAK HR FACTOR	0.717			0.688			0.889			0.921			0.953
	APP/DEPART	43	/	42	44	/	14	64	/	77	70	/	88	0
	04:00 PM	1	1	3	9	0	0	4	10	1	2	8	4	43
	4:15 PM	6	1	2	7	2	1	8	14	1	4	8	8	62
	4:30 PM	2	3	1	7	1	1	4	4	3	0	3	8	37
	4:45 PM	8	4	2	5	2	3	5	9	5	0	5	9	57
	5:00 PM	2	0	0	6	0	0	6	8	4	1	3	10	40
	5:15 PM	1	1	0	4	3	1	2	8	5	0	5	10	40
	5:30 PM	3	2	0	7	1	1	3	7	1	0	3	4	32
	5:45 PM	0	1	0	2	1	0	6	11	1	0	4	2	28
	VOLUMES	23	13	8	47	10	7	38	71	21	7	39	55	339
	APPROACH %	52%	30%	18%	73%	16%	11%	29%	55%	16%	7%	39%	54%	
	APP/DEPART	44	/	106	64	/	38	130	/	126	101	/	69	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	17	9	8	28	5	5	21	37	10	6	24	29	199
	APPROACH %	50%	26%	24%	74%	13%	13%	31%	54%	15%	10%	41%	49%	
	PEAK HR FACTOR	0.607			0.950			0.739			0.738			0.802
	APP/DEPART	34	/	59	38	/	21	68	/	73	59	/	46	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
Tue, Nov 17, 20

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Carmenita
Imperial

PROJECT #:
LOCATION #:
CONTROL:

SC2728
5
SIGNAL

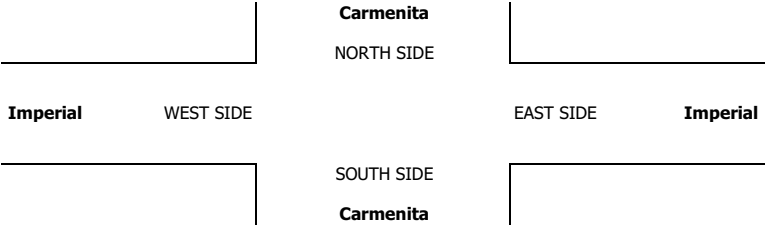
NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

☒ Add U-Turns to Left Turns

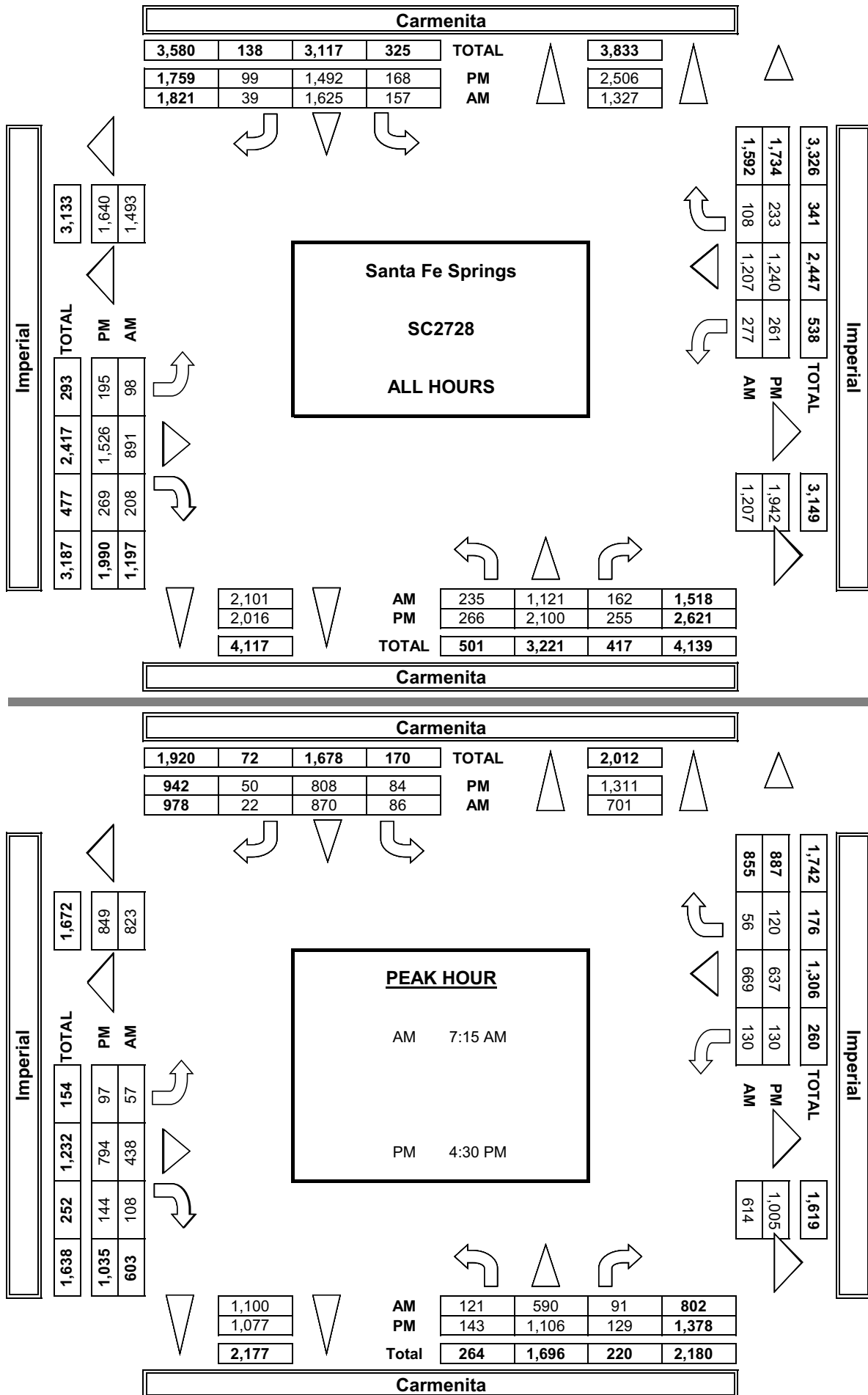
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Carmenita			Carmenita			Imperial			Imperial			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL
7:00 AM	26	132	11	16	215	2	10	104	30	31	152	14	743
7:15 AM	22	143	27	12	200	3	16	112	26	27	179	17	784
7:30 AM	28	142	21	21	241	8	10	104	32	32	177	7	823
7:45 AM	39	158	14	29	225	6	18	104	23	38	166	19	839
8:00 AM	32	147	29	24	204	5	13	118	27	33	147	13	792
8:15 AM	25	118	17	16	184	8	9	124	26	52	142	10	731
8:30 AM	33	147	25	18	208	3	8	109	18	37	134	19	759
8:45 AM	30	134	18	21	148	4	14	116	26	27	110	9	657
VOLUMES	235	1,121	162	157	1,625	39	98	891	208	277	1,207	108	6,128
APPROACH %	15%	74%	11%	9%	89%	2%	8%	74%	17%	17%	76%	7%	
APP/DEPART	1,518	/	1,327	1,821	/	2,101	1,197	/	1,207	1,592	/	1,493	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	121	590	91	86	870	22	57	438	108	130	669	56	3,238
APPROACH %	15%	74%	11%	9%	89%	2%	9%	73%	18%	15%	78%	7%	
PEAK HR FACTOR	0.950			0.906			0.954			0.959			0.965
APP/DEPART	802	/	701	978	/	1,100	603	/	614	855	/	823	0
04:00 PM	29	229	29	18	184	13	29	211	29	33	153	44	1,001
4:15 PM	29	255	38	18	161	13	21	179	29	29	146	29	947
4:30 PM	32	248	24	21	217	8	21	179	51	34	173	43	1,051
4:45 PM	37	271	39	19	213	20	23	196	32	27	143	24	1,044
5:00 PM	42	282	31	17	182	10	29	242	33	31	182	31	1,112
5:15 PM	32	305	35	27	196	12	24	177	28	38	139	22	1,035
5:30 PM	29	258	32	28	166	12	29	198	35	37	181	20	1,025
5:45 PM	36	252	27	20	173	11	19	144	32	32	123	20	889
VOLUMES	266	2,100	255	168	1,492	99	195	1,526	269	261	1,240	233	8,104
APPROACH %	10%	80%	10%	10%	85%	6%	10%	77%	14%	15%	72%	13%	
APP/DEPART	2,621	/	2,506	1,759	/	2,016	1,990	/	1,942	1,734	/	1,640	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	143	1,106	129	84	808	50	97	794	144	130	637	120	4,242
APPROACH %	10%	80%	9%	9%	86%	5%	9%	77%	14%	15%	72%	14%	
PEAK HR FACTOR	0.926			0.935			0.851			0.887			0.954
APP/DEPART	1,378	/	1,311	942	/	1,077	1,035	/	1,005	887	/	849	0

U-TURNS				
NB	SB	EB	WB	TTL
1	5	1	0	7
0	2	3	1	6
2	3	2	3	10
0	3	4	3	10
0	3	4	3	10
3	0	3	2	8
0	3	1	4	8
2	1	2	1	6
8	20	20	17	65

2	5	4	0	11
0	1	7	1	9
0	2	5	5	12
1	4	5	1	11
2	2	7	0	11
1	3	6	3	13
0	3	5	3	11
2	1	4	1	8
8	21	43	14	86



AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 11/17/20 TUESDAY	LOCATION: NORTH & SOUTH: Santa Fe Springs EAST & WEST: Carmenita Imperial	PROJECT #: SC2728 LOCATION #: 5 CONTROL: SIGNAL
CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER ▲ N ◀ W S ▶ E ▼

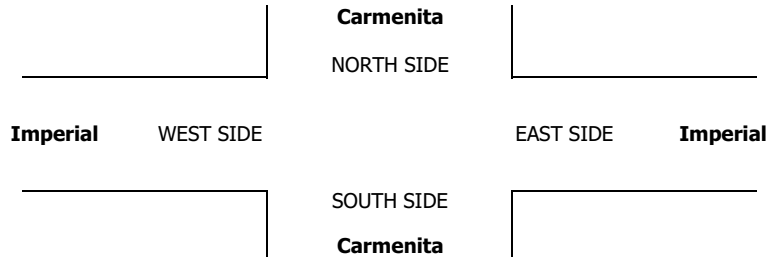
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Carmenita			Carmenita			Imperial			Imperial			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	20	126	10	14	207	2	10	94	20	30	144	14	691
	7:15 AM	15	131	24	11	195	3	16	107	19	27	170	15	733
	7:30 AM	25	129	20	21	229	5	10	96	25	31	167	6	764
	7:45 AM	32	151	13	29	212	5	18	97	17	38	159	19	790
	8:00 AM	27	140	26	24	199	3	13	113	18	30	142	12	747
	8:15 AM	18	110	14	15	173	7	9	109	19	50	131	9	664
	8:30 AM	23	138	21	17	198	3	8	100	15	34	121	17	695
	8:45 AM	22	125	16	19	141	4	13	106	16	23	102	8	595
	VOLUMES	182	1,050	144	150	1,554	32	97	822	149	263	1,136	100	5,679
	APPROACH %	13%	76%	10%	9%	90%	2%	9%	77%	14%	18%	76%	7%	
	APP/DEPART	1,376	/	1,247	1,736	/	1,957	1,068	/	1,113	1,499	/	1,362	0
PM	BEGIN PEAK HR	7:15 AM												
	VOLUMES	97	551	83	74	835	16	44	413	79	116	638	52	3,034
	APPROACH %	13%	75%	11%	8%	89%	2%	8%	75%	14%	14%	78%	6%	
	PEAK HR FACTOR	0.935			0.918			0.953			0.944			0.960
	APP/DEPART	733	/	658	936	/	1,032	549	/	580	816	/	764	0
	04:00 PM	21	217	26	18	178	13	29	205	22	32	146	43	950
	4:15 PM	23	247	35	17	155	13	21	166	22	27	141	28	895
	4:30 PM	28	238	23	20	209	8	21	173	41	34	165	42	1,002
	4:45 PM	29	260	37	19	206	19	23	188	27	27	140	23	998
	5:00 PM	36	277	28	17	175	9	29	234	28	31	176	31	1,071
	5:15 PM	27	301	35	26	190	12	24	175	22	38	137	22	1,009
	5:30 PM	26	255	32	28	161	12	28	194	27	37	177	20	997
	5:45 PM	33	246	27	20	166	10	19	142	24	31	120	20	858
	VOLUMES	223	2,041	243	165	1,440	96	194	1,477	213	257	1,202	229	7,780
	APPROACH %	9%	81%	10%	10%	85%	6%	10%	78%	11%	15%	71%	14%	
	APP/DEPART	2,507	/	2,442	1,701	/	1,904	1,884	/	1,878	1,688	/	1,556	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	116	1,076	123	71	780	48	74	770	118	121	618	118	4,080
	APPROACH %	9%	82%	9%	8%	86%	5%	8%	78%	12%	14%	71%	14%	
	PEAK HR FACTOR	0.908			0.932			0.846			0.898			0.952
	APP/DEPART	1,319	/	1,279	910	/	1,023	985	/	973	866	/	805	0

1	5	1	0	7
0	2	3	1	6
2	3	2	3	10
0	3	4	3	10
0	3	4	3	10
3	0	3	2	8
0	3	1	4	8
2	1	2	1	6
8	20	20	17	65

2	5	4	0	11
0	1	7	1	9
0	2	5	5	12
1	4	5	1	11
2	2	7	0	11
1	3	6	3	13
0	3	5	3	11
2	1	4	1	8
8	21	43	14	86



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
11/17/20
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Carmenita
Imperial

PROJECT #:
LOCATION #:
CONTROL:

SC2728
5
SIGNAL

CLASS 2:	NOTES:	AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
TRUCKS				

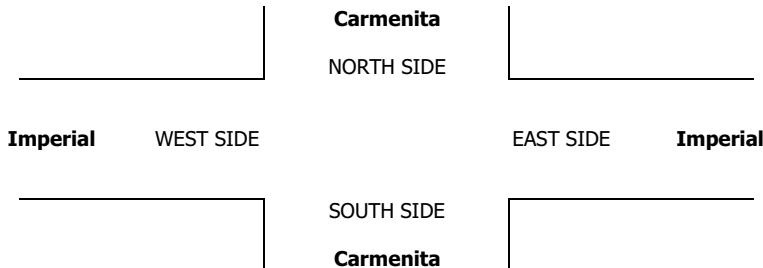
	NORTHBOUND Carmenita			SOUTHBOUND Carmenita			EASTBOUND Imperial			WESTBOUND Imperial			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	6	6	1	2	8	0	0	10	10	1	8	0	52
	7:15 AM	7	12	3	1	5	0	0	5	7	0	9	2	51
	7:30 AM	3	13	1	0	12	3	0	8	7	1	10	1	59
	7:45 AM	7	7	1	0	13	1	0	7	6	0	7	0	49
	8:00 AM	5	7	3	0	5	2	0	5	9	3	5	1	45
	8:15 AM	7	8	3	1	11	1	0	15	7	2	11	1	67
	8:30 AM	10	9	4	1	10	0	0	9	3	3	13	2	64
	8:45 AM	8	9	2	2	7	0	1	10	10	4	8	1	62
	VOLUMES	53	71	18	7	71	7	1	69	59	14	71	8	449
	APPROACH %	37%	50%	13%	8%	84%	8%	1%	53%	46%	15%	76%	9%	
PM	APP/DEPART	142	/	80	85	/	144	129	/	94	93	/	131	0
	BEGIN PEAK HR	8:00 AM												
	VOLUMES	30	33	12	4	33	3	1	39	29	12	37	5	238
	APPROACH %	40%	44%	16%	10%	83%	8%	1%	57%	42%	22%	69%	9%	
	PEAK HR FACTOR	0.815			0.769			0.784			0.750			0.888
	APP/DEPART	75	/	39	40	/	74	69	/	55	54	/	70	0
	04:00 PM	8	12	3	0	6	0	0	6	7	1	7	1	51
	4:15 PM	6	8	3	1	6	0	0	13	7	2	5	1	52
	4:30 PM	4	10	1	1	8	0	0	6	10	0	8	1	49
	4:45 PM	8	11	2	0	7	1	0	8	5	0	3	1	46
	5:00 PM	6	5	3	0	7	1	0	8	5	0	6	0	41
	5:15 PM	5	4	0	1	6	0	0	2	6	0	2	0	26
	5:30 PM	3	3	0	0	5	0	1	4	8	0	4	0	28
	5:45 PM	3	6	0	0	7	1	0	2	8	1	3	0	31
	VOLUMES	43	59	12	3	52	3	1	49	56	4	38	4	324
	APPROACH %	38%	52%	11%	5%	90%	5%	1%	46%	53%	9%	83%	9%	
	APP/DEPART	114	/	64	58	/	112	106	/	64	46	/	84	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	26	41	9	2	27	1	0	33	29	3	23	4	198
	APPROACH %	34%	54%	12%	7%	90%	3%	0%	53%	47%	10%	77%	13%	
	PEAK HR FACTOR	0.826			0.833			0.775			0.833			0.952
	APP/DEPART	76	/	45	30	/	59	62	/	44	30	/	50	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
Tue, Nov 17, 20

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Carmenita
Rosecrans

PROJECT #:
LOCATION #:
CONTROL:

SC2728
6
SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

◀ W

▶ E

▲ N

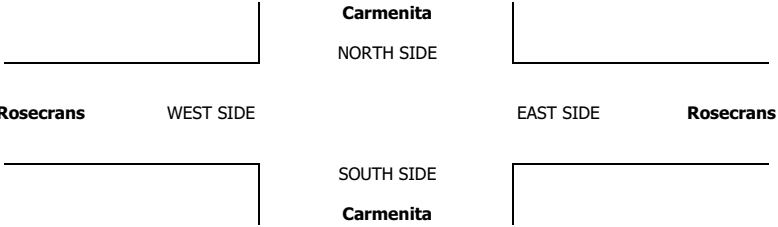
▼ S

☒ Add U-Turns to Left Turns

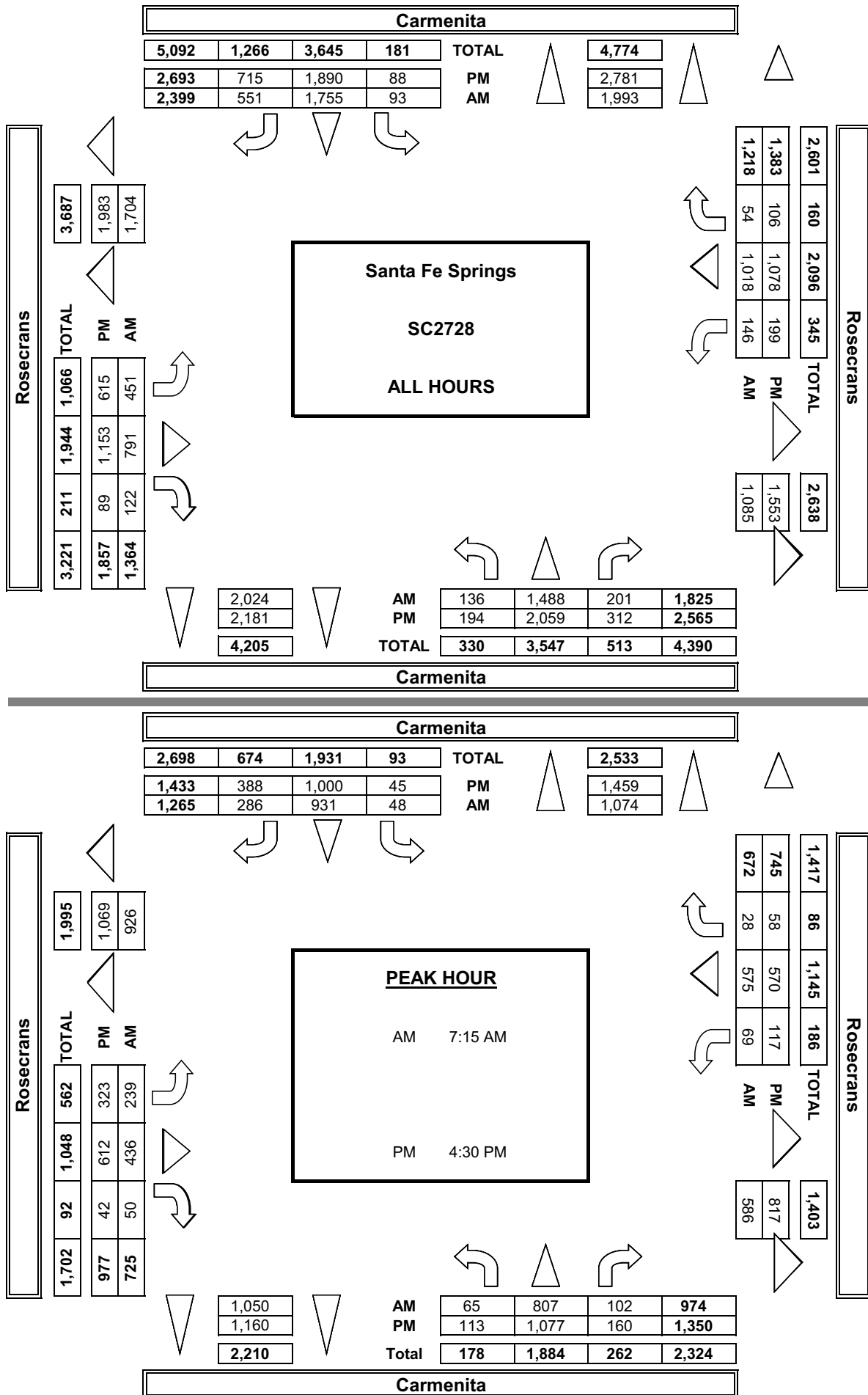
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Carmenita			Carmenita			Rosecrans			Rosecrans			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 2	ET 2	ER 0	WL 1	WT 3	WR 0	TOTAL
7:00 AM	18	178	25	8	243	77	48	78	19	13	87	6	800
7:15 AM	12	198	18	14	217	68	44	90	18	15	152	8	854
7:30 AM	11	216	28	8	247	84	61	116	12	19	142	6	950
7:45 AM	15	192	28	11	228	73	79	120	16	14	159	6	941
8:00 AM	27	201	28	15	239	61	55	110	4	21	122	8	891
8:15 AM	19	166	23	15	197	78	46	85	21	23	125	6	804
8:30 AM	19	159	25	11	231	53	61	88	15	20	108	8	798
8:45 AM	15	178	26	11	153	57	57	104	17	21	123	6	768
VOLUMES	136	1,488	201	93	1,755	551	451	791	122	146	1,018	54	6,806
APPROACH %	7%	82%	11%	4%	73%	23%	33%	58%	9%	12%	84%	4%	
APP/DEPART	1,825	/	1,993	2,399	/	2,024	1,364	/	1,085	1,218	/	1,704	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	65	807	102	48	931	286	239	436	50	69	575	28	3,636
APPROACH %	7%	83%	10%	4%	74%	23%	33%	60%	7%	10%	86%	4%	
PEAK HR FACTOR	0.951			0.933			0.843			0.939			0.957
APP/DEPART	974	/	1,074	1,265	/	1,050	725	/	586	672	/	926	0
04:00 PM	24	256	29	12	254	95	67	145	13	24	150	10	1,079
4:15 PM	15	234	46	11	182	74	84	142	17	24	108	17	954
4:30 PM	32	286	36	14	273	100	66	119	12	37	145	13	1,133
4:45 PM	28	246	38	12	268	101	95	166	14	33	101	19	1,121
5:00 PM	30	250	46	10	230	112	77	162	3	21	151	17	1,109
5:15 PM	23	295	40	9	229	75	85	165	13	26	173	9	1,142
5:30 PM	19	262	35	11	216	81	71	136	10	21	134	12	1,008
5:45 PM	23	230	42	9	238	77	70	118	7	13	116	9	952
VOLUMES	194	2,059	312	88	1,890	715	615	1,153	89	199	1,078	106	8,498
APPROACH %	8%	80%	12%	3%	70%	27%	33%	62%	5%	14%	78%	8%	
APP/DEPART	2,565	/	2,781	2,693	/	2,181	1,857	/	1,553	1,383	/	1,983	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	113	1,077	160	45	1,000	388	323	612	42	117	570	58	4,505
APPROACH %	8%	80%	12%	3%	70%	27%	33%	63%	4%	16%	77%	8%	
PEAK HR FACTOR	0.943			0.926			0.888			0.895			0.986
APP/DEPART	1,350	/	1,459	1,433	/	1,160	977	/	817	745	/	1,069	0

U-TURNS					
NB	SB	EB	WB	TTL	
1	0	0	0	1	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
1	0	0	0	1	

0	0	0	0	0
0	0	0	0	0
1	1	0	0	2
1	0	0	1	2
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1
4	1	0	1	6



AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 11/17/20 TUESDAY	LOCATION: NORTH & SOUTH: Santa Fe Springs EAST & WEST: Carmenita Rosecrans	PROJECT #: SC2728 LOCATION #: 6 CONTROL: SIGNAL
CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER ◀ W E ▶ ▲ N S ▼

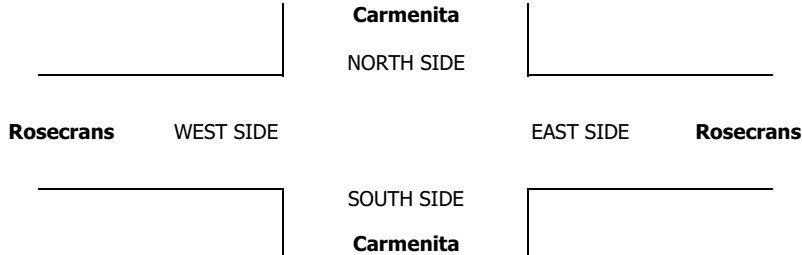
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Carmenita			Carmenita			Rosecrans			Rosecrans			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 2	ET 2	ER 0	WL 1	WT 3	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	18	166	24	7	220	64	48	74	17	11	82	6	737
	7:15 AM	11	174	16	14	198	57	42	83	17	11	148	5	776
	7:30 AM	11	198	23	7	229	79	59	111	11	18	139	5	890
	7:45 AM	14	175	26	9	195	67	71	114	15	11	147	4	848
	8:00 AM	23	186	23	9	209	56	46	103	4	18	117	6	800
	8:15 AM	18	147	20	12	172	68	42	79	19	16	119	3	715
	8:30 AM	19	145	16	10	204	51	54	82	13	14	101	4	713
	8:45 AM	12	157	19	9	131	49	51	95	16	15	114	4	672
	VOLUMES	126	1,348	167	77	1,558	491	413	741	112	114	967	37	6,151
	APPROACH %	8%	82%	10%	4%	73%	23%	33%	59%	9%	10%	86%	3%	
PM	APP/DEPART	1,641	/	1,798	2,126	/	1,785	1,266	/	985	1,118	/	1,583	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	59	733	88	39	831	259	218	411	47	58	551	20	3,314
	APPROACH %	7%	83%	10%	3%	74%	23%	32%	61%	7%	9%	88%	3%	
	PEAK HR FACTOR	0.948												
	APP/DEPART	880	/	971	1,129	/	936	676	/	538	629	/	869	0
	04:00 PM	24	236	27	9	244	88	61	142	12	22	146	6	1,017
	4:15 PM	13	217	42	9	175	69	80	136	15	22	102	16	896
	4:30 PM	31	260	32	12	252	94	59	117	11	32	142	11	1,053
	4:45 PM	27	223	37	11	258	96	89	160	14	30	101	17	1,063
	5:00 PM	28	233	45	9	221	107	73	157	3	20	149	16	1,061
	5:15 PM	23	278	36	7	220	72	82	157	13	24	169	8	1,089
	5:30 PM	19	253	33	9	207	78	67	134	9	18	130	11	968
	5:45 PM	23	222	41	8	224	73	67	114	7	13	109	7	908
	VOLUMES	188	1,922	293	74	1,801	677	578	1,117	84	181	1,048	92	8,055
	APPROACH %	8%	80%	12%	3%	71%	27%	32%	63%	5%	14%	79%	7%	
	APP/DEPART	2,403	/	2,593	2,552	/	2,069	1,779	/	1,484	1,321	/	1,909	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	107	994	150	38	951	369	303	591	41	105	561	52	4,266
	APPROACH %	9%	79%	12%	3%	70%	27%	32%	63%	4%	15%	78%	7%	
	PEAK HR FACTOR	0.930												
	APP/DEPART	1,253	/	1,350	1,359	/	1,099	935	/	780	719	/	1,037	0

1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1

0	0	0	0	0
0	0	0	0	0
1	1	0	0	2
1	0	0	1	2
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1
4	1	0	1	6



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 11/17/20 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Santa Fe Springs Carmenita Rosecrans	PROJECT #: LOCATION #: CONTROL:	SC2728 6 SIGNAL

CLASS 2:	NOTES:	AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
TRUCKS				

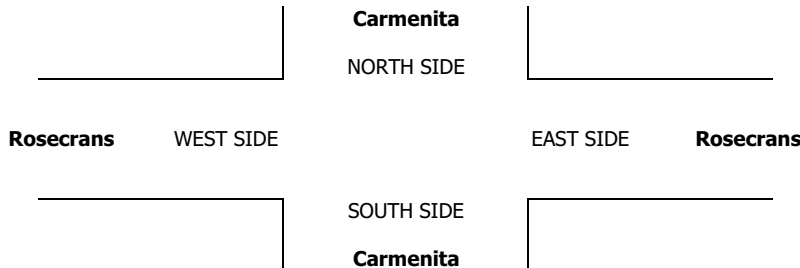
	NORTHBOUND Carmenita			SOUTHBOUND Carmenita			EASTBOUND Rosecrans			WESTBOUND Rosecrans			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 2	ET 2	ER 0	WL 1	WT 3	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	0	12	1	1	23	13	0	4	2	2	5	0	63
	7:15 AM	1	24	2	0	19	11	2	7	1	4	4	3	78
	7:30 AM	0	18	5	1	18	5	2	5	1	1	3	1	60
	7:45 AM	1	17	2	2	33	6	8	6	1	3	12	2	93
	8:00 AM	4	15	5	6	30	5	9	7	0	3	5	2	91
	8:15 AM	1	19	3	3	25	10	4	6	2	7	6	3	89
	8:30 AM	0	14	9	1	27	2	7	6	2	6	7	4	85
	8:45 AM	3	21	7	2	22	8	6	9	1	6	9	2	96
	VOLUMES	10	140	34	16	197	60	38	50	10	32	51	17	655
	APPROACH %	5%	76%	18%	6%	72%	22%	39%	51%	10%	32%	51%	17%	
PM	APP/DEPART	184	/	195	273	/	239	98	/	100	100	/	121	0
	BEGIN PEAK HR	8:00 AM			12	104	25	26	28	5	22	27	11	361
	VOLUMES	8	69	24	9%	74%	18%	44%	47%	8%	37%	45%	18%	
	APPROACH %	8%	68%	24%										
	PEAK HR FACTOR	0.815			0.860			0.922			0.882			0.940
	APP/DEPART	101	/	106	141	/	131	59	/	64	60	/	60	0
	04:00 PM	0	20	2	3	10	7	6	3	1	2	4	4	62
	4:15 PM	2	17	4	2	7	5	4	6	2	2	6	1	58
	4:30 PM	1	26	4	2	21	6	7	2	1	5	3	2	80
	4:45 PM	1	23	1	1	10	5	6	6	0	3	0	2	58
	5:00 PM	2	17	1	1	9	5	4	5	0	1	2	1	48
	5:15 PM	0	17	4	2	9	3	3	8	0	2	4	1	53
	5:30 PM	0	9	2	2	9	3	4	2	1	3	4	1	40
	5:45 PM	0	8	1	1	14	4	3	4	0	0	7	2	44
	VOLUMES	6	137	19	14	89	38	37	36	5	18	30	14	443
	APPROACH %	4%	85%	12%	10%	63%	27%	47%	46%	6%	29%	48%	23%	
	APP/DEPART	162	/	188	141	/	112	78	/	69	62	/	74	0
	BEGIN PEAK HR	4:00 PM			8	48	23	23	17	4	12	13	9	258
	VOLUMES	4	86	11	10%	61%	29%	52%	39%	9%	35%	38%	26%	
	APPROACH %	4%	85%	11%										
	PEAK HR FACTOR	0.815			0.681			0.917			0.850			0.806
	APP/DEPART	101	/	118	79	/	64	44	/	36	34	/	40	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
Tue, Nov 17, 20

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Shoemaker
Lakeland

PROJECT #:
LOCATION #:
CONTROL:

SC2728
7
SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

◀ W

▶ E

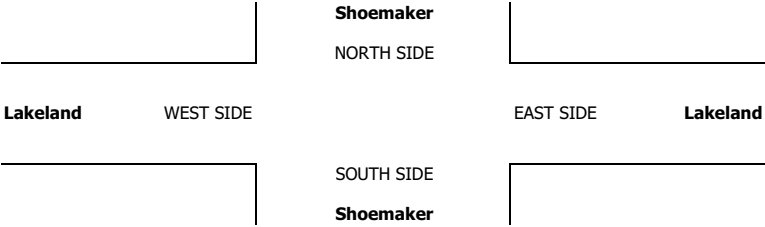
▲ N
▼ S

☒ Add U-Turns to Left Turns

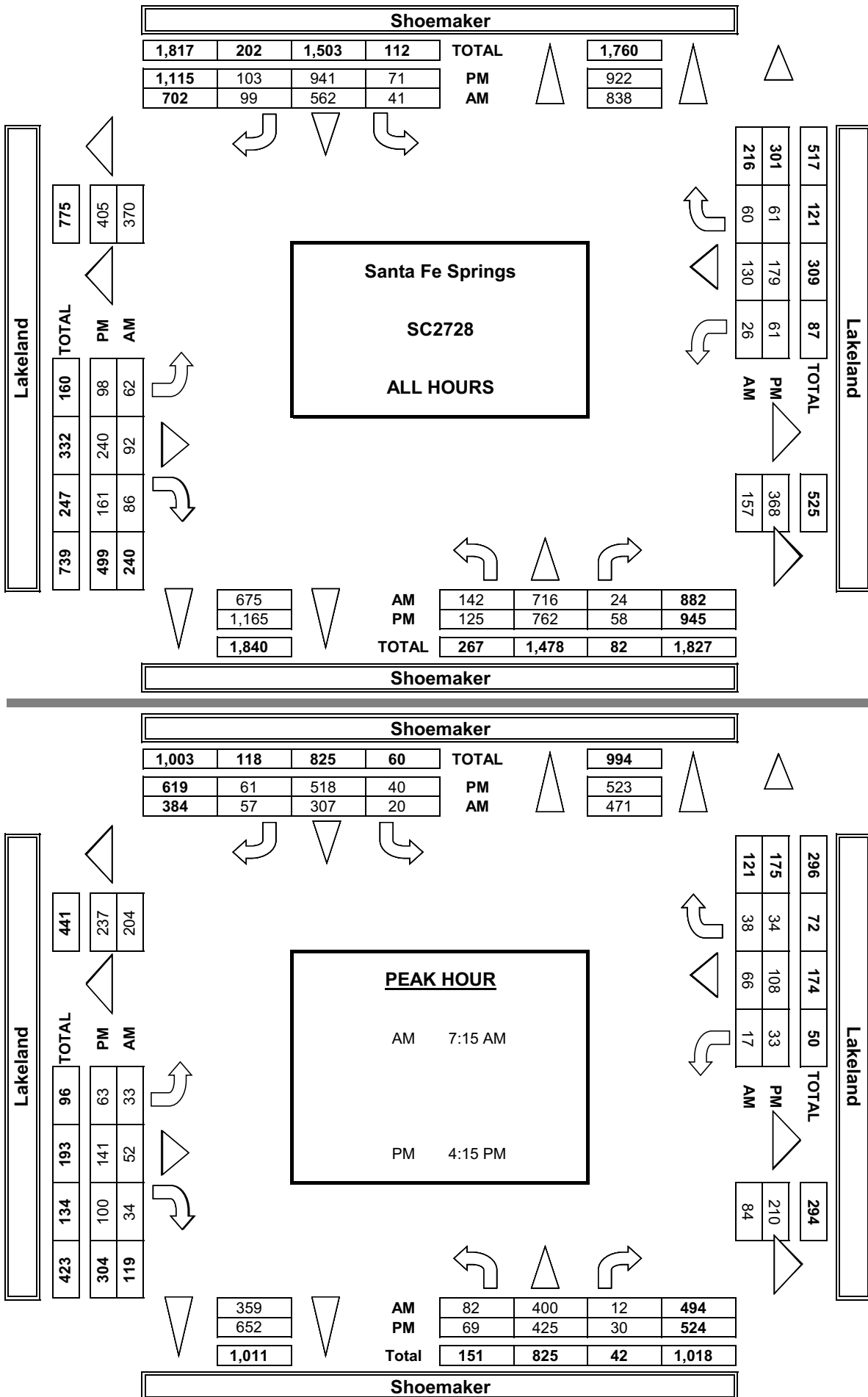
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Shoemaker			Shoemaker			Lakeland			Lakeland			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
7:00 AM	12	71	4	4	68	10	4	10	9	0	13	4	209
7:15 AM	21	90	5	3	80	19	5	8	7	8	20	12	278
7:30 AM	23	107	3	4	79	13	4	13	7	2	14	8	277
7:45 AM	18	111	1	5	85	16	13	13	12	4	21	8	307
8:00 AM	20	92	3	8	63	9	11	18	8	3	11	10	256
8:15 AM	18	92	3	6	67	8	6	11	16	1	20	3	251
8:30 AM	21	83	2	5	69	16	10	9	11	6	15	5	252
8:45 AM	9	70	3	6	51	8	9	10	16	2	16	10	210
VOLUMES	142	716	24	41	562	99	62	92	86	26	130	60	2,040
APPROACH %	16%	81%	3%	6%	80%	14%	26%	38%	36%	12%	60%	28%	
APP/DEPART	882	/	838	702	/	675	240	/	157	216	/	370	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	82	400	12	20	307	57	33	52	34	17	66	38	1,118
APPROACH %	17%	81%	2%	5%	80%	15%	28%	44%	29%	14%	55%	31%	
PEAK HR FACTOR	0.929			0.906			0.783			0.756			0.910
APP/DEPART	494	/	471	384	/	359	119	/	84	121	/	204	0
04:00 PM	22	104	5	9	107	4	10	19	18	8	17	4	327
4:15 PM	15	81	4	9	114	15	9	41	21	4	27	7	347
4:30 PM	13	119	9	9	128	19	21	36	38	9	32	6	439
4:45 PM	21	103	10	11	118	14	19	20	18	11	20	11	376
5:00 PM	20	122	7	11	158	13	14	44	23	9	29	10	460
5:15 PM	15	79	8	8	107	10	10	26	14	7	16	8	308
5:30 PM	11	81	8	5	113	16	9	34	13	6	26	9	331
5:45 PM	8	73	7	9	96	12	6	20	16	7	12	6	272
VOLUMES	125	762	58	71	941	103	98	240	161	61	179	61	2,860
APPROACH %	13%	81%	6%	6%	84%	9%	20%	48%	32%	20%	59%	20%	
APP/DEPART	945	/	922	1,115	/	1,165	499	/	368	301	/	405	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	69	425	30	40	518	61	63	141	100	33	108	34	1,622
APPROACH %	13%	81%	6%	6%	84%	10%	21%	46%	33%	19%	62%	19%	
PEAK HR FACTOR	0.879			0.850			0.800			0.911			0.882
APP/DEPART	524	/	523	619	/	652	304	/	210	175	/	237	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
2	1	0	0	3

0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
2	1	0	0	3



AimTD LLC
TURNING MOVEMENT COUNTS



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

PROJECT #: SC2728
LOCATION #: 7
CONTROL: SIGNAL

0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
2	1	0	0	3

Shoemaker

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
11/17/20
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Shoemaker
Lakeland

PROJECT #:
LOCATION #:
CONTROL:

SC2728
7
SIGNAL

CLASS 2:	NOTES:	AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
TRUCKS				

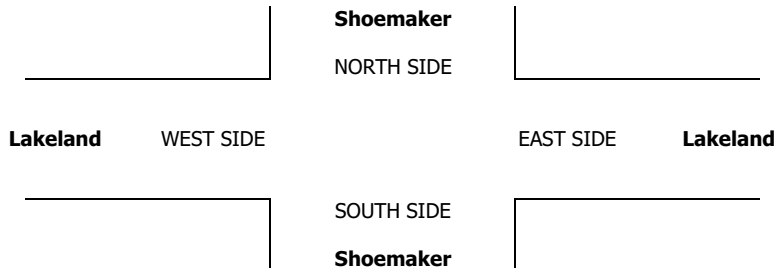
	NORTHBOUND Shoemaker			SOUTHBOUND Shoemaker			EASTBOUND Lakeland			WESTBOUND Lakeland			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	1	3	0	1	10	2	1	0	1	0	0	0	19
	7:15 AM	0	1	0	1	8	1	1	0	0	0	0	3	15
	7:30 AM	2	8	0	0	5	1	0	2	2	0	0	0	20
	7:45 AM	0	5	0	0	8	1	2	1	1	0	1	0	19
	8:00 AM	3	7	1	0	4	0	0	4	0	0	0	1	20
	8:15 AM	5	10	0	0	9	1	0	0	3	0	2	0	30
	8:30 AM	1	4	0	1	11	0	2	1	0	1	0	0	21
	8:45 AM	1	9	0	3	7	0	1	2	2	0	0	0	25
	VOLUMES	13	47	1	6	62	6	7	10	9	1	3	4	169
	APPROACH %	21%	77%	2%	8%	84%	8%	27%	38%	35%	13%	38%	50%	
PM	APP/DEPART	61	/	58	74	/	72	26	/	17	8	/	22	0
	BEGIN PEAK HR	8:00 AM												
	VOLUMES	10	30	1	4	31	1	3	7	5	1	2	1	96
	APPROACH %	24%	73%	2%	11%	86%	3%	20%	47%	33%	25%	50%	25%	
	PEAK HR FACTOR	0.683			0.750			0.750			0.500			0.800
	APP/DEPART	41	/	34	36	/	37	15	/	12	4	/	13	0
	04:00 PM	0	6	0	1	4	2	4	0	1	0	0	0	18
	4:15 PM	2	8	0	0	6	6	1	2	1	1	0	0	27
	4:30 PM	1	7	1	1	9	4	0	2	0	0	2	0	27
	4:45 PM	2	7	0	0	7	3	4	1	2	0	2	0	28
PM	5:00 PM	1	6	0	1	6	5	1	0	2	0	0	0	22
	5:15 PM	3	4	0	0	7	2	0	0	1	0	0	0	17
	5:30 PM	0	4	1	0	5	6	0	1	1	1	2	0	21
	5:45 PM	2	5	0	0	4	3	0	0	2	0	0	0	16
	VOLUMES	11	47	2	3	48	31	10	6	10	2	6	0	176
	APPROACH %	18%	78%	3%	4%	59%	38%	38%	23%	38%	25%	75%	0%	
	APP/DEPART	60	/	57	82	/	60	26	/	11	8	/	48	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	6	28	1	2	28	18	6	5	5	1	4	0	104
	APPROACH %	17%	80%	3%	4%	58%	38%	38%	31%	31%	20%	80%	0%	
	PEAK HR FACTOR	0.875			0.857			0.571			0.625			0.929
	APP/DEPART	35	/	34	48	/	34	16	/	8	5	/	28	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
Tue, Nov 17, 20

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Shoemaker
Florence

PROJECT #:
LOCATION #:
CONTROL:

SC2728
8
SIGNAL

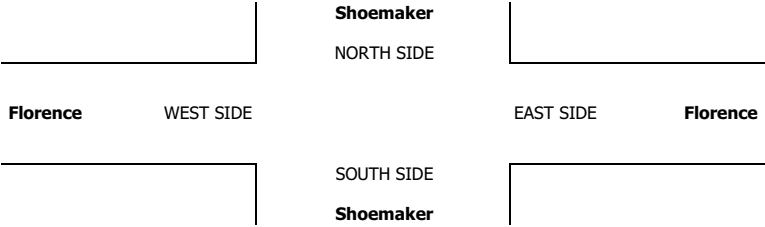
NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

☒ Add U-Turns to Left Turns

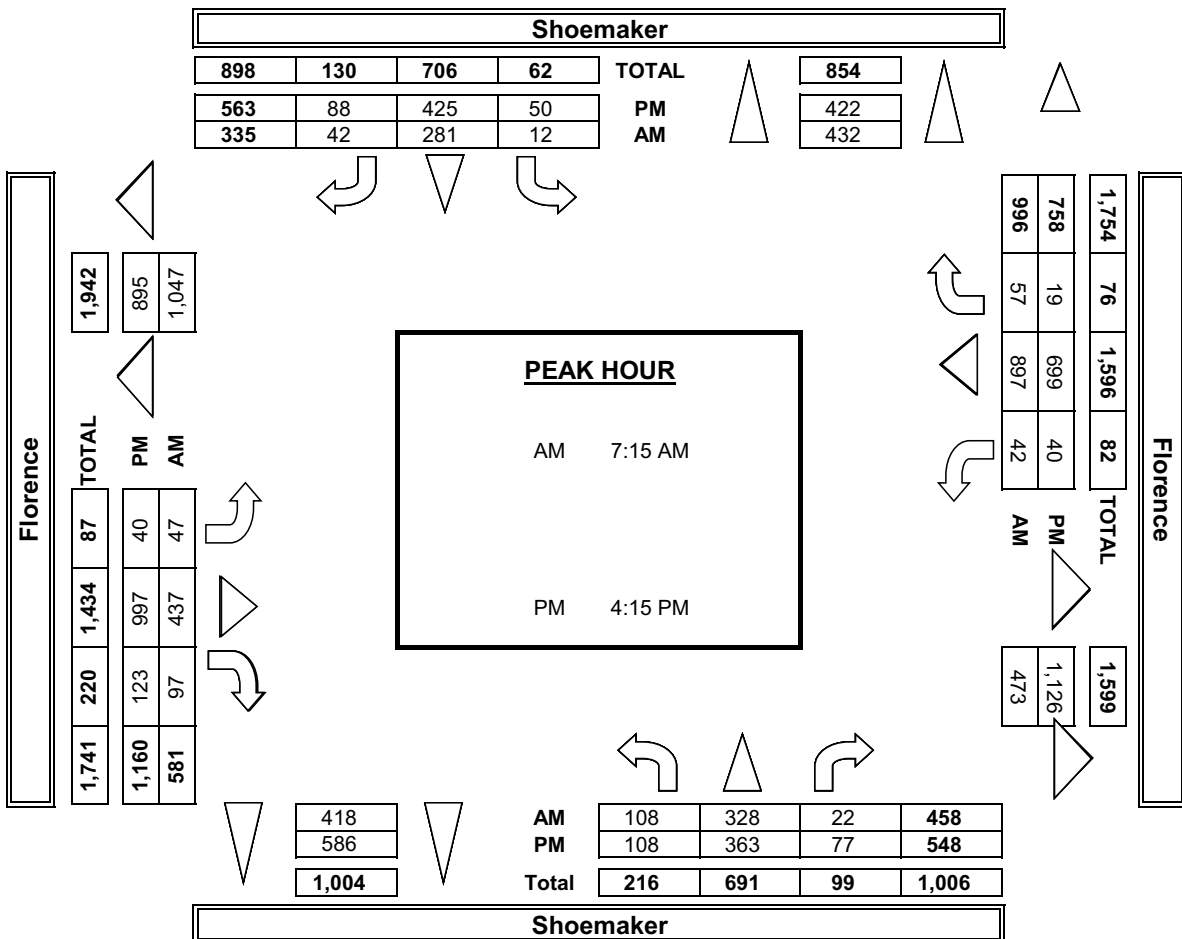
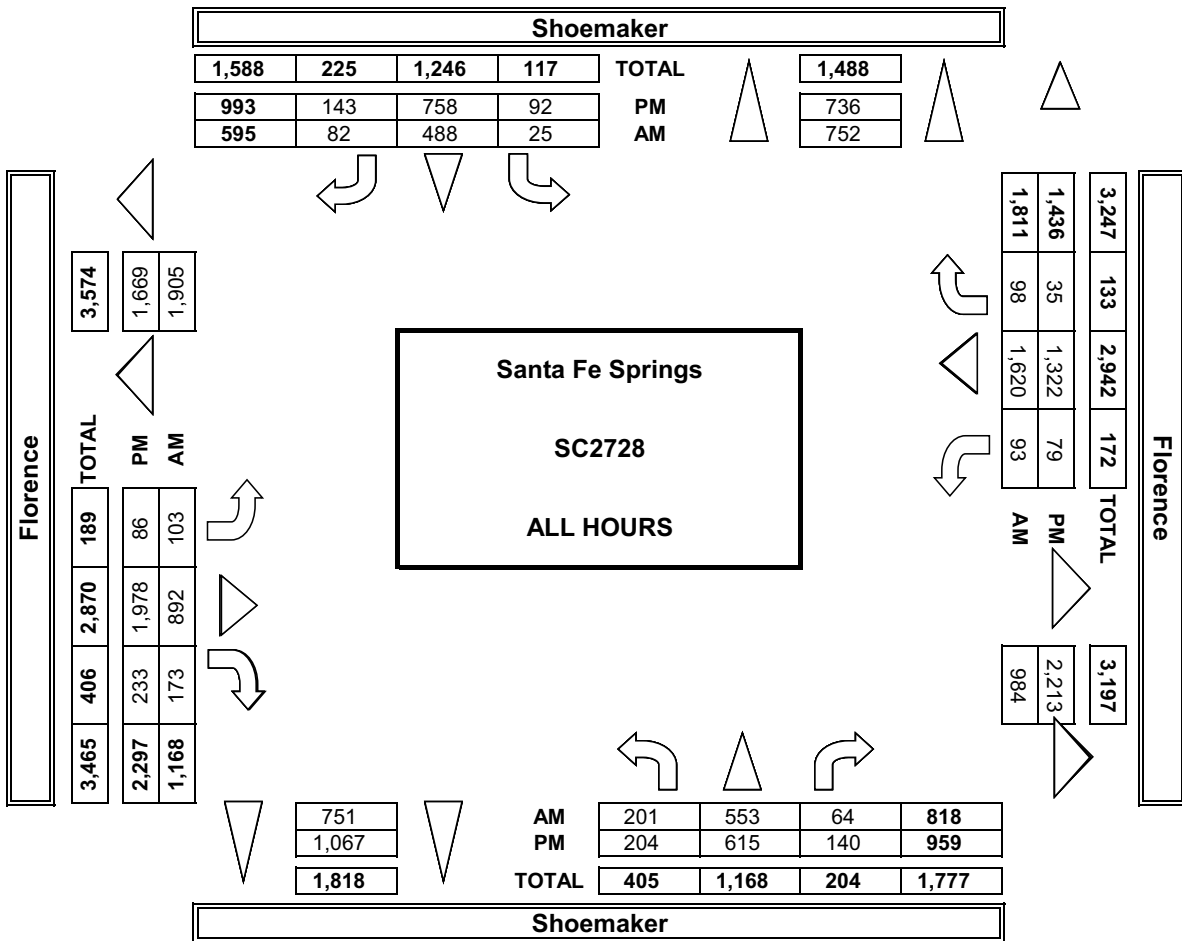
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Shoemaker			Shoemaker			Florence			Florence			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
7:00 AM	17	56	15	5	50	9	23	85	18	15	179	11	483
7:15 AM	27	78	3	3	69	7	16	102	33	12	250	11	611
7:30 AM	27	84	2	5	71	13	10	111	23	10	229	12	597
7:45 AM	30	87	8	3	82	17	14	110	24	11	243	19	648
8:00 AM	24	79	9	1	59	5	7	114	17	9	175	15	514
8:15 AM	17	70	7	2	58	6	14	136	18	12	187	12	539
8:30 AM	25	54	9	4	53	15	12	110	22	14	201	9	528
8:45 AM	34	45	11	2	46	10	7	124	18	10	156	9	472
VOLUMES	201	553	64	25	488	82	103	892	173	93	1,620	98	4,392
APPROACH %	25%	68%	8%	4%	82%	14%	9%	76%	15%	5%	89%	5%	
APP/DEPART	818	/	752	595	/	751	1,168	/	984	1,811	/	1,905	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	108	328	22	12	281	42	47	437	97	42	897	57	2,370
APPROACH %	24%	72%	5%	4%	84%	13%	8%	75%	17%	4%	90%	6%	
PEAK HR FACTOR	0.916			0.821			0.962			0.912			0.914
APP/DEPART	458	/	432	335	/	418	581	/	473	996	/	1,047	0
04:00 PM	29	71	20	18	91	26	11	241	26	3	195	4	735
4:15 PM	12	71	14	10	103	16	13	241	28	6	171	3	688
4:30 PM	31	108	19	15	111	30	8	239	29	13	169	4	776
4:45 PM	23	93	16	11	106	15	11	267	42	10	157	6	757
5:00 PM	42	91	28	14	105	27	8	250	24	11	202	6	808
5:15 PM	21	56	20	7	79	10	9	255	29	12	157	5	660
5:30 PM	28	68	13	12	86	13	11	246	27	11	134	5	654
5:45 PM	18	57	10	5	77	6	15	239	28	13	137	2	607
VOLUMES	204	615	140	92	758	143	86	1,978	233	79	1,322	35	5,685
APPROACH %	21%	64%	15%	9%	76%	14%	4%	86%	10%	6%	92%	2%	
APP/DEPART	959	/	736	993	/	1,067	2,297	/	2,213	1,436	/	1,669	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	108	363	77	50	425	88	40	997	123	40	699	19	3,029
APPROACH %	20%	66%	14%	9%	75%	16%	3%	86%	11%	5%	92%	3%	
PEAK HR FACTOR	0.851			0.902			0.906			0.865			0.937
APP/DEPART	548	/	422	563	/	586	1,160	/	1,126	758	/	895	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	1	1	2
0	0	2	3	5

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	3	3



AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 11/17/20 TUESDAY	LOCATION: NORTH & SOUTH: Santa Fe Springs EAST & WEST: Shoemaker Florence	PROJECT #: SC2728 LOCATION #: 8 CONTROL: SIGNAL
CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER ◀ W N S E ▶

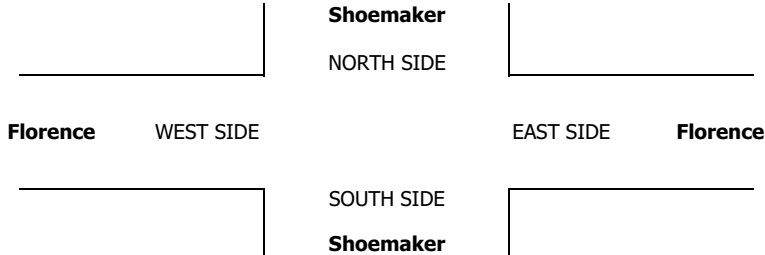
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Shoemaker			Shoemaker			Florence			Florence			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	16	52	14	4	45	7	21	83	16	13	176	11	458
	7:15 AM	25	74	3	2	60	7	14	98	31	12	245	10	581
	7:30 AM	24	81	1	4	66	11	9	107	20	10	226	12	571
	7:45 AM	29	84	8	1	77	14	12	108	20	10	240	18	621
	8:00 AM	20	70	6	1	54	3	7	110	15	7	173	12	478
	8:15 AM	15	61	6	1	49	4	13	130	15	11	184	12	501
	8:30 AM	22	49	8	4	50	10	11	106	17	13	195	8	493
	8:45 AM	31	42	9	2	41	8	6	122	15	8	148	7	439
	VOLUMES	182	513	55	19	442	64	93	864	149	84	1,587	90	4,142
	APPROACH %	24%	68%	7%	4%	84%	12%	8%	78%	13%	5%	90%	5%	
PM	APP/DEPART	750	/	694	525	/	672	1,106	/	941	1,761	/	1,835	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	98	309	18	8	257	35	42	423	86	37	884	52	2,251
	APPROACH %	23%	73%	4%	3%	86%	12%	8%	77%	16%	4%	91%	5%	
	PEAK HR FACTOR	0.878												
	APP/DEPART	425	/	403	300	/	380	551	/	451	975	/	1,017	0
	04:00 PM	27	67	17	17	87	25	9	238	23	3	191	4	708
	4:15 PM	11	65	13	10	93	15	11	238	25	6	170	1	658
	4:30 PM	29	103	19	15	106	30	7	237	25	11	165	3	750
	4:45 PM	22	88	14	10	97	13	9	266	40	8	155	6	728
PM	5:00 PM	40	83	27	14	100	26	7	248	21	10	199	6	781
	5:15 PM	20	54	20	7	73	9	7	255	28	12	156	5	646
	5:30 PM	28	63	13	11	79	13	10	243	25	9	133	4	631
	5:45 PM	16	54	10	5	74	6	14	238	26	12	135	2	592
	VOLUMES	193	577	133	89	709	137	74	1,963	213	71	1,304	31	5,494
	APPROACH %	21%	64%	15%	10%	76%	15%	3%	87%	9%	5%	93%	2%	
	APP/DEPART	903	/	682	935	/	990	2,250	/	2,188	1,406	/	1,634	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	102	339	73	49	396	84	34	989	111	33	689	16	2,917
	APPROACH %	20%	66%	14%	9%	75%	16%	3%	87%	10%	4%	93%	2%	
	PEAK HR FACTOR	0.851												
	APP/DEPART	514	/	389	529	/	540	1,134	/	1,113	740	/	875	0

0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	1	1	2
0	0	2	3	5

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	3	3



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
11/17/20
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Shoemaker
Florence

PROJECT #:
LOCATION #:
CONTROL:

SC2728
8
SIGNAL

CLASS 2:	NOTES:	AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
TRUCKS				

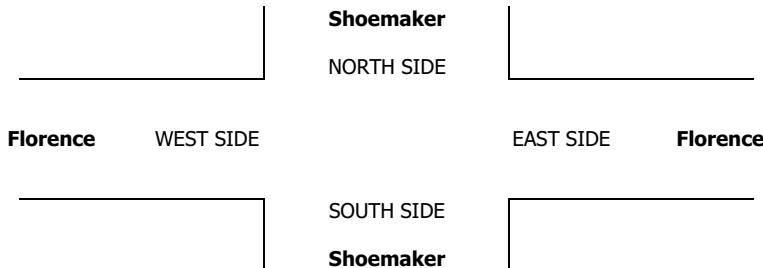
	NORTHBOUND Shoemaker			SOUTHBOUND Shoemaker			EASTBOUND Florence			WESTBOUND Florence			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	1	4	1	1	5	2	2	2	2	2	3	0	25
	7:15 AM	2	4	0	1	9	0	2	4	2	0	5	1	30
	7:30 AM	3	3	1	1	5	2	1	4	3	0	3	0	26
	7:45 AM	1	3	0	2	5	3	2	2	4	1	3	1	27
	8:00 AM	4	9	3	0	5	2	0	4	2	2	2	3	36
	8:15 AM	2	9	1	1	9	2	1	6	3	1	3	0	38
	8:30 AM	3	5	1	0	3	5	1	4	5	1	6	1	35
	8:45 AM	3	3	2	0	5	2	1	2	3	2	8	2	33
	VOLUMES	19	40	9	6	46	18	10	28	24	9	33	8	250
	APPROACH %	28%	59%	13%	9%	66%	26%	16%	45%	39%	18%	66%	16%	
PM	APP/DEPART	68	/	58	70	/	79	62	/	43	50	/	70	0
	BEGIN PEAK HR	8:00 AM												
	VOLUMES	12	26	7	1	22	11	3	16	13	6	19	6	142
	APPROACH %	27%	58%	16%	3%	65%	32%	9%	50%	41%	19%	61%	19%	
	PEAK HR FACTOR	0.703			0.708			0.800			0.646			0.934
	APP/DEPART	45	/	35	34	/	41	32	/	24	31	/	42	0
	04:00 PM	2	4	3	1	4	1	2	3	3	0	4	0	27
	4:15 PM	1	6	1	0	10	1	2	3	3	0	1	2	30
	4:30 PM	2	5	0	0	5	0	1	2	4	2	4	1	26
	4:45 PM	1	5	2	1	9	2	2	1	2	2	2	0	29
	5:00 PM	2	8	1	0	5	1	1	2	3	1	3	0	27
	5:15 PM	1	2	0	0	6	1	2	0	1	0	1	0	14
	5:30 PM	0	5	0	1	7	0	1	3	2	2	1	1	23
	5:45 PM	2	3	0	0	3	0	1	1	2	1	2	0	15
	VOLUMES	11	38	7	3	49	6	12	15	20	8	18	4	191
	APPROACH %	20%	68%	13%	5%	84%	10%	26%	32%	43%	27%	60%	13%	
	APP/DEPART	56	/	54	58	/	77	47	/	25	30	/	35	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	6	24	4	1	29	4	6	8	12	5	10	3	112
	APPROACH %	18%	71%	12%	3%	85%	12%	23%	31%	46%	28%	56%	17%	
	PEAK HR FACTOR	0.773			0.708			0.813			0.643			0.933
	APP/DEPART	34	/	33	34	/	46	26	/	13	18	/	20	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
Tue, Nov 17, 20

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Bloomfield
Imperial

PROJECT #:
LOCATION #:
CONTROL:

SC2728
9
SIGNAL

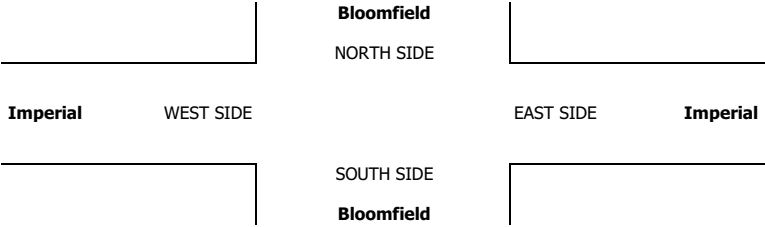
NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

☒ Add U-Turns to Left Turns

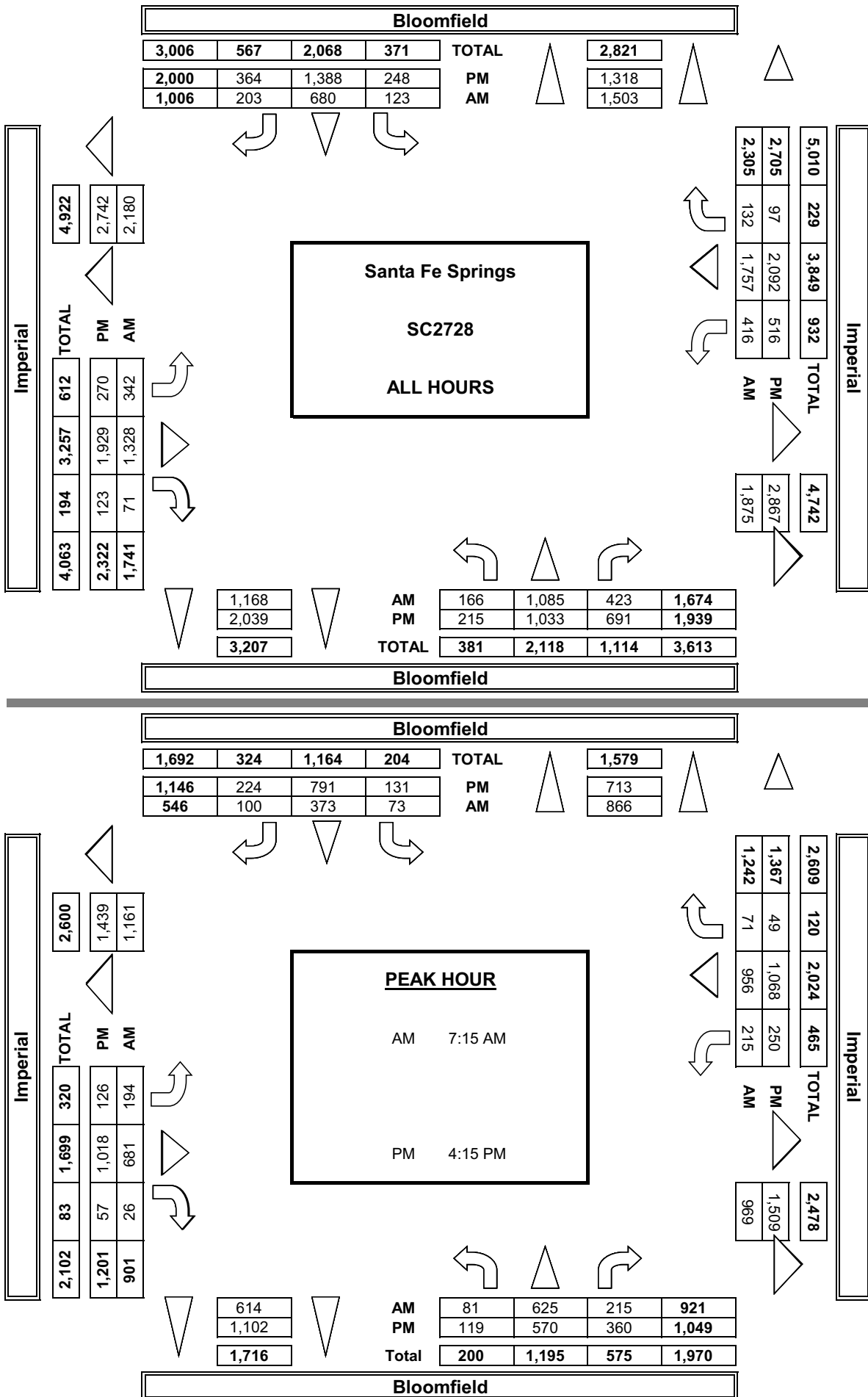
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Bloomfield			Bloomfield			Imperial			Imperial			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 3	ER 1	WL 1	WT 3	WR 0	TOTAL
7:00 AM	18	115	62	15	79	27	43	177	12	46	174	12	780
7:15 AM	18	147	60	19	91	25	43	157	5	42	266	16	889
7:30 AM	16	156	43	17	94	18	44	174	8	52	235	19	876
7:45 AM	23	191	60	13	99	27	64	191	8	68	255	16	1,015
8:00 AM	24	131	52	24	89	30	43	159	5	53	200	20	830
8:15 AM	23	121	54	10	85	26	38	162	6	53	227	19	824
8:30 AM	20	98	42	9	71	25	31	159	7	44	208	13	727
8:45 AM	24	126	50	16	72	25	36	149	20	58	192	17	785
VOLUMES	166	1,085	423	123	680	203	342	1,328	71	416	1,757	132	6,726
APPROACH %	10%	65%	25%	12%	68%	20%	20%	76%	4%	18%	76%	6%	
APP/DEPART	1,674	/	1,503	1,006	/	1,168	1,741	/	1,875	2,305	/	2,180	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	81	625	215	73	373	100	194	681	26	215	956	71	3,610
APPROACH %	9%	68%	23%	13%	68%	18%	22%	76%	3%	17%	77%	6%	
PEAK HR FACTOR	0.840			0.955			0.856			0.916			0.889
APP/DEPART	921	/	866	546	/	614	901	/	969	1,242	/	1,161	0
04:00 PM	3	115	71	36	169	41	39	224	15	75	283	16	1,087
4:15 PM	28	140	89	23	157	42	31	299	17	61	266	10	1,163
4:30 PM	36	143	69	46	219	91	36	219	13	72	275	11	1,230
4:45 PM	28	141	97	32	198	48	34	216	8	58	225	14	1,099
5:00 PM	27	146	105	30	217	43	25	284	19	59	302	14	1,271
5:15 PM	24	121	99	27	165	42	46	241	16	67	253	11	1,112
5:30 PM	34	128	96	26	143	29	30	243	14	52	235	10	1,040
5:45 PM	35	99	65	28	120	28	29	203	21	72	253	11	964
VOLUMES	215	1,033	691	248	1,388	364	270	1,929	123	516	2,092	97	8,966
APPROACH %	11%	53%	36%	12%	69%	18%	12%	83%	5%	19%	77%	4%	
APP/DEPART	1,939	/	1,318	2,000	/	2,039	2,322	/	2,867	2,705	/	2,742	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	119	570	360	131	791	224	126	1,018	57	250	1,068	49	4,763
APPROACH %	11%	54%	34%	11%	69%	20%	10%	85%	5%	18%	78%	4%	
PEAK HR FACTOR	0.943			0.805			0.865			0.911			0.937
APP/DEPART	1,049	/	713	1,146	/	1,102	1,201	/	1,509	1,367	/	1,439	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	8	0	8
0	0	9	0	9
0	0	6	0	6
0	0	6	0	6
0	0	3	0	3
1	0	10	0	11
0	0	8	0	8
1	0	6	1	8
2	0	56	1	59

3	0	12	0	15
0	0	8	0	8
2	0	9	0	11
1	0	5	0	6
1	0	10	0	11
1	0	15	0	16
2	0	12	0	14
2	1	12	0	15
12	1	83	0	96



AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 11/17/20 TUESDAY	LOCATION: NORTH & SOUTH: Santa Fe Springs EAST & WEST: Bloomfield Imperial	PROJECT #: SC2728 LOCATION #: 9 CONTROL: SIGNAL
CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER ◀ W E ▶ ▲ N S ▼

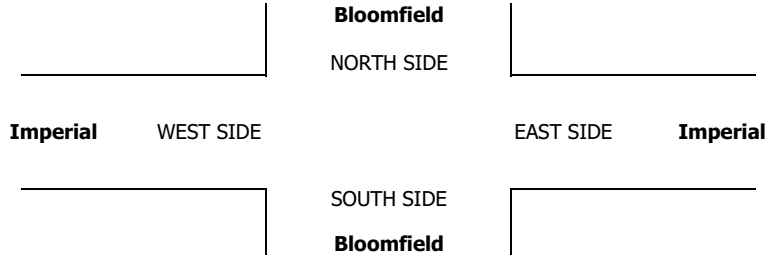
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Bloomfield			Bloomfield			Imperial			Imperial			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 3	ER 1	WL 1	WT 3	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	18	114	60	14	78	20	39	171	11	46	160	10	741
	7:15 AM	18	145	58	16	87	21	40	149	5	41	246	14	840
	7:30 AM	16	154	42	12	93	18	43	165	8	51	206	17	825
	7:45 AM	22	190	59	11	99	26	59	179	8	68	235	13	969
	8:00 AM	24	129	51	19	86	28	42	149	4	50	184	17	783
	8:15 AM	23	120	54	8	82	25	33	145	6	51	206	15	768
	8:30 AM	20	93	41	4	67	20	26	147	7	42	195	11	673
	8:45 AM	24	122	47	14	67	24	33	139	20	57	177	13	737
	VOLUMES	165	1,067	412	98	659	182	315	1,244	69	406	1,609	110	6,336
	APPROACH %	10%	65%	25%	10%	70%	19%	19%	76%	4%	19%	76%	5%	
PM	APP/DEPART	1,644	/	1,438	939	/	1,135	1,628	/	1,755	2,125	/	2,008	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	80	618	210	58	365	93	161	642	25	210	871	61	3,417
	APPROACH %	9%	68%	23%	11%	71%	18%	19%	75%	3%	18%	76%	5%	
	PEAK HR FACTOR	0.838			0.949			0.865			0.903			0.882
	APP/DEPART	908	/	840	516	/	600	851	/	910	1,142	/	1,067	0
	04:00 PM	3	110	66	33	168	39	34	216	15	75	274	15	1,048
	4:15 PM	28	138	84	21	152	40	31	283	17	61	252	9	1,116
	4:30 PM	36	137	64	41	217	88	31	214	12	72	268	11	1,191
	4:45 PM	28	132	92	30	196	48	32	204	8	57	214	10	1,051
	5:00 PM	26	139	102	27	215	42	23	271	19	59	297	13	1,233
	5:15 PM	24	118	98	26	160	41	45	230	16	67	247	10	1,082
	5:30 PM	32	126	95	24	143	28	30	233	14	52	230	10	1,017
	5:45 PM	35	94	62	26	117	28	28	191	21	72	250	9	933
	VOLUMES	212	994	663	228	1,368	354	254	1,842	122	515	2,032	87	8,671
	APPROACH %	11%	53%	35%	12%	70%	18%	11%	83%	6%	20%	77%	3%	
	APP/DEPART	1,869	/	1,253	1,950	/	2,017	2,218	/	2,732	2,634	/	2,669	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	114	546	342	119	780	218	85	972	56	249	1,031	43	4,591
	APPROACH %	11%	54%	34%	11%	70%	20%	7%	85%	5%	19%	78%	3%	
	PEAK HR FACTOR	0.942			0.807			0.865			0.896			0.931
	APP/DEPART	1,006	/	674	1,117	/	1,089	1,145	/	1,433	1,323	/	1,395	0

0	0	8	0	8
0	0	8	0	8
0	0	6	0	6
0	0	6	0	6
0	0	3	0	3
1	0	10	0	11
0	0	7	0	7
1	0	6	1	8
2	0	54	1	57

3	0	12	0	15
0	0	8	0	8
2	0	9	0	11
1	0	5	0	6
1	0	10	0	11
1	0	15	0	16
2	0	12	0	14
2	1	12	0	15
12	1	83	0	96



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
11/17/20
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Santa Fe Springs
Bloomfield
Imperial

PROJECT #:
LOCATION #:
CONTROL:

SC2728
9
SIGNAL

CLASS 2:	NOTES:	AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
TRUCKS				

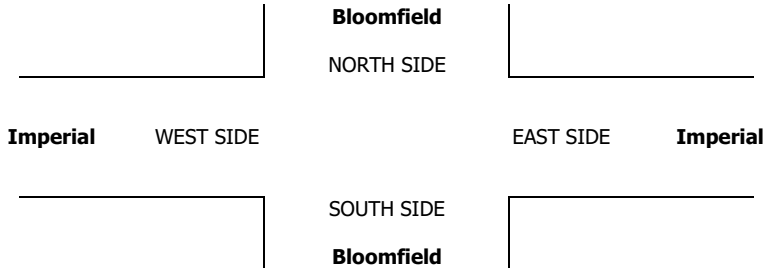
	NORTHBOUND Bloomfield			SOUTHBOUND Bloomfield			EASTBOUND Imperial			WESTBOUND Imperial			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 3	ER 1	WL 1	WT 3	WR 0	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	0	1	2	1	1	7	4	6	1	0	14	2	39
	7:15 AM	0	2	2	3	4	4	3	8	0	1	20	2	49
	7:30 AM	0	2	1	5	1	0	1	9	0	1	29	2	51
	7:45 AM	1	1	1	2	0	1	5	12	0	0	20	3	46
	8:00 AM	0	2	1	5	3	2	1	10	1	3	16	3	47
	8:15 AM	0	1	0	2	3	1	5	17	0	2	21	4	56
	8:30 AM	0	5	1	5	4	5	5	12	0	2	13	2	54
	8:45 AM	0	4	3	2	5	1	3	10	0	1	15	4	48
	VOLUMES	1	18	11	25	21	21	27	84	2	10	148	22	390
	APPROACH %	3%	60%	37%	37%	31%	31%	24%	74%	2%	6%	82%	12%	
PM	APP/DEPART	30	/	65	67	/	33	113	/	120	180	/	172	0
	BEGIN PEAK HR	8:00 AM												
	VOLUMES	0	12	5	14	15	9	13	49	1	8	65	13	205
	APPROACH %	0%	71%	29%	37%	39%	24%	20%	77%	2%	9%	76%	15%	
	PEAK HR FACTOR	0.607			0.679			0.727			0.796			0.915
	APP/DEPART	17	/	38	38	/	24	64	/	68	86	/	75	0
	04:00 PM	0	5	5	3	1	2	5	8	0	0	9	1	39
	4:15 PM	0	2	5	2	5	2	0	16	0	0	14	1	47
	4:30 PM	0	6	5	5	2	3	5	5	1	0	7	0	39
	4:45 PM	0	9	5	2	2	0	2	12	0	1	11	4	48
	5:00 PM	1	7	3	3	2	1	2	13	0	0	5	1	38
	5:15 PM	0	3	1	1	5	1	1	11	0	0	6	1	30
	5:30 PM	2	2	1	2	0	1	0	10	0	0	5	0	23
	5:45 PM	0	5	3	2	3	0	1	12	0	0	3	2	31
	VOLUMES	3	39	28	20	20	10	16	87	1	1	60	10	295
	APPROACH %	4%	56%	40%	40%	40%	20%	15%	84%	1%	1%	85%	14%	
	APP/DEPART	70	/	65	50	/	22	104	/	135	71	/	73	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	0	22	20	12	10	7	12	41	1	1	41	6	173
	APPROACH %	0%	52%	48%	41%	34%	24%	22%	76%	2%	2%	85%	13%	
	PEAK HR FACTOR	0.750			0.725			0.844			0.750			0.901
	APP/DEPART	42	/	40	29	/	12	54	/	73	48	/	48	0

0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	2	0	2

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0





APPENDIX B

FedEx Trailer/Container Storage Project Site Located at 12211 Greenstone Avenue, City of Santa Fe Springs, CA Traffic Volume Count Sheets





MINAGAR & ASSOCIATES, INC.

ITS - Traffic/Civil/Electrical Engineering - Transportation Planning - CEM

23282 Mill Creek Drive, Suite 120, Laguna Hills, CA 92653

Phone: (949) 707-1199

City: Santa Fe Springs
 Location: Fedex Driveway
 Driveway: 12211 Greenstone Avenue
 Date: Wednesday, 6/30/2021
 Count Type: Classification

Entering AM Period					
	Passenger Vehicles	2-Axle	3-Axle	4+Axle	Total
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
10:00 AM	0	0	0	0	0
10:15 AM	0	0	0	0	0
10:30 AM	0	1	0	0	1
10:45 AM	0	0	1	1	2
Total	0	1	1	1	3

Exiting AM Period					
	Passenger Vehicles	2-Axle	3-Axle	4+Axle	Total
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
10:00 AM	0	0	1	0	1
10:15 AM	0	0	0	1	1
10:30 AM	0	0	0	1	1
10:45 AM	0	0	0	2	2
Total	0	0	1	4	5

Entering PM Period					
	Passenger Vehicles	2-Axle	3-Axle	4+Axle	Total
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	1	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	1	0	0	1
5:45 PM	0	0	0	0	0
Total	0	2	0	0	2

Exiting PM Period					
	Passenger Vehicles	2-Axle	3-Axle	4+Axle	Total
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	1	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	1	1
5:45 PM	0	0	0	0	0
Total	0	0	1	1	2



MINAGAR & ASSOCIATES, INC.

ITS - Traffic/Civil/Electrical Engineering - Transportation Planning - CEM
 23282 Mill Creek Drive, Suite 120, Laguna Hills, CA 92653
 Phone: (949) 707-1199

City: Santa Fe Springs
 Location: Fedex Driveway
 Driveway: 12211 Greenstone Avenue
 Date: Thursday, 7/1/2021
 Count Type: Classification

Entering AM Period					
	Passenger Vehicles	2-Axle	3-Axle	4+Axle	Total
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	1	1
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
10:00 AM	0	0	0	0	0
10:15 AM	0	1	0	0	1
10:30 AM	0	1	0	0	1
10:45 AM	0	1	0	0	1
Total	0	3	0	1	4

Exiting AM Period					
	Passenger Vehicles	2-Axle	3-Axle	4+Axle	Total
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	1	0	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
10:00 AM	0	0	0	0	0
10:15 AM	0	0	0	1	1
10:30 AM	0	0	0	1	1
10:45 AM	0	0	0	0	0
Total	0	1	0	2	3

Entering PM Period					
	Passenger Vehicles	2-Axle	3-Axle	4+Axle	Total
4:00 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	1	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
Total	0	2	0	0	2

Exiting PM Period					
	Passenger Vehicles	2-Axle	3-Axle	4+Axle	Total
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	1	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
Total	0	0	0	1	1



APPENDIX C

Trailer/Container Storage Project Located at South End of 99th Street, City of San Bernardino, CA Traffic Volume Count Sheets





City: San Bernardino
Location: Driveway 1
Driveway: at 150th St / W St
Date: Wednesday, 2/27/2019
Count Type: Classification

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	1	0	1
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	1	1	2
1:15	0	0	1	0	1
1:30	0	0	3	0	3
1:45	1	0	3	0	4
2:00	1	0	2	0	3
2:15	0	0	1	1	2
2:30	0	0	5	0	5
2:45	0	0	5	1	6
3:00	0	0	3	0	3
3:15	0	0	2	0	2
3:30	0	0	2	1	3
3:45	0	0	2	0	2
4:00	0	0	0	0	0
4:15	0	0	1	0	1
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	1	0	0	0	1
5:15	0	0	0	0	0
5:30	0	0	1	0	1
5:45	0	0	0	0	0
6:00	0	0	2	0	2
6:15	0	0	0	0	0
6:30	1	0	0	0	1
6:45	1	0	1	0	2
7:00	0	0	0	1	1
7:15	0	0	0	0	0
7:30	0	0	1	0	1
7:45	0	0	2	0	2
8:00	0	0	0	0	0
8:15	0	0	0	0	0
8:30	0	0	0	0	0
8:45	0	0	0	0	0
9:00	0	0	0	0	0
9:15	0	0	0	0	0
9:30	0	0	1	0	1
9:45	0	0	0	0	0
10:00	0	0	0	0	0
10:15	1	0	1	0	2
10:30	1	1	0	0	2
10:45	0	0	5	0	5
11:00	0	0	1	0	1
11:15	0	0	1	0	1
11:30	0	0	0	0	0
11:45	0	0	4	0	4
12:00	0	1	0	0	1
12:15	0	0	1	0	1
12:30	0	0	0	0	0
12:45	0	0	2	0	2
13:00	0	0	3	0	3
13:15	0	0	1	0	1
13:30	0	0	1	0	1
13:45	0	0	2	0	2
14:00	0	0	0	0	0
14:15	1	0	0	0	1
14:30	1	0	0	0	1
14:45	1	0	0	0	1
15:00	0	0	0	0	0
15:15	0	0	3	0	3
15:30	0	0	0	0	0
15:45	0	0	0	0	0
16:00	0	0	1	0	1
16:15	0	0	1	0	1
16:30	0	0	1	0	1
16:45	0	0	0	0	0
17:00	0	0	0	0	0
17:15	0	0	2	0	2
17:30	0	0	1	0	1
17:45	0	0	2	0	2
18:00	0	0	1	0	1
18:15	0	0	1	0	1
18:30	0	0	1	0	1
18:45	0	0	3	0	3
19:00	1	0	1	0	2
19:15	1	0	1	1	3
19:30	0	0	2	0	2
19:45	0	0	0	0	0
20:00	0	0	0	2	2
20:15	0	0	4	0	4
20:30	0	0	8	0	8
20:45	0	0	5	0	5
21:00	0	0	4	0	4
21:15	0	0	5	0	5
21:30	0	0	2	0	2
21:45	0	0	0	0	0
22:00	0	0	1	0	1
22:15	1	0	0	0	1
22:30	0	0	0	0	0
22:45	0	0	0	1	1
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	4	0	4
23:45	0	0	1	0	1
TOTAL	13	2	117	9	141

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	2	2
0:15	0	0	0	0	0
0:30	1	0	0	0	1
0:45	0	0	0	1	1
1:00	0	0	0	0	0
1:15	0	0	0	2	2
1:30	0	0	1	0	1
1:45	0	0	0	1	1
2:00	2	0	0	3	5
2:15	0	0	1	4	5
2:30	0	0	1	1	2
2:45	0	0	0	5	5
3:00	0	0	0	2	2
3:15	0	0	0	2	2
3:30	0	0	0	4	4
3:45	0	0	0	2	2
4:00	0	0	0	2	2
4:15	0	0	0	1	1
4:30	0	0	1	0	1
4:45	0	0	0	0	0
5:00	0	0	0	0	0
5:15	1	0	0	0	1
5:30	0	0	0	0	0
5:45	0	0	0	0	0
6:00	0	0	0	3	3
6:15	0	0	0	0	0
6:30	0	0	0	0	0
6:45	2	0	0	0	2
7:00	0	0	0	1	1
7:15	0	0	1	0	1
7:30	0	0	1	1	2
7:45	0	0	0	0	0
8:00	0	0	0	0	0
8:15	0	0	0	2	2
8:30	0	0	0	0	0
8:45	0	0	0	0	0
9:00	0	0	0	0	0
9:15	0	0	0	0	0
9:30	0	0	0	0	0
9:45	0	0	0	0	0
10:00	0	0	1	0	1
10:15	1	0	0	0	1
10:30	1	1	0	0	2
10:45	0	0	0	0	0
11:00	0	0	0	3	3
11:15	0	0	0	2	2
11:30	0	0	0	2	2
11:45	0	0	1	0	1
12:00	0	1	0	3	4
12:15	0	0	0	2	2
12:30	0	0	0	0	0
12:45	0	0	0	0	0
13:00	0	0	0	2	2
13:15	0	0	0	2	2
13:30	0	0	1	1	2
13:45	0	0	1	0	1
14:00	0	0	0	2	2
14:15	0	0	0	0	0
14:30	2	0	0	0	2
14:45	1	0	0	0	1
15:00	0	0	0	0	0
15:15	0	0	0	0	0
15:30	0	0	1	1	2
15:45	0	0	0	1	1
16:00	0	0	0	0	0
16:15	0	0	0	0	0
16:30	0	0	0	0	0
16:45	0	0	0	1	1
17:00	0	0	0	2	2
17:15	0	0	0	0	0
17:30	0	0	0	1	1
17:45	0	0	0	1	1
18:00	0	0	0	0	0
18:15	0	0	0	2	2
18:30	0	0	0	2	2
18:45	0	0	2	2	4
19:00	1	0	1	1	3
19:15	1	0	1	0	2
19:30	0	0	1	1	2
19:45	0	0	1	1	2
20:00	0	0	0	0	0
20:15	0	0	1	0	1
20:30	0	0	2	3	5
20:45	0	0	0	7	7
21:00	0	0	1	6	7
21:15	0	0	0	4	4
21:30	0	0	1	3	4
21:45	0	0	0	1	1
22:00	0	0	0	1	1
22:15	0	0	1	0	1
22:30	1	0	0	0	1
22:45	0	0	0	0	0
23:00	0	0	1	0	1
23:15	0	0	0	0	0
23:30	0	0	2	0	2
23:45	0	0	0	2	2
TOTAL	14	2	26	101	143

City: San Bernardino
Location: Driveway 1
Driveway: at 150th St / W St
Date: Thursday, 2/28/2019
Count Type: Classification

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	1	1
0:30	1	0	1	0	2
0:45	0	0	0	1	1
1:00	0	0	0	0	0
1:15	0	0	4	1	5
1:30	0	0	1	1	2
1:45	1	0	2	0	3
2:00	0	0	1	0	1
2:15	0	0	4	1	5
2:30	0	0	2	0	2
2:45	0	0	1	1	2
3:00	1	0	3	0	4
3:15	0	0	5	1	6
3:30	0	0	2	1	3
3:45	0	0	0	1	1
4:00	0	0	1	0	1
4:15	0	0	0	0	0
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	0	0	1	0	1
5:15	0	0	0	0	0
5:30	0	0	0	0	0
5:45	0	0	1	0	1
6:00	0	0	1	0	1
6:15	1	0	1	0	2
6:30	0	0	0	0	0
6:45	0	0	1	0	1
7:00	0	0	0	0	0
7:15	0	0	1	0	1
7:30	1	0	0	0	1
7:45	0	0	0	0	0
8:00	0	0	0	0	0
8:15	0	0	1	0	1
8:30	0	0	0	0	0
8:45	0	0	0	0	0
9:00	0	0	0	0	0
9:15	0	0	0	0	0
9:30	1	0	0	0	1
9:45	0	0	0	0	0
10:00	0	0	1	0	1
10:15	0	0	0	0	0
10:30	0	0	1	0	1
10:45	0	0	2	0	2
11:00	0	0	2	0	2
11:15	1	0	0	0	1
11:30	0	0	1	0	1
11:45	0	0	1	0	1
12:00	0	0	2	0	2
12:15	0	0	0	0	0
12:30	0	1	1	0	2
12:45	0	0	1	0	1
13:00	1	0	2	0	3
13:15	1	0	3	0	4
13:30	0	0	2	0	2
13:45	0	0	0	0	0
14:00	0	0	1	0	1
14:15	0	0	1	0	1
14:30	1	0	0	0	1
14:45	0	0	1	0	1
15:00	0	0	1	0	1
15:15	0	0	1	0	1
15:30	0	0	0	0	0
15:45	1	0	1	0	2
16:00	0	0	1	0	1
16:15	0	0	0	0	0
16:30	0	0	2	0	2
16:45	0	0	0	0	0
17:00	1	0	0	0	1
17:15	0	0	1	0	1
17:30	0	0	0	0	0
17:45	0	0	1	0	1
18:00	0	0	2	0	2
18:15	0	0	3	1	4
18:30	0	0	1	0	1
18:45	0	0	2	0	2
19:00	0	0	2	0	2
19:15	0	0	2	0	2
19:30	0	0	1	1	2
19:45	0	0	0	0	0
20:00	0	0	1	0	1
20:15	0	0	2	0	2
20:30	0	0	4	0	4
20:45	0	0	3	1	4
21:00	0	0	5	0	5
21:15	0	0	1	0	1
21:30	0	0	3	0	3
21:45	0	0	2	0	2
22:00	0	0	2	1	3
22:15	0	0	1	0	1
22:30	0	0	2	0	2
22:45	0	0	2	0	2
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
TOTAL	12	1	105	13	131

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	1	1
0:15	0	0	1	0	1
0:30	1	0	0	0	1
0:45	0	0	0	1	1
1:00	0	0	1	0	1
1:15	0	0	1	0	1
1:30	0	0	3	0	3
1:45	0	0	1	1	2
2:00	0	0	0	2	2
2:15	0	0	1	2	3
2:30	0	0	1	3	4
2:45	0	0	0	1	1
3:00	1	0	0	1	2
3:15	0	0	0	2	2
3:30	0	0	4	4	8
3:45	0	0	0	2	2
4:00	0	0	1	0	1
4:15	0	0	0	1	1
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	0	0	0	1	1
5:15	0	0	0	0	0
5:30	0	0	0	0	0
5:45	0	0	0	0	0
6:00	0	0	0	1	1
6:15	0	0	0	0	0
6:30	0	0	0	2	2
6:45	0	0	0	1	1
7:00	0	0	1	0	1
7:15	0	0	0	1	1
7:30	0	0	0	0	0
7:45	0	0	0	0	0
8:00	1	0	0	1	2
8:15	0	0	0	0	0
8:30	0	0	1	0	1
8:45	0	0	0	0	0
9:00	1	0	0	0	1
9:15	0	0	0	1	1
9:30	0	0	0	0	0
9:45	0	0	0	0	0
10:00	0	0	0	1	1
10:15	0	0	0	0	0
10:30	0	0	0	1	1
10:45	0	0	0	0	0
11:00	0	0	0	1	1
11:15	0	0	1	0	1
11:30	0	0	0	0	0
11:45	0	0	0	1	1
12:00	0	0	0	2	2
12:15	1	0	0	0	1
12:30	0	0	0	0	0
12:45	0	0	1	1	2
13:00	0	0	0	1	1
13:15	0	1	0	0	1
13:30	0	0	0	0	0
13:45	1	0	0	1	2
14:00	0	0	0	0	0
14:15	0	0	0	1	1
14:30	0	0	0	0	0
14:45	0	0	0	0	0
15:00	0	0	0	1	1
15:15	1	0	0	1	2
15:30	1	0	0	1	2
15:45	0	0	0	0	0
16:00	0	0	1	0	1
16:15	0	0	0	0	0
16:30	0	0	0	1	1
16:45	0	0	1	2	3
17:00	0	0	0	0	0
17:15	0	0	0	1	1
17:30	0	0	0	0	0
17:45	0	0	2	0	2
18:00	0	0	1	2	3
18:15	0	0	0	1	1
18:30	1	0	0	3	4
18:45	0	0	0	1	1
19:00	0	0	0	0	0
19:15	0	0	2	0	2
19:30	0	0	0	0	0
19:45	0	0	0	1	1
20:00	0	0	1	1	2
20:15	1	0	1	1	3
20:30	0	0	0	2	2
20:45	0	0	1	3	4
21:00	0	0	0	4	4
21:15	0	0	0	5	5
21:30	0	0	0	1	1
21:45	1	0	0	4	5
22:00	0	0	0	2	2
22:15	1	0	1	0	2
22:30	0	0	0	1	1
22:45	0	0	0	2	2
23:00	0	0	0	1	1
23:15	0	0	1	0	1
23:30	0	0	0	2	2
23:45	0	0	1	2	3
TOTAL	12	1	31	85	129

City: San Bernardino
Location: Driveway 2A (Northern Driveway)
Driveway: at Perimeter Road
Date: Wednesday, 2/27/2019
Count Type: Classification

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	1	1	0	2
0:15	0	0	0	0	0
0:30	0	0	2	0	2
0:45	0	0	0	0	0
1:00	0	0	1	0	1
1:15	0	0	0	0	0
1:30	0	0	1	0	1
1:45	0	0	1	0	1
2:00	2	0	0	0	2
2:15	0	0	1	0	1
2:30	0	0	0	0	0
2:45	0	0	2	0	2
3:00	0	0	4	0	4
3:15	0	0	0	0	0
3:30	1	0	3	0	4
3:45	1	0	2	0	3
4:00	0	0	0	0	0
4:15	0	0	0	0	0
4:30	0	0	0	0	0
4:45	0	0	1	0	1
5:00	1	0	0	0	1
5:15	0	0	0	0	0
5:30	0	0	0	0	0
5:45	0	0	1	0	1
6:00	0	1	1	0	2
6:15	0	0	0	0	0
6:30	1	0	0	1	2
6:45	2	0	0	0	2
7:00	0	0	0	0	0
7:15	1	0	0	1	2
7:30	0	0	0	0	0
7:45	0	0	0	0	0
8:00	1	0	0	2	3
8:15	0	0	0	0	0
8:30	0	0	1	0	1
8:45	0	0	0	0	0
9:00	0	0	0	0	0
9:15	0	0	0	0	0
9:30	0	0	0	0	0
9:45	1	0	0	0	1
10:00	0	0	1	1	2
10:15	0	0	1	1	2
10:30	0	0	2	0	2
10:45	1	1	0	0	2
11:00	0	0	3	0	3
11:15	1	0	2	0	3
11:30	0	0	2	0	2
11:45	0	0	0	0	0
12:00	1	0	6	1	8
12:15	0	0	3	0	3
12:30	0	0	1	0	1
12:45	0	0	1	0	1
13:00	0	0	0	0	0
13:15	0	0	2	0	2
13:30	0	0	2	0	2
13:45	0	0	1	0	1
14:00	1	0	1	0	2
14:15	0	0	1	0	1
14:30	0	0	0	0	0
14:45	2	0	0	0	2
15:00	1	0	1	0	2
15:15	0	0	0	0	0
15:30	0	0	0	0	0
15:45	0	0	0	0	0
16:00	0	0	0	0	0
16:15	0	0	1	0	1
16:30	0	0	0	0	0
16:45	0	0	1	0	1
17:00	0	0	0	0	0
17:15	0	0	0	0	0
17:30	2	0	0	0	2
17:45	0	0	2	0	2
18:00	0	0	3	0	3
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	1	0	1
19:15	2	0	2	0	4
19:30	0	0	2	0	2
19:45	2	0	1	0	3
20:00	0	0	1	0	1
20:15	0	0	2	0	2
20:30	1	0	7	0	8
20:45	0	0	4	0	4
21:00	0	0	1	0	1
21:15	0	0	5	0	5
21:30	0	0	3	0	3
21:45	3	0	0	0	3
22:00	0	0	1	0	1
22:15	0	0	1	0	1
22:30	0	0	4	0	4
22:45	1	0	0	0	1
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	2	0	2
23:45	0	0	0	0	0
TOTAL	29	3	96	7	135

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	2	2
0:15	0	0	0	2	2
0:30	1	0	0	0	1
0:45	0	0	0	0	0
1:00	0	0	0	1	1
1:15	0	0	0	1	1
1:30	0	0	0	0	0
1:45	0	0	0	1	1
2:00	2	0	0	0	2
2:15	0	0	1	0	1
2:30	0	0	0	1	1
2:45	0	0	0	1	1
3:00	0	0	1	0	1
3:15	0	0	2	2	4
3:30	1	0	0	0	1
3:45	0	0	1	0	1
4:00	1	0	0	2	3
4:15	0	0	0	0	0
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	1	0	0	0	1
5:15	0	0	0	1	1
5:30	0	0	0	0	0
5:45	0	0	0	0	0
6:00	0	0	0	1	1
6:15	0	0	0	0	0
6:30	1	0	1	0	2
6:45	2	0	0	0	2
7:00	0	0	0	0	0
7:15	1	0	0	0	1
7:30	0	0	1	1	2
7:45	0	0	0	0	0
8:00	0	1	0	0	1
8:15	0	0	1	0	1
8:30	0	0	0	0	0
8:45	0	0	1	0	1
9:00	0	0	0	0	0
9:15	0	0	0	0	0
9:30	1	1	0	0	2
9:45	0	0	0	0	0
10:00	0	0	0	0	0
10:15	1	0	0	1	2
10:30	0	0	1	2	3
10:45	1	1	1	0	3
11:00	0	0	0	0	0
11:15	0	0	0	1	1
11:30	1	0	0	1	2
11:45	0	0	1	1	2
12:00	0	0	0	3	3
12:15	0	0	0	3	3
12:30	0	0	0	4	4
12:45	0	0	2	1	3
13:00	0	0	0	1	1
13:15	0	0	0	0	0
13:30	0	0	2	1	3
13:45	0	0	0	0	0
14:00	1	0	1	0	2
14:15	1	0	0	1	2
14:30	0	0	1	1	2
14:45	1	0	0	0	1
15:00	1	0	0	0	1
15:15	0	0	0	0	0
15:30	0	0	0	0	0
15:45	0	0	0	0	0
16:00	0	0	0	1	1
16:15	1	0	0	0	1
16:30	0	0	0	1	1
16:45	0	0	0	0	0
17:00	0	0	0	0	0
17:15	0	0	0	0	0
17:30	2	0	0	0	2
17:45	0	0	0	1	1
18:00	0	0	1	0	1
18:15	1	0	0	2	3
18:30	0	0	0	1	1
18:45	0	0	0	0	0
19:00	1	0	0	0	1
19:15	2	0	0	2	4
19:30	0	0	0	0	0
19:45	1	0	0	2	3
20:00	0	0	0	2	2
20:15	0	0	0	1	1
20:30	1	0	0	3	4
20:45	0	0	1	5	6
21:00	0	0	0	2	2
21:15	0	0	1	1	2
21:30	0	0	1	2	3
21:45	2	0	0	3	5
22:00	0	0	0	1	1
22:15	0	0	0	3	3
22:30	0	0	0	1	1
22:45	1	0	0	2	3
23:00	1	0	0	1	2
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	2	2
TOTAL	31	3	22	76	132

City: San Bernardino
Location: Driveway 2A (Northern Driveway)
Driveway: at Perimeter Road
Date: Thursday, 2/28/2019
Count Type: Classification

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	1	0	0	1
0:45	0	0	1	0	1
1:00	1	0	0	0	1
1:15	0	0	1	0	1
1:30	0	0	0	1	1
1:45	0	0	2	0	2
2:00	1	0	7	0	8
2:15	0	0	2	0	2
2:30	0	0	1	0	1
2:45	0	0	1	0	1
3:00	1	0	3	0	4
3:15	0	0	2	0	2
3:30	0	0	1	0	1
3:45	0	0	3	0	3
4:00	0	0	0	1	1
4:15	0	0	2	0	2
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	0	0	0	0	0
5:15	0	0	0	0	0
5:30	0	0	0	0	0
5:45	0	0	0	0	0
6:00	0	0	0	0	0
6:15	0	0	2	0	2
6:30	0	0	0	0	0
6:45	2	0	0	0	2
7:00	0	0	1	0	1
7:15	0	0	1	0	1
7:30	1	0	1	0	2
7:45	0	0	0	0	0
8:00	0	0	0	0	0
8:15	0	0	0	0	0
8:30	0	0	0	0	0
8:45	0	0	0	0	0
9:00	1	0	1	0	2
9:15	1	0	0	0	1
9:30	0	0	1	0	1
9:45	0	0	0	0	0
10:00	1	0	0	0	1
10:15	0	0	1	0	1
10:30	1	0	1	0	2
10:45	0	0	0	0	0
11:00	0	0	2	0	2
11:15	0	0	0	0	0
11:30	1	1	1	0	3
11:45	1	0	0	0	1
12:00	1	0	1	0	2
12:15	1	0	0	0	1
12:30	0	0	3	0	3
12:45	0	0	1	0	1
13:00	0	0	1	0	1
13:15	0	0	1	0	1
13:30	0	0	1	0	1
13:45	0	0	1	0	1
14:00	0	0	0	0	0
14:15	1	0	0	0	1
14:30	0	0	0	1	1
14:45	0	0	0	0	0
15:00	1	0	1	0	2
15:15	0	0	3	0	3
15:30	0	0	0	0	0
15:45	0	0	0	0	0
16:00	0	0	0	0	0
16:15	0	0	0	0	0
16:30	0	0	1	0	1
16:45	0	0	0	0	0
17:00	0	0	1	0	1
17:15	0	0	1	0	1
17:30	0	0	0	0	0
17:45	0	0	0	0	0
18:00	0	0	1	0	1
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	1	0	1	0	2
19:00	1	0	2	0	3
19:15	0	0	1	0	1
19:30	1	0	1	0	2
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	1	0	1
21:00	0	1	1	1	3
21:15	0	0	2	0	2
21:30	1	0	2	0	3
21:45	0	0	1	0	1
22:00	1	0	1	0	2
22:15	1	0	1	0	2
22:30	0	0	2	0	2
22:45	0	0	1	0	1
23:00	1	0	0	1	2
23:15	1	0	0	0	1
23:30	0	0	2	0	2
23:45	0	0	2	0	2
TOTAL	24	3	76	5	108

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	1	0	1
0:30	1	1	1	0	3
0:45	0	0	1	1	2
1:00	1	0	0	1	2
1:15	0	0	0	0	0
1:30	0	0	0	1	1
1:45	0	0	0	0	0
2:00	0	0	0	4	4
2:15	0	1	1	3	5
2:30	0	0	1	2	3
2:45	0	0	0	0	0
3:00	1	0	0	2	3
3:15	0	0	1	1	2
3:30	0	0	0	1	1
3:45	0	0	2	1	3
4:00	0	0	2	1	3
4:15	0	0	0	0	0
4:30	0	0	0	1	1
4:45	0	0	0	0	0
5:00	0	0	0	1	1
5:15	0	0	0	0	0
5:30	0	0	0	0	0
5:45	0	0	0	0	0
6:00	0	0	0	0	0
6:15	0	0	1	1	2
6:30	0	0	0	0	0
6:45	0	0	0	0	0
7:00	2	0	0	0	2
7:15	0	0	0	0	0
7:30	0	0	1	1	2
7:45	0	0	0	1	1
8:00	0	0	0	0	0
8:15	0	0	0	0	0
8:30	0	0	0	0	0
8:45	0	0	0	0	0
9:00	1	0	0	0	1
9:15	1	0	0	1	2
9:30	0	0	0	0	0
9:45	0	0	0	0	0
10:00	1	0	0	0	1
10:15	0	0	0	0	0
10:30	0	0	1	1	2
10:45	0	0	0	0	0
11:00	0	0	0	0	0
11:15	1	0	0	2	3
11:30	1	0	0	1	2
11:45	1	0	0	2	3
12:00	1	0	0	0	1
12:15	1	0	2	0	3
12:30	0	0	0	0	0
12:45	0	0	0	0	0
13:00	1	0	0	1	2
13:15	0	0	0	2	2
13:30	0	0	0	1	1
13:45	0	0	0	1	1
14:00	0	0	0	1	1
14:15	0	0	1	1	2
14:30	1	0	0	0	1
14:45	0	0	0	0	0
15:00	1	0	0	2	3
15:15	0	0	0	0	0
15:30	0	0	0	2	2
15:45	2	0	0	2	4
16:00	0	0	0	0	0
16:15	0	0	0	0	0
16:30	0	0	0	0	0
16:45	0	0	0	0	0
17:00	0	0	0	1	1
17:15	0	0	0	1	1
17:30	0	0	0	1	1
17:45	0	0	0	0	0
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	1	0	0	0	1
19:00	1	0	0	0	1
19:15	0	0	0	3	3
19:30	1	0	0	1	2
19:45	0	0	0	0	0
20:00	0	0	0	1	1
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	0	1	0	1	2
21:15	0	0	0	1	1
21:30	0	0	0	1	1
21:45	0	0	0	2	2
22:00	2	0	0	2	4
22:15	1	0	0	2	3
22:30	2	0	0	1	3
22:45	0	0	0	0	0
23:00	0	0	0	2	2
23:15	0	0	0	0	0
23:30	1	0	1	1	3
23:45	0	0	0	1	1
TOTAL	27	3	17	65	112

City: San Bernardino
Location: Driveway 2B (Southern Driveway)
Driveway: South end of 99th St
Date: Wednesday, 2/27/2019
Count Type: Classification

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	1	1
0:15	0	0	0	1	1
0:30	1	0	0	0	1
0:45	0	0	0	1	1
1:00	0	0	0	1	1
1:15	0	0	0	0	0
1:30	0	0	2	2	4
1:45	0	0	0	0	0
2:00	2	0	0	1	3
2:15	1	0	0	0	1
2:30	0	0	2	0	2
2:45	0	0	1	0	1
3:00	0	0	0	1	1
3:15	0	0	0	0	0
3:30	0	0	0	1	1
3:45	1	0	1	1	3
4:00	0	0	0	1	1
4:15	0	0	0	2	2
4:30	0	0	2	0	2
4:45	0	0	0	0	0
5:00	0	0	0	0	0
5:15	1	0	0	0	1
5:30	0	0	0	1	1
5:45	0	0	0	4	4
6:00	0	0	0	1	1
6:15	0	0	0	1	1
6:30	0	0	1	2	3
6:45	3	0	0	2	5
7:00	0	0	0	0	0
7:15	1	0	0	3	4
7:30	0	0	0	1	1
7:45	0	0	0	1	1
8:00	0	1	0	2	3
8:15	0	1	0	1	2
8:30	0	0	0	1	1
8:45	0	0	1	0	1
9:00	0	0	0	1	1
9:15	0	0	1	1	2
9:30	0	0	0	1	1
9:45	0	0	0	0	0
10:00	0	0	0	1	1
10:15	0	0	0	3	3
10:30	0	1	0	1	2
10:45	0	0	0	0	0
11:00	1	0	0	2	3
11:15	0	0	1	2	3
11:30	0	0	1	1	2
11:45	0	0	0	2	2
12:00	1	1	0	2	4
12:15	0	0	0	2	2
12:30	0	0	0	3	3
12:45	0	0	2	2	4
13:00	1	0	0	1	2
13:15	0	0	0	2	2
13:30	0	0	1	1	2
13:45	0	0	0	0	0
14:00	0	0	1	1	2
14:15	1	0	0	0	1
14:30	0	0	0	2	2
14:45	2	0	0	0	2
15:00	1	0	0	0	1
15:15	0	0	0	2	2
15:30	0	0	1	0	1
15:45	0	0	0	1	1
16:00	0	0	1	3	4
16:15	0	0	0	0	0
16:30	0	0	0	1	1
16:45	0	0	0	0	0
17:00	0	0	0	1	1
17:15	0	0	0	0	0
17:30	0	0	0	0	0
17:45	1	0	0	0	1
18:00	0	0	0	2	2
18:15	0	0	2	3	5
18:30	0	0	0	1	1
18:45	0	0	1	1	2
19:00	2	0	1	0	3
19:15	1	0	1	2	4
19:30	0	0	0	0	0
19:45	1	0	0	1	2
20:00	0	0	0	1	1
20:15	0	0	0	0	0
20:30	0	1	1	1	3
20:45	0	0	0	1	1
21:00	0	0	2	2	4
21:15	0	0	0	1	1
21:30	0	0	1	1	2
21:45	1	0	1	0	2
22:00	1	0	0	0	1
22:15	1	0	1	4	6
22:30	0	0	1	0	1
22:45	0	0	0	0	0
23:00	2	0	1	0	3
23:15	0	0	0	1	1
23:30	0	0	0	1	1
23:45	0	0	0	0	0
TOTAL	27	5	32	95	159

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	1	0	1	1	3
0:30	0	0	0	0	0
0:45	0	0	2	0	2
1:00	0	0	0	0	0
1:15	0	0	3	0	3
1:30	0	0	1	0	1
1:45	0	0	0	0	0
2:00	2	0	1	0	3
2:15	0	0	0	0	0
2:30	0	0	0	2	2
2:45	1	0	2	0	3
3:00	0	0	0	0	0
3:15	0	0	1	0	1
3:30	0	0	1	0	1
3:45	0	0	0	0	0
4:00	0	0	1	1	2
4:15	0	0	1	0	1
4:30	0	0	1	0	1
4:45	0	0	0	2	2
5:00	1	0	0	0	1
5:15	0	0	0	0	0
5:30	0	0	1	0	1
5:45	0	0	3	1	4
6:00	0	0	1	0	1
6:15	0	0	1	0	1
6:30	1	0	4	0	5
6:45	2	0	0	1	3
7:00	0	0	2	0	2
7:15	1	0	2	0	3
7:30	0	0	1	0	1
7:45	0	0	2	0	2
8:00	0	0	0	0	0
8:15	0	0	1	2	3
8:30	0	1	0	0	1
8:45	0	0	0	0	0
9:00	0	0	0	0	0
9:15	0	0	1	0	1
9:30	1	1	0	2	4
9:45	1	0	1	0	2
10:00	1	0	0	0	1
10:15	0	0	1	0	1
10:30	0	0	1	2	3
10:45	0	1	0	0	1
11:00	0	0	3	0	3
11:15	0	0	1	0	1
11:30	0	0	3	0	3
11:45	0	0	2	2	4
12:00	1	1	0	0	2
12:15	0	0	4	0	4
12:30	0	0	2	1	3
12:45	0	0	1	0	1
13:00	0	0	1	0	1
13:15	1	0	2	0	3
13:30	0	0	2	0	2
13:45	0	0	2	0	2
14:00	0	0	0	0	0
14:15	0	0	2	0	2
14:30	0	0	1	0	1
14:45	4	0	0	0	4
15:00	1	0	1	0	2
15:15	0	0	2	0	2
15:30	0	0	0	0	0
15:45	0	0	2	0	2
16:00	0	0	2	0	2
16:15	0	0	0	0	0
16:30	0	0	1	1	2
16:45	0	0	0	0	0
17:00	0	0	0	0	0
17:15	0	0	2	0	2
17:30	1	0	1	0	2
17:45	0	0	0	0	0
18:00	0	0	3	0	3
18:15	0	0	3	0	3
18:30	0	0	1	0	1
18:45	0	0	1	0	1
19:00	1	0	1	0	2
19:15	2	0	1	1	4
19:30	0	0	1	1	2
19:45	0	0	1	0	1
20:00	0	0	1	0	1
20:15	1	0	2	0	3
20:30	0	0	0	0	0
20:45	0	0	2	0	2
21:00	0	0	2	1	3
21:15	0	0	1	0	1
21:30	0	0	1	0	1
21:45	2	0	0	1	3
22:00	0	0	1	0	1
22:15	0	0	1	1	2
22:30	0	0	0	1	1
22:45	1	0	0	1	2
23:00	2	0	0	0	2
23:15	0	0	1	0	1
23:30	0	1	1	1	3
23:45	0	0	0	0	0
TOTAL	29	5	99	26	159

City: San Bernardino
Location: Driveway ZB (Southern Driveway)
Driveway: South end of 99th St
Date: Thursday, 2/28/2019
Count Type: Classification

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	2	2
0:15	0	0	1	2	3
0:30	0	0	0	2	2
0:45	0	0	1	2	3
1:00	1	0	0	1	2
1:15	0	0	0	0	0
1:30	0	0	1	3	4
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	1	1	2
2:30	1	0	1	0	2
2:45	0	0	1	0	1
3:00	2	0	1	2	5
3:15	0	0	0	0	0
3:30	0	0	1	1	2
3:45	0	0	2	1	3
4:00	0	0	4	0	4
4:15	0	0	0	2	2
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	0	0	0	0	0
5:15	0	0	0	0	0
5:30	0	0	0	3	3
5:45	0	0	0	1	1
6:00	0	0	0	1	1
6:15	0	0	0	2	2
6:30	0	0	0	3	3
6:45	1	0	0	0	1
7:00	2	0	0	2	4
7:15	0	0	0	5	5
7:30	0	0	0	1	1
7:45	0	0	0	2	2
8:00	0	0	0	2	2
8:15	0	0	1	0	1
8:30	0	0	0	0	0
8:45	1	0	0	2	3
9:00	0	0	0	2	2
9:15	1	0	0	1	2
9:30	1	0	0	0	1
9:45	1	0	0	2	3
10:00	0	0	0	0	0
10:15	0	0	0	2	2
10:30	0	0	1	0	1
10:45	0	0	0	0	0
11:00	0	0	0	0	0
11:15	0	0	0	5	5
11:30	1	0	1	0	2
11:45	0	0	0	4	4
12:00	1	0	0	3	4
12:15	1	0	1	3	5
12:30	0	0	0	3	3
12:45	0	0	1	2	3
13:00	0	0	1	2	3
13:15	0	0	0	0	0
13:30	0	0	1	0	1
13:45	0	0	0	1	1
14:00	0	0	0	0	0
14:15	0	0	0	1	1
14:30	0	0	1	1	2
14:45	1	0	0	0	1
15:00	2	0	0	0	2
15:15	0	0	0	0	0
15:30	0	0	0	1	1
15:45	0	0	0	1	1
16:00	0	0	0	1	1
16:15	1	0	0	1	2
16:30	0	0	0	1	1
16:45	0	0	0	0	0
17:00	1	0	0	0	1
17:15	0	0	0	0	0
17:30	0	0	0	1	1
17:45	0	0	0	1	1
18:00	0	0	0	3	3
18:15	1	0	0	2	3
18:30	0	0	0	2	2
18:45	1	0	1	1	3
19:00	2	0	1	1	4
19:15	0	0	2	3	5
19:30	0	0	2	0	2
19:45	1	0	0	0	1
20:00	0	0	2	1	3
20:15	0	0	0	1	1
20:30	0	0	0	3	3
20:45	1	0	7	3	11
21:00	0	0	3	3	6
21:15	0	0	0	1	1
21:30	0	0	1	1	2
21:45	0	0	1	0	1
22:00	0	0	1	1	2
22:15	0	0	0	1	1
22:30	1	0	1	1	3
22:45	1	0	1	2	4
23:00	0	0	1	1	2
23:15	0	0	3	2	5
23:30	1	0	1	1	3
23:45	1	0	2	3	6
TOTAL	29	0	52	119	200

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	2	0	2
0:15	0	0	1	1	2
0:30	1	0	2	0	3
0:45	0	0	3	0	3
1:00	0	0	0	0	0
1:15	0	0	2	0	2
1:30	0	0	3	0	3
1:45	0	0	1	0	1
2:00	0	0	0	0	0
2:15	0	0	1	0	1
2:30	1	0	0	1	2
2:45	0	0	0	1	1
3:00	2	0	0	0	2
3:15	0	0	1	1	2
3:30	0	0	0	2	2
3:45	0	0	3	0	3
4:00	0	0	1	2	3
4:15	0	0	1	1	2
4:30	0	0	0	2	2
4:45	0	0	0	0	0
5:00	0	0	1	0	1
5:15	0	0	0	0	0
5:30	0	0	1	0	1
5:45	0	0	3	0	3
6:00	0	0	0	0	0
6:15	0	0	2	0	2
6:30	0	0	1	0	1
6:45	2	0	3	0	5
7:00	1	0	0	1	2
7:15	0	0	2	1	3
7:30	0	0	3	0	3
7:45	0	0	2	0	2
8:00	0	0	3	0	3
8:15	0	0	1	0	1
8:30	0	0	0	0	0
8:45	1	0	1	0	2
9:00	1	0	1	0	2
9:15	0	0	1	1	2
9:30	1	0	1	0	2
9:45	1	0	0	0	1
10:00	0	0	2	0	2
10:15	0	0	0	1	1
10:30	1	0	1	0	2
10:45	0	0	0	0	0
11:00	0	0	0	1	1
11:15	0	0	0	1	1
11:30	1	0	4	0	5
11:45	0	0	1	2	3
12:00	0	0	1	0	1
12:15	0	0	6	0	6
12:30	0	0	3	0	3
12:45	1	0	2	1	4
13:00	0	0	1	1	2
13:15	0	0	2	0	2
13:30	0	0	0	0	0
13:45	0	0	1	1	2
14:00	1	0	0	0	1
14:15	0	0	0	0	0
14:30	0	0	1	1	2
14:45	0	0	1	0	1
15:00	2	0	0	1	3
15:15	0	0	0	0	0
15:30	0	0	1	0	1
15:45	0	0	0	0	0
16:00	0	0	1	0	1
16:15	1	0	1	0	2
16:30	0	0	0	0	0
16:45	0	0	1	0	1
17:00	1	0	0	0	1
17:15	0	0	1	0	1
17:30	0	0	1	0	1
17:45	0	0	1	0	1
18:00	0	0	1	1	2
18:15	0	0	3	0	3
18:30	1	0	2	0	3
18:45	0	0	2	0	2
19:00	3	0	1	1	5
19:15	1	0	1	0	2
19:30	0	0	3	0	3
19:45	0	0	1	2	3
20:00	1	0	0	3	4
20:15	0	0	1	3	4
20:30	0	0	0	0	0
20:45	1	0	3	2	6
21:00	0	0	4	2	6
21:15	0	0	2	5	7
21:30	0	0	2	1	3
21:45	0	0	0	3	3
22:00	0	0	0	0	0
22:15	0	0	1	0	1
22:30	0	0	2	0	2
22:45	0	0	0	1	1
23:00	2	0	2	2	6
23:15	0	0	4	1	5
23:30	1	0	1	0	2
23:45	1	0	0	3	4
TOTAL	30	0	116	54	200



APPENDIX D

Intersection Capacity Utilization (ICU) Level of Service (LOS) Worksheets



HCM 6th TWSC
1: Greenstone & Sunshine

12/20/2020

Intersection												
Int Delay, s/veh	7.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	54	1	88	0	19	24	36	6	0
Future Vol, veh/h	0	0	0	54	1	88	0	19	24	36	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	59	1	96	0	21	26	39	7	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	168	132	7	119	119	34	7	0	0	47	0	0
Stage 1	85	85	-	34	34	-	-	-	-	-	-	-
Stage 2	83	47	-	85	85	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	796	759	1075	857	771	1039	1614	-	-	1560	-	-
Stage 1	923	824	-	982	867	-	-	-	-	-	-	-
Stage 2	925	856	-	923	824	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	708	740	1075	841	752	1039	1614	-	-	1560	-	-
Mov Cap-2 Maneuver	708	740	-	841	752	-	-	-	-	-	-	-
Stage 1	923	803	-	982	867	-	-	-	-	-	-	-
Stage 2	839	856	-	900	803	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		9.5		0		6.3	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1614	-	-	-	952	1560	-
HCM Lane V/C Ratio	-	-	-	-	0.163	0.025	-
HCM Control Delay (s)	0	-	-	0	9.5	7.4	0
HCM Lane LOS	A	-	-	A	A	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0.1	-

HCM 6th TWSC
2: Greenstone & Lakeland

12/20/2020

Intersection

Int Delay, s/veh 3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↘	↑	↘	↘
Traffic Vol, veh/h	125	169	50	152	92	21
Future Vol, veh/h	125	169	50	152	92	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	136	184	54	165	100	23

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	320
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1240
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1240
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	507	811	-	-	1240	-
HCM Lane V/C Ratio	0.197	0.028	-	-	0.044	-
HCM Control Delay (s)	13.8	9.6	-	-	8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-

HCM 6th TWSC

3: Shoemaker & Sunshine

12/20/2020

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	63	32	0	47	152	205	10	12	299	16
Future Vol, veh/h	6	0	63	32	0	47	152	205	10	12	299	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	-	-	-	150	-	100	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	68	35	0	51	165	223	11	13	325	17
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	802	924	171	742	921	112	342	0	0	234	0	0
Stage 1	360	360	-	553	553	-	-	-	-	-	-	-
Stage 2	442	564	-	189	368	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	275	268	843	304	269	920	1214	-	-	1331	-	-
Stage 1	631	625	-	485	513	-	-	-	-	-	-	-
Stage 2	564	507	-	795	620	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	231	229	843	248	230	920	1214	-	-	1331	-	-
Mov Cap-2 Maneuver	231	229	-	248	230	-	-	-	-	-	-	-
Stage 1	545	619	-	419	443	-	-	-	-	-	-	-
Stage 2	460	438	-	723	614	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.6		15.2		3.5		0.3					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	1214	-	-	231	843	439	1331	-	-			
HCM Lane V/C Ratio	0.136	-	-	0.028	0.081	0.196	0.01	-	-			
HCM Control Delay (s)	8.4	-	-	21	9.6	15.2	7.7	-	-			
HCM Lane LOS	A	-	-	C	A	C	A	-	-			
HCM 95th %tile Q(veh)	0.5	-	-	0.1	0.3	0.7	0	-	-			

HCM 6th Signalized Intersection Summary

4: Shoemaker & Imperial

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	784	64	17	1228	154	127	51	16	191	56	136
Future Volume (veh/h)	166	784	64	17	1228	154	127	51	16	191	56	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	180	852	70	18	1335	167	138	55	17	208	61	148
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1353	111	318	1293	162	139	526	446	596	526	446
Arrive On Green	0.03	0.09	0.09	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	4810	394	1781	4596	575	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	180	602	320	18	989	513	138	55	17	208	61	148
Grp Sat Flow(s),veh/h/ln	1781	1702	1799	1781	1702	1767	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.0	10.9	11.0	0.4	18.0	18.0	5.0	1.4	0.5	5.0	1.6	4.7
Cycle Q Clear(g_c), s	5.0	10.9	11.0	0.4	18.0	18.0	5.0	1.4	0.5	5.0	1.6	4.7
Prop In Lane	1.00		0.22	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	957	506	318	957	497	139	526	446	596	526	446
V/C Ratio(X)	1.29	0.63	0.63	0.06	1.03	1.03	0.99	0.10	0.04	0.35	0.12	0.33
Avail Cap(c_a), veh/h	139	957	506	318	957	497	139	526	446	596	526	446
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	25.8	25.8	15.1	29.0	29.0	29.5	17.0	16.7	15.0	17.1	18.2
Incr Delay (d2), s/veh	175.1	3.1	5.9	0.3	37.8	49.1	74.1	0.4	0.2	1.6	0.4	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	4.9	5.6	0.2	12.9	14.9	4.9	0.6	0.2	2.1	0.6	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	206.2	28.9	31.7	15.4	66.9	78.1	103.6	17.4	16.9	16.6	17.5	20.2
LnGrp LOS	F	C	C	B	F	F	F	B	B	B	B	C
Approach Vol, veh/h		1102			1520			210			417	
Approach Delay, s/veh		58.7			70.1			74.0			18.0	
Approach LOS		E			E			E			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	3.4	2.4	13.0	7.0	6.7	7.0	20.0				
Green Ext Time (p_c), s	0.0	0.2	0.0	2.4	0.0	0.5	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			59.8									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	784	64	17	1228	154	127	51	16	191	56	136
Future Volume (veh/h)	166	784	64	17	1228	154	127	51	16	191	56	136
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No				No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	180	852	70	18	1335	167	138	55	17	208	61	148
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1353	111	318	1293	162	139	526	446	596	526	446
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	206.2	28.9	31.7	15.4	66.9	78.1	103.6	17.4	16.9	16.6	17.5	20.2
Ln Grp LOS	F	C	C	B	F	F	F	B	B	B	B	C
Approach Vol, veh/h	1102		1520				210			417		
Approach Delay, s/veh	58.7		70.1				74.0			18.0		
Approach LOS	E		E				E			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	5.0	3.7	4.9	3.8	4.2	3.7	4.9				
Max Q Clear (g_c+1), s	7.0	3.4	2.4	13.0	7.0	6.7	7.0	20.0				
Green Ext Time (g_e), s	0.0	0.2	0.0	2.4	0.0	0.5	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	1870	4810	1870	4596								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	394	1585	575								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

12/20/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	208	0	18	0	138	0	180	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.0	0.0	0.4	0.0	5.0	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	5.0	0.0	0.4	0.0	5.0	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1328	0	606	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	16.6	0.0	7.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.8	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	596	0	318	0	139	0	139	0
V/C Ratio (X)	0.35	0.00	0.06	0.00	0.99	0.00	1.29	0.00
Avail Cap (c_a), veh/h	596	0	318	0	139	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.0	0.0	15.1	0.0	29.5	0.0	31.2	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.3	0.0	74.1	0.0	175.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	16.6	0.0	15.4	0.0	103.6	0.0	206.2	0.0
1st-Term Q (Q1), veh/ln	1.8	0.0	0.2	0.0	2.0	0.0	2.1	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.0	0.0	2.9	0.0	6.8	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.1	0.0	0.2	0.0	4.9	0.0	8.8	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.02	0.00	0.73	0.00	1.60	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	10.2	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	55	0	602	0	61	0	989
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	1.4	0.0	10.9	0.0	1.6	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	1.4	0.0	10.9	0.0	1.6	0.0	18.0
Lane Grp Cap (c), veh/h	0	526	0	957	0	526	0	957
V/C Ratio (X)	0.00	0.10	0.00	0.63	0.00	0.12	0.00	1.03
Avail Cap (c_a), veh/h	0	526	0	957	0	526	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.0	0.0	25.8	0.0	17.1	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	3.1	0.0	0.4	0.0	37.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.4	0.0	28.9	0.0	17.5	0.0	66.9
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	4.5	0.0	0.6	0.0	7.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.4	0.0	0.1	0.0	5.0

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

12/20/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	4.9	0.0	0.6	0.0	12.9
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.05	0.00	0.01	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	17	0	320	0	148	0	513
Grp Sat Flow (s), veh/h/ln	0	1585	0	1799	0	1585	0	1767
Q Serve Time (g_s), s	0.0	0.5	0.0	11.0	0.0	4.7	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	0.5	0.0	11.0	0.0	4.7	0.0	18.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.22	0.00	1.00	0.00	0.33
Lane Grp Cap (c), veh/h	0	446	0	506	0	446	0	497
V/C Ratio (X)	0.00	0.04	0.00	0.63	0.00	0.33	0.00	1.03
Avail Cap (c_a), veh/h	0	446	0	506	0	446	0	497
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.7	0.0	25.8	0.0	18.2	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	5.9	0.0	2.0	0.0	49.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.9	0.0	31.7	0.0	20.2	0.0	78.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	4.8	0.0	1.5	0.0	8.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.8	0.0	0.2	0.0	6.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	5.6	0.0	1.8	0.0	14.9
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.06	0.00	0.44	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Intersection Summary

HCM 6th Ctrl Delay	59.8
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary

5: Carmenita & Imperial

12/20/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑ ↱			↰ ↑↑ ↱			↰ ↑↑ ↱			↰ ↑↑ ↱		
Traffic Volume (veh/h)	57	488	166	138	731	64	165	668	107	88	940	34
Future Volume (veh/h)	57	488	166	138	731	64	165	668	107	88	940	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	530	180	150	795	70	179	726	116	96	1022	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1068	352	139	1344	118	252	999	446	315	999	446
Arrive On Green	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	3796	1253	1781	4780	419	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	62	474	236	150	565	300	179	726	116	96	1022	37
Grp Sat Flow(s),veh/h/ln	1781	1702	1645	1781	1702	1795	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.2	8.5	8.8	5.0	9.2	9.2	4.6	11.8	3.6	2.3	18.0	1.1
Cycle Q Clear(g_c), s	2.2	8.5	8.8	5.0	9.2	9.2	4.6	11.8	3.6	2.3	18.0	1.1
Prop In Lane	1.00		0.76	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	957	463	139	957	505	252	999	446	315	999	446
V/C Ratio(X)	0.45	0.49	0.51	1.08	0.59	0.59	0.71	0.73	0.26	0.30	1.02	0.08
Avail Cap(c_a), veh/h	139	957	463	139	957	505	252	999	446	315	999	446
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	24.7	24.8	29.5	19.8	19.8	17.1	20.8	17.8	15.2	23.0	16.9
Incr Delay (d2), s/veh	10.0	1.8	4.0	98.6	2.7	5.1	15.7	4.6	1.4	2.5	34.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.6	3.9	5.7	3.5	4.0	2.7	4.8	1.3	1.0	11.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	26.5	28.8	128.1	22.5	24.9	32.8	25.4	19.3	17.6	57.3	17.3
LnGrp LOS	D	C	C	F	C	C	C	C	B	B	F	B
Approach Vol, veh/h	772			1015			1021			1155		
Approach Delay, s/veh	28.3			38.8			26.0			52.7		
Approach LOS	C			D			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	13.8	13.8	7.0	10.8	6.6	20.0	4.2	11.2				
Green Ext Time (p_c), s	0.0	1.9	0.0	2.5	0.0	0.0	0.0	2.8				

Intersection Summary

HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	488	166	138	731	64	165	668	107	88	940	34
Future Volume (veh/h)	57	488	166	138	731	64	165	668	107	88	940	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	530	180	150	795	70	179	726	116	96	1022	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1068	352	139	1344	118	252	999	446	315	999	446
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	39.8	26.5	28.8	128.1	22.5	24.9	32.8	25.4	19.3	17.6	57.3	17.3
Ln Grp LOS	D	C	C	F	C	C	C	C	B	B	F	B
Approach Vol, veh/h	772				1015		1021				1155	
Approach Delay, s/veh	28.3				38.8		26.0				52.7	
Approach LOS	C				D		C				D	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	4.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	5.0	3.7	5.0	3.7	4.9				
Max Q Clear (g_c+I1), s	4.3	13.8	7.0	10.8	6.6	20.0	4.2	11.2				
Green Ext Time (g_e), s	0.0	1.9	0.0	2.5	0.0	0.0	0.0	2.8				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3796	3554	4780								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1253	1585	419								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

12/20/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	96	0	150	0	179	0	62	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.3	0.0	5.0	0.0	4.6	0.0	2.2	0.0
Cycle Q Clear Time (g_c), s	2.3	0.0	5.0	0.0	4.6	0.0	2.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	653	0	0	0	533	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	315	0	139	0	252	0	139	0
V/C Ratio (X)	0.30	0.00	1.08	0.00	0.71	0.00	0.45	0.00
Avail Cap (c_a), veh/h	315	0	139	0	252	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.2	0.0	29.5	0.0	17.1	0.0	29.8	0.0
Incr Delay (d2), s/veh	2.5	0.0	98.6	0.0	15.7	0.0	10.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	17.6	0.0	128.1	0.0	32.8	0.0	39.8	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.9	0.0	1.6	0.0	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	3.8	0.0	1.1	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	5.7	0.0	2.7	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.71	0.00	0.41	0.00	0.27	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	726	0	474	0	1022	0	565
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	11.8	0.0	8.5	0.0	18.0	0.0	9.2
Cycle Q Clear Time (g_c), s	0.0	11.8	0.0	8.5	0.0	18.0	0.0	9.2
Lane Grp Cap (c), veh/h	0	999	0	957	0	999	0	957
V/C Ratio (X)	0.00	0.73	0.00	0.49	0.00	1.02	0.00	0.59
Avail Cap (c_a), veh/h	0	999	0	957	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.8	0.0	24.7	0.0	23.0	0.0	19.8
Incr Delay (d2), s/veh	0.0	4.6	0.0	1.8	0.0	34.3	0.0	2.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.4	0.0	26.5	0.0	57.3	0.0	22.5
1st-Term Q (Q1), veh/ln	0.0	4.2	0.0	3.3	0.0	6.6	0.0	3.1
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.2	0.0	4.8	0.0	0.4

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

12/20/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	3.6	0.0	11.3	0.0	3.5
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.04	0.00	0.49	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	116	0	236	0	37	0	300
Grp Sat Flow (s), veh/h/ln	0	1585	0	1645	0	1585	0	1795
Q Serve Time (g_s), s	0.0	3.6	0.0	8.8	0.0	1.1	0.0	9.2
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	8.8	0.0	1.1	0.0	9.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.76	0.00	1.00	0.00	0.23
Lane Grp Cap (c), veh/h	0	446	0	463	0	446	0	505
V/C Ratio (X)	0.00	0.26	0.00	0.51	0.00	0.08	0.00	0.59
Avail Cap (c_a), veh/h	0	446	0	463	0	446	0	505
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.8	0.0	24.8	0.0	16.9	0.0	19.8
Incr Delay (d2), s/veh	0.0	1.4	0.0	4.0	0.0	0.4	0.0	5.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.3	0.0	28.8	0.0	17.3	0.0	24.9
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	3.3	0.0	0.3	0.0	3.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	3.9	0.0	0.4	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

6: Carmenita & Rosecrans

12/20/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↱	↱		↰↱↱	↱↱↱		↰	↱↱	↱	↰	↱↱	↱
Traffic Volume (veh/h)	284	491	57	92	629	44	78	965	131	67	1142	343
Future Volume (veh/h)	284	491	57	92	629	44	78	965	131	67	1142	343
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	309	534	62	100	684	48	85	1049	142	73	1241	373
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	902	104	139	1371	96	139	999	446	139	999	446
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	3456	3209	371	1781	4873	340	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	309	295	301	100	477	255	85	1049	142	73	1241	373
Grp Sat Flow(s),veh/h/ln	1728	1777	1803	1781	1702	1809	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.0	9.2	9.2	3.5	7.5	7.6	3.0	18.0	4.5	2.5	18.0	14.2
Cycle Q Clear(g_c), s	5.0	9.2	9.2	3.5	7.5	7.6	3.0	18.0	4.5	2.5	18.0	14.2
Prop In Lane	1.00		0.21	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	500	507	139	957	509	139	999	446	139	999	446
V/C Ratio(X)	1.14	0.59	0.59	0.72	0.50	0.50	0.61	1.05	0.32	0.52	1.24	0.84
Avail Cap(c_a), veh/h	270	500	507	139	957	509	139	999	446	139	999	446
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	19.8	19.8	28.8	19.2	19.2	28.6	23.0	18.2	28.4	23.0	21.6
Incr Delay (d2), s/veh	99.5	5.1	5.0	27.2	1.8	3.5	18.4	42.4	1.9	13.4	117.3	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	4.0	4.0	2.4	2.8	3.2	1.9	12.3	1.7	1.5	22.7	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	129.0	24.9	24.9	56.0	21.1	22.8	46.9	65.4	20.0	41.8	140.3	38.5
LnGrp LOS	F	C	C	E	C	C	D	F	C	D	F	D
Approach Vol, veh/h	905		832			1276			1687			
Approach Delay, s/veh	60.4		25.8			59.1			113.5			
Approach LOS	E		C			E			F			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	14.5	20.0	5.5	11.2	5.0	20.0	7.0	9.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.8	0.0	0.0	0.0	2.8				

Intersection Summary

HCM 6th Ctrl Delay	73.0
HCM 6th LOS	E

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	491	57	92	629	44	78	965	131	67	1142	343
Future Volume (veh/h)	284	491	57	92	629	44	78	965	131	67	1142	343
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	309	534	62	100	684	48	85	1049	142	73	1241	373
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	270	902	104	139	1371	96	139	999	446	139	999	446
HCM 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
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	129.0	24.9	24.9	56.0	21.1	22.8	46.9	65.4	20.0	41.8	140.3	38.5
Ln Grp LOS	F	C	C	E	C	C	D	F	C	D	F	D
Approach Vol, veh/h	905			832			1276			1687		
Approach Delay, s/veh	60.4			25.8			59.1			113.5		
Approach LOS	E			C			E			F		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	4.9	3.7	4.7	3.7	4.9				
Max Q Clear (g_c+I1), s	4.5	20.0	5.5	11.2	5.0	20.0	7.0	9.6				
Green Ext Time (g_e), s	0.0	0.0	0.0	1.8	0.0	0.0	0.0	2.8				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3209	3554	4873								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	371	1585	340								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

12/20/2020

Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	73	0	100	0	85	0	309	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	2.5	0.0	3.5	0.0	3.0	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	2.5	0.0	3.5	0.0	3.0	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	139	0	139	0	139	0	270	0
V/C Ratio (X)	0.52	0.00	0.72	0.00	0.61	0.00	1.14	0.00
Avail Cap (c_a), veh/h	139	0	139	0	139	0	270	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	28.4	0.0	28.8	0.0	28.6	0.0	29.5	0.0
Incr Delay (d2), s/veh	13.4	0.0	27.2	0.0	18.4	0.0	99.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	41.8	0.0	56.0	0.0	46.9	0.0	129.0	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	1.4	0.0	1.1	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	1.1	0.0	0.7	0.0	3.7	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	2.4	0.0	1.9	0.0	5.6	0.0
%ile Storage Ratio (RQ%)	0.19	0.00	0.41	0.00	0.24	0.00	0.84	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	1049	0	295	0	1241	0	477
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1702
Q Serve Time (g_s), s	0.0	18.0	0.0	9.2	0.0	18.0	0.0	7.5
Cycle Q Clear Time (g_c), s	0.0	18.0	0.0	9.2	0.0	18.0	0.0	7.5
Lane Grp Cap (c), veh/h	0	999	0	500	0	999	0	957
V/C Ratio (X)	0.00	1.05	0.00	0.59	0.00	1.24	0.00	0.50
Avail Cap (c_a), veh/h	0	999	0	500	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.0	0.0	19.8	0.0	23.0	0.0	19.2
Incr Delay (d2), s/veh	0.0	42.4	0.0	5.1	0.0	117.3	0.0	1.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	65.4	0.0	24.9	0.0	140.3	0.0	21.1
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	3.3	0.0	6.4	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	5.9	0.0	0.7	0.0	16.3	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

12/20/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	12.3	0.0	4.0	0.0	22.7	0.0	2.8
%ile Storage Ratio (RQ%)	0.00	1.14	0.00	0.16	0.00	0.11	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	12.4	0.0	0.0	0.0	60.4	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	142	0	301	0	373	0	255
Grp Sat Flow (s), veh/h/ln	0	1585	0	1803	0	1585	0	1809
Q Serve Time (g_s), s	0.0	4.5	0.0	9.2	0.0	14.2	0.0	7.6
Cycle Q Clear Time (g_c), s	0.0	4.5	0.0	9.2	0.0	14.2	0.0	7.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.21	0.00	1.00	0.00	0.19
Lane Grp Cap (c), veh/h	0	446	0	507	0	446	0	509
V/C Ratio (X)	0.00	0.32	0.00	0.59	0.00	0.84	0.00	0.50
Avail Cap (c_a), veh/h	0	446	0	507	0	446	0	509
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.2	0.0	19.8	0.0	21.6	0.0	19.2
Incr Delay (d2), s/veh	0.0	1.9	0.0	5.0	0.0	16.8	0.0	3.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.0	0.0	24.9	0.0	38.5	0.0	22.8
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	3.3	0.0	4.5	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.7	0.0	2.1	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.7	0.0	4.0	0.0	6.6	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.16	0.00	0.84	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	73.0
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary

7: Shoemaker & Lakeland

12/20/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	66	40	17	68	46	92	442	14	22	357	63
Future Volume (veh/h)	39	66	40	17	68	46	92	442	14	22	357	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	72	43	18	74	50	100	480	15	24	388	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	570	526	446	574	526	446	458	999	446	404	999	446
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.16	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	42	72	43	18	74	50	100	480	15	24	388	68
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	1.8	1.3	0.4	1.9	1.5	2.4	7.2	0.4	0.5	3.9	1.3
Cycle Q Clear(g_c), s	1.0	1.8	1.3	0.4	1.9	1.5	2.4	7.2	0.4	0.5	3.9	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	570	526	446	574	526	446	458	999	446	404	999	446
V/C Ratio(X)	0.07	0.14	0.10	0.03	0.14	0.11	0.22	0.48	0.03	0.06	0.39	0.15
Avail Cap(c_a), veh/h	570	526	446	574	526	446	458	999	446	404	999	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	17.2	17.0	13.3	17.2	17.1	14.0	19.1	16.7	12.6	10.9	10.3
Incr Delay (d2), s/veh	0.3	0.5	0.4	0.1	0.6	0.5	1.1	1.7	0.1	0.3	1.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.8	0.5	0.2	0.8	0.6	1.0	2.8	0.2	0.2	1.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	17.7	17.4	13.4	17.8	17.6	15.1	20.8	16.8	12.8	12.1	11.1
LnGrp LOS	B	B	B	B	B	B	B	C	B	B	B	B
Approach Vol, veh/h	157			142			595			480		
Approach Delay, s/veh	16.6			17.1			19.7			12.0		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	12.5	9.2	2.4	3.8	4.4	5.9	3.0	3.9				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.3	0.0	2.0	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	66	40	17	68	46	92	442	14	22	357	63
Future Volume (veh/h)	39	66	40	17	68	46	92	442	14	22	357	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	72	43	18	74	50	100	480	15	24	388	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	570	526	446	574	526	446	458	999	446	404	999	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.16	0.56	0.56
Unsig. Movement Delay												
Ln Grp Delay, s/veh	13.7	17.7	17.4	13.4	17.8	17.6	15.1	20.8	16.8	12.8	12.1	11.1
Ln Grp LOS	B	B	B	B	B	B	B	C	B	B	B	B
Approach Vol, veh/h	157			142			595			480		
Approach Delay, s/veh	16.6			17.1			19.7			12.0		
Approach LOS	B			B			B			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.6	3.7	4.9	3.7	4.6				
Max Q Clear (g_c+I1), s	2.5	9.2	2.4	3.8	4.4	5.9	3.0	3.9				
Green Ext Time (g_e), s	0.0	1.9	0.0	0.3	0.0	2.0	0.0	0.4				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	1870	3554	1870								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)								

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

12/20/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	24	0	18	0	100	0	42	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	0.5	0.0	0.4	0.0	2.4	0.0	1.0	0.0
Cycle Q Clear Time (g_c), s	0.5	0.0	0.4	0.0	2.4	0.0	1.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	902	0	1277	0	935	0	1267	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	18.0	0.0	18.0	0.0
Perm LT Serve Time (g_u), s	10.8	0.0	16.2	0.0	14.1	0.0	16.1	0.0
Perm LT Q Serve Time (g_ps), s	0.2	0.0	0.0	0.0	0.5	0.0	0.1	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	404	0	574	0	458	0	570	0
V/C Ratio (X)	0.06	0.00	0.03	0.00	0.22	0.00	0.07	0.00
Avail Cap (c_a), veh/h	404	0	574	0	458	0	570	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	12.6	0.0	13.3	0.0	14.0	0.0	13.5	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.1	0.0	1.1	0.0	0.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.8	0.0	13.4	0.0	15.1	0.0	13.7	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.1	0.0	0.8	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.2	0.0	1.0	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.04	0.00	0.12	0.00	0.08	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	480	0	72	0	388	0	74
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	7.2	0.0	1.8	0.0	3.9	0.0	1.9
Cycle Q Clear Time (g_c), s	0.0	7.2	0.0	1.8	0.0	3.9	0.0	1.9
Lane Grp Cap (c), veh/h	0	999	0	526	0	999	0	526
V/C Ratio (X)	0.00	0.48	0.00	0.14	0.00	0.39	0.00	0.14
Avail Cap (c_a), veh/h	0	999	0	526	0	999	0	526
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.1	0.0	17.2	0.0	10.9	0.0	17.2
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.5	0.0	1.1	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.8	0.0	17.7	0.0	12.1	0.0	17.8
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.7	0.0	1.2	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

12/20/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.8	0.0	1.3	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	43	0	68	0	50
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.4	0.0	1.3	0.0	1.3	0.0	1.5
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	1.3	0.0	1.3	0.0	1.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	446	0	446	0	446	0	446
V/C Ratio (X)	0.00	0.03	0.00	0.10	0.00	0.15	0.00	0.11
Avail Cap (c_a), veh/h	0	446	0	446	0	446	0	446
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.7	0.0	17.0	0.0	10.3	0.0	17.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.7	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.8	0.0	17.4	0.0	11.1	0.0	17.6
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.4	0.0	0.4	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.5	0.0	0.5	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.12	0.00	0.12	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

8: Shoemaker & Florence

12/20/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	465	119	48	923	67	128	366	30	20	329	56
Future Volume (veh/h)	57	465	119	48	923	67	128	366	30	20	329	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	505	129	52	1003	73	139	398	33	22	358	61
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	999	446	380	999	446	430	999	446	420	855	144
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.03	0.09	0.09	0.08	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3041	513
Grp Volume(v), veh/h	62	505	129	52	1003	73	139	398	33	22	208	211
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1778
Q Serve(g_s), s	1.5	7.6	4.1	1.2	18.0	2.2	3.5	6.8	1.2	0.5	6.1	6.2
Cycle Q Clear(g_c), s	1.5	7.6	4.1	1.2	18.0	2.2	3.5	6.8	1.2	0.5	6.1	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	252	999	446	380	999	446	430	999	446	420	500	500
V/C Ratio(X)	0.25	0.51	0.29	0.14	1.00	0.16	0.32	0.40	0.07	0.05	0.42	0.42
Avail Cap(c_a), veh/h	252	999	446	380	999	446	430	999	446	420	500	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	19.3	18.0	14.0	23.0	17.3	15.4	23.9	21.4	13.7	18.7	18.8
Incr Delay (d2), s/veh	2.3	1.8	1.6	0.7	29.3	0.8	2.0	1.2	0.3	0.2	2.5	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.0	1.5	0.5	10.6	0.8	1.5	2.9	0.4	0.2	2.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	21.1	19.6	14.8	52.3	18.1	17.4	25.1	21.7	13.9	21.3	21.4
LnGrp LOS	B	C	B	B	F	B	B	C	C	B	C	C
Approach Vol, veh/h	696		1128				570		441			
Approach Delay, s/veh	20.6		48.4				23.0		20.9			
Approach LOS	C		D				C		C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	8.8	8.8	3.2	9.6	5.5	8.2	3.5	20.0				
Green Ext Time (p_c), s	0.0	1.7	0.0	2.3	0.0	1.6	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	32.2
HCM 6th LOS	C

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	465	119	48	923	67	128	366	30	20	329	56
Future Volume (veh/h)	57	465	119	48	923	67	128	366	30	20	329	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No				No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	505	129	52	1003	73	139	398	33	22	358	61
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	252	999	446	380	999	446	430	999	446	420	855	144
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.03	0.09	0.09	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	18.5	21.1	19.6	14.8	52.3	18.1	17.4	25.1	21.7	13.9	21.3	21.4
Ln Grp LOS	B	C	B	B	F	B	B	C	C	B	C	C
Approach Vol, veh/h	696					1128	570			441		
Approach Delay, s/veh	20.6					48.4	23.0			20.9		
Approach LOS	C					D	C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.8	3.7	5.1	3.7	4.9				
Max Q Clear (g_c+1), s	2.5	8.8	3.2	9.6	5.5	8.2	3.5	20.0				
Green Ext Time (g_e), s	0.0	1.7	0.0	2.3	0.0	1.6	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3554	3041	3554								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	513	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)								

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

12/20/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	22	0	52	0	139	0	62	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	0.5	0.0	1.2	0.0	3.5	0.0	1.5	0.0
Cycle Q Clear Time (g_c), s	0.5	0.0	1.2	0.0	3.5	0.0	1.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	957	0	793	0	968	0	524	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	18.0	0.0	18.0	0.0
Perm LT Serve Time (g_u), s	11.2	0.0	10.4	0.0	11.8	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.2	0.0	0.5	0.0	1.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	420	0	380	0	430	0	252	0
V/C Ratio (X)	0.05	0.00	0.14	0.00	0.32	0.00	0.25	0.00
Avail Cap (c_a), veh/h	420	0	380	0	430	0	252	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	13.7	0.0	14.0	0.0	15.4	0.0	16.1	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.7	0.0	2.0	0.0	2.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	13.9	0.0	14.8	0.0	17.4	0.0	18.5	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.4	0.0	1.3	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.2	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.5	0.0	1.5	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.03	0.00	0.07	0.00	0.39	0.00	0.10	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	398	0	505	0	208	0	1003
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	6.8	0.0	7.6	0.0	6.1	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	6.8	0.0	7.6	0.0	6.1	0.0	18.0
Lane Grp Cap (c), veh/h	0	999	0	999	0	500	0	999
V/C Ratio (X)	0.00	0.40	0.00	0.51	0.00	0.42	0.00	1.00
Avail Cap (c_a), veh/h	0	999	0	999	0	500	0	999
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.9	0.0	19.3	0.0	18.7	0.0	23.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	1.8	0.0	2.5	0.0	29.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.1	0.0	21.1	0.0	21.3	0.0	52.3
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	2.8	0.0	2.2	0.0	6.6
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.3	0.0	0.4	0.0	4.1

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

12/20/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.9	0.0	3.0	0.0	2.6	0.0	10.6
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.05	0.00	0.09	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	33	0	129	0	211	0	73
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1778	0	1585
Q Serve Time (g_s), s	0.0	1.2	0.0	4.1	0.0	6.2	0.0	2.2
Cycle Q Clear Time (g_c), s	0.0	1.2	0.0	4.1	0.0	6.2	0.0	2.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.29	0.00	1.00
Lane Grp Cap (c), veh/h	0	446	0	446	0	500	0	446
V/C Ratio (X)	0.00	0.07	0.00	0.29	0.00	0.42	0.00	0.16
Avail Cap (c_a), veh/h	0	446	0	446	0	500	0	446
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.4	0.0	18.0	0.0	18.8	0.0	17.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	1.6	0.0	2.6	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.7	0.0	19.6	0.0	21.4	0.0	18.1
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	1.3	0.0	2.3	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	1.5	0.0	2.6	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.39	0.00	0.10	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	32.2
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary

9: Bloomfield & Imperial

12/20/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	759	28	225	1126	91	83	639	225	103	389	114
Future Volume (veh/h)	214	759	28	225	1126	91	83	639	225	103	389	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	233	825	30	245	1224	99	90	695	245	112	423	124
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1436	446	139	1354	110	410	999	446	315	999	446
Arrive On Green	0.08	0.28	0.28	0.05	0.19	0.19	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	5106	1585	1781	4815	389	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	233	825	30	245	865	458	90	695	245	112	423	124
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1800	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.0	8.9	0.9	5.0	15.9	15.9	2.2	11.2	8.4	2.8	6.2	3.9
Cycle Q Clear(g_c), s	5.0	8.9	0.9	5.0	15.9	15.9	2.2	11.2	8.4	2.8	6.2	3.9
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	1436	446	139	957	506	410	999	446	315	999	446
V/C Ratio(X)	1.67	0.57	0.07	1.76	0.90	0.90	0.22	0.70	0.55	0.36	0.42	0.28
Avail Cap(c_a), veh/h	139	1436	446	139	957	506	410	999	446	315	999	446
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	19.7	16.9	30.3	25.1	25.1	14.2	20.6	19.6	15.2	18.8	17.9
Incr Delay (d2), s/veh	332.7	1.7	0.3	369.9	13.5	22.1	1.2	4.0	4.8	3.1	1.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	3.2	0.3	16.3	8.1	9.7	0.9	4.6	3.3	1.2	2.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	362.2	21.4	17.1	400.3	38.6	47.3	15.4	24.5	24.4	18.3	20.1	19.5
LnGrp LOS	F	C	B	F	D	D	B	C	C	B	C	B
Approach Vol, veh/h	1088			1568			1030			659		
Approach Delay, s/veh	94.3			97.6			23.7			19.7		
Approach LOS	F			F			C			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	14.8	13.2	7.0	10.9	4.2	8.2	7.0	17.9				
Green Ext Time (p_c), s	0.0	2.3	0.0	3.0	0.0	2.1	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	67.4
HCM 6th LOS	E

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	759	28	225	1126	91	83	639	225	103	389	114
Future Volume (veh/h)	214	759	28	225	1126	91	83	639	225	103	389	114
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No				No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	233	825	30	245	1224	99	90	695	245	112	423	124
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1436	446	139	1354	110	410	999	446	315	999	446
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.05	0.19	0.19	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	362.2	21.4	17.1	400.3	38.6	47.3	15.4	24.5	24.4	18.3	20.1	19.5
Ln Grp LOS	F	C	B	F	D	D	B	C	C	B	C	B
Approach Vol, veh/h	1088		1568			1030			659			
Approach Delay, s/veh	94.3		97.6			23.7			19.7			
Approach LOS	F		F			C			B			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	3.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.7	3.7	4.9	3.7	4.7	3.7	4.9				
Max Q Clear (g_c+I1), s	4.8	13.2	7.0	10.9	4.2	8.2	7.0	17.9				
Green Ext Time (g_e), s	0.0	2.3	0.0	3.0	0.0	2.1	0.0	0.1				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1781	1781		1781		1781						
Through Movement Data												
Assigned Mvmt	2		4		6		8					
Mvmt Sat Flow, veh/h	3554		5106		3554		4815					
Right-Turn Movement Data												
Assigned Mvmt	12		14		16		18					
Mvmt Sat Flow, veh/h	1585		1585		1585		389					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)		L (Pr/Pm)		L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

12/20/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	112	0	245	0	90	0	233	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.8	0.0	5.0	0.0	2.2	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	2.8	0.0	5.0	0.0	2.2	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	596	0	0	0	860	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	6.8	0.0	0.0	0.0	11.8	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	2.6	0.0	0.0	0.0	0.7	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	315	0	139	0	410	0	139	0
V/C Ratio (X)	0.36	0.00	1.76	0.00	0.22	0.00	1.67	0.00
Avail Cap (c_a), veh/h	315	0	139	0	410	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.2	0.0	30.3	0.0	14.2	0.0	29.5	0.0
Incr Delay (d2), s/veh	3.1	0.0	369.9	0.0	1.2	0.0	332.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.3	0.0	400.3	0.0	15.4	0.0	362.2	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	2.0	0.0	0.8	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	14.3	0.0	0.1	0.0	12.9	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	16.3	0.0	0.9	0.0	14.8	0.0
%ile Storage Ratio (RQ%)	0.24	0.00	4.14	0.00	0.16	0.00	2.51	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	26.5	0.0	0.0	0.0	23.5	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.4	0.0	0.0	0.0	0.4	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	2
Grp Vol (v), veh/h	0	695	0	825	0	423	0	865
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	11.2	0.0	8.9	0.0	6.2	0.0	15.9
Cycle Q Clear Time (g_c), s	0.0	11.2	0.0	8.9	0.0	6.2	0.0	15.9
Lane Grp Cap (c), veh/h	0	999	0	1436	0	999	0	957
V/C Ratio (X)	0.00	0.70	0.00	0.57	0.00	0.42	0.00	0.90
Avail Cap (c_a), veh/h	0	999	0	1436	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.6	0.0	19.7	0.0	18.8	0.0	25.1
Incr Delay (d2), s/veh	0.0	4.0	0.0	1.7	0.0	1.3	0.0	13.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.5	0.0	21.4	0.0	20.1	0.0	38.6
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	3.0	0.0	2.2	0.0	6.3
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.2	0.0	0.2	0.0	1.8

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

12/20/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.6	0.0	3.2	0.0	2.4	0.0	8.1
%ile Storage Ratio (RQ%)	0.00	0.37	0.00	0.06	0.00	0.09	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	245	0	30	0	124	0	458
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1800
Q Serve Time (g_s), s	0.0	8.4	0.0	0.9	0.0	3.9	0.0	15.9
Cycle Q Clear Time (g_c), s	0.0	8.4	0.0	0.9	0.0	3.9	0.0	15.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.22
Lane Grp Cap (c), veh/h	0	446	0	446	0	446	0	506
V/C Ratio (X)	0.00	0.55	0.00	0.07	0.00	0.28	0.00	0.90
Avail Cap (c_a), veh/h	0	446	0	446	0	446	0	506
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.6	0.0	16.9	0.0	17.9	0.0	25.1
Incr Delay (d2), s/veh	0.0	4.8	0.0	0.3	0.0	1.5	0.0	22.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.4	0.0	17.1	0.0	19.5	0.0	47.3
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	0.3	0.0	1.2	0.0	6.6
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.0	0.0	0.2	0.0	3.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.3	0.0	0.3	0.0	1.4	0.0	9.7
%ile Storage Ratio (RQ%)	0.00	0.83	0.00	0.08	0.00	0.33	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	67.4
HCM 6th LOS	E

HCM 6th TWSC
1: Greenstone & Sunshine

12/22/2020

Intersection												
Int Delay, s/veh	6.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	0	10	0	125	0	19	23	84	15	0
Future Vol, veh/h	0	1	0	10	0	125	0	19	23	84	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	0	11	0	136	0	21	25	91	16	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	300	244	16	233	232	34	16	0	0	46	0	0
Stage 1	198	198	-	34	34	-	-	-	-	-	-	-
Stage 2	102	46	-	199	198	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	652	658	1063	722	668	1039	1602	-	-	1562	-	-
Stage 1	804	737	-	982	867	-	-	-	-	-	-	-
Stage 2	904	857	-	803	737	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	541	619	1063	689	629	1039	1602	-	-	1562	-	-
Mov Cap-2 Maneuver	541	619	-	689	629	-	-	-	-	-	-	-
Stage 1	804	694	-	982	867	-	-	-	-	-	-	-
Stage 2	786	857	-	754	694	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	10.8		9.2			0			6.3			
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1602	-	-	619	1001	1562	-	-				
HCM Lane V/C Ratio	-	-	-	0.002	0.147	0.058	-	-				
HCM Control Delay (s)	0	-	-	10.8	9.2	7.4	0	-				
HCM Lane LOS	A	-	-	B	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.2	-	-				

HCM 6th TWSC
2: Greenstone & Lakeland

12/22/2020

Intersection

Int Delay, s/veh 4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↓	↑	↓	↓
Traffic Vol, veh/h	255	158	83	212	106	62
Future Vol, veh/h	255	158	83	212	106	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	277	172	90	230	115	67

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	449
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1111
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1111
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	17.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	337	682	-	-	1111	-
HCM Lane V/C Ratio	0.342	0.099	-	-	0.081	-
HCM Control Delay (s)	21.1	10.9	-	-	8.5	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.5	0.3	-	-	0.3	-

HCM 6th TWSC

3: Shoemaker & Sunshine

12/22/2020

Intersection

Int Delay, s/veh 3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔		↔	↔	↔	↔	↔	
Traffic Vol, veh/h	14	1	90	7	3	28	128	326	37	52	390	6
Future Vol, veh/h	14	1	90	7	3	28	128	326	37	52	390	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	-	-	-	150	-	100	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	1	98	8	3	30	139	354	40	57	424	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	999	1214	216	959	1177	177	431	0	0	394	0	0
Stage 1	542	542	-	632	632	-	-	-	-	-	-	-
Stage 2	457	672	-	327	545	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	198	180	789	211	190	835	1125	-	-	1161	-	-
Stage 1	492	518	-	435	472	-	-	-	-	-	-	-
Stage 2	553	453	-	660	517	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	164	150	789	160	158	835	1125	-	-	1161	-	-
Mov Cap-2 Maneuver	164	150	-	160	158	-	-	-	-	-	-	-
Stage 1	431	493	-	381	413	-	-	-	-	-	-	-
Stage 2	463	397	-	549	492	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13		15.2		2.3		1	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1125	-	-	163	789	395	1161	-	-
HCM Lane V/C Ratio	0.124	-	-	0.1	0.124	0.105	0.049	-	-
HCM Control Delay (s)	8.7	-	-	29.5	10.2	15.2	8.3	-	-
HCM Lane LOS	A	-	-	D	B	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	0.4	0.3	0.2	-	-

HCM 6th Signalized Intersection Summary

4: Shoemaker & Imperial

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	1384	82	18	1079	247	97	73	26	236	49	203
Future Volume (veh/h)	170	1384	82	18	1079	247	97	73	26	236	49	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	185	1504	89	20	1173	268	105	79	28	257	53	221
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1387	82	252	1168	267	139	526	446	573	526	446
Arrive On Green	0.03	0.09	0.09	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	4930	292	1781	4154	949	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	185	1038	555	20	961	480	105	79	28	257	53	221
Grp Sat Flow(s),veh/h/ln	1781	1702	1818	1781	1702	1700	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.0	18.0	18.0	0.5	18.0	18.0	3.7	2.0	0.8	5.0	1.3	7.5
Cycle Q Clear(g_c), s	5.0	18.0	18.0	0.5	18.0	18.0	3.7	2.0	0.8	5.0	1.3	7.5
Prop In Lane	1.00		0.16	1.00		0.56	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	957	511	252	957	478	139	526	446	573	526	446
V/C Ratio(X)	1.33	1.08	1.08	0.08	1.00	1.00	0.75	0.15	0.06	0.45	0.10	0.50
Avail Cap(c_a), veh/h	139	957	511	252	957	478	139	526	446	573	526	446
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	29.0	29.0	16.7	29.0	29.0	28.9	17.3	16.8	15.9	17.0	19.2
Incr Delay (d2), s/veh	189.1	54.8	64.7	0.6	30.0	42.1	31.0	0.6	0.3	2.5	0.4	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	15.2	17.6	0.2	11.9	13.5	2.7	0.9	0.3	2.7	0.6	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	220.3	83.8	93.8	17.3	59.1	71.2	59.9	17.9	17.1	18.4	17.4	23.1
LnGrp LOS	F	F	F	B	F	F	E	B	B	B	B	C
Approach Vol, veh/h	1778		1461				212		531			
Approach Delay, s/veh	101.1		62.5				38.6		20.3			
Approach LOS	F		E				D		C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	4.0	2.5	20.0	5.7	9.5	7.0	20.0				
Green Ext Time (p_c), s	0.0	0.3	0.0	0.0	0.0	0.6	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	72.8											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  				 		 	
Traffic Volume (veh/h)	170	1384	82	18	1079	247	97	73	26	236	49	203
Future Volume (veh/h)	170	1384	82	18	1079	247	97	73	26	236	49	203
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	185	1504	89	20	1173	268	105	79	28	257	53	221
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1387	82	252	1168	267	139	526	446	573	526	446
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	220.3	83.8	93.8	17.3	59.1	71.2	59.9	17.9	17.1	18.4	17.4	23.1
Ln Grp LOS	F	F	F	B	F	F	E	B	B	B	B	C
Approach Vol, veh/h	1778			1461			212			531		
Approach Delay, s/veh	101.1			62.5			38.6			20.3		
Approach LOS	F			E			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.9	3.8	4.1	3.7	5.0				
Max Q Clear (g_c+I1), s	7.0	4.0	2.5	20.0	5.7	9.5	7.0	20.0				
Green Ext Time (g_e), s	0.0	0.3	0.0	0.0	0.0	0.6	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	1870	4930	1870	4154								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	292	1585	949								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

12/22/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	257	0	20	0	105	0	185	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.0	0.0	0.5	0.0	3.7	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	5.0	0.0	0.5	0.0	3.7	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1287	0	320	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	573	0	252	0	139	0	139	0
V/C Ratio (X)	0.45	0.00	0.08	0.00	0.75	0.00	1.33	0.00
Avail Cap (c_a), veh/h	573	0	252	0	139	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.9	0.0	16.7	0.0	28.9	0.0	31.2	0.0
Incr Delay (d2), s/veh	2.5	0.0	0.6	0.0	31.0	0.0	189.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.4	0.0	17.3	0.0	59.9	0.0	220.3	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	0.2	0.0	1.5	0.0	2.1	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.0	0.0	1.2	0.0	7.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.7	0.0	0.2	0.0	2.7	0.0	9.4	0.0
%ile Storage Ratio (RQ%)	0.03	0.00	0.03	0.00	0.40	0.00	1.70	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	11.5	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	79	0	1038	0	53	0	961
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	2.0	0.0	18.0	0.0	1.3	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	2.0	0.0	18.0	0.0	1.3	0.0	18.0
Lane Grp Cap (c), veh/h	0	526	0	957	0	526	0	957
V/C Ratio (X)	0.00	0.15	0.00	1.08	0.00	0.10	0.00	1.00
Avail Cap (c_a), veh/h	0	526	0	957	0	526	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.3	0.0	29.0	0.0	17.0	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	54.8	0.0	0.4	0.0	30.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.9	0.0	83.8	0.0	17.4	0.0	59.1
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	7.9	0.0	0.5	0.0	7.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	7.3	0.0	0.1	0.0	4.0

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

12/22/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.9	0.0	15.2	0.0	0.6	0.0	11.9
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.15	0.00	0.01	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	20.2	0.0	0.0	0.0	0.9
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	28	0	555	0	221	0	480
Grp Sat Flow (s), veh/h/ln	0	1585	0	1818	0	1585	0	1700
Q Serve Time (g_s), s	0.0	0.8	0.0	18.0	0.0	7.5	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	0.8	0.0	18.0	0.0	7.5	0.0	18.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.16	0.00	1.00	0.00	0.56
Lane Grp Cap (c), veh/h	0	446	0	511	0	446	0	478
V/C Ratio (X)	0.00	0.06	0.00	1.08	0.00	0.50	0.00	1.00
Avail Cap (c_a), veh/h	0	446	0	511	0	446	0	478
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.8	0.0	29.0	0.0	19.2	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	64.7	0.0	3.9	0.0	42.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.1	0.0	93.8	0.0	23.1	0.0	71.2
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	8.4	0.0	2.4	0.0	7.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	9.2	0.0	0.5	0.0	5.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	17.6	0.0	2.8	0.0	13.5
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.18	0.00	0.72	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	10.8	0.0	0.0	0.0	0.5
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3

Intersection Summary

HCM 6th Ctrl Delay	72.8
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary

5: Carmenita & Imperial

12/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↱ ↱ ↱			↰ ↱ ↱ ↱			↰ ↱ ↱		↰ ↱ ↱		↰ ↱ ↱	
Traffic Volume (veh/h)	97	842	196	130	675	124	189	1166	141	88	864	54
Future Volume (veh/h)	97	842	196	130	675	124	189	1166	141	88	864	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	915	213	141	734	135	205	1267	153	96	939	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1165	270	139	1221	222	265	999	446	252	999	446
Arrive On Green	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	4141	960	1781	4341	791	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	105	751	377	141	574	295	205	1267	153	96	939	59
Grp Sat Flow(s),veh/h/ln	1781	1702	1698	1781	1702	1728	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.7	13.8	13.9	5.0	9.3	9.5	5.0	18.0	4.9	2.3	16.5	1.8
Cycle Q Clear(g_c), s	3.7	13.8	13.9	5.0	9.3	9.5	5.0	18.0	4.9	2.3	16.5	1.8
Prop In Lane	1.00		0.57	1.00		0.46	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	957	477	139	957	486	265	999	446	252	999	446
V/C Ratio(X)	0.75	0.78	0.79	1.01	0.60	0.61	0.77	1.27	0.34	0.38	0.94	0.13
Avail Cap(c_a), veh/h	139	957	477	139	957	486	265	999	446	252	999	446
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	27.1	27.2	29.5	19.9	19.9	18.0	23.0	18.3	16.4	22.5	17.2
Incr Delay (d2), s/veh	31.0	6.4	12.4	79.8	2.8	5.5	19.6	128.4	2.1	4.3	17.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	6.9	7.7	5.0	3.5	4.0	3.2	24.2	1.8	1.1	8.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	33.6	39.6	109.3	22.7	25.5	37.6	151.4	20.4	20.8	39.6	17.8
LnGrp LOS	E	C	D	F	C	C	D	F	C	C	D	B
Approach Vol, veh/h	1233			1010			1625			1094		
Approach Delay, s/veh	37.8			35.6			124.7			36.8		
Approach LOS	D			D			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	20.0	20.0	7.0	15.9	7.0	18.5	5.7	11.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	2.8				

Intersection Summary

HCM 6th Ctrl Delay	65.6
HCM 6th LOS	E

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	842	196	130	675	124	189	1166	141	88	864	54
Future Volume (veh/h)	97	842	196	130	675	124	189	1166	141	88	864	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	915	213	141	734	135	205	1267	153	96	939	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1165	270	139	1221	222	265	999	446	252	999	446
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	61.6	33.6	39.6	109.3	22.7	25.5	37.6	151.4	20.4	20.8	39.6	17.8
Ln Grp LOS	E	C	D	F	C	C	D	F	C	C	D	B
Approach Vol, veh/h	1233				1010				1625		1094	
Approach Delay, s/veh	37.8				35.6				124.7		36.8	
Approach LOS	D				D				F		D	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	4.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	5.0	3.7	4.9	3.7	5.0				
Max Q Clear (g_c+I1), s	4.3	20.0	7.0	15.9	7.0	18.5	5.7	11.5				
Green Ext Time (g_e), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	2.8				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	4141	3554	4341								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	960	1585	791								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

12/22/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	96	0	141	0	205	0	105	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.3	0.0	5.0	0.0	5.0	0.0	3.7	0.0
Cycle Q Clear Time (g_c), s	2.3	0.0	5.0	0.0	5.0	0.0	3.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	378	0	0	0	564	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	252	0	139	0	265	0	139	0
V/C Ratio (X)	0.38	0.00	1.01	0.00	0.77	0.00	0.75	0.00
Avail Cap (c_a), veh/h	252	0	139	0	265	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	16.4	0.0	29.5	0.0	18.0	0.0	30.6	0.0
Incr Delay (d2), s/veh	4.3	0.0	79.8	0.0	19.6	0.0	31.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	20.8	0.0	109.3	0.0	37.6	0.0	61.6	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.9	0.0	1.8	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	3.1	0.0	1.4	0.0	1.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.1	0.0	5.0	0.0	3.2	0.0	2.7	0.0
%ile Storage Ratio (RQ%)	0.20	0.00	0.62	0.00	0.50	0.00	0.57	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1267	0	751	0	939	0	574
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	18.0	0.0	13.8	0.0	16.5	0.0	9.3
Cycle Q Clear Time (g_c), s	0.0	18.0	0.0	13.8	0.0	16.5	0.0	9.3
Lane Grp Cap (c), veh/h	0	999	0	957	0	999	0	957
V/C Ratio (X)	0.00	1.27	0.00	0.78	0.00	0.94	0.00	0.60
Avail Cap (c_a), veh/h	0	999	0	957	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.0	0.0	27.1	0.0	22.5	0.0	19.9
Incr Delay (d2), s/veh	0.0	128.4	0.0	6.4	0.0	17.2	0.0	2.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	151.4	0.0	33.6	0.0	39.6	0.0	22.7
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	6.1	0.0	6.0	0.0	3.2
2nd-Term Q (Q2), veh/ln	0.0	17.8	0.0	0.9	0.0	2.4	0.0	0.4

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

12/22/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	24.2	0.0	6.9	0.0	8.4	0.0	3.5
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.07	0.00	0.36	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	66.9	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	153	0	377	0	59	0	295
Grp Sat Flow (s), veh/h/ln	0	1585	0	1698	0	1585	0	1728
Q Serve Time (g_s), s	0.0	4.9	0.0	13.9	0.0	1.8	0.0	9.5
Cycle Q Clear Time (g_c), s	0.0	4.9	0.0	13.9	0.0	1.8	0.0	9.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.57	0.00	1.00	0.00	0.46
Lane Grp Cap (c), veh/h	0	446	0	477	0	446	0	486
V/C Ratio (X)	0.00	0.34	0.00	0.79	0.00	0.13	0.00	0.61
Avail Cap (c_a), veh/h	0	446	0	477	0	446	0	486
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.3	0.0	27.2	0.0	17.2	0.0	19.9
Incr Delay (d2), s/veh	0.0	2.1	0.0	12.4	0.0	0.6	0.0	5.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.4	0.0	39.6	0.0	17.8	0.0	25.5
1st-Term Q (Q1), veh/ln	0.0	1.6	0.0	6.1	0.0	0.6	0.0	3.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	1.7	0.0	0.1	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.8	0.0	7.7	0.0	0.6	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.08	0.00	0.03	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	65.6
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary

6: Carmenita & Rosecrans

12/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	🚗🚗	🚗🚗		🚗🚗🚗	🚗🚗🚗		🚗	🚗🚗	🚗	🚗	🚗🚗	🚗
Traffic Volume (veh/h)	363	654	44	139	588	70	121	1243	180	57	1098	426
Future Volume (veh/h)	363	654	44	139	588	70	121	1243	180	57	1098	426
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	711	48	151	639	76	132	1351	196	62	1193	463
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	950	64	139	1302	153	139	999	446	139	999	446
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	3456	3378	228	1781	4631	545	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	395	374	385	151	468	247	132	1351	196	62	1193	463
Grp Sat Flow(s),veh/h/ln	1728	1777	1829	1781	1702	1772	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.0	12.3	12.3	5.0	7.3	7.4	4.7	18.0	6.5	2.1	18.0	18.0
Cycle Q Clear(g_c), s	5.0	12.3	12.3	5.0	7.3	7.4	4.7	18.0	6.5	2.1	18.0	18.0
Prop In Lane	1.00		0.12	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	500	514	139	957	498	139	999	446	139	999	446
V/C Ratio(X)	1.46	0.75	0.75	1.09	0.49	0.50	0.95	1.35	0.44	0.45	1.19	1.04
Avail Cap(c_a), veh/h	270	500	514	139	957	498	139	999	446	139	999	446
HCM 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
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	20.9	20.9	29.5	19.2	19.2	29.4	23.0	18.9	28.2	23.0	23.0
Incr Delay (d2), s/veh	227.7	9.8	9.6	100.9	1.8	3.5	63.6	164.9	3.1	10.0	97.1	53.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.7	5.9	5.8	2.7	3.1	4.3	29.3	2.4	1.2	19.9	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	257.2	30.8	30.5	130.4	21.0	22.7	93.0	187.9	22.0	38.2	120.1	76.0
LnGrp LOS	F	C	C	F	C	C	F	F	C	D	F	F
Approach Vol, veh/h	1154			866			1679			1718		
Approach Delay, s/veh	108.2			40.5			161.1			105.3		
Approach LOS	F			D			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	20.0	20.0	7.0	14.3	6.7	20.0	7.0	9.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.5	0.0	0.0	0.0	2.7				

Intersection Summary

HCM 6th Ctrl Delay	112.8
HCM 6th LOS	F

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	363	654	44	139	588	70	121	1243	180	57	1098	426
Future Volume (veh/h)	363	654	44	139	588	70	121	1243	180	57	1098	426
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	711	48	151	639	76	132	1351	196	62	1193	463
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	270	950	64	139	1302	153	139	999	446	139	999	446
HCM 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
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	257.2	30.8	30.5	130.4	21.0	22.7	93.0	187.9	22.0	38.2	120.1	76.0
Ln Grp LOS	F	C	C	F	C	C	F	F	C	D	F	F
Approach Vol, veh/h	1154			866			1679			1718		
Approach Delay, s/veh	108.2			40.5			161.1			105.3		
Approach LOS	F			D			F			F		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	4.9	3.7	4.6	3.7	4.9				
Max Q Clear (g_c+I1), s	4.1	20.0	7.0	14.3	6.7	20.0	7.0	9.4				
Green Ext Time (g_e), s	0.0	0.0	0.0	1.5	0.0	0.0	0.0	2.7				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3378	3554	4631								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	228	1585	545								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

12/22/2020

Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	62	0	151	0	132	0	395	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	2.1	0.0	5.0	0.0	4.7	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	2.1	0.0	5.0	0.0	4.7	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	139	0	139	0	139	0	270	0
V/C Ratio (X)	0.45	0.00	1.09	0.00	0.95	0.00	1.46	0.00
Avail Cap (c_a), veh/h	139	0	139	0	139	0	270	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	28.2	0.0	29.5	0.0	29.4	0.0	29.5	0.0
Incr Delay (d2), s/veh	10.0	0.0	100.9	0.0	63.6	0.0	227.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	38.2	0.0	130.4	0.0	93.0	0.0	257.2	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.9	0.0	1.8	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	3.9	0.0	2.5	0.0	8.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	5.8	0.0	4.3	0.0	10.4	0.0
%ile Storage Ratio (RQ%)	0.15	0.00	0.99	0.00	0.54	0.00	1.56	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	3.0	0.0	0.0	0.0	31.3	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.4	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	1351	0	374	0	1193	0	468
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1702
Q Serve Time (g_s), s	0.0	18.0	0.0	12.3	0.0	18.0	0.0	7.3
Cycle Q Clear Time (g_c), s	0.0	18.0	0.0	12.3	0.0	18.0	0.0	7.3
Lane Grp Cap (c), veh/h	0	999	0	500	0	999	0	957
V/C Ratio (X)	0.00	1.35	0.00	0.75	0.00	1.19	0.00	0.49
Avail Cap (c_a), veh/h	0	999	0	500	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.0	0.0	20.9	0.0	23.0	0.0	19.2
Incr Delay (d2), s/veh	0.0	164.9	0.0	9.8	0.0	97.1	0.0	1.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	187.9	0.0	30.8	0.0	120.1	0.0	21.0
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	4.4	0.0	6.4	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	22.9	0.0	1.4	0.0	13.5	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

12/22/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	29.3	0.0	5.7	0.0	19.9	0.0	2.7
%ile Storage Ratio (RQ%)	0.00	2.73	0.00	0.23	0.00	0.10	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	87.9	0.0	0.0	0.0	48.4	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	196	0	385	0	463	0	247
Grp Sat Flow (s), veh/h/ln	0	1585	0	1829	0	1585	0	1772
Q Serve Time (g_s), s	0.0	6.5	0.0	12.3	0.0	18.0	0.0	7.4
Cycle Q Clear Time (g_c), s	0.0	6.5	0.0	12.3	0.0	18.0	0.0	7.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.12	0.00	1.00	0.00	0.31
Lane Grp Cap (c), veh/h	0	446	0	514	0	446	0	498
V/C Ratio (X)	0.00	0.44	0.00	0.75	0.00	1.04	0.00	0.50
Avail Cap (c_a), veh/h	0	446	0	514	0	446	0	498
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.9	0.0	20.9	0.0	23.0	0.0	19.2
Incr Delay (d2), s/veh	0.0	3.1	0.0	9.6	0.0	53.0	0.0	3.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.0	0.0	30.5	0.0	76.0	0.0	22.7
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	4.5	0.0	5.7	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	1.4	0.0	6.6	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	5.9	0.0	12.3	0.0	3.1
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.23	0.00	1.56	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	112.8
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary

7: Shoemaker & Lakeland

12/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	151	110	35	116	34	81	481	32	44	574	97
Future Volume (veh/h)	75	151	110	35	116	34	81	481	32	44	574	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	164	120	38	126	37	88	523	35	48	624	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	532	526	446	484	526	446	370	999	446	385	999	446
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.16	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	82	164	120	38	126	37	88	523	35	48	624	105
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.0	4.4	3.8	0.9	3.3	1.1	2.1	7.9	1.0	1.1	7.6	2.1
Cycle Q Clear(g_c), s	2.0	4.4	3.8	0.9	3.3	1.1	2.1	7.9	1.0	1.1	7.6	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	532	526	446	484	526	446	370	999	446	385	999	446
V/C Ratio(X)	0.15	0.31	0.27	0.08	0.24	0.08	0.24	0.52	0.08	0.12	0.62	0.24
Avail Cap(c_a), veh/h	532	526	446	484	526	446	370	999	446	385	999	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	18.1	17.9	13.6	17.7	16.9	14.3	19.4	16.9	12.8	11.7	10.5
Incr Delay (d2), s/veh	0.6	1.5	1.5	0.3	1.1	0.4	1.5	2.0	0.3	0.7	2.9	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.9	1.4	0.4	1.4	0.4	0.9	3.1	0.4	0.4	2.4	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	19.7	19.4	13.9	18.8	17.3	15.8	21.3	17.2	13.5	14.7	11.8
LnGrp LOS	B	B	B	B	B	B	B	C	B	B	B	B
Approach Vol, veh/h	366			201			646			777		
Approach Delay, s/veh	18.4			17.6			20.4			14.2		
Approach LOS	B			B			C			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	9.9	9.9	2.9	6.4	4.1	9.6	4.0	5.3				
Green Ext Time (p_c), s	0.0	2.0	0.0	0.9	0.0	2.8	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	17.3
HCM 6th LOS	B

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	151	110	35	116	34	81	481	32	44	574	97
Future Volume (veh/h)	75	151	110	35	116	34	81	481	32	44	574	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	164	120	38	126	37	88	523	35	48	624	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	532	526	446	484	526	446	370	999	446	385	999	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.16	0.56	0.56
Unsig. Movement Delay												
Ln Grp Delay, s/veh	14.5	19.7	19.4	13.9	18.8	17.3	15.8	21.3	17.2	13.5	14.7	11.8
Ln Grp LOS	B	B	B	B	B	B	B	C	B	B	B	B
Approach Vol, veh/h	366			201			646			777		
Approach Delay, s/veh	18.4			17.6			20.4			14.2		
Approach LOS	B			B			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	4.6	3.7	4.9	3.7	4.8				
Max Q Clear (g_c+I1), s	3.1	9.9	2.9	6.4	4.1	9.6	4.0	5.3				
Green Ext Time (g_e), s	0.0	2.0	0.0	0.9	0.0	2.8	0.0	0.5				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	1870	3554	1870								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)								

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

12/22/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	48	0	38	0	88	0	82	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.1	0.0	0.9	0.0	2.1	0.0	2.0	0.0
Cycle Q Clear Time (g_c), s	1.1	0.0	0.9	0.0	2.1	0.0	2.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	851	0	1095	0	726	0	1223	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	18.0	0.0	18.0	0.0
Perm LT Serve Time (g_u), s	10.1	0.0	13.6	0.0	10.4	0.0	14.7	0.0
Perm LT Q Serve Time (g_ps), s	0.4	0.0	0.2	0.0	1.0	0.0	0.2	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	385	0	484	0	370	0	532	0
V/C Ratio (X)	0.12	0.00	0.08	0.00	0.24	0.00	0.15	0.00
Avail Cap (c_a), veh/h	385	0	484	0	370	0	532	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	12.8	0.0	13.6	0.0	14.3	0.0	13.9	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.3	0.0	1.5	0.0	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	13.5	0.0	13.9	0.0	15.8	0.0	14.5	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	0.3	0.0	0.7	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	0.4	0.0	0.9	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.12	0.00	0.08	0.00	0.11	0.00	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	523	0	164	0	624	0	126
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	7.9	0.0	4.4	0.0	7.6	0.0	3.3
Cycle Q Clear Time (g_c), s	0.0	7.9	0.0	4.4	0.0	7.6	0.0	3.3
Lane Grp Cap (c), veh/h	0	999	0	526	0	999	0	526
V/C Ratio (X)	0.00	0.52	0.00	0.31	0.00	0.62	0.00	0.24
Avail Cap (c_a), veh/h	0	999	0	526	0	999	0	526
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.4	0.0	18.1	0.0	11.7	0.0	17.7
Incr Delay (d2), s/veh	0.0	2.0	0.0	1.5	0.0	2.9	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.3	0.0	19.7	0.0	14.7	0.0	18.8
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	1.7	0.0	2.0	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.4	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

12/22/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	1.9	0.0	2.4	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.06	0.00	0.05	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	35	0	120	0	105	0	37
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.0	0.0	3.8	0.0	2.1	0.0	1.1
Cycle Q Clear Time (g_c), s	0.0	1.0	0.0	3.8	0.0	2.1	0.0	1.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	446	0	446	0	446	0	446
V/C Ratio (X)	0.00	0.08	0.00	0.27	0.00	0.24	0.00	0.08
Avail Cap (c_a), veh/h	0	446	0	446	0	446	0	446
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.9	0.0	17.9	0.0	10.5	0.0	16.9
Incr Delay (d2), s/veh	0.0	0.3	0.0	1.5	0.0	1.2	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.2	0.0	19.4	0.0	11.8	0.0	17.3
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	1.2	0.0	0.6	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	1.4	0.0	0.8	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.36	0.00	0.20	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	17.3
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

8: Shoemaker & Florence

12/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	1013	147	50	719	25	120	411	85	52	483	96
Future Volume (veh/h)	52	1013	147	50	719	25	120	411	85	52	483	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	1101	160	54	782	27	130	447	92	57	525	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	305	999	446	252	999	446	352	999	446	392	832	164
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.03	0.09	0.09	0.08	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	2959	584
Grp Volume(v), veh/h	57	1101	160	54	782	27	130	447	92	57	314	315
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1765
Q Serve(g_s), s	1.4	18.0	5.2	1.3	13.0	0.8	3.2	7.6	3.4	1.4	9.9	10.0
Cycle Q Clear(g_c), s	1.4	18.0	5.2	1.3	13.0	0.8	3.2	7.6	3.4	1.4	9.9	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	305	999	446	252	999	446	352	999	446	392	500	496
V/C Ratio(X)	0.19	1.10	0.36	0.21	0.78	0.06	0.37	0.45	0.21	0.15	0.63	0.63
Avail Cap(c_a), veh/h	305	999	446	252	999	446	352	999	446	392	500	496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.0	23.0	18.4	16.1	21.2	16.8	16.0	24.3	22.4	14.1	20.1	20.1
Incr Delay (d2), s/veh	1.4	60.5	2.2	1.9	6.1	0.3	3.0	1.4	1.0	0.8	5.9	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	15.0	2.0	0.6	5.6	0.3	1.5	3.4	1.3	0.6	4.4	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.4	83.5	20.6	18.0	27.3	17.1	18.9	25.8	23.5	14.8	26.0	26.2
LnGrp LOS	B	F	C	B	C	B	B	C	C	B	C	C
Approach Vol, veh/h	1318			863			669			686		
Approach Delay, s/veh	72.9			26.4			24.1			25.1		
Approach LOS	E			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	9.6	9.6	3.3	20.0	5.2	12.0	3.4	15.0				
Green Ext Time (p_c), s	0.0	2.0	0.0	0.0	0.0	1.9	0.0	1.5				

Intersection Summary

HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	1013	147	50	719	25	120	411	85	52	483	96
Future Volume (veh/h)	52	1013	147	50	719	25	120	411	85	52	483	96
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	1101	160	54	782	27	130	447	92	57	525	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	305	999	446	252	999	446	352	999	446	392	832	164
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.03	0.09	0.09	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	16.4	83.5	20.6	18.0	27.3	17.1	18.9	25.8	23.5	14.8	26.0	26.2
Ln Grp LOS	B	F	C	B	C	B	B	C	C	B	C	C
Approach Vol, veh/h	1318			863			669			686		
Approach Delay, s/veh	72.9			26.4			24.1			25.1		
Approach LOS	E			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	4.9	3.7	5.1	3.7	5.0				
Max Q Clear (g_c+I1), s	3.4	9.6	3.3	20.0	5.2	12.0	3.4	15.0				
Green Ext Time (g_e), s	0.0	2.0	0.0	0.0	0.0	1.9	0.0	1.5				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3554	2959	3554								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	584	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)								

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

12/22/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	57	0	54	0	130	0	57	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.4	0.0	1.3	0.0	3.2	0.0	1.4	0.0
Cycle Q Clear Time (g_c), s	1.4	0.0	1.3	0.0	3.2	0.0	1.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	866	0	440	0	797	0	674	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	18.0	0.0	18.0	0.0
Perm LT Serve Time (g_u), s	10.4	0.0	0.0	0.0	8.0	0.0	5.0	0.0
Perm LT Q Serve Time (g_ps), s	0.5	0.0	0.0	0.0	2.1	0.0	1.2	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	392	0	252	0	352	0	305	0
V/C Ratio (X)	0.15	0.00	0.21	0.00	0.37	0.00	0.19	0.00
Avail Cap (c_a), veh/h	392	0	252	0	352	0	305	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	14.1	0.0	16.1	0.0	16.0	0.0	15.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	1.9	0.0	3.0	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	14.8	0.0	18.0	0.0	18.9	0.0	16.4	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	0.4	0.0	1.2	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.6	0.0	0.6	0.0	1.5	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.08	0.00	0.38	0.00	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	447	0	1101	0	314	0	782
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	7.6	0.0	18.0	0.0	9.9	0.0	13.0
Cycle Q Clear Time (g_c), s	0.0	7.6	0.0	18.0	0.0	9.9	0.0	13.0
Lane Grp Cap (c), veh/h	0	999	0	999	0	500	0	999
V/C Ratio (X)	0.00	0.45	0.00	1.10	0.00	0.63	0.00	0.78
Avail Cap (c_a), veh/h	0	999	0	999	0	500	0	999
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.3	0.0	23.0	0.0	20.1	0.0	21.2
Incr Delay (d2), s/veh	0.0	1.4	0.0	60.5	0.0	5.9	0.0	6.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.8	0.0	83.5	0.0	26.0	0.0	27.3
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	6.6	0.0	3.6	0.0	4.7
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	8.4	0.0	0.8	0.0	0.8

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

12/22/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.4	0.0	15.0	0.0	4.4	0.0	5.6
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.22	0.00	0.16	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	25.4	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	92	0	160	0	315	0	27
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1765	0	1585
Q Serve Time (g_s), s	0.0	3.4	0.0	5.2	0.0	10.0	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	3.4	0.0	5.2	0.0	10.0	0.0	0.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.33	0.00	1.00
Lane Grp Cap (c), veh/h	0	446	0	446	0	496	0	446
V/C Ratio (X)	0.00	0.21	0.00	0.36	0.00	0.63	0.00	0.06
Avail Cap (c_a), veh/h	0	446	0	446	0	496	0	446
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.4	0.0	18.4	0.0	20.1	0.0	16.8
Incr Delay (d2), s/veh	0.0	1.0	0.0	2.2	0.0	6.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.5	0.0	20.6	0.0	26.2	0.0	17.1
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	1.7	0.0	3.6	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.0	0.8	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	2.0	0.0	4.4	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.22	0.00	0.50	0.00	0.16	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

9: Bloomfield & Imperial

12/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	1110	59	252	1142	61	121	618	396	155	813	236
Future Volume (veh/h)	144	1110	59	252	1142	61	121	618	396	155	813	236
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	157	1207	64	274	1241	66	132	672	430	168	884	257
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1436	446	139	1396	74	273	999	446	310	999	446
Arrive On Green	0.08	0.28	0.28	0.05	0.19	0.19	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	5106	1585	1781	4963	264	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	157	1207	64	274	851	456	132	672	430	168	884	257
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1823	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.0	14.2	1.9	5.0	15.6	15.6	3.3	10.7	17.1	4.3	15.2	8.9
Cycle Q Clear(g_c), s	5.0	14.2	1.9	5.0	15.6	15.6	3.3	10.7	17.1	4.3	15.2	8.9
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	1436	446	139	957	513	273	999	446	310	999	446
V/C Ratio(X)	1.13	0.84	0.14	1.97	0.89	0.89	0.48	0.67	0.96	0.54	0.88	0.58
Avail Cap(c_a), veh/h	139	1436	446	139	957	513	273	999	446	310	999	446
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	21.6	17.2	30.3	25.0	25.0	16.5	20.4	22.7	15.8	22.0	19.7
Incr Delay (d2), s/veh	114.8	6.1	0.7	460.9	12.1	20.1	6.0	3.6	34.6	6.7	11.3	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	5.7	0.7	19.8	7.8	9.5	1.6	4.4	9.7	2.0	7.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	144.3	27.7	17.9	491.2	37.1	45.1	22.5	24.0	57.3	22.5	33.3	25.1
LnGrp LOS	F	C	B	F	D	D	C	C	E	C	C	C
Approach Vol, veh/h	1428			1581			1234			1309		
Approach Delay, s/veh	40.1			118.1			35.5			30.3		
Approach LOS	D			F			D			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	19.1	19.1	7.0	16.2	5.3	17.2	7.0	17.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.0	0.5	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	59.0
HCM 6th LOS	E

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	1110	59	252	1142	61	121	618	396	155	813	236
Future Volume (veh/h)	144	1110	59	252	1142	61	121	618	396	155	813	236
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	157	1207	64	274	1241	66	132	672	430	168	884	257
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1436	446	139	1396	74	273	999	446	310	999	446
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.05	0.19	0.19	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	144.3	27.7	17.9	491.2	37.1	45.1	22.5	24.0	57.3	22.5	33.3	25.1
Ln Grp LOS	F	C	B	F	D	D	C	C	E	C	C	C
Approach Vol, veh/h	1428			1581			1234			1309		
Approach Delay, s/veh	40.1			118.1			35.5			30.3		
Approach LOS	D			F			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	3.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.6	3.7	4.9	3.7	4.7	3.7	4.9				
Max Q Clear (g_c+I1), s	6.3	19.1	7.0	16.2	5.3	17.2	7.0	17.6				
Green Ext Time (g_e), s	0.0	0.0	0.0	1.2	0.0	0.5	0.0	0.3				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5106	3554	4963								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	264								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

12/22/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	168	0	274	0	132	0	157	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	4.3	0.0	5.0	0.0	3.3	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	4.3	0.0	5.0	0.0	3.3	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	512	0	0	0	493	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	7.3	0.0	0.0	0.0	2.8	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	5.2	0.0	0.0	0.0	2.8	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	310	0	139	0	273	0	139	0
V/C Ratio (X)	0.54	0.00	1.97	0.00	0.48	0.00	1.13	0.00
Avail Cap (c_a), veh/h	310	0	139	0	273	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.8	0.0	30.3	0.0	16.5	0.0	29.5	0.0
Incr Delay (d2), s/veh	6.7	0.0	460.9	0.0	6.0	0.0	114.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	22.5	0.0	491.2	0.0	22.5	0.0	144.3	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	2.0	0.0	1.1	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.6	0.0	17.8	0.0	0.5	0.0	4.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.0	0.0	19.8	0.0	1.6	0.0	6.4	0.0
%ile Storage Ratio (RQ%)	0.39	0.00	5.03	0.00	0.29	0.00	1.08	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	33.7	0.0	0.0	0.0	4.5	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.5	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	3	0	2	0	2
Grp Vol (v), veh/h	0	672	0	1207	0	884	0	851
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	10.7	0.0	14.2	0.0	15.2	0.0	15.6
Cycle Q Clear Time (g_c), s	0.0	10.7	0.0	14.2	0.0	15.2	0.0	15.6
Lane Grp Cap (c), veh/h	0	999	0	1436	0	999	0	957
V/C Ratio (X)	0.00	0.67	0.00	0.84	0.00	0.88	0.00	0.89
Avail Cap (c_a), veh/h	0	999	0	1436	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.4	0.0	21.6	0.0	22.0	0.0	25.0
Incr Delay (d2), s/veh	0.0	3.6	0.0	6.1	0.0	11.3	0.0	12.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.0	0.0	27.7	0.0	33.3	0.0	37.1
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	4.9	0.0	5.4	0.0	6.2
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.8	0.0	1.6	0.0	1.6

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

12/22/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.4	0.0	5.7	0.0	7.0	0.0	7.8
%ile Storage Ratio (RQ%)	0.00	0.35	0.00	0.11	0.00	0.27	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	430	0	64	0	257	0	456
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1823
Q Serve Time (g_s), s	0.0	17.1	0.0	1.9	0.0	8.9	0.0	15.6
Cycle Q Clear Time (g_c), s	0.0	17.1	0.0	1.9	0.0	8.9	0.0	15.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.14
Lane Grp Cap (c), veh/h	0	446	0	446	0	446	0	513
V/C Ratio (X)	0.00	0.96	0.00	0.14	0.00	0.58	0.00	0.89
Avail Cap (c_a), veh/h	0	446	0	446	0	446	0	513
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.7	0.0	17.2	0.0	19.7	0.0	25.0
Incr Delay (d2), s/veh	0.0	34.6	0.0	0.7	0.0	5.3	0.0	20.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	57.3	0.0	17.9	0.0	25.1	0.0	45.1
1st-Term Q (Q1), veh/ln	0.0	5.4	0.0	0.6	0.0	0.0	0.0	6.6
2nd-Term Q (Q2), veh/ln	0.0	4.3	0.0	0.1	0.0	0.7	0.0	2.9
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.7	0.0	0.7	0.0	0.7	0.0	9.5
%ile Storage Ratio (RQ%)	0.00	2.47	0.00	0.18	0.00	0.15	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	59.0
HCM 6th LOS	E

HCM 6th TWSC
1: Greenstone & Sunshine

12/20/2020

Intersection												
Int Delay, s/veh	7.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	55	1	89	0	19	24	36	6	0
Future Vol, veh/h	0	0	0	55	1	89	0	19	24	36	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	60	1	97	0	21	26	39	7	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	168	132	7	119	119	34	7	0	0	47	0	0
Stage 1	85	85	-	34	34	-	-	-	-	-	-	-
Stage 2	83	47	-	85	85	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	796	759	1075	857	771	1039	1614	-	-	1560	-	-
Stage 1	923	824	-	982	867	-	-	-	-	-	-	-
Stage 2	925	856	-	923	824	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	708	740	1075	841	752	1039	1614	-	-	1560	-	-
Mov Cap-2 Maneuver	708	740	-	841	752	-	-	-	-	-	-	-
Stage 1	923	803	-	982	867	-	-	-	-	-	-	-
Stage 2	838	856	-	900	803	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	0		9.5		0		6.3					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1614	-	-	-	952	1560	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.166	0.025	-	-				
HCM Control Delay (s)	0	-	-	0	9.5	7.4	0	-				
HCM Lane LOS	A	-	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0.1	-	-				

HCM 6th TWSC
2: Greenstone & Lakeland

12/20/2020

Intersection

Int Delay, s/veh 3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↘	↑	↘	↘
Traffic Vol, veh/h	126	171	51	154	93	21
Future Vol, veh/h	126	171	51	154	93	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	186	55	167	101	23

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	323
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1237
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1237
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	13.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	502	809	-	-	1237	-
HCM Lane V/C Ratio	0.201	0.028	-	-	0.045	-
HCM Control Delay (s)	14	9.6	-	-	8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-

HCM 6th TWSC
3: Shoemaker & Sunshine

12/20/2020

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↱	↱	↰	↱	↱
Traffic Vol, veh/h	6	0	64	32	0	47	154	207	10	12	302	16
Future Vol, veh/h	6	0	64	32	0	47	154	207	10	12	302	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	-	-	-	150	-	100	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	70	35	0	51	167	225	11	13	328	17

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	810	933	173	749	930	113	345	0	0	236	0	0
Stage 1	363	363	-	559	559	-	-	-	-	-	-	-
Stage 2	447	570	-	190	371	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	271	265	840	300	266	918	1211	-	-	1328	-	-
Stage 1	628	623	-	481	509	-	-	-	-	-	-	-
Stage 2	560	504	-	794	618	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	227	226	840	244	227	918	1211	-	-	1328	-	-
Mov Cap-2 Maneuver	227	226	-	244	227	-	-	-	-	-	-	-
Stage 1	541	617	-	415	439	-	-	-	-	-	-	-
Stage 2	456	434	-	721	612	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.7		15.4		3.5		0.3	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1211	-	-	227	840	433	1328	-	-
HCM Lane V/C Ratio	0.138	-	-	0.029	0.083	0.198	0.01	-	-
HCM Control Delay (s)	8.4	-	-	21.3	9.7	15.4	7.7	-	-
HCM Lane LOS	A	-	-	C	A	C	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	0.3	0.7	0	-	-

HCM 6th Signalized Intersection Summary

4: Shoemaker & Imperial

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	168	792	65	17	1240	156	128	52	16	193	57	137
Future Volume (veh/h)	168	792	65	17	1240	156	128	52	16	193	57	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	861	71	18	1348	170	139	57	17	210	62	149
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1352	111	316	1291	163	139	526	446	595	526	446
Arrive On Green	0.03	0.09	0.09	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	4808	395	1781	4591	579	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	183	609	323	18	999	519	139	57	17	210	62	149
Grp Sat Flow(s),veh/h/ln	1781	1702	1799	1781	1702	1766	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.0	11.0	11.1	0.4	18.0	18.0	5.0	1.4	0.5	5.0	1.6	4.8
Cycle Q Clear(g_c), s	5.0	11.0	11.1	0.4	18.0	18.0	5.0	1.4	0.5	5.0	1.6	4.8
Prop In Lane	1.00		0.22	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	957	506	316	957	497	139	526	446	595	526	446
V/C Ratio(X)	1.31	0.64	0.64	0.06	1.04	1.04	1.00	0.11	0.04	0.35	0.12	0.33
Avail Cap(c_a), veh/h	139	957	506	316	957	497	139	526	446	595	526	446
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	25.9	25.9	15.1	29.0	29.0	29.5	17.1	16.7	15.0	17.1	18.2
Incr Delay (d2), s/veh	183.5	3.2	6.1	0.3	41.2	52.3	76.0	0.4	0.2	1.6	0.5	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	5.0	5.7	0.2	13.3	15.4	5.0	0.6	0.2	2.1	0.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	214.6	29.1	32.0	15.4	70.2	81.4	105.5	17.5	16.9	16.7	17.6	20.3
LnGrp LOS	F	C	C	B	F	F	F	B	B	B	B	C
Approach Vol, veh/h		1115			1536			213			421	
Approach Delay, s/veh		60.4			73.3			74.9			18.1	
Approach LOS		E			E			E			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	3.4	2.4	13.1	7.0	6.8	7.0	20.0				
Green Ext Time (p_c), s	0.0	0.2	0.0	2.4	0.0	0.5	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			62.0									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	792	65	17	1240	156	128	52	16	193	57	137
Future Volume (veh/h)	168	792	65	17	1240	156	128	52	16	193	57	137
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	861	71	18	1348	170	139	57	17	210	62	149
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1352	111	316	1291	163	139	526	446	595	526	446
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	214.6	29.1	32.0	15.4	70.2	81.4	105.5	17.5	16.9	16.7	17.6	20.3
Ln Grp LOS	F	C	C	B	F	F	F	B	B	B	B	C
Approach Vol, veh/h	1115				1536		213				421	
Approach Delay, s/veh	60.4				73.3		74.9				18.1	
Approach LOS	E				E		E				B	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	5.0	3.7	4.9	3.8	4.2	3.7	4.9				
Max Q Clear (g_c+I1), s	7.0	3.4	2.4	13.1	7.0	6.8	7.0	20.0				
Green Ext Time (g_e), s	0.0	0.2	0.0	2.4	0.0	0.5	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	1870	4808	1870	4591								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	395	1585	579								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

12/20/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	210	0	18	0	139	0	183	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.0	0.0	0.4	0.0	5.0	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	5.0	0.0	0.4	0.0	5.0	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1326	0	601	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	16.6	0.0	6.9	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.9	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	595	0	316	0	139	0	139	0
V/C Ratio (X)	0.35	0.00	0.06	0.00	1.00	0.00	1.31	0.00
Avail Cap (c_a), veh/h	595	0	316	0	139	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.0	0.0	15.1	0.0	29.5	0.0	31.2	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.3	0.0	76.0	0.0	183.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	16.7	0.0	15.4	0.0	105.5	0.0	214.6	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	0.2	0.0	2.0	0.0	2.1	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.0	0.0	2.9	0.0	7.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.1	0.0	0.2	0.0	5.0	0.0	9.1	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.02	0.00	0.74	0.00	1.66	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	11.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	57	0	609	0	62	0	999
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	1.4	0.0	11.0	0.0	1.6	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	1.4	0.0	11.0	0.0	1.6	0.0	18.0
Lane Grp Cap (c), veh/h	0	526	0	957	0	526	0	957
V/C Ratio (X)	0.00	0.11	0.00	0.64	0.00	0.12	0.00	1.04
Avail Cap (c_a), veh/h	0	526	0	957	0	526	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.1	0.0	25.9	0.0	17.1	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	3.2	0.0	0.5	0.0	41.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.5	0.0	29.1	0.0	17.6	0.0	70.2
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	4.6	0.0	0.6	0.0	7.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.4	0.0	0.1	0.0	5.5

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

12/20/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	5.0	0.0	0.7	0.0	13.3
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.05	0.00	0.01	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	17	0	323	0	149	0	519
Grp Sat Flow (s), veh/h/ln	0	1585	0	1799	0	1585	0	1766
Q Serve Time (g_s), s	0.0	0.5	0.0	11.1	0.0	4.8	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	0.5	0.0	11.1	0.0	4.8	0.0	18.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.22	0.00	1.00	0.00	0.33
Lane Grp Cap (c), veh/h	0	446	0	506	0	446	0	497
V/C Ratio (X)	0.00	0.04	0.00	0.64	0.00	0.33	0.00	1.04
Avail Cap (c_a), veh/h	0	446	0	506	0	446	0	497
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.7	0.0	25.9	0.0	18.2	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	6.1	0.0	2.0	0.0	52.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.9	0.0	32.0	0.0	20.3	0.0	81.4
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	4.9	0.0	1.5	0.0	8.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.9	0.0	0.2	0.0	7.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	5.7	0.0	1.8	0.0	15.4
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.06	0.00	0.45	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Intersection Summary

HCM 6th Ctrl Delay	62.0
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary

5: Carmenita & Imperial

12/20/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑ ↱			↰ ↑↑ ↱			↰ ↑↑ ↱			↰ ↑↑ ↱		
Traffic Volume (veh/h)	58	493	168	139	738	65	167	675	108	89	949	34
Future Volume (veh/h)	58	493	168	139	738	65	167	675	108	89	949	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	536	183	151	802	71	182	734	117	97	1032	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1066	354	139	1344	118	252	999	446	313	999	446
Arrive On Green	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	3790	1258	1781	4778	421	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	63	480	239	151	570	303	182	734	117	97	1032	37
Grp Sat Flow(s),veh/h/ln	1781	1702	1644	1781	1702	1795	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.2	8.6	8.9	5.0	9.3	9.3	4.7	12.0	3.7	2.4	18.0	1.1
Cycle Q Clear(g_c), s	2.2	8.6	8.9	5.0	9.3	9.3	4.7	12.0	3.7	2.4	18.0	1.1
Prop In Lane	1.00		0.77	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	957	462	139	957	505	252	999	446	313	999	446
V/C Ratio(X)	0.45	0.50	0.52	1.09	0.60	0.60	0.72	0.73	0.26	0.31	1.03	0.08
Avail Cap(c_a), veh/h	139	957	462	139	957	505	252	999	446	313	999	446
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	24.8	24.9	29.5	19.9	19.9	17.2	20.8	17.8	15.2	23.0	16.9
Incr Delay (d2), s/veh	10.3	1.9	4.1	100.9	2.7	5.2	16.5	4.8	1.4	2.6	37.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.6	3.9	5.8	3.5	4.1	2.7	4.9	1.3	1.0	11.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.1	26.6	29.0	130.4	22.6	25.1	33.7	25.6	19.3	17.8	60.2	17.3
LnGrp LOS	D	C	C	F	C	C	C	C	B	B	F	B
Approach Vol, veh/h	782			1024			1033			1166		
Approach Delay, s/veh	28.4			39.2			26.3			55.3		
Approach LOS	C			D			C			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	14.4	14.0	7.0	10.9	6.7	20.0	4.2	11.3				
Green Ext Time (p_c), s	0.0	1.8	0.0	2.5	0.0	0.0	0.0	2.8				

Intersection Summary

HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	493	168	139	738	65	167	675	108	89	949	34
Future Volume (veh/h)	58	493	168	139	738	65	167	675	108	89	949	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No				No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	536	183	151	802	71	182	734	117	97	1032	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1066	354	139	1344	118	252	999	446	313	999	446
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	40.1	26.6	29.0	130.4	22.6	25.1	33.7	25.6	19.3	17.8	60.2	17.3
Ln Grp LOS	D	C	C	F	C	C	C	C	B	B	F	B
Approach Vol, veh/h	782		1024			1033			1166			
Approach Delay, s/veh	28.4		39.2			26.3			55.3			
Approach LOS	C		D			C			E			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	4.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	5.0	3.7	5.0	3.7	4.9				
Max Q Clear (g_c+I1), s	4.4	14.0	7.0	10.9	6.7	20.0	4.2	11.3				
Green Ext Time (g_e), s	0.0	1.8	0.0	2.5	0.0	0.0	0.0	2.8				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3790	3554	4778								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1258	1585	421								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

12/20/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	97	0	151	0	182	0	63	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.4	0.0	5.0	0.0	4.7	0.0	2.2	0.0
Cycle Q Clear Time (g_c), s	2.4	0.0	5.0	0.0	4.7	0.0	2.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	648	0	0	0	528	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	313	0	139	0	252	0	139	0
V/C Ratio (X)	0.31	0.00	1.09	0.00	0.72	0.00	0.45	0.00
Avail Cap (c_a), veh/h	313	0	139	0	252	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.2	0.0	29.5	0.0	17.2	0.0	29.8	0.0
Incr Delay (d2), s/veh	2.6	0.0	100.9	0.0	16.5	0.0	10.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	17.8	0.0	130.4	0.0	33.7	0.0	40.1	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.9	0.0	1.6	0.0	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	3.9	0.0	1.2	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	5.8	0.0	2.7	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.72	0.00	0.42	0.00	0.27	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	734	0	480	0	1032	0	570
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	12.0	0.0	8.6	0.0	18.0	0.0	9.3
Cycle Q Clear Time (g_c), s	0.0	12.0	0.0	8.6	0.0	18.0	0.0	9.3
Lane Grp Cap (c), veh/h	0	999	0	957	0	999	0	957
V/C Ratio (X)	0.00	0.73	0.00	0.50	0.00	1.03	0.00	0.60
Avail Cap (c_a), veh/h	0	999	0	957	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.8	0.0	24.8	0.0	23.0	0.0	19.9
Incr Delay (d2), s/veh	0.0	4.8	0.0	1.9	0.0	37.2	0.0	2.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.6	0.0	26.6	0.0	60.2	0.0	22.6
1st-Term Q (Q1), veh/ln	0.0	4.3	0.0	3.4	0.0	6.6	0.0	3.1
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.2	0.0	5.2	0.0	0.4

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

12/20/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.9	0.0	3.6	0.0	11.7	0.0	3.5
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.04	0.00	0.51	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	117	0	239	0	37	0	303
Grp Sat Flow (s), veh/h/ln	0	1585	0	1644	0	1585	0	1795
Q Serve Time (g_s), s	0.0	3.7	0.0	8.9	0.0	1.1	0.0	9.3
Cycle Q Clear Time (g_c), s	0.0	3.7	0.0	8.9	0.0	1.1	0.0	9.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.77	0.00	1.00	0.00	0.23
Lane Grp Cap (c), veh/h	0	446	0	462	0	446	0	505
V/C Ratio (X)	0.00	0.26	0.00	0.52	0.00	0.08	0.00	0.60
Avail Cap (c_a), veh/h	0	446	0	462	0	446	0	505
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.8	0.0	24.9	0.0	16.9	0.0	19.9
Incr Delay (d2), s/veh	0.0	1.4	0.0	4.1	0.0	0.4	0.0	5.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.3	0.0	29.0	0.0	17.3	0.0	25.1
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	3.4	0.0	0.3	0.0	3.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	3.9	0.0	0.4	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

6: Carmenita & Rosecrans

12/20/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↱	↑↓		↰↱	↑↑↓		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	284	491	57	92	629	44	78	965	131	67	1142	343
Future Volume (veh/h)	284	491	57	92	629	44	78	965	131	67	1142	343
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No				No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	309	534	62	100	684	48	85	1049	142	73	1241	373
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	902	104	139	1371	96	139	999	446	139	999	446
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	3456	3209	371	1781	4873	340	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	309	295	301	100	477	255	85	1049	142	73	1241	373
Grp Sat Flow(s),veh/h/ln	1728	1777	1803	1781	1702	1809	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.0	9.2	9.2	3.5	7.5	7.6	3.0	18.0	4.5	2.5	18.0	14.2
Cycle Q Clear(g_c), s	5.0	9.2	9.2	3.5	7.5	7.6	3.0	18.0	4.5	2.5	18.0	14.2
Prop In Lane	1.00		0.21	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	500	507	139	957	509	139	999	446	139	999	446
V/C Ratio(X)	1.14	0.59	0.59	0.72	0.50	0.50	0.61	1.05	0.32	0.52	1.24	0.84
Avail Cap(c_a), veh/h	270	500	507	139	957	509	139	999	446	139	999	446
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	19.8	19.8	28.8	19.2	19.2	28.6	23.0	18.2	28.4	23.0	21.6
Incr Delay (d2), s/veh	99.5	5.1	5.0	27.2	1.8	3.5	18.4	42.4	1.9	13.4	117.3	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	4.0	4.0	2.4	2.8	3.2	1.9	12.3	1.7	1.5	22.7	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	129.0	24.9	24.9	56.0	21.1	22.8	46.9	65.4	20.0	41.8	140.3	38.5
LnGrp LOS	F	C	C	E	C	C	D	F	C	D	F	D
Approach Vol, veh/h	905		832			1276			1687			
Approach Delay, s/veh	60.4		25.8			59.1			113.5			
Approach LOS	E		C			E			F			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	14.5	20.0	5.5	11.2	5.0	20.0	7.0	9.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.8	0.0	0.0	0.0	2.8				

Intersection Summary

HCM 6th Ctrl Delay	73.0
HCM 6th LOS	E

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	491	57	92	629	44	78	965	131	67	1142	343
Future Volume (veh/h)	284	491	57	92	629	44	78	965	131	67	1142	343
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	309	534	62	100	684	48	85	1049	142	73	1241	373
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	270	902	104	139	1371	96	139	999	446	139	999	446
HCM 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
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	129.0	24.9	24.9	56.0	21.1	22.8	46.9	65.4	20.0	41.8	140.3	38.5
Ln Grp LOS	F	C	C	E	C	C	D	F	C	D	F	D
Approach Vol, veh/h	905			832			1276			1687		
Approach Delay, s/veh	60.4			25.8			59.1			113.5		
Approach LOS	E			C			E			F		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	4.9	3.7	4.7	3.7	4.9				
Max Q Clear (g_c+I1), s	4.5	20.0	5.5	11.2	5.0	20.0	7.0	9.6				
Green Ext Time (g_e), s	0.0	0.0	0.0	1.8	0.0	0.0	0.0	2.8				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3209	3554	4873								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	371	1585	340								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

12/20/2020

Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	73	0	100	0	85	0	309	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	2.5	0.0	3.5	0.0	3.0	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	2.5	0.0	3.5	0.0	3.0	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	139	0	139	0	139	0	270	0
V/C Ratio (X)	0.52	0.00	0.72	0.00	0.61	0.00	1.14	0.00
Avail Cap (c_a), veh/h	139	0	139	0	139	0	270	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	28.4	0.0	28.8	0.0	28.6	0.0	29.5	0.0
Incr Delay (d2), s/veh	13.4	0.0	27.2	0.0	18.4	0.0	99.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	41.8	0.0	56.0	0.0	46.9	0.0	129.0	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	1.4	0.0	1.1	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	1.1	0.0	0.7	0.0	3.7	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	2.4	0.0	1.9	0.0	5.6	0.0
%ile Storage Ratio (RQ%)	0.19	0.00	0.41	0.00	0.24	0.00	0.84	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	1049	0	295	0	1241	0	477
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1702
Q Serve Time (g_s), s	0.0	18.0	0.0	9.2	0.0	18.0	0.0	7.5
Cycle Q Clear Time (g_c), s	0.0	18.0	0.0	9.2	0.0	18.0	0.0	7.5
Lane Grp Cap (c), veh/h	0	999	0	500	0	999	0	957
V/C Ratio (X)	0.00	1.05	0.00	0.59	0.00	1.24	0.00	0.50
Avail Cap (c_a), veh/h	0	999	0	500	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.0	0.0	19.8	0.0	23.0	0.0	19.2
Incr Delay (d2), s/veh	0.0	42.4	0.0	5.1	0.0	117.3	0.0	1.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	65.4	0.0	24.9	0.0	140.3	0.0	21.1
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	3.3	0.0	6.4	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	5.9	0.0	0.7	0.0	16.3	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

12/20/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	12.3	0.0	4.0	0.0	22.7	0.0	2.8
%ile Storage Ratio (RQ%)	0.00	1.14	0.00	0.16	0.00	0.11	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	12.4	0.0	0.0	0.0	60.4	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	142	0	301	0	373	0	255
Grp Sat Flow (s), veh/h/ln	0	1585	0	1803	0	1585	0	1809
Q Serve Time (g_s), s	0.0	4.5	0.0	9.2	0.0	14.2	0.0	7.6
Cycle Q Clear Time (g_c), s	0.0	4.5	0.0	9.2	0.0	14.2	0.0	7.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.21	0.00	1.00	0.00	0.19
Lane Grp Cap (c), veh/h	0	446	0	507	0	446	0	509
V/C Ratio (X)	0.00	0.32	0.00	0.59	0.00	0.84	0.00	0.50
Avail Cap (c_a), veh/h	0	446	0	507	0	446	0	509
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.2	0.0	19.8	0.0	21.6	0.0	19.2
Incr Delay (d2), s/veh	0.0	1.9	0.0	5.0	0.0	16.8	0.0	3.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.0	0.0	24.9	0.0	38.5	0.0	22.8
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	3.3	0.0	4.5	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.7	0.0	2.1	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.7	0.0	4.0	0.0	6.6	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.16	0.00	0.84	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	73.0
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary

7: Shoemaker & Lakeland

12/20/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	67	40	17	69	46	93	446	14	22	361	64
Future Volume (veh/h)	39	67	40	17	69	46	93	446	14	22	361	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	73	43	18	75	50	101	485	15	24	392	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	570	526	446	573	526	446	456	999	446	402	999	446
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.16	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	42	73	43	18	75	50	101	485	15	24	392	70
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	1.9	1.3	0.4	1.9	1.5	2.5	7.3	0.4	0.5	4.0	1.4
Cycle Q Clear(g_c), s	1.0	1.9	1.3	0.4	1.9	1.5	2.5	7.3	0.4	0.5	4.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	570	526	446	573	526	446	456	999	446	402	999	446
V/C Ratio(X)	0.07	0.14	0.10	0.03	0.14	0.11	0.22	0.49	0.03	0.06	0.39	0.16
Avail Cap(c_a), veh/h	570	526	446	573	526	446	456	999	446	402	999	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	17.2	17.0	13.3	17.2	17.1	14.1	19.1	16.7	12.6	10.9	10.4
Incr Delay (d2), s/veh	0.3	0.6	0.4	0.1	0.6	0.5	1.1	1.7	0.1	0.3	1.2	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.8	0.5	0.2	0.8	0.6	1.0	2.8	0.2	0.2	1.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	17.8	17.4	13.4	17.8	17.6	15.2	20.8	16.8	12.8	12.1	11.1
LnGrp LOS	B	B	B	B	B	B	B	C	B	B	B	B
Approach Vol, veh/h	158			143			601			486		
Approach Delay, s/veh	16.6			17.2			19.8			12.0		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	12.5	9.3	2.4	3.9	4.5	6.0	3.0	3.9				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.3	0.0	2.0	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	67	40	17	69	46	93	446	14	22	361	64
Future Volume (veh/h)	39	67	40	17	69	46	93	446	14	22	361	64
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	73	43	18	75	50	101	485	15	24	392	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	570	526	446	573	526	446	456	999	446	402	999	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.16	0.56	0.56
Unsig. Movement Delay												
Ln Grp Delay, s/veh	13.7	17.8	17.4	13.4	17.8	17.6	15.2	20.8	16.8	12.8	12.1	11.1
Ln Grp LOS	B	B	B	B	B	B	B	C	B	B	B	B
Approach Vol, veh/h	158			143			601			486		
Approach Delay, s/veh	16.6			17.2			19.8			12.0		
Approach LOS	B			B			B			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.6	3.7	4.9	3.7	4.6				
Max Q Clear (g_c+I1), s	2.5	9.3	2.4	3.9	4.5	6.0	3.0	3.9				
Green Ext Time (g_e), s	0.0	1.9	0.0	0.3	0.0	2.0	0.0	0.4				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	1870	3554	1870								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)								

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

12/20/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	24	0	18	0	101	0	42	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	0.5	0.0	0.4	0.0	2.5	0.0	1.0	0.0
Cycle Q Clear Time (g_c), s	0.5	0.0	0.4	0.0	2.5	0.0	1.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	898	0	1276	0	930	0	1266	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	18.0	0.0	18.0	0.0
Perm LT Serve Time (g_u), s	10.7	0.0	16.1	0.0	14.0	0.0	16.1	0.0
Perm LT Q Serve Time (g_ps), s	0.2	0.0	0.0	0.0	0.5	0.0	0.1	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	402	0	573	0	456	0	570	0
V/C Ratio (X)	0.06	0.00	0.03	0.00	0.22	0.00	0.07	0.00
Avail Cap (c_a), veh/h	402	0	573	0	456	0	570	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	12.6	0.0	13.3	0.0	14.1	0.0	13.5	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.1	0.0	1.1	0.0	0.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.8	0.0	13.4	0.0	15.2	0.0	13.7	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.1	0.0	0.8	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.2	0.0	1.0	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.04	0.00	0.12	0.00	0.08	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	485	0	73	0	392	0	75
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	7.3	0.0	1.9	0.0	4.0	0.0	1.9
Cycle Q Clear Time (g_c), s	0.0	7.3	0.0	1.9	0.0	4.0	0.0	1.9
Lane Grp Cap (c), veh/h	0	999	0	526	0	999	0	526
V/C Ratio (X)	0.00	0.49	0.00	0.14	0.00	0.39	0.00	0.14
Avail Cap (c_a), veh/h	0	999	0	526	0	999	0	526
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.1	0.0	17.2	0.0	10.9	0.0	17.2
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.6	0.0	1.2	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.8	0.0	17.8	0.0	12.1	0.0	17.8
1st-Term Q (Q1), veh/ln	0.0	2.6	0.0	0.7	0.0	1.2	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

12/20/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.8	0.0	1.4	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	43	0	70	0	50
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.4	0.0	1.3	0.0	1.4	0.0	1.5
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	1.3	0.0	1.4	0.0	1.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	446	0	446	0	446	0	446
V/C Ratio (X)	0.00	0.03	0.00	0.10	0.00	0.16	0.00	0.11
Avail Cap (c_a), veh/h	0	446	0	446	0	446	0	446
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.7	0.0	17.0	0.0	10.4	0.0	17.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.8	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.8	0.0	17.4	0.0	11.1	0.0	17.6
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.4	0.0	0.4	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.5	0.0	0.5	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.12	0.00	0.13	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

8: Shoemaker & Florence

12/20/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	470	120	48	932	68	129	370	30	20	332	57
Future Volume (veh/h)	58	470	120	48	932	68	129	370	30	20	332	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	511	130	52	1013	74	140	402	33	22	361	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	999	446	378	999	446	428	999	446	418	854	145
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.03	0.09	0.09	0.08	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3037	517
Grp Volume(v), veh/h	63	511	130	52	1013	74	140	402	33	22	210	213
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1777
Q Serve(g_s), s	1.5	7.7	4.1	1.2	18.0	2.3	3.5	6.8	1.2	0.5	6.2	6.3
Cycle Q Clear(g_c), s	1.5	7.7	4.1	1.2	18.0	2.3	3.5	6.8	1.2	0.5	6.2	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	252	999	446	378	999	446	428	999	446	418	500	500
V/C Ratio(X)	0.25	0.51	0.29	0.14	1.01	0.17	0.33	0.40	0.07	0.05	0.42	0.43
Avail Cap(c_a), veh/h	252	999	446	378	999	446	428	999	446	418	500	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	19.3	18.0	14.0	23.0	17.3	15.4	24.0	21.4	13.7	18.7	18.8
Incr Delay (d2), s/veh	2.4	1.9	1.7	0.8	31.9	0.8	2.0	1.2	0.3	0.2	2.6	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.1	1.5	0.5	11.0	0.8	1.5	3.0	0.4	0.2	2.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	21.2	19.7	14.8	54.9	18.1	17.5	25.2	21.7	13.9	21.3	21.4
LnGrp LOS	B	C	B	B	F	B	B	C	C	B	C	C
Approach Vol, veh/h	704		1139			575			445			
Approach Delay, s/veh	20.7		50.7			23.1			21.0			
Approach LOS	C		D			C			C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	8.8	8.8	3.2	9.7	5.5	8.3	3.5	20.0				
Green Ext Time (p_c), s	0.0	1.7	0.0	2.3	0.0	1.6	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			33.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	470	120	48	932	68	129	370	30	20	332	57
Future Volume (veh/h)	58	470	120	48	932	68	129	370	30	20	332	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No				No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	511	130	52	1013	74	140	402	33	22	361	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	252	999	446	378	999	446	428	999	446	418	854	145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.03	0.09	0.09	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	18.5	21.2	19.7	14.8	54.9	18.1	17.5	25.2	21.7	13.9	21.3	21.4
Ln Grp LOS	B	C	B	B	F	B	B	C	C	B	C	C
Approach Vol, veh/h	704				1139		575			445		
Approach Delay, s/veh	20.7		50.7				23.1			21.0		
Approach LOS	C		D				C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.8	3.7	5.1	3.7	4.9				
Max Q Clear (g_c+I1), s	2.5	8.8	3.2	9.7	5.5	8.3	3.5	20.0				
Green Ext Time (g_e), s	0.0	1.7	0.0	2.3	0.0	1.6	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3554	3037	3554								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	517	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)								

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

12/20/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	22	0	52	0	140	0	63	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	0.5	0.0	1.2	0.0	3.5	0.0	1.5	0.0
Cycle Q Clear Time (g_c), s	0.5	0.0	1.2	0.0	3.5	0.0	1.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	954	0	788	0	964	0	519	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	18.0	0.0	18.0	0.0
Perm LT Serve Time (g_u), s	11.2	0.0	10.3	0.0	11.7	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.2	0.0	0.5	0.0	1.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	418	0	378	0	428	0	252	0
V/C Ratio (X)	0.05	0.00	0.14	0.00	0.33	0.00	0.25	0.00
Avail Cap (c_a), veh/h	418	0	378	0	428	0	252	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	13.7	0.0	14.0	0.0	15.4	0.0	16.1	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.8	0.0	2.0	0.0	2.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	13.9	0.0	14.8	0.0	17.5	0.0	18.5	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.4	0.0	1.3	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.2	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.5	0.0	1.5	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.03	0.00	0.07	0.00	0.39	0.00	0.10	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	402	0	511	0	210	0	1013
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	6.8	0.0	7.7	0.0	6.2	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	6.8	0.0	7.7	0.0	6.2	0.0	18.0
Lane Grp Cap (c), veh/h	0	999	0	999	0	500	0	999
V/C Ratio (X)	0.00	0.40	0.00	0.51	0.00	0.42	0.00	1.01
Avail Cap (c_a), veh/h	0	999	0	999	0	500	0	999
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.0	0.0	19.3	0.0	18.7	0.0	23.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	1.9	0.0	2.6	0.0	31.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.2	0.0	21.2	0.0	21.3	0.0	54.9
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	2.8	0.0	2.2	0.0	6.6
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.3	0.0	0.4	0.0	4.4

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

12/20/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	3.1	0.0	2.6	0.0	11.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.05	0.00	0.10	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	33	0	130	0	213	0	74
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1777	0	1585
Q Serve Time (g_s), s	0.0	1.2	0.0	4.1	0.0	6.3	0.0	2.3
Cycle Q Clear Time (g_c), s	0.0	1.2	0.0	4.1	0.0	6.3	0.0	2.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.29	0.00	1.00
Lane Grp Cap (c), veh/h	0	446	0	446	0	500	0	446
V/C Ratio (X)	0.00	0.07	0.00	0.29	0.00	0.43	0.00	0.17
Avail Cap (c_a), veh/h	0	446	0	446	0	500	0	446
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.4	0.0	18.0	0.0	18.8	0.0	17.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	1.7	0.0	2.7	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.7	0.0	19.7	0.0	21.4	0.0	18.1
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	1.3	0.0	2.3	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	1.5	0.0	2.6	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.39	0.00	0.10	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary

9: Bloomfield & Imperial

12/20/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	767	28	227	1137	92	84	645	227	104	393	115
Future Volume (veh/h)	216	767	28	227	1137	92	84	645	227	104	393	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	235	834	30	247	1236	100	91	701	247	113	427	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1436	446	139	1354	110	408	999	446	314	999	446
Arrive On Green	0.08	0.28	0.28	0.05	0.19	0.19	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	5106	1585	1781	4815	389	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	235	834	30	247	874	462	91	701	247	113	427	125
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1800	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.0	9.0	0.9	5.0	16.1	16.1	2.2	11.3	8.5	2.8	6.3	3.9
Cycle Q Clear(g_c), s	5.0	9.0	0.9	5.0	16.1	16.1	2.2	11.3	8.5	2.8	6.3	3.9
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	1436	446	139	957	506	408	999	446	314	999	446
V/C Ratio(X)	1.69	0.58	0.07	1.77	0.91	0.91	0.22	0.70	0.55	0.36	0.43	0.28
Avail Cap(c_a), veh/h	139	1436	446	139	957	506	408	999	446	314	999	446
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	19.8	16.9	30.3	25.2	25.2	14.2	20.6	19.6	15.3	18.8	17.9
Incr Delay (d2), s/veh	338.9	1.7	0.3	376.2	14.4	23.4	1.3	4.1	4.9	3.2	1.3	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	3.3	0.3	16.5	8.3	10.0	0.9	4.7	3.3	1.2	2.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	368.4	21.5	17.1	406.5	39.6	48.6	15.4	24.7	24.5	18.5	20.1	19.5
LnGrp LOS	F	C	B	F	D	D	B	C	C	B	C	B
Approach Vol, veh/h	1099			1583			1039			665		
Approach Delay, s/veh	95.5			99.5			23.8			19.7		
Approach LOS	F			F			C			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	14.8	13.3	7.0	11.0	4.2	8.3	7.0	18.1				
Green Ext Time (p_c), s	0.0	2.2	0.0	3.0	0.0	2.1	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	68.5
HCM 6th LOS	E

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

12/20/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	767	28	227	1137	92	84	645	227	104	393	115
Future Volume (veh/h)	216	767	28	227	1137	92	84	645	227	104	393	115
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	235	834	30	247	1236	100	91	701	247	113	427	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1436	446	139	1354	110	408	999	446	314	999	446
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.05	0.19	0.19	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	368.4	21.5	17.1	406.5	39.6	48.6	15.4	24.7	24.5	18.5	20.1	19.5
Ln Grp LOS	F	C	B	F	D	D	B	C	C	B	C	B
Approach Vol, veh/h	1099			1583			1039			665		
Approach Delay, s/veh	95.5			99.5			23.8			19.7		
Approach LOS	F			F			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	3.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.7	3.7	4.9	3.7	4.7	3.7	4.9				
Max Q Clear (g_c+I1), s	4.8	13.3	7.0	11.0	4.2	8.3	7.0	18.1				
Green Ext Time (g_e), s	0.0	2.2	0.0	3.0	0.0	2.1	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5106	3554	4815								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	389								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

12/20/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	113	0	247	0	91	0	235	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.8	0.0	5.0	0.0	2.2	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	2.8	0.0	5.0	0.0	2.2	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	592	0	0	0	856	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	6.7	0.0	0.0	0.0	11.7	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	2.7	0.0	0.0	0.0	0.7	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	314	0	139	0	408	0	139	0
V/C Ratio (X)	0.36	0.00	1.77	0.00	0.22	0.00	1.69	0.00
Avail Cap (c_a), veh/h	314	0	139	0	408	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.3	0.0	30.3	0.0	14.2	0.0	29.5	0.0
Incr Delay (d2), s/veh	3.2	0.0	376.2	0.0	1.3	0.0	338.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.5	0.0	406.5	0.0	15.4	0.0	368.4	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	2.0	0.0	0.8	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	14.5	0.0	0.1	0.0	13.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	16.5	0.0	0.9	0.0	15.0	0.0
%ile Storage Ratio (RQ%)	0.24	0.00	4.20	0.00	0.17	0.00	2.55	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	27.0	0.0	0.0	0.0	24.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.4	0.0	0.0	0.0	0.4	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	3	0	2	0	2
Grp Vol (v), veh/h	0	701	0	834	0	427	0	874
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	11.3	0.0	9.0	0.0	6.3	0.0	16.1
Cycle Q Clear Time (g_c), s	0.0	11.3	0.0	9.0	0.0	6.3	0.0	16.1
Lane Grp Cap (c), veh/h	0	999	0	1436	0	999	0	957
V/C Ratio (X)	0.00	0.70	0.00	0.58	0.00	0.43	0.00	0.91
Avail Cap (c_a), veh/h	0	999	0	1436	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.6	0.0	19.8	0.0	18.8	0.0	25.2
Incr Delay (d2), s/veh	0.0	4.1	0.0	1.7	0.0	1.3	0.0	14.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.7	0.0	21.5	0.0	20.1	0.0	39.6
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	3.1	0.0	2.2	0.0	6.4
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.2	0.0	0.2	0.0	1.9

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

12/20/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.7	0.0	3.3	0.0	2.4	0.0	8.3
%ile Storage Ratio (RQ%)	0.00	0.37	0.00	0.07	0.00	0.09	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	247	0	30	0	125	0	462
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1800
Q Serve Time (g_s), s	0.0	8.5	0.0	0.9	0.0	3.9	0.0	16.1
Cycle Q Clear Time (g_c), s	0.0	8.5	0.0	0.9	0.0	3.9	0.0	16.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.22
Lane Grp Cap (c), veh/h	0	446	0	446	0	446	0	506
V/C Ratio (X)	0.00	0.55	0.00	0.07	0.00	0.28	0.00	0.91
Avail Cap (c_a), veh/h	0	446	0	446	0	446	0	506
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.6	0.0	16.9	0.0	17.9	0.0	25.2
Incr Delay (d2), s/veh	0.0	4.9	0.0	0.3	0.0	1.6	0.0	23.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.5	0.0	17.1	0.0	19.5	0.0	48.6
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	0.3	0.0	1.3	0.0	6.7
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.0	0.0	0.2	0.0	3.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.3	0.0	0.3	0.0	1.4	0.0	10.0
%ile Storage Ratio (RQ%)	0.00	0.84	0.00	0.08	0.00	0.33	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	68.5
HCM 6th LOS	E

HCM 6th TWSC
1: Greenstone & Sunshine

12/22/2020

Intersection												
Int Delay, s/veh	6.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	0	10	0	126	0	19	23	85	15	0
Future Vol, veh/h	0	1	0	10	0	126	0	19	23	85	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	0	11	0	137	0	21	25	92	16	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	302	246	16	235	234	34	16	0	0	46	0	0
Stage 1	200	200	-	34	34	-	-	-	-	-	-	-
Stage 2	102	46	-	201	200	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	650	656	1063	720	666	1039	1602	-	-	1562	-	-
Stage 1	802	736	-	982	867	-	-	-	-	-	-	-
Stage 2	904	857	-	801	736	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	539	617	1063	687	627	1039	1602	-	-	1562	-	-
Mov Cap-2 Maneuver	539	617	-	687	627	-	-	-	-	-	-	-
Stage 1	802	693	-	982	867	-	-	-	-	-	-	-
Stage 2	785	857	-	753	693	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.8		9.2		0		6.3					
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1602	-	-	617	1001	1562	-	-				
HCM Lane V/C Ratio	-	-	-	0.002	0.148	0.059	-	-				
HCM Control Delay (s)	0	-	-	10.8	9.2	7.5	0	-				
HCM Lane LOS	A	-	-	B	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.2	-	-				

HCM 6th TWSC
2: Greenstone & Lakeland

12/22/2020

Intersection

Int Delay, s/veh 4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	258	160	84	214	107	62
Future Vol, veh/h	258	160	84	214	107	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	280	174	91	233	116	67

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	454
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1107
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1107
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	17.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	333	678	-	-	1107	-
HCM Lane V/C Ratio	0.349	0.099	-	-	0.082	-
HCM Control Delay (s)	21.5	10.9	-	-	8.5	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.5	0.3	-	-	0.3	-

HCM 6th TWSC

3: Shoemaker & Sunshine

12/22/2020

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	1	91	7	3	28	129	329	37	52	394	6
Future Vol, veh/h	14	1	91	7	3	28	129	329	37	52	394	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	-	-	-	150	-	100	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	1	99	8	3	30	140	358	40	57	428	7
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1007	1224	218	967	1187	179	435	0	0	398	0	0
Stage 1	546	546	-	638	638	-	-	-	-	-	-	-
Stage 2	461	678	-	329	549	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	195	178	786	209	187	833	1121	-	-	1157	-	-
Stage 1	490	516	-	431	469	-	-	-	-	-	-	-
Stage 2	550	450	-	658	515	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	161	148	786	158	156	833	1121	-	-	1157	-	-
Mov Cap-2 Maneuver	161	148	-	158	156	-	-	-	-	-	-	-
Stage 1	429	491	-	377	410	-	-	-	-	-	-	-
Stage 2	460	394	-	546	490	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13		15.3		2.3		1					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	1121	-	-	160	786	391	1157	-	-			
HCM Lane V/C Ratio	0.125	-	-	0.102	0.126	0.106	0.049	-	-			
HCM Control Delay (s)	8.7	-	-	30	10.2	15.3	8.3	-	-			
HCM Lane LOS	A	-	-	D	B	C	A	-	-			
HCM 95th %tile Q(veh)	0.4	-	-	0.3	0.4	0.4	0.2	-	-			

HCM 6th Signalized Intersection Summary

4: Shoemaker & Imperial

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	172	1398	83	18	1090	249	98	74	26	238	50	205
Future Volume (veh/h)	172	1398	83	18	1090	249	98	74	26	238	50	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	1520	90	20	1185	271	107	80	28	259	54	223
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1387	82	252	1168	267	139	526	446	572	526	446
Arrive On Green	0.03	0.09	0.09	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	4930	292	1781	4154	950	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	187	1049	561	20	971	485	107	80	28	259	54	223
Grp Sat Flow(s),veh/h/ln	1781	1702	1818	1781	1702	1699	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.0	18.0	18.0	0.5	18.0	18.0	3.8	2.1	0.8	5.0	1.4	7.5
Cycle Q Clear(g_c), s	5.0	18.0	18.0	0.5	18.0	18.0	3.8	2.1	0.8	5.0	1.4	7.5
Prop In Lane	1.00		0.16	1.00		0.56	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	957	511	252	957	478	139	526	446	572	526	446
V/C Ratio(X)	1.34	1.10	1.10	0.08	1.01	1.01	0.77	0.15	0.06	0.45	0.10	0.50
Avail Cap(c_a), veh/h	139	957	511	252	957	478	139	526	446	572	526	446
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	29.0	29.0	16.7	29.0	29.0	28.9	17.3	16.8	16.0	17.0	19.2
Incr Delay (d2), s/veh	194.8	59.0	68.7	0.6	32.7	44.8	32.7	0.6	0.3	2.6	0.4	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	15.7	18.2	0.2	12.2	13.8	2.8	0.9	0.3	2.8	0.6	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	226.0	88.0	97.7	17.3	61.7	73.9	61.7	17.9	17.1	18.5	17.4	23.2
LnGrp LOS	F	F	F	B	F	F	E	B	B	B	B	C
Approach Vol, veh/h		1797			1476			215			536	
Approach Delay, s/veh		105.4			65.1			39.6			20.4	
Approach LOS		F			E			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	4.1	2.5	20.0	5.8	9.5	7.0	20.0				
Green Ext Time (p_c), s	0.0	0.3	0.0	0.0	0.0	0.6	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			75.8									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	1398	83	18	1090	249	98	74	26	238	50	205
Future Volume (veh/h)	172	1398	83	18	1090	249	98	74	26	238	50	205
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No				No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	1520	90	20	1185	271	107	80	28	259	54	223
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1387	82	252	1168	267	139	526	446	572	526	446
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	226.0	88.0	97.7	17.3	61.7	73.9	61.7	17.9	17.1	18.5	17.4	23.2
Ln Grp LOS	F	F	F	B	F	F	E	B	B	B	B	C
Approach Vol, veh/h	1797				1476				215		536	
Approach Delay, s/veh	105.4				65.1				39.6		20.4	
Approach LOS	F				E				D		C	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.9	3.8	4.1	3.7	5.0				
Max Q Clear (g_c+I1), s	7.0	4.1	2.5	20.0	5.8	9.5	7.0	20.0				
Green Ext Time (g_e), s	0.0	0.3	0.0	0.0	0.0	0.6	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	1870	4930	1870	4154								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	292	1585	950								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

12/22/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	259	0	20	0	107	0	187	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.0	0.0	0.5	0.0	3.8	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	5.0	0.0	0.5	0.0	3.8	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1286	0	315	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	15.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	572	0	252	0	139	0	139	0
V/C Ratio (X)	0.45	0.00	0.08	0.00	0.77	0.00	1.34	0.00
Avail Cap (c_a), veh/h	572	0	252	0	139	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	16.0	0.0	16.7	0.0	28.9	0.0	31.2	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.6	0.0	32.7	0.0	194.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.5	0.0	17.3	0.0	61.7	0.0	226.0	0.0
1st-Term Q (Q1), veh/ln	2.4	0.0	0.2	0.0	1.5	0.0	2.1	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.0	0.0	1.3	0.0	7.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.8	0.0	0.2	0.0	2.8	0.0	9.6	0.0
%ile Storage Ratio (RQ%)	0.03	0.00	0.03	0.00	0.42	0.00	1.74	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	80	0	1049	0	54	0	971
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	2.1	0.0	18.0	0.0	1.4	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	2.1	0.0	18.0	0.0	1.4	0.0	18.0
Lane Grp Cap (c), veh/h	0	526	0	957	0	526	0	957
V/C Ratio (X)	0.00	0.15	0.00	1.10	0.00	0.10	0.00	1.01
Avail Cap (c_a), veh/h	0	526	0	957	0	526	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.3	0.0	29.0	0.0	17.0	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	59.0	0.0	0.4	0.0	32.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.9	0.0	88.0	0.0	17.4	0.0	61.7
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	7.9	0.0	0.5	0.0	7.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	7.8	0.0	0.1	0.0	4.3

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

12/22/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.9	0.0	15.7	0.0	0.6	0.0	12.2
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.16	0.00	0.01	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	23.0	0.0	0.0	0.0	3.4
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	28	0	561	0	223	0	485
Grp Sat Flow (s), veh/h/ln	0	1585	0	1818	0	1585	0	1699
Q Serve Time (g_s), s	0.0	0.8	0.0	18.0	0.0	7.5	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	0.8	0.0	18.0	0.0	7.5	0.0	18.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.16	0.00	1.00	0.00	0.56
Lane Grp Cap (c), veh/h	0	446	0	511	0	446	0	478
V/C Ratio (X)	0.00	0.06	0.00	1.10	0.00	0.50	0.00	1.01
Avail Cap (c_a), veh/h	0	446	0	511	0	446	0	478
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.8	0.0	29.0	0.0	19.2	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	68.7	0.0	4.0	0.0	44.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.1	0.0	97.7	0.0	23.2	0.0	73.9
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	8.4	0.0	2.4	0.0	7.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	9.8	0.0	0.5	0.0	6.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	18.2	0.0	2.9	0.0	13.8
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.18	0.00	0.73	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	12.3	0.0	0.0	0.0	1.7
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3

Intersection Summary

HCM 6th Ctrl Delay	75.8
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary

5: Carmenita & Imperial

12/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑↑ ↱			↰ ↑↑↑ ↱			↰ ↑↑ ↱			↰ ↑↑ ↱		
Traffic Volume (veh/h)	98	850	198	131	682	125	191	1178	142	89	873	55
Future Volume (veh/h)	98	850	198	131	682	125	191	1178	142	89	873	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	924	215	142	741	136	208	1280	154	97	949	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1165	270	139	1221	222	262	999	446	252	999	446
Arrive On Green	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	4141	960	1781	4343	789	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	107	759	380	142	579	298	208	1280	154	97	949	60
Grp Sat Flow(s),veh/h/ln	1781	1702	1698	1781	1702	1728	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.8	14.0	14.0	5.0	9.4	9.6	5.0	18.0	5.0	2.4	16.8	1.8
Cycle Q Clear(g_c), s	3.8	14.0	14.0	5.0	9.4	9.6	5.0	18.0	5.0	2.4	16.8	1.8
Prop In Lane	1.00		0.57	1.00		0.46	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	957	477	139	957	486	262	999	446	252	999	446
V/C Ratio(X)	0.77	0.79	0.80	1.02	0.61	0.61	0.79	1.28	0.35	0.39	0.95	0.13
Avail Cap(c_a), veh/h	139	957	477	139	957	486	262	999	446	252	999	446
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	27.2	27.2	29.5	19.9	20.0	18.3	23.0	18.3	16.4	22.6	17.2
Incr Delay (d2), s/veh	32.7	6.7	12.9	81.8	2.8	5.7	21.3	134.0	2.1	4.4	18.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	7.0	7.8	5.1	3.6	4.1	3.4	25.0	1.8	1.1	8.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	33.9	40.1	111.3	22.8	25.6	39.6	157.0	20.4	20.8	41.2	17.8
LnGrp LOS	E	C	D	F	C	C	D	F	C	C	D	B
Approach Vol, veh/h	1246			1019			1642			1106		
Approach Delay, s/veh	38.3			35.9			129.4			38.1		
Approach LOS	D			D			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	20.0	20.0	7.0	16.0	7.0	18.8	5.8	11.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	2.8				

Intersection Summary

HCM 6th Ctrl Delay	67.6
HCM 6th LOS	E

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	850	198	131	682	125	191	1178	142	89	873	55
Future Volume (veh/h)	98	850	198	131	682	125	191	1178	142	89	873	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A _{pbt})	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	924	215	142	741	136	208	1280	154	97	949	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1165	270	139	1221	222	262	999	446	252	999	446
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.3	33.9	40.1	111.3	22.8	25.6	39.6	157.0	20.4	20.8	41.2	17.8
Ln Grp LOS	E	C	D	F	C	C	D	F	C	C	D	B
Approach Vol, veh/h	1246			1019			1642			1106		
Approach Delay, s/veh	38.3			35.9			129.4			38.1		
Approach LOS	D			D			F			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	4.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	5.0	3.7	4.9	3.7	5.0				
Max Q Clear (g _{c+1}), s	4.4	20.0	7.0	16.0	7.0	18.8	5.8	11.6				
Green Ext Time (g _e), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	2.8				
Prob of Phs Call (p _c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p _x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	4141	3554	4343								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	960	1585	789								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

12/22/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	97	0	142	0	208	0	107	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.4	0.0	5.0	0.0	5.0	0.0	3.8	0.0
Cycle Q Clear Time (g_c), s	2.4	0.0	5.0	0.0	5.0	0.0	3.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	373	0	0	0	559	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	252	0	139	0	262	0	139	0
V/C Ratio (X)	0.39	0.00	1.02	0.00	0.79	0.00	0.77	0.00
Avail Cap (c_a), veh/h	252	0	139	0	262	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	16.4	0.0	29.5	0.0	18.3	0.0	30.6	0.0
Incr Delay (d2), s/veh	4.4	0.0	81.8	0.0	21.3	0.0	32.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	20.8	0.0	111.3	0.0	39.6	0.0	63.3	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.9	0.0	1.8	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	3.2	0.0	1.6	0.0	1.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.1	0.0	5.1	0.0	3.4	0.0	2.8	0.0
%ile Storage Ratio (RQ%)	0.20	0.00	0.63	0.00	0.52	0.00	0.59	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1280	0	759	0	949	0	579
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	18.0	0.0	14.0	0.0	16.8	0.0	9.4
Cycle Q Clear Time (g_c), s	0.0	18.0	0.0	14.0	0.0	16.8	0.0	9.4
Lane Grp Cap (c), veh/h	0	999	0	957	0	999	0	957
V/C Ratio (X)	0.00	1.28	0.00	0.79	0.00	0.95	0.00	0.61
Avail Cap (c_a), veh/h	0	999	0	957	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.0	0.0	27.2	0.0	22.6	0.0	19.9
Incr Delay (d2), s/veh	0.0	134.0	0.0	6.7	0.0	18.6	0.0	2.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	157.0	0.0	33.9	0.0	41.2	0.0	22.8
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	6.1	0.0	6.1	0.0	3.2
2nd-Term Q (Q2), veh/ln	0.0	18.6	0.0	0.9	0.0	2.6	0.0	0.4

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

12/22/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	25.0	0.0	7.0	0.0	8.7	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.07	0.00	0.38	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	70.1	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	154	0	380	0	60	0	298
Grp Sat Flow (s), veh/h/ln	0	1585	0	1698	0	1585	0	1728
Q Serve Time (g_s), s	0.0	5.0	0.0	14.0	0.0	1.8	0.0	9.6
Cycle Q Clear Time (g_c), s	0.0	5.0	0.0	14.0	0.0	1.8	0.0	9.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.57	0.00	1.00	0.00	0.46
Lane Grp Cap (c), veh/h	0	446	0	477	0	446	0	486
V/C Ratio (X)	0.00	0.35	0.00	0.80	0.00	0.13	0.00	0.61
Avail Cap (c_a), veh/h	0	446	0	477	0	446	0	486
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.3	0.0	27.2	0.0	17.2	0.0	20.0
Incr Delay (d2), s/veh	0.0	2.1	0.0	12.9	0.0	0.6	0.0	5.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.4	0.0	40.1	0.0	17.8	0.0	25.6
1st-Term Q (Q1), veh/ln	0.0	1.6	0.0	6.1	0.0	0.6	0.0	3.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	1.7	0.0	0.1	0.0	0.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.8	0.0	7.8	0.0	0.7	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.08	0.00	0.03	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	67.6
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary

6: Carmenita & Rosecrans

12/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	🚗🚗	🚗🚗		🚗🚗🚗	🚗🚗🚗		🚗	🚗🚗	🚗	🚗	🚗🚗	🚗
Traffic Volume (veh/h)	367	661	44	140	594	71	122	1255	181	57	1109	430
Future Volume (veh/h)	367	661	44	140	594	71	122	1255	181	57	1109	430
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	399	718	48	152	646	77	133	1364	197	62	1205	467
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	951	64	139	1302	154	139	999	446	139	999	446
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	3456	3381	226	1781	4630	546	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	399	377	389	152	473	250	133	1364	197	62	1205	467
Grp Sat Flow(s),veh/h/ln	1728	1777	1830	1781	1702	1772	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.0	12.4	12.4	5.0	7.4	7.5	4.8	18.0	6.5	2.1	18.0	18.0
Cycle Q Clear(g_c), s	5.0	12.4	12.4	5.0	7.4	7.5	4.8	18.0	6.5	2.1	18.0	18.0
Prop In Lane	1.00		0.12	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	500	515	139	957	498	139	999	446	139	999	446
V/C Ratio(X)	1.48	0.75	0.76	1.09	0.49	0.50	0.96	1.36	0.44	0.45	1.21	1.05
Avail Cap(c_a), veh/h	270	500	515	139	957	498	139	999	446	139	999	446
HCM 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
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	21.0	21.0	29.5	19.2	19.2	29.4	23.0	18.9	28.2	23.0	23.0
Incr Delay (d2), s/veh	234.0	10.2	9.9	103.1	1.8	3.6	65.3	170.6	3.2	10.0	102.1	55.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.8	6.0	5.9	2.8	3.2	4.4	30.1	2.5	1.2	20.6	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	263.5	31.1	30.9	132.6	21.0	22.8	94.7	193.6	22.0	38.2	125.1	78.6
LnGrp LOS	F	C	C	F	C	C	F	F	C	D	F	F
Approach Vol, veh/h	1165					875		1694		1734		
Approach Delay, s/veh	110.6					40.9		165.9		109.5		
Approach LOS	F					D		F		F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	20.0	20.0	7.0	14.4	6.8	20.0	7.0	9.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.5	0.0	0.0	0.0	2.7				

Intersection Summary

HCM 6th Ctrl Delay	116.2
HCM 6th LOS	F

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	367	661	44	140	594	71	122	1255	181	57	1109	430
Future Volume (veh/h)	367	661	44	140	594	71	122	1255	181	57	1109	430
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	399	718	48	152	646	77	133	1364	197	62	1205	467
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	270	951	64	139	1302	154	139	999	446	139	999	446
HCM 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
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	263.5	31.1	30.9	132.6	21.0	22.8	94.7	193.6	22.0	38.2	125.1	78.6
Ln Grp LOS	F	C	C	F	C	C	F	F	C	D	F	F
Approach Vol, veh/h	1165			875			1694			1734		
Approach Delay, s/veh	110.6			40.9			165.9			109.5		
Approach LOS	F			D			F			F		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	4.9	3.7	4.6	3.7	4.9				
Max Q Clear (g_c+I1), s	4.1	20.0	7.0	14.4	6.8	20.0	7.0	9.5				
Green Ext Time (g_e), s	0.0	0.0	0.0	1.5	0.0	0.0	0.0	2.7				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3381	3554	4630								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	226	1585	546								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

12/22/2020

Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	62	0	152	0	133	0	399	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	2.1	0.0	5.0	0.0	4.8	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	2.1	0.0	5.0	0.0	4.8	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	139	0	139	0	139	0	270	0
V/C Ratio (X)	0.45	0.00	1.09	0.00	0.96	0.00	1.48	0.00
Avail Cap (c_a), veh/h	139	0	139	0	139	0	270	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	28.2	0.0	29.5	0.0	29.4	0.0	29.5	0.0
Incr Delay (d2), s/veh	10.0	0.0	103.1	0.0	65.3	0.0	234.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	38.2	0.0	132.6	0.0	94.7	0.0	263.5	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.9	0.0	1.8	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	4.0	0.0	2.5	0.0	8.8	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	5.9	0.0	4.4	0.0	10.7	0.0
%ile Storage Ratio (RQ%)	0.15	0.00	1.00	0.00	0.55	0.00	1.59	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	3.2	0.0	0.0	0.0	32.3	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.4	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	1364	0	377	0	1205	0	473
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1702
Q Serve Time (g_s), s	0.0	18.0	0.0	12.4	0.0	18.0	0.0	7.4
Cycle Q Clear Time (g_c), s	0.0	18.0	0.0	12.4	0.0	18.0	0.0	7.4
Lane Grp Cap (c), veh/h	0	999	0	500	0	999	0	957
V/C Ratio (X)	0.00	1.36	0.00	0.75	0.00	1.21	0.00	0.49
Avail Cap (c_a), veh/h	0	999	0	500	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.0	0.0	21.0	0.0	23.0	0.0	19.2
Incr Delay (d2), s/veh	0.0	170.6	0.0	10.2	0.0	102.1	0.0	1.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	193.6	0.0	31.1	0.0	125.1	0.0	21.0
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	4.4	0.0	6.4	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	23.7	0.0	1.4	0.0	14.2	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

12/22/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	30.1	0.0	5.8	0.0	20.6	0.0	2.8
%ile Storage Ratio (RQ%)	0.00	2.80	0.00	0.23	0.00	0.10	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	91.1	0.0	0.0	0.0	51.4	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	197	0	389	0	467	0	250
Grp Sat Flow (s), veh/h/ln	0	1585	0	1830	0	1585	0	1772
Q Serve Time (g_s), s	0.0	6.5	0.0	12.4	0.0	18.0	0.0	7.5
Cycle Q Clear Time (g_c), s	0.0	6.5	0.0	12.4	0.0	18.0	0.0	7.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.12	0.00	1.00	0.00	0.31
Lane Grp Cap (c), veh/h	0	446	0	515	0	446	0	498
V/C Ratio (X)	0.00	0.44	0.00	0.76	0.00	1.05	0.00	0.50
Avail Cap (c_a), veh/h	0	446	0	515	0	446	0	498
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.9	0.0	21.0	0.0	23.0	0.0	19.2
Incr Delay (d2), s/veh	0.0	3.2	0.0	9.9	0.0	55.6	0.0	3.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.0	0.0	30.9	0.0	78.6	0.0	22.8
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	4.5	0.0	5.7	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	1.4	0.0	6.9	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.5	0.0	6.0	0.0	12.6	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.24	0.00	1.60	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	116.2
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary

7: Shoemaker & Lakeland

12/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	153	111	35	117	34	82	486	32	44	580	98
Future Volume (veh/h)	76	153	111	35	117	34	82	486	32	44	580	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	166	121	38	127	37	89	528	35	48	630	107
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	531	526	446	482	526	446	368	999	446	384	999	446
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.16	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	83	166	121	38	127	37	89	528	35	48	630	107
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.0	4.5	3.8	0.9	3.4	1.1	2.2	8.0	1.0	1.1	7.7	2.2
Cycle Q Clear(g_c), s	2.0	4.5	3.8	0.9	3.4	1.1	2.2	8.0	1.0	1.1	7.7	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	531	526	446	482	526	446	368	999	446	384	999	446
V/C Ratio(X)	0.16	0.32	0.27	0.08	0.24	0.08	0.24	0.53	0.08	0.13	0.63	0.24
Avail Cap(c_a), veh/h	531	526	446	482	526	446	368	999	446	384	999	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	18.1	17.9	13.6	17.7	16.9	14.4	19.4	16.9	12.8	11.7	10.5
Incr Delay (d2), s/veh	0.6	1.6	1.5	0.3	1.1	0.4	1.6	2.0	0.3	0.7	3.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.9	1.4	0.4	1.4	0.4	0.9	3.1	0.4	0.4	2.4	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	19.7	19.4	13.9	18.8	17.3	15.9	21.4	17.2	13.5	14.8	11.8
LnGrp LOS	B	B	B	B	B	B	B	C	B	B	B	B
Approach Vol, veh/h	370			202			652			785		
Approach Delay, s/veh	18.4			17.6			20.4			14.3		
Approach LOS	B			B			C			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	10.0	10.0	2.9	6.5	4.2	9.7	4.0	5.4				
Green Ext Time (p_c), s	0.0	2.0	0.0	0.9	0.0	2.8	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	153	111	35	117	34	82	486	32	44	580	98
Future Volume (veh/h)	76	153	111	35	117	34	82	486	32	44	580	98
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	166	121	38	127	37	89	528	35	48	630	107
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	531	526	446	482	526	446	368	999	446	384	999	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.16	0.56	0.56
Unsig. Movement Delay												
Ln Grp Delay, s/veh	14.5	19.7	19.4	13.9	18.8	17.3	15.9	21.4	17.2	13.5	14.8	11.8
Ln Grp LOS	B	B	B	B	B	B	B	C	B	B	B	B
Approach Vol, veh/h	370			202			652			785		
Approach Delay, s/veh	18.4			17.6			20.4			14.3		
Approach LOS	B			B			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	4.6	3.7	4.9	3.7	4.8				
Max Q Clear (g_c+I1), s	3.1	10.0	2.9	6.5	4.2	9.7	4.0	5.4				
Green Ext Time (g_e), s	0.0	2.0	0.0	0.9	0.0	2.8	0.0	0.5				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	1870	3554	1870								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)								

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

12/22/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	48	0	38	0	89	0	83	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.1	0.0	0.9	0.0	2.2	0.0	2.0	0.0
Cycle Q Clear Time (g_c), s	1.1	0.0	0.9	0.0	2.2	0.0	2.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	847	0	1092	0	721	0	1222	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	18.0	0.0	18.0	0.0
Perm LT Serve Time (g_u), s	10.0	0.0	13.5	0.0	10.3	0.0	14.6	0.0
Perm LT Q Serve Time (g_ps), s	0.4	0.0	0.2	0.0	1.1	0.0	0.2	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	384	0	482	0	368	0	531	0
V/C Ratio (X)	0.13	0.00	0.08	0.00	0.24	0.00	0.16	0.00
Avail Cap (c_a), veh/h	384	0	482	0	368	0	531	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	12.8	0.0	13.6	0.0	14.4	0.0	13.9	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.3	0.0	1.6	0.0	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	13.5	0.0	13.9	0.0	15.9	0.0	14.5	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	0.3	0.0	0.7	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	0.4	0.0	0.9	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.12	0.00	0.08	0.00	0.11	0.00	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	528	0	166	0	630	0	127
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	8.0	0.0	4.5	0.0	7.7	0.0	3.4
Cycle Q Clear Time (g_c), s	0.0	8.0	0.0	4.5	0.0	7.7	0.0	3.4
Lane Grp Cap (c), veh/h	0	999	0	526	0	999	0	526
V/C Ratio (X)	0.00	0.53	0.00	0.32	0.00	0.63	0.00	0.24
Avail Cap (c_a), veh/h	0	999	0	526	0	999	0	526
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.4	0.0	18.1	0.0	11.7	0.0	17.7
Incr Delay (d2), s/veh	0.0	2.0	0.0	1.6	0.0	3.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.4	0.0	19.7	0.0	14.8	0.0	18.8
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	1.7	0.0	2.0	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.4	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

12/22/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	1.9	0.0	2.4	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.06	0.00	0.05	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	35	0	121	0	107	0	37
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.0	0.0	3.8	0.0	2.2	0.0	1.1
Cycle Q Clear Time (g_c), s	0.0	1.0	0.0	3.8	0.0	2.2	0.0	1.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	446	0	446	0	446	0	446
V/C Ratio (X)	0.00	0.08	0.00	0.27	0.00	0.24	0.00	0.08
Avail Cap (c_a), veh/h	0	446	0	446	0	446	0	446
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.9	0.0	17.9	0.0	10.5	0.0	16.9
Incr Delay (d2), s/veh	0.0	0.3	0.0	1.5	0.0	1.3	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.2	0.0	19.4	0.0	11.8	0.0	17.3
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	1.2	0.0	0.6	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	1.4	0.0	0.8	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.36	0.00	0.20	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

8: Shoemaker & Florence

12/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	1023	148	51	726	25	121	415	86	53	488	97
Future Volume (veh/h)	53	1023	148	51	726	25	121	415	86	53	488	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	1112	161	55	789	27	132	451	93	58	530	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	999	446	252	999	446	350	999	446	391	832	164
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.03	0.09	0.09	0.08	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	2958	584
Grp Volume(v), veh/h	58	1112	161	55	789	27	132	451	93	58	317	318
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1765
Q Serve(g_s), s	1.4	18.0	5.2	1.3	13.1	0.8	3.3	7.7	3.5	1.4	10.0	10.1
Cycle Q Clear(g_c), s	1.4	18.0	5.2	1.3	13.1	0.8	3.3	7.7	3.5	1.4	10.0	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	303	999	446	252	999	446	350	999	446	391	500	496
V/C Ratio(X)	0.19	1.11	0.36	0.22	0.79	0.06	0.38	0.45	0.21	0.15	0.64	0.64
Avail Cap(c_a), veh/h	303	999	446	252	999	446	350	999	446	391	500	496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.0	23.0	18.4	16.1	21.2	16.8	16.0	24.4	22.4	14.1	20.1	20.2
Incr Delay (d2), s/veh	1.4	64.6	2.3	2.0	6.3	0.3	3.1	1.5	1.1	0.8	6.1	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	15.5	2.0	0.6	5.7	0.3	1.5	3.4	1.3	0.6	4.5	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.5	87.6	20.7	18.1	27.6	17.1	19.1	25.8	23.5	14.9	26.2	26.4
LnGrp LOS	B	F	C	B	C	B	B	C	C	B	C	C
Approach Vol, veh/h	1331		871			676			693			
Approach Delay, s/veh	76.4		26.7			24.2			25.3			
Approach LOS	E		C			C			C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	9.7	9.7	3.3	20.0	5.3	12.1	3.4	15.1				
Green Ext Time (p_c), s	0.0	2.0	0.0	0.0	0.0	1.9	0.0	1.4				

Intersection Summary

HCM 6th Ctrl Delay 44.5
 HCM 6th LOS D

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	1023	148	51	726	25	121	415	86	53	488	97
Future Volume (veh/h)	53	1023	148	51	726	25	121	415	86	53	488	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	1112	161	55	789	27	132	451	93	58	530	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	303	999	446	252	999	446	350	999	446	391	832	164
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.03	0.09	0.09	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	16.5	87.6	20.7	18.1	27.6	17.1	19.1	25.8	23.5	14.9	26.2	26.4
Ln Grp LOS	B	F	C	B	C	B	B	C	C	B	C	C
Approach Vol, veh/h	1331			871			676			693		
Approach Delay, s/veh	76.4			26.7			24.2			25.3		
Approach LOS	E			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	4.9	3.7	5.1	3.7	5.0				
Max Q Clear (g_c+I1), s	3.4	9.7	3.3	20.0	5.3	12.1	3.4	15.1				
Green Ext Time (g_e), s	0.0	2.0	0.0	0.0	0.0	1.9	0.0	1.4				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3554	2958	3554								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	584	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)								

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

12/22/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	58	0	55	0	132	0	58	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.4	0.0	1.3	0.0	3.3	0.0	1.4	0.0
Cycle Q Clear Time (g_c), s	1.4	0.0	1.3	0.0	3.3	0.0	1.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	862	0	435	0	793	0	670	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	18.0	0.0	18.0	0.0
Perm LT Serve Time (g_u), s	10.3	0.0	0.0	0.0	7.9	0.0	4.9	0.0
Perm LT Q Serve Time (g_ps), s	0.6	0.0	0.0	0.0	2.2	0.0	1.2	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	391	0	252	0	350	0	303	0
V/C Ratio (X)	0.15	0.00	0.22	0.00	0.38	0.00	0.19	0.00
Avail Cap (c_a), veh/h	391	0	252	0	350	0	303	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	14.1	0.0	16.1	0.0	16.0	0.0	15.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	2.0	0.0	3.1	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	14.9	0.0	18.1	0.0	19.1	0.0	16.5	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	0.5	0.0	1.2	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.6	0.0	0.6	0.0	1.5	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.10	0.00	0.08	0.00	0.38	0.00	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	451	0	1112	0	317	0	789
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	7.7	0.0	18.0	0.0	10.0	0.0	13.1
Cycle Q Clear Time (g_c), s	0.0	7.7	0.0	18.0	0.0	10.0	0.0	13.1
Lane Grp Cap (c), veh/h	0	999	0	999	0	500	0	999
V/C Ratio (X)	0.00	0.45	0.00	1.11	0.00	0.64	0.00	0.79
Avail Cap (c_a), veh/h	0	999	0	999	0	500	0	999
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.4	0.0	23.0	0.0	20.1	0.0	21.2
Incr Delay (d2), s/veh	0.0	1.5	0.0	64.6	0.0	6.1	0.0	6.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.8	0.0	87.6	0.0	26.2	0.0	27.6
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	6.6	0.0	3.6	0.0	4.8
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	9.0	0.0	0.8	0.0	0.9

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

12/22/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.4	0.0	15.5	0.0	4.5	0.0	5.7
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.23	0.00	0.16	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	28.1	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	93	0	161	0	318	0	27
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1765	0	1585
Q Serve Time (g_s), s	0.0	3.5	0.0	5.2	0.0	10.1	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	5.2	0.0	10.1	0.0	0.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.33	0.00	1.00
Lane Grp Cap (c), veh/h	0	446	0	446	0	496	0	446
V/C Ratio (X)	0.00	0.21	0.00	0.36	0.00	0.64	0.00	0.06
Avail Cap (c_a), veh/h	0	446	0	446	0	496	0	446
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.4	0.0	18.4	0.0	20.2	0.0	16.8
Incr Delay (d2), s/veh	0.0	1.1	0.0	2.3	0.0	6.2	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.5	0.0	20.7	0.0	26.4	0.0	17.1
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	1.7	0.0	3.7	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.0	0.9	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	2.0	0.0	4.5	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.22	0.00	0.50	0.00	0.16	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	44.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

9: Bloomfield & Imperial

12/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑	↱	↰	↑↑↑		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	145	1121	60	255	1153	62	122	624	400	157	821	238
Future Volume (veh/h)	145	1121	60	255	1153	62	122	624	400	157	821	238
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	1218	65	277	1253	67	133	678	435	171	892	259
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1436	446	139	1395	75	271	999	446	308	999	446
Arrive On Green	0.08	0.28	0.28	0.05	0.19	0.19	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	5106	1585	1781	4961	265	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	158	1218	65	277	860	460	133	678	435	171	892	259
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1823	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.0	14.4	2.0	5.0	15.8	15.8	3.3	10.8	17.4	4.4	15.4	9.0
Cycle Q Clear(g_c), s	5.0	14.4	2.0	5.0	15.8	15.8	3.3	10.8	17.4	4.4	15.4	9.0
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	1436	446	139	957	513	271	999	446	308	999	446
V/C Ratio(X)	1.14	0.85	0.15	1.99	0.90	0.90	0.49	0.68	0.98	0.55	0.89	0.58
Avail Cap(c_a), veh/h	139	1436	446	139	957	513	271	999	446	308	999	446
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	21.7	17.2	30.3	25.1	25.1	16.5	20.4	22.8	15.9	22.1	19.8
Incr Delay (d2), s/veh	117.3	6.4	0.7	470.3	12.9	21.2	6.2	3.7	37.0	7.0	12.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	5.8	0.7	20.2	7.9	9.7	1.6	4.5	10.1	2.1	7.1	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	146.8	28.1	17.9	500.7	38.0	46.2	22.7	24.1	59.8	22.9	34.1	25.2
LnGrp LOS	F	C	B	F	D	D	C	C	E	C	C	C
Approach Vol, veh/h	1441		1597			1246			1322			
Approach Delay, s/veh	40.7		120.6			36.4			30.9			
Approach LOS	D		F			D			C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	19.4	19.4	7.0	16.4	5.3	17.4	7.0	17.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.1	0.0	0.4	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			60.2									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

12/22/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	1121	60	255	1153	62	122	624	400	157	821	238
Future Volume (veh/h)	145	1121	60	255	1153	62	122	624	400	157	821	238
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	1218	65	277	1253	67	133	678	435	171	892	259
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1436	446	139	1395	75	271	999	446	308	999	446
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.05	0.19	0.19	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	146.8	28.1	17.9	500.7	38.0	46.2	22.7	24.1	59.8	22.9	34.1	25.2
Ln Grp LOS	F	C	B	F	D	D	C	C	E	C	C	C
Approach Vol, veh/h	1441			1597			1246			1322		
Approach Delay, s/veh	40.7			120.6			36.4			30.9		
Approach LOS	D			F			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	3.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.6	3.7	4.9	3.7	4.7	3.7	4.9				
Max Q Clear (g_c+I1), s	6.4	19.4	7.0	16.4	5.3	17.4	7.0	17.8				
Green Ext Time (g_e), s	0.0	0.0	0.0	1.1	0.0	0.4	0.0	0.2				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5106	3554	4961								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	265								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

12/22/2020

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	171	0	277	0	133	0	158	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	4.4	0.0	5.0	0.0	3.3	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	4.4	0.0	5.0	0.0	3.3	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	506	0	0	0	488	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	7.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	5.5	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	308	0	139	0	271	0	139	0
V/C Ratio (X)	0.55	0.00	1.99	0.00	0.49	0.00	1.14	0.00
Avail Cap (c_a), veh/h	308	0	139	0	271	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.9	0.0	30.3	0.0	16.5	0.0	29.5	0.0
Incr Delay (d2), s/veh	7.0	0.0	470.3	0.0	6.2	0.0	117.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	22.9	0.0	500.7	0.0	22.7	0.0	146.8	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	2.0	0.0	1.2	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.6	0.0	18.2	0.0	0.5	0.0	4.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.1	0.0	20.2	0.0	1.6	0.0	6.5	0.0
%ile Storage Ratio (RQ%)	0.41	0.00	5.12	0.00	0.29	0.00	1.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	34.5	0.0	0.0	0.0	4.7	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.5	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	3	0	2	0	2
Grp Vol (v), veh/h	0	678	0	1218	0	892	0	860
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	10.8	0.0	14.4	0.0	15.4	0.0	15.8
Cycle Q Clear Time (g_c), s	0.0	10.8	0.0	14.4	0.0	15.4	0.0	15.8
Lane Grp Cap (c), veh/h	0	999	0	1436	0	999	0	957
V/C Ratio (X)	0.00	0.68	0.00	0.85	0.00	0.89	0.00	0.90
Avail Cap (c_a), veh/h	0	999	0	1436	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.4	0.0	21.7	0.0	22.1	0.0	25.1
Incr Delay (d2), s/veh	0.0	3.7	0.0	6.4	0.0	12.0	0.0	12.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.1	0.0	28.1	0.0	34.1	0.0	38.0
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	4.9	0.0	5.5	0.0	6.2
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.9	0.0	1.7	0.0	1.7

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

12/22/2020

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.5	0.0	5.8	0.0	7.1	0.0	7.9
%ile Storage Ratio (RQ%)	0.00	0.36	0.00	0.11	0.00	0.28	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	435	0	65	0	259	0	460
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1823
Q Serve Time (g_s), s	0.0	17.4	0.0	2.0	0.0	9.0	0.0	15.8
Cycle Q Clear Time (g_c), s	0.0	17.4	0.0	2.0	0.0	9.0	0.0	15.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.15
Lane Grp Cap (c), veh/h	0	446	0	446	0	446	0	513
V/C Ratio (X)	0.00	0.98	0.00	0.15	0.00	0.58	0.00	0.90
Avail Cap (c_a), veh/h	0	446	0	446	0	446	0	513
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.8	0.0	17.2	0.0	19.8	0.0	25.1
Incr Delay (d2), s/veh	0.0	37.0	0.0	0.7	0.0	5.4	0.0	21.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	59.8	0.0	17.9	0.0	25.2	0.0	46.2
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	0.6	0.0	0.0	0.0	6.7
2nd-Term Q (Q2), veh/ln	0.0	4.6	0.0	0.1	0.0	0.7	0.0	3.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.1	0.0	0.7	0.0	0.7	0.0	9.7
%ile Storage Ratio (RQ%)	0.00	2.57	0.00	0.18	0.00	0.16	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	60.2
HCM 6th LOS	E

HCM 6th TWSC
1: Greenstone & Sunshine

07/07/2021

Intersection												
Int Delay, s/veh	7.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	12	0	55	4	89	0	19	24	36	6	1
Future Vol, veh/h	2	12	0	55	4	89	0	19	24	36	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	13	0	60	4	97	0	21	26	39	7	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	171	133	8	126	120	34	8	0	0	47	0	0
Stage 1	86	86	-	34	34	-	-	-	-	-	-	-
Stage 2	85	47	-	92	86	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	792	758	1074	848	770	1039	1612	-	-	1560	-	-
Stage 1	922	824	-	982	867	-	-	-	-	-	-	-
Stage 2	923	856	-	915	824	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	702	739	1074	821	751	1039	1612	-	-	1560	-	-
Mov Cap-2 Maneuver	702	739	-	821	751	-	-	-	-	-	-	-
Stage 1	922	803	-	982	867	-	-	-	-	-	-	-
Stage 2	833	856	-	878	803	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10		9.6		0		6.2					
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1612	-	-	733	937	1560	-	-				
HCM Lane V/C Ratio	-	-	-	0.021	0.172	0.025	-	-				
HCM Control Delay (s)	0	-	-	10	9.6	7.4	0	-				
HCM Lane LOS	A	-	-	B	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.6	0.1	-	-				

HCM 6th TWSC
2: Greenstone & Lakeland

07/07/2021

Intersection						
Int Delay, s/veh	3.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↓	↑	↓	↓
Traffic Vol, veh/h	126	171	52	154	93	23
Future Vol, veh/h	126	171	52	154	93	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	186	57	167	101	25
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	323	0	511	230
Stage 1	-	-	-	-	230	-
Stage 2	-	-	-	-	281	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1237	-	523	809
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	767	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1237	-	499	809
Mov Cap-2 Maneuver	-	-	-	-	499	-
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	732	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2		13.1	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	499	809	-	-	1237	-
HCM Lane V/C Ratio	0.203	0.031	-	-	0.046	-
HCM Control Delay (s)	14	9.6	-	-	8.1	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.1	-

HCM 6th TWSC

3: Shoemaker & Sunshine

07/07/2021

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕		↕	↕↕	↕	↕	↕↕	
Traffic Vol, veh/h	8	0	74	32	0	47	154	211	10	13	302	16
Future Vol, veh/h	8	0	74	32	0	47	154	211	10	13	302	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	-	-	-	150	-	100	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	0	80	35	0	51	167	229	11	14	328	17
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	814	939	173	755	936	115	345	0	0	240	0	0
Stage 1	365	365	-	563	563	-	-	-	-	-	-	-
Stage 2	449	574	-	192	373	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	270	263	840	298	264	916	1211	-	-	1324	-	-
Stage 1	627	622	-	478	507	-	-	-	-	-	-	-
Stage 2	559	501	-	791	617	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	226	224	840	239	225	916	1211	-	-	1324	-	-
Mov Cap-2 Maneuver	226	224	-	239	225	-	-	-	-	-	-	-
Stage 1	540	615	-	412	437	-	-	-	-	-	-	-
Stage 2	455	432	-	708	610	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.9		15.5		3.5		0.3					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	1211	-	-	226	840	427	1324	-	-			
HCM Lane V/C Ratio	0.138	-	-	0.038	0.096	0.201	0.011	-	-			
HCM Control Delay (s)	8.4	-	-	21.6	9.7	15.5	7.7	-	-			
HCM Lane LOS	A	-	-	C	A	C	A	-	-			
HCM 95th %tile Q(veh)	0.5	-	-	0.1	0.3	0.7	0	-	-			

HCM 6th Signalized Intersection Summary

4: Shoemaker & Imperial

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	170	792	65	17	1240	158	128	52	16	199	57	141
Future Volume (veh/h)	170	792	65	17	1240	158	128	52	16	199	57	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	185	861	71	18	1348	172	139	57	17	216	62	153
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1352	111	316	1289	165	139	526	446	595	526	446
Arrive On Green	0.03	0.09	0.09	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	4808	395	1781	4584	585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	185	609	323	18	1001	519	139	57	17	216	62	153
Grp Sat Flow(s),veh/h/ln	1781	1702	1799	1781	1702	1765	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.0	11.0	11.1	0.4	18.0	18.0	5.0	1.4	0.5	5.0	1.6	4.9
Cycle Q Clear(g_c), s	5.0	11.0	11.1	0.4	18.0	18.0	5.0	1.4	0.5	5.0	1.6	4.9
Prop In Lane	1.00		0.22	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	957	506	316	957	496	139	526	446	595	526	446
V/C Ratio(X)	1.33	0.64	0.64	0.06	1.05	1.05	1.00	0.11	0.04	0.36	0.12	0.34
Avail Cap(c_a), veh/h	139	957	506	316	957	496	139	526	446	595	526	446
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	25.9	25.9	15.1	29.0	29.0	29.5	17.1	16.7	15.1	17.1	18.3
Incr Delay (d2), s/veh	189.1	3.2	6.1	0.3	41.7	52.8	76.0	0.4	0.2	1.7	0.5	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	5.0	5.7	0.2	13.4	15.5	5.0	0.6	0.2	2.2	0.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	220.3	29.1	32.0	15.4	70.7	81.8	105.5	17.5	16.9	16.8	17.6	20.4
LnGrp LOS	F	C	C	B	F	F	F	B	B	B	B	C
Approach Vol, veh/h		1117			1538			213			431	
Approach Delay, s/veh		61.6			73.8			74.9			18.2	
Approach LOS		E			E			E			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	3.4	2.4	13.1	7.0	6.9	7.0	20.0				
Green Ext Time (p_c), s	0.0	0.2	0.0	2.4	0.0	0.5	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			62.5									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	792	65	17	1240	158	128	52	16	199	57	141
Future Volume (veh/h)	170	792	65	17	1240	158	128	52	16	199	57	141
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	185	861	71	18	1348	172	139	57	17	216	62	153
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1352	111	316	1289	165	139	526	446	595	526	446
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	220.3	29.1	32.0	15.4	70.7	81.8	105.5	17.5	16.9	16.8	17.6	20.4
Ln Grp LOS	F	C	C	B	F	F	F	B	B	B	B	C
Approach Vol, veh/h	1117			1538			213			431		
Approach Delay, s/veh	61.6			73.8			74.9			18.2		
Approach LOS	E			E			E			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	5.0	3.7	4.9	3.8	4.2	3.7	4.9				
Max Q Clear (g_c+I1), s	7.0	3.4	2.4	13.1	7.0	6.9	7.0	20.0				
Green Ext Time (g_e), s	0.0	0.2	0.0	2.4	0.0	0.5	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	1870	4808	1870	4584								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	395	1585	585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

07/07/2021

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	216	0	18	0	139	0	185	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.0	0.0	0.4	0.0	5.0	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	5.0	0.0	0.4	0.0	5.0	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1326	0	601	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	16.6	0.0	6.9	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	1.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	595	0	316	0	139	0	139	0
V/C Ratio (X)	0.36	0.00	0.06	0.00	1.00	0.00	1.33	0.00
Avail Cap (c_a), veh/h	595	0	316	0	139	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.1	0.0	15.1	0.0	29.5	0.0	31.2	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.3	0.0	76.0	0.0	189.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	16.8	0.0	15.4	0.0	105.5	0.0	220.3	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	0.2	0.0	2.0	0.0	2.1	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.0	0.0	2.9	0.0	7.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.2	0.0	0.2	0.0	5.0	0.0	9.4	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.02	0.00	0.74	0.00	1.70	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	11.5	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	57	0	609	0	62	0	1001
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	1.4	0.0	11.0	0.0	1.6	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	1.4	0.0	11.0	0.0	1.6	0.0	18.0
Lane Grp Cap (c), veh/h	0	526	0	957	0	526	0	957
V/C Ratio (X)	0.00	0.11	0.00	0.64	0.00	0.12	0.00	1.05
Avail Cap (c_a), veh/h	0	526	0	957	0	526	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.1	0.0	25.9	0.0	17.1	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	3.2	0.0	0.5	0.0	41.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.5	0.0	29.1	0.0	17.6	0.0	70.7
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	4.6	0.0	0.6	0.0	7.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.4	0.0	0.1	0.0	5.5

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

07/07/2021

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	5.0	0.0	0.7	0.0	13.4
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.05	0.00	0.01	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	17	0	323	0	153	0	519
Grp Sat Flow (s), veh/h/ln	0	1585	0	1799	0	1585	0	1765
Q Serve Time (g_s), s	0.0	0.5	0.0	11.1	0.0	4.9	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	0.5	0.0	11.1	0.0	4.9	0.0	18.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.22	0.00	1.00	0.00	0.33
Lane Grp Cap (c), veh/h	0	446	0	506	0	446	0	496
V/C Ratio (X)	0.00	0.04	0.00	0.64	0.00	0.34	0.00	1.05
Avail Cap (c_a), veh/h	0	446	0	506	0	446	0	496
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.7	0.0	25.9	0.0	18.3	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	6.1	0.0	2.1	0.0	52.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.9	0.0	32.0	0.0	20.4	0.0	81.8
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	4.9	0.0	1.6	0.0	8.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.9	0.0	0.3	0.0	7.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	5.7	0.0	1.8	0.0	15.5
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.06	0.00	0.46	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Intersection Summary

HCM 6th Ctrl Delay	62.5
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary

5: Carmenita & Imperial

07/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑ ↱			↰ ↑↑ ↱			↰ ↑↑ ↱			↰ ↑↑ ↱		
Traffic Volume (veh/h)	58	493	174	139	738	65	169	675	108	89	949	34
Future Volume (veh/h)	58	493	174	139	738	65	169	675	108	89	949	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	536	189	151	802	71	184	734	117	97	1032	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1056	362	139	1344	118	252	999	446	313	999	446
Arrive On Green	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	3756	1287	1781	4778	421	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	63	484	241	151	570	303	184	734	117	97	1032	37
Grp Sat Flow(s),veh/h/ln	1781	1702	1639	1781	1702	1795	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.2	8.7	9.0	5.0	9.3	9.3	4.7	12.0	3.7	2.4	18.0	1.1
Cycle Q Clear(g_c), s	2.2	8.7	9.0	5.0	9.3	9.3	4.7	12.0	3.7	2.4	18.0	1.1
Prop In Lane	1.00		0.79	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	957	461	139	957	505	252	999	446	313	999	446
V/C Ratio(X)	0.45	0.51	0.52	1.09	0.60	0.60	0.73	0.73	0.26	0.31	1.03	0.08
Avail Cap(c_a), veh/h	139	957	461	139	957	505	252	999	446	313	999	446
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	24.8	24.9	29.5	19.9	19.9	17.2	20.8	17.8	15.2	23.0	16.9
Incr Delay (d2), s/veh	10.3	1.9	4.2	100.9	2.7	5.2	17.0	4.8	1.4	2.6	37.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.7	4.0	5.8	3.5	4.1	2.8	4.9	1.3	1.0	11.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.1	26.7	29.1	130.4	22.6	25.1	34.2	25.6	19.3	17.8	60.2	17.3
LnGrp LOS	D	C	C	F	C	C	C	C	B	B	F	B
Approach Vol, veh/h	788			1024			1035			1166		
Approach Delay, s/veh	28.5			39.2			26.4			55.3		
Approach LOS	C			D			C			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	14.0	14.0	7.0	11.0	6.7	20.0	4.2	11.3				
Green Ext Time (p_c), s	0.0	1.8	0.0	2.5	0.0	0.0	0.0	2.8				

Intersection Summary

HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	493	174	139	738	65	169	675	108	89	949	34
Future Volume (veh/h)	58	493	174	139	738	65	169	675	108	89	949	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	536	189	151	802	71	184	734	117	97	1032	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes				Yes				Yes			
Cap, veh/h	139	1056	362	139	1344	118	252	999	446	313	999	446
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	40.1	26.7	29.1	130.4	22.6	25.1	34.2	25.6	19.3	17.8	60.2	17.3
Ln Grp LOS	D	C	C	F	C	C	C	C	B	B	F	B
Approach Vol, veh/h	788			1024			1035			1166		
Approach Delay, s/veh	28.5			39.2			26.4			55.3		
Approach LOS	C			D			C			E		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	4.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	5.0	3.7	5.0	3.7	4.9				
Max Q Clear (g_c+I1), s	4.4	14.0	7.0	11.0	6.7	20.0	4.2	11.3				
Green Ext Time (g_e), s	0.0	1.8	0.0	2.5	0.0	0.0	0.0	2.8				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3756	3554	4778								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1287	1585	421								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

07/07/2021

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	97	0	151	0	184	0	63	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.4	0.0	5.0	0.0	4.7	0.0	2.2	0.0
Cycle Q Clear Time (g_c), s	2.4	0.0	5.0	0.0	4.7	0.0	2.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	648	0	0	0	528	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	313	0	139	0	252	0	139	0
V/C Ratio (X)	0.31	0.00	1.09	0.00	0.73	0.00	0.45	0.00
Avail Cap (c_a), veh/h	313	0	139	0	252	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.2	0.0	29.5	0.0	17.2	0.0	29.8	0.0
Incr Delay (d2), s/veh	2.6	0.0	100.9	0.0	17.0	0.0	10.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	17.8	0.0	130.4	0.0	34.2	0.0	40.1	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.9	0.0	1.6	0.0	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	3.9	0.0	1.2	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	5.8	0.0	2.8	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.72	0.00	0.43	0.00	0.27	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	734	0	484	0	1032	0	570
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	12.0	0.0	8.7	0.0	18.0	0.0	9.3
Cycle Q Clear Time (g_c), s	0.0	12.0	0.0	8.7	0.0	18.0	0.0	9.3
Lane Grp Cap (c), veh/h	0	999	0	957	0	999	0	957
V/C Ratio (X)	0.00	0.73	0.00	0.51	0.00	1.03	0.00	0.60
Avail Cap (c_a), veh/h	0	999	0	957	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.8	0.0	24.8	0.0	23.0	0.0	19.9
Incr Delay (d2), s/veh	0.0	4.8	0.0	1.9	0.0	37.2	0.0	2.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.6	0.0	26.7	0.0	60.2	0.0	22.6
1st-Term Q (Q1), veh/ln	0.0	4.3	0.0	3.4	0.0	6.6	0.0	3.1
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.3	0.0	5.2	0.0	0.4

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

07/07/2021

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.9	0.0	3.7	0.0	11.7	0.0	3.5
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.04	0.00	0.51	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	117	0	241	0	37	0	303
Grp Sat Flow (s), veh/h/ln	0	1585	0	1639	0	1585	0	1795
Q Serve Time (g_s), s	0.0	3.7	0.0	9.0	0.0	1.1	0.0	9.3
Cycle Q Clear Time (g_c), s	0.0	3.7	0.0	9.0	0.0	1.1	0.0	9.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.79	0.00	1.00	0.00	0.23
Lane Grp Cap (c), veh/h	0	446	0	461	0	446	0	505
V/C Ratio (X)	0.00	0.26	0.00	0.52	0.00	0.08	0.00	0.60
Avail Cap (c_a), veh/h	0	446	0	461	0	446	0	505
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.8	0.0	24.9	0.0	16.9	0.0	19.9
Incr Delay (d2), s/veh	0.0	1.4	0.0	4.2	0.0	0.4	0.0	5.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.3	0.0	29.1	0.0	17.3	0.0	25.1
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	3.4	0.0	0.3	0.0	3.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	4.0	0.0	0.4	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

6: Carmenita & Rosecrans

07/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	491	57	92	631	44	78	965	131	67	1144	347
Future Volume (veh/h)	284	491	57	92	631	44	78	965	131	67	1144	347
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	309	534	62	100	686	48	85	1049	142	73	1243	377
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	902	104	139	1371	95	139	999	446	139	999	446
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	3456	3209	371	1781	4874	339	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	309	295	301	100	478	256	85	1049	142	73	1243	377
Grp Sat Flow(s),veh/h/ln	1728	1777	1803	1781	1702	1809	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.0	9.2	9.2	3.5	7.5	7.6	3.0	18.0	4.5	2.5	18.0	14.4
Cycle Q Clear(g_c), s	5.0	9.2	9.2	3.5	7.5	7.6	3.0	18.0	4.5	2.5	18.0	14.4
Prop In Lane	1.00		0.21	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	500	507	139	957	509	139	999	446	139	999	446
V/C Ratio(X)	1.14	0.59	0.59	0.72	0.50	0.50	0.61	1.05	0.32	0.52	1.24	0.85
Avail Cap(c_a), veh/h	270	500	507	139	957	509	139	999	446	139	999	446
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	19.8	19.8	28.8	19.2	19.3	28.6	23.0	18.2	28.4	23.0	21.7
Incr Delay (d2), s/veh	99.5	5.1	5.0	27.2	1.9	3.5	18.4	42.4	1.9	13.4	118.2	17.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	4.0	4.0	2.4	2.8	3.2	1.9	12.3	1.7	1.5	22.8	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	129.0	24.9	24.9	56.0	21.1	22.8	46.9	65.4	20.0	41.8	141.2	39.3
LnGrp LOS	F	C	C	E	C	C	D	F	C	D	F	D
Approach Vol, veh/h	905				834		1276				1693	
Approach Delay, s/veh	60.4				25.8		59.1				114.2	
Approach LOS	E				C		E				F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+14.5)	20.0	20.0	5.5	11.2	5.0	20.0	7.0	9.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.8	0.0	0.0	0.0	2.8				

Intersection Summary

HCM 6th Ctrl Delay	73.3
HCM 6th LOS	E

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	491	57	92	631	44	78	965	131	67	1144	347
Future Volume (veh/h)	284	491	57	92	631	44	78	965	131	67	1144	347
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	309	534	62	100	686	48	85	1049	142	73	1243	377
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	270	902	104	139	1371	95	139	999	446	139	999	446
HCM 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
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	129.0	24.9	24.9	56.0	21.1	22.8	46.9	65.4	20.0	41.8	141.2	39.3
Ln Grp LOS	F	C	C	E	C	C	D	F	C	D	F	D
Approach Vol, veh/h	905				834				1276			
Approach Delay, s/veh	60.4				25.8				59.1			
Approach LOS	E				C				E			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	4.9	3.7	4.7	3.7	4.9				
Max Q Clear (g_c+I1), s	4.5	20.0	5.5	11.2	5.0	20.0	7.0	9.6				
Green Ext Time (g_e), s	0.0	0.0	0.0	1.8	0.0	0.0	0.0	2.8				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3209	3554	4874								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	371	1585	339								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

07/07/2021

Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	73	0	100	0	85	0	309	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	2.5	0.0	3.5	0.0	3.0	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	2.5	0.0	3.5	0.0	3.0	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	139	0	139	0	139	0	270	0
V/C Ratio (X)	0.52	0.00	0.72	0.00	0.61	0.00	1.14	0.00
Avail Cap (c_a), veh/h	139	0	139	0	139	0	270	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	28.4	0.0	28.8	0.0	28.6	0.0	29.5	0.0
Incr Delay (d2), s/veh	13.4	0.0	27.2	0.0	18.4	0.0	99.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	41.8	0.0	56.0	0.0	46.9	0.0	129.0	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	1.4	0.0	1.1	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	1.1	0.0	0.7	0.0	3.7	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	2.4	0.0	1.9	0.0	5.6	0.0
%ile Storage Ratio (RQ%)	0.19	0.00	0.41	0.00	0.24	0.00	0.84	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	1049	0	295	0	1243	0	478
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1702
Q Serve Time (g_s), s	0.0	18.0	0.0	9.2	0.0	18.0	0.0	7.5
Cycle Q Clear Time (g_c), s	0.0	18.0	0.0	9.2	0.0	18.0	0.0	7.5
Lane Grp Cap (c), veh/h	0	999	0	500	0	999	0	957
V/C Ratio (X)	0.00	1.05	0.00	0.59	0.00	1.24	0.00	0.50
Avail Cap (c_a), veh/h	0	999	0	500	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.0	0.0	19.8	0.0	23.0	0.0	19.2
Incr Delay (d2), s/veh	0.0	42.4	0.0	5.1	0.0	118.2	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	65.4	0.0	24.9	0.0	141.2	0.0	21.1
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	3.3	0.0	6.4	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	5.9	0.0	0.7	0.0	16.4	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

07/07/2021

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	12.3	0.0	4.0	0.0	22.8	0.0	2.8
%ile Storage Ratio (RQ%)	0.00	1.14	0.00	0.16	0.00	0.11	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	12.4	0.0	0.0	0.0	60.9	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	142	0	301	0	377	0	256
Grp Sat Flow (s), veh/h/ln	0	1585	0	1803	0	1585	0	1809
Q Serve Time (g_s), s	0.0	4.5	0.0	9.2	0.0	14.4	0.0	7.6
Cycle Q Clear Time (g_c), s	0.0	4.5	0.0	9.2	0.0	14.4	0.0	7.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.21	0.00	1.00	0.00	0.19
Lane Grp Cap (c), veh/h	0	446	0	507	0	446	0	509
V/C Ratio (X)	0.00	0.32	0.00	0.59	0.00	0.85	0.00	0.50
Avail Cap (c_a), veh/h	0	446	0	507	0	446	0	509
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.2	0.0	19.8	0.0	21.7	0.0	19.3
Incr Delay (d2), s/veh	0.0	1.9	0.0	5.0	0.0	17.6	0.0	3.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.0	0.0	24.9	0.0	39.3	0.0	22.8
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	3.3	0.0	4.6	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.7	0.0	2.2	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.7	0.0	4.0	0.0	6.7	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.16	0.00	0.86	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	73.3
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary

7: Shoemaker & Lakeland

07/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	67	40	17	69	46	93	448	14	22	362	65
Future Volume (veh/h)	41	67	40	17	69	46	93	448	14	22	362	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	73	43	18	75	50	101	487	15	24	393	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	570	526	446	573	526	446	455	999	446	401	999	446
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.16	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	45	73	43	18	75	50	101	487	15	24	393	71
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.1	1.9	1.3	0.4	1.9	1.5	2.5	7.3	0.4	0.5	4.0	1.4
Cycle Q Clear(g_c), s	1.1	1.9	1.3	0.4	1.9	1.5	2.5	7.3	0.4	0.5	4.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	570	526	446	573	526	446	455	999	446	401	999	446
V/C Ratio(X)	0.08	0.14	0.10	0.03	0.14	0.11	0.22	0.49	0.03	0.06	0.39	0.16
Avail Cap(c_a), veh/h	570	526	446	573	526	446	455	999	446	401	999	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	17.2	17.0	13.3	17.2	17.1	14.1	19.2	16.7	12.6	10.9	10.4
Incr Delay (d2), s/veh	0.3	0.6	0.4	0.1	0.6	0.5	1.1	1.7	0.1	0.3	1.2	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.8	0.5	0.2	0.8	0.6	1.0	2.8	0.2	0.2	1.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	17.8	17.4	13.4	17.8	17.6	15.2	20.9	16.8	12.8	12.1	11.1
LnGrp LOS	B	B	B	B	B	B	B	C	B	B	B	B
Approach Vol, veh/h	161			143			603			488		
Approach Delay, s/veh	16.6			17.2			19.8			12.0		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	9.3	9.3	2.4	3.9	4.5	6.0	3.1	3.9				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.3	0.0	2.0	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	67	40	17	69	46	93	448	14	22	362	65
Future Volume (veh/h)	41	67	40	17	69	46	93	448	14	22	362	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	73	43	18	75	50	101	487	15	24	393	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	570	526	446	573	526	446	455	999	446	401	999	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.16	0.56	0.56
Unsig. Movement Delay												
Ln Grp Delay, s/veh	13.8	17.8	17.4	13.4	17.8	17.6	15.2	20.9	16.8	12.8	12.1	11.1
Ln Grp LOS	B	B	B	B	B	B	B	C	B	B	B	B
Approach Vol, veh/h	161				143		603				488	
Approach Delay, s/veh	16.6				17.2		19.8				12.0	
Approach LOS	B				B		B				B	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.6	3.7	4.8	3.7	4.6				
Max Q Clear (g_c+I1), s	2.5	9.3	2.4	3.9	4.5	6.0	3.1	3.9				
Green Ext Time (g_e), s	0.0	1.9	0.0	0.3	0.0	2.0	0.0	0.4				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	1870	3554	1870								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)								

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

07/07/2021

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	24	0	18	0	101	0	45	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	0.5	0.0	0.4	0.0	2.5	0.0	1.1	0.0
Cycle Q Clear Time (g_c), s	0.5	0.0	0.4	0.0	2.5	0.0	1.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	896	0	1276	0	928	0	1266	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	18.0	0.0	18.0	0.0
Perm LT Serve Time (g_u), s	10.7	0.0	16.1	0.0	14.0	0.0	16.1	0.0
Perm LT Q Serve Time (g_ps), s	0.2	0.0	0.0	0.0	0.5	0.0	0.1	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	401	0	573	0	455	0	570	0
V/C Ratio (X)	0.06	0.00	0.03	0.00	0.22	0.00	0.08	0.00
Avail Cap (c_a), veh/h	401	0	573	0	455	0	570	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	12.6	0.0	13.3	0.0	14.1	0.0	13.5	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.1	0.0	1.1	0.0	0.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.8	0.0	13.4	0.0	15.2	0.0	13.8	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.1	0.0	0.8	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.2	0.0	1.0	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.04	0.00	0.12	0.00	0.08	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	487	0	73	0	393	0	75
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	7.3	0.0	1.9	0.0	4.0	0.0	1.9
Cycle Q Clear Time (g_c), s	0.0	7.3	0.0	1.9	0.0	4.0	0.0	1.9
Lane Grp Cap (c), veh/h	0	999	0	526	0	999	0	526
V/C Ratio (X)	0.00	0.49	0.00	0.14	0.00	0.39	0.00	0.14
Avail Cap (c_a), veh/h	0	999	0	526	0	999	0	526
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.2	0.0	17.2	0.0	10.9	0.0	17.2
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.6	0.0	1.2	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.9	0.0	17.8	0.0	12.1	0.0	17.8
1st-Term Q (Q1), veh/ln	0.0	2.6	0.0	0.7	0.0	1.2	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

07/07/2021

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.8	0.0	1.4	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	43	0	71	0	50
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.4	0.0	1.3	0.0	1.4	0.0	1.5
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	1.3	0.0	1.4	0.0	1.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	446	0	446	0	446	0	446
V/C Ratio (X)	0.00	0.03	0.00	0.10	0.00	0.16	0.00	0.11
Avail Cap (c_a), veh/h	0	446	0	446	0	446	0	446
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.7	0.0	17.0	0.0	10.4	0.0	17.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.8	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.8	0.0	17.4	0.0	11.1	0.0	17.6
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.4	0.0	0.4	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.5	0.0	0.5	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.12	0.00	0.13	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

8: Shoemaker & Florence

07/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	470	120	48	932	68	129	374	30	20	334	57
Future Volume (veh/h)	58	470	120	48	932	68	129	374	30	20	334	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	511	130	52	1013	74	140	407	33	22	363	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	999	446	378	999	446	428	999	446	416	855	145
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.03	0.09	0.09	0.08	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3040	514
Grp Volume(v), veh/h	63	511	130	52	1013	74	140	407	33	22	211	214
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1778
Q Serve(g_s), s	1.5	7.7	4.1	1.2	18.0	2.3	3.5	6.9	1.2	0.5	6.2	6.3
Cycle Q Clear(g_c), s	1.5	7.7	4.1	1.2	18.0	2.3	3.5	6.9	1.2	0.5	6.2	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	252	999	446	378	999	446	428	999	446	416	500	500
V/C Ratio(X)	0.25	0.51	0.29	0.14	1.01	0.17	0.33	0.41	0.07	0.05	0.42	0.43
Avail Cap(c_a), veh/h	252	999	446	378	999	446	428	999	446	416	500	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	19.3	18.0	14.0	23.0	17.3	15.4	24.0	21.4	13.7	18.8	18.8
Incr Delay (d2), s/veh	2.4	1.9	1.7	0.8	31.9	0.8	2.0	1.2	0.3	0.2	2.6	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.1	1.5	0.5	11.0	0.8	1.5	3.0	0.4	0.2	2.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	21.2	19.7	14.8	54.9	18.1	17.5	25.2	21.7	13.9	21.4	21.5
LnGrp LOS	B	C	B	B	F	B	B	C	C	B	C	C
Approach Vol, veh/h	704		1139				580			447		
Approach Delay, s/veh	20.7		50.7				23.2			21.0		
Approach LOS	C		D				C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	8.9	8.9	3.2	9.7	5.5	8.3	3.5	20.0				
Green Ext Time (p_c), s	0.0	1.7	0.0	2.3	0.0	1.6	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			33.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	470	120	48	932	68	129	374	30	20	334	57
Future Volume (veh/h)	58	470	120	48	932	68	129	374	30	20	334	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	511	130	52	1013	74	140	407	33	22	363	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	252	999	446	378	999	446	428	999	446	416	855	145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.03	0.09	0.09	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	18.5	21.2	19.7	14.8	54.9	18.1	17.5	25.2	21.7	13.9	21.4	21.5
Ln Grp LOS	B	C	B	B	F	B	B	C	C	B	C	C
Approach Vol, veh/h	704				1139		580				447	
Approach Delay, s/veh	20.7				50.7		23.2				21.0	
Approach LOS	C				D		C				C	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.8	3.7	5.1	3.7	4.9				
Max Q Clear (g_c+I1), s	2.5	8.9	3.2	9.7	5.5	8.3	3.5	20.0				
Green Ext Time (g_e), s	0.0	1.7	0.0	2.3	0.0	1.6	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3554	3040	3554								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	514	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)								

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

07/07/2021

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	22	0	52	0	140	0	63	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	0.5	0.0	1.2	0.0	3.5	0.0	1.5	0.0
Cycle Q Clear Time (g_c), s	0.5	0.0	1.2	0.0	3.5	0.0	1.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	949	0	788	0	962	0	519	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	18.0	0.0	18.0	0.0
Perm LT Serve Time (g_u), s	11.1	0.0	10.3	0.0	11.7	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.2	0.0	0.5	0.0	1.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	416	0	378	0	428	0	252	0
V/C Ratio (X)	0.05	0.00	0.14	0.00	0.33	0.00	0.25	0.00
Avail Cap (c_a), veh/h	416	0	378	0	428	0	252	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	13.7	0.0	14.0	0.0	15.4	0.0	16.1	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.8	0.0	2.0	0.0	2.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	13.9	0.0	14.8	0.0	17.5	0.0	18.5	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.4	0.0	1.3	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.2	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.5	0.0	1.5	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.03	0.00	0.07	0.00	0.39	0.00	0.10	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	407	0	511	0	211	0	1013
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	6.9	0.0	7.7	0.0	6.2	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	6.9	0.0	7.7	0.0	6.2	0.0	18.0
Lane Grp Cap (c), veh/h	0	999	0	999	0	500	0	999
V/C Ratio (X)	0.00	0.41	0.00	0.51	0.00	0.42	0.00	1.01
Avail Cap (c_a), veh/h	0	999	0	999	0	500	0	999
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.0	0.0	19.3	0.0	18.8	0.0	23.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	1.9	0.0	2.6	0.0	31.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.2	0.0	21.2	0.0	21.4	0.0	54.9
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	2.8	0.0	2.3	0.0	6.6
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.3	0.0	0.4	0.0	4.4

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

07/07/2021

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	3.1	0.0	2.6	0.0	11.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.05	0.00	0.10	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	33	0	130	0	214	0	74
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1778	0	1585
Q Serve Time (g_s), s	0.0	1.2	0.0	4.1	0.0	6.3	0.0	2.3
Cycle Q Clear Time (g_c), s	0.0	1.2	0.0	4.1	0.0	6.3	0.0	2.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.29	0.00	1.00
Lane Grp Cap (c), veh/h	0	446	0	446	0	500	0	446
V/C Ratio (X)	0.00	0.07	0.00	0.29	0.00	0.43	0.00	0.17
Avail Cap (c_a), veh/h	0	446	0	446	0	500	0	446
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.4	0.0	18.0	0.0	18.8	0.0	17.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	1.7	0.0	2.7	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.7	0.0	19.7	0.0	21.5	0.0	18.1
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	1.3	0.0	2.3	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	1.5	0.0	2.7	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.39	0.00	0.10	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary

9: Bloomfield & Imperial

07/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑	↱	↰	↑↑↑		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	216	769	28	227	1141	92	84	645	227	104	393	115
Future Volume (veh/h)	216	769	28	227	1141	92	84	645	227	104	393	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No				No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	235	836	30	247	1240	100	91	701	247	113	427	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1436	446	139	1355	109	408	999	446	314	999	446
Arrive On Green	0.08	0.28	0.28	0.05	0.19	0.19	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	5106	1585	1781	4816	388	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	235	836	30	247	876	464	91	701	247	113	427	125
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1800	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.0	9.0	0.9	5.0	16.2	16.2	2.2	11.3	8.5	2.8	6.3	3.9
Cycle Q Clear(g_c), s	5.0	9.0	0.9	5.0	16.2	16.2	2.2	11.3	8.5	2.8	6.3	3.9
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	1436	446	139	957	506	408	999	446	314	999	446
V/C Ratio(X)	1.69	0.58	0.07	1.77	0.92	0.92	0.22	0.70	0.55	0.36	0.43	0.28
Avail Cap(c_a), veh/h	139	1436	446	139	957	506	408	999	446	314	999	446
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	19.8	16.9	30.3	25.2	25.2	14.2	20.6	19.6	15.3	18.8	17.9
Incr Delay (d2), s/veh	338.9	1.7	0.3	376.2	14.7	23.7	1.3	4.1	4.9	3.2	1.3	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.0	3.3	0.3	16.5	8.3	10.1	0.9	4.7	3.3	1.2	2.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	368.4	21.5	17.1	406.5	39.9	49.0	15.4	24.7	24.5	18.5	20.1	19.5
LnGrp LOS	F	C	B	F	D	D	B	C	C	B	C	B
Approach Vol, veh/h	1101		1587			1039			665			
Approach Delay, s/veh	95.4		99.6			23.8			19.7			
Approach LOS	F		F			C			B			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+1.4), s	14.8	13.3	7.0	11.0	4.2	8.3	7.0	18.2				
Green Ext Time (p_c), s	0.0	2.2	0.0	3.0	0.0	2.1	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	68.5
HCM 6th LOS	E

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	769	28	227	1141	92	84	645	227	104	393	115
Future Volume (veh/h)	216	769	28	227	1141	92	84	645	227	104	393	115
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No				No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	235	836	30	247	1240	100	91	701	247	113	427	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1436	446	139	1355	109	408	999	446	314	999	446
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.05	0.19	0.19	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	368.4	21.5	17.1	406.5	39.9	49.0	15.4	24.7	24.5	18.5	20.1	19.5
Ln Grp LOS	F	C	B	F	D	D	B	C	C	B	C	B
Approach Vol, veh/h	1101		1587			1039			665			
Approach Delay, s/veh	95.4		99.6			23.8			19.7			
Approach LOS	F		F			C			B			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	3.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.7	3.7	4.9	3.7	4.7	3.7	4.9				
Max Q Clear (g_c+I1), s	4.8	13.3	7.0	11.0	4.2	8.3	7.0	18.2				
Green Ext Time (g_e), s	0.0	2.2	0.0	3.0	0.0	2.1	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1781	1781		1781		1781						
Through Movement Data												
Assigned Mvmt	2		4		6		8					
Mvmt Sat Flow, veh/h	3554		5106		3554		4816					
Right-Turn Movement Data												
Assigned Mvmt	12		14		16		18					
Mvmt Sat Flow, veh/h	1585		1585		1585		388					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)		L (Prot)		L (Pr/Pm)		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

07/07/2021

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	113	0	247	0	91	0	235	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.8	0.0	5.0	0.0	2.2	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	2.8	0.0	5.0	0.0	2.2	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	592	0	0	0	856	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	6.7	0.0	0.0	0.0	11.7	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	2.7	0.0	0.0	0.0	0.7	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	314	0	139	0	408	0	139	0
V/C Ratio (X)	0.36	0.00	1.77	0.00	0.22	0.00	1.69	0.00
Avail Cap (c_a), veh/h	314	0	139	0	408	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.3	0.0	30.3	0.0	14.2	0.0	29.5	0.0
Incr Delay (d2), s/veh	3.2	0.0	376.2	0.0	1.3	0.0	338.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.5	0.0	406.5	0.0	15.4	0.0	368.4	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	2.0	0.0	0.8	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	14.5	0.0	0.1	0.0	13.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	16.5	0.0	0.9	0.0	15.0	0.0
%ile Storage Ratio (RQ%)	0.24	0.00	4.20	0.00	0.17	0.00	2.55	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	27.0	0.0	0.0	0.0	24.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.4	0.0	0.0	0.0	0.4	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	2
Grp Vol (v), veh/h	0	701	0	836	0	427	0	876
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	11.3	0.0	9.0	0.0	6.3	0.0	16.2
Cycle Q Clear Time (g_c), s	0.0	11.3	0.0	9.0	0.0	6.3	0.0	16.2
Lane Grp Cap (c), veh/h	0	999	0	1436	0	999	0	957
V/C Ratio (X)	0.00	0.70	0.00	0.58	0.00	0.43	0.00	0.92
Avail Cap (c_a), veh/h	0	999	0	1436	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.6	0.0	19.8	0.0	18.8	0.0	25.2
Incr Delay (d2), s/veh	0.0	4.1	0.0	1.7	0.0	1.3	0.0	14.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.7	0.0	21.5	0.0	20.1	0.0	39.9
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	3.1	0.0	2.2	0.0	6.4
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.2	0.0	0.2	0.0	2.0

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

07/07/2021

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.7	0.0	3.3	0.0	2.4	0.0	8.3
%ile Storage Ratio (RQ%)	0.00	0.37	0.00	0.07	0.00	0.09	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	247	0	30	0	125	0	464
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1800
Q Serve Time (g_s), s	0.0	8.5	0.0	0.9	0.0	3.9	0.0	16.2
Cycle Q Clear Time (g_c), s	0.0	8.5	0.0	0.9	0.0	3.9	0.0	16.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.22
Lane Grp Cap (c), veh/h	0	446	0	446	0	446	0	506
V/C Ratio (X)	0.00	0.55	0.00	0.07	0.00	0.28	0.00	0.92
Avail Cap (c_a), veh/h	0	446	0	446	0	446	0	506
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.6	0.0	16.9	0.0	17.9	0.0	25.2
Incr Delay (d2), s/veh	0.0	4.9	0.0	0.3	0.0	1.6	0.0	23.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.5	0.0	17.1	0.0	19.5	0.0	49.0
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	0.3	0.0	1.3	0.0	6.7
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.0	0.0	0.2	0.0	3.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.3	0.0	0.3	0.0	1.4	0.0	10.1
%ile Storage Ratio (RQ%)	0.00	0.84	0.00	0.08	0.00	0.33	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	68.5
HCM 6th LOS	E

HCM 6th TWSC
1: Greenstone & Sunshine

07/07/2021

Intersection												
Int Delay, s/veh	6.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	5	0	10	2	126	0	19	23	85	15	1
Future Vol, veh/h	1	5	0	10	2	126	0	19	23	85	15	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	5	0	11	2	137	0	21	25	92	16	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	304	247	17	237	235	34	17	0	0	46	0	0
Stage 1	201	201	-	34	34	-	-	-	-	-	-	-
Stage 2	103	46	-	203	201	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	648	655	1062	717	666	1039	1600	-	-	1562	-	-
Stage 1	801	735	-	982	867	-	-	-	-	-	-	-
Stage 2	903	857	-	799	735	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	536	616	1062	680	627	1039	1600	-	-	1562	-	-
Mov Cap-2 Maneuver	536	616	-	680	627	-	-	-	-	-	-	-
Stage 1	801	692	-	982	867	-	-	-	-	-	-	-
Stage 2	782	857	-	746	692	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.1		9.3		0		6.3					
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1600	-	-	601	992	1562	-	-				
HCM Lane V/C Ratio	-	-	-	0.011	0.151	0.059	-	-				
HCM Control Delay (s)	0	-	-	11.1	9.3	7.5	0	-				
HCM Lane LOS	A	-	-	B	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.2	-	-				

HCM 6th TWSC
2: Greenstone & Lakeland

07/07/2021

Intersection						
Int Delay, s/veh	4.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	258	160	85	214	107	63
Future Vol, veh/h	258	160	85	214	107	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	280	174	92	233	116	68
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	454	0	784	367
Stage 1	-	-	-	-	367	-
Stage 2	-	-	-	-	417	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1107	-	362	678
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	665	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1107	-	332	678
Mov Cap-2 Maneuver	-	-	-	-	332	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	610	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2.4		17.6	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	332	678	-	-	1107	-
HCM Lane V/C Ratio	0.35	0.101	-	-	0.083	-
HCM Control Delay (s)	21.6	10.9	-	-	8.5	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.5	0.3	-	-	0.3	-

HCM 6th TWSC
3: Shoemaker & Sunshine

07/07/2021

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕	↗	↗	↕	
Traffic Vol, veh/h	15	1	95	7	3	28	130	329	37	52	394	7
Future Vol, veh/h	15	1	95	7	3	28	130	329	37	52	394	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	-	-	-	150	-	100	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	1	103	8	3	30	141	358	40	57	428	8
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1009	1226	218	969	1190	179	436	0	0	398	0	0
Stage 1	546	546	-	640	640	-	-	-	-	-	-	-
Stage 2	463	680	-	329	550	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	194	177	786	208	186	833	1120	-	-	1157	-	-
Stage 1	490	516	-	430	468	-	-	-	-	-	-	-
Stage 2	548	449	-	658	514	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	160	147	786	156	155	833	1120	-	-	1157	-	-
Mov Cap-2 Maneuver	160	147	-	156	155	-	-	-	-	-	-	-
Stage 1	428	491	-	376	409	-	-	-	-	-	-	-
Stage 2	458	392	-	542	489	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13.2		15.4		2.3		0.9					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	1120	-	-	159	786	388	1157	-	-			
HCM Lane V/C Ratio	0.126	-	-	0.109	0.131	0.106	0.049	-	-			
HCM Control Delay (s)	8.7	-	-	30.4	10.3	15.4	8.3	-	-			
HCM Lane LOS	A	-	-	D	B	C	A	-	-			
HCM 95th %tile Q(veh)	0.4	-	-	0.4	0.5	0.4	0.2	-	-			

HCM 6th Signalized Intersection Summary

4: Shoemaker & Imperial

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	1398	83	18	1090	250	98	74	26	240	50	207
Future Volume (veh/h)	173	1398	83	18	1090	250	98	74	26	240	50	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	1520	90	20	1185	272	107	80	28	261	54	225
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1387	82	252	1167	268	139	526	446	572	526	446
Arrive On Green	0.03	0.09	0.09	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	4930	292	1781	4150	953	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	188	1049	561	20	972	485	107	80	28	261	54	225
Grp Sat Flow(s),veh/h/ln	1781	1702	1818	1781	1702	1699	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.0	18.0	18.0	0.5	18.0	18.0	3.8	2.1	0.8	5.0	1.4	7.6
Cycle Q Clear(g_c), s	5.0	18.0	18.0	0.5	18.0	18.0	3.8	2.1	0.8	5.0	1.4	7.6
Prop In Lane	1.00		0.16	1.00		0.56	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	957	511	252	957	478	139	526	446	572	526	446
V/C Ratio(X)	1.35	1.10	1.10	0.08	1.02	1.02	0.77	0.15	0.06	0.46	0.10	0.50
Avail Cap(c_a), veh/h	139	957	511	252	957	478	139	526	446	572	526	446
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	29.0	29.0	16.7	29.0	29.0	28.9	17.3	16.8	16.0	17.0	19.3
Incr Delay (d2), s/veh	197.7	59.0	68.7	0.6	32.9	45.0	32.7	0.6	0.3	2.6	0.4	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	15.7	18.2	0.2	12.2	13.9	2.8	0.9	0.3	2.8	0.6	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	228.9	88.0	97.7	17.3	62.0	74.1	61.7	17.9	17.1	18.6	17.4	23.3
LnGrp LOS	F	F	F	B	F	F	E	B	B	B	B	C
Approach Vol, veh/h	1798			1477			215			540		
Approach Delay, s/veh	105.8			65.3			39.6			20.4		
Approach LOS	F			E			D			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	4.1	2.5	20.0	5.8	9.6	7.0	20.0				
Green Ext Time (p_c), s	0.0	0.3	0.0	0.0	0.0	0.6	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	76.0											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	1398	83	18	1090	250	98	74	26	240	50	207
Future Volume (veh/h)	173	1398	83	18	1090	250	98	74	26	240	50	207
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	1520	90	20	1185	272	107	80	28	261	54	225
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1387	82	252	1167	268	139	526	446	572	526	446
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	228.9	88.0	97.7	17.3	62.0	74.1	61.7	17.9	17.1	18.6	17.4	23.3
Ln Grp LOS	F	F	F	B	F	F	E	B	B	B	B	C
Approach Vol, veh/h	1798			1477			215			540		
Approach Delay, s/veh	105.8			65.3			39.6			20.4		
Approach LOS	F			E			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.9	3.8	4.1	3.7	5.0				
Max Q Clear (g_c+I1), s	7.0	4.1	2.5	20.0	5.8	9.6	7.0	20.0				
Green Ext Time (g_e), s	0.0	0.3	0.0	0.0	0.0	0.6	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	1870	4930	1870	4150								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	292	1585	953								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

07/07/2021

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	261	0	20	0	107	0	188	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.0	0.0	0.5	0.0	3.8	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	5.0	0.0	0.5	0.0	3.8	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1286	0	315	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	15.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	572	0	252	0	139	0	139	0
V/C Ratio (X)	0.46	0.00	0.08	0.00	0.77	0.00	1.35	0.00
Avail Cap (c_a), veh/h	572	0	252	0	139	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	16.0	0.0	16.7	0.0	28.9	0.0	31.2	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.6	0.0	32.7	0.0	197.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.6	0.0	17.3	0.0	61.7	0.0	228.9	0.0
1st-Term Q (Q1), veh/ln	2.4	0.0	0.2	0.0	1.5	0.0	2.1	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.0	0.0	1.3	0.0	7.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.8	0.0	0.2	0.0	2.8	0.0	9.7	0.0
%ile Storage Ratio (RQ%)	0.03	0.00	0.03	0.00	0.42	0.00	1.76	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	12.2	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	2	0	1	0	2
Grp Vol (v), veh/h	0	80	0	1049	0	54	0	972
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	2.1	0.0	18.0	0.0	1.4	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	2.1	0.0	18.0	0.0	1.4	0.0	18.0
Lane Grp Cap (c), veh/h	0	526	0	957	0	526	0	957
V/C Ratio (X)	0.00	0.15	0.00	1.10	0.00	0.10	0.00	1.02
Avail Cap (c_a), veh/h	0	526	0	957	0	526	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.3	0.0	29.0	0.0	17.0	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	59.0	0.0	0.4	0.0	32.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.9	0.0	88.0	0.0	17.4	0.0	62.0
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	7.9	0.0	0.5	0.0	7.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	7.8	0.0	0.1	0.0	4.4

HCM 6th Signalized Intersection Capacity Analysis

4: Shoemaker & Imperial

07/07/2021

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.9	0.0	15.7	0.0	0.6	0.0	12.2
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.16	0.00	0.01	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	23.0	0.0	0.0	0.0	3.6
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	28	0	561	0	225	0	485
Grp Sat Flow (s), veh/h/ln	0	1585	0	1818	0	1585	0	1699
Q Serve Time (g_s), s	0.0	0.8	0.0	18.0	0.0	7.6	0.0	18.0
Cycle Q Clear Time (g_c), s	0.0	0.8	0.0	18.0	0.0	7.6	0.0	18.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.16	0.00	1.00	0.00	0.56
Lane Grp Cap (c), veh/h	0	446	0	511	0	446	0	478
V/C Ratio (X)	0.00	0.06	0.00	1.10	0.00	0.50	0.00	1.02
Avail Cap (c_a), veh/h	0	446	0	511	0	446	0	478
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.8	0.0	29.0	0.0	19.3	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	68.7	0.0	4.0	0.0	45.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.1	0.0	97.7	0.0	23.3	0.0	74.1
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	8.4	0.0	2.4	0.0	7.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	9.8	0.0	0.5	0.0	6.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	18.2	0.0	2.9	0.0	13.9
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.18	0.00	0.74	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	12.3	0.0	0.0	0.0	1.8
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3

Intersection Summary

HCM 6th Ctrl Delay	76.0
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary

5: Carmenita & Imperial

07/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑ ↱			↰ ↑↑ ↱			↰ ↑↑ ↱		↰ ↑	↰ ↑↑		↰ ↑
Traffic Volume (veh/h)	98	850	200	131	682	125	192	1178	142	89	873	55
Future Volume (veh/h)	98	850	200	131	682	125	192	1178	142	89	873	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	924	217	142	741	136	209	1280	154	97	949	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1162	272	139	1221	222	262	999	446	252	999	446
Arrive On Green	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	4133	967	1781	4343	789	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	107	760	381	142	579	298	209	1280	154	97	949	60
Grp Sat Flow(s),veh/h/ln	1781	1702	1696	1781	1702	1728	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.8	14.0	14.1	5.0	9.4	9.6	5.0	18.0	5.0	2.4	16.8	1.8
Cycle Q Clear(g_c), s	3.8	14.0	14.1	5.0	9.4	9.6	5.0	18.0	5.0	2.4	16.8	1.8
Prop In Lane	1.00		0.57	1.00		0.46	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	957	477	139	957	486	262	999	446	252	999	446
V/C Ratio(X)	0.77	0.79	0.80	1.02	0.61	0.61	0.80	1.28	0.35	0.39	0.95	0.13
Avail Cap(c_a), veh/h	139	957	477	139	957	486	262	999	446	252	999	446
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	27.2	27.2	29.5	19.9	20.0	18.3	23.0	18.3	16.4	22.6	17.2
Incr Delay (d2), s/veh	32.7	6.8	13.0	81.8	2.8	5.7	21.7	134.0	2.1	4.4	18.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	7.0	7.9	5.1	3.6	4.1	3.4	25.0	1.8	1.1	8.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	34.0	40.3	111.3	22.8	25.6	40.0	157.0	20.4	20.8	41.2	17.8
LnGrp LOS	E	C	D	F	C	C	D	F	C	C	D	B
Approach Vol, veh/h	1248		1019			1643			1106			
Approach Delay, s/veh	38.4		35.9			129.4			38.1			
Approach LOS	D		D			F			D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	20.0	20.0	7.0	16.1	7.0	18.8	5.8	11.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	2.8				

Intersection Summary

HCM 6th Ctrl Delay	67.6
HCM 6th LOS	E

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	850	200	131	682	125	192	1178	142	89	873	55
Future Volume (veh/h)	98	850	200	131	682	125	192	1178	142	89	873	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	924	217	142	741	136	209	1280	154	97	949	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1162	272	139	1221	222	262	999	446	252	999	446
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.3	34.0	40.3	111.3	22.8	25.6	40.0	157.0	20.4	20.8	41.2	17.8
Ln Grp LOS	E	C	D	F	C	C	D	F	C	C	D	B
Approach Vol, veh/h	1248			1019			1643			1106		
Approach Delay, s/veh	38.4			35.9			129.4			38.1		
Approach LOS	D			D			F			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	4.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	5.0	3.7	4.9	3.7	5.0				
Max Q Clear (g_c+I1), s	4.4	20.0	7.0	16.1	7.0	18.8	5.8	11.6				
Green Ext Time (g_e), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	2.8				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	4133	3554	4343								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	967	1585	789								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

07/07/2021

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	97	0	142	0	209	0	107	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.4	0.0	5.0	0.0	5.0	0.0	3.8	0.0
Cycle Q Clear Time (g_c), s	2.4	0.0	5.0	0.0	5.0	0.0	3.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	373	0	0	0	559	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	252	0	139	0	262	0	139	0
V/C Ratio (X)	0.39	0.00	1.02	0.00	0.80	0.00	0.77	0.00
Avail Cap (c_a), veh/h	252	0	139	0	262	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	16.4	0.0	29.5	0.0	18.3	0.0	30.6	0.0
Incr Delay (d2), s/veh	4.4	0.0	81.8	0.0	21.7	0.0	32.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	20.8	0.0	111.3	0.0	40.0	0.0	63.3	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.9	0.0	1.8	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	3.2	0.0	1.6	0.0	1.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.1	0.0	5.1	0.0	3.4	0.0	2.8	0.0
%ile Storage Ratio (RQ%)	0.20	0.00	0.63	0.00	0.53	0.00	0.59	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1280	0	760	0	949	0	579
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	18.0	0.0	14.0	0.0	16.8	0.0	9.4
Cycle Q Clear Time (g_c), s	0.0	18.0	0.0	14.0	0.0	16.8	0.0	9.4
Lane Grp Cap (c), veh/h	0	999	0	957	0	999	0	957
V/C Ratio (X)	0.00	1.28	0.00	0.79	0.00	0.95	0.00	0.61
Avail Cap (c_a), veh/h	0	999	0	957	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.0	0.0	27.2	0.0	22.6	0.0	19.9
Incr Delay (d2), s/veh	0.0	134.0	0.0	6.8	0.0	18.6	0.0	2.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	157.0	0.0	34.0	0.0	41.2	0.0	22.8
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	6.1	0.0	6.1	0.0	3.2
2nd-Term Q (Q2), veh/ln	0.0	18.6	0.0	0.9	0.0	2.6	0.0	0.4

HCM 6th Signalized Intersection Capacity Analysis

5: Carmenita & Imperial

07/07/2021

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	25.0	0.0	7.0	0.0	8.7	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.07	0.00	0.38	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	70.1	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	154	0	381	0	60	0	298
Grp Sat Flow (s), veh/h/ln	0	1585	0	1696	0	1585	0	1728
Q Serve Time (g_s), s	0.0	5.0	0.0	14.1	0.0	1.8	0.0	9.6
Cycle Q Clear Time (g_c), s	0.0	5.0	0.0	14.1	0.0	1.8	0.0	9.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.57	0.00	1.00	0.00	0.46
Lane Grp Cap (c), veh/h	0	446	0	477	0	446	0	486
V/C Ratio (X)	0.00	0.35	0.00	0.80	0.00	0.13	0.00	0.61
Avail Cap (c_a), veh/h	0	446	0	477	0	446	0	486
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.3	0.0	27.2	0.0	17.2	0.0	20.0
Incr Delay (d2), s/veh	0.0	2.1	0.0	13.0	0.0	0.6	0.0	5.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.4	0.0	40.3	0.0	17.8	0.0	25.6
1st-Term Q (Q1), veh/ln	0.0	1.6	0.0	6.1	0.0	0.6	0.0	3.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	1.7	0.0	0.1	0.0	0.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.8	0.0	7.9	0.0	0.7	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.08	0.00	0.03	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	67.6
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary

6: Carmenita & Rosecrans

07/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↱	↰↱		↰↱↱	↰↱↱		↰	↰↱	↰	↰	↰↱	↰
Traffic Volume (veh/h)	367	661	44	140	594	71	122	1256	181	57	1110	431
Future Volume (veh/h)	367	661	44	140	594	71	122	1256	181	57	1110	431
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	399	718	48	152	646	77	133	1365	197	62	1207	468
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	951	64	139	1302	154	139	999	446	139	999	446
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	3456	3381	226	1781	4630	546	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	399	377	389	152	473	250	133	1365	197	62	1207	468
Grp Sat Flow(s),veh/h/ln	1728	1777	1830	1781	1702	1772	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.0	12.4	12.4	5.0	7.4	7.5	4.8	18.0	6.5	2.1	18.0	18.0
Cycle Q Clear(g_c), s	5.0	12.4	12.4	5.0	7.4	7.5	4.8	18.0	6.5	2.1	18.0	18.0
Prop In Lane	1.00		0.12	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	500	515	139	957	498	139	999	446	139	999	446
V/C Ratio(X)	1.48	0.75	0.76	1.09	0.49	0.50	0.96	1.37	0.44	0.45	1.21	1.05
Avail Cap(c_a), veh/h	270	500	515	139	957	498	139	999	446	139	999	446
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	21.0	21.0	29.5	19.2	19.2	29.4	23.0	18.9	28.2	23.0	23.0
Incr Delay (d2), s/veh	234.0	10.2	9.9	103.1	1.8	3.6	65.3	171.0	3.2	10.0	102.9	56.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	5.8	6.0	5.9	2.8	3.2	4.4	30.1	2.5	1.2	20.7	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	263.5	31.1	30.9	132.6	21.0	22.8	94.7	194.0	22.0	38.2	125.9	79.3
LnGrp LOS	F	C	C	F	C	C	F	F	C	D	F	F
Approach Vol, veh/h	1165			875			1695			1737		
Approach Delay, s/veh	110.6			40.9			166.3			110.2		
Approach LOS	F			D			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+14), s	20.0	20.0	7.0	14.4	6.8	20.0	7.0	9.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.5	0.0	0.0	0.0	2.7				

Intersection Summary

HCM 6th Ctrl Delay	116.6
HCM 6th LOS	F

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	367	661	44	140	594	71	122	1256	181	57	1110	431
Future Volume (veh/h)	367	661	44	140	594	71	122	1256	181	57	1110	431
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	399	718	48	152	646	77	133	1365	197	62	1207	468
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	270	951	64	139	1302	154	139	999	446	139	999	446
HCM 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
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	263.5	31.1	30.9	132.6	21.0	22.8	94.7	194.0	22.0	38.2	125.9	79.3
Ln Grp LOS	F	C	C	F	C	C	F	F	C	D	F	F
Approach Vol, veh/h	1165			875			1695			1737		
Approach Delay, s/veh	110.6			40.9			166.3			110.2		
Approach LOS	F			D			F			F		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	4.9	3.7	4.6	3.7	4.9				
Max Q Clear (g_c+I1), s	4.1	20.0	7.0	14.4	6.8	20.0	7.0	9.5				
Green Ext Time (g_e), s	0.0	0.0	0.0	1.5	0.0	0.0	0.0	2.7				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3381	3554	4630								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	226	1585	546								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

07/07/2021

Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	62	0	152	0	133	0	399	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	2.1	0.0	5.0	0.0	4.8	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	2.1	0.0	5.0	0.0	4.8	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	139	0	139	0	139	0	270	0
V/C Ratio (X)	0.45	0.00	1.09	0.00	0.96	0.00	1.48	0.00
Avail Cap (c_a), veh/h	139	0	139	0	139	0	270	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	28.2	0.0	29.5	0.0	29.4	0.0	29.5	0.0
Incr Delay (d2), s/veh	10.0	0.0	103.1	0.0	65.3	0.0	234.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	38.2	0.0	132.6	0.0	94.7	0.0	263.5	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.9	0.0	1.8	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	4.0	0.0	2.5	0.0	8.8	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	5.9	0.0	4.4	0.0	10.7	0.0
%ile Storage Ratio (RQ%)	0.15	0.00	1.00	0.00	0.55	0.00	1.59	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	3.2	0.0	0.0	0.0	32.3	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.4	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	1365	0	377	0	1207	0	473
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1702
Q Serve Time (g_s), s	0.0	18.0	0.0	12.4	0.0	18.0	0.0	7.4
Cycle Q Clear Time (g_c), s	0.0	18.0	0.0	12.4	0.0	18.0	0.0	7.4
Lane Grp Cap (c), veh/h	0	999	0	500	0	999	0	957
V/C Ratio (X)	0.00	1.37	0.00	0.75	0.00	1.21	0.00	0.49
Avail Cap (c_a), veh/h	0	999	0	500	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.0	0.0	21.0	0.0	23.0	0.0	19.2
Incr Delay (d2), s/veh	0.0	171.0	0.0	10.2	0.0	102.9	0.0	1.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	194.0	0.0	31.1	0.0	125.9	0.0	21.0
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	4.4	0.0	6.4	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	23.7	0.0	1.4	0.0	14.3	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

6: Carmenita & Rosecrans

07/07/2021

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	30.1	0.0	5.8	0.0	20.7	0.0	2.8
%ile Storage Ratio (RQ%)	0.00	2.80	0.00	0.23	0.00	0.10	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	91.4	0.0	0.0	0.0	51.9	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	197	0	389	0	468	0	250
Grp Sat Flow (s), veh/h/ln	0	1585	0	1830	0	1585	0	1772
Q Serve Time (g_s), s	0.0	6.5	0.0	12.4	0.0	18.0	0.0	7.5
Cycle Q Clear Time (g_c), s	0.0	6.5	0.0	12.4	0.0	18.0	0.0	7.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.12	0.00	1.00	0.00	0.31
Lane Grp Cap (c), veh/h	0	446	0	515	0	446	0	498
V/C Ratio (X)	0.00	0.44	0.00	0.76	0.00	1.05	0.00	0.50
Avail Cap (c_a), veh/h	0	446	0	515	0	446	0	498
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.9	0.0	21.0	0.0	23.0	0.0	19.2
Incr Delay (d2), s/veh	0.0	3.2	0.0	9.9	0.0	56.3	0.0	3.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.0	0.0	30.9	0.0	79.3	0.0	22.8
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	4.5	0.0	5.7	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	1.4	0.0	7.0	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.5	0.0	6.0	0.0	12.7	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.24	0.00	1.61	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	116.6
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary

7: Shoemaker & Lakeland

07/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	153	111	35	118	34	82	486	32	44	581	99
Future Volume (veh/h)	77	153	111	35	118	34	82	486	32	44	581	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	166	121	38	128	37	89	528	35	48	632	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	531	526	446	482	526	446	367	999	446	384	999	446
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.16	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	84	166	121	38	128	37	89	528	35	48	632	108
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.0	4.5	3.8	0.9	3.4	1.1	2.2	8.0	1.0	1.1	7.7	2.2
Cycle Q Clear(g_c), s	2.0	4.5	3.8	0.9	3.4	1.1	2.2	8.0	1.0	1.1	7.7	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	531	526	446	482	526	446	367	999	446	384	999	446
V/C Ratio(X)	0.16	0.32	0.27	0.08	0.24	0.08	0.24	0.53	0.08	0.13	0.63	0.24
Avail Cap(c_a), veh/h	531	526	446	482	526	446	367	999	446	384	999	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	18.1	17.9	13.6	17.7	16.9	14.4	19.4	16.9	12.8	11.8	10.5
Incr Delay (d2), s/veh	0.6	1.6	1.5	0.3	1.1	0.4	1.6	2.0	0.3	0.7	3.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.9	1.4	0.4	1.5	0.4	0.9	3.1	0.4	0.4	2.5	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	19.7	19.4	13.9	18.8	17.3	15.9	21.4	17.2	13.5	14.8	11.8
LnGrp LOS	B	B	B	B	B	B	B	C	B	B	B	B
Approach Vol, veh/h	371			203			652			788		
Approach Delay, s/veh	18.4			17.6			20.4			14.3		
Approach LOS	B			B			C			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	10.0	10.0	2.9	6.5	4.2	9.7	4.0	5.4				
Green Ext Time (p_c), s	0.0	2.0	0.0	0.9	0.0	2.8	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	153	111	35	118	34	82	486	32	44	581	99
Future Volume (veh/h)	77	153	111	35	118	34	82	486	32	44	581	99
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	166	121	38	128	37	89	528	35	48	632	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	531	526	446	482	526	446	367	999	446	384	999	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.16	0.56	0.56
Unsig. Movement Delay												
Ln Grp Delay, s/veh	14.5	19.7	19.4	13.9	18.8	17.3	15.9	21.4	17.2	13.5	14.8	11.8
Ln Grp LOS	B	B	B	B	B	B	B	C	B	B	B	B
Approach Vol, veh/h	371			203			652			788		
Approach Delay, s/veh	18.4			17.6			20.4			14.3		
Approach LOS	B			B			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	4.6	3.7	4.9	3.7	4.8				
Max Q Clear (g_c+I1), s	3.1	10.0	2.9	6.5	4.2	9.7	4.0	5.4				
Green Ext Time (g_e), s	0.0	2.0	0.0	0.9	0.0	2.8	0.0	0.5				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	1870	3554	1870								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)								

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

07/07/2021

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	48	0	38	0	89	0	84	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.1	0.0	0.9	0.0	2.2	0.0	2.0	0.0
Cycle Q Clear Time (g_c), s	1.1	0.0	0.9	0.0	2.2	0.0	2.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	847	0	1092	0	719	0	1221	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	18.0	0.0	18.0	0.0
Perm LT Serve Time (g_u), s	10.0	0.0	13.5	0.0	10.3	0.0	14.6	0.0
Perm LT Q Serve Time (g_ps), s	0.4	0.0	0.2	0.0	1.1	0.0	0.2	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	384	0	482	0	367	0	531	0
V/C Ratio (X)	0.13	0.00	0.08	0.00	0.24	0.00	0.16	0.00
Avail Cap (c_a), veh/h	384	0	482	0	367	0	531	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	12.8	0.0	13.6	0.0	14.4	0.0	13.9	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.3	0.0	1.6	0.0	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	13.5	0.0	13.9	0.0	15.9	0.0	14.5	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	0.3	0.0	0.7	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	0.4	0.0	0.9	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.12	0.00	0.08	0.00	0.11	0.00	0.16	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	528	0	166	0	632	0	128
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	8.0	0.0	4.5	0.0	7.7	0.0	3.4
Cycle Q Clear Time (g_c), s	0.0	8.0	0.0	4.5	0.0	7.7	0.0	3.4
Lane Grp Cap (c), veh/h	0	999	0	526	0	999	0	526
V/C Ratio (X)	0.00	0.53	0.00	0.32	0.00	0.63	0.00	0.24
Avail Cap (c_a), veh/h	0	999	0	526	0	999	0	526
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.4	0.0	18.1	0.0	11.8	0.0	17.7
Incr Delay (d2), s/veh	0.0	2.0	0.0	1.6	0.0	3.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.4	0.0	19.7	0.0	14.8	0.0	18.8
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	1.7	0.0	2.0	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.4	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

7: Shoemaker & Lakeland

07/07/2021

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	1.9	0.0	2.5	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.06	0.00	0.05	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	35	0	121	0	108	0	37
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.0	0.0	3.8	0.0	2.2	0.0	1.1
Cycle Q Clear Time (g_c), s	0.0	1.0	0.0	3.8	0.0	2.2	0.0	1.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	446	0	446	0	446	0	446
V/C Ratio (X)	0.00	0.08	0.00	0.27	0.00	0.24	0.00	0.08
Avail Cap (c_a), veh/h	0	446	0	446	0	446	0	446
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.9	0.0	17.9	0.0	10.5	0.0	16.9
Incr Delay (d2), s/veh	0.0	0.3	0.0	1.5	0.0	1.3	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.2	0.0	19.4	0.0	11.8	0.0	17.3
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	1.2	0.0	0.6	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	1.4	0.0	0.8	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.36	0.00	0.20	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

8: Shoemaker & Florence

07/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	1023	148	51	726	25	121	417	86	53	489	97
Future Volume (veh/h)	53	1023	148	51	726	25	121	417	86	53	489	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	1112	161	55	789	27	132	453	93	58	532	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	999	446	252	999	446	349	999	446	390	833	164
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.03	0.09	0.09	0.08	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	2960	582
Grp Volume(v), veh/h	58	1112	161	55	789	27	132	453	93	58	318	319
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1766
Q Serve(g_s), s	1.4	18.0	5.2	1.3	13.1	0.8	3.3	7.7	3.5	1.4	10.0	10.1
Cycle Q Clear(g_c), s	1.4	18.0	5.2	1.3	13.1	0.8	3.3	7.7	3.5	1.4	10.0	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	303	999	446	252	999	446	349	999	446	390	500	497
V/C Ratio(X)	0.19	1.11	0.36	0.22	0.79	0.06	0.38	0.45	0.21	0.15	0.64	0.64
Avail Cap(c_a), veh/h	303	999	446	252	999	446	349	999	446	390	500	497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.0	23.0	18.4	16.1	21.2	16.8	16.0	24.4	22.4	14.1	20.1	20.2
Incr Delay (d2), s/veh	1.4	64.6	2.3	2.0	6.3	0.3	3.1	1.5	1.1	0.8	6.1	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	15.5	2.0	0.6	5.7	0.3	1.5	3.4	1.3	0.6	4.5	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.5	87.6	20.7	18.1	27.6	17.1	19.1	25.9	23.5	14.9	26.2	26.4
LnGrp LOS	B	F	C	B	C	B	B	C	C	B	C	C
Approach Vol, veh/h	1331			871			678			695		
Approach Delay, s/veh	76.4			26.7			24.2			25.4		
Approach LOS	E			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I), s	13.4	9.7	3.3	20.0	5.3	12.1	3.4	15.1				
Green Ext Time (p_c), s	0.0	2.0	0.0	0.0	0.0	1.8	0.0	1.4				

Intersection Summary

HCM 6th Ctrl Delay	44.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	1023	148	51	726	25	121	417	86	53	489	97
Future Volume (veh/h)	53	1023	148	51	726	25	121	417	86	53	489	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	1112	161	55	789	27	132	453	93	58	532	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	303	999	446	252	999	446	349	999	446	390	833	164
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.03	0.09	0.09	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	16.5	87.6	20.7	18.1	27.6	17.1	19.1	25.9	23.5	14.9	26.2	26.4
Ln Grp LOS	B	F	C	B	C	B	B	C	C	B	C	C
Approach Vol, veh/h	1331				871				678		695	
Approach Delay, s/veh	76.4				26.7				24.2		25.4	
Approach LOS	E				C				C		C	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.8	3.7	4.9	3.7	5.1	3.7	5.0				
Max Q Clear (g_c+I1), s	3.4	9.7	3.3	20.0	5.3	12.1	3.4	15.1				
Green Ext Time (g_e), s	0.0	2.0	0.0	0.0	0.0	1.8	0.0	1.4				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	3554	2960	3554								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	582	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)	L (Pr/Pm)								

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

07/07/2021

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	58	0	55	0	132	0	58	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.4	0.0	1.3	0.0	3.3	0.0	1.4	0.0
Cycle Q Clear Time (g_c), s	1.4	0.0	1.3	0.0	3.3	0.0	1.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	861	0	435	0	791	0	670	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	18.0	0.0	18.0	0.0	18.0	0.0
Perm LT Serve Time (g_u), s	10.3	0.0	0.0	0.0	7.9	0.0	4.9	0.0
Perm LT Q Serve Time (g_ps), s	0.6	0.0	0.0	0.0	2.2	0.0	1.2	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	390	0	252	0	349	0	303	0
V/C Ratio (X)	0.15	0.00	0.22	0.00	0.38	0.00	0.19	0.00
Avail Cap (c_a), veh/h	390	0	252	0	349	0	303	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	14.1	0.0	16.1	0.0	16.0	0.0	15.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	2.0	0.0	3.1	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	14.9	0.0	18.1	0.0	19.1	0.0	16.5	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	0.5	0.0	1.2	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.6	0.0	0.6	0.0	1.5	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.10	0.00	0.08	0.00	0.38	0.00	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	453	0	1112	0	318	0	789
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	7.7	0.0	18.0	0.0	10.0	0.0	13.1
Cycle Q Clear Time (g_c), s	0.0	7.7	0.0	18.0	0.0	10.0	0.0	13.1
Lane Grp Cap (c), veh/h	0	999	0	999	0	500	0	999
V/C Ratio (X)	0.00	0.45	0.00	1.11	0.00	0.64	0.00	0.79
Avail Cap (c_a), veh/h	0	999	0	999	0	500	0	999
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.4	0.0	23.0	0.0	20.1	0.0	21.2
Incr Delay (d2), s/veh	0.0	1.5	0.0	64.6	0.0	6.1	0.0	6.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.9	0.0	87.6	0.0	26.2	0.0	27.6
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	6.6	0.0	3.7	0.0	4.8
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	9.0	0.0	0.8	0.0	0.9

HCM 6th Signalized Intersection Capacity Analysis

8: Shoemaker & Florence

07/07/2021

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.4	0.0	15.5	0.0	4.5	0.0	5.7
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.23	0.00	0.17	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	28.1	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	93	0	161	0	319	0	27
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1766	0	1585
Q Serve Time (g_s), s	0.0	3.5	0.0	5.2	0.0	10.1	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	5.2	0.0	10.1	0.0	0.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.33	0.00	1.00
Lane Grp Cap (c), veh/h	0	446	0	446	0	497	0	446
V/C Ratio (X)	0.00	0.21	0.00	0.36	0.00	0.64	0.00	0.06
Avail Cap (c_a), veh/h	0	446	0	446	0	497	0	446
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.4	0.0	18.4	0.0	20.2	0.0	16.8
Incr Delay (d2), s/veh	0.0	1.1	0.0	2.3	0.0	6.2	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.5	0.0	20.7	0.0	26.4	0.0	17.1
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	1.7	0.0	3.7	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.0	0.9	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	2.0	0.0	4.5	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.22	0.00	0.50	0.00	0.17	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	44.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

9: Bloomfield & Imperial

07/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	1122	60	255	1155	62	122	624	400	157	821	238
Future Volume (veh/h)	145	1122	60	255	1155	62	122	624	400	157	821	238
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	1220	65	277	1255	67	133	678	435	171	892	259
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1436	446	139	1396	74	271	999	446	308	999	446
Arrive On Green	0.08	0.28	0.28	0.05	0.19	0.19	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	5106	1585	1781	4962	265	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	158	1220	65	277	861	461	133	678	435	171	892	259
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1823	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.0	14.4	2.0	5.0	15.8	15.8	3.3	10.8	17.4	4.4	15.4	9.0
Cycle Q Clear(g_c), s	5.0	14.4	2.0	5.0	15.8	15.8	3.3	10.8	17.4	4.4	15.4	9.0
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	1436	446	139	957	513	271	999	446	308	999	446
V/C Ratio(X)	1.14	0.85	0.15	1.99	0.90	0.90	0.49	0.68	0.98	0.55	0.89	0.58
Avail Cap(c_a), veh/h	139	1436	446	139	957	513	271	999	446	308	999	446
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	21.7	17.2	30.3	25.1	25.1	16.5	20.4	22.8	15.9	22.1	19.8
Incr Delay (d2), s/veh	117.3	6.5	0.7	470.3	13.0	21.3	6.2	3.7	37.0	7.0	12.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	5.8	0.7	20.2	8.0	9.7	1.6	4.5	10.1	2.1	7.1	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	146.8	28.2	17.9	500.7	38.1	46.4	22.7	24.1	59.8	22.9	34.1	25.2
LnGrp LOS	F	C	B	F	D	D	C	C	E	C	C	C
Approach Vol, veh/h	1443		1599			1246			1322			
Approach Delay, s/veh	40.7		120.6			36.4			30.9			
Approach LOS	D		F			D			C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+10), s	19.4	19.4	7.0	16.4	5.3	17.4	7.0	17.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.1	0.0	0.4	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	60.2
HCM 6th LOS	E

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

07/07/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	1122	60	255	1155	62	122	624	400	157	821	238
Future Volume (veh/h)	145	1122	60	255	1155	62	122	624	400	157	821	238
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	1220	65	277	1255	67	133	678	435	171	892	259
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	1436	446	139	1396	74	271	999	446	308	999	446
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.05	0.19	0.19	0.08	0.28	0.28	0.08	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	146.8	28.2	17.9	500.7	38.1	46.4	22.7	24.1	59.8	22.9	34.1	25.2
Ln Grp LOS	F	C	B	F	D	D	C	C	E	C	C	C
Approach Vol, veh/h	1443			1599			1246			1322		
Approach Delay, s/veh	40.7			120.6			36.4			30.9		
Approach LOS	D			F			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	3.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Allow Headway (MAH), s	3.7	4.6	3.7	4.9	3.7	4.7	3.7	4.9				
Max Q Clear (g_c+I1), s	6.4	19.4	7.0	16.4	5.3	17.4	7.0	17.8				
Green Ext Time (g_e), s	0.0	0.0	0.0	1.1	0.0	0.4	0.0	0.1				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5106	3554	4962								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	265								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

07/07/2021

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	171	0	277	0	133	0	158	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	4.4	0.0	5.0	0.0	3.3	0.0	5.0	0.0
Cycle Q Clear Time (g_c), s	4.4	0.0	5.0	0.0	3.3	0.0	5.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	506	0	0	0	488	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	7.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	5.5	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	308	0	139	0	271	0	139	0
V/C Ratio (X)	0.55	0.00	1.99	0.00	0.49	0.00	1.14	0.00
Avail Cap (c_a), veh/h	308	0	139	0	271	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.9	0.0	30.3	0.0	16.5	0.0	29.5	0.0
Incr Delay (d2), s/veh	7.0	0.0	470.3	0.0	6.2	0.0	117.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	22.9	0.0	500.7	0.0	22.7	0.0	146.8	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	2.0	0.0	1.2	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.6	0.0	18.2	0.0	0.5	0.0	4.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.1	0.0	20.2	0.0	1.6	0.0	6.5	0.0
%ile Storage Ratio (RQ%)	0.41	0.00	5.12	0.00	0.29	0.00	1.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	34.5	0.0	0.0	0.0	4.7	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.5	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	3	0	2	0	2
Grp Vol (v), veh/h	0	678	0	1220	0	892	0	861
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	10.8	0.0	14.4	0.0	15.4	0.0	15.8
Cycle Q Clear Time (g_c), s	0.0	10.8	0.0	14.4	0.0	15.4	0.0	15.8
Lane Grp Cap (c), veh/h	0	999	0	1436	0	999	0	957
V/C Ratio (X)	0.00	0.68	0.00	0.85	0.00	0.89	0.00	0.90
Avail Cap (c_a), veh/h	0	999	0	1436	0	999	0	957
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.4	0.0	21.7	0.0	22.1	0.0	25.1
Incr Delay (d2), s/veh	0.0	3.7	0.0	6.5	0.0	12.0	0.0	13.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.1	0.0	28.2	0.0	34.1	0.0	38.1
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	4.9	0.0	5.5	0.0	6.2
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.9	0.0	1.7	0.0	1.7

HCM 6th Signalized Intersection Capacity Analysis

9: Bloomfield & Imperial

07/07/2021

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.5	0.0	5.8	0.0	7.1	0.0	8.0
%ile Storage Ratio (RQ%)	0.00	0.36	0.00	0.12	0.00	0.28	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	435	0	65	0	259	0	461
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1823
Q Serve Time (g_s), s	0.0	17.4	0.0	2.0	0.0	9.0	0.0	15.8
Cycle Q Clear Time (g_c), s	0.0	17.4	0.0	2.0	0.0	9.0	0.0	15.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.15
Lane Grp Cap (c), veh/h	0	446	0	446	0	446	0	513
V/C Ratio (X)	0.00	0.98	0.00	0.15	0.00	0.58	0.00	0.90
Avail Cap (c_a), veh/h	0	446	0	446	0	446	0	513
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.8	0.0	17.2	0.0	19.8	0.0	25.1
Incr Delay (d2), s/veh	0.0	37.0	0.0	0.7	0.0	5.4	0.0	21.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	59.8	0.0	17.9	0.0	25.2	0.0	46.4
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	0.6	0.0	0.0	0.0	6.7
2nd-Term Q (Q2), veh/ln	0.0	4.6	0.0	0.1	0.0	0.7	0.0	3.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.1	0.0	0.7	0.0	0.7	0.0	9.7
%ile Storage Ratio (RQ%)	0.00	2.57	0.00	0.18	0.00	0.16	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	60.2
HCM 6th LOS	E

Exhibit C - Conditions of Approval

Rexford Industrial Truck and Trailer Storage Yard

Conditional Use Permit (CUP) Case No. 831
12133 Greenstone Avenue (APN 8026-020-017)

CONDITIONS OF APPROVAL:

ENGINEERING / PUBLIC WORKS DEPARTMENT: **(Contact: Elias Garcia 562-868-0511 x7034)**

STREETS

1. That the applicant shall pay a flat fee of \$21,860.00 to reconstruct/resurface the existing street frontage to centerline for Greenstone Avenue.
2. That the applicant shall design and construct the removal and replacement of driveway approach, curb, and gutter per City standard R-6.4C on southernmost driveway approach along Greenstone Avenue.
3. That applicant shall replace all concrete street pavement panels disrupted in the installation of all new utility services. Concrete pavement replacement to be full panel, from joint to joint, or joint to score line as needed. Panels to be nine inches thick minimum, and joined to existing street per latest S.P.P.W.C. (Greenbook) Standard. Subgrade to match exiting street section.
4. That the owner/ developer shall prepare street improvements plans for the modification of Greenstone Avenue. Said plans will include the widening of the west side of Greenstone Avenue to match existing width at north end of property. Plans will include the removal of asphalt walkway and curb, to be replaced with concrete sidewalk and curb. Said street improvements to join and match existing street conditions. Said plans shall be reviewed and approved by the City Engineer. Construction shall be paid for by the owner/ developer. The owner/developer will dedicate an easement for roadway purposes and shall be shown on the Parcel/Tract Map. Furthermore, said roadway improvements shall be shown on both the civil and landscape plans. A soils report shall be prepared and submitted to the City Engineer. The applicant shall construct a new pavement structural section consisting of 9 inches of Portland cement concrete over 6 inches of new crushed miscellaneous base along property frontage where the objective is to have a uniform street width from curb to curb.
5. All oil wells, pipelines, tanks, and related lines within the public right-of-way shall be removed from the right-of-way unless otherwise approved by the City Engineer.

6. That adequate “on-site” parking shall be provided per City requirements, and all streets abutting the development shall be posted “No Stopping Any Time.” The City will install the offsite signs and the applicant shall pay \$600.00 to install (3) new signs.
7. That the applicant shall pay to the City, \$15,000.00, the entire cost of design, engineering, installation and inspection of (1) street light on Greenstone Avenue. The City will design and cause construction of said street light(s).
8. Proposed driveways shall be located to clear existing fire hydrants, street lights, water meters, etc.

CITY UTILITIES

9. Storm drains, catch basins, connector pipes, retention basin and appurtenances built for this project shall be constructed in accordance with City specifications in Greenstone Avenue. Storm drain plans shall be approved by the City Engineer.
10. Fire hydrants shall be installed as required by the Fire Department. Existing public fire hydrants adjacent to the site, if any, shall be upgraded if required by the City Engineer. That the applicant shall pay to the City the entire cost of design, engineering, installation and inspection of Fire hydrants.
11. That sanitary sewers shall be constructed in accordance with City specifications to serve the subject development. The plans for the sanitary sewers shall be approved by the City Engineer.
12. All buildings shall be connected to the sanitary sewers.
13. That the fire sprinkler plans, which show the proposed double-check valve detector assembly location, shall have a stamp approval from the Planning Department and Public Works Department prior to the Fire Department’s review for approval. Disinfection, pressure and bacteriological testing on the line between the street and detector assembly shall be performed in the presence of personnel from the City Water Department. The valve on the water main line shall be operated only by the City and only upon the City’s approval of the test results.
14. That the applicant shall obtain a Storm Drain Connection Permit for any connection to the storm drain system.
15. That the landscape irrigation system shall be connected to reclaimed water, if available, on Greenstone Avenue. Separate meter(s) shall be installed to accommodate connection or future connection of irrigation systems to the reclaimed water line.
16. The applicant shall have an overall site utility master plan prepared by a Registered Civil Engineer showing proposed location of all public water mains, reclaimed water mains, sanitary sewers and storm drains. This plan shall be

approved by the City Engineer prior to the preparation of any construction plans for the aforementioned improvements.

TRAFFIC

17. The applicant shall submit a traffic study prepared by a Professional Engineer. The traffic study shall show the present traffic in the area and projected traffic after the development of the property. Any improvements or mitigation measures including installation of traffic signals and/or modifications, the installation of additional left turn lanes or deceleration lanes, the lengthening of left turn lanes or other median modifications, etc. that are warranted based on the study, the applicant and/or developer shall pay to the City the full cost of design engineering, installation and inspection of the improvements. The City will design and cause construction of the improvements.

FEES

18. That the applicant shall comply with Congestion Management Program (CMP) requirements and provide mitigation of trips generated by the development. The applicant and/or developer will receive credit for the demolition of any buildings that formerly occupied the site. For new developments, the applicant and/or developer cannot meet the mitigation requirements, the applicant and/or developer shall pay a mitigation fee to be determined by the City Engineer for off-site transportation improvements.
19. That the applicant shall comply with all requirements of the County Sanitation District, make application for and pay the sewer maintenance fee.
20. That the applicant shall pay the water trunkline connection fee of \$3,700 per acre upon application for water service connection or if utilizing any existing water service.

MISCELLANEOUS

21. That a grading plan shall be submitted for drainage approval to the City Engineer. The applicant shall pay drainage review fees in conjunction with this submittal. A professional civil engineer registered in the State of California shall prepare the grading plan.
22. That a hydrology study shall be submitted to the City if requested by the City Engineer. The study shall be prepared by a Professional Civil Engineer.
23. That upon completion of public improvements constructed by developers, the developer's civil engineer shall submit mylar record drawings and an electronic file (AutoCAD Version 2004 or higher) to the office of the City Engineer.
24. That the applicant shall comply with the National Pollutant Discharge Elimination System (NPDES) program and shall require the general contractor to implement storm water/urban runoff pollution prevention controls and Best Management Practices (BMPs) on all construction sites in accordance with the current MS4 Permit. The applicant will also be required to submit a Certification for the project

and will be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) and Low Impact Development Plan (LID).

DEPARTMENT OF FIRE - RESCUE (FIRE PREVENTION DIVISION)

(Contact: Kevin Yang 562.868-0511 x3811)

25. Interior gates or fences are not permitted across required Department of Fire-Rescue access roadways unless otherwise granted prior approval by the City Department of Fire-Rescue.
26. The standard aisle width for onsite emergency vehicle maneuvering shall be 26 feet with a minimum clear height of 13 feet 6 inches. Internal driveways shall have a turning radius of not less than 52 feet. The final location and design of this 26 feet shall be subject to the approval of the City's Fire Chief as established by the California Fire Code. A request to provide emergency vehicle aisle width less than 26 feet shall be considered upon the installation/provision of mitigation improvements approved by the City's Fire Chief.
27. Knox boxes are required on all new construction. All entry gates shall also be equipped with Knox boxes or Knox key switches for power-activated gates.

DEPARTMENT OF FIRE - RESCUE (ENVIRONMENTAL DIVISION)

(Contact: Eric Scott 562.868-0511 x 3812)

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

POLICE SERVICES DEPARTMENT:

(Contact: Luis Collazo 562.868-0511 x3320)

31. The applicant shall submit and obtain approval of a proposed lighting (photometric) plan for the property from the City's Department of Police Services. The photometric plan shall be designed to provide adequate lighting (minimum of 1 foot candle power) throughout the subject property. Further, all exterior lighting shall be designed/installed in such a manner that light and glare are not

transmitted onto adjoining properties in such concentration/quantity as to create a hardship to adjoining property owners or a public nuisance. The photometric plans shall be submitted to the designated contact person from the Department of Police Services no later than sixty (60) day from the date of approval by the Planning Commission. PDF formatted plans are acceptable and shall be emailed to luiscollazo@santafesprings.org.

32. The applicant shall provide an emergency phone number and a contact person of the person or persons involved in the supervision of the construction to the Department of Police Services. The name, telephone number, fax number and e-mail address of that person shall be provided to the Department of Police Services (Attn: Lou Collazo) no later than 60 days from the date of approval by the Planning Commission. Emergency information shall allow emergency service to reach the applicant or their representative any time, 24 hours a day. Information will be submitted to the emergency dispatch operators serving Police and Fire agencies.
33. Off-street parking areas shall not be reduced or encroached upon at any time.
34. The proposed improvements, including any lighting, fences, walls, cabinets, and poles shall be maintained in good repair, free from trash, debris, litter and graffiti and other forms of vandalism. Any damage from any cause shall be repaired within 72 hours of occurrence, weather permitting, to minimize occurrences of dangerous conditions or visual blight. Paint utilized in covering graffiti shall be a color that matches, as closely possible, the color of the existing and/or adjacent surfaces.
35. During the construction phase of the proposed project, the contractor shall provide an identification number (i.e. address number) at the entry gate to direct emergency responders in case of an emergency. The identification numbers may be painted on wood boards and fastened to the temporary construction fence. The boards may be removed after the permanent number address has been permanently installed. **DO NOT PAINT NUMBERS ON ANY WALLS OR FENCES.**
36. It shall be the responsibility of the job-supervisor to maintain the job site in a clean and orderly manner. Dirt, dust, and debris that has migrated to the street or neighboring properties shall be immediately cleaned. Porte-potties, or equal, shall not be visible from the public street and maintained on a regular basis.
37. The property owner and/or lease agent shall notify any potential tenants that the parking areas and their respective aisle shall not be reduced or encroached upon with outdoor storage. Moreover, outdoor storage, is prohibited at all times. The storage and/or long term parking of trailers is exempt from this condition.
38. Trucks and/or trailers owned by the tenant and/or contracted shall not park or queue on the street at anytime. The tenant and/or his acting site manager shall be responsible to make sure this conditions is complied with at all times.

39. The Applicant and/or his tenant be aware that SFSMC §72.16 prohibits the parking of semi-trailers or trailers on any street or alley unless such vehicle is, at all times while parked, attached to a truck or vehicle capable of moving such semi-trailer or trailer upon public streets and highways.
40. The on-site paving shall be maintained free of pot-holes or other similar damage and the Applicant shall make repairs within 72-hours of identifying any pavement deficiencies.
41. Parking markings (parking striping, directional arrows, etc.) shall be maintained at all times and re-painted when they become faded.

WASTE MANAGEMENT:

(Contact: Maribel Garcia 562.409-7569)

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

PLANNING AND DEVELOPMENT DEPARTMENT:

(Contact: Cuong Nguyen 562.868-0511 x7359)

45. This approval allows the applicant, Rexford Industrial – 12133 Greenstone LLC, to establish, operate and maintain a truck and trailer storage yard (APN 8026-020-017) for their tenant, United Parcel Services (UPS).
 - a. UPS will utilize the site for truck and trailer storage relating to two nearby operations in La Mirada and Cerritos.
 - b. The operations will run 24 hours a day, 7 days a week.
 - c. There will be up to three shifts a day and an estimated 5 to 30 employees per shift.
 - d. Drivers will use company trucks to drop-off and/or pick up empty trailers and leave.
 - e. There will be no loading or unloading at this site and UPS employees will not be domiciled or stationed on-site.
46. The applicant shall submit a \$75 check made payable to "LA County Registrar-Recorder/County Clerk" to the Planning Department to file a Notice of Exemption

from the California Environmental Quality Act within two (2) calendar days of the Planning Commission approval.

47. The applicant understands that should UPS terminate their lease or otherwise vacates the site, any future tenant will be required to sign an affidavit to acknowledge that they have read and agree to assume all Conditions of Approval, before they may occupy the site and/or obtaining a Business License.
48. The proposed truck and trailer storage yard shall otherwise be substantially in accordance with the proposed site plan submitted by the applicant and on file with the case.
49. All new parking stalls shall be striped as shown on the proposed site plan prior to commencement of activities.
50. Truck and trailer parking shall only occur within the designated stalls as shown on the proposed site plan submitted and on file with the case. The designated parking and access areas shall not be further reduced or encroached upon for any type of outdoor storage or similar uses at any time
51. All truck and trailers associated with the subject truck and trailer storage yard shall be empty and parked on-site shall at all times. Applicant understands and agrees that the storage of anything other than empty trailers requires prior approval from the Planning, Building and Fire departments.
52. The applicant shall not allow trucks and/or truck tractors/trailers to queue on Greenstone Avenue or Sunshine Avenue, use streets as a staging area, or to back up onto the street from the subject property. In addition, any vehicles associated with the property shall not obstruct or impede any traffic.
53. The applicant understands and agrees that if truck queuing is later determined to be an issue by the Director of Planning or designee, the applicant shall immediately work with staff to mitigate the problem or otherwise set the gate back to accommodate up to two trucks in queue.
54. All fences, walls, gates and similar improvements for the proposed development shall be subject to the prior approval of the Fire Department and the Department of Planning and Development.
55. The applicant understands and agrees that the 10' high vinyl fencing and gate shall be designed and installed to ensure that all truck and trailer storage activities will be fully screened from public view. If trucks and trailers are found to be visible, applicant shall immediately work with staff to either modify the fence and gate design and/or move the truck and trailer storage activities away from the fence or gate.

56. Applicant shall install new 24" box trees within the front setback area to provide additional curb appeal as well as further screening of the truck yard activities. Said trees shall be 20'-25' on center.
57. The applicant shall submit for approval a detailed landscape and automatic irrigation plan pursuant to the Landscaping Guidelines of the City. Said plans shall be consistent with AB 1881 (Model Water Efficient Landscape Ordinance).
NOTE: Staff shall not approve the landscape and irrigation plan without first reviewing and approving the civil drawings, specifically as it pertains to the landscape and irrigation plan (i.e., location and size of riprap, bio-swales, areas of infiltration trenches, etc.)
58. The landscaped areas shall be provided with a suitable, fixed, permanent and automatically controlled method for watering and sprinkling of plants. This operating sprinkler system shall consist of an electrical time clock, control valves, and piped water lines terminating in an appropriate number of sprinklers to insure proper watering periods and to provide water for all plants within the landscaped area. Sprinklers used to satisfy the requirements of this section shall be spaced to assure complete coverage of all landscaped areas. *Said plan shall be consistent with AB 1881 (Model Water Efficient Landscape Ordinance).*
59. Upon completion of the landscaping improvements, said landscaped areas shall be maintained in a neat, clean, orderly and healthful condition. This is meant to include proper pruning, mowing of lawns, weeding, and removal of litter, fertilizing, and replacement of plants when necessary and the regular watering of all plantings.
60. As part of the landscape irrigation plans, the applicant shall submit a lighting program that is integrated into the overall site, landscape design and building design. Lighting shall be used to highlight prominent building features such as entries and other focal points. Up-lighting should also be used as a way to enhance the texture of plants and structures, to create a sense of height in a landscape design.
61. Transformers shall not be located within the front yard setback area. The location of the transformer(s) shall be subject to the prior approval of the Director of Planning or designee. The electrical transformer shall be screened with shrubs consistent with Southern California Edison's Guidelines which requires three foot clearance on sides and back of the equipment, and eight foot clearance in front of the equipment. Additionally, the landscaping irrigation system shall be installed so that they do not spray on equipment. (A copy of the Guideline is available at the Planning Department.)
62. The applicant shall ensure that the site is continually maintained free of trash, junk, debris, etc., and in an otherwise neat and orderly manner.
63. No outdoor speakers, loudspeaker intercom systems, bells, horns, or other audible notification systems, other than those audible systems required for

emergency or safety warnings, shall be used in the day-to-day operations of the facility.

64. The proposed truck and trailer storage use shall comply with Section 155.424 of the City's Zoning Ordinance regarding the permitted noise levels. If there is a violation of this aforementioned Section, the property owner/applicant shall take whatever measures necessary to reduce or otherwise eliminate said noise source from the operation immediately.
65. The Department of Planning and Development shall first review and approve all sign proposals for the development. The sign proposal (plan) shall include a site plan, building elevation on which the sign will be located, size, style and color of the proposed sign. All drawings shall be properly dimensioned and drawn to scale on 24" x 36" maximum-size paper. All signs shall be installed in accordance with the sign standards of the Zoning Ordinance and the Sign Guidelines of the City.
66. The applicant shall comply with the City's "Heritage Artwork in Public Places Program" in conformance with City Ordinance No. 1054.
67. All other requirements of the City's Zoning Ordinance, Building Code, Property Maintenance Ordinance, State and City Fire Code and all other applicable County, State and Federal regulations and codes shall be complied with.
68. The applicant shall require and verify that all contractors and sub-contractors have successfully obtained a Business License with the City of Santa Fe Springs prior to beginning any work associated with the subject project. A business license application may be completed online at <https://santafesprings.hdlgov.com>. A late fee and penalty will be assessed to any contractor or sub-contractor that fails to obtain a Business License and a Building Permit final or Certificate of Occupancy will not be issued until all fees and penalties are paid in full. For answers to questions or inquiries surrounding the business license process, please call (562) 264-5219 to speak to a customer service representative.
69. Prior to occupancy of the property/building, the applicant, and/or their tenant(s), shall obtain a valid business license (AKA Business Operation Tax Certificate), and submit a Statement of Intended Use. Both forms, and other required accompanying forms, may be obtained on the City's website (<https://santafesprings.hdlgov.com/>).
70. Conditional Use Permit Case No. 824 shall be subject a compliance review in one (1) year, on or before November 9, 2023. Approximately three (3) months before November 9, 2023, the applicant shall request, in writing, an extension of the privileges granted herein. Future compliance reviews will be conducted every five (5) years, provided that the use has been continuously maintained in strict compliance with these conditions of approval. Depending on the level of

compliance found, the Planning Director or designee may recommend that future compliance reviews be less than five (5) years.

71. The applicant shall indemnify, protect, defend, and hold harmless, the City, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, from any and all claims, demands, law suits, writs of mandamus, and other actions and proceedings (whether legal, equitable, declaratory, administrative or adjudicatory in nature), and alternative dispute resolutions procedures (including, but not limited to arbitrations, mediations, and other such procedures), (collectively "Actions"), brought against the City, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, that challenge, attack, or seek to modify, set aside, void, or annul, the any action of, or any permit or approval issued by, the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof (including actions approved by the voters of the City), for or concerning the project, whether such Actions are brought under the California Environmental Quality Act, the Planning and Zoning Law, the Subdivisions Map Act, Code of Civil Procedure Section 1085 or 1094.5, or any other state, federal, or local statute, law, ordinance, rule, regulation, or any decision of a court of competent jurisdiction. In addition, the applicant shall reimburse the City, its officials, officers, employees, agents, departments, agencies, for any Court costs and attorney's fees which the City, its agents, officers, or employees may be required by a court to pay as a result of such action. It is expressly agreed that the City shall have the right to approve, which approval will not be unreasonably withheld, the legal counsel providing the City's defense, and that applicant shall reimburse City for any costs and expenses directly and necessarily incurred by the City in the course of the defense. City shall promptly notify the applicant of any such claim, action or proceeding, and shall cooperate fully in the defense thereof.
72. If there is evidence that any of the conditions of approval have not been fulfilled or the use has or have resulted in a substantial adverse effect on the health, and/or general welfare of users of adjacent or proximate property, or have a substantial adverse impact on public facilities or services, the Director of Planning and Development may refer the use permit to the Planning Commission for review. Upon such review, if the Commission finds that any of the results above have occurred, the Commission may modify or revoke the subject use permit.

73. It is hereby declare to be the intent that if any provision of this Approval is violated or held to be invalid, or if any law, statute or ordinance is violated, this Approval shall be void and the privileges granted hereunder shall lapse.

**I understand and hereby agree to comply with the attached
Conditions of Approval for CUP 831.**

Carlos Serra

(Name of Applicant – Print name)



(Signature of Authorized Agent)

Date _____

Nov 4, 2022 | 10:19 AM PDT