# Appendix M
## **Transportation Assessment**

**CITY OF LOS ANGELES**
INTER-DEPARTMENTAL CORRESPONDENCE

4141 N. Whitsett Avenue
DOT Case No. SFV20-109676
DOT Project ID No. 49868

Date: June 11, 2021

To: Susan Jimenez, Administrative Clerk
Department of City Planning

From: Vicente Cordero, Transportation Engineer
Department of Transportation

Subject: **TRANSPORTATION ASSESSMENT FOR THE HARVARD-WESTLAKE RIVER PARK PROJECT LOCATED AT 4141 NORTH WHITSETT AVENUE (CPC-2020-1511-VCU-SPR-WDI/ENV-2020-7765-CE)**

The Department of Transportation (LADOT) has reviewed the transportation assessment prepared by Fehr & Peers dated April 2021, for the proposed Harvard-Westlake River Park Project located at 4141 North Whitsett Avenue in the Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Planning Area of the City of Los Angeles. On July 30, 2019, pursuant to Senate Bill (SB) 743 and the recent changes to Section 15064.3 of the State's California Environmental Quality Act (CEQA) Guidelines, the City of Los Angeles adopted vehicle miles traveled (VMT) as the criteria by which to determine transportation impacts under CEQA. Based on the VMT thresholds established in LADOT's Transportation Assessment Guidelines (TAG), the proposed project would not result in a significant transportation impact on VMT as described below.

**DISCUSSION AND FINDINGS**

A. Project Description

The proposed project consists of the development of two athletic fields with bleacher seating and field lights, an 80,249 square-foot multi-purpose gymnasium, a 52-meter swimming pool with seating, and eight tennis courts with seating. The project would also include ancillary field buildings, a pool house, and small security kiosk. The existing golf and tennis facilities will be demolished, however the on-site putting green and clubhouse with café would be retained and rehabilitated. The project would also provide approximately 5.4 acres of publicly accessible open space and landscaped trails connecting to the adjacent Zev Yaroslavsky Los Angeles River Greenway (Zev Greenway) and on-site landscaped areas, water features, and recreational amenities. A total of 503 vehicular parking spaces would be provided within a single-level underground parking structure. A small surface parking area for 29 additional vehicular parking spaces would also be provided. Vehicular access will be provided via two driveways, one directly along Whitsett Avenue (northern driveway) and one as an extension of the Valleyheart Drive stub located south of LAFD Station 78 (southern driveway). The project is expected to be completed by the year 2025.

B. Freeway Safety Analysis

Per the Interim Guidance for Freeway Safety Analysis memorandum issued by DOT May 1, 2020 to address Caltrans safety concerns on freeways, the study addresses the project's effects on vehicle queuing on freeway ramps. Such an evaluation measures the project's potential to lengthen a forecasted ramp queue and create speed differentials between vehicles exiting the freeway ramps and vehicles operating on the freeway mainline. The evaluation included in the assessment identified the number of project trips expected to be added to nearby freeway ramps serving the project site. It was determined that the Project would add 25 or more peak hour trips to the following freeway off-ramp:

- US-101 Southbound Off-ramp & Coldwater Canyon Avenue (3-4 PM peak hour)

Analysis of the US-101 Southbound off-ramp to Coldwater Canyon Avenue was conducted using Synchro software and HCM 2016. It was determined by the analysis that the queue length on this ramp is not projected to exceed ramp capacity in the Future Base or Future plus Project scenarios during the 3-4PM peak hour. Assuming an average queue storage length of 25 feet per car, the project is projected to add one car length to the queue in the 3-4 PM peak hour. The addition is not projected to exceed the ramp storage and therefore is not projected to have a significant safety impact for the US-101 Southbound off-ramp to Coldwater Canyon Avenue and no further analysis is required for this off-ramp. The off-ramp queuing analysis is shown in **Attachment A.**

C. CEQA Screening Threshold

A trip generation analysis was conducted to determine if the project would exceed the net 250 daily vehicle trips (DVT) screening threshold set forward by the TAG. The assessment concluded that implementation of the project would not result in a significant transportation impact. The traffic analysis included further discussion on the screening of the following CEQA transportation thresholds:

1. **Threshold T-1: Conflicting with Plans, Programs, Ordinances, or Policies**
   The transportation assessment evaluated the proposed project for conformance with the adopted City's transportation plans and policies for all travel modes. It was determined by the analysis that the project does not obstruct or conflict with the City's development policies and standards for the transportation system.

2. **Threshold T-2.1: Causing Substantial Vehicle Miles Traveled**
   The assessment projected that the project would generate a net increase in 770 daily vehicle trips on a typical school day during the academic year and an estimated net decrease of 2,098 daily VMT. The analysis concluded that the project would not result in a significant VMT impact as discussed below under Section C, CEQA Transportation Analysis.

3. **Threshold T-3: Substantially Increasing Hazards Due To a Geometric Design Feature or Incompatible Use**
   The project does not involve any design features that are unusual for the area or any incompatible use.

D. CEQA Transportation Analysis

The new LADOT Transportation Assessment Guidelines (TAG) provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds. The project is classified under two different uses. First, it would be classified as an education facility since it

will be owned and operated by Harvard-Westlake School, and will be utilized by their students, employees, and associated programs in conjunction with their operation as a private high school. Second, the community use component of the project would be classified as a community-serving recreational facility and is therefore exempt from the VMT analysis.

The total net daily VMT for all trips to and from the project site on an average day were estimated to assess the VMT impact of the project. The project's total daily VMT was calculated by multiplying the estimated average number of daily trips by an average trip length for each group of users of the site. The different populations that will make trips to and from the project site include Harvard-Westlake students, visiting teams, spectators, and employees. Trips generated by potential Harvard-Westlake Special Events were averaged across the academic year. The net total VMT takes credit for existing VMT associated with the existing Weddington Golf & Tennis course. The project is projected to generate an estimated net decrease of 2,098 daily VMT. The analysis concluded that the project would result in less than significant impacts on VMT and VMT in cumulative conditions. A copy of the VMT estimates are provided in **Attachment B.**

E. Access and Circulation

The access and circulation analysis included a delay study of the following intersections using the Highway Capacity Manual (HCM) methodology which calculates the amount of delay per vehicle based upon the intersection traffic volumes, lane configurations, and signal timing:

- Whitsett Avenue & Moorpark Avenue
- Whitsett Avenue & Valley Spring Lane
- Whitsett Avenue & Ventura Boulevard
- Coldwater Canyon Avenue & Moorpark Avenue
- Coldwater Canyon Avenue & Ventura Boulevard

**Existing and Cumulative Traffic Conditions**

Due to the COVID-19 pandemic, counts could not be collected at these intersections in 2020 since they would not reflect typical conditions. Weekday PM peak period turning movement counts were collected in April 2019 at the three study intersections along Whitsett Avenue. Historical LADOT counts from 2017 were used for two intersections along Coldwater Canyon Avenue, and an ambient growth factor of 0.6% per year was applied to adjust the traffic volumes to reflect the baseline year 2020. To evaluate the potential impacts of the project on opening year (2025), estimates of future traffic conditions were developed for the study area to forecast future conditions. An ambient growth factor of 0.6% per year was applied to adjust the baseline year (2020) traffic volumes to reflect the effect of ambient growth by the year 2025.

Under the HCM methodology, level of service (LOS) at signalized and unsignalized intersections is defined based on the delay experienced per vehicle. The results for the Year 2020 Baseline, Opening (2025) No Project, and Opening (2025) Plus Project Conditions delay and LOS for the study intersections are shown in **Attachment C.**

**Residential Street Cut-Through Analysis**

The objective of the residential street cut-through analysis is to determine potential increases in average daily traffic volumes on designated Local Streets, as classified in the City's General Plan that can be identified as cut-through trips generated by the project. The analysis was conducted on the following four local residential street segments near the project site:

1. Valley Spring Lane Between Babcock Ave and Whitsett Ave
2. Valley Spring Lane Between Whitsett Ave and Wilkinson Ave
3. Woodbridge Street Between Babcock Ave and Whitsett Ave
4. Woodbridge Street Between Whitsett Ave and Wilkinson Ave

The traffic study indicated that the project is not projected to create an excessive burden on any of the street segments in neither the Non-Event Scenario nor the Special Event Scenario. The projected increase in weekday two-way daily volumes as a result of the project is below the impact threshold of 120 trips as shown in **Attachment D.**

DOT finds that the transportation assessment adequately evaluated potential project-related delays and level of service at the studied intersections.

**PROJECT REQUIREMENTS**

A. CEQA-Related Mitigation
There are no CEQA related requirements required for this project.

B. Non-CEQA-Related Requirements and Considerations
To comply with transportation and mobility goals and provisions of adopted City plans and ordinances, the applicant should be required to implement the following:

1. Construction Impacts
DOT recommends that a construction worksite traffic control plan be submitted to DOT's Citywide Temporary Traffic Control Section for review and approval prior to the start of any construction work. Refer to https://ladot.lacity.org/businesses/temporary-traffic-control-plans to determine which section to coordinate review of the worksite traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. DOT also recommends that construction related traffic be restricted to off-peak hours to the extent possible.

2. Highway Dedication and Street Widening Requirements
The project does include additions or new construction along Whitsett Avenue, designated as an Avenue II, but it is on a property with more restrictive zoning than R2. The land use designation is A1-1XL-RIO (River Improvement Overlay District). Therefore, the project is not subject to dedication requirements.

The applicant should check with the Bureau of Engineering's Land Development Group to determine if there are any other applicable highway dedication, street widening, and/or sidewalk requirements for this project.

3. Parking Requirements
The traffic study indicated that a total of 532 vehicle parking spaces will be provided, including 503 spaces in a subterranean parking garage and 29 surface parking spaces. Additionally, a total of 100 bicycle parking spaces are proposed at various locations within the project site, including 72 spaces at grade and 28 spaces below grade. The applicant should check with the Department of Building and Safety on the number of Code-required parking spaces needed for the project.

4. Driveway Access and Circulation

Vehicular access would be provided to the project site via two driveways, one northern driveway directly along Whitsett Avenue and one southern driveway as an extension of the Valleyheart Drive stub located south of LAFD Station 78. Both driveways would provide access to the subterranean parking structure with 503 parking spaces. Access for passenger loading would be provided via the southern driveway, which would lead to a turnaround designed to accommodate buses, shuttles, and automobiles, as well as the surface lot with 29 parking stalls. There will be no driveway access from Valley Spring Lane or from Bellaire Avenue. The proposed driveway access and circulation are illustrated in **Attachment E**.

Several pedestrian entry gates would be provided along Whitsett Avenue and Valley Spring Lane to provide access for pedestrians and bicyclists (although only the pedestrian entrances along Whitsett Avenue would provide access to the interior of the Project Site). Off-site from the Project Site, the Project would also provide improvements to the segment of Valleyheart Drive south of LAFD Station 78 and to portions of the Zev Greenway adjacent to the Project Site and would install ADA accessible pedestrian ramps leading to the Zev Greenway at Coldwater Canyon Avenue and connecting the Project Site to the Zev Greenway.

The review of this study does not constitute approval of the existing driveway dimensions, access, and circulation scheme with regard to this project. Those elements require separate review and approval and should be coordinated with LADOT's Valley Planning Coordination Section (6262 Van Nuys Boulevard, Room 320, @ 818-374-4699). To minimize and prevent last-minute design changes, the applicant should contact LADOT before the commencement of building or parking layout design efforts, for driveway width and internal circulation requirements. New driveways should be Case-2, designed with a recommended width of 30 feet for two-way operations, or 16 feet for one-way operations, or to the satisfaction of LADOT.

4. Development Review Fees

Section 19.15 of the LAMC identifies specific fees for traffic study review, condition clearance, and permit issuance. The applicant shall comply with any applicable fees per this ordinance.

If you have any questions, please contact Sheila Ahoraian of my staff at (818) 374-4690.

Attachments

*J:\Projects\SFV\49868-4141 Whitsett-RiverPark*

cc: Jessica Fugate, Council District 2
Claudia Rodriguez, DCP Valley Planning
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# Attachment A
# Freeway Off-Ramp Queuing

**TABLE 5**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**FREEWAY OFF-RAMP QUEUEING ANALYSIS**
**FUTURE BASE (2025) AND PLUS PROJECT SCENARIOS**

| Ramp | Cross Street | Max Ramp Length (ft) | Ramp Capacity by Movement at Off-Ramp Terminus Intersection | | | Ramp Terminus Control | Future Base Conditions | | | Future plus Project Conditions | | | Potential Safety Issue? [c] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 3-4 PM 95th Percentile Queue | | Queue Exceeds Storage? | 3-4 PM 95th Percentile Queue | | Queue Length Increase (car lengths) [b] | |
| | | | Lane | Movement | Length [a] | | Queue (ft) | Max (ft) | | Queue (ft) | Max (ft) | | |
| US-101 SB Off-Ramp | Coldwater Canyon Avenue | 800 | 3 | Left | 270 | Signal | 177 | 177 | No | 177 | 177 | 1 | No |
| | | | | Left/Through/Right | 800 | | 75 | | | 83 | | | |
| | | | | Right | 270 | | 58 | | | 78 | | | |

[a] Ramp lengths determined based on scaled distances from on-line aerial photographs. Per LADOT guidance, max length is measured from the terminal intersection to the gore point.

[b] Assumes an average storage length per car of 25 feet.

[c] If a proposed project adds two or more car lengths to a ramp queue that extends to the freway maineline, then the location must be tested for safety issues.

# Attachment B
# VMT Results

**TABLE 10**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**TRIP GENERATION ESTIMATE**

| Land Uses | Daily (Non-Event Day)[5] | 3 PM - 4 PM Peak Hour Trips | | | 5 PM - 6 PM Peak Hour Trips | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Non-Event Scenario | | | Special Event Scenario | | |
| | | Inbound | Outbound | Total | Inbound | Outbound | Total | Inbound | Outbound | Total |
| HW Athletic Use[1] | 446 | 108 | 19 | 127 | 48 | 107 | 155 | 0 | 0 | 0 |
| HW Special Events | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 500 | 550 |
| Community Use[3] | 1,248 | 17 | 17 | 34 | 17 | 17 | 34 | 17 | 17 | 34 |
| Employees | 98 | 5 | 5 | 10 | 5 | 20 | 25 | 5 | 20 | 25 |
| Subtotal | 1,792 | 130 | 41 | 171 | 70 | 144 | 214 | 72 | 537 | 609 |
| *Existing Use Adjustment*[4] | *1,022* | *-55* | *-48* | *-103* | *-54* | *-71* | *-125* | *-54* | *-71* | *-125* |
| Net New Trips | 770 | 75 | -7 | 68 | 16 | 73 | 89 | 18 | 466 | 484 |

1. The new trips associated with HW Athletics is shown in Appendix H.
2. The new trips associated with HW Special Events is shown in Appendix H.
3. The trip estimates for the community uses are based on rates in the ITE Trip Generation Manual, 10th Edition. The peak hour trips are estimated based on the Tennis Courts land use (LU 490) because only the tennis courts will be open to the public during the peak hour periods when Harvard-Westlake is using the other facilities. The daily trips are estimated based on the Recreational Community Center land use (LU 495), subtracting the portion of the daily trips that occur between 3-8 PM, when the site will not be open to the public, based on the time-of-day distribution data in Appendix A of the Recreation chapter of the manual.
4. The existing use at the site is Weddington Golf and Tennis. The trips were counted at the site on Tuesday, February 12, 2019.
5. The daily trips represent the average daily trips on a typical school day during the academic year.

**Table 4: Net Total Daily VMT Estimate**

| Population Group | Average Daily Trip Generation | Average One-Way Trip Length (miles) | Daily VMT |
|---|---|---|---|
| **Project** | | | |
| HW Shuttles | 58 | 1.5 | 87 |
| HW Private Vehicles[1] | 43 (inbound) | 1.5 (inbound) | 65 |
| HW Other | 132 | 12.9 | 1,703 |
| Employees | 98 | 13.3 | 1,303 |
| HW Special Events | 60[2] | 12.9 | 774 |
| Total Daily VMT | | | 3,932 |
| **Existing Use Credit** | | | |
| *Weddington Golf & Tennis* | *-1,022* | *5.9* | *-6,030* |
| *Existing VMT Credit* | | | *-6,030* |
| **Net Total Daily VMT** | | | |
| Net Total Daily VMT | | | -2,098 |

Note: Additional information regarding the methodology used to estimate trip generation for each of the populations, and the resultant estimated trips, is provided in Chapter 4.2.
[1] Only the inbound trips are included in the VMT estimate for the HW private vehicles because the outbound trip lengths were found to be the same as the existing outbound trip length for student vehicles leaving the Upper School to return home.
[2] Annual Special Event trips averaged across academic year weekdays.

# Attachment C
# Summary of Delay and Levels of Service (LOS)

**TABLE 9**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**YEAR 2020 BASELINE CONDITIONS INTERSECTION LEVELS OF SERVICE**

| NO. | Intersection | Peak Hour | Baseline (2020) | |
|---|---|---|---|---|
| | | | Delay (sec/veh) | LOS |
| 1 | Whitsett Avenue & Moorpark Ave | 3-4 PM | 35.8 | D |
| | | 5-6 PM | 33.5 | C |
| 2 | Whitsett Avenue & Valley Spring Lane | 3-4 PM | 21.0 | C |
| | | 5-6 PM | 22.8 | C |
| 3 | Whitsett Avenue & Ventura Boulevard | 3-4 PM | 30.9 | C |
| | | 5-6 PM | 31.8 | C |
| 4 | Coldwater Canyon Avenue & Moorpark Ave | 3-4 PM | 32.4 | C |
| | | 5-6 PM | 38.9 | D |
| 5 | Coldwater Canyon Avenue & Ventura Boulevard | 3-4 PM | 61.9 | E |
| | | 5-6 PM | 53.3 | D |

# Attachment C (cont'd)
# Summary of Delay and Levels of Service (LOS)

**TABLE 11A**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**STUDY INTERSECTION LEVEL OF SERVICE AND QUEUES - NON-EVENT SCENARIO**

| # | Study Intersection | Opening Year (2025) No Project | | | Opening Year (2025) Plus Project - Special Event Scenario | | | Movement[1] | Storage Length | 95th Percentile | | | | Project Contributes to Unacceptable Queuing[2] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Intersection LOS (3-4 PM/ 5-6 PM) | Directional LOS | | Intersection LOS (3-4 PM/5-6 PM) | Directional LOS | | | | Opening Year (2025) No Project | | Opening Year (2025) Plus Project - Special Event Scenario | | | |
| | | | 3-4 PM | 5-6 PM | | 3-4 PM | 5-6 PM | | | 3-4 PM | 5-6 PM | 3-4 PM | 5-6 PM | 3-4 PM | 5-6 PM |
| 1 | Whitsett Ave & Moorpark St | D/D | E | D | D/D | E | D | EBL | 150 | 125 | 100 | 125 | 125 | - | - |
| | | | E | D | | E | D | EBT | 2,525 | 700 | 625 | 675 | 600 | - | - |
| | | | C | C | | C | C | EBR | 50 | 75 | 50 | 75 | 50 | - | - |
| | | | F | F | | F | F | WBL | 100 | 150 | 150 | 150 | 125 | - | - |
| | | | C | C | | C | C | WBT | 950 | 425 | 425 | 425 | 425 | - | - |
| | | | B | B | | B | B | WBR | 50 | 50 | 75 | 50 | 75 | - | - |
| | | | C | C | | C | C | NBL | 75 | 125 | 175 | 125 | 150 | - | - |
| | | | C | C | | C | C | NBT | 1,250 | 275 | 350 | 275 | 350 | - | - |
| | | | C | C | | C | C | NBR | 0 | 0 | 0 | 0 | 0 | - | - |
| | | | C | D | | C | D | SBL | 75 | 100 | 150 | 100 | 150 | - | - |
| | | | B | B | | B | B | SBT | 225 | 200 | 200 | 200 | 200 | - | - |
| | | | B | B | | B | B | SBR | 0 | 0 | 0 | 0 | 0 | - | - |
| 2 | Whitsett Ave & Valley Spring Ln[3] | C/D | F | F | C/D | F | F | EBL | 100 | 25 | 25 | 25 | 25 | - | - |
| | | | F | F | | F | F | EBT | 100 | 25 | 25 | 25 | 25 | - | - |
| | | | B | B | | B | B | EBR | 50 | 25 | 25 | 25 | 25 | - | - |
| | | | F | F | | F | F | WBL | 100 | 25 | 25 | 25 | 25 | - | - |
| | | | F | F | | F | F | WBT | 100 | 25 | 25 | 25 | 25 | - | - |
| | | | B | C | | B | C | WBR | 50 | 25 | 25 | 25 | 25 | - | - |
| | | | A | A | | A | A | NBL | 1000 | 25 | 25 | 25 | 25 | - | - |
| | | | A | A | | A | A | NBT | 1000 | - | - | - | - | - | - |
| | | | - | - | | - | - | NBR | 1000 | - | - | - | - | - | - |
| | | | B | B | | B | B | SBL | 600 | 25 | 25 | 25 | 25 | - | - |
| | | | A | A | | A | A | SBT | 600 | - | - | - | - | - | - |
| | | | - | - | | - | - | SBR | 50 | - | - | - | - | - | - |
| 3 | Whitsett Ave & Ventura Blvd | D/D | F | F | D/D | F | F | EBL | 100 | 200 | 225 | 250 | 225 | - | - |
| | | | C | C | | C | C | EBT | 2,650 | 400 | 425 | 400 | 400 | - | - |
| | | | C | C | | C | C | EBR | 50 | 100 | 100 | 100 | 100 | - | - |
| | | | D | D | | D | D | WBL | 150 | 75 | 50 | 75 | 50 | - | - |
| | | | D | D | | D | F | WBT | 1,025 | 550 | 625 | 550 | 625 | - | - |
| | | | B | B | | B | B | WBR | 50 | 175 | 200 | 200 | 200 | - | - |
| | | | D | D | | D | D | NBL | 25 | 125 | 125 | 125 | 125 | - | - |
| | | | A | A | | A | A | NBT | 175 | 200 | 200 | 200 | 225 | - | - |
| | | | D | D | | D | D | NBR | 0 | 0 | 0 | 0 | 0 | - | - |
| | | | D | D | | D | D | SBL | 350 | 125 | 125 | 150 | 150 | - | - |
| | | | C | B | | C | C | SBT | 350 | 125 | 125 | 125 | 125 | - | - |
| | | | B | B | | B | B | SBR | 50 | 125 | 125 | 125 | 200 | - | - |
| 4 | Coldwater Canyon Ave & Moorpark St | D/D | D | D | D/E | D | D | EBL | 125 | 125 | 100 | 125 | 100 | - | - |
| | | | C | C | | C | C | EBT | 925 | 475 | 475 | 475 | 500 | - | - |
| | | | B | B | | B | B | EBR | 100 | 25 | 50 | 25 | 50 | - | - |
| | | | D | D | | D | E | WBL | 150 | 100 | 100 | 100 | 100 | - | - |
| | | | C | C | | C | C | WBT | 2,525 | 500 | 475 | 475 | 475 | - | - |
| | | | C | C | | C | C | WBR | 100 | 75 | 75 | 75 | 75 | - | - |
| | | | D | D | | D | E | NBL | 75 | 150 | 150 | 150 | 175 | - | - |
| | | | C | C | | D | F | NBT | 1,850 | 525 | 525 | 550 | 600 | - | - |
| | | | D | C | | D | F | NBR | 0 | 0 | 0 | 0 | 0 | - | - |
| | | | F | F | | F | F | SBL | 75 | 175 | 250 | 200 | 250 | - | - |
| | | | D | D | | D | D | SBT | 275 | 425 | 425 | 425 | 475 | - | - |
| | | | D | D | | D | D | SBR | 0 | 0 | 0 | 0 | 0 | - | - |
| 5 | Coldwater Canyon Ave & Ventura Blvd | F/E | F | F | F/E | F | F | EBL | 150 | 475 | 375 | 475 | 375 | - | - |
| | | | F | F | | F | F | EBT | 700 | 575 | 575 | 575 | 575 | - | - |
| | | | A | A | | A | A | EBR | 50 | 75 | 75 | 75 | 75 | - | - |
| | | | E | F | | E | F | WBL | 200 | 100 | 125 | 125 | 125 | - | - |
| | | | D | D | | D | F | WBT | 2,650 | 425 | 425 | 425 | 425 | - | - |
| | | | C | C | | C | D | WBR | 100 | 100 | 75 | 100 | 125 | - | - |
| | | | E | F | | E | E | NBL | 100 | 375 | 400 | 375 | 375 | - | - |
| | | | C | C | | C | C | NBT | 375 | 325 | 375 | 350 | 400 | - | - |
| | | | C | C | | C | C | NBR | 325 | 150 | 125 | 150 | 125 | - | - |
| | | | F | F | | F | F | SBL | 350 | 250 | 250 | 250 | 250 | - | - |
| | | | D | D | | D | D | SBT | 1,850 | 325 | 325 | 325 | 325 | - | - |
| | | | D | D | | D | D | SBR | 0 | 0 | 0 | 0 | 0 | - | - |

1. EBL= Eastbound left. EBT = Eastbound through. EBR = Eastbound right, WBL = Westbound left. WBT = Westbound through, WBR = Westbound right. NBL = Northbound left. NBT = Northbound through. NBR = Northbound right. SBL = Southbound left. SBT = Southbound through. SBR = Southbound right.

2. Unacceptable queuing defined by the TAG as turning queues that extend out of the storage bay or a through queue that blocks a side street or alley along an Avenue or Boulevard at a signalized intersection.

3. Study intersection #2 is an unsignalized intersection.

# Attachment C (cont'd)
# Summary of Delay and Levels of Service (LOS)

**TABLE 11B**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**INTERSECTION LEVEL OF SERVICE AND QUEUES - SPECIAL EVENT SCENARIO**

| # | Study Intersection | Opening Year (2025) No Project | | Opening Year (2025) Plus Project - Special Event Scenario | | Movement[1] | Storage Length | 95th Percentile Queue | | Project Contributes to Unacceptable Queuing[2] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Intersection LOS (5-6 PM) | Directional LOS 5-6 PM | Intersection LOS (5-6 PM) | Directional LOS 5-6 PM | | | Opening Year (2025) No Project 5-6 PM | Opening Year (2025) Plus Project - Special Event Scenario 5-6 PM | 5-6 PM |
| 1 | Whitsett Ave & Moorpark St | D | D | D | E | EBL | 150 | 100 | 125 | - |
| | | | | | D | EBT | 2,525 | 625 | 525 | - |
| | | | | | C | EBR | 50 | 50 | 50 | - |
| | | | | | F | WBL | 100 | 150 | 150 | - |
| | | | | | C | WBT | 950 | 425 | 425 | - |
| | | | | | B | WBR | 50 | 75 | 75 | - |
| | | | | | D | NBL | 75 | 175 | 200 | - |
| | | | | | C | NBT | 1,250 | 350 | 350 | - |
| | | | | | C | NBR | 0 | 0 | 0 | - |
| | | | | | D | SBL | 75 | 150 | 150 | - |
| | | | | | B | SBT | 225 | 200 | 200 | - |
| | | | | | B | SBR | 0 | 0 | 0 | - |
| 2 | Whitsett Ave & Valley Spring Ln[3] | D | F | D | F | EBL | 100 | 25 | 25 | - |
| | | | F | | F | EBT | 100 | 25 | 25 | - |
| | | | B | | B | EBR | 50 | 25 | 25 | - |
| | | | F | | F | WBL | 100 | 25 | 25 | - |
| | | | F | | F | WBT | 100 | 25 | 25 | - |
| | | | C | | C | WBR | 50 | 25 | 25 | - |
| | | | A | | A | NBL | 1000 | 25 | 25 | - |
| | | | A | | A | NBT | 1000 | - | - | - |
| | | | - | | - | NBR | 1000 | - | - | - |
| | | | B | | B | SBL | 600 | 25 | 25 | - |
| | | | A | | A | SBT | 600 | - | - | - |
| | | | - | | - | SBR | 50 | - | - | - |
| 3 | Whitsett Ave & Ventura Blvd | D | F | E | F | EBL | 100 | 225 | 225 | - |
| | | | C | | D | EBT | 2,650 | 425 | 400 | - |
| | | | C | | C | EBR | 50 | 100 | 100 | - |
| | | | D | | D | WBL | 150 | 50 | 50 | - |
| | | | D | | F | WBT | 1,025 | 625 | 625 | - |
| | | | B | | B | WBR | 50 | 200 | 200 | - |
| | | | D | | E | NBL | 25 | 125 | 125 | - |
| | | | A | | A | NBT | 175 | 200 | 225 | - |
| | | | D | | D | NBR | 0 | 0 | 0 | - |
| | | | D | | D | SBL | 350 | 125 | 175 | - |
| | | | B | | B | SBT | 350 | 125 | 125 | - |
| | | | B | | C | SBR | 50 | 125 | 150 | - |
| 4 | Coldwater Canyon Ave & Moorpark St | D | D | F | D | EBL | 125 | 100 | 100 | - |
| | | | C | | C | EBT | 925 | 475 | 500 | - |
| | | | B | | B | EBR | 100 | 50 | 50 | - |
| | | | D | | E | WBL | 150 | 100 | 100 | - |
| | | | C | | C | WBT | 2,525 | 475 | 475 | - |
| | | | C | | C | WBR | 100 | 75 | 75 | - |
| | | | D | | E | NBL | 75 | 150 | 200 | - |
| | | | C | | F | NBT | 1,850 | 525 | 775 | - |
| | | | C | | F | NBR | 0 | 0 | 0 | - |
| | | | F | | F | SBL | 75 | 250 | 275 | - |
| | | | D | | D | SBT | 275 | 425 | 475 | - |
| | | | D | | D | SBR | 0 | 0 | 0 | - |
| 5 | Coldwater Canyon Ave & Ventura Blvd | E | F | E | F | EBL | 150 | 375 | 375 | - |
| | | | F | | F | EBT | 700 | 575 | 575 | - |
| | | | A | | A | EBR | 50 | 75 | 75 | - |
| | | | F | | F | WBL | 200 | 125 | 125 | - |
| | | | D | | F | WBT | 2,650 | 425 | 450 | - |
| | | | C | | D | WBR | 100 | 75 | 275 | - |
| | | | F | | E | NBL | 100 | 400 | 375 | - |
| | | | C | | C | NBT | 375 | 375 | 400 | - |
| | | | C | | C | NBR | 325 | 125 | 125 | - |
| | | | F | | F | SBL | 350 | 250 | 250 | - |
| | | | D | | D | SBT | 1,850 | 325 | 325 | - |
| | | | D | | D | SBR | 0 | 0 | 0 | - |

1. EBL= Eastbound left, EBT = Eastbound through, EBR = Eastbound right, WBL = Westbound left, WBT = Westbound through, WBR = Westbound right, NBL = Northbound left, NBT = Northbound through, NBR = Northbound right, SBL = Southbound left, SBT = Southbound through, SBR = Southbound right
2. Unacceptable queuing defined by the TAG as turning queues that extend out of the storage bay or a through queue that blocks a side street or alley along an Avenue or Boulevard at a signalized intersection
3. Study intersection #2 is an unsignalized intersection

# Attachment D
# Residential Street Cut-Through Analysis

**TABLE 14**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**NEIGHBORHOOD STREET IMPACT ANALYSIS – OPENING YEAR PLUS PROJECT ANALYSIS**

| Street Segment | Weekday Two-Way | | With Project - Non-Event Scenario | | | | | With Project - Special Event Scenario | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Baseline (2020) | Opening Year (2025) No Project | Project Trips | Opening Year (2025) Plus Project | Project % Increase | Evaluation Criteria[1] | Excessively Burdened? | Project Trips | Opening Year (2025) Plus Project | Project % Increase | Evaluation Criteria[1] | Excessively Burdened? |
| Valley Spring Lane Between Babcock Ave and Whitsett Ave | 910 | 935 | 15 | 953 | 1.60% | 120 Trips | NO | 23 | 961 | 2.40% | 120 Trips | NO |
| Valley Spring Lane Between Whitsett Ave and Wilkinson Ave[2] | | | 10 | | | 120 Trips | NO | 10 | | | 120 Trips | NO |
| Woodbridge Street Between Babcock Ave and Whitsett Ave[2] | | | 25 | | | 120 Trips | NO | 49 | | | 120 Trips | NO |
| Woodbridge Street Between Whitsett Ave and Wilkinson Ave[2] | | | 10 | | | 120 Trips | NO | 10 | | | 120 Trips | NO |

1. Uses City of Los Angeles evaluation criteria for residential street segments.
2. Baseline counts were not available at these locations due to COVID-19. Therefore, the most restrictive evaluation criteria (threshold of adding 120 project trips to the segment) was used for these locations.

# Attachment E
# Project Site Plan


Site Plan

# Harvard-Westlake River Park Project

## Transportation Assessment *Draft*

Prepared for:
Harvard-Westlake School

Project Location:

4141 Whitsett Avenue
Studio City, CA 91604

**Assessor Parcel Numbers:** 2375-018-020 and Portion of APN 2375-018-903 Los Angeles River Parcel 276

APRIL 2021

LA19-3193.02

FEHR PEERS

741372755.1

# Table of Contents

## Appendices

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# List of Tables

# 1. Introduction

This Transportation Assessment (TA) documents the assumptions, methodologies, and findings of a study conducted by Fehr & Peers to evaluate the potential transportation impacts of the proposed project (the Project). The area proposed for the Project consists of a 16.1-acre (701,428 square foot) parcel, owned by the School (the Property), and located at 4141 Whitsett Avenue, and a 1.1-acre (47,916 square foot) parcel the School leases from Los Angeles County (Leased Property) (portion of Assessor Parcel Number [APN] 2375-018-903), which collectively comprise the 17.2-acre (749,344 square foot) project site (Project Site).

This TA was conducted to support the analysis of transportation within an Environmental Impact Report (EIR) being prepared for the Project, and to otherwise meet Los Angeles Department of Transportation (LADOT) requirements in accordance with LADOT's *Transportation Assessment Guidelines* (TAG).[1]

## 1.1 Project Description

The Project would occupy the majority of the block (except Los Angeles Fire Department [LAFD] Fire Station 78 located in the southeast corner of the block and portions of areas adjacent to the Los Angeles River) bounded by Valley Spring Lane to the north, Whitsett Avenue to the east, the Los Angeles River to the south, and Bellaire Avenue to the west. The Project Site is located within the Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan area of the City of Los Angeles (City). The adjacent land uses are residential land uses to the west, north, and east, and the Los Angeles River to the south. **Figure 1** shows the location of the Project Site in the context of the surrounding street system. Regional access to the Project Site is provided by the Ventura Freeway (US-101), with interchanges approximately 1.2 miles to the northeast (Laurel Canyon Boulevard) and 1.3 miles to the northwest (Coldwater Canyon Avenue).

The Project as analyzed in this TA involves the redevelopment of the approximately 17.2-acre Project Site for use as an athletic and recreational facility for Harvard-Westlake School (also referred to as the School) and for shared use with community members. The majority of the Project Site, 16.1 acres, is currently occupied by Weddington Golf & Tennis, a nine-hole, 27-par golf course and tennis facility and associated surface parking of 89 stalls. The Project includes the development of two athletic fields with bleacher seating and field lights, an 80,249-square-foot multi-purpose gymnasium, a 52-meter swimming pool with seating, and eight tennis courts with seating. The Project would also include ancillary field buildings, a pool house, and small security kiosk. These facilities would also be available for community use when not in use by the School. The existing on-site putting green and clubhouse with café would be retained and rehabilitated and would be open to the community. The Project would also provide approximately 5.4 acres of publicly accessible open space and landscaped trails connecting to the adjacent Zev Yaroslavsky Los Angeles River Greenway (Zev Greenway) and on-site landscaped areas, water features, and recreational amenities.

[1] LADOT, *Transportation Assessment Guidelines*, July 2020.

The Project would include 503 vehicular parking spaces within a single-level underground parking structure. A small surface parking area for 29 additional vehicular parking spaces would also be provided. Bike parking will also be provided, including 72 spaces at grade and 28 spaces below grade (100 spaces total) at various locations within the Project Site.

The Project's Site Plan is presented in **Figure 2**. Vehicular access would be provided to the Project Site via two driveways, one directly along Whitsett Avenue (north driveway) and one as an extension of the Valleyheart Drive stub located south of LAFD Station 78 (south driveway). Both driveways would provide access to the subterranean parking structure with 503 parking spaces. Access for passenger loading would be provided via the south driveway, which would lead to a turnaround designed to accommodate buses, shuttles, and automobiles, as well as to a surface lot with 29 parking stalls. There will be no driveway access from Valley Spring Lane or from Bellaire Avenue. Several pedestrian entry gates would be provided along Whitsett Avenue and Valley Spring Lane to provide access for pedestrians and bicyclists (although only the pedestrian entrances along Whitsett Avenue would provide access to the interior of the Project Site).

Off-site from the Project Site, the Project would also provide improvements to the segment of Valleyheart Drive south of LAFD Station 78 and to portions of the Zev Greenway adjacent to the Project Site and would install ADA accessible pedestrian ramps leading to the Zev Greenway at Coldwater Canyon Avenue and connecting the Project Site to the Zev Greenway.

## 1.2 Transportation Assessment Scope

The scope of work for this TA was determined in consultation with the LADOT and is in accordance with the City's CEQA transportation thresholds of significance adopted in July 2019 and LADOT's TAG updated in July 2020. The base assumptions and technical methodologies were discussed with LADOT as part of the TA approach and agreed to in a transportation assessment memorandum of understanding (MOU) dated November 18, 2020. The MOU is included in **Appendix A** to this document.

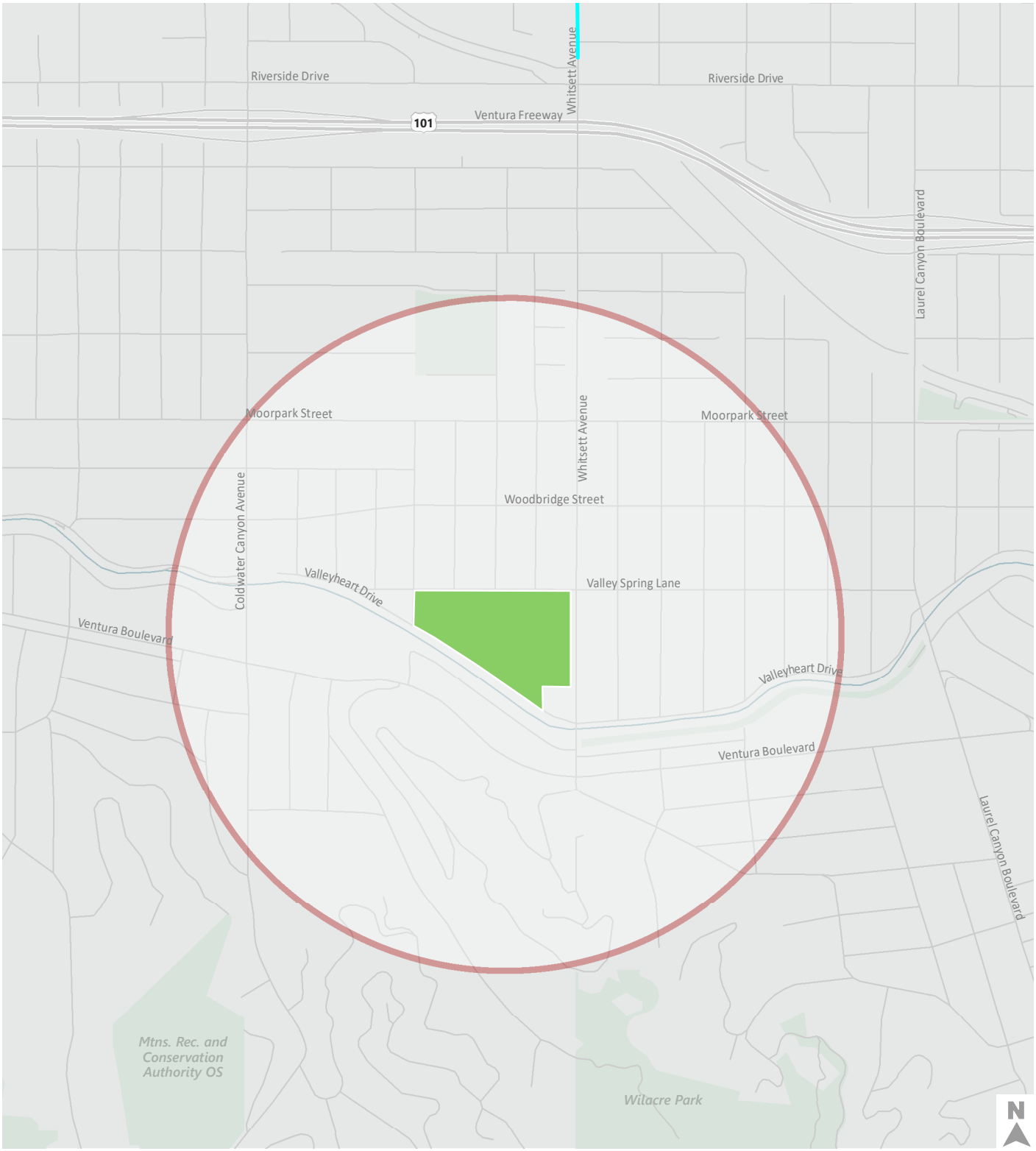
The TAG establishes an updated set of guidelines, methods, and impact criteria for CEQA considerations that focus on vehicle miles traveled (VMT), geometric hazards, and policy conflicts. The TAG also establishes a framework for various non-CEQA analyses including a pedestrian, bicycle, and transit access assessment, a project access, safety, and circulation assessment, project construction, and residential street cut-through analysis. Each area of analysis is described in the TAG with a discussion of screening criteria, the methodology for analysis, impact criteria, and potential mitigation options. Based on the screening criteria set forth in the TAG, the following issue areas in **Table 1** – as described in the TAG – are evaluated in this TA (the screening analysis is available in **Appendix B**):

**Table 1: TAG Screening Criteria Issue Areas**

| *TAG Issue Area* | *Analysis Required?* |
|---|---|
| *CEQA Analyses:* | |
| Conflicts with Plans, Programs, Ordinances, and Policies | Yes |
| Causing Substantial Additional Vehicle Miles Traveled | Yes |
| Substantially Inducing Additional Automobile Travel | N/A[2] |
| Geometric Design Features | Yes |
| *Non-CEQA Analyses:* | |
| Pedestrian, Bicycle, and Transit Access | Yes |
| Project Access, Safety, and Circulation | Yes |
| Project Construction | Yes |
| Residential Street Cut-Through | No[3] |

[2] This TAG issue area is specific to transportation projects that increase vehicular capacity, and thus, is not applicable to this Project.

[3] While the Project is not required to analyze residential cut-through streets per the screening, this analysis was still conducted due to the location of the Project adjacent to a residential area and to address to community concerns that the routes to and from the Project may go through the residential area.




Project Site

0.5 Mile Radius

Figure 1

# Project Study Area


Figure 2

# Site Plan

## 1.3 Organization of Transportation Assessment

This TA is divided into five chapters, including this introduction, Chapter 1. Chapter 2 describes the environmental setting and the existing and cumulative conditions of the transportation system in the study area, including an inventory of the streets, highways, bicycle & pedestrian networks, and transit service. The required CEQA analyses are summarized in Chapter 3, and includes a review of the City's plans, programs, ordinances, and policies, a VMT analysis, a geometric design hazards evaluation, and a freeway analysis. Chapter 4 includes the required non-CEQA transportation analyses, and contains a pedestrian, bicycle, and transit access assessment, a Project access, safety and circulation evaluation, Project construction analysis, and residential street cut-through analysis. Chapter 5 contains the TA summary and conclusions.

Appendices to this TA include details of the technical analysis, as follows:

A. Appendix A includes a copy of the Memorandum of Understanding approved by LADOT that confirms TA parameters and assumptions.
B. Appendix B includes responses to the TAG Project screening criteria and supporting analysis.
C. Appendix C provides a detailed review of the Project's consistency with relevant plans, programs, ordinances, and policies.
D. Appendix D provides additional detail regarding the geometric design hazards review.
E. Appendix E contains the Synchro queuing reports for the freeway analysis.

# 2. Environmental Setting

## 2.1 Existing Conditions

The majority of the 17.2-acre Project Site is currently occupied by Weddington Golf & Tennis, a recreational facility with a golf course and tennis courts. Existing on-site facilities include the 2,700 square-foot clubhouse with a 10-seat café, a 799 square-foot tennis shack, 16 tennis courts, 25-stall driving range, and a nine-hole par 27 golf course. The Project Site also includes 89 surface parking spaces. Vehicular access to the existing parking areas on the Project Site is provided via one inbound and one outbound driveway on Whitsett Avenue, one service driveway on Valley Spring Lane, and a second service driveway at the Valleyheart Drive stub. Pedestrian access to the Project Site is at these same driveway locations.

### Study Area

The Project Site is located in the Studio City community within the Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan area. Based on guidance from the TAG, the study area selected for analysis includes a ¼-mile radius around the Project Site and extends to Laurel Canyon Boulevard to the east, Moorpark Street to the north, Coldwater Canyon Avenue to the west, and Ventura Boulevard to the south. The study area is in a suburban setting and is mostly surrounded by residential land uses. The LAFD Station 78 is adjacent to the Project Site in the southeast corner of the block.

### Existing Street System

Major streets serving the study area include Ventura Boulevard and Moorpark Street in the east-west direction and Coldwater Canyon Avenue, Whitsett Avenue, and Laurel Canyon Boulevard in the north-south direction. Regional access to the Project Site is provided by the US-101, with interchanges approximately 1.2 miles to the northeast (Laurel Canyon Boulevard) and 1.3 miles to the northwest (Coldwater Canyon Avenue). Local access to the Project Site is provided by several local streets and avenues, including Whitsett Avenue, Moorpark Street and Ventura Boulevard. Per the City's Mobility Element, *Mobility Plan 2035*[4], the following are the designation of the adjoining streets:

- Whitsett Avenue (between Valley Spring and Valleyheart) – Avenue II
- Valley Spring Lane (between Whitsett and Bellaire) – Local Street Standard
- Bellaire Avenue (between Valley Spring and Valleyheart) – Local Street Standard
- Valleyheart Drive – Local Street Standard. Valleyheart Drive is designated as a Local Street in *Mobility Plan 2035*. However, between Whitsett Avenue and Bellaire Avenue, it does not exist and is a paper street only. The existing paved portion of Valleyheart Drive, adjacent to the fire station, is owned by the City of Los Angeles. The remaining portion of the Valleyheart Drive right-of-way

[4] *City of Los Angeles, Mobility Plan 2035, An Element of the General Plan, adopted September 7, 2016.*

to the west to Bellaire Avenue, which is not constructed as a street, is owned by Los Angeles County.

The *Mobility Plan 2035* (Los Angeles Department of Planning, General Plan Mobility Element), approved by the Los Angeles City Council in August 2015 and amended in September 2016, categorizes streets into typologies and sets general definitions for each designation. Each of the street designations are defined as the following:

- Freeways – High-volume, high-speed roadways with limited access provided by interchanges that carry regional traffic through and do not provide local access to adjacent land uses.
- Arterial Streets – Major streets that serve through traffic and provide access to major commercial activity centers. Arterials are divided into two categories:
    - Boulevards represent the widest streets that typically provide regional access to major destinations and include two categories:
        - Boulevard I provides up to four travel lanes in each direction with a target operating speed of 40 mph.
        - Boulevard II provides up to three travel lanes in each direction with a target operating speed of 35 mph.
    - Avenues pass through both residential and commercial areas and include three categories:
        - Avenue I provides up to two travel lanes in each direction with a target operating speed of 35 mph.
        - Avenue II provides up to two travel lanes in each direction with a target operating speed of 30 mph.
        - Avenue III provides up to two travel lanes in each direction with a target operating speed of 25 mph.
- Collector Streets – Generally located in residential neighborhoods and provide access to and from arterial streets for local traffic and are not intended for cut-through traffic. Collector Streets provide one travel lane in each direction with a target operating speed of 25 mph.
- Local Streets – Intended to accommodate lower volumes of vehicle traffic and provide parking on both sides of the street. Local Streets provide one travel lane in each direction with a target operating speed of 15 to 20 mph. Local Streets can be:
    - Continuous local streets that connect to other streets at both ends
    - Non-Continuous local streets that lead to a dead-end

In addition, the *Mobility Plan 2035* identifies corridors proposed to prioritize bicycle, pedestrian, transit, and vehicle infrastructure improvements. Each of the networks are defined as the following:

- The Neighborhood-Enhanced Network (NEN) is a selection of streets that provide comfortable and safe routes for localized travel of slower-moving modes such as walking, bicycling, or other slow speed motorized means of travel.
- The Transit-Enhanced Network (TEN) is the network of arterial streets prioritized to improve existing and future bus service for transit riders.
- The Bicycle-Enhanced Network (BEN) is a network of streets to receive treatments that prioritize bicyclists. Tier 1 Protected Bicycle Lanes are bicycle facilities that are separated from vehicular traffic. Tier 2 and Tier 3 Bicycle Lanes are facilities on roadways with striped separation. Tier 2 Bicycle Lanes are those more likely to be built by *2035*.
- The Vehicle-Enhanced Network (VEN) identifies streets that prioritize vehicular movement and offer safe, consistent travel speeds and reliable travel times.
- The Pedestrian-Enhanced Districts (PEDs) identify where pedestrian improvements on arterial streets could be prioritized to provide better walking connections to and from the major destinations within communities.

Described below are the primary freeway and roadways that provide regional and local access to the study area.

Freeways

- **US-101** runs in the east-west direction located north of the Project Site. In the vicinity of the study area, US-101 provides five lanes in each direction. Access to the Project Site study area is provided by interchanges at Coldwater Canyon Avenue and at Laurel Canyon Boulevard.

East – West Streets

- **Ventura Boulevard** is designated as a Boulevard II and is located south of the Project Site. Ventura Boulevard provides two through lanes in each direction with parking permitted on both sides of the street. Ventura Boulevard is included in the High-Injury Network (HIN), the Bicycle Enhanced Network (proposed Tier 3 Bicycle Lane), and TEN in the *Mobility Plan 2035*. Ventura Boulevard is also part of the PED, except for the portion between Fairway Avenue and Laurelgrove Avenue.
- **Moorpark Street** is designated as an Avenue II and is located north of the Project Site. Moorpark Street provides one through lane in each direction. A center left-turn lane is provided along portions of Moorpark Street. One parking lane and one bicycle lane are provided in each direction. Moorpark Street is part of the BEN in the *Mobility Plan 2035*, and the proposed Tier 2 Bicycle Lane has been constructed.
- **Valley Spring Lane** is designated as a Local Street and is located adjacent to the Project Site to the north. Valley Spring Lane provides one lane in each direction with parking allowed on both sides and no parking allowed on the south side between 10 PM and 6 AM.

North – South Streets

- **Coldwater Canyon Avenue** is designated as Avenue II and is located west of the Project Site. Coldwater Canyon Avenue provides two lanes in each direction with parking permitted on both sides of the street, except in the segment between Ventura Boulevard and 100 feet south of Woodbridge Street. The portion of Coldwater Canyon Avenue south of Woodbridge Street is included in the Pedestrian Enhanced Networks in the *Mobility Plan 2035*. Coldwater Canyon Avenue provides access to the existing Harvard-Westlake Upper School Campus (Upper School Campus).
- **Whitsett Avenue** is designated as Avenue II and is located adjacent to the Project Site to the east. In the southbound direction, Whitsett Avenue provides two lanes and one parking lane. In the northbound direction, Whitsett Avenue provides one lane between Ventura Boulevard and Woodbridge Street and two lanes between Woodbridge Street and Moorpark Street. Parking is provided in the northbound direction, though it is restricted during peak periods between Ventura Boulevard and Woodbridge Street so that an additional travel lane may be provided, increasing the number of travel lanes from one to two.
- **Laurel Canyon Boulevard** is designated as Avenue I and is located east of the study area. Laurel Canyon Boulevard provides two lanes in each direction with parking permitted on both sides of the street. Laurel Canyon Boulevard is included in the BEN (proposed Tier 2 Bicycle Lane). The portion between Ventura Place and Ventura Boulevard is included in the HIN. The portion south of the Valley Spring Lane is part of the PED in the *Mobility Plan 2035*.

## Transit Lines[5]

The Project Site is not located within a Transit Priority Area or Transit Oriented Communities (TOC) area; however, it is served by several local and regional bus lines. The Project Site is located approximately 2.5 miles from the Los Angeles County Metropolitan Transit Authority (Metro) B (Red) Line Universal City Station and approximately 2.3 miles from the North Hollywood Station, which also serves the Metro G (Orange) Line. The Project Site is immediately adjacent to the Metro 167 Local Line and LADOT Downtown Area Short Hop (DASH) Line Van Nuys/Studio City on Whitsett Avenue. Ventura Boulevard is served by Metro Local Routes 167, 150 and 240, and Metro Rapid Route 750. See **Figure 3** for a map of the surrounding public transit lines. **Table 2** below provides a description of the public transit routes operating on the streets within the study area.

**Figure 3** shows the various local bus routes, rapid bus routes, and bus rapid transit (BRT) lines providing service in the vicinity of the study area. The Project is located southwest of the Metro North Hollywood Station, which is served by the Metro B (Red) and G (Orange) Lines. Three local Metro (Route 150, 167, and 240), one Metro Rapid (Route 750), and one DASH line (Van Nuys/Studio City) serve the area.

[5] This section describes transit services based on pre-COVID-19 conditions. Metro and LADOT have been making service changes as part of their ongoing and evolving response to COVID-19.

**TABLE 2**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**EXISTING TRANSIT SERVICE**

| Transit Route | Operator | Service Type | Service From | Via | Weekday Headways | |
|---|---|---|---|---|---|---|
| | | | | | AM | PM |
| 167 | Metro | Local | Studio City to Chatsworth | Whitsett Avenue | 40-50 mins. | 40-50 mins. |
| 150 | Metro | Local | Studio City to Canoga Park | Ventura Boulevard | 20-45 mins. | 20-45 mins. |
| 240 | Metro | Local | Studio City to Northridge | Ventura Boulevard | 20-30 mins. | 20-30 mins. |
| 750 | Metro | Rapid | Studio City to Canoga Park | Ventura Boulevard | 20 mins. | 20 mins. |
| Van Nuys/Studio City Clockwise/Counterclockwise | LADOT | Shuttle | Studio City to Van Nuys | Whitsett Avenue | 30 mins. | 30 mins. |
| Orange Line | Metro | BRT | North Hollywood to Chatsworth | Chandler Boulevard | 5 mins. | 5 mins. |
| Red Line | Metro | Heavy Rail | North Hollywood to Union Station | Lankershim Boulevard | 10 mins. | 10 mins. |

This table describes transit services based on pre-COVID-19 conditions. Metro and LADOT have been making service changes as part of their ongoing and evolving response to COVID-19.

The transit lines in the vicinity of the Project Site include:

- Metro Line 167 – Line 167 provides local service between Studio City and the Chatsworth neighborhood in Los Angeles. This line runs east of the Project Site along Whitsett Avenue with two stops near the Project Site. Line 167 has average headways of 40-50 minutes during the weekday AM and PM peak periods. Line 167 has two stops in the southbound direction near the Project Site. The northern stop is located at the intersection of Whitsett Avenue & Valley Spring Lane, directly across the street from the Project. The southern stop is at located the intersection of Ventura Boulevard & Whitsett Avenue, which includes a bus bench.
- Metro Line 150 – Line 150 provides local service between Studio City and the Canoga Park neighborhood in Los Angeles. This line runs south of the Project Site along Ventura Boulevard. Line 150 has average headways of 20-45 minutes during the weekday AM and PM peak periods. In the westbound direction, the closest stop to the Project Site – the Ventura/Whitsett stop - includes a bus shelter, a bus bench and two trash bins. In the eastbound direction, the Ventura/Whitsett stop includes a bus shelter, a bus bench, and a trash bin.
- Metro Line 240 – Line 240 provides local service between Studio City and the Northridge neighborhood in Los Angeles, and it shares the same route as Line 150 between Ventura Boulevard/ Reseda Boulevard and Universal City/ Studio City Station. This line runs south of the Project Site along Ventura Boulevard. Line 240 has average headways of 20-30 minutes during the weekday AM and PM peak periods. Line 240 shares the same bus stops with Metro Line 150 in the Project vicinity.
- Metro Rapid 750 – Metro Rapid 750 provides express service through Studio City to the Canoga Park neighborhood in Los Angeles. The line runs south of the Project Site along Ventura Boulevard. Line 750 has average headways of 20 minutes during peak periods. It has one bus stop in each direction at the intersection of Ventura Boulevard & Coldwater Canyon Avenue. The eastbound stop includes two bus benches and two trash bins. The westbound stop includes a bus bench and two trash bins.
- LADOT DASH Van Nuys/Studio City – The Van Nuys/Studio City DASH provides circulator service in neighborhoods of Van Nuys, Sherman Oaks, and Studio City in Los Angeles. There are several stops near the Project Site on Whitsett Avenue. The Van Nuys/Studio City DASH has headways of 30 minutes during the weekday AM and PM peak periods. The northbound DASH has two stops. The northern stop at the intersection of Whitsett Avenue & Valley Spring Lane does not include any bus bench or shelter. The southern stop at the intersection of Whitsett Avenue & Valleyheart Drive includes a bus bench and a trash bin. The southbound DASH includes an existing bus stop at the intersection of Whitsett Avenue & Valley Spring Lane, which does not include bus benches or bus shelter.

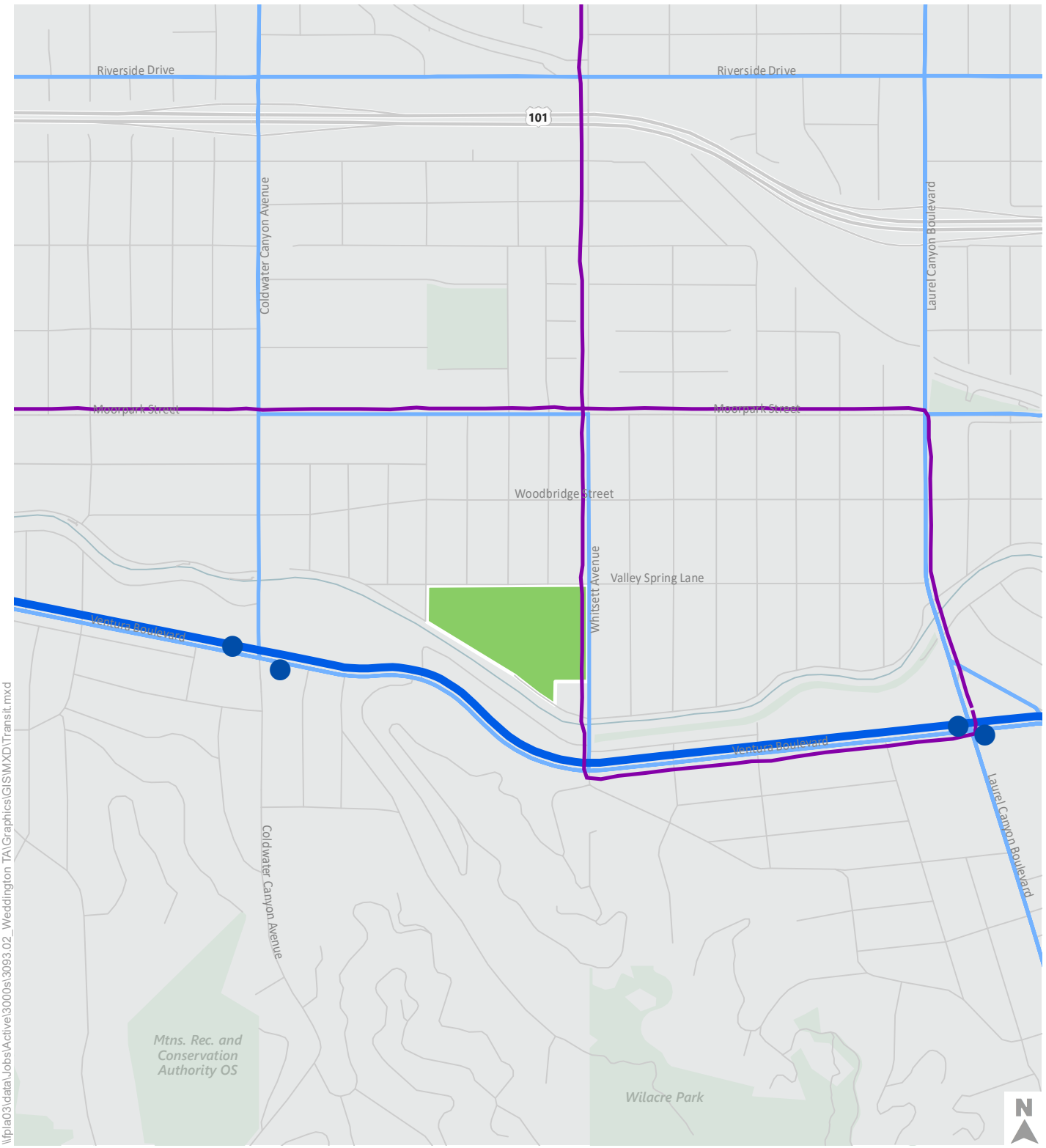



Figure 3

# Transit Network

## Existing Bicycle and Pedestrian Facilities

The Project's southern frontages are across the river from the existing Los Angeles River Bicycle Path, which is part of the BEN identified in the City's *Mobility Plan 2035*. The Project frontages are not along streets that are part of the PED.

### Bicycle Facilities

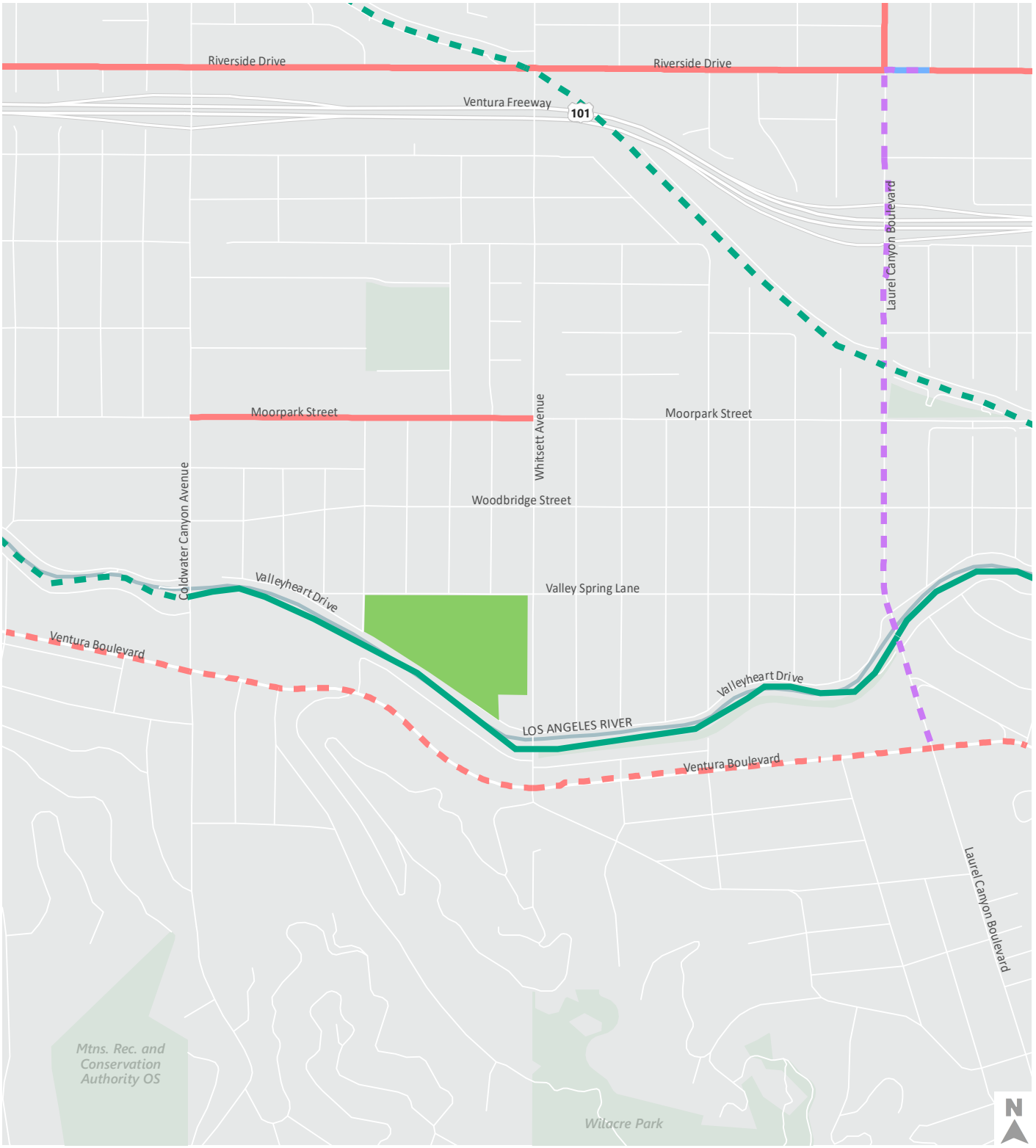
**Figure 4** shows the existing and planned citywide designated bicycle facilities in the Project area. The existing bicycle path segments along the Los Angeles River from Laurel Canyon Boulevard to Whitsett Avenue and from Whitsett Avenue to Coldwater Canyon Avenue were completed and opened to the public in 2004 and 2019, respectively. The segment of Moorpark Street between Coldwater Canyon Avenue and Whitsett Avenue includes an existing bicycle lane in each direction.

### Pedestrian Facilities

Sidewalks are present along the Whitsett Avenue frontage of the Project Site. Sidewalks are not present along the east side of Bellaire Avenue and the south side of Valley Spring Lane adjacent to the Project Site. The Zev Greenway, which is a segment of the Los Angeles River Trail, is located along the south side of the Project Site.

### High-Injury Network

The City of Los Angeles' HIN spotlights streets with a high concentration of traffic collisions that result in severe injuries and deaths, with an emphasis on those involving people walking and bicycling. The Project frontages are not along streets that are part of the HIN.




Project Site

Existing Bicycle Facilities
- Bicycle Path
- Bicycle Lane
- Bicycle Route

Planned Bike Facilities (Mobility Plan 2035)
- Bicycle Path
- Tier2 Bicycle Lane
- Tier3 Bicycle Lane

Figure 4

## Existing and Planned Bicycle Facilities

## 2.2 Cumulative Conditions

The Project Site is within a residential area in the Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan (Community Plan) area and the Los Angeles River Improvement Overlay District. The area surrounding the Project Site is developed primarily with low-intensity residential with some commercial development to the south along Ventura Boulevard. In the *Mobility Plan 2035,* there are no major planned transportation improvements in the study area, except for the proposed bicycle path segment west of Coldwater Canyon Avenue along the Los Angeles River (see **Figure 4)** per the BEN.

### Planned Bicycle Facilities

The *Mobility Plan 2035* identifies corridors proposed to receive improved bicycle, pedestrian, and vehicle infrastructure improvements. Bicycle Paths are bicycle facilities outside of the roadway, such as the Los Angeles River bicycle path. Tier 1 Protected Bicycle Lanes are bicycle facilities that are separated from vehicular traffic. Tier 2 and Tier 3 Bicycle Lanes are facilities on roadways with striped separation. Tier 2 Bicycle Lanes are those which are more likely to be built by 2035. **Figure 4** shows the following planned bicycle improvements (along with existing bike facilities) in the study area per the *Mobility Plan 2035*:

- Planned bicycle paths in the study area include the Los Angeles River bicycle path segments west of Coldwater Canyon Avenue. The bicycle path segments east of Coldwater Canyon Avenue have been completed and opened to the public.
- There are no planned Tier 1 facilities in the study area.
- A Tier 2 facility is planned on Laurel Canyon Boulevard in the study area.
- A Tier 3 facility is planned on Ventura Boulevard in the study area.

### Related Projects

**Figure 5** is an area map showing the location of the Project and related land use development projects under the cumulative conditions. Based on information provided by LADOT on October 27, 2020 and other sources, there are five mixed-use projects, including health club, restaurant, retail, and residential land uses, in a radius of half mile of the Project Site and a quarter mile beyond the outermost study intersections. All of these projects are located on Ventura Boulevard. **Table 3** shows the list of related projects and their corresponding land uses.

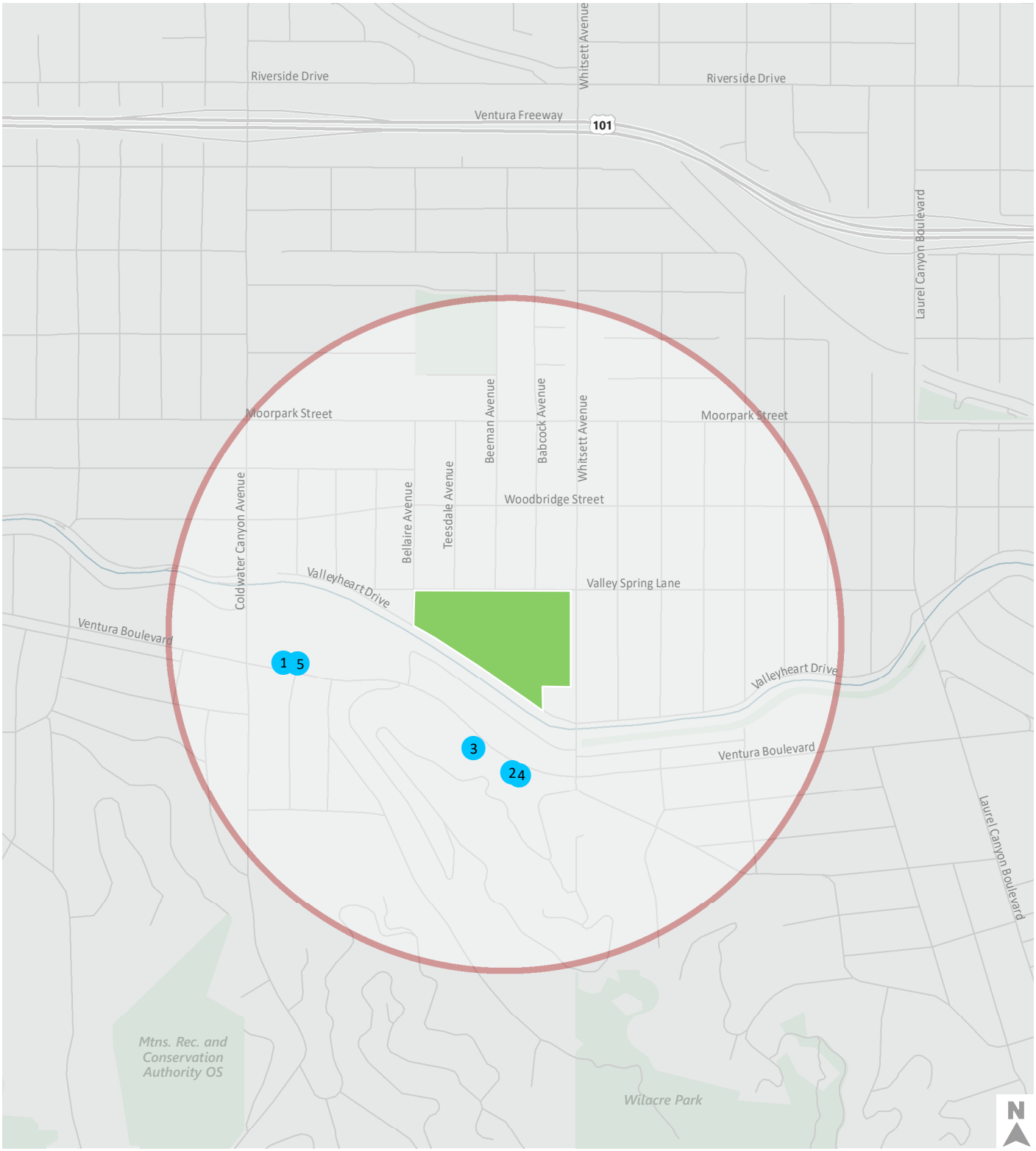



Figure 5

## Related Projects

**TABLE 3**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**RELATED PROJECTS**

| No. | Project Location | Land Use | Size | Trip Generation | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Daily | AM | | | PM | | |
| | | | | | IN | OUT | TOTAL | IN | OUT | TOTAL |
| 1 | 12833 Ventura Boulevard (Sportsman's Lodge) | Addition of health club and restaurants to existing hotel | 91.466 ksf | 2,001 | 50 | 54 | 104 | 68 | 68 | 136 |
| 2 | 12548 Ventura Bouevard | Retail<br>Apartments<br>Other | 10.747 ksf<br>62 du<br>1.925 ksf | 1,000 | 23 | 41 | 64 | 46 | 34 | 80 |
| 3 | 12582 Ventura Boulevard | Mixed Use | 15.700 ksf | 997 | 36 | 28 | 64 | 38 | 32 | 70 |
| 4 | 12544 Ventura Boulevard | Mixed Use | 12.782 ksf | 570 | 20 | 14 | 34 | 20 | 20 | 40 |
| 5 | 12833 Ventura Boulevard (Sportsman's Lodge) | Apartments | 504 du | 5,563 | 201 | 251 | 452 | 292 | 181 | 473 |
| | | Restaurant | 30.000 ksf | | | | | | | |
| | | **Total** | | 10,131 | 330 | 388 | 718 | 464 | 335 | 799 |

Notes:
ksf = one thousand square feet
du = dwelling units
Related projects list is based on information provided by LADOT on October 27, 2020 and other sources.

# 3. CEQA Transportation Assessment

## 3.1 Plans, Programs, Ordinances and Policies Review

The purpose of this section is to determine whether the Project conflicts with a transportation-related City plan, program, ordinance, or policy that was adopted to protect the environment. A project would not be shown to result in an impact merely based on whether a project would not implement an adopted plan, program, ordinance, or policy. Rather, it is the intention of this threshold test to ensure that proposed development does not conflict with nor preclude the City from implementing adopted plans, programs, ordinances, or policies.[6] Furthermore, under CEQA, a project is considered consistent with an applicable plan if it is consistent with the overall intent of the plan and would not preclude the attainment of its primary goals. A project does not need to be in perfect conformity with each and every policy. Finally, any inconsistency with an applicable policy, plan, or regulation is only a significant impact under CEQA if the policy, plan, or regulation were adopted for the purpose of avoiding or mitigating an environmental effect and if the inconsistency itself would result in a direct physical impact on the environment.

This evaluation was conducted by reviewing City documents such as the Los Angeles *Mobility Plan 2035*, *Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan*, Vision Zero Los Angeles, the LADOT Manual of Policies and Procedures (MPP), Citywide Design Guidelines, Los Angeles River Design Guidelines, and municipal code sections.

- **City of Los Angeles Mobility Plan 2035**[7] is the City's document to guide the operations and design of streets and other public rights of way. It lays out a vision for designing safer, more vibrant streets, that are accessible to people – no matter how they travel. The Project's proposed land use and operations design features were reviewed and compared to existing and future conditions resulting from the Project, including site access, high injury network identification, pedestrian, bicycle and transit accessibility and loading. The Project is consistent with the reviewed policies of the *Mobility Plan 2035*. See **Appendix C**, adapted from Table 2.1-2 of the TAG, for a detailed review of consistency with relevant policies in *Mobility Plan 2035*.
- **Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan**[8] is one of 35 Community Plans in the City of Los Angeles that establishes the policies and programs that inform the framework for local land use, circulation, and service systems within the selected community plan area. The Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan (Community Plan) highlights the Studio City Golf Course (also known as Weddington Golf & Tennis, a component of the Project Site) as a Major Development Opportunity Site, with the

[6] City of Los Angeles Department of Transportation, *Transportation Assessment Guidelines*, July 2020, page 2-2.
[7] City of Los Angeles, *Mobility Plan 2035, An Element of the General Plan,* adopted September 7, 2016.
[8] The *Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan* was adopted in 1998 and amended in 2016 as part of the Mobility Plan 2035 Update. While an updated Community Plan is currently under development, the plan from 2016 is currently in effect and forms the basis for this review of conflicts relating to the transportation system.

desire of developing on the site with a use that is compatible with the surrounding area, as a key access site for the future development for the Los Angeles River, and with design features that encourage waterfront access to the Los Angeles River. The Project's land use and site plan design coincide with the Community Plan's intent to redevelop the site and improve connection to the Los Angeles River. The Project is consistent with the transportation components of the Community Plan. See **Appendix C** for a detailed review of consistency with relevant policies in the Community Plan.

- **Vision Zero Los Angeles**[9] is a plan that strives to eliminate traffic-related deaths in Los Angeles by 2025 through multiple strategies, such as modifying streets to better serve vulnerable road users. The Project is not located along any Vision Zero HIN priority corridors. See **Appendix C** for further determination support.
- **LADOT Manual of Policies and Procedures**[10] contains the design standards to ensure the safe and efficient use of City streets. MPP 321 provides the basic criteria for review of driveway designs.
- The **Citywide Design Guidelines**[11] includes sections relevant to development projects where improvements are proposed within the public realm. Specifically, Guidelines one through three provide building design strategies that support the pedestrian experience. The Guidelines provide best practices in designing that apply in three spatial categories of site planning, building design and public right of way. The Guidelines should be followed to ensure that the project design supports pedestrian safety, access, and comfort as they access to and from the building and the immediate public right of way. See **Appendix C** for more information.
- The **Los Angeles River Design Guidelines**[12] highlights best practices for designing development projects to increase awareness of, and access to the Los Angeles River and provides direction for proceeding with the design of a project located within the River Improvement Overlay (RIO) District.

The Project features, location, and design generally support multimodal transportation options and would be consistent with policies, plans, and programs that support alternative transportation, including the *Mobility Plan 2035* and the *Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan*. The Project features are intended to minimize impacts to the public right-of-way and enhance the user experience by integrating multimodal transportation options. The Project would encourage bicycle use to and from the Project Site by providing long-term and short-term bicycle parking in proximity to the existing bicycle path along the Los Angeles River. Although the Project frontages are not along any streets part of the PED, the Project would encourage pedestrian activity by providing a three-quarter mile long internal pedestrian path that would be open to the public to circumnavigate the perimeter of the Project Site. The pedestrian path would run parallel to Bellaire Avenue and Valley Spring Lane, with three accesses on Valley Spring Lane effectively serving as the pedestrian circulation along these streets where there is

[9] *Vision Zero Los Angeles 2015-2025 Action Plan,* Effective January 2017.
[10] City of Los Angeles Department of Transportation, *Manual of Policies and Procedures Section 321*, February 2003.
[11] City of Los Angeles Department of City Planning, *Citywide Design Guidelines*, October 24, 2019.
[12] City of Los Angeles Department of City Planning, *Los Angeles River Design Guidelines*, 2015.

currently no sidewalk adjacent to the Project Site. The Project also proposes new pedestrian access between the Project Site and the Zev Greenway, which is a segment of the Los Angeles River Trail located along the south edge of the Project Site, as well as between the Zev Greenway and Coldwater Canyon Avenue. In addition, the Project would support multi-modal travel by providing shuttle buses to transfer students, employees, and visitors between the Upper School Campus and the Project Site and separating the vehicular driveways from the entry of pedestrian/bicyclists/public transit riders to the Project. The Project will provide passenger loading zones inside the Project Site accessed via the south driveway on Valleyheart Drive. The Project design and features would not substantially increase hazards, conflicts, or preclude City action to fulfill or implement projects associated with these networks and will contribute to overall walkability through enhancements to the Project Site and streetscape.

Five related projects were identified in Chapter 2. None of them would share any adjacent street frontages with the Project Site as they are all located along Ventura Boulevard. The Project would provide infrastructure improvements on-site and off-site that would enhance mobility for pedestrians and bicyclists in the future. Accordingly, no significant cumulative impacts are anticipated to which both the Project and the related projects would contribute in regard to City transportation policies or standards adopted to protect the environment and support multimodal transportation options.

**Appendix C** provides additional detail regarding the Project's plans, programs, ordinances, and policies conflict review conducted per the City's TAG.

## 3.2 Vehicle Miles Traveled Analysis

In accordance with LADOT TAG and CEQA guidance, proposed land use projects need to assess whether they cause a substantial vehicle miles traveled impact. The following section summarizes an assessment of VMT generated by the Project.

### Impact Criteria

The City's VMT impact criteria for development projects are specified in the TAG. The VMT impact criteria depend on a project's land use.

The Project would be classified under two different uses.

First, the Project would be classified as an educational facility since it will be owned and operated by Harvard-Westlake School, and will be utilized by their students, employees, and associated programs in conjunction with their operation as a private high school. Per Section 2.2.4 of the July 2020 LADOT TAG, in order to provide a conservative analysis, the TA will assume that the Project will attract people from a broader area and not just from the immediate vicinity.

Second, the community use component of the Project would be classified as a community-serving recreational facility. Per LADOT, community-serving recreational facilities are exempt from VMT analysis.

Since the community use component (publicly accessible park and recreational areas) of the Project is exempt from VMT analysis, the VMT analysis focuses on the Harvard-Westlake athletic activities use, as an educational facility. Per Section 2.2.4 of the TAG, the Project would result in a significant VMT impact if the Project is expected to result in a net increase in daily VMT.

Therefore, the Project would be assessed on whether the school-related activities associated with the Project would result in a net increase in daily VMT.

### Impact Analysis

The total net daily VMT for all trips to and from the Project Site on an average day was estimated to assess the VMT impact of the Project. The Project's total daily VMT was calculated by multiplying the estimated average number of daily trips by an average trip length for each group of users of the site. For this Project, there are different populations that will make trips to and from the Project Site, including Harvard-Westlake students, visiting teams, spectators, and employees. In addition, trips generated by potential Harvard-Westlake Special Events (which are defined as events that are not related to regular academic activities or athletic programs, practices, or competitions that are expected to draw more than 100 attendees, including conferences, admission events and sports team banquets) at the Project Site were averaged across the academic year. Finally, the net total VMT takes credit for existing VMT associated with the existing Weddington Golf & Tennis, as the VMT for these trips will be eliminated with

the Project.[13] As indicated earlier, the VMT associated with the community use of the Project is not included in the analysis, as it is exempt per LADOT.

The description and the methodology for estimating the average trip lengths for each population is described below. Further information regarding the methodology used to estimate daily trip generation for each of the populations, and the resultant estimated daily trips, is provided in Chapter 4.2.

**Harvard-Westlake (HW) Shuttles** consists of the Harvard-Westlake students taking the shuttle between the Upper School and the Project Site. The average trip length (1.5 miles) was estimated as the driving distance between the Upper School Campus and the Project Site.

**HW Private Vehicles** consists of the Harvard-Westlake students driving their private vehicles from the Upper School Campus to the Project Site. The average inbound trip length was estimated to be 1.5 miles, as the driving distance between the Upper School and the Project Site. The outbound trips (students driving home after an activity at the Project Site) are not estimated to generate a net increase in VMT as there was no difference found between the average trip length to the Upper School Campus from which the students would be driving home without the Project (12.9 miles) and the average trip length to the Project Site from which the students would be driving home with the Project (12.9 miles). These distances were estimated using a weighted average trip length based on a trip distribution by zip code to the Upper School Campus and the trip length from each zip code to the Project Site. The trip distribution by zip code was developed using zip code data provided by Harvard-Westlake School of the number of Harvard-Westlake student households in each zip code. A map showing the trip distribution by zip code can be found in **Appendix A**.

**HW Other** consists of the remaining visitors to the Project Site related to Harvard-Westlake athletic activities, including Harvard-Westlake coaches, visiting team athletes and coaches, and spectators. The average trip length was estimated as the average trip length to the Project Site (12.9 miles) similar to that for the Harvard-Westlake student population.

**Employees** consist of staff at the Project Site holding roles in security, custodial, landscaping, kitchen, team store, staff, and athletics administration. Based on information from Harvard-Westlake, it is estimated that 49 employees will commute to and from the Project Site on a typical day. The average trip length (13.3 miles) was estimated as a weighted average trip length based on a trip distribution by zip code and the trip length from each zip code to the Project Site. The trip distribution by zip code was developed using zip code data provided by Harvard-Westlake of the subset of the existing employees that could work at the Project Site.

**HW Special Events** consists of the attendees at Harvard-Westlake Special Events that may occur on the Project Site. The average trip length was estimated as the average trip length to the Project Site (12.9 miles), similar to that for the Harvard-Westlake student population. Conservatively, up to 27 events of up

[13] Some existing components of Weddington Golf & Tennis, such as the café and putting green, will remain as part of the Project. However, the trip generation associated with these components is included in the overall Project trip generation. As such, the full existing use credit is taken for Weddington Golf & Tennis.

to 500 attendees and three events of up to 2,000 attendees are anticipated per year, of which 15 would be on weekdays and 15 on weekend days. Given the infrequency of the events, the annual event attendance was averaged across academic year weekdays to estimate the daily average weekday attendance.

**Weddington Golf & Tennis** consists of the patrons of the existing golf and tennis facility. The average trip length (5.9 miles) was estimated as a weighted average trip length based on a trip distribution by zip code and the trip length from each zip code to the Project Site. The trip distribution by zip code was developed using zip code data provided by Weddington Golf & Tennis of the number of tennis players in each zip code based on a survey conducted over the course of a week in September 2019.

As shown in **Table 4**, the Project is projected to generate an estimated net decrease of 2,098 daily VMT. Additional information regarding the trip generation assumptions can be found in Section 4.3.

**Table 4: Net Total Daily VMT Estimate**

| Population Group | Average Daily Trip Generation | Average One-Way Trip Length (miles) | Daily VMT |
|---|---|---|---|
| **Project** | | | |
| HW Shuttles | 58 | 1.5 | 87 |
| HW Private Vehicles[1] | 43 (inbound) | 1.5 (inbound) | 65 |
| HW Other | 132 | 12.9 | 1,703 |
| Employees | 98 | 13.3 | 1,303 |
| HW Special Events | 60[2] | 12.9 | 774 |
| Total Daily VMT | | | 3,932 |
| **Existing Use Credit** | | | |
| *Weddington Golf & Tennis* | *-1,022* | *5.9* | *-6,030* |
| *Existing VMT Credit* | | | *-6,030* |
| **Net Total Daily VMT** | | | |
| Net Total Daily VMT | | | -2,098 |

Note: Additional information regarding the methodology used to estimate trip generation for each of the populations, and the resultant estimated trips, is provided in Chapter 4.2.
[1] Only the inbound trips are included in the VMT estimate for the HW private vehicles because the outbound trip lengths were found to be the same as the existing outbound trip length for student vehicles leaving the Upper School to return home
[2] Annual Special Event trips averaged across academic year weekdays.

## Summary

The analysis conducted demonstrates that the Project would result in less than significant impacts on VMT since the Project would result in a decrease in VMT for the Project Site. Similarly, the Project would result in less than significant impacts on VMT in cumulative conditions, and further analysis is not necessary.

## 3.3 Geometric Design Feature Review

This section discusses impacts regarding the potential for an increase of hazards due to a geometric design feature that generally relates to the design of access points to and from the Project Site and may include safety, operational, or capacity impacts.

Pedestrian access to the pathway that circumnavigates the Project Site would be provided via three entry gates along Valley Spring Lane. The primary pedestrian entry to the Project Site's interior and its athletic amenities would be accessed via the sidewalk along the east side of the Project Site on Whitsett Avenue. The pedestrian entry gates to be located along Valley Spring Lane currently do not have sidewalks along the Project frontage. The Project's three-quarter mile long pedestrian path would run parallel to Valley Spring Lane and Bellaire Avenue, and will effectively serve as the pedestrian circulation along streets where there is currently no sidewalk. This pedestrian path would also create a new connection to the Zev Greenway.

Students, visitors, and employees arriving to the Project Site by bicycle would have the same access opportunities as pedestrians and would be able to utilize on-site bicycle parking facilities. The Project's access locations would be designed to City standards and would provide adequate sight distance, sidewalks, crosswalks, and pedestrian movement controls that meet the City's requirements to protect pedestrian safety. All roadways and driveways will intersect at right angles. Street trees and other potential impediments to adequate driver and pedestrian visibility would be minimal. Pedestrian entrances separated from vehicular driveways would provide access from the adjacent streets and transit stops.

There are two driveways proposed as part of the Project, one of which (north driveway) would be on Whitsett Avenue, an arterial facility, several hundred feet south of Valley Spring Lane. The other driveway (south driveway) would be an extension of Valleyheart Drive, which intersects with Whitsett Avenue just south of the LAFD Station 78. Access to the subterranean parking structure would be provided via both the north and south driveways. The south driveway would also lead to a turnaround area for passenger loading and serve as access to the surface parking area. The south driveway will only allow entry into the subterranean garage, and all exits from the garage will be via the north driveway. The north parking structure driveway would be flat for at least 25 feet within the Project Site before it intersects with the Whitsett Avenue sidewalk, per the site plan. To reduce conflicts and enhance safety, a triangular median island will be provided on the north driveway configured to restrict turns into and out of the driveway to right-turns only. No new driveways would be installed along Valley Spring Lane or Bellaire Avenue, and the existing service driveway on Valley Spring Lane would be removed, thus eliminating an existing potential conflict location.

The driveways would be wider than the recommended widths in the LADOT Manual of Policies and Procedures, but the number of driveways would be reduced from four existing driveways to two Project driveways, which would reduce potential driveway conflicts between vehicles and pedestrians. The driveways would not require the removal or relocation of existing passenger transit stops and would be designed and configured to avoid or minimize potential conflicts with transit services and pedestrian

traffic. Pedestrians and bicycles would have separate entrances to the Project Site from vehicular driveways. The Project driveways will not be located along a street that is part of the designated HIN. As a result, the Project would not substantially increase hazards, conflicts, and would contribute to overall walkability and bike-ability through enhancements to the Project Site. **Appendix D** contains more detailed responses to the TAG evaluation questions that support this conclusion.

## 3.4 Freeway Safety Analysis

In May 2020, LADOT provided interim guidance on freeway safety analysis for land use proposals that are required to prepare a TA[14]. The freeway safety analysis evaluates a proposed project's effects to cause or lengthen a forecasted off-ramp queue onto the freeway mainline and create speed differentials between vehicles exiting the freeway off-ramps and vehicles operating on the freeway mainline that could constitute a potential safety impact under CEQA.

The interim guidance on freeway safety analysis requires analysis of freeway off-ramps where a proposed project adds 25 or more trips in either the morning or afternoon peak hour to be studied for potential queuing impacts. If the proposed project is not projected to add 25 or more peak hour trips at any freeway off-ramps, then a freeway ramp analysis is not required. The Project is projected to add 25 or more trips to the following freeway off-ramp:

- US-101 Southbound Off-ramp & Coldwater Canyon Avenue (3-4 PM peak hour)

### Methodology

If a freeway ramp analysis is required, the interim guidance provides the following steps to determine if the proposed project may constitute a potential safety impact under CEQA.

- For the identified freeway off-ramps, prepare a queuing study for the "Future with Project" conditions for the proposed project build-out year. Evaluate the adequacy of the existing and future storage lengths with the 95$^{th}$ percentile queue and 100% of the storage length on each lane of the ramp from the stop line to the gore point. When an auxiliary lane is present, add 50% of the length of the auxiliary lane to the ramp storage area.
- If the proposed project traffic is expected to cause or add to a queue extending onto the freeway mainline by less than two car lengths, the proposed project would cause a less-than-significant safety impact. If the queue is already extending or projected to extend onto the freeway mainline, and the addition of traffic generated by the proposed project would increase the overflow onto the mainline lanes by less than two car lengths, the project would cause a less-than-significant safety impact
- If a proposed project adds two or more car lengths to the ramp backup that extends to the freeway mainline, then the location must be tested for safety issues which include a test for speed differential between the off-ramp queue and the mainline of the freeway during the particular peak hour. If the speed differential between the mainline lane speeds and the ramp traffic is below 30 mph, the project would be considered to cause a less-than-significant safety impact. If the speed differential is 30 mph or more, then there is a potential safety issue. The Caltrans Performance Measurement System (PeMS) data should be used to identify freeway operating speed(s) during the peak hour being analyzed. If reliable PeMS data are not available at the

[14] Los Angeles Department of Transportation, *LADOT Transportation Assessments – Interim Guidance for Freeway Safety Analysis* (May 2020).

subject location, other sources of speed data including location-based services data from available sources could be used.

- If the speed differential is 30 mph or more, which may result in a potential safety issue, the guidance suggests a proposed project should consider the following preferred corrective measures to offset a potential safety issue:
    - Transportation demand management program(s) to reduce the project's trip generation,
    - Investments to active transportation infrastructure, or transit system amenities (or expansion) to reduce the project's trip generation, and/or
    - Potential operational change(s) to the ramp terminal operations including, but not limited to, lane reassignment, traffic signalization, signal phasing or timing modifications, etc. This option requires coordination with Caltrans and LADOT to assess feasibility and for approval of the proposed measure(s).

A physical change to the ramp itself (addition of auxiliary lane, ramp widening, etc.) may be considered. However, this change would have to demonstrate substantial safety benefits, not be a VMT-inducing improvement, and not result in other environmental issues. If the cost of the physical change to the ramp is substantial, then a fair-share contribution to the improvement may be required if necessary requirements are met, including, but not limited to, Caltrans defining the improvement cost, and opening a Project File/Project Account to accept a financial contribution for the improvement.

## Analysis

As noted, the Project is projected to add 25 or more trips to the US-101 Southbound Off-ramp to Coldwater Canyon Avenue during the 3-4 PM peak hour. A queuing study for the "Future with Project" conditions was conducted for the Project buildout year (2025) using trip generation and future traffic volumes detailed in Chapter 4. Per the guidance, the adequacy of the existing and future storage lengths was evaluated with the 95$^{th}$ percentile queue where 100% of the storage length on each lane of the ramp from the stop line to the gore point was used. **Table 5** shows the queue lengths and analysis results for the freeway off-ramp in the Future Base and Future plus Project scenarios.

Project traffic volumes and future background traffic volumes at the one analyzed off-ramp were estimated using the methodologies described in Chapter 4 of this report.

### *US-101 Southbound Off-ramp & Coldwater Canyon Avenue*

Analysis of the US-101 Southbound off-ramp to Coldwater Canyon Avenue was conducted using the Synchro software and HCM 2016.

The queue length on the US-101 Southbound offramp to Coldwater Canyon Avenue is not projected to exceed ramp capacity in the Future Base or Future plus Project scenarios during the 3-4 PM peak hour. Although the Project is projected to add one car length (assuming an average queue storage length of 25 feet per car) to the queue in the 3-4 PM peak hour, the addition is not projected to exceed the ramp storage in the 3-4 PM peak hour. Therefore, the Project is not projected to have a significant safety impact for the US-101 Southbound off-ramp to Coldwater Canyon Avenue and no further analysis is required for this off-ramp.

Detailed queue calculations are provided in **Appendix E**.

**TABLE 5**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**FREEWAY OFF-RAMP QUEUEING ANALYSIS**
**FUTURE BASE (2025) AND PLUS PROJECT SCENARIOS**

| Ramp | Cross Street | Max Ramp Length (ft) | Ramp Capacity by Movement at Off-Ramp Terminus Intersection | | | Ramp Terminus Control | Future Base Conditions | | | Future plus Project Conditions | | | Potential Safety Issue? [c] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 3-4 PM 95th Percentile Queue | | Queue Exceeds Storage? | 3-4 PM 95th Percentile Queue | | Queue Length Increase (car lengths) [b] | |
| | | | Lane | Movement | Length [a] | | Queue (ft) | Max (ft) | | Queue (ft) | Max (ft) | | |
| US-101 SB Off-Ramp | Coldwater Canyon Avenue | 800 | 3 | Left | 270 | Signal | 177 | 177 | No | 177 | 177 | 1 | No |
| | | | | Left/Through/Right | 800 | | 75 | | | 83 | | | |
| | | | | Right | 270 | | 58 | | | 78 | | | |

[a] Ramp lengths determined based on scaled distances from on-line aerial photographs. Per LADOT guidance, max length is measured from the terminal intersection to the gore point.

[b] Assumes an average storage length per car of 25 feet.

[c] If a proposed project adds two or more car lengths to a ramp queue that extends to the freway maineline, then the location must be tested for safety issues.

# 4. Non-CEQA Transportation Assessment

The purpose of the non-CEQA transportation assessment required in LADOT's TAG is to promote orderly development, evaluate and address transportation-system deficiencies, and promote public safety and the general welfare by ensuring that development projects are properly related to their sites, surrounding properties, and traffic circulation.

## 4.1 Pedestrian, Bicycle, and Transit Access

The pedestrian, bicycle, and transit facilities assessment is intended to determine a project's potential effects on pedestrian, bicycle, and transit facilities in the vicinity of the proposed project based on an evaluation of physical or demand-based considerations that would affect the experience of people utilizing the multimodal transportation network.

The pedestrian, bicycle, and transit facilities surrounding the Project site were assessed to determine potential Project effects on pedestrian, bicycle, and transit facilities in the vicinity of the Project**. Figure 6** provides a map of pedestrian destinations and an inventory of the pedestrian facilities (i.e., crosswalks and curb ramps) within 1,320 feet of the edge of the Project Site. The Project Site itself will serve as an athletic facility for Harvard-Westlake School and a community park attracting people from the nearby community. Pedestrian destinations for Harvard-Westlake students and nearby residents includes commercial facilities, restaurants, and places of worship along Ventura Boulevard, Whitsett Avenue, and Moorpark Street. Off-site from the Project Site, the Project would also repave the segment of Valleyheart Drive south of LAFD Station 78, improve portions of the Zev Greenway adjacent to the Project Site, and install ADA accessible pedestrian ramps connecting the Project Site to the Zev Greenway and connecting the Zev Greenway to Coldwater Canyon Avenue.

As shown in **Figure 6**, curb ramps, tactile warnings, and/or marked crosswalks are not provided at many of the nearby intersections. Some crosswalk legs at signalized intersections do not have push buttons, but this is appropriate as these intersections are pretimed to provide walk phases for every signal cycle. **Table 6** also identifies locations with missing sidewalks, pedestrian push buttons, other pedestrian amenities such as street trees, bus benches, or lighting, and typical sidewalk width ranges.

The following checklist from the TAG was reviewed to evaluate whether direct or indirect Project effects would lead to removal, modification, or degradation of pedestrian, bicycle, or transit facilities:

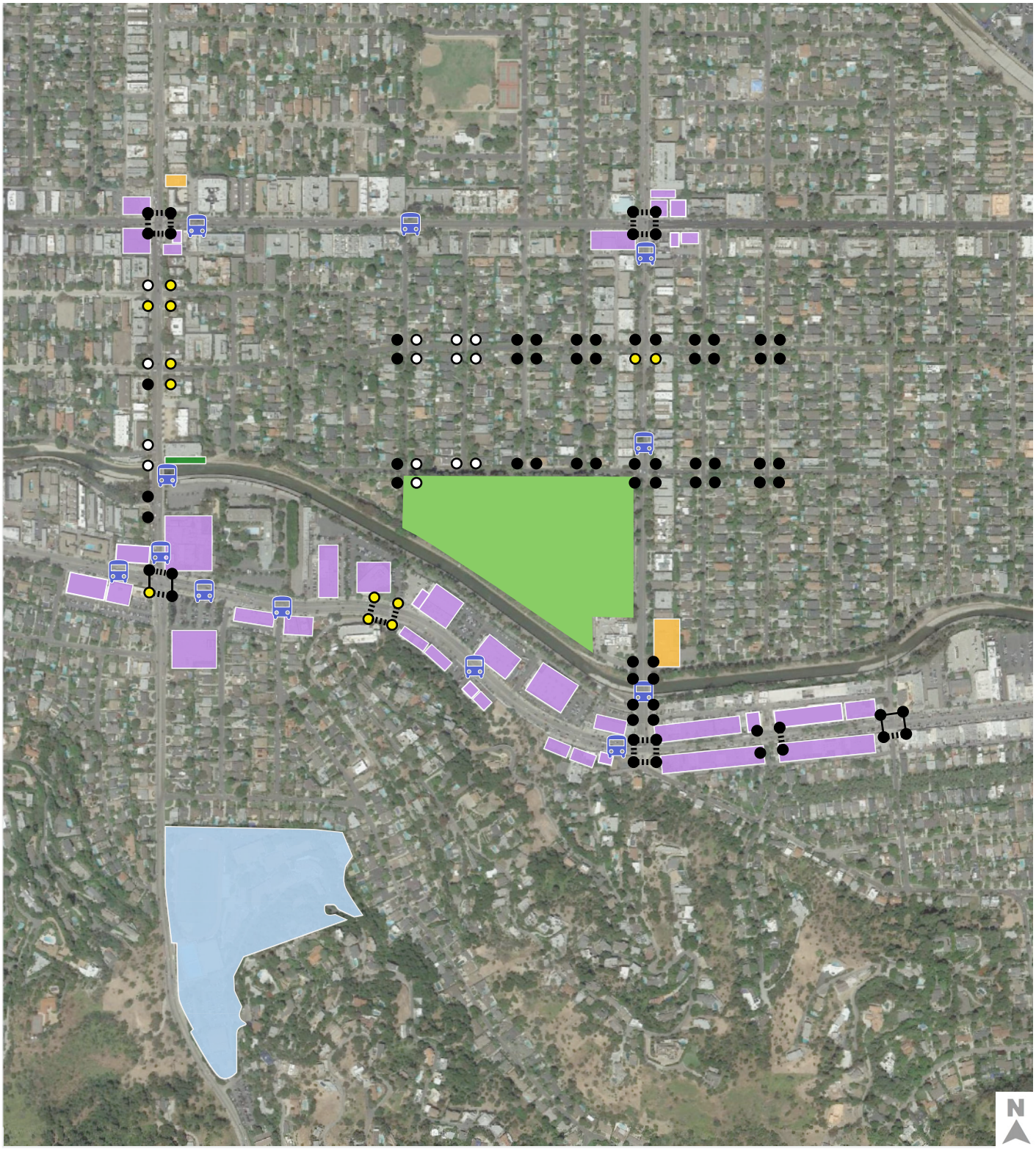
- Removal or degradation of existing sidewalks, crosswalks, pedestrian refuge islands, and/or curb extensions/bulbouts
    - No, the Project would not remove or degrade existing pedestrian facilities in the pedestrian environment because the Project would retain the existing sidewalk widths adjacent to the

Project Site on Whitsett Avenue. Sidewalks are not present on the east side of Bellaire Avenue and on the south side of Valley Spring Lane adjacent to the Project Site. The Project would construct a three-quarter mile long internal pedestrian path that would run parallel to Bellaire Avenue and Valley Spring Lane, thus improving the pedestrian infrastructure along the perimeter of the Project Site. The Project would improve pedestrian connection to the Zev Greenway by constructing a new pedestrian ramp from Coldwater Canyon Avenue, as well as a new pedestrian path from the Project Site.

- Removal or degradation of existing bikeways and/or supporting facilities (e.g., bikeshare stations, on-street bike racks/parking, bike corrals, etc.)
    - No, the Project would not remove or degrade the existing bikeways and/or supporting facilities, including the existing bike path along the Los Angeles River. The Project will provide 72 short-term bike parking spaces and 28 long-term bike parking spaces to promote bicycle connectivity between the Project Site, the Los Angeles River, and the surrounding neighborhoods.
- Removal or degradation of existing transit and/or local circulator facilities including stop, bench, shelter, concrete pad, bus lane, or other amenities
    - No, the Project would not remove or degrade existing transit and/or local circulator facilities.
- Removal of other existing transportation system elements supporting sustainable mobility
    - No, the Project does not propose to remove sustainable transportation elements.
- Increase street crossing distance for pedestrians; increase in number of travel/turning lanes; increase in turning radius or turning speeds
    - No, the Project does not propose any changes to the public right-of-way that would increase street crossing distance for pedestrians, increase the number of travel lanes, or increase turning speeds.
- Removal, degradation, or narrowing of an existing sidewalk, path, crossing, or pedestrian access way
    - No, the Project does not propose to remove, degrade, or narrow sidewalks or limit pedestrian access paths. The Project would retain the existing sidewalk width adjacent to the Project Site on Whitsett Avenue. Sidewalks are not present on the east side of Bellaire Avenue and on the south side of Valley Spring Lane adjacent to the Project Site. The Project would construct a three-quarter mile long internal pedestrian path that would run parallel to Bellaire Avenue and Valley Spring Lane, thus improving the pedestrian infrastructure along the perimeter of the Project Site. The Project would improve pedestrian connection to the Zev Greenway by constructing a new pedestrian ramp from Coldwater Canyon Avenue, as well as a new pedestrian path from the Project Site.

- Removal or narrowing of existing sidewalk-street buffering elements (e.g., curb extension, parkway, planting strip, street trees, etc.)
    - No, the Project does not propose the removal or narrowing of existing sidewalk-street buffering elements. The Project would retain the existing parkway along Whitsett Avenue.
- Increase in pedestrian or vehicle volume, and thereby increase the need or attraction to cross a street at unmarked pedestrian crossings or unsignalized or uncontrolled intersections where a crossing is not available without significant rerouting.
    - Yes, the Project would increase pedestrian and vehicle volume around the Project Site. While most of the students, employees, and spectators arriving for the Harvard-Westlake athletic activities would arrive via vehicle or shuttle and would enter the Project Site through the two driveways, some may choose to walk onto the Project Site if they are walking from the Harvard-Westlake Upper School, a nearby transit stop, or the surrounding neighborhood. In addition, members of the community accessing the recreational facilities open to the public may drive or walk to the Project Site. This activity would increase pedestrian activity as well as vehicle activity. All crosswalks at the intersections surrounding the Project Site are unmarked and uncontrolled. Given the relatively small number of pedestrians anticipated on any given crosswalk, the crosswalks are not anticipated to meet crosswalk warrants.
- Result in new pedestrian demand between project site entries/exits and major destinations or transit stops expected to serve the development where there are missing pedestrian facilities (e.g., gaps in the sidewalk network) or substandard pedestrian facilities (e.g., narrow or uneven sidewalks, no crosswalks at intersections or mid-block, no marked crossing, or push button crossing rather than actuated, etc.).
    - Yes, the Project will generate an increase in pedestrian volumes where there are missing pedestrian facilities between the Project and nearby major destinations or transit stops, as shown in **Figure 6**. There are currently no sidewalks along the north side of the Project frontage on Valley Spring Lane. The Project is providing a parallel pedestrian path, which will improve the pedestrian facilities in the area.
- Increase transit demand at bus stops that lack marked crossings, with insufficient sidewalks, or are in isolated, unshaded, or unlit areas.
    - Yes, the Project may generate an increase in transit demand at the nearby bus stops at Whitsett Avenue/Valley Spring Lane, Whitsett Avenue/Valleyheart Drive, and Whitsett Avenue/Ventura Boulevard. The intersections of Whitsett Avenue & Valley Spring Lane and Whitsett Avenue & Valleyheart Drive lack marked pedestrian crossings. However, it is anticipated that most transit trips would be via the shuttles provided by Harvard-Westlake to transport the students to and from the Upper School campus, and these shuttles will conduct on-site pick-up/drop-offs at the turnaround at the end of Valleyheart Drive.

The responses provided above reflect conditions upon Project completion. During construction there may be temporary closures that result in temporary impacts. The Project frontages are not along streets that are part of the High-Injury Network (HIN).




Project Site

**Pedestrian Facilities**

- Curb Ramp with Tactile Warning
- Curb Ramp without Tactile Warning
- Missing Curb Ramp
- Continental Crosswalk
- Lateral Crosswalk
- Future ADA Connection

**Destination Types**

- Commercial
- Harvard-Westlake Upper School
- Religious
- Bus Stops

Figure 6

## Pedestrian Destinations and Infrastructure Inventory

**TABLE 6**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**PEDESTRIAN AMENITIES SUMMARY**

| Street | Intersection | Missing Ped Button | Missing Ped Signals | Identified Amenities: Bus benches, shelters, street trees, bike share, pedestrian lights |
|---|---|---|---|---|
| Whitsett Ave | Moorpark St | No | No | Street trees (adequate), pedestrian lights (inadequate), bus benches/ shelters (adequate in Whitsett/Moorpark SW and Whitsett/Ventura NW), Bike Share Station (inadequate) |
| | Woodbridge St | n/a (not signalized) | n/a (not signalized) | |
| | Valley Spring Ln | n/a (not signalized) | n/a (not signalized) | |
| | Valleyheart Dr (N) | n/a (not signalized) | n/a (not signalized) | |
| | Valleyheart Dr (S) | n/a (not signalized) | n/a (not signalized) | |
| | Ventura Blvd | E to W | No | |
| Ventura Blvd | Laurelgrove Ave | E to W | No | Street trees (adequate except Fariway), pedestrian lights (adequate in Rhodes and Coldwater Canyon), bus benches/ shelters (adequate in Laurelgove/Ventura NW/SW and Coldwater Canyon/Ventura SE), Bike Share Station (inadequate) |
| | Rhodes Ave | Yes | Yes | |
| | Fairway Ave | SE to SW | No | |
| | Coldwater Canyon Ave | E to W | No | |
| Coldwater Canyon Ave | Valleyheart Dr (S) | n/a (not signalized) | n/a (not signalized) | Street trees (adequate), pedestrian lights (adequate), bus benches/ shelters (adequate in Coldwater Canyon/Moorpark NW/SE), Bike Share Station (inadequate) |
| | Valleyheart Dr (N) | n/a (not signalized) | n/a (not signalized) | |
| | Woodbridge St | n/a (not signalized) | n/a (not signalized) | |
| | Bloomfield St | n/a (not signalized) | n/a (not signalized) | |
| | Moorpark St | All | No | |
| Woodbridge St | Bellaire Ave | n/a (not signalized) | n/a (not signalized) | Street trees (adequate), pedestrian lights (inadequate), bus benches/ shelters (inadequate), Bike Share Station (inadequate) |
| | Teesdale Ave | n/a (not signalized) | n/a (not signalized) | |
| | Beeman Ave | n/a (not signalized) | n/a (not signalized) | |
| | Babcock Ave | n/a (not signalized) | n/a (not signalized) | |
| | Wilkinson Ave | n/a (not signalized) | n/a (not signalized) | |
| | Rhodes Ave | n/a (not signalized) | n/a (not signalized) | |
| Valley Spring Ln | Bellaire Ave | n/a (not signalized) | n/a (not signalized) | Street trees (adequate), pedestrian lights (inadequate), bus benches/ shelters (inadequate), Bike Share Station (inadequate) |
| | Teesdale Ave | n/a (not signalized) | n/a (not signalized) | |
| | Beeman Ave | n/a (not signalized) | n/a (not signalized) | |
| | Babcock Ave | n/a (not signalized) | n/a (not signalized) | |
| | Wilkinson Ave | n/a (not signalized) | n/a (not signalized) | |
| | Rhodes Ave | n/a (not signalized) | n/a (not signalized) | |

## 4.2 Project Access, Safety, and Circulation Evaluation

This section documents the peak hour intersection analysis conducted based on the screening criteria and trip threshold for intersection analyses provided in the TAG.

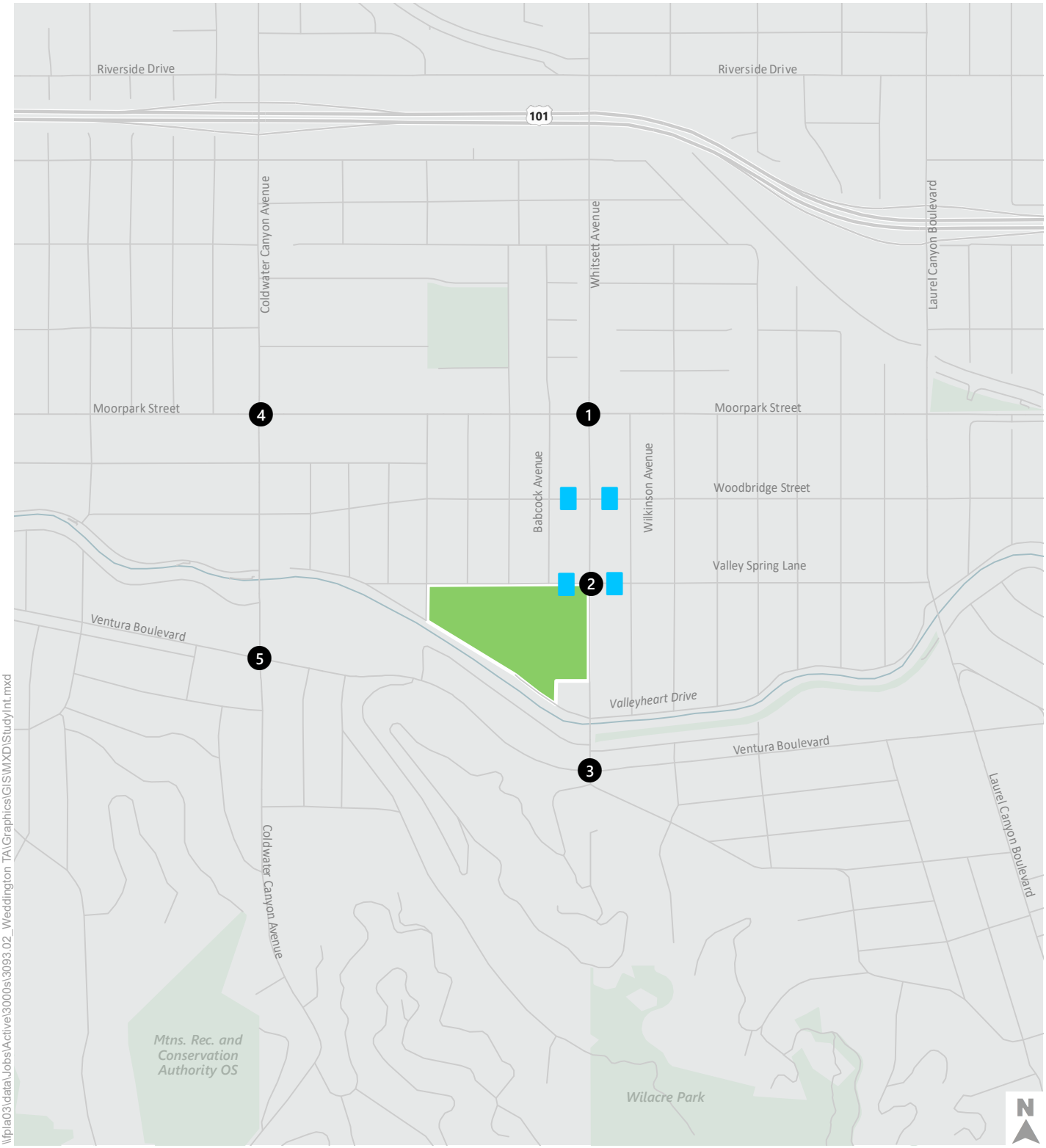
### Study Analysis Locations

Four signalized intersections and one unsignalized intersection were selected for analysis in consultation with LADOT. The study locations were selected for analysis based on guidance from LADOT's TAG, which indicates that intersections immediately adjacent to the site and in proximity to the site through which 100 or more project-generated trips would travel should be analyzed. The study intersections and street segments are illustrated in **Figure 7** and listed in **Table 7A** and **Table 7B**.

### Level of Service Methodology

*Intersection Level of Service – Highway Capacity Manual*

Per the direction of LADOT, this analysis uses the *Highway Capacity Manual, 6th Edition* (HCM) (Transportation Research Board, 2016) methodology to evaluate the operation of Project driveways and nearby intersections. This was performed using the Synchro 10.0 software program. Synchro calculates vehicle delay and level of service (LOS) based on procedures outlined in the HCM. This methodology was used to determine the intersection delay in seconds and corresponding level of service (LOS) at the signalized and unsignalized intersections. The calculation of delay represents the amount of delay experienced by vehicles passing through the intersection. The unsignalized intersection was analyzed using the 2-way stop method from the HCM 6th Edition. Delay was calculated based on the worst-case approach (for the 2-way stop-controlled intersection), and used to assign the corresponding LOS, as presented in **Table 8**. Access is considered constrained if the addition of Project related trips contributes to unacceptable queueing at a Project driveway or nearby signalized intersections. The network was built to match the existing roadway lane configurations, including storage bay and taper lengths.




Study Intersections

Segments

Project Site

Figure 7

## Study Intersections & Street Segments

**TABLE 7A**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**STUDY INTERSECTIONS**

| ID | N/S Street Name | E/W Street Name | Year of Count |
|---|---|---|---|
| 1 | Whitsett Avenue | Moorpark Street | 2019 |
| 2 | Whitsett Avenue[1] | Valley Spring Lane | 2019 |
| 3 | Whitsett Avenue | Ventura Boulevard | 2019 |
| 4 | Coldwater Canyon Avenue | Moorpark Street | 2017[2] |
| 5 | Coldwater Canyon Avenue | Ventura Boulevard | 2017[2] |

1. Unsignalized, two-way stop-controlled intersection.
2. Due to the COVID-19 pandemic, historical counts were retrieved for Intersection 4 and 5.

**TABLE 7B**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**STUDY SEGMENTS**

| ID | Street Name | Between | Year of Count |
|---|---|---|---|
| 1 | Valley Spring Lane | Babcock Avenue & Whitsett Avenue | 2019 |
| 2 | Valley Spring Lane | Whitsett Avenue & Wilkinson Avenue | Unavailable[1] |
| 3 | Woodbridge Avenue | Babcock Avenue & Whitsett Avenue | Unavailable[1] |
| 4 | Woodbridge Avenue | Whitsett Avenue & Wilkinson Avenue | Unavailable[1] |

1. Due to the COVID-19 pandemic, baseline counts were not available for segments 2-4.

**TABLE 8**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**LOS THRESHOLDS FOR SIGNALIZED AND UNSIGNALIZED INTERSECTIONS**

| Level of Service (LOS) | Signalized Intersection Average Control Delay (sec/veh) | Unsignalized Intersection Average Control Delay (sec/veh) |
|---|---|---|
| A | ≤ 10.0 | ≤ 10.0 |
| B | > 10.1 to 20.0 | > 10.1 to 15.0 |
| C | > 20.1 to 35.0 | > 15.1 to 25.0 |
| D | > 35.1 to 55.0 | > 25.1 to 35.0 |
| E | > 55.1 to 80.0 | > 35.1 to 50.0 |
| F | > 80.0 | > 50.0 |

Source: *Highway Capacity Manual*, *6th Edition* Transportation Research Board, 2016.

## Analysis Scenarios

The following four scenarios were analyzed:

- Baseline (2020) Conditions – Intersection turning movement counts were obtained for the study area and LOS was calculated to determine baseline conditions.
- Opening Year (2025) No Project – Based on the City of Los Angeles travel demand model and at the direction of LADOT, it was established that an ambient growth rate of 0.6% per year should be applied to adjust the baseline year traffic volumes to reflect the effects of regional growth and development. This adjustment was applied to the baseline year (2020) traffic volume data to reflect the effect of ambient growth by the year 2025. Additionally, Opening Year traffic forecasts include the effects of known specific projects, called related projects, expected to be implemented in the vicinity of the Project Site prior to the buildout date of the Project.
- Opening Year (2025) Plus Project, Non-Event Scenario – The Project trip estimates for the Non-Event Scenario were added to the Opening Year No Project forecasts. The Non-Event Scenario represents the trips associated with a typical day of Harvard-Westlake athletic activities and community use of the Project Site.
- Opening Year (2025) Plus Project, Special Event Scenario – The Project trip estimates for the Special Event Scenario were added to the Opening Year No Project forecasts. The Special Event Scenario represents the trips associated with a Harvard-Westlake Special Event day, specifically a conference day. Only the 5-6 PM peak hour was studied for the Special Event Scenario, as it is not anticipated that the Special Events would generate trips during the 3-4 PM peak hour.

### *Year 2020 Baseline Traffic Volumes*

Intersection turning movement counts were obtained for the study area and LOS was calculated to determine Year 2020 baseline conditions. New weekday PM peak period turning movement counts were collected in April 2019 at the three study intersections along Whitsett Avenue (Study Intersections 3, 4, and 5). Turning movement counts were not collected at the two study intersections along Coldwater Canyon Avenue (Study Intersections 1 and 2) at this time. Due to the COVID-19 pandemic and the shelter-in-place orders from the Governor and County, along with a memo released by LADOT in April 2020, turning movements counts could not be collected at these intersections in 2020 since they would not reflect typical conditions. Therefore, historical LADOT counts from 2017 were used for the two intersections along Coldwater Canyon Avenue, and an ambient growth factor of 0.6% per year was applied to adjust the traffic volumes to reflect baseline year 2020.

The Year 2020 baseline weekday afternoon peak hour volumes at the study intersections are provided in **Appendix H**, as well as the lane configurations of the study intersections. Count sheets for these intersections are contained in **Appendix F**.

## Baseline Level of Service

The Year 2020 baseline traffic volumes in **Appendix H** were analyzed using the intersection capacity analysis methodology described above to determine the baseline operating conditions at the study intersections.

**Table 9** summarizes the baseline weekday peak hour LOS for the study intersections. As indicated, four of the five study intersections operate at LOS D or better during both peak hours under baseline conditions, and the intersection of Coldwater Canyon Avenue & Ventura Boulevard operates at LOS E in the 3-4 PM peak hour. Analysis sheets are provided in **Appendix G**.

**TABLE 9**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**YEAR 2020 BASELINE CONDITIONS INTERSECTION LEVELS OF SERVICE**

| NO. | Intersection | Peak Hour | Baseline (2020) | |
|---|---|---|---|---|
| | | | Delay (sec/veh) | LOS |
| 1 | Whitsett Avenue & Moorpark Ave | 3-4 PM | 35.8 | D |
| | | 5-6 PM | 33.5 | C |
| 2 | Whitsett Avenue & Valley Spring Lane | 3-4 PM | 21.0 | C |
| | | 5-6 PM | 22.8 | C |
| 3 | Whitsett Avenue & Ventura Boulevard | 3-4 PM | 30.9 | C |
| | | 5-6 PM | 31.8 | C |
| 4 | Coldwater Canyon Avenue & Moorpark Ave | 3-4 PM | 32.4 | C |
| | | 5-6 PM | 38.9 | D |
| 5 | Coldwater Canyon Avenue & Ventura Boulevard | 3-4 PM | 61.9 | E |
| | | 5-6 PM | 53.3 | D |

## Project Traffic

The development of peak hour vehicular traffic estimates for the Project involves the use of a three-step process: trip generation, trip distribution, and traffic assignment.

*Trip Generation*

As discussed in Chapter 1, the Project consists of an athletic and recreational facility for Harvard-Westlake School and for shared use with community members. The Project includes the development of two athletic fields with bleacher seating and field lights, an 80,249-square-foot multi-purpose gymnasium, a 52-meter swimming pool with seating, and eight tennis courts with seating. The Project would also include ancillary field buildings, a pool house, and small security kiosk. These facilities would also be available for community use when not in use by the School. The existing on-site putting green and clubhouse with café would be retained and rehabilitated and would be open to the community. The Project would also provide approximately 5.4 acres of publicly accessible open space and landscaped trails connecting to the adjacent Zev Yaroslavsky Los Angeles River Greenway (Zev Greenway) and on-site landscaped areas, water features, and recreational amenities.

For this Project, there would be different populations that would make trips to and from the Project Site, including Harvard-Westlake students, visiting teams, spectators, community members, and employees. In addition, there would be trips generated by potential Harvard-Westlake Special Events at the Project Site. The net total trip generation took credit for existing VMT associated with the existing Weddington Golf & Tennis, as these trips would be eliminated with the Project.[15]

Adjustments were also made to account for trips generated by transportation network companies. Given the relatively recent introduction of shared mobility transportation network companies (TNCs) such as Lyft and Uber in the urban transportation network, minimal industry research has been conducted to measure the mode split of TNC vehicles. Anecdotal evidence suggests, however, that usage has been steadily growing in recent years. To account for TNC usage, it was assumed that TNCs would replace 10% of the vehicle trips estimated to be generated by the Harvard-Westlake Athletic Use and the HW Special Events.

The description and the methodology for estimating the 90$^{th}$ percentile[16] trip generation for the 3-4 PM and 5-6 PM peak hours for each population are described below. More information on the assumptions used in the trip generation estimate can be found in Attachment 3A of the LADOT MOU, which can be found in **Appendix A**.

**HW Athletic Use** consists of users and visitors to the Project Site related to Harvard-Westlake athletic activities. This includes the Harvard-Westlake students traveling between the Upper School Campus to the

[15] Some existing components of Weddington Golf & Tennis, such as the café and putting green, will remain as part of the Project. However, the trip generation associated with these components is included in the overall Project trip generation. As such, the full existing use credit is taken for the existing Weddington Golf & Tennis.

[16] Instead of the maximum day trip scenario, Fehr & Peers selected the 90th percentile total trips for each peak hour, as the 90th percentile would represent most days of the school year and exclude the exceptional days such as big rivalry game days that only occur on a handful of days a year.

Project Site (some taking the shuttle and some driving their private vehicles), Harvard-Westlake coaches, visiting team athletes and coaches, and spectators. Harvard-Westlake provided a spreadsheet of Harvard-Westlake Athletics data from the 2018-2019 school year, since this was the last complete school year before COVID-19. This data includes the practice schedule for each level of each sport (e.g., Basketball Varsity Girls), including the beginning and end date of the season, the days of week in which practices were conducted, the duration of the practices, and the number of participants. There was also data on home games for each sport, including the number of home games, the number of participants, the number of coaches, and approximate number of spectators. This data was converted to an estimate of inbound and outbound person trips for each day of the 2018-2019 school year, including peak hour trips. The hourly person trips were converted to hourly vehicle trips by applying average vehicle occupancy (AVO) factors specific to each population group (e.g., students, coaches, spectators). The final inbound and outbound peak hour trips were determined by selecting an actual date that most closely matched the 90th percentile total trips for the peak hour. For the 3-4 PM peak hour, the date was Wednesday, September 5, 2018. For the 5-6 PM peak hour, the date was Monday, March 4, 2019.

**HW Special Events** consists of the attendees at Harvard-Westlake events that may occur on the Project Site. Conservatively, up to 27 events of up to 500 attendees and three events of up to 2,000 attendees are anticipated per year, of which 15 would be on weekdays and 15 on weekend days. The analysis was conducted for an event anticipated to generate the highest number of vehicle trips – an educational summit expected to draw 500 attendees and average vehicle occupancy (AVO) of 1. The 2,000-attendee events were not analyzed as the attendees for those events would be bussed into the Project Site in buses with an AVO of 40, and thus the vehicle trip generation was found to be smaller than the 500-attendee events with an AVO of 1.

**Community Use** consists of members of the public that visit the Project Site outside of Harvard-Westlake-use hours, as well as those using the tennis courts during Harvard-Westlake use hours (the tennis courts are the only facility open to the public during Harvard-Westlake-use hours). The trip estimates for the community uses are based on rates in the ITE Trip Generation Manual, 10th Edition. The peak hour trips are estimated based on the Tennis Courts land use (LU 490) because only the tennis courts will be open to the public during the peak hour periods when Harvard-Westlake is using the other facilities. The daily trips are estimated based on the Recreational Community Center land use (LU 495), subtracting the portion of the daily trips that occur between 3-8 PM, when the site generally will not be open to the public, based on the time-of-day distribution data in Appendix A of the Recreation chapter of the manual.

**Employees** consist of staff at the Project Site holding roles in security, custodial, landscaping, kitchen, team store, staff, and athletics administration. Based on information from Harvard-Westlake, it is estimated that 49 employees will commute to and from the Project Site on a typical day. The peak hour trip generation was estimated based on a preliminary shift schedule provided by Harvard-Westlake.

**Weddington Golf & Tennis** consists of the patrons of the existing golf and tennis facility. Counts were collected at the site in February 2019 to estimate the peak hour trip generation for the use. Based on the

counts, approximately 103 trips (55 inbound/48 outbound) during the 3-4 PM peak hour and 125 trips (54 inbound/71 outbound) during the 5-6 PM peak hour were estimated to no longer enter or leave the site by vehicle. As such, these trips were subtracted from the Project's overall trip generation as an existing use credit.

As shown in **Table 10**, the Project is projected to generate an estimated net increase of 68 trips (75 inbound/-7 outbound) during the 3-4 PM peak hour and 89 trips (16 inbound/73 outbound) during the 5-6 PM peak hour for the Non-Event Scenario. For the Special Event Scenario, the Project is projected to generate an estimated net increase of 484 trips (18 inbound/466 outbound) during the 5-6 PM peak hour.

*Trip Distribution*

The geographic distribution of trips generated by the Project is dependent on characteristics of the street system serving the Project Site; the level of accessibility of routes to and from the Project Site, locations of employment, commercial centers, and residential areas from which the visitors to the Project would be drawn.

The methodology for estimating the trip distribution for the 3-4 PM and 5-6 PM peak hours for each population is described below.

**HW Athletic Use** consists of users and visitors to the Project Site related to Harvard-Westlake athletic activities. This includes the Harvard-Westlake students traveling between the Upper School Campus to the Project Site (some taking the shuttle and some driving their private vehicles), Harvard-Westlake coaches, visiting team athletes and coaches, and spectators. The trip distribution for the Harvard-Westlake students traveling home after practice or a game, as well as the Harvard-Westlake coaches, visiting team athletes and coaches, and spectators, was estimated using zip code data provided by Harvard-Westlake School of the number of Harvard-Westlake student households in each zip code.

**HW Special Events** consists of the attendees at Harvard-Westlake events that may occur on the Project Site. The trip distribution was estimated to be similar to that for the Harvard-Westlake student population.

**Community Use** consist of members of the public that visit the Project Site outside of Harvard-Westlake-use hours, as well as those using the tennis courts during Harvard-Westlake use hours (the tennis courts are the only facility open to the public during Harvard-Westlake-use hours). The trip distribution was estimated to be similar to that for the Weddington Golf & Tennis visitors, which was developed using zip code data for tennis players by zip code.

**Employees** consist of staff at the Project Site holding roles in security, custodial, landscaping, kitchen, team store, staff, and athletics administration. The trip distribution by zip code was developed using zip code data provided by Harvard-Westlake of the subset of the existing employees that could work at the Project Site.

**Weddington Golf & Tennis** consists of the patrons of the existing golf and tennis facility. The trip distribution by zip code was developed using zip code data provided by Weddington Golf & Tennis of the

number of tennis players in each zip code based on a survey conducted over the course of a week in September 2019.

*Traffic Assignment*

The traffic to be generated by the Project was assigned to the street network using the distribution patterns described in **Figure 8**. **Appendix H** provides the assignment of the Project-generated peak hour traffic volumes at the analyzed intersections during the PM peak hours. The assignment of traffic volumes took into consideration the locations of the Project driveways.

**TABLE 10**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**TRIP GENERATION ESTIMATE**

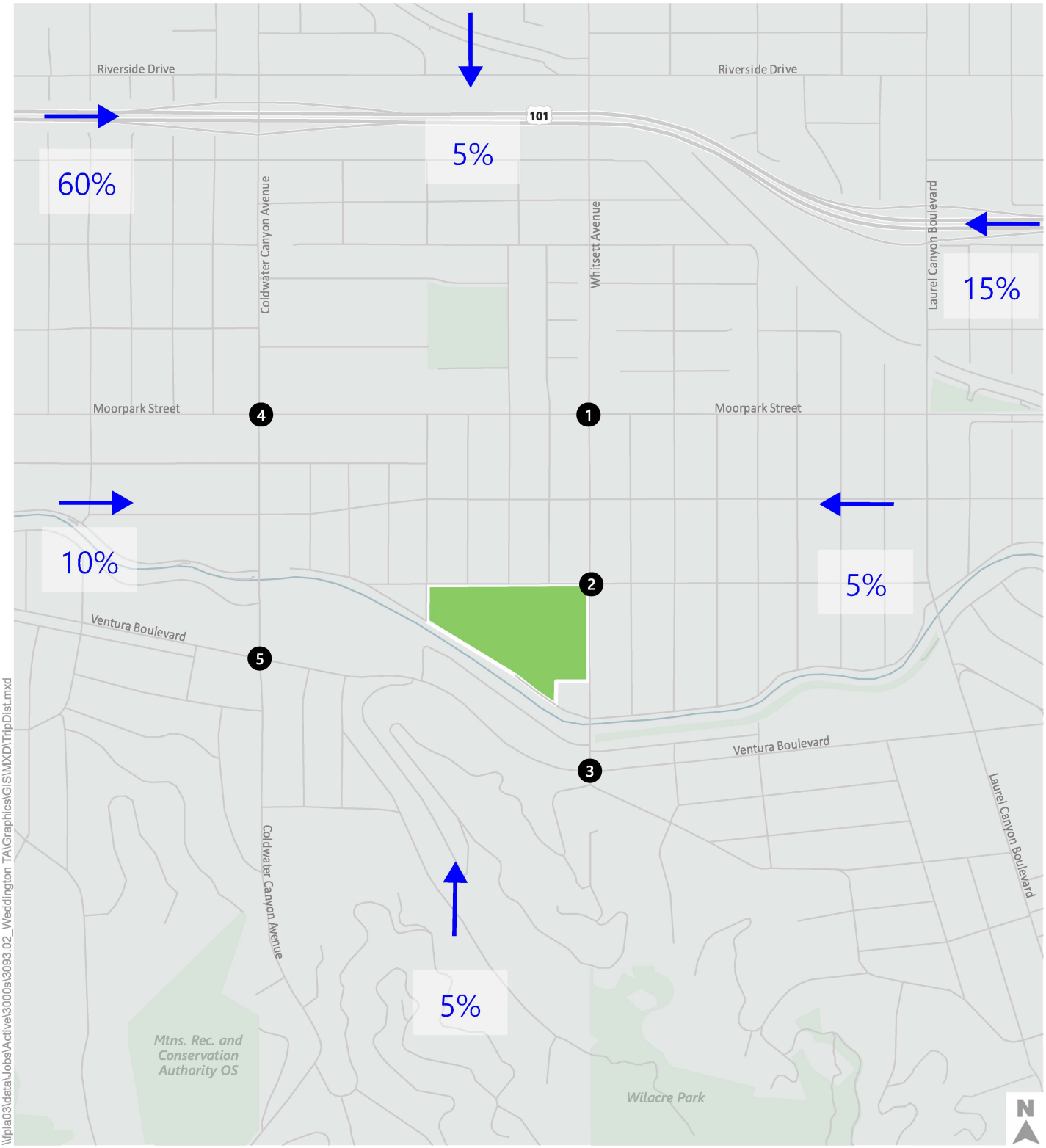
| Land Uses | 3 PM - 4 PM Peak Hour Trips | | | 5 PM - 6 PM Peak Hour Trips | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Non-Event Scenario | | | Special Event Scenario | | |
| | Inbound | Outbound | Total | Inbound | Outbound | Total | Inbound | Outbound | Total |
| HW Athletic Use[1] | 108 | 19 | 127 | 48 | 107 | 155 | 0 | 0 | 0 |
| HW Special Events | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 500 | 550 |
| Community Use[3] | 17 | 17 | 34 | 17 | 17 | 34 | 17 | 17 | 34 |
| Employees | 5 | 5 | 10 | 5 | 20 | 25 | 5 | 20 | 25 |
| **Subtotal** | 130 | 41 | 171 | 70 | 144 | 214 | 72 | 537 | 609 |
| *Existing Use Adjustment*[4] | *-55* | *-48* | *-103* | *-54* | *-71* | *-125* | *-54* | *-71* | *-125* |
| **Net New Trips** | **75** | **-7** | **68** | **16** | **73** | **89** | **18** | **466** | **484** |

1. The new trips associated with HW Athletics is shown in Appendix H.

2. The new trips associated with HW Special Events is shown in Appendix H.

3. The trip estimates for the community uses are based on rates in the ITE Trip Generation Manual, 10th Edition. The peak hour trips are estimated based on the Tennis Courts land use (LU 490) because only the tennis courts will be open to the public during the peak hour periods when Harvard-Westlake is using the other facilities. The daily trips are estimated based on the Recreational Community Center land use (LU 495), subtracting the portion of the daily trips that occur between 3-8 PM, when the site will not be open to the public, based on the time-of-day distribution data in Appendix A of the Recreation chapter of the manual.

4. The existing use at the site is Weddington Golf and Tennis. The trips were counted at the site on Tuesday, February 12, 2019.

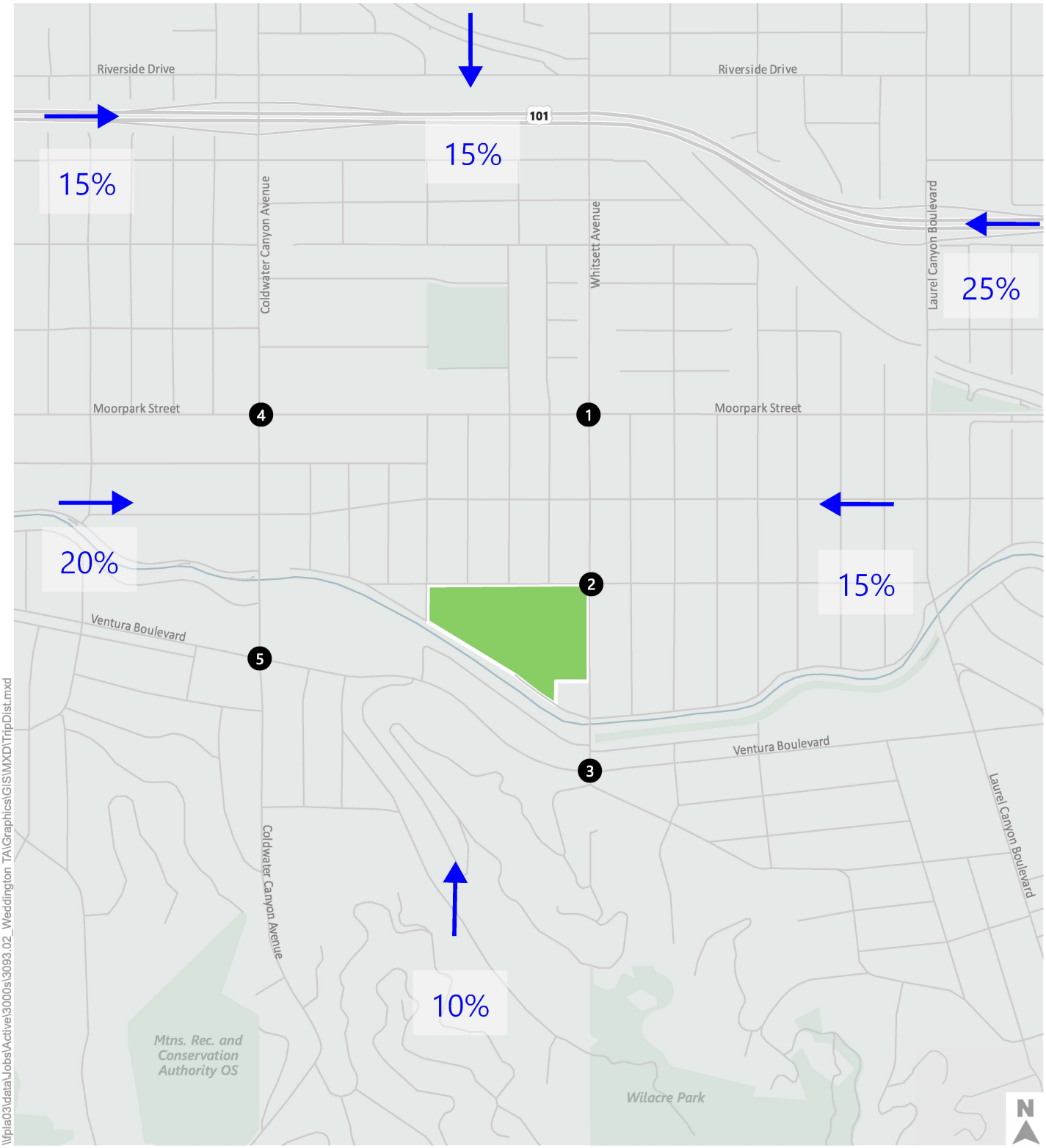



Study Intersections

Project Site

Figure 8A

## Trip Distribution Map
## Harvard-Westlake Visitors

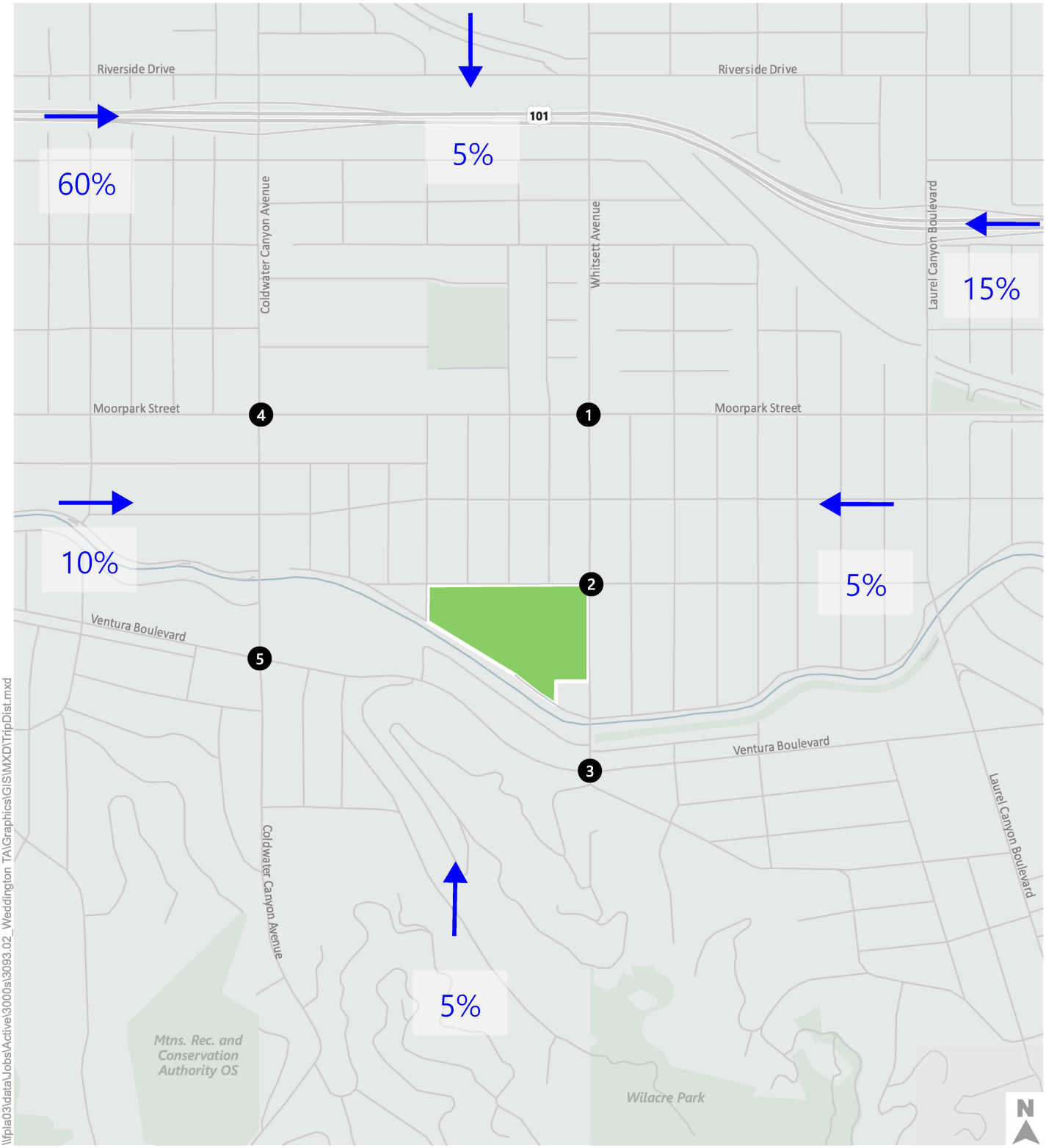



Study Intersections

Project Site

Figure 8B

## Trip Distribution Map
## Community Users




Study Intersections

Project Site

Figure 8C

## Trip Distribution Map
## Harvard-Westlake Employees

## Opening Year Traffic Volumes

To evaluate the potential impacts of the Project on Opening Year (2025) conditions, it was necessary to develop estimates of future traffic conditions in the area both without and with Project traffic. First, estimates of traffic growth were developed for the study area to forecast future conditions without the Project. These forecasts included traffic increases as a result of both regional ambient traffic growth and traffic generated by specific developments in the vicinity of the Project (related projects).

These projected traffic volumes, identified herein as the Opening Year No Project conditions, represent the future conditions without the Project. The traffic generated by the Project was then estimated and assigned to the surrounding street system. Project traffic was added to the Opening Year No Project conditions to form Opening Year Plus Project traffic conditions, which were analyzed to determine the incremental traffic impacts attributable to the Project itself.

The assumptions and analysis methodology used to develop each of the future year scenarios discussed above are described in more detail in the following sections.

### *Background or Ambient Growth*

Based on the City of Los Angeles travel demand model and at the direction of LADOT, it was established that an ambient growth factor of 0.6% per year should be applied to adjust the baseline year traffic volumes to reflect the effects of regional growth and development. This adjustment was applied to the baseline year (2020) traffic volume data to reflect the effect of ambient growth by the year 2025.

### *Related Project Traffic Generation and Assignment*

Opening Year traffic forecasts include the effects of known specific projects, called related projects, expected to be implemented in the vicinity of the Project Site prior to the buildout date of the Project. The list of related projects was prepared based on data from LADOT and verified by City Planning. A total of 5 related projects were identified in the study area; these projects were listed in **Table 3** and their locations were illustrated in **Figure 5** in Chapter 2.

### *Trip Generation*

For related projects provided by LADOT, the trip generation was used as provided. For related projects provided by other sources, trip generation was estimated using the ITE Trip Generation Manual, 10$^{th}$ Edition. **Table 3** presents the resulting trip generation estimates for these related projects. These projections are conservative in that they do not in every case account for either the existing uses to be removed or the possible use of non-motorized travel modes (transit, walking, etc.). Mitigation measures associated with the related projects are also not in every case accounted for in the analysis.

### *Trip Distribution*

The geographic distribution of the traffic generated by the related projects is dependent on several factors. These factors include the type and density of the proposed land uses, the geographic distribution of population from which employees and potential patrons of proposed commercial developments may

be drawn, the locations of employment and commercial centers to which residents of residential projects may be drawn, and the location of the projects in relation to the surrounding street system.

*Traffic Assignment*

Using the estimated trip generation and trip distribution patterns described above, traffic generated by the related projects was assigned to the street network.

*Transportation Infrastructure Projects*

In addition to the ambient growth and related development projects in the area, programmed improvements to local streets were considered for this analysis. As a mitigation measure for one of the related projects, two intersections in the study area are planned for lane configuration changes by year 2025 per confirmation by LADOT staff. The north side of Ventura Boulevard east of Coldwater Canyon Avenue is proposed to be restriped to provide an exclusive westbound right-turn-only lane. Ventura Boulevard east of Whitsett Avenue will be restriped to install an exclusive westbound right-turn-only lane. The Opening Year (2025) No Project and Plus Project conditions lane geometry reflects the lane geometries with these projects.

*Opening Year No Project Traffic Volumes*

Opening Year (2025) No Project weekday PM peak hour traffic volumes and lane geometries for the analyzed intersections are provided in **Appendix H**. The Opening Year (2025) No Project traffic conditions represent an estimate of future conditions without the proposed Project inclusive of the ambient background growth and related projects traffic.

*Opening Year Plus Project Traffic Projections*

The Project traffic volumes were added to the Opening Year (2025) No Project traffic projections, resulting in Opening Year (2025) Plus Project PM peak hour traffic volumes. As provided in **Appendix H**, the Opening Year (2025) Plus Project scenario represents future traffic conditions with the completion of the Project.

## Opening Year Operational Analysis

The Opening Year (2025) No Project and Plus Project peak hour traffic volumes were analyzed to determine the projected LOS and maximum queue lengths for the turn pockets and through movements for each of the analyzed intersections. Project access is considered constrained if the project's traffic would contribute to unacceptable queuing on an Avenue or Boulevard (as designated in the Mobility Plan 2035) at project driveway(s) or would cause or substantially extend queuing at nearby signalized intersections.

The project would be considered to contribute to unacceptable or extended queuing if the turn pocket capacity is exceeded after the addition of the project's traffic and:

1. The projected peak hour intersection LOS is D and the turn lane queue increases by greater than 75 feet on any approach with the directional approach LOS at E or F, or
2. The projected peak hour intersection LOS is E or F and the turn lane queue increases by greater than 50 feet on any approach with the directional approach LOS at E or F.

Source: Eddie Guerrero, Los Angeles Department of Transportation, 1/13/2021.

**Table 11** summarizes the Opening Year (2025) No Project and Plus Project LOS for the study intersections, along with the 95th percentile queue lengths and approach LOS for the vehicular movements at study intersections.

Four of the five study intersections are projected to operate at LOS D or better during the PM peak hours under Opening Year No Project. The following signalized intersection is projected to operate at LOS E or F during the PM peak hours under Opening Year No Project conditions:

5. Coldwater Canyon Avenue & Ventura Boulevard

   - LOS F in the 3-4 PM peak hour
   - LOS E in the 5-6 PM peak hour

Three of the five study intersections are projected to operate at LOS D or better during the PM peak hours under Opening Year Plus Project conditions for the Non-Event Scenario. The following intersections are projected to operate at LOS E or F during the PM peak hours under Opening Year Plus Project conditions for the Non-Event Scenario:

4. Coldwater Canyon Avenue & Moorpark Street

   - LOS E in the 5-6 PM peak hour

5. Coldwater Canyon Avenue & Ventura Boulevard

   - LOS F in the 3-4 PM peak hour
   - LOS E in the 5-6 PM peak hour

Two of the five study intersections are projected to operate at LOS D or better during the PM peak hours under Opening Year Plus Project conditions for the Special Event Scenario. The following intersections are projected to operate at LOS E or F during the PM peak hours under Opening Year Plus Project conditions for the Special Event Scenario:

3. Whitsett Avenue & Ventura Boulevard
    - LOS E in the 5-6 PM peak hour
4. Coldwater Canyon Avenue & Moorpark Street
    - LOS F in the 5-6 PM peak hour
5. Coldwater Canyon Avenue & Ventura Boulevard
    - LOS E in the 5-6 PM peak hour

As shown in **Table 11**, per the City's criteria, no instances were found of the Project projected to cause or substantially contribute to unacceptable queuing at nearby signalized intersections.

Detailed intersection LOS worksheets for the study intersections are presented in **Appendix G**.

**TABLE 11A**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**STUDY INTERSECTION LEVEL OF SERVICE AND QUEUES - NON-EVENT SCENARIO**

| # | Study Intersection | Opening Year (2025) No Project | | | Opening Year (2025) Plus Project - Special Event Scenario | | | Movement[1] | Storage Length | 95th Percentile | | | | Project Contributes to Unacceptable Queuing[2] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Intersection LOS (3-4 PM/ 5-6 PM) | Directional LOS | | Intersection LOS (3-4 PM/5-6 PM) | Directional LOS | | | | Opening Year (2025) No Project | | Opening Year (2025) Plus Project - Special Event Scenario | | | |
| | | | 3-4 PM | 5-6 PM | | 3-4 PM | 5-6 PM | | | 3-4 PM | 5-6 PM | 3-4 PM | 5-6 PM | 3-4 PM | 5-6 PM |
| 1 | Whitsett Ave & Moorpark St | D/D | E | D | D/D | E | D | EBL | 150 | 125 | 100 | 125 | 125 | - | - |
| | | | E | D | | E | D | EBT | 2,525 | 700 | 625 | 675 | 600 | - | - |
| | | | C | C | | C | C | EBR | 50 | 75 | 50 | 75 | 50 | - | - |
| | | | F | F | | F | F | WBL | 100 | 150 | 150 | 150 | 125 | - | - |
| | | | C | C | | C | C | WBT | 950 | 425 | 425 | 425 | 425 | - | - |
| | | | B | B | | B | B | WBR | 50 | 50 | 75 | 50 | 75 | - | - |
| | | | C | C | | C | C | NBL | 75 | 125 | 175 | 125 | 150 | - | - |
| | | | C | C | | C | C | NBT | 1,250 | 275 | 350 | 275 | 350 | - | - |
| | | | C | C | | C | C | NBR | 0 | 0 | 0 | 0 | 0 | - | - |
| | | | C | D | | C | D | SBL | 75 | 100 | 150 | 100 | 150 | - | - |
| | | | B | B | | B | B | SBT | 225 | 200 | 200 | 200 | 200 | - | - |
| | | | B | B | | B | B | SBR | 0 | 0 | 0 | 0 | 0 | - | - |
| 2 | Whitsett Ave & Valley Spring Ln[3] | C/D | F | F | C/D | F | F | EBL | 100 | 25 | 25 | 25 | 25 | - | - |
| | | | F | F | | F | F | EBT | 100 | 25 | 25 | 25 | 25 | - | - |
| | | | B | B | | B | B | EBR | 50 | 25 | 25 | 25 | 25 | - | - |
| | | | F | F | | F | F | WBL | 100 | 25 | 25 | 25 | 25 | - | - |
| | | | F | F | | F | F | WBT | 100 | 25 | 25 | 25 | 25 | - | - |
| | | | B | C | | B | C | WBR | 50 | 25 | 25 | 25 | 25 | - | - |
| | | | A | A | | A | A | NBL | 1000 | 25 | 25 | 25 | 25 | - | - |
| | | | A | A | | A | A | NBT | 1000 | - | - | - | - | - | - |
| | | | - | - | | - | - | NBR | 1000 | - | - | - | - | - | - |
| | | | B | B | | B | B | SBL | 600 | 25 | 25 | 25 | 25 | - | - |
| | | | A | A | | A | A | SBT | 600 | - | - | - | - | - | - |
| | | | - | - | | - | - | SBR | 50 | - | - | - | - | - | - |
| 3 | Whitsett Ave & Ventura Blvd | D/D | F | F | D/D | F | F | EBL | 100 | 200 | 225 | 250 | 225 | - | - |
| | | | C | C | | C | C | EBT | 2,650 | 400 | 425 | 400 | 400 | - | - |
| | | | C | C | | C | C | EBR | 50 | 100 | 100 | 100 | 100 | - | - |
| | | | D | D | | D | D | WBL | 150 | 75 | 50 | 75 | 50 | - | - |
| | | | D | D | | D | F | WBT | 1,025 | 550 | 625 | 550 | 625 | - | - |
| | | | B | B | | B | B | WBR | 50 | 175 | 200 | 200 | 200 | - | - |
| | | | D | D | | D | D | NBL | 25 | 125 | 125 | 125 | 125 | - | - |
| | | | A | A | | A | A | NBT | 175 | 200 | 200 | 200 | 225 | - | - |
| | | | D | D | | D | D | NBR | 0 | 0 | 0 | 0 | 0 | - | - |
| | | | D | D | | D | D | SBL | 350 | 125 | 125 | 150 | 150 | - | - |
| | | | C | B | | C | C | SBT | 350 | 125 | 125 | 125 | 125 | - | - |
| | | | B | B | | B | B | SBR | 50 | 125 | 125 | 125 | 200 | - | - |
| 4 | Coldwater Canyon Ave & Moorpark St | D/D | D | D | D/E | D | D | EBL | 125 | 125 | 100 | 125 | 100 | - | - |
| | | | C | C | | C | C | EBT | 925 | 475 | 475 | 475 | 500 | - | - |
| | | | B | B | | B | B | EBR | 100 | 25 | 50 | 25 | 50 | - | - |
| | | | D | D | | D | E | WBL | 150 | 100 | 100 | 100 | 100 | - | - |
| | | | C | C | | C | C | WBT | 2,525 | 500 | 475 | 475 | 475 | - | - |
| | | | C | C | | C | C | WBR | 100 | 75 | 75 | 75 | 75 | - | - |
| | | | D | D | | D | E | NBL | 75 | 150 | 150 | 150 | 175 | - | - |
| | | | C | C | | D | F | NBT | 1,850 | 525 | 525 | 550 | 600 | - | - |
| | | | D | C | | D | F | NBR | 0 | 0 | 0 | 0 | 0 | - | - |
| | | | F | F | | F | F | SBL | 75 | 175 | 250 | 200 | 250 | - | - |
| | | | D | D | | D | D | SBT | 275 | 425 | 425 | 425 | 475 | - | - |
| | | | D | D | | D | D | SBR | 0 | 0 | 0 | 0 | 0 | - | - |
| 5 | Coldwater Canyon Ave & Ventura Blvd | F/E | F | F | F/E | F | F | EBL | 150 | 475 | 375 | 475 | 375 | - | - |
| | | | F | F | | F | F | EBT | 700 | 575 | 575 | 575 | 575 | - | - |
| | | | A | A | | A | A | EBR | 50 | 75 | 75 | 75 | 75 | - | - |
| | | | E | F | | E | F | WBL | 200 | 100 | 125 | 125 | 125 | - | - |
| | | | D | D | | D | F | WBT | 2,650 | 425 | 425 | 425 | 425 | - | - |
| | | | C | C | | C | D | WBR | 100 | 100 | 75 | 100 | 125 | - | - |
| | | | E | F | | E | E | NBL | 100 | 375 | 400 | 375 | 375 | - | - |
| | | | C | C | | C | C | NBT | 375 | 325 | 375 | 350 | 400 | - | - |
| | | | C | C | | C | C | NBR | 325 | 150 | 125 | 150 | 125 | - | - |
| | | | F | F | | F | F | SBL | 350 | 250 | 250 | 250 | 250 | - | - |
| | | | D | D | | D | D | SBT | 1,850 | 325 | 325 | 325 | 325 | - | - |
| | | | D | D | | D | D | SBR | 0 | 0 | 0 | 0 | 0 | - | - |

1. EBL= Eastbound left, EBT = Eastbound through, EBR = Eastbound right, WBL = Westbound left, WBT = Westbound through, WBR = Westbound right, NBL = Northbound left, NBT = Northbound through, NBR = Northbound right, SBL = Southbound left, SBT = Southbound through, SBR = Southbound right.

2. Unacceptable queuing defined by the TAG as turning queues that extend out of the storage bay or a through queue that blocks a side street or alley along an Avenue or Boulevard at a signalized intersection.

3. Study intersection #2 is an unsignalized intersection.

**TABLE 11B**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**INTERSECTION LEVEL OF SERVICE AND QUEUES - SPECIAL EVENT SCENARIO**

| # | Study Intersection | Opening Year (2025) No Project | | Opening Year (2025) Plus Project - Special Event Scenario | | Movement[1] | Storage Length | 95th Percentile Queue | | Project Contributes to Unacceptable Queuing[2] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Intersection LOS (5-6 PM) | Directional LOS | Intersection LOS (5-6 PM) | Directional LOS | | | Opening Year (2025) No Project | Opening Year (2025) Plus Project - Special Event Scenario | |
| | | | 5-6 PM | | 5-6 PM | | | 5-6 PM | 5-6 PM | 5-6 PM |
| 1 | Whitsett Ave & Moorpark St | D | D | D | E | EBL | 150 | 100 | 125 | - |
| | | | D | | D | EBT | 2,525 | 625 | 525 | - |
| | | | C | | C | EBR | 50 | 50 | 50 | - |
| | | | F | | F | WBL | 100 | 150 | 150 | - |
| | | | C | | C | WBT | 950 | 425 | 425 | - |
| | | | B | | B | WBR | 50 | 75 | 75 | - |
| | | | C | | D | NBL | 75 | 175 | 200 | - |
| | | | C | | C | NBT | 1,250 | 350 | 350 | - |
| | | | C | | C | NBR | 0 | 0 | 0 | - |
| | | | D | | D | SBL | 75 | 150 | 150 | - |
| | | | B | | B | SBT | 225 | 200 | 200 | - |
| | | | B | | B | SBR | 0 | 0 | 0 | - |
| 2 | Whitsett Ave & Valley Spring Ln[3] | D | F | D | F | EBL | 100 | 25 | 25 | - |
| | | | F | | F | EBT | 100 | 25 | 25 | - |
| | | | B | | B | EBR | 50 | 25 | 25 | - |
| | | | F | | F | WBL | 100 | 25 | 25 | - |
| | | | F | | F | WBT | 100 | 25 | 25 | - |
| | | | C | | C | WBR | 50 | 25 | 25 | - |
| | | | A | | A | NBL | 1000 | 25 | 25 | - |
| | | | A | | A | NBT | 1000 | - | - | - |
| | | | - | | - | NBR | 1000 | - | - | - |
| | | | B | | B | SBL | 600 | 25 | 25 | - |
| | | | A | | A | SBT | 600 | - | - | - |
| | | | - | | - | SBR | 50 | - | - | - |
| 3 | Whitsett Ave & Ventura Blvd | D | F | E | F | EBL | 100 | 225 | 225 | - |
| | | | C | | D | EBT | 2,650 | 425 | 400 | - |
| | | | C | | C | EBR | 50 | 100 | 100 | - |
| | | | D | | D | WBL | 150 | 50 | 50 | - |
| | | | D | | F | WBT | 1,025 | 625 | 625 | - |
| | | | B | | B | WBR | 50 | 200 | 200 | - |
| | | | D | | E | NBL | 25 | 125 | 125 | - |
| | | | A | | A | NBT | 175 | 200 | 225 | - |
| | | | D | | D | NBR | 0 | 0 | 0 | - |
| | | | D | | D | SBL | 350 | 125 | 175 | - |
| | | | B | | B | SBT | 350 | 125 | 125 | - |
| | | | B | | C | SBR | 50 | 125 | 450 | - |
| 4 | Coldwater Canyon Ave & Moorpark St | D | D | F | D | EBL | 125 | 100 | 100 | - |
| | | | C | | C | EBT | 925 | 475 | 500 | - |
| | | | B | | B | EBR | 100 | 50 | 50 | - |
| | | | D | | E | WBL | 150 | 100 | 100 | - |
| | | | C | | C | WBT | 2,525 | 475 | 475 | - |
| | | | C | | C | WBR | 100 | 75 | 75 | - |
| | | | D | | E | NBL | 75 | 150 | 200 | - |
| | | | C | | F | NBT | 1,850 | 525 | 775 | - |
| | | | C | | F | NBR | 0 | 0 | 0 | - |
| | | | F | | F | SBL | 75 | 250 | 275 | - |
| | | | D | | D | SBT | 275 | 425 | 475 | - |
| | | | D | | D | SBR | 0 | 0 | 0 | - |
| 5 | Coldwater Canyon Ave & Ventura Blvd | E | F | E | F | EBL | 150 | 375 | 375 | - |
| | | | F | | F | EBT | 700 | 575 | 575 | - |
| | | | A | | A | EBR | 50 | 75 | 75 | - |
| | | | F | | F | WBL | 200 | 125 | 125 | - |
| | | | D | | F | WBT | 2,650 | 425 | 450 | - |
| | | | C | | D | WBR | 100 | 75 | 275 | - |
| | | | F | | E | NBL | 100 | 400 | 375 | - |
| | | | C | | C | NBT | 375 | 375 | 400 | - |
| | | | C | | C | NBR | 325 | 125 | 125 | - |
| | | | F | | F | SBL | 350 | 250 | 250 | - |
| | | | D | | D | SBT | 1,850 | 325 | 325 | - |
| | | | D | | D | SBR | 0 | 0 | 0 | - |

1. EBL= Eastbound left, EBT = Eastbound through, EBR = Eastbound right, WBL = Westbound left, WBT = Westbound through, WBR = Westbound right, NBL = Northbound left, NBT = Northbound through, NBR = Northbound right, SBL = Southbound left, SBT = Southbound through, SBR = Southbound right.

2. Unacceptable queuing defined by the TAG as turning queues that extend out of the storage bay or a through queue that blocks a side street or alley along an Avenue or Boulevard at a signalized intersection.

3. Study intersection #2 is an unsignalized intersection.

## 4.3 Site Access Evaluation

This section evaluates the site access of the Project driveways, including projected levels of service (LOS) and queuing.

### Project Driveways

Vehicular access would be provided to the Project Site via two driveways, one directly along Whitsett Avenue and one as an extension of Valleyheart Drive. Both driveways would provide inbound access to the subterranean parking structure with 503 parking spaces. Egress from the parking structure would be via the northern driveway directly to Whitsett Avenue. Both inbound and outbound access at the north driveway would be limited to right-turns only via a triangular island on the driveway. Access for passenger loading would be provided via the south driveway, which would lead to a turnaround designed to accommodate buses, shuttles, and automobiles, as well as to a surface lot with 29 parking stalls.

A level of service analysis was conducted to evaluate the ability of each driveway access to accommodate the anticipated traffic levels at the driveway access points. The driveways will be unsignalized and stop-controlled and were analyzed as part of the Synchro using the Two-way Stop methodology from *HCM 6th Edition*. The HCM methodology determines the average vehicle delay for the stop-controlled approach to find the corresponding LOS based on the definitions presented earlier in **Table 8**. Driveway analysis LOS worksheets are included in **Appendix I**. **Table 12A** and **Table 12B** show the results of the LOS analysis for the north driveway and the Whitsett Avenue & Valleyheart Drive intersection.

*Project Driveway LOS Analysis*

The LOS for unsignalized intersections is reported for the stop-controlled approach, which in this case is the eastbound approach for the vehicles exiting the driveways and the northbound left-turn movement at Whitsett Avenue & Valleyheart Drive turning in toward the south driveway.

As shown in **Table 12A**, both the north driveway and the intersection of Whitsett Avenue & Valleyheart Drive are projected to operate at LOS D or better during the 3-4 PM peak hour and the 5-6 PM peak hour for the Non-Event Scenario under Opening Year Plus Project conditions. The northbound left-turn movement at Whitsett Avenue & Valleyheart Drive is projected to operate at LOS A for both peak hours in the Non-Event and Special Event Scenarios.

During 5-6 PM peak hour Special Event Scenario, which is the worst-case highest trip generating event anticipated at the Project Site, both are projected to experience higher delays, with LOS E at the north driveway and LOS F at Whitsett Avenue & Valleyheart Drive.

*Project Driveway Queuing Analysis*

As shown in **Table 12B**, the eastbound movements at both the north driveway and the Whitsett Avenue & Valleyheart Drive intersection are projected to have queues of 25 feet or shorter during the 3-4 PM peak hour and the 5-6 PM peak hour for the Non-Event Scenario under Opening Year (2025) Plus Project conditions. Thus, none of these movements experience unacceptable queueing under these conditions.

During the 5-6 PM peak hour Special Events Scenario, which is the worst-case highest trip generating event anticipated at the Project Site, the eastbound queueing at the north driveway and at Whitsett Avenue & Valleyheart Drive are projected to be 275 feet and 150 feet, respectively. These queues will extend onto the Project Site and will not affect the surrounding street network.

### *Los Angeles Fire Department Fire Station 78*

The LAFD Station 78 is located on the north side of Valleyheart Drive, which serves as access for the Project's south driveway. A site visit was conducted at the fire station in March 2021 and LAFD personnel described their operations. The main driveway used for the departure of the larger fire trucks is located on Whitsett Avenue, north of Valleyheart Drive. There are two other driveways on the north side of Valleyheart Drive. Of these two driveways, the eastern driveway is used for the departure of the smaller apparatus and the western driveway is used for the return of the larger fire trucks. As such, it is essential to minimize effects on access for LAFD vehicles between Valleyheart Drive and Whitsett Avenue and to minimize the eastbound queues at Whitsett Avenue when emergency vehicles need to access Valleyheart Drive. Also, the larger trucks when entering the driveway need to swing wide and use most of the Valleyheart Drive roadway.

**TABLE 12A**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**PROJECT ACCESS DRIVEWAYS LEVELS OF SERVICE**

| Driveway No. | Unsignalized Driveway | Movement[1] | Opening Year (2025) Plus Project - Delay and LOS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 3-4 PM Peak Hour | | 5-6 PM Peak Hour - Non-Event Scenario | | 5-6 PM Peak Hour - Special Event Scenario | | 5-6 PM Peak Hour - Special Event Scenario With Corrective Action[2] | |
| | | | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS |
| 1 | Whitsett Avenue & North Driveway | EBR | 11.2 | D | 12.6 | B | 41.6 | E | 41.6 | E |
| 2 | Whitsett Avenue & Valleyheart Drive | NBL | 0.9 | A | 0.7 | A | 0.5 | A | 0.5 | A |
| | | EB LTR | 20.7 | C | 25.5 | D | 389.9 | F | 14.8 | B |

1. EBR = Eastbound Right, NBL = Northbound Left, EBLTR = Eastbound Left/Through/Right
2. The Correction Action would be to prohibit left-turns out of Valleyheart Drive onto Whitsett Avenue on Special Event Days and force all exiting vehicles to turn right onto Whitsett Avenue.

**TABLE 12B**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**PROJECT ACCESS DRIVEWAYS QUEUES**

| Driveway No. | Unsignalized Driveway | Movement[1] | Opening Year (2025) Plus Project - Estimated 95th Percentile Queue (ft) | | | | |
|---|---|---|---|---|---|---|---|
| | | | Available Storage (ft) | Non-Event Scenario | | Special Event Scenario | Special Event Scenario With Corrective Action[2] |
| | | | | 3-4 PM | 5-6 PM | 5-6 PM | 5-6 PM |
| 1 | Whitsett Avenue & North Driveway | EBR | NA[3] | 25 | 25 | 275 | 275 |
| 2 | Whitsett Avenue & Valleyheart Drive | NBL | 350 | 25 | 25 | 25 | 25 |
| | | EB LTR | NA[4] | 25 | 25 | 150 | 25 |

1. EBR = Eastbound Right, NBL = Northbound Left, EBLTR = Eastbound Left/Through/Right
2. The Correction Action would be to prohibit left-turns out of Valleyheart Drive onto Whitsett Avenue on Special Event Days and force all exiting vehicles to turn right onto Whitsett Avenue.
3. The available storage for the eastbound approach at the Whitsett Avenue & North Driveway extends into the subterranean garage.
4. The available storage for the eastbound approach at the Whitsett Avenue & South Driveway extends to the turnaround.

## Passenger Loading Evaluation

The purpose of this section is to determine whether passenger loading demand can be accommodated within the proposed on-site turnaround off of Valleyheart Drive, and whether it may create unintended pedestrian, bicycle, or vehicle conflicts.

Access for passenger loading would be provided via one, two-way driveway from the Valleyheart Drive stub located south of Los Angeles Fire Department Station 78 (south driveway), which would lead to a turnaround designed to accommodate buses, shuttles, and automobiles, as well as to a surface lot with 29 parking stalls. The passenger loading demand would include shuttle buses and TNCs. The turnaround is proposed to have a central island with a 28 feet radius, and a two-way driveway of 30 feet in width. The available storage capacity would be approximately 425 feet, which is the equivalent of 17 vehicles assuming an average vehicle storage length of 25 feet. Conservatively assuming that each shuttle or TNC vehicle stays in the turnaround for three minutes each (TNC stays are likely shorter than three minutes), the storage capacity for a 15-minute period would be 85 vehicles.

On Non-Event days, the Project would provide three shuttle buses to transport students, coaches, and visitors between the Project Site and the Harvard-Westlake Upper School campus with an anticipated service of every 5 to 10 minutes. For the Non-Event scenario, the Project is estimated to generate seven TNC trips during the 3-4 PM peak hour and seven TNC trips during the 5-6 PM peak hour. Conservatively assuming that all seven TNC vehicles arrive and depart within a 15-minute period, there would be three shuttles and seven TNC vehicles, or 10 vehicles total, in the turnaround in a 15-minute period, which is less than the storage capacity of 85 vehicles. Therefore, the passenger loading demand would be accommodated with this on-site passenger loading facility.

On Special Event days, which is the worst-case highest trip generating event anticipated at the Project Site, the Project is estimated to generate 50 TNC trips during the 5-6 PM peak hour. In this scenario, there would be no shuttle buses, as this event would not occur simultaneously with Harvard-Westlake athletic activities.[17] Conservatively assuming that all 50 TNC vehicles arrive and depart within a 15-minute period, there would be 50 vehicles total in the turnaround in a 15-minute period, which is less than the storage capacity of 85 vehicles. Therefore, the passenger loading demand would be accommodated with this on-site passenger loading facility.

The Project is proposing to separate the vehicular driveways from the entry of pedestrian/bicyclists/public transit riders. Pedestrian access to the Project Site would be provided via the primary pedestrian entry on Whitsett Avenue. The primary pedestrian entry would be connected to the passenger loading zone by pedestrian paths on site. Students, visitors, and employees arriving to the Project Site by bicycle would have the same access opportunities as pedestrians and would be able to utilize on-site bicycle parking

[17] There are other Special Event days that may occur simultaneously with Harvard-Westlake athletic activities. However, the total trip generation for combining those Special Events and the Harvard-Westlake athletic activities was estimated to be less than this scenario, which assumes an Educational Summit with 500 attendees not occurring simultaneously with Harvard-Westlake athletic activities.

facilities. Therefore, the Project's multimodal amenities and location of driveways would minimize vehicle/vehicle, vehicle/bicycle, or vehicle/pedestrian conflicts.

### Potential Corrective Actions

After identifying the Project related access constraint at the south driveway on Whitsett Avenue during the Special Event Scenario, the following corrective action was identified to minimize the access constraints:

- On Special Event Days, prohibit left turns out of the south driveway and force all exiting vehicles to turn right onto Whitsett Avenue. This can be employed using traffic control officers (TCOs) as part of an event management plan to be developed with LADOT. This change would improve the projected LOS at the southern driveway from LOS F to LOS B, and would reduce the projected queue length from 150 feet to 25 feet, as shown in **Table 12A** and **Table 12B**.
- To minimize effects on access for LAFD vehicles on Valleyheart Drive, implement a warning light that would hold back vehicles exiting the Project turnaround onto Valleyheart Drive when an emergency vehicle is approaching Valleyheart Drive from Whitsett Avenue or exiting from one of the two LAFD driveways on Valleyheart Drive. This warning light would be activated by a button pressed by LAFD staff in the emergency vehicles.

## 4.4 Project Construction

This section assesses whether the construction of the project would interfere with pedestrian, bicycle, transit, or vehicle circulation and accessibility, considering three categories of construction impacts per the LADOT TAG: (1) temporary transportation constraints, (2) temporary loss of access, and (3) temporary loss of bus stops or rerouting of bus lines.

Construction of the Project would commence with demolition of the existing golf and tennis facilities (other than the existing café and putting green which will remain). This phase would be followed by site preparation and grading/excavation. Building foundations would then be laid, followed by building/facility construction, architectural coatings, paving/concrete installation, and landscape installation. Project construction is anticipated to be completed in 2025. It is estimated that approximately 250,000 cubic yards of export would be hauled from the Project Site.

### Anticipated Construction Activity

Project construction is expected to take a total of approximately 30 months to complete. The construction is anticipated to involve six key phases:

- Phase 1: Demolition – 2 months
- Phase 2: Site Preparation – 2 months
- Phase 3: Grading/Excavation – 7 months
- Phase 4: Building/Facility Construction – 17 months
- Phase 5: Architectural Coatings – 12 months
- Phase 6: Paving – 1 month

#### *Construction Trucks*

##### Haul Trucks

Hauling activity is expected to occur during Phases 1, 2, and 3. During Phase 1, up to 150 haul truck trips per day are anticipated on peak haul days. During Phase 2, up to 102 haul truck export trips are anticipated on peak haul days. Phases 1 and 2 would occur concurrently in the first month of Project construction, and thus a combined 252 maximum daily haul truck trips would be generated during this time. During Phase 3, up to 300 haul truck export trips are anticipated on peak haul days.

Hauling hours are anticipated to begin at 8:00 AM and continue to 4:00 PM. The inbound haul route would come from the US-101, head southbound on Coldwater Canyon Avenue, eastbound on Moorpark Street, and southbound on Whitsett Avenue to access the Project Site. The outbound haul route would leave the Project Site and head southbound on Whitsett Avenue, westbound on Ventura Boulevard, and northbound on Coldwater Canyon Avenue to reach US-101. The staging area is expected to be located on the Project Site.

### Equipment and Delivery Trucks

In addition to haul trucks, the Project is expected to generate equipment and delivery trucks during construction. One example would be for concrete delivery, which would be required for the parking garage and the buildings on-site. Other deliveries could include plumbing supplies, electrical fixtures, and items used in furnishing the buildings. These materials would be delivered to the Project Site and stored on-site. These deliveries are expected to occur in variously sized vehicles including small delivery trucks to cement mixer trucks and 18-wheel trucks. Additionally, construction equipment would have to be delivered to the Project Site. This equipment could include cranes, bulldozers, excavators, and other large items of machinery. Most of the heavy equipment is expected to be transported to the Project Site on large trucks such as 18-wheelers or other similar vehicles.

The following construction activities are expected to involve the following number of equipment/delivery truck trips per day on peak activity days:

- Utilities/Trenching – 6 truck trips
- Foundation/Columns/Decks – 200 truck trips
- Building Construction – 40 truck trips
- Architectural Finishes – 40 truck trips
- Asphalt Paving – 10 truck trips
- Landscape – 80 truck trips
- Pool/Canopy/Building – 70 truck trips

### Construction Employees

The number of construction workers would vary throughout the construction period with Phase 5 generating the highest number of employees. The following construction activities are expected to involve up to the following number of workers on site per day on peak activity days:

- Demolition – 40 workers
- Initial Site Preparation – 40 workers
- Grading/Excavating – 35 workers
- Utilities/Trenching – 35 workers
- Foundation/Columns/Decks – 100 workers
- Building Construction – 100 workers
- Architectural Finishes – 140 workers

- Asphalt Paving – 30 workers
- Landscape – 100 workers
- Pool/Canopy/Building – 100 workers

### Construction Worker Parking

During all phases of construction, employees are expected to park on the Project Site.

## Construction Period Evaluation Criteria

The LADOT TAG provides three categories to be considered in regard to in-street construction effects: temporary traffic constraints, temporary loss of access, and temporary loss of bus stops or rerouting of bus lines. The evaluation criteria to be considered in each of these categories are as follows:

- Temporary Traffic Constraints:
    - The length of time of temporary street closures or closures of two more traffic lanes;
    - The classification of the street (major arterial, state highway, substandard hillside local or collector, etc.) affected;
    - The existing congestion levels on the affected street segments and intersections;
    - The operational constraints of substandard hillside streets needing to access construction sites;
    - Whether the affected street directly leads to a freeway on- or off-ramp or other state highway;
    - Potential safety issues involved with street or lane closures;
    - The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street.
- Temporary Loss of Access:
    - The length of time of any loss of pedestrian or bicycle circulation past a construction area;
    - The length of time of any loss of vehicular, bicycle, or pedestrian access to a parcel fronting the construction area;
    - The length of time any loss or impedance of access by emergency vehicles or area residents to hillside properties;
    - The length of time of any loss of ADA pedestrian access to a transit station, stop, or facility;
    - The availability of nearbyvehicular or pedestrian access within ¼ mile of the lost access;
    - The type of land uses affected, and related safety, convenience, and/or economic issues.
- Temporary Loss of Bus Stops or Rerouting of Bus Lines:

- The length of time that an existing bus stop would be unavailable or that existing service would be interrupted;
- The availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated;
- The existence of other bus stops or routes with similar routes/destinations within a ¼ mile radius of the affected stops or routes;
- Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s).

Los Angeles Municipal Code (LAMC) Section 41.40 provides that construction activities are limited to the hours from 7:00 AM to 9:00 PM on weekdays and from 8:00 AM to 6:00 PM on Saturdays and holidays. No construction is permitted on Sundays.

## Construction Analysis

The assessment of the Project against the evaluation factors described above is presented in **Table 13** and discussed below.

*Temporary Traffic Constraints*

Long-term closures to travel lanes are not anticipated to occur during construction of the Project. There would be travel lane closures on Project frontages during construction for intermittent periods of time to connect utilities such as water, storm drain, and electrical. Although there is a City of Los Angeles fire station (Station 78) located within the immediate vicinity of the affected streets, access would not be restricted to this facility.

Closures of the sidewalks are anticipated to accommodate Project construction along the Project frontage for intermittent periods of time to connect utilities such as water, storm drain, and electrical. Trench plates would be set each day to maintain sidewalk access during off hours.

*Temporary Loss of Access*

The existing land uses near the vicinity of the Project Site will remain open throughout construction. Pedestrian and vehicular access to properties located nearby to the Project Site will be open and unobstructed for the duration of construction. No loss of ADA pedestrian access to a transit stop, station, or facilities is anticipated. On-street parking on the Project frontages will be temporarily restricted during the construction period.

*Temporary Loss of Bus Stops or Rerouting of Bus Lines*

Bus stops are not located along the Project frontages on Whitsett Avenue, Valley Spring Lane or Bellaire Avenue. A bus stop is located on the north side of Valley Spring Lane at the intersection of Whitsett Avenue and Valley Spring Lane, and a bus stop is present on the east side of Whitsett Avenue immediately south of Valleyheart Drive, but construction will not affect these bus stops as they are not

located on the Project frontage. Temporary travel lane closures along Whitsett are anticipated but would not require relocation of bus stops or rerouting of bus lines.

**TABLE 13**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**CONSTRUCTION EVALUATION**

| Evaluation Criteria | Assessment |
|---|---|
| ***Temporary Traffic Constraints:*** | |
| • The length of time of temporary street closures or closures of two or more traffic lanes; | • Long-term closures to travel lanes are not anticipated to occur during construction. Portions of Whitsett Avenue will be temporarily closed for short-term durations to connect utilities. |
| • The classification of the street (major arterial, state highway, substandard hillside local or collector, etc) affected; | • Whitsett Avenue is classified as an Avenue II and Valley Spring Lane is classified as a local street. |
| • The existing congestion levels on the affected street segments and intersections; | • The intersection of Whitsett Avenue & Valley Spring Lane operates at LOS C during both peak hours under Year 2020 baseline conditions and is projected to operate at LOS C and D in the 3-4 PM and 5-6 PM peak hours (for both Non-Event and Event Scenarios), respectively, under Future plus Project conditions. |
| • The operational constraints of substandard hillside streets needing to access construction sites; | • The construction site is not located in a hillside area. |
| • Whether the affected street directly leads to a freeway on- or off-ramp or other state highway; | • None of the affected streets directly lead to a freeway on- or off-ramp or other state highways. |
| • Potential safety issues involved with street or lane closures; | • Worksite traffic control plans would be prepared for any temporary lane closures in accordance with applicable City and MUTCD guidelines. |
| • The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street. | • There is one emergency service (LA Fire Station 78) located immediately south of the Project Site on Valleyheart Drive and access would not be restricted to this facility. |
| ***Temporary Loss of Access:*** | |
| • The length of time of any loss of pedestrian or bicycle circulation past a construction area;<br>• The length of time of any loss of vehicular, bicycle, or pedestrian access to a parcel fronting the construction area;<br>• The length of time of any loss of ADA pedestrian access to a transit station, stop, or facility;<br>• The availability of nearby vehicular or pedestrian access within ¼ mile of the lost access;<br>• The length of time any loss or impedance of access by emergency vehicles or area residents to hillside properties;<br>• The type of land uses affected, and related safety, convenience, and/or economic issues. | • Portions of the sidewalk on Whitsett Avenue will be temporarily closed for short-term durations to connect utilities. Trench plates would be set each day to maintain sidewalk access during off hours. Sidewalks along Valley Spring Lane will remain open. There is no anticipated loss of ADA pedestrian access to a transit station, stop or facility. The only potential loss of temporary access would be to the Project Site itself. |
| ***Temporary Loss of Bus Stops or Rerouting of Bus Lines:*** | |
| • The length of time that an existing bus stop would be unavailable or that existing service would be interrupted;<br>• The availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated;<br>• The existence of other bus stops or routes with similar routes/ destinations within a ¼mile radius of the affected stops or routes;<br>• Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s). | • The bus stops along both sides of Whitsett Avenue at Valley Spring Lane and the bus stop on the east side of Whitsett Avenue immediately south of Valleyheart Drive would not be affected by the Project construction. |

## 4.5 Residential Street Cut-Through Analysis

This section presents the results of an analysis conducted regarding the potential for Project impacts on local residential streets in neighborhoods near the Project. Residential streets were assessed for "excessive burdens" using criteria established by the City of Los Angeles. The analysis was conducted on four local residential street segments near the Project Site, which were selected in conjunction with the City of Los Angeles as it was determined to have a greater likelihood of experiencing neighborhood cut-through traffic from the Project.

Counts for one of the segments, Valley Spring Lane west of Whitsett Avenue, were collected in 2019 and is thus available for this analysis. 24-hour machine counts were conducted on the analyzed street segment of Valley Spring Lane, west of Whitsett Avenue, in February 2019. The 2019 volumes were grown by 0.6% per year to reflect and analyze 2020 baseline conditions, which is the baseline year of the Project consistent with the date of the notice of preparation of the environmental impact report. Future daily traffic volumes were projected in a manner similar to the peak hour analysis of the study intersections, including both ambient growth at 0.6% per year as well as anticipated traffic from related projects that could be constructed by 2025. The net new Project trips were assigned to the street network based on the Project trip distribution patterns in **Figure 8** and were added to the Opening Year No Project projection to obtain Opening Year Plus Project projections. Credit was applied for existing trips on this segment associated with the Weddington Golf & Tennis site.

Three additional residential street segments were originally identified for residential street cut-through analysis (Valley Spring Lane east of Whitsett Avenue, Woodbridge Avenue west of Whitsett Avenue, and Woodbridge Avenue east of Whitsett Avenue) but, due to the COVID-19 pandemic and the shelter-in-place orders by the Governor and the County, the manual collection of street segment counts was not feasible at the time of this study. This is also in line with the guidance issued by LADOT in April 2020 regarding the foregoing of manual traffic count collection during the pandemic. Due to the unavailability of counts for these segments, the analysis was conducted using the most restrictive evaluation criteria of 120 or more project-related increase in average daily traffic (ADT), as shown below.

### Neighborhood Street Evaluation Criteria

Under the City of Los Angeles guidelines, a local residential street would be considered excessively burdened if the new trips generated by the Project result in increases in ADT volumes as follows:

| Projected ADT with Project (Final ADT) | Project-Related Increase in ADT |
|---|---|
| 1 to 999 | 120 or more |
| 1,000 to 1,999 | 12% or more of final ADT |
| 2,000 to 2,999 | 10% or more of final ADT |
| 3,000 or more | 8% or more of final ADT |

Daily traffic volumes for the baseline conditions and projected Opening Year 2025 conditions are summarized in **Table 14**.

## Opening Year Plus Project Analysis

According to the results in **Table 14**, the Project is not projected to create an excessive burden on any of the street segments in neither the Non-Event Scenario nor the Special Event Scenario. The projected increase in weekday two-way daily volume as a result of the Project is below the impact threshold of 120 trips according to the City of Los Angeles' criteria for residential street segments.

**TABLE 14**
**HARVARD-WESTLAKE RIVER PARK PROJECT**
**NEIGHBORHOOD STREET IMPACT ANALYSIS – OPENING YEAR PLUS PROJECT ANALYSIS**

| Street Segment | Weekday Two-Way | | With Project - Non-Event Scenario | | | | | With Project - Special Event Scenario | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Baseline (2020) | Opening Year (2025) No Project | Project Trips | Opening Year (2025) Plus Project | Project % Increase | Evaluation Criteria[1] | Excessively Burdened? | Project Trips | Opening Year (2025) Plus Project | Project % Increase | Evaluation Criteria[1] | Excessively Burdened? |
| Valley Spring Lane<br>Between Babcock Ave and Whitsett Ave | 910 | 935 | 15 | 953 | 1.60% | 120 Trips | **NO** | 23 | 961 | 2.40% | 120 Trips | **NO** |
| Valley Spring Lane<br>Between Whitsett Ave and Wilkinson Ave[2] | | | 10 | | | 120 Trips | **NO** | 10 | | | 120 Trips | **NO** |
| Woodbridge Street<br>Between Babcock Ave and Whitsett Ave[2] | | | 25 | | | 120 Trips | **NO** | 49 | | | 120 Trips | **NO** |
| Woodbridge Street<br>Between Whitsett Ave and Wilkinson Ave[2] | | | 10 | | | 120 Trips | **NO** | 10 | | | 120 Trips | **NO** |

1. Uses City of Los Angeles evaluation criteria for residential street segments.

2. Baseline counts were not available at these locations due to COVID-19. Therefore, the most restrictive evaluation criteria (threshold of adding 120 project trips to the segment) was used for these locations.

# 5. Summary and Conclusions

The study was undertaken to analyze the potential traffic impacts of the Harvard-Westlake River Park Project in the Studio City area of the City of Los Angeles. The following summarizes the results of this analysis:

- The Project as analyzed in this study involves the following land uses:
    - An athletic and recreational facility for Harvard-Westlake School and for shared use with community members.
- This Project proposes two vehicle access driveways, as summarized below:
    - The northern driveway would be directly on Whitsett Avenue. This driveway would provide access to the subterranean parking structure with 503 parking spaces. This driveway is proposed as right-in/right-out only.
    - The southern driveway would be an extension of the Valleyheart Drive stub located off of Whitsett Avenue, south of LAFD Station 78. This driveway would also provide access to the subterranean parking structure, though it will only allow entry into the parking structure and will restrict exiting from the parking structure., This driveway would also provide access for passenger loading using a turnaround designed to accommodate buses, shuttles, and TNCs, as well as to a surface parking lot with 29 parking stalls.
- The Project features, location, and design would be consistent with all of the reviewed City plans, programs, ordinances, and policies that support alternative transportation and have been adopted to protect the environment.
- Based on the Project land use and location, the Project would have a less than significant VMT impact.
- The Project is not projected to substantially increase hazards, conflicts, or preclude City action to fulfill or implement projects associated with surrounding transportation networks and will contribute to overall walkability through enhancements to the Project Site and streetscape. Therefore, the Project would have a less than significant impact.
- Per LADOT's interim Guidance, a freeway safety analysis was conducted for the two US 101 off-ramps: The US 101 southbound off-ramp at Coldwater Canyon Avenue, and the US 101 northbound off-ramp at Coldwater Canyon Avenue. The Project is projected to have a less than significant freeway safety impact.
- The Project is not expected to have a direct or indirect effect that would lead to removal, modification, or degradation of pedestrian, bicycle, or transit facilities.
- The Project is expected to generate an increase in pedestrian volumes in the vicinity, which currently lacks tactile warnings at intersection curb ramps. It is recommended that tactile warnings and marked crosswalks be installed along at the intersections of Whitsett Avenue & Valley Spring

Lane, Whitsett Avenue & Valleyheart Drive, Babcock Avenue & Valley Spring Lane, Beeman Avenue & Valley Spring Lane, and Teesdale Avenue & Valley Spring Lane as part of the Project improvements.

- The site circulation and access assessment included analysis of five intersections, of which four intersections operate under signal control and one intersection is stop-controlled. The HCM methodology was used for signalized and unsignalized intersections.
- On Non-Event days, the Project is projected to generate an estimated net increase of 68 vehicle trips (75 inbound/-7 outbound) during the 3-4 PM peak hour and 89 vehicle trips (16 inbound/73 outbound) during the 5-6 PM peak hour.
- On Special Event days, assuming the largest trip-generating event, the Project is projected to generate an estimated net increase of 484 vehicle trips (18 inbound/466 outbound) during the 5-6 PM peak hour.
- Per the City's criteria, no instances were found of the Project causing or substantially contributing to unacceptable queuing at nearby signalized intersections.
- On Non-Event days, both the north driveway and the intersection of Whitsett Avenue & Valleyheart Drive are projected to operate at LOS D or better during the 3-4 PM peak hour and the 5-6 PM peak hour Opening Year Plus Project conditions. All movements are projected to have a queue of 25 feet or less, and thus, none of these movements would experience unacceptable queueing under these conditions.
- On Special Event days, the eastbound movements at the southern Project driveway are projected to experience unacceptable queueing under Opening Year (2025) Plus Project conditions. The LOS for this driveway is projected to be LOS F. By applying the corrective action of prohibiting left turns out of the south driveway on event days as part of an event traffic management plan, the LOS would improve to LOS B and the queue would reduce to an acceptable length.
- In order to minimize effects on access for LAFD between Valleyheart Drive and Whitsett Avenue and to minimize the eastbound queues at Whitsett Avenue when emergency vehicles need to access Valleyheart Drive, a warning light that would hold back vehicles exiting the Project turnaround onto Valleyheart Drive is proposed as a corrective action. This warning light would be activated by a button pressed by LAFD staff in the emergency vehicles when an emergency vehicle is approaching Valleyheart Drive from Whitsett Avenue or exiting from one of the two LAFD driveways on Valleyheart Drive.

# Appendix A: Memorandum of Understanding

LADOT

# Transportation Assessment Memorandum of Understanding (MOU)

This MOU acknowledges that the Transportation Assessment for the following Project will be prepared in accordance with the latest version of LADOT's Transportation Assessment Guidelines:

## I. PROJECT INFORMATION

Project Name: Harvard-Westlake River Park Project

Project Address: 4141 Whitsett Avenue, Studio City, CA

Project Description: : Harvard-Westlake School is proposing to redevelop the 16.1-acre Weddington Golf & Tennis site, and an adjacent 1.1-acre property leased from Los Angeles County, collectively comprising a 17.2-acre project site (Project Site), for use as an athletic and recreational facility for the School and for shared public use.

LADOT Project Case Number: _____ Project Site Plan attached? *(Required)* ■ Yes ☐ No
Attachment 1

## II. TRIP GENERATION See Attachment 2

Geographic Distribution: N _____ % S _____ % E _____ % W _____ %

Illustration of Project trip distribution percentages at Study intersections attached? *(Required)* ■ Yes ☐ No
Attachment 2

Trip Generation Rate(s): ITE 10th Edition / Other HW Athletics data from 2018-2019 (trip generation in Attachment 3)

| Trip Generation Adjustment *(Exact amount of credit subject to approval by LADOT)* | Yes | No |
|---|---|---|
| Transit Usage | ☐ | ■ |
| Transportation Demand Management | ■ | ☐ |
| Existing Active Land Use | ■ | ☐ |
| Previous Land Use | ☐ | ■ |
| Internal Trip | ☐ | ■ |
| Pass-By Trip | ☐ | ■ |

Trip generation table including a description of the proposed land uses, ITE rates, estimated morning and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc. attached? *(Required)* ■ Yes ☐ No

| | ~~AM Trips~~ / ~~PM Trips~~ | IN | OUT | TOTAL |
|---|---|---|---|---|
| 3-4 PM Trips | ~~AM Trips~~ | 70 | -19 | 51 |
| 5-6 PM Trips | ~~PM Trips~~ | 5 | 52 | 57 |

Daily Trips 902 (~~From VMT Calculator~~)

Trip generation table and methodology in Attachment 3

## III. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: 2025 Ambient Growth Rate: 0.6 % Per Yr.

Related Projects List, researched by the consultant and approved by LADOT, attached? *(Required)* ■ Yes ☐ No
Attachment 4

Map of Study Intersections/Segments attached? ■ Yes ☐ No Attachment 2

STUDY INTERSECTIONS *(May be subject to LADOT revision after access, safety and circulation analysis)*

1 Whitsett Avenue & Moorpark Street
2 Whitsett Avenue & Valley Spring Lane
3 Whitsett Avenue & Ventura Boulevard
4 Coldwater Canyon Avenue & Moorpark Street
5 Coldwater Canyon Avenue & Ventura Boulevard

Is this Project located on a street within the High Injury Network? ☐ Yes ■ No

## IV. ACCESS ASSESSMENT

Is the project on a lot that is 0.5-acre or more in total gross area? ■ Yes ☐ No

Is the project's frontage 250 linear feet or more along an Avenue or Boulevard as classified by the City's General Plan? ■ Yes ☐ No

Is the project's building frontage encompassing an entire block along an Avenue or Boulevard as classified by the City's General Plan? ■ Yes ☐ No

## V. CONTACT INFORMATION

| | CONSULTANT | DEVELOPER |
|---|---|---|
| Name: | Tom Gaul | David Weil |
| Address: | 600 Wilshire Boulevard, Suite 1050, Los Angeles, CA, 90017 | 3700 Coldwater Canyon Avenue, Los Angeles, CA 91604 |
| Phone Number: | 213-261-3050 | 818-487-6609 |
| E-Mail: | t.gaul@fehrandpeers.com | dweil@hw.com |

Approved by: X Thomas Gaul Digitally signed by Thomas Gaul Date: 2020.05.15 13:45:16 -07'00' _____ X Brandon Wilson 6/3/2020

Consultant's Representative | Date | LADOT Representative | *Date

*MOUs are generally valid for two years after signing. If after two years a transportation assessment has not been submitted to LADOT, the developer's representative shall check with the appropriate LADOT office to determine if the terms of this MOU are still valid or if a new MOU is needed.

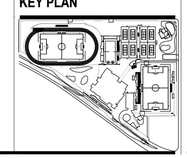
Note: Given the unique land use, the proposed VMT analysis methodology for this project is presented in Attachment 5.

# Attachment 1: Site Plan


**SHEET NOTES**

**GENERAL NOTES**

**KEY PLAN**



HARVARD WESTLAKE RIVER PARK

4141 Whitsett Ave
Studio City, CA 91604

HARVARD WESTLAKE SCHOOL

700 N Faring Rd
Los Angeles, CA 90077

Gensler

500 S Figueroa St
Los Angeles, CA 90071

STUDIO-MLA

251 S Mission Rd
Los Angeles, CA 90033

| △ | Date | Description |
|---|---|---|

Seal / Signature

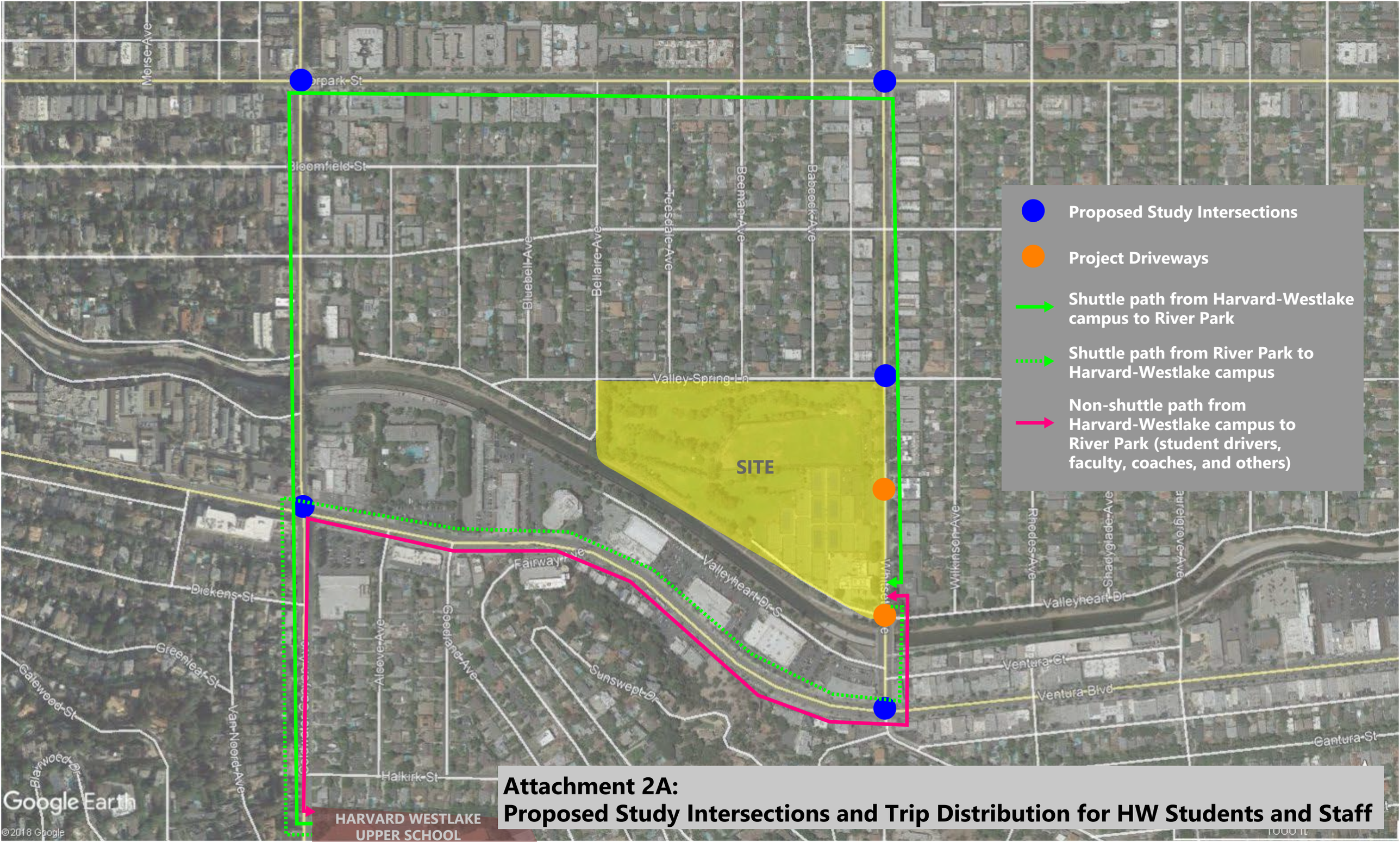
**NOT FOR CONSTRUCTION**

Project Name

Project Number

Description

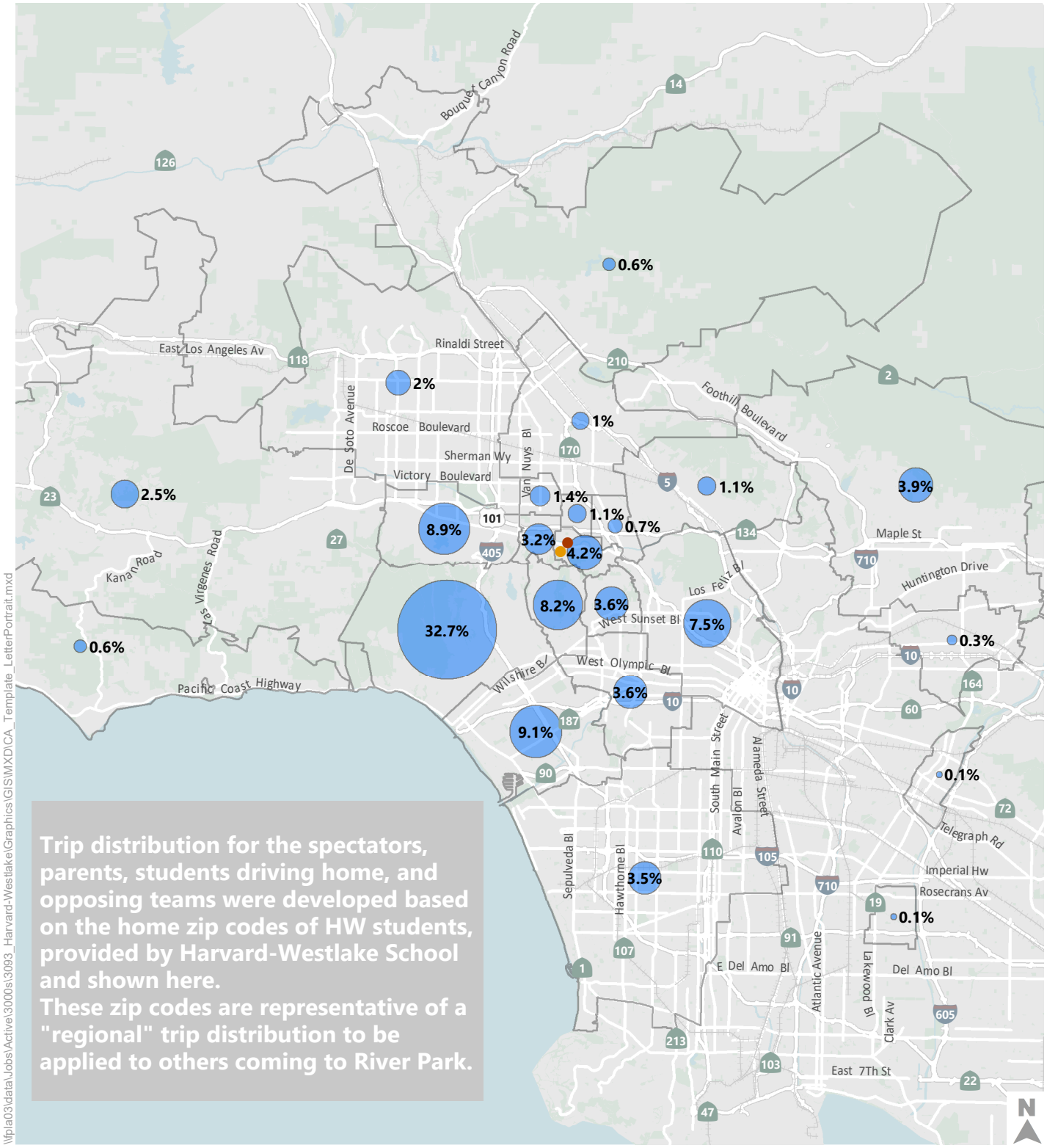
Scale




**Attachment 2A:**
**Proposed Study Intersections and Trip Distribution for HW Students and Staff**

60%
5%
5%
65%
15%
10%
5%
5%
Proposed Study Intersections
Project Driveways
% Trip Distribution of Others* (spectators, parents, students driving home, opposing team)
*See Attachment 2C for additional information on how the trip distribution was determined for the spectators, parents, students driving home, and opposing teams.
SITE
HARVARD WESTLAKE UPPER SCHOOL
Morse Ave
Bloomfield St
Bluebell Ave
Bellaire Ave
Teesdale Ave
Beeman Ave
Babcock Ave
Valley Spring Ln
Valleyheart Dr S
Wilkinson Ave
Rhodes Ave
Shadyglade Ave
Laurelgrove Ave
Valleyheart Dr
Ventura Ct
Ventura Blvd
Cantura St
Dickens St
Greenleaf St
Galeweed St
Blackwood Dr
Van Noord Ave
Coldwater Canyon Ave
Aleove Ave
Goodland Ave
Fairway Ave
Sunswept Dr
Halkirk St
Google Earth
©2018 Google
1000 ft
N

**Attachment 2B:**
**Proposed Study Intersections and Trip Distribution for Others**




**Trip distribution for the spectators, parents, students driving home, and opposing teams were developed based on the home zip codes of HW students, provided by Harvard-Westlake School and shown here.**
**These zip codes are representative of a "regional" trip distribution to be applied to others coming to River Park.**

\\fpla03\data\Jobs\Active\3000s\3093_Harvard-Westlake\Graphics\GIS\MXD\CA_Template_LetterPortrait.mxd

Percent of Upper School Students

- 0.1%
- 1%
- 10%

- Residence Zone
- Harvard-Westlake Upper School
- Weddington Site

# Attachment 2C: Harvard-Westlake Upper School Student Residence Distribution

# Attachment 3A

This attachment documents the methodology to calculate the trip generation to be used for the transportation assessment for the Harvard-Westlake River Park project, located at 4141 Whitsett Avenue in Studio City. This attachment provides the methodology, the assumptions of the analysis, and the final output.

## Harvard-Westlake Trips

This section describes how trips associated with the Harvard-Westlake athletic activities at River Park were estimated.

### Methodology

Harvard-Westlake provided Fehr & Peers with a spreadsheet of Harvard-Westlake Athletics data from the 2018-2019 school year. This data includes the practice schedule for each level of each sport (e.g., Basketball Varsity Girls), including the beginning and end date of the season, the days of week in which practices were conducted, the duration of the practices, and the number of participants. There were also data on home games for each sport, including the number of home games, the number of participants, the number of coaches, and approximate number of spectators. These data are shown in Attachment 3A-1 and 3A-2.

This data was converted to an estimate of inbound and outbound person trips for each day of the 2018-2019 school year. The inbound and outbound trips were further separated into five hourly categories: 3-4 PM, 4-5 PM, 5-6 PM, 6-7 PM, and 7-8 PM.

The hourly person trips were converted to hourly vehicle trips by applying average vehicle occupancy (AVO) factors specific to each population group (e.g., students, coaches, spectators).

Instead of the maximum day trip scenario, Fehr & Peers selected the 90$^{th}$ percentile total trips for each peak hour, as the 90$^{th}$ percentile would represent most days of the school year and exclude the exceptional days such as big rivalry game days that only occur on a handful of days a year. Fehr & Peers selected two peak hours based on the hours with the highest total trips, 3-4 PM and 5-6 PM.

The final inbound and outbound peak hour trips were determined by selecting an actual date that most closely matched the 90$^{th}$ percentile total trips for the peak hour. For the 3-4 PM peak hour, the date was Wednesday, September 5, 2018. For the 5-6 PM peak hour, the date was Monday, March 4, 2019.

## Assumptions

Fehr & Peers made several assumptions to translate the athletics schedule to peak hour trips. The assumptions included arrival and departure times, mode choice, and AVO, as discussed below.

*Arrival and Departure Times*

- Practices
    - Athletes and coaches would arrive at River Park 15 minutes before the start of practice
    - Athletes and coaches would depart River Park 15 minutes after the end of practice
- Games
    - Harvard-Westlake athletes, visiting athletes, and all coaches would arrive at River Park 30 minutes before the start of the first game of the day (games for the same sport are often played consecutively, from junior varsity to varsity)
    - Spectators would arrive at River Park 15 minutes before the start of the game
    - Spectators would depart River Park 15 minutes after the end of the game

*Mode Choice and AVO*

- Harvard-Westlake would provide shuttles every 5-10 minutes to transport students between the Harvard-Westlake campus and River Park
- 75% of Harvard-Westlake athletes would take the shuttles to River Park, while the remaining 25% would drive their own vehicles with an AVO of 1.5
- On big event days when spectator attendance is expected to surpass 300 people (expected to occur less than 10 times per year), all Harvard-Westlake athletes would be required to take the shuttle and all spectators would be required to obtain a ticket and parking pass to park at River Park. Spectators without a parking pass would be required to park at the Harvard-Westlake Upper campus and take the shuttle to River Park.
- Coaches would not ride the shuttle and would drive their own vehicles with an AVO of 1.0
- Visiting teams would arrive in a bus together with an AVO of 25
- Spectators would arrive and depart with an AVO of 1.5

## Estimated Peak Hour Vehicle Trips

Based on this methodology and these assumptions, the vehicle trip generation for each peak hour is estimated as follows:

- 3 -4 PM
    - 108 inbound, 12 outbound, 120 total trips

- 5 -6 PM
    - 42 inbound, 106 outbound, 148 total trips

These are the estimated trips associated with Harvard-Westlake use of River Park and do not include trips associated with community use of the facilities.

## Community Use

This section describes how trips associated with community use of the facilities at River Park were estimated.

### Public Use of River Park

The proposed walking/jogging trails, tennis courts and clubhouse, and community room will be open to the community throughout the day. The athletic facilities, including the gym courts, the fields, and the pool, will be open to the public with advance reservation and the public will have access to these facilities except when they are in use by Harvard-Westlake (typically 3 PM to 8 PM).

### Peak Hour Trip Generation

Given that only the tennis courts/clubhouse and passive park space will be used by the public during the peak hours of analysis (3 PM to 4 PM and 5 PM to 6 PM), the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 10th Edition, trip generation rates for the Tennis Courts land use (LU 490) were used to estimate the peak hour trips associated with the public use during these hours.

The 8 tennis courts on-site at River Park are estimated to generate 34 trips (17 inbound, 17 outbound) during the peak hour. The same peak hour trips were assumed for the two peak hours.

### Daily Trip Generation

The daily trip generation for the community use of River Park would include trips generated by the public that visit the site outside of Harvard-Westlake-use hours and the trips generated by the tennis courts during the Harvard-Westlake-use hours (as described above).

The ITE Trip Generation Manual for the Recreational Community Center land use (LU 495) was used to estimate the trips generated by the public that visit the site outside of HW-use hours. It should be noted that this land use in ITE includes more well-used facilities like YMCAs that will generate more trips than River Park, and thus using this land use as a reference is a conservative approach that will likely estimate higher trip generation than what is anticipated for River Park. Using the combined area of 82,929 square feet for the clubhouse and gym building, the facilities would be estimated to generate 2,391 trips across an entire day using the ITE rate. However, since there will not be community use (other than for tennis) when the facilities are in use by Harvard-

Westlake, the daily trip estimate was prorated by applying the percentage of daily trips that are expected to occur outside of the 3 PM to 8 PM period. Appendix A of the ITE Trip Generation Manual includes a time-of-day distribution for this land use that showed that 56% of daily trips occur outside of 3PM to 8 PM. Applying this ratio to the total daily trips, 1,344 trips are estimated to be generated by the community use outside of the 3 PM to 8 PM hours.

To estimate the trips that occur between 3 PM to 8 PM for use of the tennis courts, the peak hour trips estimated for the tennis courts (34 trips per hour) was multiplied by 5 to estimate the trips generated by the tennis courts between 3 PM to 8 PM.

Adding together the trips that would be generated by the community use outside of 3 PM to 8 PM (1,344 trips) and the trips that would be generated by the public for the tennis courts between 3 PM to 8 PM (170 trips), the total daily trip generation of the community use of River Park is estimated to be to be 1,514 trips.

**HW Athletics Practice Schedule**

| Section List | Begin Date | End Date | Season | Days per Week (school year) | | | | | Duration (hrs) | Participants |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Mon | Tue | Wed | Thu | Fri | | |
| 8732-3A1: Basketball - Boys | September 1 | October 31 | Out of Season | X | | X | | X | 1.5 | 26 |
| 8730-4A1: Basketball - Varsity Boys | November 1 | March 15 | In Season | X | X | X | X | X | 2 | 13 |
| 8731-4A1: Basketball - JV Boys | November 1 | January 31 | In Season | X | X | X | X | X | 2 | 14 |
| 8734-4A1: Basketball - Freshman Boys | November 1 | January 31 | In Season | X | X | X | X | X | 2 | 12 |
| 8732-5A1: Basketball - Boys | April 15 | May 31 | Out of Season | | X | | X | | 1.5 | 24 |
| 8532-3A1: Basketball - Girls | September 1 | October 31 | Out of Season | | X | | X | X | 1.5 | 15 |
| 8530-4A1: Basketball - Varsity Girls | November 1 | March 15 | In Season | X | X | X | X | X | 2 | 15 |
| 8532-5A1: Basketball - Girls | April 15 | May 31 | Out of Season | X | | X | | | 1.5 | 9 |
| 8610-3A1: Field Hockey - Varsity | August 1 | November 15 | In Season | X | X | X | X | X | 2 | 21 |
| 8611-3A1: Field Hockey - JV | August 1 | November 1 | In Season | X | X | X | X | X | 2 | 12 |
| 8612-5A1: Field Hockey - Girls | February 15 | May 31 | Out of Season | | X | | X | | 1.5 | 41 |
| 8822-4A1: Lacrosse - Boys | November 15 | January 31 | Out of Season | | X | | X | | 2 | 43 |
| 8820-5A1: Lacrosse - Varsity Boys | February 1 | May 15 | In Season | X | X | X | X | X | 2 | 22 |
| 8821-5A1: Lacrosse - JV Boys | February 1 | May 1 | In Season | X | X | X | X | X | 2 | 17 |
| XXXX-4A1: Lacrosse - Girls | November 15 | January 31 | Out of Season | X | | X | | | 2 | 35 |
| XXXX-5A1: Lacrosse - Varsity Girls | February 1 | May 15 | In Season | X | X | X | X | X | 2 | 20 |
| 8742-3A1: Soccer - Boys | September 1 | October 31 | Out of Season | | X | | X | | 1.5 | 42 |
| 8740-4A1: Soccer - Varsity Boys | November 1 | February 28 | In Season | X | X | X | X | X | 2 | 21 |
| 8741-4A1: Soccer - JV Boys | November 1 | January 31 | In Season | X | X | X | X | X | 2 | 20 |
| 8742-5A1: Soccer - Boys | April 15 | May 31 | Out of Season | | X | | X | | 1.5 | 32 |
| 8552-3A1: Soccer - Girls | September 1 | October 31 | Out of Season | X | | X | | | 1.5 | 33 |
| 8550-4A1: Soccer - Varsity Girls | November 1 | February 28 | In Season | X | X | X | X | X | 2 | 26 |
| 8551-4A1: Soccer - JV Girls | November 1 | January 31 | In Season | X | X | X | X | X | 2 | 20 |
| 8552-5A1: Soccer - Girls | April 15 | May 31 | Out of Season | X | | X | | | 1.5 | 22 |
| 8582-3A1: Swimming and Diving - Girls | September 1 | January 31 | Out of Season | X | X | X | X | | 1 | 22 |
| 8782-3A1: Swimming and Diving - Boys | September 1 | January 31 | Out of Season | X | X | X | X | | 1 | 25 |
| 8780-5A1: Swimming and Diving - Boys | February 1 | May 15 | In Season | X | X | X | X | X | 2 | 25 |
| 8580-5A1: Swimming and Diving - Girls | February 1 | May 15 | In Season | X | X | X | X | X | 2 | 22 |
| 8792-4A1: Tennis - Boys | November 15 | January 31 | Out of Season | X | | X | | X | 1.5 | 27 |
| 8790-5A1: Tennis - Varsity Boys | February 1 | May 31 | In Season | X | X | X | X | X | 2 | 15 |
| 8791-5A1: Tennis - JV Boys | February 1 | April 15 | In Season | X | X | X | X | X | 2 | 18 |
| 8510-3A1: Tennis - Varsity Girls | September 1 | November 15 | In Season | X | X | X | X | X | 2 | 13 |
| 8511-3A1: Tennis - JV Girls | September 1 | October 31 | In Season | X | X | X | X | X | 2 | 11 |
| 8512-4A1: Tennis - Girls | January 1 | March 31 | Out of Season | X | | X | | X | 1.5 | 21 |
| 8802-4A1: Track and Field - Boys | November 15 | January 31 | Out of Season | X | X | X | X | | 1 | 47 |
| 8800-5A1: Track and Field - Boys | February 1 | May 31 | In Season | X | X | X | X | X | 2 | 64 |
| 8602-4A1: Track and Field - Girls | November 15 | January 31 | Out of Season | X | X | X | X | | 1 | 25 |
| 8600-5A1: Track and Field - Girls | February 1 | May 31 | In Season | X | X | X | X | X | 2 | 42 |
| 8812-4A1: Volleyball - Boys | December 1 | January 31 | Out of Season | | X | | X | | 1.5 | 21 |
| 8810-5A1: Volleyball - Varsity Boys | February 1 | April 30 | In Season | X | X | X | X | X | 2 | 14 |
| 8811-5A1: Volleyball - JV Boys | February 1 | April 15 | In Season | X | X | X | X | X | 2 | 9 |
| 8520-3A1: Volleyball - Varsity Girls | September 1 | November 15 | In Season | X | X | X | X | X | 2 | 18 |
| 8521-3A1: Volleyball - JV Girls | September 1 | October 31 | In Season | X | X | X | X | X | 2 | 7 |
| 8524-3A1: Volleyball - Freshman Girls | September 1 | October 31 | In Season | X | X | X | X | X | 2 | 10 |
| 8522-5A1: Volleyball - Girls | January 1 | March 31 | Out of Season | | X | | X | | 1 | 21 |
| 8720-3A1: Water Polo - Varsity Boys | September 1 | November 30 | In Season | X | X | X | X | X | 2 | 11 |
| 8721-3A1: Water Polo - JV Boys | September 1 | October 31 | In Season | X | X | X | X | X | 2 | 11 |
| 8722-5A1: Water Polo - Boys | January 1 | May 31 | Out of Season | X | X | X | X | X | 2 | 18 |
| 8542-3A1: Water Polo - Girls | September 1 | October 31 | Out of Season | X | X | X | X | | 1.5 | 14 |
| 8540-4A1: Water Polo - Varsity Girls | November 1 | February 15 | In Season | X | X | X | X | X | 2 | 14 |
| 8752-3A1: Wrestling - Boys | September 1 | October 31 | Out of Season | X | | X | | X | 1.5 | 3 |
| 8750-4A1: Wrestling - Varsity | November 1 | February 28 | In Season | X | X | X | X | X | 2 | 6 |
| 8751-4A1: Wrestling - JV | November 1 | January 31 | In Season | X | X | X | X | X | 2 | 4 |
| 8752-5A1: Wrestling - Boys | April 15 | May 31 | Out of Season | X | | X | | X | 1.5 | 3 |

## HW Athletics Team Participation

| Section | Participants | Coaches | Fans | # of Home Games |
|---|---|---|---|---|
| 8520-3A1: Volleyball - Varsity Girls | 18 | 3 | 50 | 6 |
| 8521-3A1: Volleyball - JV Girls | 7 | 1 | 30 | 6 |
| 8524-3A1: Volleyball - Freshman Girls | 10 | 1 | 30 | 5 |
| 8510-3A1: Tennis - Varsity Girls | 13 | 3 | 20 | 7 |
| 8511-3A1: Tennis - JV Girls | 11 | 2 | 20 | 0 |
| 8614-3A1: Field Hockey - Freshman | 16 | 2 | 20 | 4 |
| 8610-3A1: Field Hockey - Varsity | 21 | 3 | 30 | 10 |
| 8611-3A1: Field Hockey - JV | 12 | 2 | 20 | 8 |
| 8720-3A1: Water Polo - Varsity Boys | 11 | 3 | 50 | 13 |
| 8721-3A1: Water Polo - JV Boys | 11 | 2 | 20 | 6 |
| 8530-4A1: Basketball - Varsity Girls | 15 | 4 | 100 | 7 |
| 8740-4A1: Soccer - Varsity Boys | 21 | 3 | 50 | 7 |
| 8741-4A1: Soccer - JV Boys | 20 | 2 | 30 | 7 |
| 8550-4A1: Soccer - Varsity Girls | 26 | 3 | 50 | 7 |
| 8551-4A1: Soccer - JV Girls | 20 | 2 | 30 | 6 |
| 8540-4A1: Water Polo - Varsity Girls | 14 | 2 | 30 | 10 |
| 8750-4A1: Wrestling - Varsity | 6 | 2 | 40 | 2 |
| 8751-4A1: Wrestling - JV | 4 | 1 | 40 | 2 |
| 8730-4A1: Basketball - Varsity Boys | 13 | 5 | 300 | 4 |
| 8731-4A1: Basketball - JV Boys | 14 | 2 | 80 | 4 |
| 8734-4A1: Basketball - Freshman Boys | 12 | 2 | 50 | 4 |
| 8790-5A1: Tennis - Varsity Boys | 15 | 3 | 20 | 8 |
| 8791-5A1: Tennis - JV Boys | 18 | 2 | 20 | 0 |
| 8810-5A1: Volleyball - Varsity Boys | 14 | 2 | 30 | 6 |
| 8811-5A1: Volleyball - JV Boys | 9 | 1 | 30 | 6 |
| 8600-5A1: Track and Field - Girls | 42 | 5 | 50 | 3 |
| 8780-5A1: Swimming and Diving - Boys | 25 | 3 | 50 | 8 |
| 8800-5A1: Track and Field - Boys | 64 | 0 | 0 | 3 |
| 8580-5A1: Swimming and Diving - Girls | 22 | 0 | 0 | 6 |
| 8820-5A1: Lacrosse - Varsity Boys | 22 | 3 | 50 | 5 |
| 8821-5A1: Lacrosse - JV Boys | 17 | 2 | 30 | 5 |
| XXXX-5A1: Lacrosse - Varsity Girls | 20 | 3 | 50 | 5 |
| XXXX-4A1: Lacrosse (offseason) - Girls | 35 | 3 | 0 | 0 |
| 8732-3A1: Basketball (offseason) - Boys | 26 | 5 | 0 | 0 |
| 8732-5A1: Basketball (offseason) - Boys | 24 | 5 | 0 | 0 |
| 8532-3A1: Basketball (offseason) - Girls | 15 | 4 | 0 | 0 |
| 8532-5A1: Basketball (offseason) - Girls | 9 | 4 | 0 | 0 |
| 8612-5A1: Field Hockey (offseason) - Girls | 41 | 3 | 0 | 0 |
| 8822-4A1: Lacrosse (offseason) - Boys | 43 | 3 | 0 | 0 |
| 8742-3A1: Soccer (offseason) - Boys | 42 | 3 | 0 | 0 |
| 8742-5A1: Soccer (offseason) - Boys | 32 | 3 | 0 | 0 |
| 8552-3A1: Soccer (offseason) - Girls | 33 | 3 | 0 | 0 |
| 8552-5A1: Soccer (offseason) - Girls | 22 | 3 | 0 | 0 |
| 8582-3A1: Swimming and Diving (offseason) - Girls | 22 | 4 | 0 | 0 |
| 8782-3A1: Swimming and Diving (offseason) - Boys | 25 | 0 | 0 | 0 |
| 8792-4A1: Tennis (offseason) - Boys | 27 | 3 | 0 | 0 |
| 8512-4A1: Tennis (offseason) - Girls | 21 | 3 | 0 | 0 |
| 8802-4A1: Track and Field (offseason) - Boys | 47 | 0 | 0 | 0 |
| 8602-4A1: Track and Field (offseason) - Girls | 25 | 5 | 0 | 0 |
| 8812-4A1: Volleyball (offseason) - Boys | 21 | 2 | 0 | 0 |
| 8522-5A1: Volleyball (offseason) - Girls | 21 | 3 | 0 | 0 |
| 8722-5A1: Water Polo (offseason) - Boys | 18 | 3 | 0 | 0 |
| 8542-3A1: Water Polo (offseason) - Girls | 14 | 2 | 0 | 0 |
| 8752-3A1: Wrestling (offseason) - Boys | 3 | 2 | 0 | 0 |
| 8752-5A1: Wrestling (offseason) - Boys | 3 | 2 | 0 | 0 |

Attachment 3A-3

**Daily Arrival and Departures, Persons and Vehicles, 3 PM - 4 PM**

| 90th Percentile Vehicle Trips | | |
|---|---|---|
| Arrival | Departure | Total |
| 108 | 12 | 120 |

| | | | Person Trips | | | | | | | | | | | | | | | Vehicle Trips | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrivals | | | | | | | Departures | | | | | | | | | Shuttles | | | | All Vehicles (including Shuttles) | | |
| | | | Practices | | Games | | | | | Practices | | Games | | | | | | | Arrivals | | Departures | | | | |
| | | | HW | | HW | | Visiting Team | | | HW | | HW | | Visiting Team | | | Total Person | Total Person | | | | | | | |
| Date | Day of Week | # of Concurrent Activities | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Arrivals | Departures | Passengers | Shuttles | Passengers | Shuttles | Arriving | Departing | Total |
| 8/1/2018 | Wed | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/2/2018 | Thu | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/3/2018 | Fri | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/6/2018 | Mon | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/7/2018 | Tue | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/8/2018 | Wed | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/9/2018 | Thu | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/10/2018 | Fri | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/13/2018 | Mon | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/14/2018 | Tue | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/15/2018 | Wed | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/16/2018 | Thu | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/17/2018 | Fri | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/20/2018 | Mon | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/21/2018 | Tue | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/22/2018 | Wed | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/23/2018 | Thu | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/24/2018 | Fri | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/27/2018 | Mon | 2 | 33 | 5 | 35 | 5 | 35 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 148 | 0 | 51 | 6 | 0 | 0 | 50 | 6 | 56 |
| 8/28/2018 | Tue | 2 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 25 | 3 | 0 | 0 | 14 | 3 | 17 |
| 8/29/2018 | Wed | 3 | 33 | 5 | 16 | 2 | 16 | 2 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 94 | 0 | 37 | 4 | 0 | 0 | 35 | 4 | 39 |
| 8/30/2018 | Thu | 3 | 33 | 5 | 13 | 3 | 13 | 3 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 90 | 0 | 35 | 4 | 0 | 0 | 35 | 4 | 39 |
| 8/31/2018 | Fri | 1 | 0 | 0 | 33 | 5 | 33 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 106 | 0 | 25 | 3 | 0 | 0 | 36 | 3 | 39 |
| 9/3/2018 | Mon | 13 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 222 | 0 | 143 | 12 | 0 | 0 | 76 | 12 | 88 |
| 9/4/2018 | Tue | 5 | 90 | 12 | 70 | 13 | 70 | 13 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 368 | 0 | 120 | 12 | 0 | 0 | 135 | 12 | 147 |
| 9/5/2018 | Wed | 10 | 154 | 25 | 22 | 5 | 22 | 5 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 283 | 0 | 132 | 12 | 0 | 0 | 108 | 12 | 120 |
| 9/6/2018 | Thu | 7 | 74 | 14 | 44 | 8 | 44 | 8 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 272 | 0 | 89 | 9 | 0 | 0 | 108 | 9 | 117 |
| 9/7/2018 | Fri | 7 | 82 | 17 | 35 | 5 | 35 | 5 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 239 | 0 | 88 | 9 | 0 | 0 | 93 | 9 | 102 |
| 9/10/2018 | Mon | 12 | 164 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 191 | 0 | 123 | 12 | 0 | 0 | 67 | 12 | 79 |
| 9/11/2018 | Tue | 12 | 185 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 214 | 0 | 139 | 12 | 0 | 0 | 72 | 12 | 84 |
| 9/12/2018 | Wed | 13 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 222 | 0 | 143 | 12 | 0 | 0 | 76 | 12 | 88 |
| 9/13/2018 | Thu | 9 | 149 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 171 | 0 | 112 | 12 | 0 | 0 | 59 | 12 | 71 |
| 9/14/2018 | Fri | 10 | 136 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 162 | 0 | 102 | 11 | 0 | 0 | 60 | 11 | 71 |
| 9/17/2018 | Mon | 12 | 166 | 27 | 13 | 3 | 13 | 3 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 | 0 | 135 | 12 | 0 | 0 | 87 | 12 | 99 |
| 9/18/2018 | Tue | 12 | 185 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 214 | 0 | 139 | 12 | 0 | 0 | 72 | 12 | 84 |
| 9/19/2018 | Wed | 13 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 222 | 0 | 143 | 12 | 0 | 0 | 76 | 12 | 88 |
| 9/20/2018 | Thu | 6 | 75 | 16 | 35 | 5 | 35 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 201 | 0 | 83 | 9 | 0 | 0 | 71 | 9 | 80 |
| 9/21/2018 | Fri | 12 | 158 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 189 | 0 | 119 | 12 | 0 | 0 | 70 | 12 | 82 |
| 9/24/2018 | Mon | 13 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 222 | 0 | 143 | 12 | 0 | 0 | 76 | 12 | 88 |
| 9/25/2018 | Tue | 8 | 125 | 17 | 13 | 3 | 13 | 3 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 194 | 0 | 104 | 11 | 0 | 0 | 69 | 11 | 80 |
| 9/26/2018 | Wed | 11 | 154 | 25 | 11 | 3 | 11 | 3 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 257 | 0 | 124 | 12 | 0 | 0 | 103 | 12 | 115 |
| 9/27/2018 | Thu | 12 | 185 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 214 | 0 | 139 | 12 | 0 | 0 | 72 | 12 | 84 |
| 9/28/2018 | Fri | 12 | 158 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 189 | 0 | 119 | 12 | 0 | 0 | 70 | 12 | 82 |
| 10/1/2018 | Mon | 13 | 157 | 29 | 16 | 2 | 16 | 2 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 242 | 0 | 130 | 12 | 0 | 0 | 87 | 12 | 99 |
| 10/2/2018 | Tue | 11 | 161 | 24 | 13 | 3 | 13 | 3 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 237 | 0 | 131 | 12 | 0 | 0 | 83 | 12 | 95 |
| 10/3/2018 | Wed | 10 | 154 | 25 | 22 | 5 | 22 | 5 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 273 | 0 | 132 | 12 | 0 | 0 | 101 | 12 | 113 |
| 10/4/2018 | Thu | 5 | 51 | 11 | 48 | 8 | 48 | 8 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 224 | 0 | 75 | 8 | 0 | 0 | 81 | 8 | 89 |
| 10/5/2018 | Fri | 12 | 158 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 189 | 0 | 119 | 12 | 0 | 0 | 70 | 12 | 82 |
| 10/8/2018 | Mon | 13 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 222 | 0 | 143 | 12 | 0 | 0 | 76 | 12 | 88 |
| 10/9/2018 | Tue | 12 | 185 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 214 | 0 | 139 | 12 | 0 | 0 | 72 | 12 | 84 |
| 10/10/2018 | Wed | 13 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 222 | 0 | 143 | 12 | 0 | 0 | 76 | 12 | 88 |
| 10/11/2018 | Thu | 9 | 110 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 131 | 0 | 83 | 9 | 0 | 0 | 49 | 9 | 58 |
| 10/12/2018 | Fri | 12 | 158 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 189 | 0 | 119 | 12 | 0 | 0 | 70 | 12 | 82 |
| 10/15/2018 | Mon | 13 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 222 | 0 | 143 | 12 | 0 | 0 | 76 | 12 | 88 |
| 10/16/2018 | Tue | 11 | 161 | 24 | 13 | 3 | 13 | 3 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 237 | 0 | 131 | 12 | 0 | 0 | 83 | 12 | 95 |
| 10/17/2018 | Wed | 11 | 121 | 22 | 38 | 7 | 38 | 7 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 303 | 0 | 120 | 12 | 0 | 0 | 117 | 12 | 129 |
| 10/18/2018 | Thu | 9 | 110 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 131 | 0 | 83 | 9 | 0 | 0 | 49 | 9 | 58 |
| 10/19/2018 | Fri | 12 | 158 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 189 | 0 | 119 | 12 | 0 | 0 | 70 | 12 | 82 |
| 10/22/2018 | Mon | 13 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 222 | 0 | 143 | 12 | 0 | 0 | 76 | 12 | 88 |

Attachment 3A-3

**Daily Arrival and Departures, Persons and Vehicles, 3 PM - 4 PM**

| | | | Person Trips | | | | | | | | | | | | | | | Vehicle Trips | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrivals | | | | | | | Departures | | | | | | | | | Shuttles | | | | All Vehicles (including Shuttles) | | |
| | | | Practices | | Games | | | | | Practices | | Games | | | | | | | Arrivals | | Departures | | | | |
| | | # of | HW | | HW | | Visiting Team | | | HW | | HW | | Visiting Team | | | Total | Total | | | | | | | |
| Date | Day of Week | Concurrent Activities | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Person Arrivals | Person Departures | Passengers | Shuttles | Passengers | Shuttles | Arriving | Departing | Total |
| 10/23/2018 | Tue | 12 | 185 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 214 | 0 | 139 | 12 | 0 | 0 | 72 | 12 | 84 |
| 10/24/2018 | Wed | 13 | 157 | 29 | 16 | 2 | 16 | 2 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 242 | 0 | 130 | 12 | 0 | 0 | 87 | 12 | 99 |
| 10/25/2018 | Thu | 9 | 110 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 131 | 0 | 83 | 9 | 0 | 0 | 49 | 9 | 58 |
| 10/26/2018 | Fri | 12 | 158 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 189 | 0 | 119 | 12 | 0 | 0 | 70 | 12 | 82 |
| 10/29/2018 | Mon | 13 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 222 | 0 | 143 | 12 | 0 | 0 | 76 | 12 | 88 |
| 10/30/2018 | Tue | 10 | 122 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 145 | 0 | 92 | 10 | 0 | 0 | 54 | 10 | 64 |
| 10/31/2018 | Wed | 13 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 222 | 0 | 143 | 12 | 0 | 0 | 76 | 12 | 88 |
| 11/1/2018 | Thu | 7 | 77 | 19 | 11 | 3 | 11 | 3 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 174 | 0 | 66 | 7 | 0 | 0 | 79 | 7 | 86 |
| 11/2/2018 | Fri | 11 | 152 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 182 | 0 | 114 | 12 | 0 | 0 | 68 | 12 | 80 |
| 11/5/2018 | Mon | 11 | 157 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 187 | 0 | 118 | 12 | 0 | 0 | 69 | 12 | 81 |
| 11/6/2018 | Tue | 11 | 152 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 182 | 0 | 114 | 12 | 0 | 0 | 68 | 12 | 80 |
| 11/7/2018 | Wed | 11 | 152 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 182 | 0 | 114 | 12 | 0 | 0 | 68 | 12 | 80 |
| 11/8/2018 | Thu | 11 | 157 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 187 | 0 | 118 | 12 | 0 | 0 | 69 | 12 | 81 |
| 11/9/2018 | Fri | 11 | 152 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 182 | 0 | 114 | 12 | 0 | 0 | 68 | 12 | 80 |
| 11/12/2018 | Mon | 11 | 157 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 187 | 0 | 118 | 12 | 0 | 0 | 69 | 12 | 81 |
| 11/13/2018 | Tue | 11 | 152 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 182 | 0 | 114 | 12 | 0 | 0 | 68 | 12 | 80 |
| 11/14/2018 | Wed | 9 | 127 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 148 | 0 | 96 | 10 | 0 | 0 | 53 | 10 | 63 |
| 11/15/2018 | Thu | 13 | 224 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 259 | 0 | 168 | 12 | 0 | 0 | 85 | 12 | 97 |
| 11/16/2018 | Fri | 12 | 191 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 223 | 0 | 144 | 12 | 0 | 0 | 76 | 12 | 88 |
| 11/19/2018 | Mon | 14 | 263 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 0 | 198 | 12 | 0 | 0 | 93 | 12 | 105 |
| 11/20/2018 | Tue | 13 | 236 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 0 | 177 | 12 | 0 | 0 | 86 | 12 | 98 |
| 11/21/2018 | Wed | 14 | 263 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 0 | 198 | 12 | 0 | 0 | 93 | 12 | 105 |
| 11/22/2018 | Thu | 13 | 236 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 0 | 177 | 12 | 0 | 0 | 86 | 12 | 98 |
| 11/23/2018 | Fri | 12 | 191 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 223 | 0 | 144 | 12 | 0 | 0 | 76 | 12 | 88 |
| 11/26/2018 | Mon | 14 | 263 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 0 | 198 | 12 | 0 | 0 | 93 | 12 | 105 |
| 11/27/2018 | Tue | 10 | 140 | 19 | 41 | 5 | 41 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 281 | 0 | 136 | 12 | 0 | 0 | 89 | 12 | 101 |
| 11/28/2018 | Wed | 15 | 298 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 338 | 0 | 224 | 12 | 0 | 0 | 102 | 12 | 114 |
| 11/29/2018 | Thu | 10 | 118 | 24 | 46 | 5 | 46 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 274 | 0 | 123 | 12 | 0 | 0 | 92 | 12 | 104 |
| 11/30/2018 | Fri | 11 | 145 | 27 | 46 | 5 | 46 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 304 | 0 | 144 | 12 | 0 | 0 | 99 | 12 | 111 |
| 12/3/2018 | Mon | 13 | 252 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 286 | 0 | 189 | 12 | 0 | 0 | 88 | 12 | 100 |
| 12/4/2018 | Tue | 9 | 105 | 21 | 60 | 7 | 60 | 7 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 320 | 0 | 124 | 12 | 0 | 0 | 111 | 12 | 123 |
| 12/5/2018 | Wed | 8 | 129 | 21 | 41 | 5 | 41 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 272 | 0 | 128 | 12 | 0 | 0 | 89 | 12 | 101 |
| 12/6/2018 | Thu | 12 | 225 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 256 | 0 | 169 | 12 | 0 | 0 | 81 | 12 | 93 |
| 12/7/2018 | Fri | 11 | 180 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 209 | 0 | 135 | 12 | 0 | 0 | 71 | 12 | 83 |
| 12/10/2018 | Mon | 13 | 252 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 286 | 0 | 189 | 12 | 0 | 0 | 88 | 12 | 100 |
| 12/11/2018 | Tue | 13 | 268 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 302 | 0 | 201 | 12 | 0 | 0 | 91 | 12 | 103 |
| 12/12/2018 | Wed | 10 | 208 | 23 | 14 | 2 | 14 | 2 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 293 | 0 | 167 | 12 | 0 | 0 | 95 | 12 | 107 |
| 12/13/2018 | Thu | 12 | 225 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 256 | 0 | 169 | 12 | 0 | 0 | 81 | 12 | 93 |
| 12/14/2018 | Fri | 11 | 180 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 209 | 0 | 135 | 12 | 0 | 0 | 71 | 12 | 83 |
| 12/17/2018 | Mon | 13 | 252 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 286 | 0 | 189 | 12 | 0 | 0 | 88 | 12 | 100 |
| 12/18/2018 | Tue | 12 | 225 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 256 | 0 | 169 | 12 | 0 | 0 | 81 | 12 | 93 |
| 12/19/2018 | Wed | 14 | 264 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 0 | 198 | 12 | 0 | 0 | 92 | 12 | 104 |
| 12/20/2018 | Thu | 12 | 225 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 256 | 0 | 169 | 12 | 0 | 0 | 81 | 12 | 93 |
| 12/21/2018 | Fri | 9 | 150 | 20 | 39 | 9 | 39 | 9 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 316 | 0 | 142 | 12 | 0 | 0 | 109 | 12 | 121 |
| 12/24/2018 | Mon | 13 | 252 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 286 | 0 | 189 | 12 | 0 | 0 | 88 | 12 | 100 |
| 12/25/2018 | Tue | 12 | 225 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 256 | 0 | 169 | 12 | 0 | 0 | 81 | 12 | 93 |
| 12/26/2018 | Wed | 13 | 252 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 286 | 0 | 189 | 12 | 0 | 0 | 88 | 12 | 100 |
| 12/27/2018 | Thu | 11 | 211 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 0 | 159 | 12 | 0 | 0 | 77 | 12 | 89 |
| 12/28/2018 | Fri | 9 | 160 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 185 | 0 | 120 | 12 | 0 | 0 | 64 | 12 | 76 |
| 12/31/2018 | Mon | 13 | 252 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 286 | 0 | 189 | 12 | 0 | 0 | 88 | 12 | 100 |
| 1/1/2019 | Tue | 13 | 243 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 277 | 0 | 183 | 12 | 0 | 0 | 87 | 12 | 99 |
| 1/2/2019 | Wed | 12 | 178 | 30 | 41 | 5 | 41 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 330 | 0 | 165 | 12 | 0 | 0 | 106 | 12 | 118 |
| 1/3/2019 | Thu | 13 | 243 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 277 | 0 | 183 | 12 | 0 | 0 | 87 | 12 | 99 |
| 1/4/2019 | Fri | 8 | 116 | 16 | 80 | 14 | 80 | 14 | 155 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 475 | 0 | 147 | 12 | 0 | 0 | 183 | 12 | 195 |
| 1/7/2019 | Mon | 15 | 291 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 331 | 0 | 219 | 12 | 0 | 0 | 101 | 12 | 113 |
| 1/8/2019 | Tue | 12 | 211 | 29 | 14 | 2 | 14 | 2 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 302 | 0 | 169 | 12 | 0 | 0 | 102 | 12 | 114 |
| 1/9/2019 | Wed | 11 | 198 | 30 | 46 | 5 | 46 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 360 | 0 | 183 | 12 | 0 | 0 | 111 | 12 | 123 |
| 1/10/2019 | Thu | 13 | 243 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 277 | 0 | 183 | 12 | 0 | 0 | 87 | 12 | 99 |
| 1/11/2019 | Fri | 9 | 136 | 19 | 80 | 14 | 80 | 14 | 200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 543 | 0 | 162 | 12 | 0 | 0 | 219 | 12 | 231 |
| 1/14/2019 | Mon | 14 | 259 | 35 | 14 | 2 | 14 | 2 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 356 | 0 | 205 | 12 | 0 | 0 | 116 | 12 | 128 |
| 1/15/2019 | Tue | 12 | 211 | 29 | 14 | 2 | 14 | 2 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 302 | 0 | 169 | 12 | 0 | 0 | 102 | 12 | 114 |
| 1/16/2019 | Wed | 9 | 136 | 19 | 80 | 14 | 80 | 14 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 423 | 0 | 162 | 12 | 0 | 0 | 139 | 12 | 151 |
| 1/17/2019 | Thu | 9 | 190 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 213 | 0 | 143 | 12 | 0 | 0 | 67 | 12 | 79 |
| 1/18/2019 | Fri | 7 | 102 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 118 | 0 | 77 | 8 | 0 | 0 | 41 | 8 | 49 |

Attachment 3A-3

**Daily Arrival and Departures, Persons and Vehicles, 3 PM - 4 PM**

| | | | Person Trips | | | | | | | | | | | | | | | Vehicle Trips | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrivals | | | | | | | Departures | | | | | | | | | Shuttles | | | | All Vehicles (including Shuttles) | | |
| | | | Practices | | Games | | | | | Practices | | Games | | | | | | | Arrivals | | Departures | | | | |
| | | # of | HW | | HW | | Visiting Team | | | HW | | HW | | Visiting Team | | | Total | Total | | | | | | |
| Date | Day of Week | Concurrent Activities | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Person Arrivals | Person Departures | Passengers | Shuttles | Passengers | Shuttles | Arriving | Departing | Total |
| 1/21/2019 | Mon | 16 | 326 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 369 | 0 | 245 | 12 | 0 | 0 | 110 | 12 | 122 |
| 1/22/2019 | Tue | 11 | 211 | 29 | 14 | 2 | 14 | 2 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 302 | 0 | 169 | 12 | 0 | 0 | 102 | 12 | 114 |
| 1/23/2019 | Wed | 15 | 291 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 331 | 0 | 219 | 12 | 0 | 0 | 101 | 12 | 113 |
| 1/24/2019 | Thu | 13 | 243 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 277 | 0 | 183 | 12 | 0 | 0 | 87 | 12 | 99 |
| 1/25/2019 | Fri | 11 | 187 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 217 | 0 | 141 | 12 | 0 | 0 | 74 | 12 | 86 |
| 1/28/2019 | Mon | 12 | 204 | 30 | 46 | 5 | 46 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 366 | 0 | 188 | 12 | 0 | 0 | 112 | 12 | 124 |
| 1/29/2019 | Tue | 11 | 213 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 238 | 0 | 160 | 12 | 0 | 0 | 73 | 12 | 85 |
| 1/30/2019 | Wed | 12 | 178 | 30 | 41 | 5 | 41 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 330 | 0 | 165 | 12 | 0 | 0 | 106 | 12 | 118 |
| 1/31/2019 | Thu | 8 | 93 | 19 | 60 | 7 | 60 | 7 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306 | 0 | 115 | 12 | 0 | 0 | 107 | 12 | 119 |
| 2/1/2019 | Fri | 12 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 308 | 0 | 205 | 12 | 0 | 0 | 93 | 12 | 105 |
| 2/4/2019 | Mon | 12 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 308 | 0 | 205 | 12 | 0 | 0 | 93 | 12 | 105 |
| 2/5/2019 | Tue | 11 | 252 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 284 | 0 | 189 | 12 | 0 | 0 | 86 | 12 | 98 |
| 2/6/2019 | Wed | 12 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 308 | 0 | 205 | 12 | 0 | 0 | 93 | 12 | 105 |
| 2/7/2019 | Thu | 11 | 252 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 284 | 0 | 189 | 12 | 0 | 0 | 86 | 12 | 98 |
| 2/8/2019 | Fri | 12 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 308 | 0 | 205 | 12 | 0 | 0 | 93 | 12 | 105 |
| 2/11/2019 | Mon | 12 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 308 | 0 | 205 | 12 | 0 | 0 | 93 | 12 | 105 |
| 2/12/2019 | Tue | 11 | 252 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 284 | 0 | 189 | 12 | 0 | 0 | 86 | 12 | 98 |
| 2/13/2019 | Wed | 12 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 308 | 0 | 205 | 12 | 0 | 0 | 93 | 12 | 105 |
| 2/14/2019 | Thu | 11 | 252 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 284 | 0 | 189 | 12 | 0 | 0 | 86 | 12 | 98 |
| 2/15/2019 | Fri | 12 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 308 | 0 | 205 | 12 | 0 | 0 | 93 | 12 | 105 |
| 2/18/2019 | Mon | 10 | 241 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 271 | 0 | 181 | 12 | 0 | 0 | 83 | 12 | 95 |
| 2/19/2019 | Tue | 7 | 177 | 16 | 23 | 3 | 23 | 3 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 295 | 0 | 150 | 12 | 0 | 0 | 101 | 12 | 113 |
| 2/20/2019 | Wed | 11 | 127 | 24 | 131 | 8 | 131 | 8 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 529 | 0 | 194 | 12 | 0 | 0 | 160 | 12 | 172 |
| 2/21/2019 | Thu | 10 | 238 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 268 | 0 | 179 | 12 | 0 | 0 | 82 | 12 | 94 |
| 2/22/2019 | Fri | 10 | 241 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 271 | 0 | 181 | 12 | 0 | 0 | 83 | 12 | 95 |
| 2/25/2019 | Mon | 10 | 241 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 271 | 0 | 181 | 12 | 0 | 0 | 83 | 12 | 95 |
| 2/26/2019 | Tue | 10 | 238 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 268 | 0 | 179 | 12 | 0 | 0 | 82 | 12 | 94 |
| 2/27/2019 | Wed | 11 | 259 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 292 | 0 | 195 | 12 | 0 | 0 | 89 | 12 | 101 |
| 2/28/2019 | Thu | 6 | 159 | 13 | 38 | 6 | 38 | 6 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 310 | 0 | 148 | 12 | 0 | 0 | 100 | 12 | 112 |
| 3/1/2019 | Fri | 8 | 120 | 23 | 39 | 5 | 39 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 261 | 0 | 120 | 12 | 0 | 0 | 89 | 12 | 101 |
| 3/4/2019 | Mon | 8 | 193 | 20 | 20 | 3 | 20 | 3 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 309 | 0 | 160 | 12 | 0 | 0 | 106 | 12 | 118 |
| 3/5/2019 | Tue | 7 | 90 | 13 | 129 | 8 | 129 | 8 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 457 | 0 | 165 | 12 | 0 | 0 | 130 | 12 | 142 |
| 3/6/2019 | Wed | 10 | 245 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 275 | 0 | 184 | 12 | 0 | 0 | 83 | 12 | 95 |
| 3/7/2019 | Thu | 9 | 173 | 19 | 62 | 6 | 62 | 6 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 398 | 0 | 177 | 12 | 0 | 0 | 127 | 12 | 139 |
| 3/8/2019 | Fri | 8 | 120 | 23 | 39 | 5 | 39 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 261 | 0 | 120 | 12 | 0 | 0 | 89 | 12 | 101 |
| 3/11/2019 | Mon | 9 | 206 | 25 | 20 | 3 | 20 | 3 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 327 | 0 | 170 | 12 | 0 | 0 | 113 | 12 | 125 |
| 3/12/2019 | Tue | 9 | 219 | 18 | 70 | 6 | 70 | 6 | 95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 484 | 0 | 217 | 12 | 0 | 0 | 153 | 12 | 165 |
| 3/13/2019 | Wed | 10 | 245 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 275 | 0 | 184 | 12 | 0 | 0 | 83 | 12 | 95 |
| 3/14/2019 | Thu | 8 | 219 | 18 | 48 | 6 | 48 | 6 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 425 | 0 | 201 | 12 | 0 | 0 | 138 | 12 | 150 |
| 3/15/2019 | Fri | 8 | 193 | 20 | 39 | 5 | 39 | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 331 | 0 | 174 | 12 | 0 | 0 | 98 | 12 | 110 |
| 3/18/2019 | Mon | 11 | 240 | 24 | 20 | 3 | 20 | 3 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 360 | 0 | 195 | 12 | 0 | 0 | 118 | 12 | 130 |
| 3/19/2019 | Tue | 10 | 248 | 22 | 15 | 3 | 15 | 3 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 326 | 0 | 198 | 12 | 0 | 0 | 96 | 12 | 108 |
| 3/20/2019 | Wed | 8 | 80 | 11 | 121 | 8 | 121 | 8 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 419 | 0 | 151 | 12 | 0 | 0 | 118 | 12 | 130 |
| 3/21/2019 | Thu | 10 | 248 | 22 | 15 | 3 | 15 | 3 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 326 | 0 | 198 | 12 | 0 | 0 | 96 | 12 | 108 |
| 3/22/2019 | Fri | 10 | 240 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 264 | 0 | 180 | 12 | 0 | 0 | 76 | 12 | 88 |
| 3/25/2019 | Mon | 10 | 240 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 264 | 0 | 180 | 12 | 0 | 0 | 76 | 12 | 88 |
| 3/26/2019 | Tue | 11 | 281 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 308 | 0 | 211 | 12 | 0 | 0 | 86 | 12 | 98 |
| 3/27/2019 | Wed | 10 | 240 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 264 | 0 | 180 | 12 | 0 | 0 | 76 | 12 | 88 |
| 3/28/2019 | Thu | 11 | 281 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 308 | 0 | 211 | 12 | 0 | 0 | 86 | 12 | 98 |
| 3/29/2019 | Fri | 10 | 240 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 264 | 0 | 180 | 12 | 0 | 0 | 76 | 12 | 88 |
| 4/1/2019 | Mon | 9 | 219 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 0 | 165 | 12 | 0 | 0 | 70 | 12 | 82 |
| 4/2/2019 | Tue | 9 | 227 | 19 | 15 | 3 | 15 | 3 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 302 | 0 | 182 | 12 | 0 | 0 | 90 | 12 | 102 |
| 4/3/2019 | Wed | 8 | 180 | 16 | 39 | 5 | 39 | 5 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 329 | 0 | 165 | 12 | 0 | 0 | 102 | 12 | 114 |
| 4/4/2019 | Thu | 8 | 180 | 16 | 20 | 3 | 20 | 3 | 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 317 | 0 | 150 | 12 | 0 | 0 | 116 | 12 | 128 |
| 4/5/2019 | Fri | 9 | 219 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 0 | 165 | 12 | 0 | 0 | 70 | 12 | 82 |
| 4/8/2019 | Mon | 9 | 219 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 0 | 165 | 12 | 0 | 0 | 70 | 12 | 82 |
| 4/9/2019 | Tue | 11 | 242 | 21 | 47 | 3 | 47 | 3 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 413 | 0 | 217 | 12 | 0 | 0 | 121 | 12 | 133 |
| 4/10/2019 | Wed | 8 | 186 | 16 | 15 | 3 | 15 | 3 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 258 | 0 | 151 | 12 | 0 | 0 | 80 | 12 | 92 |
| 4/11/2019 | Thu | 10 | 260 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 284 | 0 | 195 | 12 | 0 | 0 | 80 | 12 | 92 |
| 4/12/2019 | Fri | 9 | 219 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 0 | 165 | 12 | 0 | 0 | 70 | 12 | 82 |
| 4/15/2019 | Mon | 12 | 253 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 283 | 0 | 190 | 12 | 0 | 0 | 85 | 12 | 97 |
| 4/16/2019 | Tue | 7 | 219 | 19 | 23 | 3 | 23 | 3 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 320 | 0 | 182 | 12 | 0 | 0 | 97 | 12 | 109 |
| 4/17/2019 | Wed | 10 | 226 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 253 | 0 | 170 | 12 | 0 | 0 | 77 | 12 | 89 |
| 4/18/2019 | Thu | 8 | 239 | 23 | 47 | 3 | 47 | 3 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 412 | 0 | 215 | 12 | 0 | 0 | 122 | 12 | 134 |

Attachment 3A-3

**Daily Arrival and Departures, Persons and Vehicles, 3 PM - 4 PM**

| | | | Person Trips | | | | | | | | | | | | | | | | Vehicle Trips | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrivals | | | | | | | Departures | | | | | | | | | | | | | | | |
| | | | Practices | | Games | | | | | Practices | | Games | | | | | | | | | | | | | |
| | | # of | HW | | HW | | Visiting Team | | | HW | | HW | | Visiting Team | | | | | Shuttles | | | | All Vehicles (including Shuttles) | | |
| | Day of | Concurrent | | | | | | | | | | | | | | | Total | Total | Arrivals | | Departures | | | | |
| Date | Week | Activities | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Person Arrivals | Person Departures | Passengers | Shuttles | Passengers | Shuttles | Arriving | Departing | Total |
| 4/19/2019 | Fri | 8 | 195 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 215 | 0 | 147 | 12 | 0 | 0 | 65 | 12 | 77 |
| 4/22/2019 | Mon | 10 | 226 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 253 | 0 | 170 | 12 | 0 | 0 | 77 | 12 | 89 |
| 4/23/2019 | Tue | 9 | 257 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 283 | 0 | 193 | 12 | 0 | 0 | 81 | 12 | 93 |
| 4/24/2019 | Wed | 10 | 226 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 253 | 0 | 170 | 12 | 0 | 0 | 77 | 12 | 89 |
| 4/25/2019 | Thu | 9 | 257 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 283 | 0 | 193 | 12 | 0 | 0 | 81 | 12 | 93 |
| 4/26/2019 | Fri | 8 | 195 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 215 | 0 | 147 | 12 | 0 | 0 | 65 | 12 | 77 |
| 4/29/2019 | Mon | 10 | 226 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 253 | 0 | 170 | 12 | 0 | 0 | 77 | 12 | 89 |
| 4/30/2019 | Tue | 9 | 257 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 283 | 0 | 193 | 12 | 0 | 0 | 81 | 12 | 93 |
| 5/1/2019 | Wed | 9 | 212 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 237 | 0 | 159 | 12 | 0 | 0 | 73 | 12 | 85 |
| 5/2/2019 | Thu | 7 | 226 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 248 | 0 | 170 | 12 | 0 | 0 | 72 | 12 | 84 |
| 5/3/2019 | Fri | 6 | 164 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 180 | 0 | 123 | 12 | 0 | 0 | 56 | 12 | 68 |
| 5/6/2019 | Mon | 8 | 195 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 0 | 147 | 12 | 0 | 0 | 68 | 12 | 80 |
| 5/7/2019 | Tue | 7 | 224 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 246 | 0 | 168 | 12 | 0 | 0 | 72 | 12 | 84 |
| 5/8/2019 | Wed | 8 | 195 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 0 | 147 | 12 | 0 | 0 | 68 | 12 | 80 |
| 5/9/2019 | Thu | 7 | 226 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 248 | 0 | 170 | 12 | 0 | 0 | 72 | 12 | 84 |
| 5/10/2019 | Fri | 6 | 164 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 180 | 0 | 123 | 12 | 0 | 0 | 56 | 12 | 68 |
| 5/13/2019 | Mon | 8 | 195 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 0 | 147 | 12 | 0 | 0 | 68 | 12 | 80 |
| 5/14/2019 | Tue | 7 | 226 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 248 | 0 | 170 | 12 | 0 | 0 | 72 | 12 | 84 |
| 5/15/2019 | Wed | 8 | 195 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 0 | 147 | 12 | 0 | 0 | 68 | 12 | 80 |
| 5/16/2019 | Thu | 7 | 236 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 258 | 0 | 177 | 12 | 0 | 0 | 74 | 12 | 86 |
| 5/17/2019 | Fri | 5 | 142 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 0 | 107 | 11 | 0 | 0 | 48 | 11 | 59 |
| 5/20/2019 | Mon | 7 | 173 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 193 | 0 | 130 | 12 | 0 | 0 | 61 | 12 | 73 |
| 5/21/2019 | Tue | 7 | 236 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 258 | 0 | 177 | 12 | 0 | 0 | 74 | 12 | 86 |
| 5/22/2019 | Wed | 7 | 173 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 193 | 0 | 130 | 12 | 0 | 0 | 61 | 12 | 73 |
| 5/23/2019 | Thu | 7 | 236 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 258 | 0 | 177 | 12 | 0 | 0 | 74 | 12 | 86 |
| 5/24/2019 | Fri | 5 | 142 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 0 | 107 | 11 | 0 | 0 | 48 | 11 | 59 |
| 5/27/2019 | Mon | 7 | 173 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 193 | 0 | 130 | 12 | 0 | 0 | 61 | 12 | 73 |
| 5/28/2019 | Tue | 7 | 236 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 258 | 0 | 177 | 12 | 0 | 0 | 74 | 12 | 86 |
| 5/29/2019 | Wed | 7 | 173 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 193 | 0 | 130 | 12 | 0 | 0 | 61 | 12 | 73 |
| 5/30/2019 | Thu | 7 | 236 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 258 | 0 | 177 | 12 | 0 | 0 | 74 | 12 | 86 |
| 5/31/2019 | Fri | 5 | 142 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 0 | 107 | 11 | 0 | 0 | 48 | 11 | 59 |

Attachment 3A-3

**Daily Arrival and Departures, Persons and Vehicles, 5 PM - 6 PM**

| 90th Percentile Vehicle Trips | | |
|---|---|---|
| Arrival | Departure | Total |
| 54 | 93 | 145 |

| | | | Person Trips | | | | | | | | | | | | | | | Vehicle Trips | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrivals | | | | | | | Departures | | | | | | | | | | Shuttles | | | | All Vehicles (including Shuttles) | | |
| | | | Practices | | Games | | | | | Practices | | Games | | | | | | | | Arrivals | | Departures | | | | |
| | | | HW | | HW | | Visiting Team | | | HW | | HW | | Visiting Team | | | | | | | | | | | | |
| Date | Day of Week | # of Concurrent Activities | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Total Person Arrivals | Total Person Departures | Passengers | Shuttles | Passengers | Shuttles | Arriving | Departing | Total |
| 8/1/2018 | Wed | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/2/2018 | Thu | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/3/2018 | Fri | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/6/2018 | Mon | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/7/2018 | Tue | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/8/2018 | Wed | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/9/2018 | Thu | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/10/2018 | Fri | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/13/2018 | Mon | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/14/2018 | Tue | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/15/2018 | Wed | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/16/2018 | Thu | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/17/2018 | Fri | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/20/2018 | Mon | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/21/2018 | Tue | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/22/2018 | Wed | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/23/2018 | Thu | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/24/2018 | Fri | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/27/2018 | Mon | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 33 | 5 | 10 | 1 | 10 | 1 | 30 | 50 | 90 | 0 | 0 | 33 | 4 | 38 | 39 | 77 |
| 8/28/2018 | Tue | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/29/2018 | Wed | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 16 | 2 | 16 | 2 | 20 | 0 | 94 | 0 | 0 | 37 | 4 | 4 | 35 | 39 |
| 8/30/2018 | Thu | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 25 | 3 | 3 | 14 | 17 |
| 8/31/2018 | Fri | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 3 | 21 | 3 | 30 | 0 | 78 | 0 | 0 | 16 | 2 | 2 | 30 | 32 |
| 9/3/2018 | Mon | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 51 | 222 | 36 | 4 | 143 | 12 | 24 | 76 | 100 |
| 9/4/2018 | Tue | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 90 | 12 | 21 | 4 | 21 | 4 | 80 | 0 | 232 | 0 | 0 | 84 | 9 | 9 | 99 | 108 |
| 9/5/2018 | Wed | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 154 | 25 | 11 | 3 | 11 | 3 | 50 | 0 | 257 | 0 | 0 | 124 | 12 | 12 | 103 | 115 |
| 9/6/2018 | Thu | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 74 | 14 | 32 | 6 | 32 | 6 | 80 | 0 | 244 | 0 | 0 | 80 | 8 | 8 | 102 | 110 |
| 9/7/2018 | Fri | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 82 | 17 | 10 | 1 | 10 | 1 | 60 | 100 | 181 | 0 | 0 | 69 | 7 | 74 | 82 | 156 |
| 9/10/2018 | Mon | 12 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 164 | 27 | 0 | 0 | 0 | 0 | 0 | 51 | 191 | 36 | 4 | 123 | 12 | 24 | 67 | 91 |
| 9/11/2018 | Tue | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 185 | 29 | 0 | 0 | 0 | 0 | 0 | 51 | 214 | 36 | 4 | 139 | 12 | 24 | 72 | 96 |
| 9/12/2018 | Wed | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 51 | 222 | 36 | 4 | 143 | 12 | 24 | 76 | 100 |
| 9/13/2018 | Thu | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 149 | 22 | 0 | 0 | 0 | 0 | 0 | 50 | 171 | 0 | 0 | 112 | 12 | 46 | 59 | 105 |
| 9/14/2018 | Fri | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 136 | 26 | 0 | 0 | 0 | 0 | 0 | 50 | 162 | 0 | 0 | 102 | 11 | 45 | 60 | 105 |
| 9/17/2018 | Mon | 10 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 166 | 27 | 0 | 0 | 0 | 0 | 0 | 51 | 193 | 36 | 4 | 125 | 12 | 24 | 67 | 91 |
| 9/18/2018 | Tue | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 185 | 29 | 0 | 0 | 0 | 0 | 0 | 51 | 214 | 36 | 4 | 139 | 12 | 24 | 72 | 96 |
| 9/19/2018 | Wed | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 51 | 222 | 36 | 4 | 143 | 12 | 24 | 76 | 100 |
| 9/20/2018 | Thu | 9 | 47 | 4 | 0 | 0 | 0 | 0 | 50 | 75 | 16 | 10 | 1 | 10 | 1 | 30 | 101 | 143 | 36 | 4 | 64 | 7 | 53 | 60 | 113 |
| 9/21/2018 | Fri | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 158 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 189 | 0 | 0 | 119 | 12 | 12 | 70 | 82 |
| 9/24/2018 | Mon | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 51 | 222 | 36 | 4 | 143 | 12 | 24 | 76 | 100 |
| 9/25/2018 | Tue | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 125 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 142 | 0 | 0 | 94 | 10 | 10 | 48 | 58 |
| 9/26/2018 | Wed | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 154 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 179 | 0 | 0 | 116 | 12 | 12 | 63 | 75 |
| 9/27/2018 | Thu | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 185 | 29 | 0 | 0 | 0 | 0 | 0 | 51 | 214 | 36 | 4 | 139 | 12 | 24 | 72 | 96 |
| 9/28/2018 | Fri | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 158 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 189 | 0 | 0 | 119 | 12 | 12 | 70 | 82 |
| 10/1/2018 | Mon | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 157 | 29 | 16 | 2 | 16 | 2 | 20 | 51 | 242 | 36 | 4 | 130 | 12 | 24 | 87 | 111 |
| 10/2/2018 | Tue | 10 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 161 | 24 | 0 | 0 | 0 | 0 | 0 | 51 | 185 | 36 | 4 | 121 | 12 | 24 | 63 | 87 |
| 10/3/2018 | Wed | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 154 | 25 | 11 | 2 | 11 | 2 | 40 | 0 | 245 | 0 | 0 | 124 | 12 | 12 | 95 | 107 |
| 10/4/2018 | Thu | 8 | 47 | 4 | 0 | 0 | 0 | 0 | 50 | 51 | 11 | 10 | 1 | 10 | 1 | 30 | 101 | 114 | 36 | 4 | 46 | 5 | 51 | 49 | 100 |
| 10/5/2018 | Fri | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 158 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 189 | 0 | 0 | 119 | 12 | 12 | 70 | 82 |
| 10/8/2018 | Mon | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 51 | 222 | 36 | 4 | 143 | 12 | 24 | 76 | 100 |
| 10/9/2018 | Tue | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 185 | 29 | 0 | 0 | 0 | 0 | 0 | 51 | 214 | 36 | 4 | 139 | 12 | 24 | 72 | 96 |
| 10/10/2018 | Wed | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 51 | 222 | 36 | 4 | 143 | 12 | 24 | 76 | 100 |
| 10/11/2018 | Thu | 10 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 110 | 21 | 0 | 0 | 0 | 0 | 0 | 51 | 131 | 36 | 4 | 83 | 9 | 21 | 49 | 70 |
| 10/12/2018 | Fri | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 158 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 189 | 0 | 0 | 119 | 12 | 12 | 70 | 82 |
| 10/15/2018 | Mon | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 51 | 222 | 36 | 4 | 143 | 12 | 24 | 76 | 100 |
| 10/16/2018 | Tue | 10 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 161 | 24 | 0 | 0 | 0 | 0 | 0 | 51 | 185 | 36 | 4 | 121 | 12 | 24 | 63 | 87 |
| 10/17/2018 | Wed | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 121 | 22 | 27 | 4 | 27 | 4 | 40 | 0 | 245 | 0 | 0 | 111 | 12 | 12 | 92 | 104 |
| 10/18/2018 | Thu | 10 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 110 | 21 | 0 | 0 | 0 | 0 | 0 | 51 | 131 | 36 | 4 | 83 | 9 | 21 | 49 | 70 |
| 10/19/2018 | Fri | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 158 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 189 | 0 | 0 | 119 | 12 | 12 | 70 | 82 |
| 10/22/2018 | Mon | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 51 | 222 | 36 | 4 | 143 | 12 | 24 | 76 | 100 |

Attachment 3A-3

**Daily Arrival and Departures, Persons and Vehicles, 5 PM - 6 PM**

| | | | Person Trips | | | | | | | | | | | | | | | | Vehicle Trips | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrivals | | | | | | | Departures | | | | | | | | | Shuttles | | | | All Vehicles (including Shuttles) | | |
| | | | Practices | | Games | | | | | Practices | | Games | | | | | | | Arrivals | | Departures | | | | |
| | | # of | HW | | HW | | Visiting Team | | | HW | | HW | | Visiting Team | | | | Total | Total | | | | | | |
| Date | Day of Week | Concurrent Activities | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Person Arrivals | Person Departures | Passengers | Shuttles | Passengers | Shuttles | Arriving | Departing | Total |
| 10/23/2018 | Tue | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 185 | 29 | 0 | 0 | 0 | 0 | 0 | 51 | 214 | 36 | 4 | 139 | 12 | 24 | 72 | 96 |
| 10/24/2018 | Wed | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 157 | 29 | 16 | 2 | 16 | 2 | 20 | 51 | 242 | 36 | 4 | 130 | 12 | 24 | 87 | 111 |
| 10/25/2018 | Thu | 10 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 110 | 21 | 0 | 0 | 0 | 0 | 0 | 51 | 131 | 36 | 4 | 83 | 9 | 21 | 49 | 70 |
| 10/26/2018 | Fri | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 158 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 189 | 0 | 0 | 119 | 12 | 12 | 70 | 82 |
| 10/29/2018 | Mon | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 51 | 222 | 36 | 4 | 143 | 12 | 24 | 76 | 100 |
| 10/30/2018 | Tue | 10 | 47 | 4 | 21 | 3 | 21 | 3 | 30 | 122 | 23 | 0 | 0 | 0 | 0 | 0 | 129 | 145 | 51 | 6 | 92 | 10 | 50 | 54 | 104 |
| 10/31/2018 | Wed | 11 | 47 | 4 | 0 | 0 | 0 | 0 | 0 | 190 | 32 | 0 | 0 | 0 | 0 | 0 | 51 | 222 | 36 | 4 | 143 | 12 | 24 | 76 | 100 |
| 11/1/2018 | Thu | 9 | 12 | 2 | 0 | 0 | 0 | 0 | 0 | 77 | 19 | 11 | 3 | 11 | 3 | 50 | 14 | 174 | 9 | 1 | 66 | 7 | 11 | 79 | 90 |
| 11/2/2018 | Fri | 14 | 58 | 7 | 0 | 0 | 0 | 0 | 0 | 152 | 30 | 0 | 0 | 0 | 0 | 0 | 65 | 182 | 44 | 5 | 114 | 12 | 29 | 68 | 97 |
| 11/5/2018 | Mon | 16 | 100 | 11 | 0 | 0 | 0 | 0 | 0 | 157 | 30 | 0 | 0 | 0 | 0 | 0 | 111 | 187 | 75 | 8 | 118 | 12 | 40 | 69 | 109 |
| 11/6/2018 | Tue | 16 | 105 | 11 | 0 | 0 | 0 | 0 | 0 | 152 | 30 | 0 | 0 | 0 | 0 | 0 | 116 | 182 | 79 | 8 | 114 | 12 | 41 | 68 | 109 |
| 11/7/2018 | Wed | 16 | 105 | 11 | 0 | 0 | 0 | 0 | 0 | 152 | 30 | 0 | 0 | 0 | 0 | 0 | 116 | 182 | 79 | 8 | 114 | 12 | 41 | 68 | 109 |
| 11/8/2018 | Thu | 16 | 100 | 11 | 0 | 0 | 0 | 0 | 0 | 157 | 30 | 0 | 0 | 0 | 0 | 0 | 111 | 187 | 75 | 8 | 118 | 12 | 40 | 69 | 109 |
| 11/9/2018 | Fri | 14 | 58 | 7 | 0 | 0 | 0 | 0 | 0 | 152 | 30 | 0 | 0 | 0 | 0 | 0 | 65 | 182 | 44 | 5 | 114 | 12 | 29 | 68 | 97 |
| 11/12/2018 | Mon | 16 | 100 | 11 | 0 | 0 | 0 | 0 | 0 | 157 | 30 | 0 | 0 | 0 | 0 | 0 | 111 | 187 | 75 | 8 | 118 | 12 | 40 | 69 | 109 |
| 11/13/2018 | Tue | 16 | 105 | 11 | 0 | 0 | 0 | 0 | 0 | 152 | 30 | 0 | 0 | 0 | 0 | 0 | 116 | 182 | 79 | 8 | 114 | 12 | 41 | 68 | 109 |
| 11/14/2018 | Wed | 14 | 123 | 12 | 15 | 4 | 15 | 4 | 100 | 127 | 21 | 0 | 0 | 0 | 0 | 0 | 273 | 148 | 104 | 11 | 96 | 10 | 118 | 54 | 172 |
| 11/15/2018 | Thu | 17 | 148 | 14 | 0 | 0 | 0 | 0 | 0 | 152 | 30 | 0 | 0 | 0 | 0 | 0 | 162 | 182 | 111 | 12 | 114 | 12 | 51 | 68 | 119 |
| 11/16/2018 | Fri | 12 | 12 | 2 | 0 | 0 | 0 | 0 | 0 | 191 | 32 | 0 | 0 | 0 | 0 | 0 | 14 | 223 | 9 | 1 | 144 | 12 | 16 | 76 | 92 |
| 11/19/2018 | Mon | 15 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 191 | 32 | 0 | 0 | 0 | 0 | 0 | 103 | 223 | 71 | 8 | 144 | 12 | 37 | 76 | 113 |
| 11/20/2018 | Tue | 15 | 102 | 9 | 0 | 0 | 0 | 0 | 0 | 164 | 29 | 0 | 0 | 0 | 0 | 0 | 111 | 193 | 77 | 8 | 123 | 12 | 38 | 69 | 107 |
| 11/21/2018 | Wed | 15 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 191 | 32 | 0 | 0 | 0 | 0 | 0 | 103 | 223 | 71 | 8 | 144 | 12 | 37 | 76 | 113 |
| 11/22/2018 | Thu | 15 | 102 | 9 | 0 | 0 | 0 | 0 | 0 | 164 | 29 | 0 | 0 | 0 | 0 | 0 | 111 | 193 | 77 | 8 | 123 | 12 | 38 | 69 | 107 |
| 11/23/2018 | Fri | 12 | 12 | 2 | 0 | 0 | 0 | 0 | 0 | 191 | 32 | 0 | 0 | 0 | 0 | 0 | 14 | 223 | 9 | 1 | 144 | 12 | 16 | 76 | 92 |
| 11/26/2018 | Mon | 15 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 191 | 32 | 0 | 0 | 0 | 0 | 0 | 103 | 223 | 71 | 8 | 144 | 12 | 37 | 76 | 113 |
| 11/27/2018 | Tue | 10 | 43 | 3 | 0 | 0 | 0 | 0 | 0 | 93 | 15 | 20 | 2 | 20 | 2 | 30 | 46 | 182 | 33 | 4 | 85 | 9 | 20 | 66 | 86 |
| 11/28/2018 | Wed | 15 | 59 | 6 | 0 | 0 | 0 | 0 | 0 | 226 | 35 | 0 | 0 | 0 | 0 | 0 | 65 | 261 | 45 | 5 | 170 | 12 | 28 | 85 | 113 |
| 11/29/2018 | Thu | 15 | 102 | 9 | 0 | 0 | 0 | 0 | 50 | 118 | 24 | 20 | 2 | 20 | 2 | 30 | 161 | 216 | 77 | 8 | 104 | 11 | 71 | 81 | 152 |
| 11/30/2018 | Fri | 12 | 12 | 2 | 0 | 0 | 0 | 0 | 50 | 145 | 27 | 20 | 2 | 20 | 2 | 30 | 64 | 246 | 9 | 1 | 124 | 12 | 50 | 90 | 140 |
| 12/3/2018 | Mon | 14 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 180 | 29 | 0 | 0 | 0 | 0 | 0 | 103 | 209 | 71 | 8 | 135 | 12 | 37 | 71 | 108 |
| 12/4/2018 | Tue | 12 | 64 | 5 | 0 | 0 | 0 | 0 | 50 | 105 | 21 | 34 | 4 | 34 | 4 | 60 | 119 | 262 | 48 | 5 | 105 | 11 | 61 | 102 | 163 |
| 12/5/2018 | Wed | 14 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 129 | 21 | 20 | 2 | 20 | 2 | 30 | 103 | 224 | 71 | 8 | 112 | 12 | 37 | 81 | 118 |
| 12/6/2018 | Thu | 15 | 123 | 11 | 0 | 0 | 0 | 0 | 0 | 153 | 26 | 0 | 0 | 0 | 0 | 0 | 134 | 179 | 93 | 10 | 115 | 12 | 44 | 64 | 108 |
| 12/7/2018 | Fri | 11 | 12 | 2 | 0 | 0 | 0 | 0 | 0 | 180 | 29 | 0 | 0 | 0 | 0 | 0 | 14 | 209 | 9 | 1 | 135 | 12 | 16 | 71 | 87 |
| 12/10/2018 | Mon | 14 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 180 | 29 | 0 | 0 | 0 | 0 | 0 | 103 | 209 | 71 | 8 | 135 | 12 | 37 | 71 | 108 |
| 12/11/2018 | Tue | 15 | 80 | 8 | 0 | 0 | 0 | 0 | 0 | 196 | 29 | 0 | 0 | 0 | 0 | 0 | 88 | 225 | 60 | 6 | 147 | 12 | 34 | 74 | 108 |
| 12/12/2018 | Wed | 8 | 35 | 3 | 0 | 0 | 0 | 0 | 0 | 136 | 18 | 14 | 2 | 14 | 2 | 30 | 38 | 216 | 27 | 3 | 113 | 12 | 21 | 78 | 99 |
| 12/13/2018 | Thu | 15 | 123 | 11 | 0 | 0 | 0 | 0 | 0 | 153 | 26 | 0 | 0 | 0 | 0 | 0 | 134 | 179 | 93 | 10 | 115 | 12 | 44 | 64 | 108 |
| 12/14/2018 | Fri | 11 | 12 | 2 | 0 | 0 | 0 | 0 | 0 | 180 | 29 | 0 | 0 | 0 | 0 | 0 | 14 | 209 | 9 | 1 | 135 | 12 | 16 | 71 | 87 |
| 12/17/2018 | Mon | 14 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 180 | 29 | 0 | 0 | 0 | 0 | 0 | 103 | 209 | 71 | 8 | 135 | 12 | 37 | 71 | 108 |
| 12/18/2018 | Tue | 15 | 123 | 11 | 0 | 0 | 0 | 0 | 0 | 153 | 26 | 0 | 0 | 0 | 0 | 0 | 134 | 179 | 93 | 10 | 115 | 12 | 44 | 64 | 108 |
| 12/19/2018 | Wed | 14 | 82 | 7 | 0 | 0 | 0 | 0 | 0 | 192 | 31 | 0 | 0 | 0 | 0 | 0 | 89 | 223 | 62 | 7 | 144 | 12 | 33 | 75 | 108 |
| 12/20/2018 | Thu | 15 | 123 | 11 | 0 | 0 | 0 | 0 | 0 | 153 | 26 | 0 | 0 | 0 | 0 | 0 | 134 | 179 | 93 | 10 | 115 | 12 | 44 | 64 | 108 |
| 12/21/2018 | Fri | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 80 | 150 | 20 | 12 | 2 | 12 | 2 | 50 | 80 | 248 | 0 | 0 | 122 | 12 | 66 | 96 | 162 |
| 12/24/2018 | Mon | 14 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 180 | 29 | 0 | 0 | 0 | 0 | 0 | 103 | 209 | 71 | 8 | 135 | 12 | 37 | 71 | 108 |
| 12/25/2018 | Tue | 15 | 123 | 11 | 0 | 0 | 0 | 0 | 0 | 153 | 26 | 0 | 0 | 0 | 0 | 0 | 134 | 179 | 93 | 10 | 115 | 12 | 44 | 64 | 108 |
| 12/26/2018 | Wed | 14 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 180 | 29 | 0 | 0 | 0 | 0 | 0 | 103 | 209 | 71 | 8 | 135 | 12 | 37 | 71 | 108 |
| 12/27/2018 | Thu | 15 | 137 | 13 | 0 | 0 | 0 | 0 | 0 | 139 | 24 | 0 | 0 | 0 | 0 | 0 | 150 | 163 | 103 | 11 | 105 | 11 | 47 | 59 | 106 |
| 12/28/2018 | Fri | 11 | 32 | 6 | 0 | 0 | 0 | 0 | 0 | 160 | 25 | 0 | 0 | 0 | 0 | 0 | 38 | 185 | 24 | 3 | 120 | 12 | 24 | 64 | 88 |
| 12/31/2018 | Mon | 14 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 180 | 29 | 0 | 0 | 0 | 0 | 0 | 103 | 209 | 71 | 8 | 135 | 12 | 37 | 71 | 108 |
| 1/1/2019 | Tue | 17 | 144 | 14 | 0 | 0 | 0 | 0 | 0 | 171 | 29 | 0 | 0 | 0 | 0 | 0 | 158 | 200 | 108 | 11 | 129 | 12 | 50 | 70 | 120 |
| 1/2/2019 | Wed | 15 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 178 | 30 | 20 | 2 | 20 | 2 | 30 | 103 | 282 | 71 | 8 | 149 | 12 | 37 | 98 | 135 |
| 1/3/2019 | Thu | 17 | 144 | 14 | 0 | 0 | 0 | 0 | 0 | 171 | 29 | 0 | 0 | 0 | 0 | 0 | 158 | 200 | 108 | 11 | 129 | 12 | 50 | 70 | 120 |
| 1/4/2019 | Fri | 11 | 32 | 5 | 0 | 0 | 0 | 0 | 200 | 116 | 16 | 32 | 4 | 32 | 4 | 155 | 237 | 359 | 24 | 3 | 111 | 12 | 157 | 163 | 320 |
| 1/7/2019 | Mon | 15 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 219 | 35 | 0 | 0 | 0 | 0 | 0 | 103 | 254 | 71 | 8 | 165 | 12 | 37 | 84 | 121 |
| 1/8/2019 | Tue | 13 | 97 | 10 | 0 | 0 | 0 | 0 | 0 | 139 | 24 | 0 | 0 | 0 | 0 | 0 | 107 | 163 | 73 | 8 | 105 | 11 | 38 | 59 | 97 |
| 1/9/2019 | Wed | 15 | 59 | 6 | 0 | 0 | 0 | 0 | 90 | 198 | 30 | 20 | 2 | 20 | 2 | 30 | 155 | 302 | 45 | 5 | 164 | 12 | 88 | 102 | 190 |
| 1/10/2019 | Thu | 17 | 144 | 14 | 0 | 0 | 0 | 0 | 0 | 171 | 29 | 0 | 0 | 0 | 0 | 0 | 158 | 200 | 108 | 11 | 129 | 12 | 50 | 70 | 120 |
| 1/11/2019 | Fri | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 200 | 136 | 19 | 32 | 4 | 32 | 4 | 200 | 200 | 427 | 0 | 0 | 126 | 12 | 146 | 199 | 345 |
| 1/14/2019 | Mon | 11 | 47 | 5 | 0 | 0 | 0 | 0 | 0 | 187 | 30 | 0 | 0 | 0 | 0 | 0 | 52 | 217 | 36 | 4 | 141 | 12 | 25 | 74 | 99 |
| 1/15/2019 | Tue | 13 | 97 | 10 | 0 | 0 | 0 | 0 | 0 | 139 | 24 | 0 | 0 | 0 | 0 | 0 | 107 | 163 | 73 | 8 | 105 | 11 | 38 | 59 | 97 |
| 1/16/2019 | Wed | 13 | 82 | 7 | 0 | 0 | 0 | 0 | 80 | 136 | 19 | 32 | 4 | 32 | 4 | 80 | 169 | 307 | 62 | 7 | 126 | 12 | 87 | 119 | 206 |
| 1/17/2019 | Thu | 11 | 61 | 7 | 29 | 6 | 29 | 6 | 130 | 118 | 18 | 0 | 0 | 0 | 0 | 0 | 268 | 136 | 68 | 7 | 89 | 9 | 126 | 47 | 173 |
| 1/18/2019 | Fri | 6 | 0 | 0 | 15 | 4 | 15 | 4 | 100 | 102 | 16 | 0 | 0 | 0 | 0 | 0 | 138 | 118 | 12 | 2 | 77 | 8 | 83 | 41 | 124 |

Attachment 3A-3

**Daily Arrival and Departures, Persons and Vehicles, 5 PM - 6 PM**

| | | | Person Trips | | | | | | | | | | | | | | | | Vehicle Trips | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrivals | | | | | | | Departures | | | | | | | | | Shuttles | | | | All Vehicles (including Shuttles) | | |
| | | | Practices HW | | Games HW | | Games Visiting Team | | | Practices HW | | Games HW | | Games Visiting Team | | | | | Arrivals | | Departures | | | | |
| Date | Day of Week | # of Concurrent Activities | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Total Person Arrivals | Total Person Departures | Passengers | Shuttles | Passengers | Shuttles | Arriving | Departing | Total |
| 1/21/2019 | Mon | 15 | 59 | 6 | 0 | 0 | 0 | 0 | 0 | 254 | 38 | 0 | 0 | 0 | 0 | 0 | 65 | 292 | 45 | 5 | 191 | 12 | 28 | 93 | 121 |
| 1/22/2019 | Tue | 13 | 97 | 10 | 0 | 0 | 0 | 0 | 0 | 139 | 24 | 14 | 2 | 14 | 2 | 30 | 107 | 225 | 73 | 8 | 115 | 12 | 39 | 85 | 124 |
| 1/23/2019 | Wed | 15 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 219 | 35 | 0 | 0 | 0 | 0 | 0 | 103 | 254 | 71 | 8 | 165 | 12 | 37 | 84 | 121 |
| 1/24/2019 | Thu | 17 | 144 | 14 | 0 | 0 | 0 | 0 | 0 | 171 | 29 | 0 | 0 | 0 | 0 | 0 | 158 | 200 | 108 | 11 | 129 | 12 | 50 | 70 | 120 |
| 1/25/2019 | Fri | 12 | 44 | 7 | 0 | 0 | 0 | 0 | 0 | 187 | 30 | 0 | 0 | 0 | 0 | 0 | 51 | 217 | 33 | 4 | 141 | 12 | 27 | 74 | 101 |
| 1/28/2019 | Mon | 13 | 94 | 9 | 0 | 0 | 0 | 0 | 50 | 132 | 25 | 20 | 2 | 20 | 2 | 30 | 153 | 231 | 71 | 8 | 114 | 12 | 71 | 86 | 157 |
| 1/29/2019 | Tue | 12 | 90 | 7 | 15 | 4 | 15 | 4 | 150 | 141 | 20 | 0 | 0 | 0 | 0 | 0 | 285 | 161 | 79 | 8 | 106 | 11 | 141 | 55 | 196 |
| 1/30/2019 | Wed | 15 | 94 | 9 | 0 | 0 | 0 | 0 | 0 | 178 | 30 | 20 | 2 | 20 | 2 | 30 | 103 | 282 | 71 | 8 | 149 | 12 | 37 | 98 | 135 |
| 1/31/2019 | Thu | 13 | 97 | 10 | 0 | 0 | 0 | 0 | 50 | 93 | 19 | 34 | 4 | 34 | 4 | 60 | 157 | 248 | 73 | 8 | 96 | 10 | 71 | 97 | 168 |
| 2/1/2019 | Fri | 18 | 129 | 14 | 0 | 0 | 0 | 0 | 0 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 143 | 308 | 97 | 10 | 205 | 12 | 48 | 93 | 141 |
| 2/4/2019 | Mon | 18 | 129 | 14 | 0 | 0 | 0 | 0 | 0 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 143 | 308 | 97 | 10 | 205 | 12 | 48 | 93 | 141 |
| 2/5/2019 | Tue | 19 | 150 | 17 | 0 | 0 | 0 | 0 | 0 | 252 | 32 | 0 | 0 | 0 | 0 | 0 | 167 | 284 | 113 | 12 | 189 | 12 | 54 | 86 | 140 |
| 2/6/2019 | Wed | 18 | 129 | 14 | 0 | 0 | 0 | 0 | 0 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 143 | 308 | 97 | 10 | 205 | 12 | 48 | 93 | 141 |
| 2/7/2019 | Thu | 19 | 150 | 17 | 0 | 0 | 0 | 0 | 0 | 252 | 32 | 0 | 0 | 0 | 0 | 0 | 167 | 284 | 113 | 12 | 189 | 12 | 54 | 86 | 140 |
| 2/8/2019 | Fri | 18 | 129 | 14 | 0 | 0 | 0 | 0 | 0 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 143 | 308 | 97 | 10 | 205 | 12 | 48 | 93 | 141 |
| 2/11/2019 | Mon | 18 | 129 | 14 | 0 | 0 | 0 | 0 | 0 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 143 | 308 | 97 | 10 | 205 | 12 | 48 | 93 | 141 |
| 2/12/2019 | Tue | 19 | 150 | 17 | 0 | 0 | 0 | 0 | 0 | 252 | 32 | 0 | 0 | 0 | 0 | 0 | 167 | 284 | 113 | 12 | 189 | 12 | 54 | 86 | 140 |
| 2/13/2019 | Wed | 18 | 129 | 14 | 0 | 0 | 0 | 0 | 0 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 143 | 308 | 97 | 10 | 205 | 12 | 48 | 93 | 141 |
| 2/14/2019 | Thu | 19 | 150 | 17 | 0 | 0 | 0 | 0 | 0 | 252 | 32 | 0 | 0 | 0 | 0 | 0 | 167 | 284 | 113 | 12 | 189 | 12 | 54 | 86 | 140 |
| 2/15/2019 | Fri | 18 | 129 | 14 | 0 | 0 | 0 | 0 | 0 | 273 | 35 | 0 | 0 | 0 | 0 | 0 | 143 | 308 | 97 | 10 | 205 | 12 | 48 | 93 | 141 |
| 2/18/2019 | Mon | 17 | 147 | 17 | 0 | 0 | 0 | 0 | 0 | 241 | 30 | 0 | 0 | 0 | 0 | 0 | 164 | 271 | 111 | 12 | 181 | 12 | 54 | 83 | 137 |
| 2/19/2019 | Tue | 14 | 106 | 11 | 0 | 0 | 0 | 0 | 0 | 177 | 16 | 9 | 1 | 9 | 1 | 30 | 117 | 243 | 80 | 8 | 140 | 12 | 41 | 81 | 122 |
| 2/20/2019 | Wed | 12 | 23 | 3 | 0 | 0 | 0 | 0 | 0 | 127 | 24 | 0 | 0 | 0 | 0 | 0 | 26 | 151 | 18 | 2 | 96 | 10 | 17 | 56 | 73 |
| 2/21/2019 | Thu | 18 | 150 | 17 | 0 | 0 | 0 | 0 | 0 | 238 | 30 | 0 | 0 | 0 | 0 | 0 | 167 | 268 | 113 | 12 | 179 | 12 | 54 | 82 | 136 |
| 2/22/2019 | Fri | 16 | 82 | 11 | 0 | 0 | 0 | 0 | 0 | 241 | 30 | 0 | 0 | 0 | 0 | 0 | 93 | 271 | 62 | 7 | 181 | 12 | 37 | 83 | 120 |
| 2/25/2019 | Mon | 17 | 147 | 17 | 0 | 0 | 0 | 0 | 0 | 241 | 30 | 0 | 0 | 0 | 0 | 0 | 164 | 271 | 111 | 12 | 181 | 12 | 54 | 83 | 137 |
| 2/26/2019 | Tue | 18 | 150 | 17 | 0 | 0 | 0 | 0 | 0 | 238 | 30 | 0 | 0 | 0 | 0 | 0 | 167 | 268 | 113 | 12 | 179 | 12 | 54 | 82 | 136 |
| 2/27/2019 | Wed | 17 | 129 | 14 | 0 | 0 | 0 | 0 | 0 | 259 | 33 | 0 | 0 | 0 | 0 | 0 | 143 | 292 | 97 | 10 | 195 | 12 | 48 | 89 | 137 |
| 2/28/2019 | Thu | 13 | 59 | 8 | 47 | 3 | 47 | 3 | 50 | 159 | 13 | 9 | 1 | 9 | 1 | 30 | 217 | 222 | 80 | 8 | 126 | 12 | 77 | 75 | 152 |
| 3/1/2019 | Fri | 12 | 70 | 6 | 0 | 0 | 0 | 0 | 50 | 120 | 23 | 17 | 2 | 17 | 2 | 30 | 126 | 211 | 53 | 6 | 103 | 11 | 63 | 80 | 143 |
| 3/4/2019 | Mon | 14 | 109 | 11 | 0 | 0 | 0 | 0 | 0 | 193 | 20 | 20 | 3 | 20 | 3 | 50 | 120 | 309 | 82 | 9 | 160 | 12 | 42 | 106 | 148 |
| 3/5/2019 | Tue | 13 | 108 | 9 | 0 | 0 | 0 | 0 | 0 | 90 | 13 | 9 | 1 | 9 | 1 | 30 | 117 | 153 | 81 | 9 | 75 | 8 | 36 | 61 | 97 |
| 3/6/2019 | Wed | 14 | 90 | 9 | 0 | 0 | 0 | 0 | 0 | 245 | 30 | 0 | 0 | 0 | 0 | 0 | 99 | 275 | 68 | 7 | 184 | 12 | 36 | 83 | 119 |
| 3/7/2019 | Thu | 14 | 105 | 12 | 0 | 0 | 0 | 0 | 0 | 173 | 19 | 47 | 3 | 47 | 3 | 50 | 117 | 342 | 79 | 8 | 165 | 12 | 42 | 107 | 149 |
| 3/8/2019 | Fri | 12 | 70 | 6 | 0 | 0 | 0 | 0 | 50 | 120 | 23 | 17 | 2 | 17 | 2 | 30 | 126 | 211 | 53 | 6 | 103 | 11 | 63 | 80 | 143 |
| 3/11/2019 | Mon | 14 | 109 | 11 | 0 | 0 | 0 | 0 | 0 | 206 | 25 | 20 | 3 | 20 | 3 | 50 | 120 | 327 | 82 | 9 | 170 | 12 | 42 | 113 | 155 |
| 3/12/2019 | Tue | 11 | 20 | 3 | 0 | 0 | 0 | 0 | 0 | 219 | 18 | 56 | 4 | 56 | 4 | 95 | 23 | 452 | 15 | 2 | 207 | 12 | 19 | 147 | 166 |
| 3/13/2019 | Wed | 14 | 90 | 9 | 0 | 0 | 0 | 0 | 0 | 245 | 30 | 0 | 0 | 0 | 0 | 0 | 99 | 275 | 68 | 7 | 184 | 12 | 36 | 83 | 119 |
| 3/14/2019 | Thu | 10 | 20 | 3 | 0 | 0 | 0 | 0 | 0 | 219 | 18 | 34 | 4 | 34 | 4 | 80 | 23 | 393 | 15 | 2 | 190 | 12 | 19 | 133 | 152 |
| 3/15/2019 | Fri | 14 | 90 | 9 | 0 | 0 | 0 | 0 | 50 | 193 | 20 | 17 | 2 | 17 | 2 | 30 | 149 | 281 | 68 | 7 | 158 | 12 | 70 | 90 | 160 |
| 3/18/2019 | Mon | 12 | 47 | 3 | 0 | 0 | 0 | 0 | 0 | 240 | 24 | 20 | 3 | 20 | 3 | 50 | 50 | 360 | 36 | 4 | 195 | 12 | 23 | 118 | 141 |
| 3/19/2019 | Tue | 11 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 227 | 19 | 0 | 0 | 0 | 0 | 0 | 73 | 246 | 51 | 6 | 171 | 12 | 30 | 69 | 99 |
| 3/20/2019 | Wed | 11 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 80 | 11 | 0 | 0 | 0 | 0 | 0 | 73 | 91 | 51 | 6 | 60 | 6 | 24 | 31 | 55 |
| 3/21/2019 | Thu | 11 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 227 | 19 | 0 | 0 | 0 | 0 | 0 | 73 | 246 | 51 | 6 | 171 | 12 | 30 | 69 | 99 |
| 3/22/2019 | Fri | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 240 | 24 | 0 | 0 | 0 | 0 | 0 | 73 | 264 | 51 | 6 | 180 | 12 | 30 | 76 | 106 |
| 3/25/2019 | Mon | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 240 | 24 | 0 | 0 | 0 | 0 | 0 | 73 | 264 | 51 | 6 | 180 | 12 | 30 | 76 | 106 |
| 3/26/2019 | Tue | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 260 | 24 | 0 | 0 | 0 | 0 | 0 | 73 | 284 | 51 | 6 | 195 | 12 | 30 | 80 | 110 |
| 3/27/2019 | Wed | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 240 | 24 | 0 | 0 | 0 | 0 | 0 | 73 | 264 | 51 | 6 | 180 | 12 | 30 | 76 | 106 |
| 3/28/2019 | Thu | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 260 | 24 | 0 | 0 | 0 | 0 | 0 | 73 | 284 | 51 | 6 | 195 | 12 | 30 | 80 | 110 |
| 3/29/2019 | Fri | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 240 | 24 | 0 | 0 | 0 | 0 | 0 | 73 | 264 | 51 | 6 | 180 | 12 | 30 | 76 | 106 |
| 4/1/2019 | Mon | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 219 | 21 | 0 | 0 | 0 | 0 | 0 | 73 | 240 | 51 | 6 | 165 | 12 | 30 | 70 | 100 |
| 4/2/2019 | Tue | 11 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 227 | 19 | 0 | 0 | 0 | 0 | 0 | 73 | 246 | 51 | 6 | 171 | 12 | 30 | 69 | 99 |
| 4/3/2019 | Wed | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 75 | 180 | 16 | 17 | 2 | 17 | 2 | 45 | 148 | 279 | 51 | 6 | 148 | 12 | 80 | 94 | 174 |
| 4/4/2019 | Thu | 13 | 86 | 8 | 0 | 0 | 0 | 0 | 0 | 180 | 16 | 20 | 3 | 20 | 3 | 75 | 94 | 317 | 65 | 7 | 150 | 12 | 35 | 116 | 151 |
| 4/5/2019 | Fri | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 219 | 21 | 0 | 0 | 0 | 0 | 0 | 73 | 240 | 51 | 6 | 165 | 12 | 30 | 70 | 100 |
| 4/8/2019 | Mon | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 219 | 21 | 0 | 0 | 0 | 0 | 0 | 73 | 240 | 51 | 6 | 165 | 12 | 30 | 70 | 100 |
| 4/9/2019 | Tue | 11 | 20 | 3 | 0 | 0 | 0 | 0 | 0 | 242 | 21 | 47 | 3 | 47 | 3 | 50 | 23 | 413 | 15 | 2 | 217 | 12 | 19 | 121 | 140 |
| 4/10/2019 | Wed | 11 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 186 | 16 | 0 | 0 | 0 | 0 | 0 | 73 | 202 | 51 | 6 | 140 | 12 | 30 | 59 | 89 |
| 4/11/2019 | Thu | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 260 | 24 | 0 | 0 | 0 | 0 | 0 | 73 | 284 | 51 | 6 | 195 | 12 | 30 | 80 | 110 |
| 4/12/2019 | Fri | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 219 | 21 | 0 | 0 | 0 | 0 | 0 | 73 | 240 | 51 | 6 | 165 | 12 | 30 | 70 | 100 |
| 4/15/2019 | Mon | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 253 | 30 | 0 | 0 | 0 | 0 | 0 | 73 | 283 | 51 | 6 | 190 | 12 | 30 | 85 | 115 |
| 4/16/2019 | Tue | 12 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 219 | 19 | 9 | 1 | 9 | 1 | 30 | 73 | 288 | 51 | 6 | 171 | 12 | 30 | 91 | 121 |
| 4/17/2019 | Wed | 10 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 226 | 27 | 0 | 0 | 0 | 0 | 0 | 73 | 253 | 51 | 6 | 170 | 12 | 30 | 77 | 107 |
| 4/18/2019 | Thu | 10 | 20 | 3 | 0 | 0 | 0 | 0 | 0 | 239 | 23 | 0 | 0 | 0 | 0 | 0 | 23 | 262 | 15 | 2 | 180 | 12 | 19 | 75 | 94 |

Attachment 3A-3

**Daily Arrival and Departures, Persons and Vehicles, 5 PM - 6 PM**

| | | | Person Trips | | | | | | | | | | | | | | | | Vehicle Trips | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrivals | | | | | | | Departures | | | | | | | | | Shuttles | | | | All Vehicles (including Shuttles) | | |
| | | | Practices | | Games | | | | | Practices | | Games | | | | | | | Arrivals | | Departures | | | | |
| | | # of | HW | | HW | | Visiting Team | | | HW | | HW | | Visiting Team | | | Total | Total | | | | | | | |
| Date | Day of Week | Concurrent Activities | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Athletes | Coaches | Athletes | Coaches | Athletes | Coaches | Spectators | Person Arrivals | Person Departures | Passengers | Shuttles | Passengers | Shuttles | Arriving | Departing | Total |
| 4/19/2019 | Fri | 10 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 195 | 20 | 0 | 0 | 0 | 0 | 0 | 73 | 215 | 51 | 6 | 147 | 12 | 30 | 65 | 95 |
| 4/22/2019 | Mon | 10 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 226 | 27 | 0 | 0 | 0 | 0 | 0 | 73 | 253 | 51 | 6 | 170 | 12 | 30 | 77 | 107 |
| 4/23/2019 | Tue | 11 | 99 | 9 | 0 | 0 | 0 | 0 | 0 | 257 | 26 | 0 | 0 | 0 | 0 | 0 | 108 | 283 | 75 | 8 | 193 | 12 | 38 | 81 | 119 |
| 4/24/2019 | Wed | 10 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 226 | 27 | 0 | 0 | 0 | 0 | 0 | 73 | 253 | 51 | 6 | 170 | 12 | 30 | 77 | 107 |
| 4/25/2019 | Thu | 11 | 99 | 9 | 0 | 0 | 0 | 0 | 0 | 257 | 26 | 0 | 0 | 0 | 0 | 0 | 108 | 283 | 75 | 8 | 193 | 12 | 38 | 81 | 119 |
| 4/26/2019 | Fri | 10 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 195 | 20 | 0 | 0 | 0 | 0 | 0 | 73 | 215 | 51 | 6 | 147 | 12 | 30 | 65 | 95 |
| 4/29/2019 | Mon | 10 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 226 | 27 | 0 | 0 | 0 | 0 | 0 | 73 | 253 | 51 | 6 | 170 | 12 | 30 | 77 | 107 |
| 4/30/2019 | Tue | 11 | 99 | 9 | 0 | 0 | 0 | 0 | 0 | 257 | 26 | 0 | 0 | 0 | 0 | 0 | 108 | 283 | 75 | 8 | 193 | 12 | 38 | 81 | 119 |
| 5/1/2019 | Wed | 9 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 212 | 25 | 0 | 0 | 0 | 0 | 0 | 73 | 237 | 51 | 6 | 159 | 12 | 30 | 73 | 103 |
| 5/2/2019 | Thu | 9 | 99 | 9 | 0 | 0 | 0 | 0 | 0 | 226 | 22 | 0 | 0 | 0 | 0 | 0 | 108 | 248 | 75 | 8 | 170 | 12 | 38 | 72 | 110 |
| 5/3/2019 | Fri | 8 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 164 | 16 | 0 | 0 | 0 | 0 | 0 | 73 | 180 | 51 | 6 | 123 | 12 | 30 | 56 | 86 |
| 5/6/2019 | Mon | 8 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 195 | 23 | 0 | 0 | 0 | 0 | 0 | 73 | 218 | 51 | 6 | 147 | 12 | 30 | 68 | 98 |
| 5/7/2019 | Tue | 9 | 101 | 9 | 0 | 0 | 0 | 0 | 0 | 224 | 22 | 0 | 0 | 0 | 0 | 0 | 110 | 246 | 76 | 8 | 168 | 12 | 38 | 72 | 110 |
| 5/8/2019 | Wed | 8 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 195 | 23 | 0 | 0 | 0 | 0 | 0 | 73 | 218 | 51 | 6 | 147 | 12 | 30 | 68 | 98 |
| 5/9/2019 | Thu | 9 | 99 | 9 | 0 | 0 | 0 | 0 | 0 | 226 | 22 | 0 | 0 | 0 | 0 | 0 | 108 | 248 | 75 | 8 | 170 | 12 | 38 | 72 | 110 |
| 5/10/2019 | Fri | 8 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 164 | 16 | 0 | 0 | 0 | 0 | 0 | 73 | 180 | 51 | 6 | 123 | 12 | 30 | 56 | 86 |
| 5/13/2019 | Mon | 8 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 195 | 23 | 0 | 0 | 0 | 0 | 0 | 73 | 218 | 51 | 6 | 147 | 12 | 30 | 68 | 98 |
| 5/14/2019 | Tue | 9 | 99 | 9 | 0 | 0 | 0 | 0 | 0 | 226 | 22 | 0 | 0 | 0 | 0 | 0 | 108 | 248 | 75 | 8 | 170 | 12 | 38 | 72 | 110 |
| 5/15/2019 | Wed | 8 | 67 | 6 | 0 | 0 | 0 | 0 | 0 | 195 | 23 | 0 | 0 | 0 | 0 | 0 | 73 | 218 | 51 | 6 | 147 | 12 | 30 | 68 | 98 |
| 5/16/2019 | Thu | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 236 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 258 | 0 | 0 | 177 | 12 | 12 | 74 | 86 |
| 5/17/2019 | Fri | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 142 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 0 | 0 | 107 | 11 | 11 | 48 | 59 |
| 5/20/2019 | Mon | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 173 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 193 | 0 | 0 | 130 | 12 | 12 | 61 | 73 |
| 5/21/2019 | Tue | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 236 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 258 | 0 | 0 | 177 | 12 | 12 | 74 | 86 |
| 5/22/2019 | Wed | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 173 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 193 | 0 | 0 | 130 | 12 | 12 | 61 | 73 |
| 5/23/2019 | Thu | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 236 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 258 | 0 | 0 | 177 | 12 | 12 | 74 | 86 |
| 5/24/2019 | Fri | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 142 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 0 | 0 | 107 | 11 | 11 | 48 | 59 |
| 5/27/2019 | Mon | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 173 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 193 | 0 | 0 | 130 | 12 | 12 | 61 | 73 |
| 5/28/2019 | Tue | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 236 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 258 | 0 | 0 | 177 | 12 | 12 | 74 | 86 |
| 5/29/2019 | Wed | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 173 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 193 | 0 | 0 | 130 | 12 | 12 | 61 | 73 |
| 5/30/2019 | Thu | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 236 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 258 | 0 | 0 | 177 | 12 | 12 | 74 | 86 |
| 5/31/2019 | Fri | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 142 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 0 | 0 | 107 | 11 | 11 | 48 | 59 |

## Attachment 3B: Harvard-Westlake Weekday 90th Percentile Trip Generation by Hour

| Periods | Inbound | Outbound | Total |
|---|---|---|---|
| **3:00 - 3:59 PM** | **108** | **12** | **120** |
| 4:00 - 4:59 PM | 34 | 0 | 34 |
| **5:00 - 5:59 PM** | **42** | **106** | **148** |
| 6:00 - 6:59 PM | 5 | 37 | 42 |
| 7:00 - 7:59 PM | 12 | 54 | 66 |
| Total | 201 | 209 | 410 |

Note:

**Bold** indicates study peak hours.

These trips are from specific days in the 2018-2019 school year with inbound and outbound trips nearest the calculated 90th percentile trips for the peak hour.

## Attachment 3C: River Park Project Weekday Net Trip Generation

| Land Uses | 3 PM - 4 PM Peak Hour Trips | | | 5 PM - 6 PM Peak Hour Trips | | | Daily Trips |
|---|---|---|---|---|---|---|---|
| | Inbound | Outbound | Total | Inbound | Outbound | Total | |
| HW Athletics Use[1] | 108 | 12 | 120 | 42 | 106 | 148 | 410 |
| River Park (Non-HW Use)[2] | 17 | 17 | 34 | 17 | 17 | 34 | 1,514 |
| **SUBTOTAL** | **125** | **29** | **154** | **59** | **123** | **182** | **1,924** |
| *Existing Use Adjustment*[3] | *-55* | *-48* | *-103* | *-54* | *-71* | *-125* | *-1,022* |
| **Net New Trips** | **70** | **-19** | **51** | **5** | **52** | **57** | **902** |

Note:

1. The new trips associated with HW Athletics is shown in Attachment 3B.

2. The trip estimates for the non-HW uses are based on rates in the ITE Trip Generation Manual, 10th Edition. The peak hour trips are estimated based on the Tennis Courts land use (LU 490) because only the tennis courts will be open to the public during the peak hour periods when Harvard-Westlake is using the other facilities. The daily trips are estimated based on the Recreational Community Center land use (LU 495), subtracting the portion of the daily trips that occur between 3-8 PM, when the site will not be open to the public, based on the time-of-day distribution data in Appendix A of the Recreation chapter of the manual. The daily trips is the sum of the trips associated with the public use of the park outside of HW hours plus the trips associated with the tennis courts during HW hours.

3. The existing use at the site is Weddington Golf and Tennis. The trips were counted at the site on Tuesday, February 12, 2019.

Attachment 4

CLATS

*Case Logging and Tracking System*

Welcome **eduardo**! | Log Out | Profile | Admin

# RELATED PROJECTS

Centroid Info:
PROJ ID: 44800
Address: 4141 Whitsett Av
studio city, CA 91604
Lat/Long: 34.1462, -118.405

Buffer Radius: 0.5 mile

Search

Column

Include NULL "Trip info":
Include NULL "FirstStudySubmittalDate" (latest)
Include "Inactive" projects:
Include "Do not show in Related Project":
Net_AM_Trips - Select -
Net_PM_Trips - Select -
Net_Daily_Trips - Select -

Record Count: 4 | Record Per Page: All Records

*Results generated since: (3/27/2020 8:02:30 AM)*

| Proj ID | Office | Area | CD | Year | Project Title | Project Desc | Address | First Study Submittal Date | Distance (mile) |
|---|---|---|---|---|---|---|---|---|---|
| 24001 | SF Valley | VEN | 2 | 2010 | Sportsman's Lodge MXD | Addition of Health Club and Restaurants to (E) hotel facility | 12833 Ventura Bl | 04/15/2010 | 0.4 |
| 24112 | SF Valley | VEN | | 2010 | Mixed-Use | Mixed-Use | 12548 Ventura Blvd. | 07/19/2010 | 0.2 |
| 41489 | SF Valley | VEN | | 2013 | Mixed-Use | Mixed-Use | 12582 ventura bl | 09/30/2013 | 0.3 |
| 45818 | SF Valley | VEN | 2 | 2017 | Mixed-Use | | 12544 ventura bl | 07/26/2017 | 0.3 |

Trip Info

| Land_Use | Unit_ID | size | Net_AM_Trips | Net_PM_Trips | Net_Daily_Trips | NetAMIn | NetAMOut | NetPMIn | NetPMOut | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| Other | S.F. Gross Area | 91466 | 104 | 136 | 2001 | 50 | 54 | 68 | 68 | Net trips for project (see TIS) |
| | | | **104** | **136** | **2001** | | **50** | **54** | **68** | **68** |

| Land_Use | Unit_ID | size | Net_AM_Trips | Net_PM_Trips | Net_Daily_Trips | NetAMIn | NetAMOut | NetPMIn | NetPMOut | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| Retail | S.F. Gross Area | 10747 | 14 | 29 | 476 | 8 | 6 | 13 | 16 | |
| Other | S.F. Gross Area | 1925 | 22 | 21 | 245 | 11 | 11 | 12 | 9 | |
| Apartments | Total Units | 62 | 32 | 38 | 412 | 6 | 26 | 25 | 13 | |
| Retail | S.F. Gross Area | -3000 | -4 | -8 | -133 | -2 | -2 | -4 | -4 | |
| | | | **64** | **80** | **1000** | | **23** | **41** | **46** | **34** |

| Land_Use | Unit_ID | size | Net_AM_Trips | Net_PM_Trips | Net_Daily_Trips | NetAMIn | NetAMOut | NetPMIn | NetPMOut | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| Mixed Use | S.F. Gross Area | 15700 | 64 | 70 | 997 | 36 | 28 | 38 | 32 | |
| | | | **64** | **70** | **997** | | **36** | **28** | **38** | **32** |

| Land_Use | Unit_ID | size | Net_AM_Trips | Net_PM_Trips | Net_Daily_Trips | NetAMIn | NetAMOut | NetPMIn | NetPMOut | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| Other | S.F. Gross Area | 12782 | 34 | 40 | 570 | 20 | 14 | 20 | 20 | |
| | | | **34** | **40** | **570** | | **20** | **14** | **20** | **20** |

# Attachment 5

This attachment documents the methodology to be used to evaluate vehicle miles traveled (VMT) impacts for the Harvard-Westlake River Park project, located at 4141 Whitsett Avenue in Studio City. This attachment provides the project description, how it would be categorized under LADOT's new Transportation Assessment Guidelines (TAG), and the VMT calculation associated with that land use category.

## Project Description

The proposed project is the construction of a new athletic facility at 4141 Whitsett Avenue for the Harvard-Westlake School. The site plan calls for the development of two athletic fields (one with a track), a swimming pool, eight tennis courts, and a gymnasium for Harvard-Westlake athletic activities, including practices and games. In addition to the sports facilities that will be open to members of the public, the new site will have a walking/jogging path around the perimeter that will be open to the public 7 AM to 9 PM daily. The athletic facilities will also be open to the public when they are not in use by Harvard-Westlake.

Parking will be accommodated in an underground parking structure underneath the athletic field and tennis courts. Access to the parking structure would be via a two-way driveway on Whitsett Avenue. Another point of access to the Project Site would be via a drop-off and roundabout from Valleyheart Drive at the southeast corner of the Project Site.

## Land Use in LADOT's TAG and VMT Calculation

The proposed project would be classified as an educational facility since it will be owned and operated by Harvard-Westlake, and will be predominantly utilized by their students, faculty, and associated programs in conjunction with their operation as a private high school. Per Section 2.2.4 of the LADOT Transportation Assessment Guidelines (TAG), educational facilities fall under the "Office" category of development projects. As stated in the TAG, "light industrial, manufacturing, warehousing/self-storage, K-12 schools, college/university, and hotel/motel land uses should be treated as office for screening and analysis."[1] The other land use categories set forth in the TAG are residential, retail, public services, and event centers and regional-serving entertainment venues – none of which are appropriate for the River Park project.

VMT significance thresholds vary by land use and by the Area Planning Commission (APC) area in which the project is located. Per Section 2.2.3 of the LADOT TAG, the VMT impact criteria for the

[1] Los Angeles Department of Transportation, *Transportation Assessment Guidelines*, July 2019, Page 18.

office land use is work VMT per employee. The River Park project is located in the South Valley APC, which has a VMT threshold of 11.6 daily VMT per employee for work trips.

Therefore, the River Park project would be assessed on whether the project would generate work VMT that would exceed 11.6 daily VMT per employee. Employees would include any additional staff that would be hired by Harvard-Westlake to work at River Park, as well as the coaches that are currently employed by Harvard-Westlake and would be relocating from the existing campus to the new site. The VMT per employee would be estimated with the City's VMT Calculator using a custom land use that reflects the daily trips associated with the employees at River Park.

## Conclusion

Based on the categories and thresholds provided in the LADOT TAG, the VMT impact associated with the River Park project will be calculated by comparing estimated daily work VMT per employee against the threshold for the South Valley APC.

# Appendix B: Transportation Analysis Guidelines Screening Responses and Supporting Analysis

# Transportation Analysis Guidelines Screening Responses and Supporting Analysis

*Adapted from Transportation Analysis Guidelines, LADOT, July 2020*

| Screening Criteria | Screening Evaluation | Analysis Required? |
|---|---|---|
| **2.1 CONFLICTING WITH PLANS, PROGRAMS, ORDINANCES, OR POLICIES** | | |
| If the project requires a discretionary action, and the answer is yes to any of the following questions, further analysis will be required to assess whether the proposed project would conflict with plans, programs, ordinances, or policies:<br>1. Does the project require a discretionary action that requires the decision maker to find that the decision substantially conforms to the purpose, intent and provisions of the General Plan?<br>2. Is the project known to directly conflict with a transportation plan, policy, or program adopted to support multimodal transportation options or public safety?<br>3. Is the project required to or proposing to make any voluntary modifications to the public right-of-way (i.e., dedications and/or improvements in the right-of-way, reconfigurations of curb line, etc.)? | 1. Yes<br>2. No<br>3. Yes | Yes, see Chapter 3.1 |

| | | |
|---|---|---|
| **2.2 CAUSING SUBSTANTIAL VEHICLE MILES TRAVELED** | | |
| If the project requires a discretionary action, and the answer is no to either T-2.1-1 or T-2.1-2, further analysis will not be required for Threshold T-2.1, and a "no impact" determination can be made for that threshold:<br><br>1. T-2.1-1: Would the land use project generate a net increase of 250 or more daily vehicle trips?<br>2. T-2.1-2: Would the project generate a net increase in daily VMT?<br><br>In addition to the above screening criteria, the portion of, or the entirety of a project that contains small-scale or local serving retail uses are assumed to have less than significant VMT impacts. If the answer to the following question is no, then that portion of the project meets the screening criteria and a no impact determination can be made for the portion of the project that contains retail uses. However, if the retail project is part of a larger mixed-use project, then the remaining portion of the project may be subject to further analysis in accordance with the above screening criteria. Projects that include retail uses in excess of the screening criteria would need to evaluate the entirety of the project's vehicle miles traveled, as specified in Section 2.2.4.<br><br>3. If the project includes retail uses, does the portion of the project that contain retail uses exceed a net 50,000 square feet?<br><br>Independent of the above screening criteria, and the project requires a discretionary action, further analysis will be required if the following statement is true:<br><br>4. Would the Project or Plan located within a one-half mile of a fixed-rail or fixed-guideway transit station replace an existing number of residential units with a smaller number of residential units? | 1. Yes<br>2. Yes<br>3. N/A<br>4. No | Yes, see Chapter 3.2 |
| **2.3 SUBSTANTIALLY INDUCING ADDITIONAL AUTOMOBILE TRAVEL** | | |
| If the answer is no to the following question, further analysis will not be required for Threshold T-2.2, and a no impact determination can be made for that threshold:<br><br>1. T-2.2: Would the project include the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle (HOV) lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges (except managed lanes, transit lanes, and auxiliary lanes of less than one mile in length designed to improve roadway safety)? | 1. No | No |

| | | |
|---|---|---|
| **2.4 SUBSTANTIALLY INCREASING HAZARDS DUE TO A GEOMETRIC DESIGN FEATURE OR INCOMPATIBLE USE** | | |
| If the project requires a discretionary action, and the answer is "yes" to either of the following questions, further analysis will be required to assess whether the project would result in impacts due to geometric design hazards or incompatible uses:<br>1. Is the project proposing new driveways, or introducing new vehicle access to the property from the public right-of-way?<br>2. Is the project proposing to, or required to make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb line, etc.)? | 1. Yes<br>2. Yes | Yes, see Chapter 3.3 |
| **3.2 PEDESTRIAN, BICYCLE, AND TRANSIT ACCESS ASSESSMENT** | | |
| If the answer is yes to all of the following questions, further analysis will be required to assess whether the project would negatively affect existing pedestrian, bicycle, or transit facilities:<br>1. Does the land use project involve a discretionary action that would be under review by the Department of City Planning?<br>2. Does the land use project include the construction, or addition of:<br>a. 50 dwelling units or guest rooms or combination thereof, or<br>b. 50,000 square feet of non-residential space?<br>3. Would the project generate a net increase of 1,000 or more daily vehicle trips, or is the project's frontage along an Avenue or Boulevard (as designated in the City's General Plan) 250 linear feet or more, or is the project's building frontage encompassing an entire block along an Avenue or Boulevard (as designated in the City's General Plan)? | 1. Yes<br>2. Yes<br>3. Yes | Yes, see Chapter 4.1 |
| **3.3 PROJECT ACCESS, SAFETY, AND CIRCULATION EVALUATION** | | |
| Land Use Development Projects:<br><br>For land use projects, if the answer is yes to all of the following questions, further analysis will be required to assess whether the project would negatively affect project access and circulation:<br>1. Does the land use project involve a discretionary action that would be under review by the Department of City Planning?<br>2. Would the land use project generate a net increase of 250 or more daily vehicle trips? | 1. Yes<br>2. Yes | Yes, see Chapter 4.2 |

| **3.4 PROJECT CONSTRUCTION** | | |
|---|---|---|
| If the answer is yes to any of the following questions, further analysis will be required to assess if the project could negatively affect existing pedestrian, bicycle, transit, or vehicle circulation:<br><br>1. Would a project that requires construction activities to take place within the right-of-way of a Boulevard or Avenue (as designated in the Mobility Plan 2035) which would necessitate temporary lane, alley, or street closures for more than one day (including day and evening hours, and overnight closures if on a residential street?)<br><br>2. Would a project require construction activities to take place within the right-of-way of a Collector or Local Street (as designated in the Mobility Plan 2035) which would necessitate temporary lane, alley, or street closures for more than seven days (including day and evening hours, and including overnight closures if on a residential street)?<br><br>3. Would in-street construction activities result in the loss of regular vehicle, bicycle, or pedestrian access, including loss of existing bicycle parking to an existing land use for more than one day, including day and evening hours and overnight closures if access is lost to residential units?<br><br>4. Would in-street construction activities result in the loss of regular ADA pedestrian access to an existing transit station, stop, or facility (e.g., layover zone) during revenue hours?<br><br>5. Would in-street construction activities result in the temporary loss for more than one day of an existing bus stop or rerouting of a bus route that serves the project site?<br><br>6. Would construction activities result in the temporary removal and/or loss of on-street metered parking for more than 30 days?<br><br>7. Would the project involve a discretionary action to construct new buildings or additions of more than 1,000 square feet that require access for hauling construction materials and equipment from streets of less than 24-feet wide in a hillside area? | 1. Yes<br>2. No<br>3. No<br>4. No<br>5. No<br>6. No<br>7. No | Yes, see Chapter 4.3 |

| **3.5 RESIDENTIAL STREET CUT-THROUGH ANALYSIS** | | |
|---|---|---|
| Land Use Development Projects:<br><br>If the answer is yes to all of the following questions, further analysis may be required to assess whether the project would negatively affect residential streets:<br><br>1. Would the project generate a net increase of 250 or more daily vehicle trips?<br>2. Does the land use project include a discretionary action that would be under review by the Department of City Planning?<br><br>In addition, for development projects, when selecting residential street segments for analyses during the transportation assessment scoping process, all of the following conditions must be present:<br><br>3. The project is located along a currently congested Boulevard or Avenue and adds trips that may lead to trip diversion to parallel routes along residential Local Streets. The congestion level of the Boulevard or Avenue can be determined based on the estimated peak hour LOS under project conditions of the study intersection(s) (as determined in Section 3.3). LOS E and F are considered to represent congested conditions;<br>4. The project is projected to add a substantial amount of automobile traffic to the congested Boulevard(s), Avenue(s), or Collector(s) that could potentially cause a shift to alternative route(s); and<br>5. Nearby local residential street(s) (defined as Local streets as designated in the City's General Plan passing through a residential neighborhood) provide motorists with a viable alternative route. A viable alternative route is defined as one which is parallel and reasonably adjacent to the primary route as to make it attractive as an alternative to the primary route. LADOT has discretion to define which routes are viable alternative routes, based on, but not limited to, features such as geography and presence of existing traffic control devices, etc. | 1. Yes<br>2. Yes<br>3. No<br>4. No<br>5. Yes | No, see Chapter 4.4. While the Project is not required to analyze residential cut-through streets per the screening, this analysis was still conducted due to the location of the Project adjacent to a residential area and due to the possibility, that the routes to and from the Project may go through these areas. |

# Appendix C: Plans, Programs, Ordinances and Policies Review

# Detailed Responses in Support of Determining Plans, Programs, Ordinances, or Policies Applicability

*Adapted from Attachment D: Plan Consistency Workshop in Transportation Analysis Guidelines, LADOT, July 2020*

| Question | Guiding Questions | Relevant Plans, Policies, and Programs | Evaluation |
|---|---|---|---|
| **A. MOBILITY Plan 2035 PROW Classification Standards for Dedications and Improvements** | | | |
| A.1 | Does the project include additions or new construction along a street designated as a Boulevard I, and II, and/or Avenue I, II, or III on property zoned for R3 or less restrictive zone? | MP[18] 2.1, 2.3, 3.2, and Mobility Plan 2035 Street Designations and Standard Roadway Dimensions | No, the Project does include additions or new construction along Whitsett Avenue, designated as Avenue II, but it is on property with more restrictive zoning than R3. The land use designation is A1-1XL-RIO (River Improvement Overlay District). |
| A.2 | If A.1 is yes, is the project required to make additional dedications or improvements to the Public Right of Way as demonstrated by the street designation? | | N/A<br>. |
| A.3 | If A.2 is yes, is the project making the dedications and improvements as necessary to meet the designated dimensions of the | | N/A |

18 MP is the abbreviation of the Mobility Plan 2035.

| | | | |
|---|---|---|---|
| | fronting street (Boulevard I, and II, or Avenue I, II, or III)? | | |
| A.4 | If the answer to A.3. is NO, is the project applicant asking to waive from the dedication standards? | | N/A |
| - | If the answer to A.4 is NO, the project is inconsistent with Mobility Plan 2035 street designations and must file for a waiver of street dedication and improvement.<br><br>If the answer to A.4 is YES, additional analysis is necessary to determine if the dedication and/or improvements are necessary to meet the City's mobility needs for the next 20 years. The following factors may contribute to determine if the dedication or improvement is necessary:<br><br>Is the project site along any of the following networks identified in the City's Mobility Plan?<br><br>● Transit Enhanced Network<br><br>● Bicycle Enhanced Network<br><br>● Bicycle Lane Network | Mobility Plan 2035: Transit Enhanced Network, Bicycle Enhanced Network, Bicycle Lane Network, Pedestrian Enhanced District, Neighborhood Enhanced Network. | N/A |

| | | | |
|---|---|---|---|
| | ● Pedestrian Enhanced District<br><br>● Neighborhood Enhanced Network | | |
| **B. Mobility Plan 2035 PROW Policy Alignment with Project-Initiated Changes** | | | |
| B.1 | Does the project physically modify the curb placement or turning radius and/or physically alter the sidewalk and parkways space that changes how people access a property? | MP 2.1, 2.3, 3.2, 2.10, and Street Designations and Standard Roadway Dimensions | A sidewalk exists on the west side of the Whitsett Avenue along the Project Site, and it is proposed to remain. Sidewalks are not present on the east side of Bellaire Avenue and south side of Valley Spring Lane adjacent to the Project Site. The Project will improve pedestrian infrastructure by providing an extensively planted, three-quarter mile long internal pedestrian path that will be open to the public to circumnavigate the perimeter of the Project Site. The pedestrian path will run parallel to Bellaire Avenue and Valley Spring Lane, with three accesses on Valley Spring Lane, effectively serving as the pedestrian circulation along these streets where there is currently no sidewalk adjacent to the Project Site. A new pedestrian access between the Project Site and the Zev Yaroslavsky Greenway (Zev Greenway) will also be installed.<br><br>The Project does not propose a net reduction of street trees and will provide new street trees that will result in a net increase in trees compared to existing conditions.<br><br>The Project would be supportive of and not preclude or conflict with *Mobility Plan 2035* policies such as:<br><br>2.1 Adaptive Reuse of Streets: Urban streets serve multiple purposes that not only include travel but also play a role in providing other roles such as landscaping and drainage. The Project will not alter adjacent streets or the right-of-way in a manner that would preclude or conflict future changes by various City Departments.<br><br>2.3 Pedestrian Infrastructure: The Project Site is not part of a Pedestrian Enhanced District, but the Project will improve pedestrian infrastructure by providing an extensively planted, three-quarter mile long pedestrian path that will be open to the public to circumnavigate the perimeter of the Project Site. The Project also proposes new pedestrian access between the Project Site and the Zev Greenway, a segment of the Los Angeles River Trail located along the south edge of the |

| | | | |
|---|---|---|---|
| | | | Project Site, as well as between Coldwater Canyon Ave and the Zev Greenway. Both of the pedestrian ramps will be ADA-accessible.<br><br>2.10 Loading Areas: When designing developments, it is important to consider a loading area that minimally impacts other travelers such as people driving or walking. The Project proposes a turnaround for loading within the site, accessed from the south driveway at Valleyheart Drive. Passenger loading activity would likely have a minimal impact on the surrounding street network given that loading activity would occur within the Project Site.<br><br>3.2 People with Disabilities: When designing developments, it is important to accommodate the needs of all people with varying levels of mobility. All proposed pedestrian accesses will be ADA-compliant, as well as the internal walking path on-site. In addition, the Project is proposing to provide two ADA compliant ramps – one to provide a pedestrian connection between the Zev Greenway and Coldwater Canyon Avenue northwest of the Project Site, and another between the Project Site and the Zev Greenway – which will improve ADA access to the Zev Greenway. |
| B.2 | Does the project add new driveways along a street designated as an Avenue or a Boulevard that conflict with LADOT's Driveway Design Guidelines? | MP 2.10, PL.1, CDG 2[19], MPP 321, Mobility Plan 2035: Transit Enhanced Network, Bicycle Enhanced Network, Bicycle Lane Network, Pedestrian Enhanced District, Neighborhood Enhanced Network, High Injury Network, TOC Guidelines | Yes, the Project proposes to consolidate two driveways into one driveway along Whitsett Avenue which is designated as Avenue II in the *Mobility Plan 2035*. It also proposes a new driveway as an extension of Valleyheart Drive, which is designated as a Local Street. The Project frontages are not along the Vision Zero network. The Project would remove an existing driveway on Valley Spring Lane and a second driveway on Whitsett Avenue.<br><br>*Mobility Plan 2035* polices PL.1 and PK.10 encourage vehicular access from non-arterial streets (or alleys) and incentives for redesigning access points to be more pedestrian friendly. The two driveways for the Project are proposed to be located on Whitsett Avenue and Valleyheart Drive in order to protect the surrounding residential streets from additional vehicle traffic and conflicts associated with the Project. To improve pedestrian access, the Project proposes a primary pedestrian entry on Whitsett Avenue for users and visitors arriving on foot, bicycle, or public transportation, as well as three pedestrian entry gates on Valley Spring Lane that provide access to a three-quarter mile pathway circumnavigating the Project Site. |

[19] CDG2 is the abbreviation of Citywide Design Guidelines - Guideline 2

| | | | |
|---|---|---|---|
| | | | MP Section 2.10 notes that loading areas should be strategically located and designed so as to not interfere with public right-of-way while still meeting commercial needs of businesses and residences. The driveway on Valleyheart Drive would lead to a passenger drop-off/pick-up turnaround area at the southeast corner of the Project Site that has been designed to accommodate buses, shuttles, and automobiles. Therefore, the drop-off zones are within the Project Site and will not interfere with public right-of-way.<br><br>The Project is on a corner lot, as it occupies almost the entire block bound by Whitsett Avenue, Valley Spring Lane, Bellaire Avenue, and the LA River. MPP 321 on the design of driveways states that on arterial highways, such as Whitsett Avenue, serving lots with frontages greater than 250 feet should not be placed within 150 feet of the adjacent street. The Project proposes two driveways. The north driveway, on Whitsett Avenue, is more than 150 feet away from the closest intersection at Valley Spring Lane. The south driveway, on Valleyheart Drive and leads to Whitsett Avenue, is more than 150 feet away from the closest intersection at Ventura Court.<br><br>MPP Section 321 allows up to two driveways for up to 400 feet of frontage. The Project proposes two driveways and thus does not propose more driveways than allowed by the City's maximum standard.<br><br>MPP Section 321 recommends that two-way driveways for commercial/industrial/multi-family residential developments be no wider than 30 feet in width. The proposed driveways would not comply with the City's applicable requirements, as the north driveway is proposed to be 39 feet wide, and the south driveway is proposed to be 33 feet wide. However, the Project would reduce the number of driveways on Whitsett Avenue from two to one (the south driveway is considered an extension of Valleyheart Drive, which is an existing street), which would overall be a benefit. The north driveway would be wider than the 30 feet to permit provision of a median island on the driveway configured to restrict turns into and out of the driveway to right-turns only, to enhance safety by minimizing conflicts. And the south driveway is the extension of a public street, Valleyheart Drive, which is currently 33 feet wide. Therefore, the Project is consistent with the intent of the policy to minimize conflicts with pedestrians at vehicular driveways. |
| | If the answer to either B.1 or B.2 are YES, City plans and policies should be reviewed in light of the | | The Project frontage is across the LA River from the Los Angeles River Bicycle Path, which is part of the Bicycle Enhanced Network. The Project frontages are not along streets part of the |

| | | | |
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| | proposed physical changes to determine if the City would be obstructed from carrying out the plans and policies.<br><br>The streets that need special consideration are those that are included on the following networks identified in the Mobility Plan 2035, or the HIN:<br><br>● Transit Enhanced Network<br><br>● Bicycle Enhanced Network<br><br>● Bicycle Lane Network<br><br>● Pedestrian Enhanced District<br><br>● Neighborhood Enhanced Network<br><br>● High Injury Network | | Pedestrian Enhanced Districts, Neighborhood Enhanced Network, Transit Network, or Vehicle Enhanced Network.<br><br>Transit Enhanced Network: Mobility Plan 2035 identifies specific streets as part of the Transit Enhanced Network (TEN) to receive improvements that enhance the performance and reliability of existing and future bus service. The Project frontages are not along streets part of TEN.<br><br>Bicycle Enhanced Networks: The Bicycle Enhanced Network (BEN) is a network of streets that will receive treatments that prioritize bicyclists. This network is a subset of the 2010 Bicycle Plan and will supplement the system. The Project frontages are along the Los Angeles River Bicycle Path, which is part of the Bicycle Enhanced Network.<br><br>Bicycle Lane Network: The Bicycle Lane Network consists of: Tier 2 and Tier 3 Bicycle Lanes – Bicycle facilities on arterial roadways with striped separation. The Project frontages are not along streets part of BLN.<br><br>Pedestrian Enhanced District: Mobility Plan 2035 identifies Pedestrian Enhanced District (PED) where initial analysis suggests arterials can be improved and further analysis and prioritization will occur as funding and projects become available. The Project frontages are not along streets part of the PED.<br><br>Neighborhood Enhanced Network: The Neighborhood Enhanced Network (NEN) is a selection of local streets to provide comfortable and safe routes for localized travel of slower-moving modes, such as walking or biking. The Project frontages are not along streets part of the NEN.<br><br>High Injury Network: The High Injury Network (HIN) represents 6% of city streets (over 450 miles) that account for 70% of deaths and severe injuries for people walking[20]. The Project frontages are not along streets that are on the HIN, and therefore the Project would not preclude or conflict with the implementation of any potential future Vision Zero projects on the HIN.<br><br>Information above is retrieved from LADOT Transportation Assessment Support Map https://arcg.is/fubbD |

20 https://ladotlivablestreets.org/programs/vision-zero/maps

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| B.2.1 | Would the physical changes in the public right of way or new driveways that conflict with LADOT's Driveway Design Guidelines degrade the experience of vulnerable roadway users such as modify, remove, or otherwise negatively impact existing bicycle, transit, and/or pedestrian infrastructure? | | The Project frontages are not along streets in the BEN or Vision Zero network. The Project proposes to provide on-site bicycle parking and preserves the City's ability to implement bicycle projects on adjacent streets that are part of the bikeway network. Thus, the Project would not negatively impact existing bicycle infrastructure.<br><br>To improve pedestrian access, the Project proposes a primary pedestrian entry on Whitsett Avenue for users and visitors arriving on foot, bicycle, or public transportation, as well as three pedestrian entry gates on Valley Spring Lane that provide access to a three-quarter mile pathway circumnavigating the Project Site. Thus, the Project would not negatively impact existing pedestrian infrastructure.<br><br>The Project would not change transit infrastructure and thus would not negatively impact existing transit infrastructure. |
| B.2.2 | Would the physical modifications or new driveways that conflict with LADOT's Driveway Design Guidelines preclude the City from advancing the safety of vulnerable roadway users? | | No. The Project would reduce the number of driveways on Whitsett Avenue from two to one (the south driveway is considered an extension of Valleyheart Drive, an existing street), which would overall be a benefit. This would not preclude the City from advancing the safety of vulnerable roadway users. |
| **C. Network Access** | | | |
| C1.1 | Does the project propose to vacate or otherwise restrict public access to a street, alley, or public stairway? | MP 3.9 | The Project does not propose to remove or restrict access to a public right-of-way. |
| C.1.2 | If the answer to C.1.1 is Yes, will the project provide or maintain public access to people walking | | N/A |

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| | and biking on the street, alley, or stairway? | | |
| C.2.1 | Does the project create a cul-de-sac or is the project located adjacent to an existing cul-de-sac? | MP 3.10 | Yes. One of the Project driveways is at Valleyheart Drive, which is a paper street that ends approximately 600 feet west of Whitsett Avenue and effectively turns into a dead-end, or a cul-de-sac. |
| C.2.2 | If yes, will the cul-de-sac maintain convenient and direct public access to people walking and biking to the adjoining street network? | | Yes. The cul-de-sac at Valleyheart Drive would lead to a turnaround for passenger loading. This turnaround would be accessible by pedestrians and bicycles through a parallel path north of the fire station. |
| **D. Parking Supply and Transportation Demand Management** | | | |
| D.1 | Would the project propose a supply of onsite parking that exceeds the baseline amount as required in the Los Angeles Municipal Code or a Specific plan, whichever requirement prevails? | MP 3.8, 4.8, 4.13 | 4.13 Parking and Land Use Management: The objective of this policy is to balance parking supply with other transportation and land use objectives. The policy states that an oversupply of parking can undermine broader regional goals of creating vibrant public spaces and a robust multi-modal transportation system; that an abundance of free parking incentivizes automobile trips and makes alternative modes of transportation less attractive; and that large parking lots consume land that could be used for other valuable uses and discourage walking by increasing the distance between services and facilities. Per the LAMC, the Project is required to provided 444 vehicle parking stalls. The Project proposes to provide 532 parking stalls – 503 stalls in a subterranean parking garage and 29 surface parking spaces. The Project does not conflict with the portion of MP 4.13 that discourages utilizing land for parking that could have been used for other valuable uses since almost all parking will be located in a subterranean garage.<br><br>While the Project would include parking in excess of the LAMC minimum requirements, it would include features to encourage walking and bicycling and would provide 100 bicycle parking spaces even though none are required by the LAMC. Moreover, the Project would provide a connection to the Zev Greenway, which would further broaden the multimodal network. Therefore, the Project would not undermine broader regional goals of creating vibrant public spaces and a robust multi-modal transportation system. |

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| | | | Under CEQA, a project is considered consistent with an applicable plan if it is consistent with the overall intent of the plan and would not preclude the attainment of its primary goals. A project does not need to be in perfect conformity with each and every policy. Therefore, even though the Project's parking may exceed the LAMC's minimum requirements, the Project is consistent with the overall intent of Policy 4.13 and the Mobility Plan.<br><br>Moreover, any inconsistency with an applicable policy, plan, or regulation is only a significant impact under CEQA if the policy, plan, or regulation was adopted for the purpose of avoiding or mitigating an environmental effect and if the inconsistency itself would result in a direct physical impact on the environment. The above policy is intended to implement broader regional goals, not to mitigate an environmental effect. Therefore, even if the Project's amount of parking was conservatively considered to be inconsistent with Policy 4.13, such inconsistency would not be considered to be a significant impact under CEQA. |
| D.2 | If the answer to D.1. is YES, would the project propose to actively manage the demand of parking by independently pricing the supply to all users (e.g., parking cash-out), or for residential properties, unbundle the supply from the lease or sale of residential units? | | The Project would not price parking, but the parking spaces will be restricted to only Harvard-Westlake athletics associated vehicles and for community members using the recreational facilities during the designated hours. In addition, many of the Harvard-Westlake student would travel between the Project Site and the main campus using the shuttle system, and thus would not use their own vehicles. On days in which event attendance at the Project Site is expected to surpass 300 spectators, students would be required to use the shuttles, and all other vehicles would be required to obtain tickets and parking passes to enter the Project Site. |
| D.3 | Would the project provide the minimum on and off-site bicycle parking spaces as required by Section 12.21 A.16 of the LAMC? | | Yes, the Project would provide 100 bicycle parking spaces even though none are required by LAMC. |
| D.4 | Does the Project include more than 25,000 square feet of gross floor area construction of new non-residential gross floor? | | Yes. The Project includes the development of two athletic fields with bleacher seating and field lights, an 80,249-square-foot multi-purpose gymnasium, a 52-meter swimming pool with seating, and eight tennis courts with seating. The Project would also include ancillary field buildings, a pool house, and small security kiosk. |

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| D.5 | If the answer to D.4. is YES, does the project comply with the City's TDM Ordinance in Section 12.26 J of the LAMC? | | Yes, the Project will comply with the Citywide TDM Ordinance and incentive employees to utilize alternatives to the automobile. |
| **E. Consistency with Regional Plans** | | | |
| E.1 | Does the Project or Plan apply one the City's efficiency-based impact thresholds (i.e., VMT per capita, VMT per employee, or VMT per service population) as discussed in Section 2.2.3 of the TAG? | | No, the Project applies total VMT for analysis of the potential impacts. |
| E.2 | E.2 If the Answer to E.1 is YES, does the Project or Plan result in a significant VMT impact? | | N/A |
| E.3 | If the Answer to E.1 is NO, does the Project result in a net increase in VMT? | | No, the Project will decrease VMT.<br><br>The VMT associated with the Project are for trips associated with the Harvard-Westlake athletic activities and employees. Harvard-Westlake athletic activities trips include student shuttle trips, student non-shuttle trips, and other trips (coaches, opposing teams, and spectators). Trips associated with the community use of the Project Site is exempt from VMT analysis because community-serving recreational facilities are exempt per LADOT. The total VMT for the Harvard-Westlake athletic activities and employee trips are 3,932.<br><br>The VMT associated with the existing use of Weddington Golf & Tennis is 6,030.<br><br>Thus, the net VMT change would be a decrease of 2,098. |
| E.4 | If the Answer to E.2 or E.3 is YES, then further evaluation would be | | N/A |

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| | necessary to determine whether such a project or land use plan would be shown to be consistent with VMT and GHG reduction goals of the SCAG RTP/SCS | | |

## Review of Consistency with Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan

The Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan was adopted in 1998 and amended in 2016 as part of the Mobility Plan 2035 Update. While an update to the Community Plan is currently under development, the plan from 2016 is currently in effect and forms the basis for this review of conflicts relating to the transportation system.

The Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan is one of 35 in the City of Los Angeles that establishes the policies and programs that inform the framework for local land use, circulation, and service systems within the selected community plan area. Per the City's new TAG, a review of the Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan was conducted to evaluate whether the project conflicts with or precludes the implementation of the community plan framework.

The Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan contains transportation-related objectives, policies, and programs in Chapter III, Land Use Plan Policies and Programs. The following objectives, policies, and programs are relevant to the Project:

Policy 4-1.2 Increase accessibility to The Los Angeles River (III-12).

- The Project supports this policy by proposing new pedestrian access between the Project Site and the Zev Yaroslavsky Greenway (Zev Greenway), which is a segment of the Los Angeles River Trail located along the south edge of the Project Site. In addition, the Project is proposing a pedestrian ramp to connect the Zev Greenway to Coldwater Canyon Avenue.

Policy 5-1.3 Require development in major opportunity sites to provide public open space (III-13).

- The Project supports this policy by providing an extensively planted, three-quarter mile long pedestrian path that will be open to the public to circumnavigate the perimeter of the Project Site. The approximately 7 acres of open space and recreational amenities on site will also be made available to members of the community when not in use by Harvard-Westlake. A new ADA ramp will be constructed to connect Coldwater Canyon Avenue to the Zev Greenway, which will also connect the community to more open space.

A Transportation Improvement and Mitigation Plan (TIMP) was prepared for the Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan through an analysis of the land use impacts on transportation. The TIMP establishes a program of specific measures which are recommended to be undertaken during the life of the Community Plan. The TIMP provides an implementation program for the circulation

needs of the Plan area. The following TIMP programs were reviewed to determine Project consistency with the Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan:

Freeway and Streets: The TIMP identified streets that are designated as Boulevards and Avenues and requires that streets shall be developed in accordance with standards and criteria contained in the Mobility Plan, an element of the General plan and the City's Standard Street Dimensions except where environmental issues and planning practices warrant alternate standards consistent with street capacity requirements.

- The dedication requirement is not applicable to the Project since the Project is located on property zoned A1, which is more restrictive than the R3 zone and is therefore not subject to the highway and collector street dedication and improvement requirements.

Public Transportation: This section identified a goal of developing a public transit system that improves mobility with convenient alternatives to automobile travel within Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass area. The Project does not propose any change or placement of public transit routes or transit furniture adjacent to the Site, so the Project would not conflict with or prevent the City from pursuing the following policies:

- Policy 10-1.1 Coordinate with the Metropolitan Transit Authority (MTA) to improve local bus service to and within the Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass plan area (III-17).
    - The Project does not conflict with or prevent the City from pursuing this policy.
- Policy 10-1.2 Encourage the expansion wherever feasible, of programs aimed at enhancing the mobility of senior citizens, disabled persons and the transit-dependent population (III-17).
    - The Project does not conflict with or prevent the City from pursuing this policy.
- Policy 10-1.3 Encourage the provision of safe, attractive and clearly identifiable transit stops with user friendly design amenities (III-18).
    - The Project does not conflict with or prevent the City from pursuing this policy.
- Policy 10-2.1 Develop an intermodal mass transportation plan to implement linkages to future mass transit service (III-18).
    - The Project does not conflict with or prevent the City from pursuing this policy.

Transportation Demand Management (TDM) Program: The TIMP identifies TDM programs and other improvements to enhance safety and mobility in the Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass area, such as encouraging the formation of Transportation Management Associations (TMA's) and the continued implementation of the Citywide TDM Ordinance (III-19). The following policies are relevant to the Project:

- Policy 11-1.1 encourages non-residential development to provide employee incentives for utilizing alternatives to the automobile (III-19).
    - The Project will comply with the Citywide TDM Ordinance and incentive employees to utilize alternatives to the automobile.
- Policy 11-1.3 requires that proposals for major new non-residential development projects include submission of a TDM Plan to the City (III-19).
    - As described for Policy 11-1.1, the Project is not required to develop a TDM plan per CEQA because it is under the VMT significance threshold. The Project will be providing shuttles to transport students (and, optionally, employees) between the Project Site and the Harvard-Westlake Upper School Campus to reduce the vehicle trips arriving at the Project Site.
- Policy 13-1.3 Discourage non-residential traffic flow for streets designed to serve residential areas only by the use of traffic control measures.
    - The Project discourages non-residential traffic flow on Valley Spring Lane and Bellaire Avenue by not providing vehicular access to the site from those streets. Shuttles routes will not be along local residential streets and the preferred driving route for other cars would be communicated by the school.
- Policy 13-1.4 New development projects should be designed to minimize disturbance to existing flow with proper ingress and egress to parking.
    - The Project supports this policy by replacing two existing driveways on Whitsett Avenue with one new driveway directly on Whitsett Avenue. The Project will provide shuttle buses to transport students between the Project Site and the Harvard-Westlake Upper School campus, which would reduce the number of vehicles utilizing these accesses on Whitsett Avenue.
- Policy 13-2.2 Driveway access points onto arterial and collector streets should be limited in number and be located to insure the smooth and safe flow of vehicles and bicycles.

- The Project would replace two existing driveways on Whitsett Avenue with one new driveway directly on Whitsett Avenue and thus does not propose more driveways than allowed by the City's maximum standard. The second driveway will be on Valleyheart Drive, which is not an arterial or collector.

The Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan also provides for various modes of non-motorized transportation/circulation such as walking and bicycle riding by establishing policies and standards to facilitate the development of a bicycle route system which is intended to compliment other transportation modes. The following policies are relevant to the Project:

- Policy 14-1.1 Assure that local bicycle facilities are identified and linked with facilities of neighboring areas of the City. (III-23).
  - The Project frontages are across the river from the Los Angeles River Bicycle Path, which is part of the Bicycle Enhanced Network. The Project proposes new pedestrian access between the Project Site and the Zev Greenway, which are linked to the Los Angeles River Bicycle Path near the intersection of the Zev Greenway and Coldwater Canyon Avenue northwest of the Project Site.
- Policy 14-1.2 Encourage the provision of showers, changing rooms and bicycle storage at new and existing non-residential developments and public places.
  - The Project would provide 72 short-term bicycle parking spaces and 28 long-term bicycle parking spaces to promote bicycle connectivity between the Project Site, the Los Angeles River, and the surrounding neighborhoods. Showers and changing rooms would be available in the locker rooms for Harvard-Westlake students.

Parking: This section supports a sufficient system of well-designed and convenient on-street parking and off-street parking facilities throughout the plan area.

- Policy 15-1.1 Consolidate parking where appropriate, to minimize the number of ingress and egress points onto arterials.
  - The Project proposes one primary parking structure to consolidate the parking. It would replace two existing driveways on Whitsett Avenue with one new driveway directly on Whitsett Avenue, which would minimize the number of ingress and egress points onto Whitsett Avenue.

Relevant policies in Chapter V, Urban Design, were also reviewed to assess the Project's consistency with the Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan. The policies for individual projects are applicable only to commercial and multiple residential projects, and thus are not relevant to the Project.

Community Design and Landscaping Standards

- Public Open Space and Plazas Establish public open space standards that will guide the design of new public plazas and open spaces, which should include 1) Consideration of the siting of open space to maximize pedestrian accessibility and circulation, 2) Solar exposure or protection, 3) Adjacency to pedestrian routes and other open spaces, 4) Appropriate plant and hard scape materials.
    - While not in the public right-of-way, the Project supports this policy by providing regular access to 5.4 acres of passive open space and a three-quarter mile long pedestrian path with a new connection to the Zev Greenway for casual exercise by individuals or families. In addition, the Project would implement an extensive tree and landscaping program, resulting in a net increase in trees compared to existing conditions.

## Review of Consistency with Los Angeles River Design Guidelines

In 2014, the City of Los Angeles established the River Improvement Overlay (RIO) District, establishing development regulations and standards for developments within Los Angeles River or tributary adjacent areas throughout Los Angeles. The Los Angeles River Design Guidelines highlight best practices for designing development projects to increase awareness of, and access to, the Los Angeles River. The provisions in the guidelines identify the desired level of design quality for all developments within the RIO District and projects within the RIO District are encouraged to incorporate these guidelines and best practices into the project design.

The Los Angeles River Design Guidelines contains transportation-related objectives and strategies. The following objectives and strategies are relevant to the Project:

Strategy 1-1 Incorporate passageways or paseos into mid-block developments adjacent to the river, to facilitate pedestrian access to the river greenway, such that pedestrians and bicyclists will not need to walk or ride the perimeter of a block in order to access the river.

- The Project will facilitate pedestrian access to the river greenway by including a new pedestrian access between the Project Site and the Zev Greenway. In addition, the Project will provide a pedestrian ramp to connect the Zev Greenway to Coldwater Canyon Avenue.

Strategy 1-2 Activate the passageway or paseo so that they are safe and visually interesting spaces, using recycled water features, pedestrian-level lighting, artwork, benches, landscape or special paving.

- The Project will activate the new pedestrian connection to the Zev Greenway to be safe and interesting by providing landscaping along the path. The path will also connect to the landscaped areas on the Project Site, which will have water features, benches, wooded areas, and natural spaces that are open to the public.

Strategy 1-6 Promote pedestrian connectivity from the river by placing publicly accessible entrances at grade level or slightly above, and unobstructed from view from the river corridor. Avoid sunken entryways below the level of the adjacent river pathways.

- The Project Site is higher in elevation compared to the Zev Greenway and will be accessible via the new pedestrian path.

Strategy 1-8 Provide bicycle lockers and/or racks near river-facing building entrances.

- The Project will provide 100 bicycle parking on the Project Site, including some near the new pedestrian path to the Zev Greenway.

Strategy 4-1 Place on-site parking so that it does not dominate the river corridor.

- The Project will provide an underground parking structure, which will not be visible from the river corridor. 29 parking spaces will be provided at-grade, but will not be directly adjacent the Zev Greenway, and thus will not dominate the river corridor.

Strategy 4-2 Locate loading facilities so that docks and doors do not dominate the river frontage and are screened from the river.

- Loading activity for the Project would occur in the surface parking area, which will be accessed via the new roundabout at the end of Valleyheart Drive. This area will be obscured by the landscaping and will not be visible from the river corridor.

Strategy 4-3 Situate loading areas so as not to interfere with on-site pedestrian and bicycle circulation to and from the river corridor. When feasible, separate loading areas from areas that are used for public entrances.

- The new roundabout at the end of Valleyheart Drive and the surface parking area, where loading at the Project Site would occur, is located in a different location from the new pedestrian path to the Zev Greenway, and thus while some individuals may still choose to walk through the roundabout to connect to the new pedestrian path, on the whole it will not interfere with pedestrian and bicycle circulation to and from the river corridor.

Strategy 4-4 Encourage shared parking agreements to minimize the amount of area dedicated to parking.

- The on-site parking spaces on the Project Site would be shared between the Harvard-Westlake athletic activities and the community use of the facilities. In addition, the Project will implement a shuttle system to transport Harvard-Westlake students to and from the Upper School, which would minimize the need for parking spaces on the Project Site.

Strategy 5-1 Design cul-de-sacs, street ends, vacated streets, and remnant streets widths to provide pocket parks which can serve as gateways to the river while also assisting in the treatment and infiltration of stormwater as well as dry-weather run-off.

- The Project is proposing a new roundabout at the end of Valleyheart Drive, which will be separate from the pedestrian access to the Zev Greenway. Otherwise, the Project is not designing a cul-de-sac, street end, vacated street, remnant street, or pocket park that would serve as a gateway to the river. Nonetheless, the Project includes an underground stormwater capture, treatment, and reuse system on the Project Site. The Project would capture and treat surface water runoff from the Whitsett Avenue/Valley Spring Lane intersection and throughout the Project Site. Runoff would be stored in a one-million-gallon underground tank and filtered prior to

use as on-site irrigation or released into the in-street storm system (during periods of heavy rainfall when onsite stored capacity has been reached). Such storage and filtering would improve water quality and reduce the rate of runoff during storm events.

Strategy 5-2 Design parkways and traffic circles to assist in the treatment and infiltration of stormwater as well as dry-weather run-off.

- The Project is proposing a new roundabout at the end of Valleyheart Drive, which will be separate from the pedestrian access to the Zev Greenway. The Project includes an underground stormwater capture and reuse system on the Project Site.

# Appendix D: Substantially Increasing Hazards due to a Geometric Design Feature Review

# Detailed Responses for 3.3 Substantially Increasing Hazards Due to A Geometric Design Feature or Incompatible Use

*Adapted from Section 2.4 in Transportation Analysis Guidelines, LADOT, July 2019*

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from the project site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle/vehicle, vehicle/bicycle, or vehicle/pedestrian conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a project site. These conflicts may be created by the driveway configuration or through the placement of project driveway(s) in areas of inadequate visibility, adjacent to bicycle or pedestrian facilities, or too close to busy or congested intersections. These impacts are typically evaluated for permanent conditions after project completion but can also be evaluated for temporary conditions during project construction. If the project requires a discretionary action, and the answer is "yes" to either of the following questions, further analysis will be required to assess whether the project would result in impacts due to geometric design hazards or incompatible uses:

## Screening Criteria

- Is the project proposing new driveways, or introducing new vehicle access to the property from the public right-of-way?
    - Yes, the Project proposes to consolidate two driveways into one driveway along the Whitsett Avenue which is designated as Avenue II in the *Mobility Plan 2035*. It also proposes a new driveway as an extension of Valleyheart Drive, which is designated as a Local Street. The Project would decrease the total number of driveways as exist today.
- Is the project proposing to, or required to make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb line, etc.)?
    - The Project is not subject to dedication requirements because it is located on A1 zoning, which is more restrictive than R3 zoning.
    - The Project proposes to add a ramp connecting the Project Site to the Zev Greenway, and another ramp connecting the Zev Greenway to Coldwater Canyon Avenue, which are in the public right-of-way.

## Assessing Project Impacts

Project access points, internal circulation, and parking access were reviewed to assess vehicle, bicycle, and pedestrian safety impacts from an operational and safety perspective (e.g., turning radii, driveway queuing, and line of sight for turns into and out of project driveway[s]) through the lens of Threshold T-3:

Threshold T-3: 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)?

Operational and safety issues related to the potential for vehicle/pedestrian and vehicle/bicycle conflicts and the severity of consequences that could result were considered for locations where project driveways would cross pedestrian facilities or bicycle facilities (bike lanes or bike paths). Preliminary project access plans were reviewed in light of commonly accepted traffic engineering design standards (Section 321 of LADOT's Manual of Policies and Procedures, which provides guidance on driveway design) to ascertain whether any deficiencies are apparent in the site access plans which would be considered significant. The determination of significance considered the following factors:

- The relative amount of pedestrian activity at project access points.
    - The Project Site is located in a primarily residential area with limited commercial development. Pedestrian counts conducted at the intersection of Whitsett Avenue & Valley Spring Lane and the intersection of Whitsett Avenue & Ventura Boulevard, which are the closest intersections to the north driveway and south driveway with count data, respectively. The counts indicate a low level of pedestrian activity in the PM peak period. The Project will contribute to improving walkability with enhancements to the Project Site, such as proposing an internal pedestrian path open to the public, and new pedestrian access between the Project Site and the Zev Greenway.
- Design features/physical configurations that affect the visibility of pedestrians and bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists.
    - Pedestrian access to the Project Site would be provided via the primary pedestrian entry on Whitsett Avenue. Further, pedestrian access to the three-quarter mile pathway circumnavigating the Project Site will be provided at three pedestrian entry gates along Valley Spring Lane. Students, visitors, and employees arriving to the Project Site by bicycle would have the same access opportunities as pedestrians and would be able to utilize on-site bicycle parking facilities. The Project's access locations would be designed to the City standards and would provide adequate sight distance, sidewalks, crosswalks, and pedestrian movement controls that meet the City's requirements to protect pedestrian safety. All roadways and driveways will intersect at right angles. Street trees and other potential impediments to adequate driver and pedestrian visibility would be minimal. Pedestrian entrances separated from vehicular driveways would provide access from the adjacent streets, parking facilities, and transit stops.
- The type of bicycle facilities the project driveway(s) crosses and the relative level of utilization.
    - There are no existing or planned bicycle facilities along Whitsett Avenue. The counts collected at Whitsett Avenue & Valley Spring Lane and Whitsett Avenue & Ventura Boulevard show 2 bicyclists and 6 bicyclists in the PM peak period, respectively. Given that the entry for

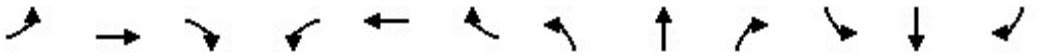
bicyclists is separated from vehicular driveways, the location of the driveways is not expected to contribute to an increase in hazards for this factor.

- The physical conditions of the site and surrounding area, such as curves, slopes, walks, landscaping or other barriers, that could result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle impacts.
    - The streets surrounding the Project Site are flat and do not curve. The Project would contribute to minimizing vehicle/pedestrian, vehicle/bicycle, and vehicle/vehicle impacts by providing designated pedestrian space and locating driveways at right angles to avoid visibility challenges.
- The project location, or project-related changes to the public right-of-way, relative to proximity to the High Injury Network or a Safe Routes to School program area.
    - There are no streets along the Project's frontage that are on the High Injury Network, and the Project is not located in a Safe Routes to School program area.
- Any other conditions, including the approximate location of incompatible uses that would substantially increase a transportation hazard.
    - The Project is adjacent to a residential area and proposes an athletic and recreational facility for the School and for shared use with community members. The Project's multimodal amenities and location of driveways would not substantially increase transportation hazards.

## Cumulative Impacts

There are five related projects and all of them are located on the Ventura Boulevard. Therefore, these related projects would not share adjacent street frontages with the Project Site. The access points to/from these related projects would not have a cumulative impact in conjunction with the Project's access points, given the physical distance from the Project Site.

# Appendix E: Synchro Queuing Reports



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 207 | 4 | 343 | 0 | 0 | 0 | 0 | 692 | 372 | 326 | 803 | 0 |
| Future Volume (veh/h) | 207 | 4 | 343 | 0 | 0 | 0 | 0 | 692 | 372 | 326 | 803 | 0 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 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 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 291 | 0 | 138 | | | | 0 | 752 | 301 | 354 | 873 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 472 | 0 | 210 | | | | 0 | 1044 | 414 | 741 | 2700 | 0 |
| Arrive On Green | 0.13 | 0.00 | 0.13 | | | | 0.00 | 0.29 | 0.29 | 0.42 | 0.76 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1585 | | | | 0 | 3762 | 1424 | 1781 | 3647 | 0 |
| Grp Volume(v), veh/h | 291 | 0 | 138 | | | | 0 | 712 | 341 | 354 | 873 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1614 | 1781 | 1777 | 0 |
| Q Serve(g_s), s | 6.9 | 0.0 | 7.4 | | | | 0.0 | 16.9 | 17.1 | 13.0 | 7.0 | 0.0 |
| Cycle Q Clear(g_c), s | 6.9 | 0.0 | 7.4 | | | | 0.0 | 16.9 | 17.1 | 13.0 | 7.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.88 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 472 | 0 | 210 | | | | 0 | 989 | 469 | 741 | 2700 | 0 |
| V/C Ratio(X) | 0.62 | 0.00 | 0.66 | | | | 0.00 | 0.72 | 0.73 | 0.48 | 0.32 | 0.00 |
| Avail Cap(c_a), veh/h | 835 | 0 | 372 | | | | 0 | 1104 | 524 | 741 | 2700 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 36.9 | 0.0 | 37.1 | | | | 0.0 | 28.6 | 28.7 | 19.2 | 3.4 | 0.0 |
| Incr Delay (d2), s/veh | 2.8 | 0.0 | 7.3 | | | | 0.0 | 4.5 | 9.5 | 0.5 | 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 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.2 | 0.0 | 3.3 | | | | 0.0 | 7.3 | 7.7 | 5.3 | 1.9 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.7 | 0.0 | 44.4 | | | | 0.0 | 33.2 | 38.3 | 19.6 | 3.8 | 0.0 |
| LnGrp LOS | D | A | D | | | | A | C | D | B | A | A |
| Approach Vol, veh/h | | 429 | | | | | | 1053 | | | 1227 | |
| Approach Delay, s/veh | | 41.2 | | | | | | 34.8 | | | 8.3 | |
| Approach LOS | | D | | | | | | C | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 42.2 | 30.9 | | 16.8 | | 73.2 |
| Change Period (Y+Rc), s | 4.8 | * 4.8 | | 4.9 | | 4.8 |
| Max Green Setting (Gmax), s | 25.6 | * 29 | | 21.1 | | 59.2 |
| Max Q Clear Time (g_c+I1), s | 15.0 | 19.1 | | 9.4 | | 9.0 |
| Green Ext Time (p_c), s | 0.8 | 7.0 | | 2.5 | | 7.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 23.8 |
| HCM 6th LOS | | C |

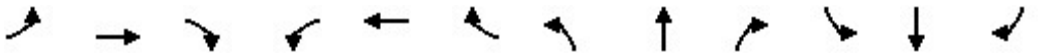
**Notes**

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# HCM 6th Signalized Intersection Summary
## 8: Coldwater Canyon Ave & US 101 SB Ramps

11/16/2020



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 207 | 4 | 388 | 0 | 0 | 0 | 0 | 701 | 372 | 326 | 803 | 0 |
| Future Volume (veh/h) | 207 | 4 | 388 | 0 | 0 | 0 | 0 | 701 | 372 | 326 | 803 | 0 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 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 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 310 | 0 | 166 | | | | 0 | 762 | 302 | 354 | 873 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 534 | 0 | 238 | | | | 0 | 1052 | 413 | 707 | 2638 | 0 |
| Arrive On Green | 0.15 | 0.00 | 0.15 | | | | 0.00 | 0.29 | 0.29 | 0.40 | 0.74 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1585 | | | | 0 | 3773 | 1415 | 1781 | 3647 | 0 |
| Grp Volume(v), veh/h | 310 | 0 | 166 | | | | 0 | 719 | 345 | 354 | 873 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1616 | 1781 | 1777 | 0 |
| Q Serve(g_s), s | 7.3 | 0.0 | 8.9 | | | | 0.0 | 17.1 | 17.3 | 13.5 | 7.6 | 0.0 |
| Cycle Q Clear(g_c), s | 7.3 | 0.0 | 8.9 | | | | 0.0 | 17.1 | 17.3 | 13.5 | 7.6 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.88 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 534 | 0 | 238 | | | | 0 | 993 | 471 | 707 | 2638 | 0 |
| V/C Ratio(X) | 0.58 | 0.00 | 0.70 | | | | 0.00 | 0.72 | 0.73 | 0.50 | 0.33 | 0.00 |
| Avail Cap(c_a), veh/h | 835 | 0 | 372 | | | | 0 | 1104 | 524 | 707 | 2638 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 35.6 | 0.0 | 36.3 | | | | 0.0 | 28.6 | 28.7 | 20.4 | 4.0 | 0.0 |
| Incr Delay (d2), s/veh | 2.1 | 0.0 | 7.7 | | | | 0.0 | 4.6 | 9.6 | 0.6 | 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 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.3 | 0.0 | 3.9 | | | | 0.0 | 7.4 | 7.8 | 5.5 | 2.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 37.7 | 0.0 | 44.0 | | | | 0.0 | 33.2 | 38.3 | 21.0 | 4.3 | 0.0 |
| LnGrp LOS | D | A | D | | | | A | C | D | C | A | A |
| Approach Vol, veh/h | | 476 | | | | | | 1064 | | | 1227 | |
| Approach Delay, s/veh | | 39.9 | | | | | | 34.9 | | | 9.1 | |
| Approach LOS | | D | | | | | | C | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 40.5 | 31.1 | | 18.4 | | 71.6 |
| Change Period (Y+Rc), s | 4.8 | * 4.8 | | 4.9 | | 4.8 |
| Max Green Setting (Gmax), s | 25.6 | * 29 | | 21.1 | | 59.2 |
| Max Q Clear Time (g_c+I1), s | 15.5 | 19.3 | | 10.9 | | 9.6 |
| Green Ext Time (p_c), s | 0.8 | 7.0 | | 2.6 | | 7.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 24.3 |
| HCM 6th LOS | C |

**Notes**

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# Appendix F: Count Sheets

National Data & Surveying Services

# Intersection Turning Movement Count

**Location:** Whitsett Ave & Moorpark St
**City:** Studio City
**Control:** Signalized

**Project ID:** 19-05071-001
**Date:** 2019-02-12

## Total

| NS/EW Streets: | Whitsett Ave | | | | Whitsett Ave | | | | Moorpark St | | | | Moorpark St | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PM** | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
| | 1 | 2 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | |
| | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| 3:00 PM | 36 | 156 | 40 | 0 | 16 | 112 | 35 | 0 | 29 | 186 | 25 | 0 | 28 | 117 | 19 | 0 | 799 |
| 3:15 PM | 25 | 157 | 35 | 0 | 10 | 97 | 31 | 0 | 30 | 205 | 22 | 0 | 22 | 112 | 17 | 0 | 763 |
| 3:30 PM | 28 | 162 | 34 | 0 | 22 | 98 | 28 | 0 | 41 | 190 | 25 | 0 | 24 | 143 | 28 | 0 | 823 |
| 3:45 PM | 32 | 196 | 31 | 0 | 21 | 140 | 35 | 0 | 30 | 182 | 28 | 0 | 21 | 176 | 20 | 0 | 912 |
| 4:00 PM | 25 | 163 | 33 | 0 | 20 | 115 | 33 | 0 | 28 | 194 | 22 | 0 | 31 | 175 | 29 | 0 | 868 |
| 4:15 PM | 31 | 208 | 34 | 0 | 19 | 96 | 38 | 0 | 27 | 187 | 24 | 0 | 26 | 127 | 28 | 0 | 845 |
| 4:30 PM | 39 | 174 | 29 | 0 | 20 | 98 | 13 | 0 | 31 | 198 | 19 | 0 | 21 | 146 | 24 | 0 | 812 |
| 4:45 PM | 32 | 168 | 37 | 0 | 20 | 115 | 26 | 0 | 35 | 203 | 13 | 0 | 21 | 143 | 27 | 0 | 840 |
| 5:00 PM | 42 | 201 | 45 | 0 | 21 | 101 | 22 | 0 | 28 | 179 | 18 | 0 | 16 | 143 | 33 | 0 | 849 |
| 5:15 PM | 29 | 213 | 44 | 0 | 20 | 123 | 38 | 0 | 32 | 202 | 17 | 0 | 28 | 133 | 26 | 0 | 905 |
| 5:30 PM | 34 | 207 | 42 | 0 | 21 | 123 | 38 | 0 | 41 | 185 | 25 | 0 | 29 | 150 | 35 | 0 | 930 |
| 5:45 PM | 33 | 200 | 38 | 0 | 19 | 136 | 33 | 0 | 34 | 192 | 19 | 0 | 21 | 134 | 25 | 1 | 885 |
| 6:00 PM | 33 | 196 | 51 | 0 | 18 | 92 | 25 | 0 | 33 | 183 | 17 | 0 | 27 | 141 | 29 | 0 | 845 |
| 6:15 PM | 28 | 164 | 37 | 0 | 19 | 80 | 26 | 0 | 22 | 192 | 28 | 0 | 17 | 143 | 32 | 0 | 788 |
| 6:30 PM | 32 | 185 | 24 | 0 | 20 | 77 | 33 | 0 | 32 | 196 | 26 | 0 | 18 | 141 | 42 | 0 | 826 |
| 6:45 PM | 29 | 138 | 31 | 0 | 12 | 89 | 28 | 0 | 28 | 183 | 17 | 0 | 25 | 119 | 26 | 0 | 725 |
| | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| **TOTAL VOLUMES :** | 508 | 2888 | 585 | 0 | 298 | 1692 | 482 | 0 | 501 | 3057 | 345 | 0 | 375 | 2243 | 440 | 1 | 13415 |
| **APPROACH %'s :** | 12.76% | 72.54% | 14.69% | 0.00% | 12.06% | 68.45% | 19.50% | 0.00% | 12.84% | 78.32% | 8.84% | 0.00% | 12.26% | 73.32% | 14.38% | 0.03% | |
| **PEAK HR :** | 05:00 PM - 06:00 PM | | | | | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 138 | 821 | 169 | 0 | 81 | 483 | 131 | 0 | 135 | 758 | 79 | 0 | 94 | 560 | 119 | 1 | 3569 |
| **PEAK HR FACTOR :** | 0.821 | 0.964 | 0.939 | 0.000 | 0.964 | 0.888 | 0.862 | 0.000 | 0.823 | 0.938 | 0.790 | 0.000 | 0.810 | 0.933 | 0.850 | 0.250 | 0.959 |
| | 0.979 | | | | 0.924 | | | | 0.968 | | | | 0.904 | | | | |

| | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-4 PM | 121 | 671 | 140 | 0 | 69 | 447 | 129 | 0 | 130 | 763 | 100 | 0 | 95 | 548 | 84 | 0 | 3297 | 0.9037829 |
| 5-6 PM | 138 | 821 | 169 | 0 | 81 | 483 | 131 | 0 | 135 | 758 | 79 | 0 | 94 | 560 | 119 | 1 | 3569 | 0.9594086 |

National Data & Surveying Services

# Intersection Turning Movement Count

**Location:** Whitsett Ave & Valley Spring Ln
**City:** Studio City
**Control:** 2-Way Stop(EB/WB)

**Project ID:** 19-05071-002
**Date:** 2019-02-12

## Total

| NS/EW Streets: | Whitsett Ave | | | | Whitsett Ave | | | | Valley Spring Ln | | | | Valley Spring Ln | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PM** | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
| | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | |
| | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| 3:00 PM | 3 | 194 | 4 | 0 | 5 | 155 | 2 | 0 | 0 | 0 | 6 | 0 | 1 | 0 | 9 | 0 | 379 |
| 3:15 PM | 3 | 212 | 6 | 0 | 7 | 125 | 1 | 0 | 3 | 1 | 10 | 0 | 2 | 1 | 11 | 0 | 382 |
| 3:30 PM | 5 | 206 | 7 | 0 | 6 | 148 | 1 | 0 | 1 | 0 | 5 | 0 | 3 | 0 | 17 | 0 | 399 |
| 3:45 PM | 12 | 245 | 3 | 2 | 14 | 167 | 2 | 0 | 0 | 0 | 9 | 0 | 6 | 1 | 25 | 0 | 486 |
| 4:00 PM | 7 | 245 | 8 | 0 | 9 | 152 | 5 | 0 | 2 | 0 | 12 | 0 | 6 | 0 | 15 | 0 | 461 |
| 4:15 PM | 13 | 217 | 10 | 1 | 8 | 135 | 3 | 0 | 1 | 0 | 7 | 0 | 0 | 2 | 23 | 0 | 420 |
| 4:30 PM | 10 | 234 | 5 | 1 | 5 | 137 | 0 | 0 | 2 | 0 | 10 | 0 | 4 | 1 | 16 | 0 | 425 |
| 4:45 PM | 5 | 240 | 3 | 0 | 7 | 134 | 3 | 0 | 0 | 0 | 6 | 0 | 6 | 0 | 21 | 0 | 425 |
| 5:00 PM | 3 | 253 | 7 | 0 | 5 | 137 | 0 | 1 | 1 | 0 | 2 | 0 | 1 | 0 | 29 | 0 | 439 |
| 5:15 PM | 7 | 256 | 7 | 0 | 7 | 143 | 3 | 0 | 1 | 2 | 7 | 1 | 2 | 1 | 21 | 0 | 458 |
| 5:30 PM | 12 | 276 | 5 | 0 | 12 | 151 | 3 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 22 | 0 | 487 |
| 5:45 PM | 8 | 250 | 0 | 1 | 9 | 169 | 4 | 1 | 0 | 0 | 10 | 0 | 2 | 1 | 18 | 0 | 473 |
| 6:00 PM | 11 | 249 | 4 | 1 | 7 | 124 | 2 | 0 | 1 | 0 | 7 | 0 | 1 | 1 | 20 | 0 | 428 |
| 6:15 PM | 4 | 221 | 3 | 0 | 2 | 108 | 4 | 0 | 1 | 1 | 7 | 0 | 3 | 0 | 8 | 0 | 362 |
| 6:30 PM | 7 | 216 | 3 | 0 | 6 | 122 | 1 | 0 | 1 | 0 | 11 | 0 | 2 | 1 | 28 | 0 | 398 |
| 6:45 PM | 5 | 178 | 9 | 1 | 6 | 118 | 3 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 21 | 0 | 346 |
| | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| **TOTAL VOLUMES :** | 115 | 3692 | 84 | 7 | 115 | 2225 | 37 | 3 | 15 | 4 | 117 | 1 | 40 | 9 | 304 | 0 | 6768 |
| **APPROACH %'s :** | 2.95% | 94.72% | 2.15% | 0.18% | 4.83% | 93.49% | 1.55% | 0.13% | 10.95% | 2.92% | 85.40% | 0.73% | 11.33% | 2.55% | 86.12% | 0.00% | |
| **PEAK HR :** | 05:00 PM - 06:00 PM | | | | | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 30 | 1035 | 19 | 1 | 33 | 600 | 10 | 2 | 3 | 2 | 23 | 1 | 6 | 2 | 90 | 0 | 1857 |
| **PEAK HR FACTOR :** | 0.625 | 0.938 | 0.679 | 0.250 | 0.688 | 0.888 | 0.625 | 0.500 | 0.750 | 0.250 | 0.575 | 0.250 | 0.750 | 0.500 | 0.776 | 0.000 | 0.953 |
| | | 0.926 | | | | 0.881 | | | | 0.659 | | | | 0.817 | | | |

| | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-4 PM | 23 | 857 | 20 | 2 | 32 | 595 | 6 | 0 | 4 | 1 | 30 | 0 | 12 | 2 | 62 | 0 | 1646 | 0.8467078 |
| 5-6 PM | 30 | 1035 | 19 | 1 | 33 | 600 | 10 | 2 | 3 | 2 | 23 | 1 | 6 | 2 | 90 | 0 | 1857 | 0.9532854 |

National Data & Surveying Services

# Intersection Turning Movement Count

**Location:** Whitsett Ave & Ventura Blvd
**City:** Studio City
**Control:** Signalized

**Project ID:** 19-05071-003
**Date:** 2019-02-12

## Total

| NS/EW Streets: | Whitsett Ave | | | | Whitsett Ave | | | | Ventura Blvd | | | | Ventura Blvd | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PM** | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
| | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 0 | 0 | |
| | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| 3:00 PM | 27 | 44 | 5 | 0 | 71 | 32 | 57 | 0 | 52 | 220 | 43 | 0 | 5 | 218 | 59 | 2 | 835 |
| 3:15 PM | 26 | 36 | 4 | 0 | 46 | 42 | 30 | 0 | 55 | 249 | 50 | 0 | 13 | 212 | 88 | 0 | 851 |
| 3:30 PM | 23 | 44 | 2 | 0 | 58 | 43 | 37 | 0 | 76 | 269 | 38 | 0 | 8 | 215 | 63 | 0 | 876 |
| 3:45 PM | 32 | 42 | 3 | 0 | 66 | 40 | 54 | 0 | 55 | 194 | 55 | 0 | 11 | 251 | 76 | 0 | 879 |
| 4:00 PM | 32 | 48 | 6 | 0 | 54 | 40 | 54 | 0 | 78 | 211 | 58 | 0 | 10 | 218 | 66 | 0 | 875 |
| 4:15 PM | 17 | 32 | 2 | 0 | 44 | 36 | 41 | 0 | 60 | 222 | 53 | 0 | 7 | 247 | 85 | 1 | 847 |
| 4:30 PM | 28 | 45 | 2 | 0 | 44 | 30 | 63 | 0 | 78 | 216 | 43 | 0 | 7 | 213 | 59 | 1 | 829 |
| 4:45 PM | 30 | 31 | 6 | 0 | 49 | 28 | 45 | 0 | 61 | 242 | 44 | 0 | 12 | 245 | 82 | 1 | 876 |
| 5:00 PM | 24 | 51 | 3 | 0 | 64 | 26 | 43 | 0 | 62 | 206 | 36 | 0 | 8 | 251 | 73 | 0 | 847 |
| 5:15 PM | 35 | 50 | 4 | 0 | 58 | 36 | 53 | 0 | 64 | 208 | 41 | 0 | 6 | 238 | 69 | 0 | 862 |
| 5:30 PM | 21 | 45 | 3 | 0 | 56 | 43 | 46 | 0 | 62 | 235 | 54 | 0 | 9 | 233 | 70 | 0 | 877 |
| 5:45 PM | 20 | 45 | 4 | 0 | 65 | 47 | 51 | 0 | 55 | 240 | 49 | 0 | 9 | 239 | 82 | 0 | 906 |
| 6:00 PM | 34 | 31 | 6 | 0 | 51 | 34 | 40 | 0 | 83 | 239 | 45 | 0 | 9 | 219 | 63 | 2 | 856 |
| 6:15 PM | 30 | 29 | 13 | 0 | 42 | 17 | 50 | 0 | 69 | 214 | 30 | 0 | 12 | 238 | 78 | 3 | 825 |
| 6:30 PM | 29 | 42 | 3 | 0 | 50 | 29 | 41 | 0 | 57 | 198 | 35 | 0 | 10 | 189 | 94 | 0 | 777 |
| 6:45 PM | 26 | 37 | 1 | 0 | 48 | 15 | 42 | 0 | 49 | 208 | 30 | 0 | 9 | 230 | 62 | 2 | 759 |
| | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| **TOTAL VOLUMES :** | 434 | 652 | 67 | 0 | 866 | 538 | 747 | 0 | 1016 | 3571 | 704 | 0 | 145 | 3656 | 1169 | 12 | 13577 |
| **APPROACH %'s :** | 37.64% | 56.55% | 5.81% | 0.00% | 40.26% | 25.01% | 34.73% | 0.00% | 19.20% | 67.49% | 13.31% | 0.00% | 2.91% | 73.38% | 23.46% | 0.24% | |
| **PEAK HR :** | 05:15 PM - 06:15 PM | | | | | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 110 | 171 | 17 | 0 | 230 | 160 | 190 | 0 | 264 | 922 | 189 | 0 | 33 | 929 | 284 | 2 | 3501 |
| **PEAK HR FACTOR :** | 0.786 | 0.855 | 0.708 | 0.000 | 0.885 | 0.851 | 0.896 | 0.000 | 0.795 | 0.960 | 0.875 | 0.000 | 0.917 | 0.972 | 0.866 | 0.250 | 0.966 |
| | | 0.837 | | | | 0.890 | | | | 0.937 | | | | 0.945 | | | |

| | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-4 PM | 108 | 166 | 14 | 0 | 241 | 157 | 178 | 0 | 238 | 932 | 186 | 0 | 37 | 896 | 286 | 2 | 3441 | 0.9786689 |
| 5-6 PM | 100 | 191 | 14 | 0 | 243 | 152 | 193 | 0 | 243 | 889 | 180 | 0 | 32 | 961 | 294 | 0 | 3492 | 0.9635762 |

35451 COLMOB170503

# TRAFFIC COUNT SUMMARY

City of Los Angeles
Department of Transportation
Count by: The Traffic Solution

STREET:
North/South: COLDWATER CANYON AVENUE
East/West: MOORPARK STREET

Day: AM WEDNESDAY Date: May 3, 2017 Weather: CLEAR
PM WEDNESDAY May 3, 2017
Hours: 7-10 AM 3-6 PM

School Day: YES District: CENTRAL

| | N/B | S/B | E/B | W/B |
|---|---|---|---|---|
| DUAL-WHEELED | N/A | N/A | N/A | N/A |
| BIKES | N/A | N/A | N/A | N/A |
| BUSES | N/A | N/A | N/A | N/A |

| | N/B | TIME | S/B | TIME | E/B | TIME | W/B | TIME |
|---|---|---|---|---|---|---|---|---|
| AM PK 15 MIN | 182 | 9:00 | 240 | 9:45 | 275 | 8:00 | 231 | 7:45 |
| PM PK 15 MIN | 303 | 3:00 | 296 | 3:45 | 216 | 5:15 | 249 | 4:15 |
| AM PK HOUR | 682 | 8:15 | 912 | 9:00 | 1,061 | 8:00 | 885 | 7:30 |
| PM PK HOUR | 1,182 | 4:45 | 1,092 | 4:45 | 806 | 4:45 | 877 | 3:45 |

**NORTHBOUND Approach**

| Hours | Lt | Th | Rt | Total |
|---|---|---|---|---|
| 7 - 8 | 45 | 390 | 51 | 486 |
| 8 - 9 | 52 | 505 | 98 | 655 |
| 9 - 10 | 52 | 514 | 99 | 665 |
| 3 - 4 | 67 | 930 | 157 | 1,154 |
| 4 - 5 | 67 | 898 | 187 | 1,152 |
| 5 - 6 | 73 | 874 | 203 | 1,150 |
| TOTAL | 356 | 4,111 | 795 | 5,262 |

**SOUTHBOUND Approach**

| Hours | Lt | Th | Rt | Total |
|---|---|---|---|---|
| 7 - 8 | 144 | 374 | 145 | 663 |
| 8 - 9 | 173 | 354 | 183 | 710 |
| 9 - 10 | 153 | 596 | 163 | 912 |
| 3 - 4 | 85 | 800 | 135 | 1,020 |
| 4 - 5 | 75 | 815 | 118 | 1,008 |
| 5 - 6 | 143 | 794 | 146 | 1,083 |
| TOTAL | 773 | 3,733 | 890 | 5,396 |

| Hours | TOTAL N-S | XING S/L Ped | XING S/L Sch | XING N/L Ped | XING N/L Sch |
|---|---|---|---|---|---|
| 7 - 8 | 1,149 | N/A | N/A | N/A | N/A |
| 8 - 9 | 1,365 | N/A | N/A | N/A | N/A |
| 9 - 10 | 1,577 | N/A | N/A | N/A | N/A |
| 3 - 4 | 2,174 | N/A | N/A | N/A | N/A |
| 4 - 5 | 2,160 | N/A | N/A | N/A | N/A |
| 5 - 6 | 2,233 | N/A | N/A | N/A | N/A |
| TOTAL | 10,658 | N/A | N/A | N/A | N/A |

**EASTBOUND Approach**

| Hours | Lt | Th | Rt | Total |
|---|---|---|---|---|
| 7 - 8 | 101 | 640 | 29 | 770 |
| 8 - 9 | 165 | 866 | 30 | 1,061 |
| 9 - 10 | 155 | 689 | 42 | 886 |
| 3 - 4 | 105 | 618 | 39 | 762 |
| 4 - 5 | 99 | 589 | 38 | 726 |
| 5 - 6 | 94 | 635 | 55 | 784 |
| TOTAL | 719 | 4,037 | 233 | 4,989 |

**WESTBOUND Approach**

| Hours | Lt | Th | Rt | Total |
|---|---|---|---|---|
| 7 - 8 | 49 | 579 | 122 | 750 |
| 8 - 9 | 80 | 577 | 165 | 822 |
| 9 - 10 | 77 | 462 | 139 | 678 |
| 3 - 4 | 93 | 577 | 114 | 784 |
| 4 - 5 | 110 | 626 | 117 | 853 |
| 5 - 6 | 88 | 568 | 102 | 758 |
| TOTAL | 497 | 3,389 | 759 | 4,645 |

| Hours | TOTAL E-W | XING W/L Ped | XING W/L Sch | XING E/L Ped | XING E/L Sch |
|---|---|---|---|---|---|
| 7 - 8 | 1,520 | N/A | N/A | N/A | N/A |
| 8 - 9 | 1,883 | N/A | N/A | N/A | N/A |
| 9 - 10 | 1,564 | N/A | N/A | N/A | N/A |
| 3 - 4 | 1,546 | N/A | N/A | N/A | N/A |
| 4 - 5 | 1,579 | N/A | N/A | N/A | N/A |
| 5 - 6 | 1,542 | N/A | N/A | N/A | N/A |
| TOTAL | 9,634 | N/A | N/A | N/A | N/A |

# TRAFFIC COUNT SUMMARY

City of Los Angeles
Department of Transportation
Count by: The Traffic Solution

**STREET:**
**North/South** COLDWATER CANYON AVENUE

**East/West** VENTURA BOULEVARD

**Day:** AM WEDNESDAY **Date:** May 3, 2017 **Weather:** CLEAR
PM WEDNESDAY May 3, 2017
**Hours:** 7-10 AM 3-6 PM

**School Day:** YES **District:** CENTRAL

| | N/B | S/B | E/B | W/B |
|---|---|---|---|---|
| DUAL-WHEELED | N/A | N/A | N/A | N/A |
| BIKES | N/A | N/A | N/A | N/A |
| BUSES | N/A | N/A | N/A | N/A |

| | N/B | TIME | S/B | TIME | E/B | TIME | W/B | TIME |
|---|---|---|---|---|---|---|---|---|
| AM PK 15 MIN | 183 | 9:00 | 211 | 9:30 | 344 | 9:00 | 293 | 8:15 |
| PM PK 15 MIN | 367 | 4:30 | 301 | 3:45 | 389 | 3:00 | 353 | 5:45 |
| AM PK HOUR | 603 | 9:00 | 688 | 9:00 | 1,261 | 9:00 | 1,089 | 7:45 |
| PM PK HOUR | 1,342 | 3:45 | 1,134 | 4:30 | 1,439 | 3:00 | 1,273 | 3:45 |

**NORTHBOUND Approach**

| Hours | Lt | Th | Rt | Total |
|---|---|---|---|---|
| 7 - 8 | 68 | 189 | 66 | 323 |
| 8 - 9 | 77 | 285 | 147 | 509 |
| 9 - 10 | 114 | 314 | 175 | 603 |
| 3 - 4 | 281 | 753 | 215 | 1,249 |
| 4 - 5 | 281 | 803 | 210 | 1,294 |
| 5 - 6 | 276 | 845 | 189 | 1,310 |
| TOTAL | 1,097 | 3,189 | 1,002 | 5,288 |

**SOUTHBOUND Approach**

| Hours | Lt | Th | Rt | Total |
|---|---|---|---|---|
| 7 - 8 | 98 | 267 | 29 | 394 |
| 8 - 9 | 152 | 236 | 34 | 422 |
| 9 - 10 | 225 | 394 | 69 | 688 |
| 3 - 4 | 328 | 436 | 294 | 1,058 |
| 4 - 5 | 387 | 399 | 300 | 1,086 |
| 5 - 6 | 314 | 455 | 261 | 1,030 |
| TOTAL | 1,504 | 2,187 | 987 | 4,678 |

| TOTAL | XING S/L | | XING N/L | |
|---|---|---|---|---|
| N-S | Ped | Sch | Ped | Sch |
| 717 | N/A | N/A | N/A | N/A |
| 931 | N/A | N/A | N/A | N/A |
| 1,291 | N/A | N/A | N/A | N/A |
| 2,307 | N/A | N/A | N/A | N/A |
| 2,380 | N/A | N/A | N/A | N/A |
| 2,340 | N/A | N/A | N/A | N/A |
| 9,966 | N/A | N/A | N/A | N/A |

**EASTBOUND Approach**

| Hours | Lt | Th | Rt | Total |
|---|---|---|---|---|
| 7 - 8 | 80 | 777 | 218 | 1,075 |
| 8 - 9 | 75 | 839 | 218 | 1,132 |
| 9 - 10 | 125 | 896 | 240 | 1,261 |
| 3 - 4 | 263 | 1,013 | 163 | 1,439 |
| 4 - 5 | 191 | 985 | 144 | 1,320 |
| 5 - 6 | 201 | 1,013 | 157 | 1,371 |
| TOTAL | 935 | 5,523 | 1,140 | 7,598 |

**WESTBOUND Approach**

| Hours | Lt | Th | Rt | Total |
|---|---|---|---|---|
| 7 - 8 | 160 | 631 | 69 | 860 |
| 8 - 9 | 171 | 823 | 91 | 1,085 |
| 9 - 10 | 186 | 642 | 92 | 920 |
| 3 - 4 | 122 | 905 | 184 | 1,211 |
| 4 - 5 | 124 | 981 | 161 | 1,266 |
| 5 - 6 | 135 | 954 | 157 | 1,246 |
| TOTAL | 898 | 4,936 | 754 | 6,588 |

| TOTAL | XING W/L | | XING E/L | |
|---|---|---|---|---|
| E-W | Ped | Sch | Ped | Sch |
| 1,935 | N/A | N/A | N/A | N/A |
| 2,217 | N/A | N/A | N/A | N/A |
| 2,181 | N/A | N/A | N/A | N/A |
| 2,650 | N/A | N/A | N/A | N/A |
| 2,586 | N/A | N/A | N/A | N/A |
| 2,617 | N/A | N/A | N/A | N/A |
| 14,186 | N/A | N/A | N/A | N/A |

Prepared by NDS/ATD

# VOLUME

## Valley Spring Ln Bet. Babcock Ave & Whitsett Ave

**Day:** Tuesday
**Date:** 2/12/2019

**City:** Studio City
**Project #:** CA19_5072_001

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 0 | 0 | 500 | 405 | 905 |

| AM Period | NB | SB | EB | | WB | | TOTAL | | PM Period | NB | SB | EB | | WB | | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | | | 0 | | 1 | | 1 | | 12:00 | | | 3 | | 4 | | 7 | |
| 0:15 | | | 0 | | 2 | | 2 | | 12:15 | | | 7 | | 7 | | 14 | |
| 0:30 | | | 1 | | 0 | | 1 | | 12:30 | | | 8 | | 9 | | 17 | |
| 0:45 | | | 0 | 1 | 0 | 3 | 0 | 4 | 12:45 | | | 6 | 24 | 7 | 27 | 13 | 51 |
| 1:00 | | | 0 | | 0 | | 0 | | 13:00 | | | 5 | | 8 | | 13 | |
| 1:15 | | | 0 | | 0 | | 0 | | 13:15 | | | 6 | | 4 | | 10 | |
| 1:30 | | | 0 | | 0 | | 0 | | 13:30 | | | 3 | | 4 | | 7 | |
| 1:45 | | | 1 | 1 | 1 | 1 | 2 | 2 | 13:45 | | | 6 | 20 | 5 | 21 | 11 | 41 |
| 2:00 | | | 0 | | 0 | | 0 | | 14:00 | | | 8 | | 10 | | 18 | |
| 2:15 | | | 0 | | 0 | | 0 | | 14:15 | | | 7 | | 9 | | 16 | |
| 2:30 | | | 1 | | 1 | | 2 | | 14:30 | | | 5 | | 5 | | 10 | |
| 2:45 | | | 0 | 1 | 0 | 1 | 0 | 2 | 14:45 | | | 5 | 25 | 14 | 38 | 19 | 63 |
| 3:00 | | | 1 | | 0 | | 1 | | 15:00 | | | 6 | | 5 | | 11 | |
| 3:15 | | | 0 | | 0 | | 0 | | 15:15 | | | 14 | | 6 | | 20 | |
| 3:30 | | | 0 | | 0 | | 0 | | 15:30 | | | 4 | | 4 | | 8 | |
| 3:45 | | | 1 | 2 | 0 | | 1 | 2 | 15:45 | | | 10 | 34 | 11 | 26 | 21 | 60 |
| 4:00 | | | 0 | | 0 | | 0 | | 16:00 | | | 13 | | 13 | | 26 | |
| 4:15 | | | 0 | | 0 | | 0 | | 16:15 | | | 7 | | 18 | | 25 | |
| 4:30 | | | 0 | | 1 | | 1 | | 16:30 | | | 11 | | 10 | | 21 | |
| 4:45 | | | 1 | 1 | 0 | 1 | 1 | 2 | 16:45 | | | 6 | 37 | 10 | 51 | 16 | 88 |
| 5:00 | | | 0 | | 0 | | 0 | | 17:00 | | | 2 | | 2 | | 4 | |
| 5:15 | | | 0 | | 1 | | 1 | | 17:15 | | | 9 | | 8 | | 17 | |
| 5:30 | | | 0 | | 0 | | 0 | | 17:30 | | | 6 | | 14 | | 20 | |
| 5:45 | | | 1 | 1 | 0 | 1 | 1 | 2 | 17:45 | | | 8 | 25 | 11 | 35 | 19 | 60 |
| 6:00 | | | 1 | | 2 | | 3 | | 18:00 | | | 7 | | 13 | | 20 | |
| 6:15 | | | 2 | | 1 | | 3 | | 18:15 | | | 8 | | 7 | | 15 | |
| 6:30 | | | 1 | | 0 | | 1 | | 18:30 | | | 12 | | 10 | | 22 | |
| 6:45 | | | 3 | 7 | 1 | 4 | 4 | 11 | 18:45 | | | 3 | 30 | 7 | 37 | 10 | 67 |
| 7:00 | | | 7 | | 0 | | 7 | | 19:00 | | | 6 | | 6 | | 12 | |
| 7:15 | | | 7 | | 3 | | 10 | | 19:15 | | | 3 | | 10 | | 13 | |
| 7:30 | | | 14 | | 2 | | 16 | | 19:30 | | | 4 | | 11 | | 15 | |
| 7:45 | | | 10 | 38 | 6 | 11 | 16 | 49 | 19:45 | | | 2 | 15 | 6 | 33 | 8 | 48 |
| 8:00 | | | 26 | | 5 | | 31 | | 20:00 | | | 2 | | 6 | | 8 | |
| 8:15 | | | 23 | | 6 | | 29 | | 20:15 | | | 3 | | 6 | | 9 | |
| 8:30 | | | 26 | | 4 | | 30 | | 20:30 | | | 5 | | 4 | | 9 | |
| 8:45 | | | 21 | 96 | 6 | 21 | 27 | 117 | 20:45 | | | 2 | 12 | 6 | 22 | 8 | 34 |
| 9:00 | | | 27 | | 2 | | 29 | | 21:00 | | | 3 | | 3 | | 6 | |
| 9:15 | | | 12 | | 3 | | 15 | | 21:15 | | | 1 | | 1 | | 2 | |
| 9:30 | | | 16 | | 8 | | 24 | | 21:30 | | | 2 | | 4 | | 6 | |
| 9:45 | | | 13 | 68 | 2 | 15 | 15 | 83 | 21:45 | | | 0 | 6 | 2 | 10 | 2 | 16 |
| 10:00 | | | 8 | | 4 | | 12 | | 22:00 | | | 1 | | 1 | | 2 | |
| 10:15 | | | 2 | | 1 | | 3 | | 22:15 | | | 0 | | 2 | | 2 | |
| 10:30 | | | 12 | | 6 | | 18 | | 22:30 | | | 1 | | 1 | | 2 | |
| 10:45 | | | 7 | 29 | 5 | 16 | 12 | 45 | 22:45 | | | 0 | 2 | 2 | 6 | 2 | 8 |
| 11:00 | | | 5 | | 7 | | 12 | | 23:00 | | | 1 | | 1 | | 2 | |
| 11:15 | | | 4 | | 6 | | 10 | | 23:15 | | | 1 | | 0 | | 1 | |
| 11:30 | | | 6 | | 5 | | 11 | | 23:30 | | | 0 | | 1 | | 1 | |
| 11:45 | | | 8 | 23 | 5 | 23 | 13 | 46 | 23:45 | | | 0 | 2 | 0 | 2 | 0 | 4 |
| TOTALS | | | | 268 | | 97 | | 365 | TOTALS | | | | 232 | | 308 | | 540 |
| SPLIT % | | | | 73.4% | | 26.6% | | 40.3% | SPLIT % | | | | 43.0% | | 57.0% | | 59.7% |

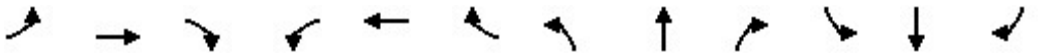
| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 0 | 0 | 500 | 405 | 905 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM Peak Hour | | | 8:15 | 11:45 | 8:00 | PM Peak Hour | | | 15:15 | 15:45 | 15:45 |
| AM Pk Volume | | | 97 | 25 | 117 | PM Pk Volume | | | 41 | 52 | 93 |
| Pk Hr Factor | | | 0.898 | 0.694 | 0.944 | Pk Hr Factor | | | 0.732 | 0.722 | 0.894 |
| 7 - 9 Volume | 0 | 0 | 134 | 32 | 166 | 4 - 6 Volume | 0 | 0 | 62 | 86 | 148 |
| 7 - 9 Peak Hour | | | 8:00 | 7:45 | 8:00 | 4 - 6 Peak Hour | | | 16:00 | 16:00 | 16:00 |
| 7 - 9 Pk Volume | 0 | 0 | 96 | 21 | 117 | 4 - 6 Pk Volume | 0 | 0 | 37 | 51 | 88 |
| Pk Hr Factor | 0.000 | 0.000 | 0.923 | 0.875 | 0.944 | Pk Hr Factor | 0.000 | 0.000 | 0.712 | 0.708 | 0.846 |

# Appendix G: LOS Analysis Sheets

# HCM 6th Signalized Intersection Summary
## 1: Whitsett Ave & Moorpark St

09/29/2020



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 131 | 768 | 101 | 96 | 551 | 85 | 122 | 675 | 141 | 69 | 450 | 130 |
| Future Volume (veh/h) | 131 | 768 | 101 | 96 | 551 | 85 | 122 | 675 | 141 | 69 | 450 | 130 |
| 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 | 142 | 835 | 93 | 104 | 599 | 72 | 133 | 734 | 131 | 75 | 489 | 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 | 238 | 860 | 729 | 90 | 860 | 729 | 345 | 1319 | 235 | 244 | 1268 | 278 |
| Arrive On Green | 0.15 | 0.15 | 0.15 | 0.46 | 0.46 | 0.46 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| Sat Flow, veh/h | 767 | 1870 | 1585 | 603 | 1870 | 1585 | 821 | 3013 | 538 | 640 | 2897 | 636 |
| Grp Volume(v), veh/h | 142 | 835 | 93 | 104 | 599 | 72 | 133 | 433 | 432 | 75 | 299 | 298 |
| Grp Sat Flow(s),veh/h/ln | 767 | 1870 | 1585 | 603 | 1870 | 1585 | 821 | 1777 | 1774 | 640 | 1777 | 1756 |
| Q Serve(g_s), s | 16.6 | 40.0 | 4.6 | 1.4 | 22.9 | 2.3 | 11.8 | 16.3 | 16.3 | 8.9 | 10.2 | 10.3 |
| Cycle Q Clear(g_c), s | 39.5 | 40.0 | 4.6 | 41.4 | 22.9 | 2.3 | 22.1 | 16.3 | 16.3 | 25.2 | 10.2 | 10.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.30 | 1.00 | | 0.36 |
| Lane Grp Cap(c), veh/h | 238 | 860 | 729 | 90 | 860 | 729 | 345 | 778 | 776 | 244 | 778 | 769 |
| V/C Ratio(X) | 0.60 | 0.97 | 0.13 | 1.16 | 0.70 | 0.10 | 0.39 | 0.56 | 0.56 | 0.31 | 0.38 | 0.39 |
| Avail Cap(c_a), veh/h | 238 | 860 | 729 | 90 | 860 | 729 | 345 | 778 | 776 | 244 | 778 | 769 |
| 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) | 0.52 | 0.52 | 0.52 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 48.7 | 37.6 | 22.5 | 44.9 | 19.3 | 13.7 | 24.6 | 18.8 | 18.8 | 28.2 | 17.1 | 17.1 |
| Incr Delay (d2), s/veh | 5.7 | 16.2 | 0.2 | 144.8 | 4.6 | 0.3 | 3.2 | 2.9 | 2.9 | 3.2 | 1.4 | 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 | 3.7 | 23.6 | 1.7 | 5.6 | 10.3 | 0.8 | 2.5 | 6.7 | 6.7 | 1.5 | 4.2 | 4.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 54.4 | 53.7 | 22.7 | 189.8 | 23.9 | 14.0 | 27.9 | 21.7 | 21.7 | 31.4 | 18.5 | 18.6 |
| LnGrp LOS | D | D | C | F | C | B | C | C | C | C | B | B |
| Approach Vol, veh/h | | 1070 | | | 775 | | | 998 | | | 672 | |
| Approach Delay, s/veh | | 51.1 | | | 45.3 | | | 22.5 | | | 20.0 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 46.0 | | 44.0 | | 46.0 | | 44.0 | | | | |
| Change Period (Y+Rc), s | | * 4.6 | | * 4.6 | | * 4.6 | | * 4.6 | | | | |
| Max Green Setting (Gmax), s | | * 41 | | * 39 | | * 41 | | * 39 | | | | |
| Max Q Clear Time (g_c+I1), s | | 43.4 | | 27.2 | | 42.0 | | 24.1 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | 3.3 | | 0.0 | | 5.4 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 35.8 |
| HCM 6th LOS | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

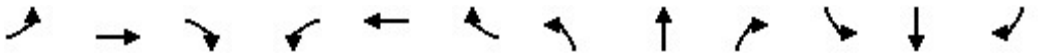
| Intersection | |
|---|---|
| Int Delay, s/veh | 1.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 1 | 30 | 12 | 2 | 62 | 25 | 862 | 20 | 32 | 599 | 6 |
| Future Vol, veh/h | 4 | 1 | 30 | 12 | 2 | 62 | 25 | 862 | 20 | 32 | 599 | 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 | - | - | 50 | - | - | 50 | - | - | - | - | - | 50 |
| 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 | 4 | 1 | 33 | 13 | 2 | 67 | 27 | 937 | 22 | 35 | 651 | 7 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1245 | 1734 | 326 | 1398 | 1730 | 480 | 658 | 0 | 0 | 959 | 0 | 0 |
| Stage 1 | 721 | 721 | - | 1002 | 1002 | - | - | - | - | - | - | - |
| Stage 2 | 524 | 1013 | - | 396 | 728 | - | - | - | - | - | - | - |
| 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 | 130 | 87 | 670 | 100 | 87 | 532 | 926 | - | - | 713 | - | - |
| Stage 1 | 385 | 430 | - | 260 | 318 | - | - | - | - | - | - | - |
| Stage 2 | 504 | 315 | - | 601 | 427 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 100 | 75 | 670 | 84 | 75 | 532 | 926 | - | - | 713 | - | - |
| Mov Cap-2 Maneuver | 100 | 75 | - | 84 | 75 | - | - | - | - | - | - | - |
| Stage 1 | 361 | 397 | - | 244 | 298 | - | - | - | - | - | - | - |
| Stage 2 | 409 | 295 | - | 526 | 394 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 15.6 | 21 | 0.5 | 0.9 |
| HCM LOS | C | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 926 | - | - | 94 | 670 | 83 | 532 | 713 | - | - |
| HCM Lane V/C Ratio | 0.029 | - | - | 0.058 | 0.049 | 0.183 | 0.127 | 0.049 | - | - |
| HCM Control Delay (s) | 9 | 0.3 | - | 45.6 | 10.6 | 57.9 | 12.7 | 10.3 | 0.4 | - |
| HCM Lane LOS | A | A | - | E | B | F | B | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.2 | 0.2 | 0.6 | 0.4 | 0.2 | - | - |



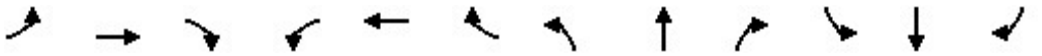
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 239 | 938 | 187 | 39 | 901 | 288 | 109 | 167 | 14 | 242 | 158 | 179 |
| Future Volume (veh/h) | 239 | 938 | 187 | 39 | 901 | 288 | 109 | 167 | 14 | 242 | 158 | 179 |
| 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 | 260 | 1020 | 151 | 42 | 979 | 211 | 118 | 182 | 12 | 263 | 172 | 184 |
| 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 | 308 | 1793 | 800 | 187 | 1296 | 578 | 245 | 401 | 26 | 340 | 726 | 774 |
| Arrive On Green | 0.03 | 0.17 | 0.17 | 0.36 | 0.36 | 0.36 | 0.23 | 0.23 | 0.23 | 0.10 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 479 | 3554 | 1585 | 1025 | 1735 | 114 | 3456 | 1870 | 1585 |
| Grp Volume(v), veh/h | 260 | 1020 | 151 | 42 | 979 | 211 | 118 | 0 | 194 | 263 | 172 | 184 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 479 | 1777 | 1585 | 1025 | 0 | 1850 | 1728 | 1870 | 1585 |
| Q Serve(g_s), s | 8.5 | 26.4 | 8.2 | 7.3 | 24.2 | 6.6 | 10.8 | 0.0 | 9.0 | 7.4 | 6.2 | 6.7 |
| Cycle Q Clear(g_c), s | 8.5 | 26.4 | 8.2 | 19.7 | 24.2 | 6.6 | 17.0 | 0.0 | 9.0 | 7.4 | 6.2 | 6.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 308 | 1793 | 800 | 187 | 1296 | 578 | 245 | 0 | 427 | 340 | 726 | 774 |
| V/C Ratio(X) | 0.84 | 0.57 | 0.19 | 0.22 | 0.76 | 0.37 | 0.48 | 0.00 | 0.45 | 0.77 | 0.24 | 0.24 |
| Avail Cap(c_a), veh/h | 308 | 1793 | 800 | 187 | 1296 | 578 | 245 | 0 | 427 | 518 | 787 | 826 |
| 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) | 0.31 | 0.31 | 0.31 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.2 | 31.7 | 24.1 | 31.6 | 27.9 | 10.7 | 39.0 | 0.0 | 33.0 | 44.0 | 20.6 | 14.8 |
| Incr Delay (d2), s/veh | 6.8 | 0.4 | 0.2 | 2.8 | 4.1 | 1.8 | 6.6 | 0.0 | 3.5 | 4.0 | 0.2 | 0.2 |
| 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 | 4.3 | 12.6 | 3.3 | 1.0 | 10.6 | 3.6 | 3.1 | 0.0 | 4.3 | 3.3 | 2.6 | 2.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 30.0 | 32.1 | 24.2 | 34.4 | 32.0 | 12.4 | 45.6 | 0.0 | 36.5 | 48.0 | 20.8 | 15.0 |
| LnGrp LOS | C | C | C | C | C | B | D | A | D | D | C | B |
| Approach Vol, veh/h | | 1431 | | | 1232 | | | 312 | | | 619 | |
| Approach Delay, s/veh | | 30.9 | | | 28.7 | | | 39.9 | | | 30.6 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | 7 | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 41.3 | | 44.7 | | 55.3 | 15.7 | 29.0 | | | | |
| Change Period (Y+Rc), s | 4.0 | * 4.8 | | 5.9 | | * 4.8 | 5.9 | * 5.9 | | | | |
| Max Green Setting (Gmax), s | 10.0 | * 33 | | 42.1 | | * 47 | 15.0 | * 23 | | | | |
| Max Q Clear Time (g_c+I1), s | 10.5 | 26.2 | | 8.7 | | 28.4 | 9.4 | 19.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.2 | | 1.5 | | 7.5 | 0.4 | 0.6 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 30.9 |
| HCM 6th LOS | | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 107 | 629 | 40 | 95 | 587 | 116 | 68 | 947 | 160 | 87 | 814 | 137 |
| Future Volume (veh/h) | 107 | 629 | 40 | 95 | 587 | 116 | 68 | 947 | 160 | 87 | 814 | 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 | 116 | 684 | 29 | 103 | 638 | 110 | 74 | 1029 | 158 | 95 | 885 | 133 |
| 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 | 206 | 931 | 789 | 233 | 931 | 789 | 159 | 1198 | 184 | 118 | 1201 | 181 |
| Arrive On Green | 0.50 | 0.50 | 0.50 | 0.16 | 0.16 | 0.16 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 |
| Sat Flow, veh/h | 713 | 1870 | 1585 | 737 | 1870 | 1585 | 554 | 3088 | 474 | 472 | 3098 | 466 |
| Grp Volume(v), veh/h | 116 | 684 | 29 | 103 | 638 | 110 | 74 | 591 | 596 | 95 | 508 | 510 |
| Grp Sat Flow(s),veh/h/ln | 713 | 1870 | 1585 | 737 | 1870 | 1585 | 554 | 1777 | 1785 | 472 | 1777 | 1787 |
| Q Serve(g_s), s | 14.4 | 26.1 | 0.8 | 12.3 | 28.9 | 5.3 | 11.9 | 27.5 | 27.6 | 7.3 | 22.0 | 22.0 |
| Cycle Q Clear(g_c), s | 43.3 | 26.1 | 0.8 | 38.3 | 28.9 | 5.3 | 33.9 | 27.5 | 27.6 | 34.9 | 22.0 | 22.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.27 | 1.00 | | 0.26 |
| Lane Grp Cap(c), veh/h | 206 | 931 | 789 | 233 | 931 | 789 | 159 | 689 | 692 | 118 | 689 | 693 |
| V/C Ratio(X) | 0.56 | 0.73 | 0.04 | 0.44 | 0.69 | 0.14 | 0.46 | 0.86 | 0.86 | 0.80 | 0.74 | 0.74 |
| Avail Cap(c_a), veh/h | 206 | 931 | 789 | 233 | 931 | 789 | 159 | 689 | 692 | 118 | 689 | 693 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.70 | 0.70 | 0.70 | 0.48 | 0.48 | 0.48 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.4 | 17.9 | 11.6 | 47.6 | 31.0 | 21.1 | 38.2 | 25.3 | 25.3 | 43.5 | 23.6 | 23.6 |
| Incr Delay (d2), s/veh | 10.7 | 5.1 | 0.1 | 4.2 | 2.9 | 0.3 | 4.6 | 6.9 | 6.9 | 42.0 | 6.9 | 6.9 |
| 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 | 3.0 | 11.5 | 0.3 | 2.7 | 15.0 | 2.0 | 1.8 | 12.1 | 12.2 | 3.5 | 10.0 | 10.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 47.1 | 23.0 | 11.6 | 51.8 | 33.9 | 21.4 | 42.8 | 32.1 | 32.2 | 85.5 | 30.5 | 30.5 |
| LnGrp LOS | D | C | B | D | C | C | D | C | C | F | C | C |
| Approach Vol, veh/h | | 829 | | | 851 | | | 1261 | | | 1113 | |
| Approach Delay, s/veh | | 26.0 | | | 34.4 | | | 32.8 | | | 35.2 | |
| Approach LOS | | C | | | C | | | C | | | D | |

| Timer - Assigned Phs | 2 | 4 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 40.0 | 50.0 | 40.0 | 50.0 |
| Change Period (Y+Rc), s | 5.1 | * 5.2 | 5.1 | * 5.2 |
| Max Green Setting (Gmax), s | 34.9 | * 45 | 34.9 | * 45 |
| Max Q Clear Time (g_c+I1), s | 36.9 | 40.3 | 35.9 | 45.3 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 32.4 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 268 | 1031 | 166 | 124 | 921 | 187 | 286 | 767 | 219 | 334 | 444 | 299 |
| Future Volume (veh/h) | 268 | 1031 | 166 | 124 | 921 | 187 | 286 | 767 | 219 | 334 | 444 | 299 |
| 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 | 291 | 1121 | 68 | 135 | 1001 | 89 | 311 | 834 | 192 | 363 | 483 | 205 |
| 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 | 189 | 1175 | 524 | 172 | 1175 | 524 | 338 | 1227 | 627 | 346 | 597 | 252 |
| Arrive On Green | 0.05 | 0.33 | 0.33 | 0.02 | 0.11 | 0.11 | 0.19 | 0.35 | 0.35 | 0.10 | 0.25 | 0.25 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 3456 | 2435 | 1027 |
| Grp Volume(v), veh/h | 291 | 1121 | 68 | 135 | 1001 | 89 | 311 | 834 | 192 | 363 | 352 | 336 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1728 | 1777 | 1685 |
| Q Serve(g_s), s | 5.0 | 30.8 | 1.7 | 5.0 | 27.7 | 5.1 | 17.1 | 20.1 | 8.3 | 10.0 | 18.6 | 18.8 |
| Cycle Q Clear(g_c), s | 5.0 | 30.8 | 1.7 | 5.0 | 27.7 | 5.1 | 17.1 | 20.1 | 8.3 | 10.0 | 18.6 | 18.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.61 |
| Lane Grp Cap(c), veh/h | 189 | 1175 | 524 | 172 | 1175 | 524 | 338 | 1227 | 627 | 346 | 436 | 414 |
| V/C Ratio(X) | 1.54 | 0.95 | 0.13 | 0.79 | 0.85 | 0.17 | 0.92 | 0.68 | 0.31 | 1.05 | 0.81 | 0.81 |
| Avail Cap(c_a), veh/h | 189 | 1175 | 524 | 172 | 1175 | 524 | 338 | 1279 | 650 | 346 | 498 | 472 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.65 | 0.65 | 0.65 | 1.00 | 1.00 | 1.00 | 0.63 | 0.63 | 0.63 |
| Uniform Delay (d), s/veh | 32.8 | 32.7 | 7.4 | 27.0 | 42.1 | 32.1 | 39.7 | 28.0 | 20.8 | 45.0 | 35.5 | 35.6 |
| Incr Delay (d2), s/veh | 267.5 | 17.3 | 0.5 | 14.6 | 5.3 | 0.5 | 29.2 | 1.9 | 0.6 | 52.3 | 6.9 | 7.6 |
| 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 | 16.2 | 15.5 | 1.1 | 2.8 | 14.0 | 2.0 | 10.0 | 8.5 | 3.1 | 6.7 | 8.7 | 8.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 300.3 | 50.0 | 7.9 | 41.6 | 47.4 | 32.5 | 69.0 | 29.9 | 21.4 | 97.3 | 42.4 | 43.2 |
| LnGrp LOS | F | D | A | D | D | C | E | C | C | F | D | D |
| Approach Vol, veh/h | | 1480 | | | 1225 | | | 1337 | | | 1051 | |
| Approach Delay, s/veh | | 97.3 | | | 45.7 | | | 37.8 | | | 61.6 | |
| Approach LOS | | F | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | 38.5 | 14.0 | 39.5 | 8.0 | 38.5 | 24.0 | 29.5 |
| Change Period (Y+Rc), s | 3.0 | 5.4 | 4.0 | * 5 | 3.0 | 5.4 | * 5 | * 5 |
| Max Green Setting (Gmax), s | 5.0 | 31.6 | 10.0 | * 36 | 5.0 | 31.6 | * 19 | * 28 |
| Max Q Clear Time (g_c+I1), s | 7.0 | 29.7 | 12.0 | 22.1 | 7.0 | 32.8 | 19.1 | 20.8 |
| Green Ext Time (p_c), s | 0.0 | 1.6 | 0.0 | 8.5 | 0.0 | 0.0 | 0.0 | 3.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 61.9 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# HCM 6th Signalized Intersection Summary
## 1: Whitsett Ave & Moorpark St

10/28/2020

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 135 | 791 | 104 | 99 | 568 | 88 | 126 | 722 | 145 | 71 | 502 | 134 |
| Future Volume (veh/h) | 135 | 791 | 104 | 99 | 568 | 88 | 126 | 722 | 145 | 71 | 502 | 134 |
| 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 | 147 | 860 | 96 | 108 | 617 | 75 | 137 | 785 | 137 | 77 | 546 | 117 |
| 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 | 226 | 860 | 729 | 80 | 860 | 729 | 317 | 1324 | 231 | 226 | 1275 | 272 |
| Arrive On Green | 0.15 | 0.15 | 0.15 | 0.46 | 0.46 | 0.46 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| Sat Flow, veh/h | 752 | 1870 | 1585 | 587 | 1870 | 1585 | 772 | 3024 | 528 | 606 | 2913 | 622 |
| Grp Volume(v), veh/h | 147 | 860 | 96 | 108 | 617 | 75 | 137 | 461 | 461 | 77 | 332 | 331 |
| Grp Sat Flow(s),veh/h/ln | 752 | 1870 | 1585 | 587 | 1870 | 1585 | 772 | 1777 | 1775 | 606 | 1777 | 1758 |
| Q Serve(g_s), s | 17.5 | 41.4 | 4.7 | 0.0 | 23.9 | 2.4 | 13.4 | 17.7 | 17.7 | 9.9 | 11.6 | 11.7 |
| Cycle Q Clear(g_c), s | 41.4 | 41.4 | 4.7 | 41.4 | 23.9 | 2.4 | 25.2 | 17.7 | 17.7 | 27.7 | 11.6 | 11.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.30 | 1.00 | | 0.35 |
| Lane Grp Cap(c), veh/h | 226 | 860 | 729 | 80 | 860 | 729 | 317 | 778 | 777 | 226 | 778 | 770 |
| V/C Ratio(X) | 0.65 | 1.00 | 0.13 | 1.35 | 0.72 | 0.10 | 0.43 | 0.59 | 0.59 | 0.34 | 0.43 | 0.43 |
| Avail Cap(c_a), veh/h | 226 | 860 | 729 | 80 | 860 | 729 | 317 | 778 | 777 | 226 | 778 | 770 |
| 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) | 0.48 | 0.48 | 0.48 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 50.2 | 38.2 | 22.6 | 45.0 | 19.6 | 13.8 | 26.2 | 19.2 | 19.2 | 29.7 | 17.5 | 17.5 |
| Incr Delay (d2), s/veh | 6.8 | 21.2 | 0.2 | 218.7 | 5.1 | 0.3 | 4.2 | 3.3 | 3.3 | 4.1 | 1.7 | 1.7 |
| 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 | 3.9 | 25.5 | 1.8 | 6.6 | 10.8 | 0.9 | 2.7 | 7.4 | 7.4 | 1.6 | 4.7 | 4.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.0 | 59.3 | 22.8 | 263.7 | 24.7 | 14.1 | 30.5 | 22.5 | 22.5 | 33.8 | 19.2 | 19.3 |
| LnGrp LOS | E | E | C | F | C | B | C | C | C | C | B | B |
| Approach Vol, veh/h | | 1103 | | | 800 | | | 1059 | | | 740 | |
| Approach Delay, s/veh | | 55.8 | | | 56.0 | | | 23.5 | | | 20.8 | |
| Approach LOS | | E | | | E | | | C | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 46.0 | | 44.0 | | 46.0 | | 44.0 | | | | |
| Change Period (Y+Rc), s | | * 4.6 | | * 4.6 | | * 4.6 | | * 4.6 | | | | |
| Max Green Setting (Gmax), s | | * 41 | | * 39 | | * 41 | | * 39 | | | | |
| Max Q Clear Time (g_c+I1), s | | 43.4 | | 29.7 | | 43.4 | | 27.2 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | 3.2 | | 0.0 | | 5.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 39.6 |
| HCM 6th LOS | | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

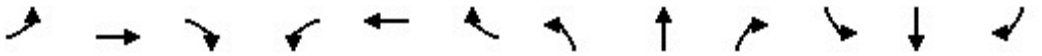
| Intersection | |
|---|---|
| Int Delay, s/veh | 2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 1 | 31 | 12 | 2 | 64 | 26 | 915 | 21 | 33 | 655 | 6 |
| Future Vol, veh/h | 4 | 1 | 31 | 12 | 2 | 64 | 26 | 915 | 21 | 33 | 655 | 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 | - | - | 50 | - | - | 50 | - | - | - | - | - | 50 |
| 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 | 4 | 1 | 34 | 13 | 2 | 70 | 28 | 995 | 23 | 36 | 712 | 7 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1339 | 1858 | 356 | 1492 | 1854 | 509 | 719 | 0 | 0 | 1018 | 0 | 0 |
| Stage 1 | 784 | 784 | - | 1063 | 1063 | - | - | - | - | - | - | - |
| Stage 2 | 555 | 1074 | - | 429 | 791 | - | - | - | - | - | - | - |
| 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 | 111 | 73 | 640 | 85 | 73 | 509 | 878 | - | - | 677 | - | - |
| Stage 1 | 352 | 402 | - | 238 | 298 | - | - | - | - | - | - | - |
| Stage 2 | 484 | 294 | - | 574 | 399 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 82 | 62 | 640 | 70 | 62 | 509 | 878 | - | - | 677 | - | - |
| Mov Cap-2 Maneuver | 82 | 62 | - | 70 | 62 | - | - | - | - | - | - | - |
| Stage 1 | 326 | 366 | - | 220 | 276 | - | - | - | - | - | - | - |
| Stage 2 | 384 | 272 | - | 494 | 363 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 17.1 | 23.6 | 0.5 | 0.9 |
| HCM LOS | C | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 878 | - | - | 77 | 640 | 69 | 509 | 677 | - | - |
| HCM Lane V/C Ratio | 0.032 | - | - | 0.071 | 0.053 | 0.221 | 0.137 | 0.053 | - | - |
| HCM Control Delay (s) | 9.2 | 0.3 | - | 55.3 | 10.9 | 71.4 | 13.2 | 10.6 | 0.4 | - |
| HCM Lane LOS | A | A | - | F | B | F | B | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.2 | 0.2 | 0.8 | 0.5 | 0.2 | - | - |



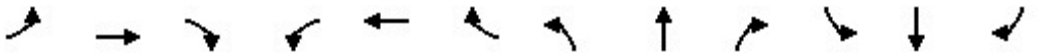
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 273 | 1076 | 193 | 40 | 1079 | 297 | 112 | 172 | 14 | 249 | 163 | 222 |
| Future Volume (veh/h) | 273 | 1076 | 193 | 40 | 1079 | 297 | 112 | 172 | 14 | 249 | 163 | 222 |
| 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 | 297 | 1170 | 157 | 43 | 1173 | 221 | 122 | 187 | 12 | 271 | 177 | 230 |
| 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 | 269 | 1785 | 796 | 152 | 1288 | 574 | 236 | 402 | 26 | 348 | 731 | 778 |
| Arrive On Green | 0.03 | 0.17 | 0.17 | 0.36 | 0.36 | 0.36 | 0.23 | 0.23 | 0.23 | 0.10 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 413 | 3554 | 1585 | 978 | 1739 | 112 | 3456 | 1870 | 1585 |
| Grp Volume(v), veh/h | 297 | 1170 | 157 | 43 | 1173 | 221 | 122 | 0 | 199 | 271 | 177 | 230 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 413 | 1777 | 1585 | 978 | 0 | 1850 | 1728 | 1870 | 1585 |
| Q Serve(g_s), s | 10.0 | 30.8 | 8.5 | 9.4 | 31.4 | 7.0 | 11.9 | 0.0 | 9.3 | 7.7 | 6.4 | 8.6 |
| Cycle Q Clear(g_c), s | 10.0 | 30.8 | 8.5 | 26.2 | 31.4 | 7.0 | 18.2 | 0.0 | 9.3 | 7.7 | 6.4 | 8.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 269 | 1785 | 796 | 152 | 1288 | 574 | 236 | 0 | 427 | 348 | 731 | 778 |
| V/C Ratio(X) | 1.11 | 0.66 | 0.20 | 0.28 | 0.91 | 0.38 | 0.52 | 0.00 | 0.47 | 0.78 | 0.24 | 0.30 |
| Avail Cap(c_a), veh/h | 269 | 1785 | 796 | 152 | 1288 | 574 | 236 | 0 | 427 | 518 | 787 | 826 |
| 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) | 0.17 | 0.17 | 0.17 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.0 | 33.6 | 24.3 | 36.2 | 30.4 | 10.7 | 39.6 | 0.0 | 33.1 | 43.9 | 20.5 | 15.2 |
| Incr Delay (d2), s/veh | 57.2 | 0.3 | 0.1 | 4.6 | 11.2 | 1.9 | 7.9 | 0.0 | 3.6 | 4.4 | 0.2 | 0.2 |
| 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 | 8.8 | 14.6 | 3.4 | 1.1 | 14.8 | 3.8 | 3.3 | 0.0 | 4.4 | 3.4 | 2.7 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 86.2 | 33.9 | 24.4 | 40.8 | 41.5 | 12.7 | 47.5 | 0.0 | 36.7 | 48.3 | 20.7 | 15.4 |
| LnGrp LOS | F | C | C | D | D | B | D | A | D | D | C | B |
| Approach Vol, veh/h | | 1624 | | | 1437 | | | 321 | | | 678 | |
| Approach Delay, s/veh | | 42.6 | | | 37.1 | | | 40.8 | | | 29.9 | |
| Approach LOS | | D | | | D | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | 7 | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 41.0 | | 45.0 | | 55.0 | 16.0 | 29.0 | | | | |
| Change Period (Y+Rc), s | 4.0 | * 4.8 | | 5.9 | | * 4.8 | 5.9 | * 5.9 | | | | |
| Max Green Setting (Gmax), s | 10.0 | * 33 | | 42.1 | | * 47 | 15.0 | * 23 | | | | |
| Max Q Clear Time (g_c+I1), s | 12.0 | 33.4 | | 10.6 | | 32.8 | 9.7 | 20.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 1.7 | | 7.5 | 0.4 | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 38.4 |
| HCM 6th LOS | | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 110 | 648 | 41 | 98 | 605 | 120 | 70 | 1041 | 165 | 90 | 932 | 141 |
| Future Volume (veh/h) | 110 | 648 | 41 | 98 | 605 | 120 | 70 | 1041 | 165 | 90 | 932 | 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 | 120 | 704 | 31 | 107 | 658 | 116 | 76 | 1132 | 164 | 98 | 1013 | 139 |
| 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 | 195 | 931 | 789 | 221 | 931 | 789 | 127 | 1208 | 175 | 96 | 1217 | 167 |
| Arrive On Green | 0.50 | 0.50 | 0.50 | 0.16 | 0.16 | 0.16 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 |
| Sat Flow, veh/h | 696 | 1870 | 1585 | 722 | 1870 | 1585 | 488 | 3116 | 450 | 425 | 3139 | 430 |
| Grp Volume(v), veh/h | 120 | 704 | 31 | 107 | 658 | 116 | 76 | 644 | 652 | 98 | 573 | 579 |
| Grp Sat Flow(s),veh/h/ln | 696 | 1870 | 1585 | 722 | 1870 | 1585 | 488 | 1777 | 1789 | 425 | 1777 | 1793 |
| Q Serve(g_s), s | 14.9 | 27.3 | 0.9 | 13.1 | 29.9 | 5.6 | 8.6 | 31.3 | 31.6 | 3.3 | 26.2 | 26.3 |
| Cycle Q Clear(g_c), s | 44.8 | 27.3 | 0.9 | 40.4 | 29.9 | 5.6 | 34.9 | 31.3 | 31.6 | 34.9 | 26.2 | 26.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.25 | 1.00 | | 0.24 |
| Lane Grp Cap(c), veh/h | 195 | 931 | 789 | 221 | 931 | 789 | 127 | 689 | 694 | 96 | 689 | 695 |
| V/C Ratio(X) | 0.62 | 0.76 | 0.04 | 0.49 | 0.71 | 0.15 | 0.60 | 0.93 | 0.94 | 1.02 | 0.83 | 0.83 |
| Avail Cap(c_a), veh/h | 195 | 931 | 789 | 221 | 931 | 789 | 127 | 689 | 694 | 96 | 689 | 695 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.66 | 0.66 | 0.66 | 0.28 | 0.28 | 0.28 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.9 | 18.2 | 11.6 | 49.2 | 31.4 | 21.2 | 42.4 | 26.5 | 26.5 | 44.7 | 24.9 | 24.9 |
| Incr Delay (d2), s/veh | 13.7 | 5.7 | 0.1 | 5.0 | 3.0 | 0.3 | 5.8 | 8.2 | 8.6 | 98.6 | 11.2 | 11.2 |
| 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 | 3.3 | 12.1 | 0.3 | 2.8 | 15.6 | 2.1 | 1.9 | 13.9 | 14.1 | 4.7 | 12.4 | 12.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.6 | 23.9 | 11.7 | 54.2 | 34.4 | 21.5 | 48.1 | 34.7 | 35.1 | 143.3 | 36.1 | 36.1 |
| LnGrp LOS | D | C | B | D | C | C | D | C | D | F | D | D |
| Approach Vol, veh/h | | 855 | | | 881 | | | 1372 | | | 1250 | |
| Approach Delay, s/veh | | 27.3 | | | 35.1 | | | 35.6 | | | 44.5 | |
| Approach LOS | | C | | | D | | | D | | | D | |

| Timer - Assigned Phs | 2 | 4 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 40.0 | 50.0 | 40.0 | 50.0 |
| Change Period (Y+Rc), s | 5.1 | * 5.2 | 5.1 | * 5.2 |
| Max Green Setting (Gmax), s | 34.9 | * 45 | 34.9 | * 45 |
| Max Q Clear Time (g_c+I1), s | 36.9 | 42.4 | 36.9 | 46.8 |
| Green Ext Time (p_c), s | 0.0 | 1.3 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 36.4 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 306 | 1086 | 171 | 135 | 989 | 200 | 295 | 817 | 234 | 353 | 476 | 308 |
| Future Volume (veh/h) | 306 | 1086 | 171 | 135 | 989 | 200 | 295 | 817 | 234 | 353 | 476 | 308 |
| 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 | 333 | 1180 | 72 | 147 | 1075 | 103 | 321 | 888 | 209 | 384 | 517 | 220 |
| 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 | 171 | 1140 | 508 | 161 | 1140 | 508 | 338 | 1262 | 642 | 346 | 621 | 263 |
| Arrive On Green | 0.05 | 0.32 | 0.32 | 0.02 | 0.11 | 0.11 | 0.19 | 0.36 | 0.36 | 0.10 | 0.26 | 0.26 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 3456 | 2431 | 1030 |
| Grp Volume(v), veh/h | 333 | 1180 | 72 | 147 | 1075 | 103 | 321 | 888 | 209 | 384 | 377 | 360 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1728 | 1777 | 1685 |
| Q Serve(g_s), s | 5.0 | 32.1 | 1.8 | 5.0 | 30.0 | 5.9 | 17.8 | 21.5 | 9.0 | 10.0 | 20.1 | 20.2 |
| Cycle Q Clear(g_c), s | 5.0 | 32.1 | 1.8 | 5.0 | 30.0 | 5.9 | 17.8 | 21.5 | 9.0 | 10.0 | 20.1 | 20.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.61 |
| Lane Grp Cap(c), veh/h | 171 | 1140 | 508 | 161 | 1140 | 508 | 338 | 1262 | 642 | 346 | 453 | 430 |
| V/C Ratio(X) | 1.95 | 1.04 | 0.14 | 0.91 | 0.94 | 0.20 | 0.95 | 0.70 | 0.33 | 1.11 | 0.83 | 0.84 |
| Avail Cap(c_a), veh/h | 171 | 1140 | 508 | 161 | 1140 | 508 | 338 | 1279 | 650 | 346 | 498 | 472 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.43 | 0.43 | 0.43 | 1.00 | 1.00 | 1.00 | 0.48 | 0.48 | 0.48 |
| Uniform Delay (d), s/veh | 31.9 | 34.0 | 7.8 | 29.6 | 43.8 | 33.0 | 40.0 | 27.7 | 20.4 | 45.0 | 35.2 | 35.3 |
| Incr Delay (d2), s/veh | 448.3 | 36.1 | 0.6 | 26.1 | 8.4 | 0.4 | 35.5 | 2.2 | 0.6 | 68.3 | 6.4 | 7.0 |
| 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 | 23.0 | 19.0 | 1.2 | 3.6 | 15.6 | 2.4 | 10.9 | 9.1 | 3.3 | 7.5 | 9.2 | 8.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 480.2 | 70.1 | 8.4 | 55.7 | 52.2 | 33.4 | 75.5 | 29.9 | 21.0 | 113.3 | 41.6 | 42.3 |
| LnGrp LOS | F | F | A | E | D | C | E | C | C | F | D | D |
| Approach Vol, veh/h | | 1585 | | | 1325 | | | 1418 | | | 1121 | |
| Approach Delay, s/veh | | 153.4 | | | 51.2 | | | 39.0 | | | 66.4 | |
| Approach LOS | | F | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | 37.5 | 14.0 | 40.5 | 8.0 | 37.5 | 24.0 | 30.5 |
| Change Period (Y+Rc), s | 3.0 | 5.4 | 4.0 | * 5 | 3.0 | 5.4 | * 5 | * 5 |
| Max Green Setting (Gmax), s | 5.0 | 31.6 | 10.0 | * 36 | 5.0 | 31.6 | * 19 | * 28 |
| Max Q Clear Time (g_c+I1), s | 7.0 | 32.0 | 12.0 | 23.5 | 7.0 | 34.1 | 19.8 | 22.2 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 8.2 | 0.0 | 0.0 | 0.0 | 3.3 |

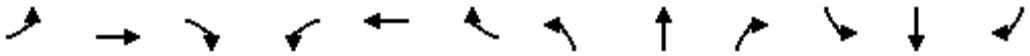
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 80.9 |
| HCM 6th LOS | F |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# HCM 6th Signalized Intersection Summary
## 1: Whitsett Ave & Moorpark St

02/08/2021



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 137 | 791 | 149 | 101 | 568 | 88 | 117 | 717 | 132 | 71 | 502 | 134 |
| Future Volume (veh/h) | 137 | 791 | 149 | 101 | 568 | 88 | 117 | 717 | 132 | 71 | 502 | 134 |
| 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 | 149 | 860 | 137 | 110 | 617 | 75 | 127 | 779 | 125 | 77 | 546 | 117 |
| 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 | 226 | 860 | 729 | 80 | 860 | 729 | 317 | 1343 | 215 | 232 | 1275 | 272 |
| Arrive On Green | 0.15 | 0.15 | 0.15 | 0.46 | 0.46 | 0.46 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| Sat Flow, veh/h | 752 | 1870 | 1585 | 565 | 1870 | 1585 | 772 | 3067 | 492 | 617 | 2913 | 622 |
| Grp Volume(v), veh/h | 149 | 860 | 137 | 110 | 617 | 75 | 127 | 451 | 453 | 77 | 332 | 331 |
| Grp Sat Flow(s),veh/h/ln | 752 | 1870 | 1585 | 565 | 1870 | 1585 | 772 | 1777 | 1782 | 617 | 1777 | 1758 |
| Q Serve(g_s), s | 17.5 | 41.4 | 6.8 | 0.0 | 23.9 | 2.4 | 12.3 | 17.2 | 17.2 | 9.7 | 11.6 | 11.7 |
| Cycle Q Clear(g_c), s | 41.4 | 41.4 | 6.8 | 41.4 | 23.9 | 2.4 | 24.0 | 17.2 | 17.2 | 26.9 | 11.6 | 11.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.28 | 1.00 | | 0.35 |
| Lane Grp Cap(c), veh/h | 226 | 860 | 729 | 80 | 860 | 729 | 317 | 778 | 780 | 232 | 778 | 770 |
| V/C Ratio(X) | 0.66 | 1.00 | 0.19 | 1.37 | 0.72 | 0.10 | 0.40 | 0.58 | 0.58 | 0.33 | 0.43 | 0.43 |
| Avail Cap(c_a), veh/h | 226 | 860 | 729 | 80 | 860 | 729 | 317 | 778 | 780 | 232 | 778 | 770 |
| 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) | 0.32 | 0.32 | 0.32 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 50.3 | 38.2 | 23.5 | 45.0 | 19.6 | 13.8 | 25.8 | 19.1 | 19.1 | 29.2 | 17.5 | 17.5 |
| Incr Delay (d2), s/veh | 4.8 | 17.3 | 0.2 | 228.5 | 5.1 | 0.3 | 3.7 | 3.1 | 3.1 | 3.8 | 1.7 | 1.7 |
| 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 | 3.9 | 24.6 | 2.6 | 6.8 | 10.8 | 0.9 | 2.5 | 7.2 | 7.2 | 1.6 | 4.7 | 4.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.1 | 55.4 | 23.7 | 273.5 | 24.7 | 14.1 | 29.6 | 22.2 | 22.2 | 33.0 | 19.2 | 19.3 |
| LnGrp LOS | E | E | C | F | C | B | C | C | C | C | B | B |
| Approach Vol, veh/h | | 1146 | | | 802 | | | 1031 | | | 740 | |
| Approach Delay, s/veh | | 51.6 | | | 57.8 | | | 23.1 | | | 20.7 | |
| Approach LOS | | D | | | E | | | C | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 46.0 | | 44.0 | | 46.0 | | 44.0 | | | | |
| Change Period (Y+Rc), s | | * 4.6 | | * 4.6 | | * 4.6 | | * 4.6 | | | | |
| Max Green Setting (Gmax), s | | * 41 | | * 39 | | * 41 | | * 39 | | | | |
| Max Q Clear Time (g_c+I1), s | | 43.4 | | 28.9 | | 43.4 | | 26.0 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | 3.3 | | 0.0 | | 5.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 38.9 | |
| HCM 6th LOS | D | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

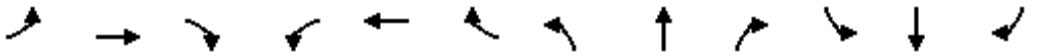
| Intersection | |
|---|---|
| Int Delay, s/veh | 1.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 1 | 32 | 10 | 3 | 64 | 24 | 884 | 19 | 33 | 702 | 6 |
| Future Vol, veh/h | 4 | 1 | 32 | 10 | 3 | 64 | 24 | 884 | 19 | 33 | 702 | 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 | - | - | 50 | - | - | 50 | - | - | - | - | - | 50 |
| 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 | 4 | 1 | 35 | 11 | 3 | 70 | 26 | 961 | 21 | 36 | 763 | 7 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1369 | 1869 | 382 | 1478 | 1866 | 491 | 770 | 0 | 0 | 982 | 0 | 0 |
| Stage 1 | 835 | 835 | - | 1024 | 1024 | - | - | - | - | - | - | - |
| Stage 2 | 534 | 1034 | - | 454 | 842 | - | - | - | - | - | - | - |
| 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 | 105 | 72 | 616 | 88 | 72 | 523 | 840 | - | - | 699 | - | - |
| Stage 1 | 328 | 381 | - | 252 | 311 | - | - | - | - | - | - | - |
| Stage 2 | 498 | 308 | - | 555 | 378 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 77 | 61 | 616 | 72 | 61 | 523 | 840 | - | - | 699 | - | - |
| Mov Cap-2 Maneuver | 77 | 61 | - | 72 | 61 | - | - | - | - | - | - | - |
| Stage 1 | 306 | 347 | - | 235 | 290 | - | - | - | - | - | - | - |
| Stage 2 | 398 | 287 | - | 475 | 344 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 17.6 | 22.6 | 0.5 | 0.8 |
| HCM LOS | C | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 840 | - | - | 73 | 616 | 69 | 523 | 699 | - | - |
| HCM Lane V/C Ratio | 0.031 | - | - | 0.074 | 0.056 | 0.205 | 0.133 | 0.051 | - | - |
| HCM Control Delay (s) | 9.4 | 0.3 | - | 58.2 | 11.2 | 70.1 | 12.9 | 10.4 | 0.4 | - |
| HCM Lane LOS | A | A | - | F | B | F | B | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.2 | 0.2 | 0.7 | 0.5 | 0.2 | - | - |



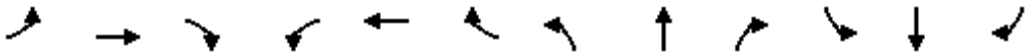
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 303 | 1076 | 193 | 40 | 1079 | 298 | 112 | 170 | 14 | 254 | 162 | 243 |
| Future Volume (veh/h) | 303 | 1076 | 193 | 40 | 1079 | 298 | 112 | 170 | 14 | 254 | 162 | 243 |
| 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 | 329 | 1170 | 157 | 43 | 1173 | 222 | 122 | 185 | 12 | 276 | 176 | 253 |
| 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 | 268 | 1780 | 794 | 152 | 1282 | 572 | 233 | 401 | 26 | 353 | 733 | 780 |
| Arrive On Green | 0.03 | 0.17 | 0.17 | 0.36 | 0.36 | 0.36 | 0.23 | 0.23 | 0.23 | 0.10 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 413 | 3554 | 1585 | 959 | 1737 | 113 | 3456 | 1870 | 1585 |
| Grp Volume(v), veh/h | 329 | 1170 | 157 | 43 | 1173 | 222 | 122 | 0 | 197 | 276 | 176 | 253 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 413 | 1777 | 1585 | 959 | 0 | 1850 | 1728 | 1870 | 1585 |
| Q Serve(g_s), s | 10.0 | 30.8 | 8.5 | 9.4 | 31.5 | 7.0 | 12.1 | 0.0 | 9.2 | 7.8 | 6.3 | 9.6 |
| Cycle Q Clear(g_c), s | 10.0 | 30.8 | 8.5 | 26.2 | 31.5 | 7.0 | 18.4 | 0.0 | 9.2 | 7.8 | 6.3 | 9.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 268 | 1780 | 794 | 152 | 1282 | 572 | 233 | 0 | 427 | 353 | 733 | 780 |
| V/C Ratio(X) | 1.23 | 0.66 | 0.20 | 0.28 | 0.91 | 0.39 | 0.52 | 0.00 | 0.46 | 0.78 | 0.24 | 0.32 |
| Avail Cap(c_a), veh/h | 268 | 1780 | 794 | 152 | 1282 | 572 | 233 | 0 | 427 | 518 | 787 | 826 |
| 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) | 0.17 | 0.17 | 0.17 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.1 | 33.7 | 24.4 | 36.4 | 30.5 | 10.8 | 39.7 | 0.0 | 33.1 | 43.8 | 20.4 | 15.3 |
| Incr Delay (d2), s/veh | 108.4 | 0.3 | 0.1 | 4.6 | 11.6 | 2.0 | 8.2 | 0.0 | 3.5 | 4.7 | 0.2 | 0.2 |
| 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 | 12.6 | 14.6 | 3.4 | 1.1 | 14.9 | 3.8 | 3.3 | 0.0 | 4.4 | 3.5 | 2.7 | 3.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 137.5 | 34.0 | 24.5 | 41.0 | 42.0 | 12.7 | 47.9 | 0.0 | 36.6 | 48.5 | 20.6 | 15.6 |
| LnGrp LOS | F | C | C | D | D | B | D | A | D | D | C | B |
| Approach Vol, veh/h | | 1656 | | | 1438 | | | 319 | | | 705 | |
| Approach Delay, s/veh | | 53.7 | | | 37.5 | | | 40.9 | | | 29.7 | |
| Approach LOS | | D | | | D | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | 7 | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 40.9 | | 45.1 | | 54.9 | 16.1 | 29.0 | | | | |
| Change Period (Y+Rc), s | 4.0 | * 4.8 | | 5.9 | | * 4.8 | 5.9 | * 5.9 | | | | |
| Max Green Setting (Gmax), s | 10.0 | * 33 | | 42.1 | | * 47 | 15.0 | * 23 | | | | |
| Max Q Clear Time (g_c+I1), s | 12.0 | 33.5 | | 11.6 | | 32.8 | 9.8 | 20.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 1.8 | | 7.5 | 0.4 | 0.4 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 42.9 | |
| HCM 6th LOS | | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



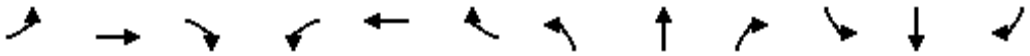
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 110 | 648 | 41 | 98 | 600 | 116 | 72 | 1046 | 179 | 123 | 936 | 141 |
| Future Volume (veh/h) | 110 | 648 | 41 | 98 | 600 | 116 | 72 | 1046 | 179 | 123 | 936 | 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 | 120 | 704 | 31 | 107 | 652 | 112 | 78 | 1137 | 179 | 134 | 1017 | 139 |
| 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 | 198 | 931 | 789 | 221 | 931 | 789 | 126 | 1193 | 187 | 91 | 1218 | 166 |
| Arrive On Green | 0.50 | 0.50 | 0.50 | 0.16 | 0.16 | 0.16 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 |
| Sat Flow, veh/h | 703 | 1870 | 1585 | 722 | 1870 | 1585 | 486 | 3077 | 483 | 417 | 3141 | 429 |
| Grp Volume(v), veh/h | 120 | 704 | 31 | 107 | 652 | 112 | 78 | 655 | 661 | 134 | 575 | 581 |
| Grp Sat Flow(s),veh/h/ln | 703 | 1870 | 1585 | 722 | 1870 | 1585 | 486 | 1777 | 1783 | 417 | 1777 | 1793 |
| Q Serve(g_s), s | 15.2 | 27.3 | 0.9 | 13.1 | 29.6 | 5.4 | 8.5 | 32.2 | 32.5 | 2.4 | 26.4 | 26.4 |
| Cycle Q Clear(g_c), s | 44.8 | 27.3 | 0.9 | 40.4 | 29.6 | 5.4 | 34.9 | 32.2 | 32.5 | 34.9 | 26.4 | 26.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.27 | 1.00 | | 0.24 |
| Lane Grp Cap(c), veh/h | 198 | 931 | 789 | 221 | 931 | 789 | 126 | 689 | 692 | 91 | 689 | 695 |
| V/C Ratio(X) | 0.60 | 0.76 | 0.04 | 0.49 | 0.70 | 0.14 | 0.62 | 0.95 | 0.96 | 1.47 | 0.83 | 0.84 |
| Avail Cap(c_a), veh/h | 198 | 931 | 789 | 221 | 931 | 789 | 126 | 689 | 692 | 91 | 689 | 695 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.67 | 0.67 | 0.67 | 0.27 | 0.27 | 0.27 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.5 | 18.2 | 11.6 | 49.2 | 31.3 | 21.2 | 42.5 | 26.7 | 26.8 | 44.8 | 24.9 | 25.0 |
| Incr Delay (d2), s/veh | 12.9 | 5.7 | 0.1 | 5.0 | 3.0 | 0.3 | 6.1 | 9.5 | 10.1 | 260.3 | 11.4 | 11.4 |
| 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 | 3.3 | 12.1 | 0.3 | 2.8 | 15.4 | 2.0 | 1.9 | 14.5 | 14.7 | 8.6 | 12.5 | 12.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 50.4 | 23.9 | 11.7 | 54.2 | 34.2 | 21.4 | 48.6 | 36.2 | 36.9 | 305.1 | 36.4 | 36.4 |
| LnGrp LOS | D | C | B | D | C | C | D | D | D | F | D | D |
| Approach Vol, veh/h | | 855 | | | 871 | | | 1394 | | | 1290 | |
| Approach Delay, s/veh | | 27.2 | | | 35.0 | | | 37.2 | | | 64.3 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 40.0 | | 50.0 | | 40.0 | | 50.0 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | * 5.2 | | 5.1 | | * 5.2 | | | | |
| Max Green Setting (Gmax), s | | 34.9 | | * 45 | | 34.9 | | * 45 | | | | |
| Max Q Clear Time (g_c+I1), s | | 36.9 | | 42.4 | | 36.9 | | 46.8 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | 1.3 | | 0.0 | | 0.0 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 42.8 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 306 | 1088 | 171 | 146 | 990 | 209 | 295 | 832 | 262 | 353 | 476 | 308 |
| Future Volume (veh/h) | 306 | 1088 | 171 | 146 | 990 | 209 | 295 | 832 | 262 | 353 | 476 | 308 |
| 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 | 333 | 1183 | 72 | 159 | 1076 | 113 | 321 | 904 | 240 | 384 | 517 | 220 |
| 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 | 170 | 1140 | 508 | 161 | 1140 | 508 | 338 | 1262 | 642 | 346 | 621 | 263 |
| Arrive On Green | 0.05 | 0.32 | 0.32 | 0.02 | 0.11 | 0.11 | 0.19 | 0.36 | 0.36 | 0.10 | 0.26 | 0.26 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 3456 | 2431 | 1030 |
| Grp Volume(v), veh/h | 333 | 1183 | 72 | 159 | 1076 | 113 | 321 | 904 | 240 | 384 | 377 | 360 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1728 | 1777 | 1685 |
| Q Serve(g_s), s | 5.0 | 32.1 | 1.8 | 5.0 | 30.1 | 6.5 | 17.8 | 22.0 | 10.6 | 10.0 | 20.1 | 20.2 |
| Cycle Q Clear(g_c), s | 5.0 | 32.1 | 1.8 | 5.0 | 30.1 | 6.5 | 17.8 | 22.0 | 10.6 | 10.0 | 20.1 | 20.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.61 |
| Lane Grp Cap(c), veh/h | 170 | 1140 | 508 | 161 | 1140 | 508 | 338 | 1262 | 642 | 346 | 453 | 430 |
| V/C Ratio(X) | 1.95 | 1.04 | 0.14 | 0.99 | 0.94 | 0.22 | 0.95 | 0.72 | 0.37 | 1.11 | 0.83 | 0.84 |
| Avail Cap(c_a), veh/h | 170 | 1140 | 508 | 161 | 1140 | 508 | 338 | 1279 | 650 | 346 | 498 | 472 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.44 | 0.44 | 0.44 | 1.00 | 1.00 | 1.00 | 0.47 | 0.47 | 0.47 |
| Uniform Delay (d), s/veh | 31.9 | 34.0 | 7.8 | 31.2 | 43.8 | 33.3 | 40.0 | 27.9 | 20.8 | 45.0 | 35.2 | 35.3 |
| Incr Delay (d2), s/veh | 449.5 | 36.9 | 0.6 | 43.5 | 8.7 | 0.4 | 35.5 | 2.4 | 0.8 | 68.0 | 6.3 | 6.9 |
| 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 | 23.0 | 19.1 | 1.2 | 3.4 | 15.6 | 2.6 | 10.9 | 9.4 | 3.9 | 7.5 | 9.2 | 8.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 481.4 | 70.9 | 8.4 | 74.6 | 52.5 | 33.7 | 75.5 | 30.3 | 21.6 | 113.0 | 41.5 | 42.1 |
| LnGrp LOS | F | F | A | E | D | C | E | C | C | F | D | D |
| Approach Vol, veh/h | | 1588 | | | 1348 | | | 1465 | | | 1121 | |
| Approach Delay, s/veh | | 154.1 | | | 53.5 | | | 38.8 | | | 66.2 | |
| Approach LOS | | F | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | 37.5 | 14.0 | 40.5 | 8.0 | 37.5 | 24.0 | 30.5 |
| Change Period (Y+Rc), s | 3.0 | 5.4 | 4.0 | * 5 | 3.0 | 5.4 | * 5 | * 5 |
| Max Green Setting (Gmax), s | 5.0 | 31.6 | 10.0 | * 36 | 5.0 | 31.6 | * 19 | * 28 |
| Max Q Clear Time (g_c+I1), s | 7.0 | 32.1 | 12.0 | 24.0 | 7.0 | 34.1 | 19.8 | 22.2 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 8.2 | 0.0 | 0.0 | 0.0 | 3.3 |

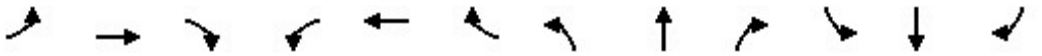
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 81.1 |
| HCM 6th LOS | F |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# HCM 6th Signalized Intersection Summary
## 1: Whitsett Ave & Moorpark St

09/29/2020



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 136 | 763 | 79 | 96 | 563 | 120 | 139 | 826 | 170 | 81 | 486 | 132 |
| Future Volume (veh/h) | 136 | 763 | 79 | 96 | 563 | 120 | 139 | 826 | 170 | 81 | 486 | 132 |
| 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 | 148 | 829 | 73 | 104 | 612 | 103 | 151 | 898 | 164 | 88 | 528 | 114 |
| 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 | 225 | 860 | 729 | 92 | 860 | 729 | 326 | 1314 | 240 | 185 | 1274 | 274 |
| Arrive On Green | 0.15 | 0.15 | 0.15 | 0.46 | 0.46 | 0.46 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| Sat Flow, veh/h | 736 | 1870 | 1585 | 618 | 1870 | 1585 | 787 | 3001 | 548 | 531 | 2909 | 625 |
| Grp Volume(v), veh/h | 148 | 829 | 73 | 104 | 612 | 103 | 151 | 532 | 530 | 88 | 322 | 320 |
| Grp Sat Flow(s),veh/h/ln | 736 | 1870 | 1585 | 618 | 1870 | 1585 | 787 | 1777 | 1772 | 531 | 1777 | 1758 |
| Q Serve(g_s), s | 17.8 | 39.6 | 3.6 | 1.8 | 23.6 | 3.4 | 14.7 | 21.6 | 21.6 | 14.3 | 11.2 | 11.3 |
| Cycle Q Clear(g_c), s | 41.4 | 39.6 | 3.6 | 41.4 | 23.6 | 3.4 | 26.0 | 21.6 | 21.6 | 36.0 | 11.2 | 11.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.36 |
| Lane Grp Cap(c), veh/h | 225 | 860 | 729 | 92 | 860 | 729 | 326 | 778 | 776 | 185 | 778 | 770 |
| V/C Ratio(X) | 0.66 | 0.96 | 0.10 | 1.13 | 0.71 | 0.14 | 0.46 | 0.68 | 0.68 | 0.48 | 0.41 | 0.42 |
| Avail Cap(c_a), veh/h | 225 | 860 | 729 | 92 | 860 | 729 | 326 | 778 | 776 | 185 | 778 | 770 |
| 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) | 0.15 | 0.15 | 0.15 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 50.2 | 37.4 | 22.1 | 44.9 | 19.5 | 14.0 | 26.3 | 20.3 | 20.3 | 34.7 | 17.4 | 17.4 |
| Incr Delay (d2), s/veh | 2.3 | 6.1 | 0.0 | 132.7 | 5.0 | 0.4 | 4.7 | 4.8 | 4.9 | 8.5 | 1.6 | 1.7 |
| 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 | 3.7 | 21.0 | 1.3 | 5.4 | 10.6 | 1.2 | 3.0 | 9.2 | 9.1 | 2.2 | 4.5 | 4.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.4 | 43.5 | 22.2 | 177.6 | 24.5 | 14.4 | 31.0 | 25.1 | 25.2 | 43.2 | 19.0 | 19.1 |
| LnGrp LOS | D | D | C | F | C | B | C | C | C | D | B | B |
| Approach Vol, veh/h | | 1050 | | | 819 | | | 1213 | | | 730 | |
| Approach Delay, s/veh | | 43.3 | | | 42.7 | | | 25.9 | | | 21.9 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 46.0 | | 44.0 | | 46.0 | | 44.0 | | | | |
| Change Period (Y+Rc), s | | * 4.6 | | * 4.6 | | * 4.6 | | * 4.6 | | | | |
| Max Green Setting (Gmax), s | | * 41 | | * 39 | | * 41 | | * 39 | | | | |
| Max Q Clear Time (g_c+I1), s | | 43.4 | | 38.0 | | 43.4 | | 28.0 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | 0.7 | | 0.0 | | 5.7 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 33.5 |
| HCM 6th LOS | C |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

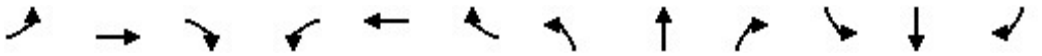
| Intersection | |
|---|---|
| Int Delay, s/veh | 2.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 2 | 23 | 6 | 2 | 91 | 31 | 1041 | 19 | 35 | 604 | 10 |
| Future Vol, veh/h | 4 | 2 | 23 | 6 | 2 | 91 | 31 | 1041 | 19 | 35 | 604 | 10 |
| 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 | - | - | 50 | - | - | 50 | - | - | - | - | - | 50 |
| 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 | 4 | 2 | 25 | 7 | 2 | 99 | 34 | 1132 | 21 | 38 | 657 | 11 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1368 | 1954 | 329 | 1617 | 1955 | 577 | 668 | 0 | 0 | 1153 | 0 | 0 |
| Stage 1 | 733 | 733 | - | 1211 | 1211 | - | - | - | - | - | - | - |
| Stage 2 | 635 | 1221 | - | 406 | 744 | - | - | - | - | - | - | - |
| 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 | 106 | 63 | 667 | 69 | 63 | 460 | 918 | - | - | 602 | - | - |
| Stage 1 | 378 | 424 | - | 193 | 253 | - | - | - | - | - | - | - |
| Stage 2 | 433 | 251 | - | 593 | 420 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 69 | 51 | 667 | 55 | 51 | 460 | 918 | - | - | 602 | - | - |
| Mov Cap-2 Maneuver | 69 | 51 | - | 55 | 51 | - | - | - | - | - | - | - |
| Stage 1 | 339 | 381 | - | 173 | 227 | - | - | - | - | - | - | - |
| Stage 2 | 302 | 225 | - | 510 | 378 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 22.8 | 20.6 | 0.6 | 1.1 |
| HCM LOS | C | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 918 | - | - | 62 | 667 | 54 | 460 | 602 | - | - |
| HCM Lane V/C Ratio | 0.037 | - | - | 0.105 | 0.037 | 0.161 | 0.215 | 0.063 | - | - |
| HCM Control Delay (s) | 9.1 | 0.4 | - | 69.8 | 10.6 | 84.1 | 15 | 11.4 | 0.5 | - |
| HCM Lane LOS | A | A | - | F | B | F | C | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.3 | 0.1 | 0.5 | 0.8 | 0.2 | - | - |



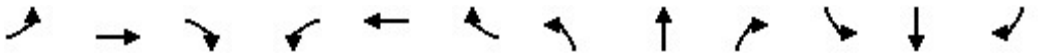
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 244 | 894 | 181 | 32 | 967 | 296 | 101 | 192 | 14 | 244 | 153 | 194 |
| Future Volume (veh/h) | 244 | 894 | 181 | 32 | 967 | 296 | 101 | 192 | 14 | 244 | 153 | 194 |
| 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 | 265 | 972 | 145 | 35 | 1051 | 220 | 110 | 209 | 13 | 265 | 166 | 200 |
| 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 | 292 | 1791 | 799 | 200 | 1294 | 577 | 246 | 403 | 25 | 342 | 727 | 775 |
| Arrive On Green | 0.03 | 0.17 | 0.17 | 0.36 | 0.36 | 0.36 | 0.23 | 0.23 | 0.23 | 0.10 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 504 | 3554 | 1585 | 1016 | 1742 | 108 | 3456 | 1870 | 1585 |
| Grp Volume(v), veh/h | 265 | 972 | 145 | 35 | 1051 | 220 | 110 | 0 | 222 | 265 | 166 | 200 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 504 | 1777 | 1585 | 1016 | 0 | 1851 | 1728 | 1870 | 1585 |
| Q Serve(g_s), s | 8.7 | 25.1 | 7.9 | 5.6 | 26.7 | 6.9 | 10.1 | 0.0 | 10.5 | 7.5 | 6.0 | 7.4 |
| Cycle Q Clear(g_c), s | 8.7 | 25.1 | 7.9 | 16.6 | 26.7 | 6.9 | 16.0 | 0.0 | 10.5 | 7.5 | 6.0 | 7.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 292 | 1791 | 799 | 200 | 1294 | 577 | 246 | 0 | 428 | 342 | 727 | 775 |
| V/C Ratio(X) | 0.91 | 0.54 | 0.18 | 0.18 | 0.81 | 0.38 | 0.45 | 0.00 | 0.52 | 0.77 | 0.23 | 0.26 |
| Avail Cap(c_a), veh/h | 292 | 1791 | 799 | 200 | 1294 | 577 | 246 | 0 | 428 | 518 | 787 | 826 |
| 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) | 0.31 | 0.31 | 0.31 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.9 | 31.1 | 24.0 | 29.9 | 28.7 | 10.7 | 38.5 | 0.0 | 33.6 | 44.0 | 20.5 | 14.9 |
| Incr Delay (d2), s/veh | 12.2 | 0.4 | 0.2 | 1.9 | 5.6 | 1.9 | 5.8 | 0.0 | 4.5 | 4.1 | 0.2 | 0.2 |
| 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 | 4.8 | 11.9 | 3.1 | 0.8 | 11.9 | 3.8 | 2.8 | 0.0 | 5.1 | 3.3 | 2.5 | 2.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.1 | 31.5 | 24.1 | 31.9 | 34.4 | 12.6 | 44.3 | 0.0 | 38.1 | 48.0 | 20.6 | 15.1 |
| LnGrp LOS | D | C | C | C | C | B | D | A | D | D | C | B |
| Approach Vol, veh/h | | 1382 | | | 1306 | | | 332 | | | 631 | |
| Approach Delay, s/veh | | 31.6 | | | 30.6 | | | 40.1 | | | 30.4 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | 7 | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 41.2 | | 44.8 | | 55.2 | 15.8 | 29.0 | | | | |
| Change Period (Y+Rc), s | 4.0 | * 4.8 | | 5.9 | | * 4.8 | 5.9 | * 5.9 | | | | |
| Max Green Setting (Gmax), s | 10.0 | * 33 | | 42.1 | | * 47 | 15.0 | * 23 | | | | |
| Max Q Clear Time (g_c+I1), s | 10.7 | 28.7 | | 9.4 | | 27.1 | 9.5 | 18.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.0 | | 1.6 | | 7.3 | 0.4 | 0.7 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 31.8 | |
| HCM 6th LOS | | C | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 96 | 646 | 56 | 90 | 578 | 104 | 74 | 890 | 207 | 146 | 808 | 149 |
| Future Volume (veh/h) | 96 | 646 | 56 | 90 | 578 | 104 | 74 | 890 | 207 | 146 | 808 | 149 |
| 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 | 104 | 702 | 44 | 98 | 628 | 92 | 80 | 967 | 200 | 159 | 878 | 144 |
| 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 | 213 | 931 | 789 | 220 | 931 | 789 | 158 | 1137 | 235 | 121 | 1185 | 194 |
| Arrive On Green | 0.50 | 0.50 | 0.50 | 0.16 | 0.16 | 0.16 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 |
| Sat Flow, veh/h | 732 | 1870 | 1585 | 715 | 1870 | 1585 | 552 | 2933 | 606 | 481 | 3056 | 501 |
| Grp Volume(v), veh/h | 104 | 702 | 44 | 98 | 628 | 92 | 80 | 585 | 582 | 159 | 510 | 512 |
| Grp Sat Flow(s),veh/h/ln | 732 | 1870 | 1585 | 715 | 1870 | 1585 | 552 | 1777 | 1761 | 481 | 1777 | 1780 |
| Q Serve(g_s), s | 12.2 | 27.2 | 1.3 | 12.1 | 28.4 | 4.5 | 12.7 | 27.1 | 27.2 | 7.7 | 22.2 | 22.2 |
| Cycle Q Clear(g_c), s | 40.6 | 27.2 | 1.3 | 39.2 | 28.4 | 4.5 | 34.9 | 27.1 | 27.2 | 34.9 | 22.2 | 22.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.34 | 1.00 | | 0.28 |
| Lane Grp Cap(c), veh/h | 213 | 931 | 789 | 220 | 931 | 789 | 158 | 689 | 683 | 121 | 689 | 690 |
| V/C Ratio(X) | 0.49 | 0.75 | 0.06 | 0.45 | 0.67 | 0.12 | 0.51 | 0.85 | 0.85 | 1.31 | 0.74 | 0.74 |
| Avail Cap(c_a), veh/h | 213 | 931 | 789 | 220 | 931 | 789 | 158 | 689 | 683 | 121 | 689 | 690 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.67 | 0.67 | 0.67 | 0.55 | 0.55 | 0.55 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.1 | 18.2 | 11.7 | 48.6 | 30.8 | 20.7 | 38.8 | 25.2 | 25.2 | 43.7 | 23.7 | 23.7 |
| Incr Delay (d2), s/veh | 7.8 | 5.6 | 0.1 | 4.3 | 2.6 | 0.2 | 6.3 | 7.3 | 7.5 | 186.6 | 7.0 | 7.0 |
| 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 | 2.6 | 12.1 | 0.5 | 2.6 | 14.7 | 1.6 | 2.0 | 12.0 | 12.0 | 8.9 | 10.1 | 10.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 42.8 | 23.8 | 11.8 | 52.9 | 33.4 | 20.9 | 45.1 | 32.5 | 32.7 | 230.2 | 30.7 | 30.7 |
| LnGrp LOS | D | C | B | D | C | C | D | C | C | F | C | C |
| Approach Vol, veh/h | | 850 | | | 818 | | | 1247 | | | 1181 | |
| Approach Delay, s/veh | | 25.5 | | | 34.3 | | | 33.4 | | | 57.6 | |
| Approach LOS | | C | | | C | | | C | | | E | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 40.0 | | 50.0 | | 40.0 | | 50.0 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | * 5.2 | | 5.1 | | * 5.2 | | | | |
| Max Green Setting (Gmax), s | | 34.9 | | * 45 | | 34.9 | | * 45 | | | | |
| Max Q Clear Time (g_c+I1), s | | 36.9 | | 41.2 | | 36.9 | | 42.6 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | 1.7 | | 0.0 | | 1.2 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 38.9 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 205 | 1031 | 160 | 137 | 971 | 160 | 281 | 860 | 192 | 320 | 463 | 266 |
| Future Volume (veh/h) | 205 | 1031 | 160 | 137 | 971 | 160 | 281 | 860 | 192 | 320 | 463 | 266 |
| 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 | 223 | 1121 | 61 | 149 | 1055 | 60 | 305 | 935 | 163 | 348 | 503 | 199 |
| 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 | 180 | 1173 | 523 | 171 | 1173 | 523 | 335 | 1229 | 628 | 346 | 618 | 243 |
| Arrive On Green | 0.05 | 0.33 | 0.33 | 0.02 | 0.11 | 0.11 | 0.19 | 0.35 | 0.35 | 0.10 | 0.25 | 0.25 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 3456 | 2491 | 980 |
| Grp Volume(v), veh/h | 223 | 1121 | 61 | 149 | 1055 | 60 | 305 | 935 | 163 | 348 | 358 | 344 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1728 | 1777 | 1694 |
| Q Serve(g_s), s | 5.0 | 30.9 | 1.5 | 5.0 | 29.3 | 3.4 | 16.8 | 23.4 | 6.9 | 10.0 | 19.0 | 19.2 |
| Cycle Q Clear(g_c), s | 5.0 | 30.9 | 1.5 | 5.0 | 29.3 | 3.4 | 16.8 | 23.4 | 6.9 | 10.0 | 19.0 | 19.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.58 |
| Lane Grp Cap(c), veh/h | 180 | 1173 | 523 | 171 | 1173 | 523 | 335 | 1229 | 628 | 346 | 441 | 420 |
| V/C Ratio(X) | 1.24 | 0.96 | 0.12 | 0.87 | 0.90 | 0.11 | 0.91 | 0.76 | 0.26 | 1.01 | 0.81 | 0.82 |
| Avail Cap(c_a), veh/h | 180 | 1173 | 523 | 171 | 1173 | 523 | 338 | 1279 | 650 | 346 | 498 | 474 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.58 | 0.58 | 0.58 | 1.00 | 1.00 | 1.00 | 0.63 | 0.63 | 0.63 |
| Uniform Delay (d), s/veh | 32.2 | 32.8 | 7.4 | 29.2 | 42.9 | 31.4 | 39.8 | 29.0 | 20.3 | 45.0 | 35.4 | 35.5 |
| Incr Delay (d2), s/veh | 146.7 | 17.6 | 0.5 | 23.3 | 6.9 | 0.3 | 27.5 | 3.2 | 0.5 | 40.2 | 7.2 | 7.8 |
| 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 | 9.3 | 15.6 | 1.0 | 3.5 | 15.0 | 1.3 | 9.7 | 10.1 | 0.1 | 6.1 | 8.9 | 8.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 178.9 | 50.4 | 7.9 | 52.5 | 49.8 | 31.6 | 67.3 | 32.2 | 20.8 | 85.2 | 42.6 | 43.3 |
| LnGrp LOS | F | D | A | D | D | C | E | C | C | F | D | D |
| Approach Vol, veh/h | | 1405 | | | 1264 | | | 1403 | | | 1050 | |
| Approach Delay, s/veh | | 68.9 | | | 49.3 | | | 38.5 | | | 57.0 | |
| Approach LOS | | E | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | 38.4 | 14.0 | 39.6 | 8.0 | 38.4 | 23.8 | 29.8 |
| Change Period (Y+Rc), s | 3.0 | 5.4 | 4.0 | * 5 | 3.0 | 5.4 | * 5 | * 5 |
| Max Green Setting (Gmax), s | 5.0 | 31.6 | 10.0 | * 36 | 5.0 | 31.6 | * 19 | * 28 |
| Max Q Clear Time (g_c+I1), s | 7.0 | 31.3 | 12.0 | 25.4 | 7.0 | 32.9 | 18.8 | 21.2 |
| Green Ext Time (p_c), s | 0.0 | 0.2 | 0.0 | 7.3 | 0.0 | 0.0 | 0.0 | 3.6 |

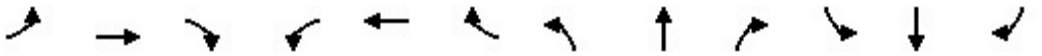
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 53.3 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# HCM 6th Signalized Intersection Summary
## 1: Whitsett Ave & Moorpark St

10/28/2020



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 140 | 786 | 81 | 99 | 580 | 124 | 143 | 885 | 175 | 83 | 548 | 136 |
| Future Volume (veh/h) | 140 | 786 | 81 | 99 | 580 | 124 | 143 | 885 | 175 | 83 | 548 | 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 | 152 | 854 | 75 | 108 | 630 | 107 | 155 | 962 | 170 | 90 | 596 | 122 |
| 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 | 214 | 860 | 729 | 82 | 860 | 729 | 296 | 1321 | 233 | 167 | 1287 | 263 |
| Arrive On Green | 0.15 | 0.15 | 0.15 | 0.46 | 0.46 | 0.46 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| Sat Flow, veh/h | 721 | 1870 | 1585 | 602 | 1870 | 1585 | 734 | 3018 | 533 | 497 | 2939 | 600 |
| Grp Volume(v), veh/h | 152 | 854 | 75 | 108 | 630 | 107 | 155 | 566 | 566 | 90 | 360 | 358 |
| Grp Sat Flow(s),veh/h/ln | 721 | 1870 | 1585 | 602 | 1870 | 1585 | 734 | 1777 | 1774 | 497 | 1777 | 1762 |
| Q Serve(g_s), s | 16.7 | 41.0 | 3.7 | 0.4 | 24.7 | 3.5 | 17.0 | 23.7 | 23.7 | 15.7 | 12.8 | 12.9 |
| Cycle Q Clear(g_c), s | 41.4 | 41.0 | 3.7 | 41.4 | 24.7 | 3.5 | 29.9 | 23.7 | 23.7 | 39.4 | 12.8 | 12.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.30 | 1.00 | | 0.34 |
| Lane Grp Cap(c), veh/h | 214 | 860 | 729 | 82 | 860 | 729 | 296 | 778 | 777 | 167 | 778 | 772 |
| V/C Ratio(X) | 0.71 | 0.99 | 0.10 | 1.31 | 0.73 | 0.15 | 0.52 | 0.73 | 0.73 | 0.54 | 0.46 | 0.46 |
| Avail Cap(c_a), veh/h | 214 | 860 | 729 | 82 | 860 | 729 | 296 | 778 | 777 | 167 | 778 | 772 |
| 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) | 0.09 | 0.09 | 0.09 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 51.5 | 38.0 | 22.2 | 45.0 | 19.8 | 14.1 | 28.4 | 20.9 | 20.9 | 37.4 | 17.8 | 17.9 |
| Incr Delay (d2), s/veh | 1.8 | 7.7 | 0.0 | 203.1 | 5.5 | 0.4 | 6.5 | 5.9 | 5.9 | 12.0 | 2.0 | 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 | 3.8 | 22.1 | 1.3 | 6.5 | 11.2 | 1.3 | 3.3 | 10.2 | 10.2 | 2.5 | 5.2 | 5.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.3 | 45.7 | 22.2 | 248.1 | 25.3 | 14.5 | 34.9 | 26.8 | 26.8 | 49.4 | 19.8 | 19.9 |
| LnGrp LOS | D | D | C | F | C | B | C | C | C | D | B | B |
| Approach Vol, veh/h | | 1081 | | | 845 | | | 1287 | | | 808 | |
| Approach Delay, s/veh | | 45.1 | | | 52.4 | | | 27.8 | | | 23.1 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 46.0 | | 44.0 | | 46.0 | | 44.0 | | | | |
| Change Period (Y+Rc), s | | * 4.6 | | * 4.6 | | * 4.6 | | * 4.6 | | | | |
| Max Green Setting (Gmax), s | | * 41 | | * 39 | | * 41 | | * 39 | | | | |
| Max Q Clear Time (g_c+I1), s | | 43.4 | | 41.4 | | 43.4 | | 31.9 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | 0.0 | | 0.0 | | 4.5 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 36.7 |
| HCM 6th LOS | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

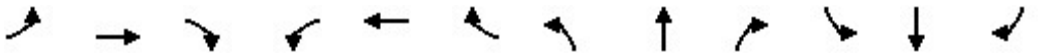
| Intersection | |
|---|---|
| Int Delay, s/veh | 2.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 2 | 24 | 6 | 2 | 94 | 32 | 1107 | 20 | 36 | 669 | 10 |
| Future Vol, veh/h | 4 | 2 | 24 | 6 | 2 | 94 | 32 | 1107 | 20 | 36 | 669 | 10 |
| 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 | - | - | 50 | - | - | 50 | - | - | - | - | - | 50 |
| 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 | 4 | 2 | 26 | 7 | 2 | 102 | 35 | 1203 | 22 | 39 | 727 | 11 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1478 | 2100 | 364 | 1727 | 2100 | 613 | 738 | 0 | 0 | 1225 | 0 | 0 |
| Stage 1 | 805 | 805 | - | 1284 | 1284 | - | - | - | - | - | - | - |
| Stage 2 | 673 | 1295 | - | 443 | 816 | - | - | - | - | - | - | - |
| 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 | 88 | 51 | 633 | 57 | 51 | 435 | 864 | - | - | 565 | - | - |
| Stage 1 | 342 | 393 | - | 174 | 234 | - | - | - | - | - | - | - |
| Stage 2 | 411 | 231 | - | 564 | 389 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 53 | 39 | 633 | 43 | 39 | 435 | 864 | - | - | 565 | - | - |
| Mov Cap-2 Maneuver | 53 | 39 | - | 43 | 39 | - | - | - | - | - | - | - |
| Stage 1 | 298 | 347 | - | 152 | 204 | - | - | - | - | - | - | - |
| Stage 2 | 271 | 201 | - | 474 | 343 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 27.4 | 23.3 | 0.8 | 1.2 |
| HCM LOS | D | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 864 | - | - | 47 | 633 | 42 | 435 | 565 | - | - |
| HCM Lane V/C Ratio | 0.04 | - | - | 0.139 | 0.041 | 0.207 | 0.235 | 0.069 | - | - |
| HCM Control Delay (s) | 9.3 | 0.6 | - | 93.6 | 10.9 | 111.8 | 15.8 | 11.8 | 0.6 | - |
| HCM Lane LOS | A | A | - | F | B | F | C | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.4 | 0.1 | 0.7 | 0.9 | 0.2 | - | - |



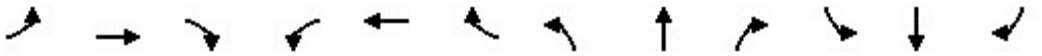
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 285 | 1055 | 186 | 33 | 1181 | 305 | 104 | 198 | 14 | 251 | 158 | 247 |
| Future Volume (veh/h) | 285 | 1055 | 186 | 33 | 1181 | 305 | 104 | 198 | 14 | 251 | 158 | 247 |
| 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 | 310 | 1147 | 149 | 36 | 1284 | 230 | 113 | 215 | 13 | 273 | 172 | 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 | 250 | 1783 | 795 | 157 | 1286 | 573 | 234 | 403 | 24 | 350 | 732 | 779 |
| Arrive On Green | 0.03 | 0.17 | 0.17 | 0.36 | 0.36 | 0.36 | 0.23 | 0.23 | 0.23 | 0.10 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 425 | 3554 | 1585 | 959 | 1746 | 106 | 3456 | 1870 | 1585 |
| Grp Volume(v), veh/h | 310 | 1147 | 149 | 36 | 1284 | 230 | 113 | 0 | 228 | 273 | 172 | 257 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 425 | 1777 | 1585 | 959 | 0 | 1851 | 1728 | 1870 | 1585 |
| Q Serve(g_s), s | 10.0 | 30.1 | 8.1 | 7.4 | 36.1 | 7.3 | 11.1 | 0.0 | 10.8 | 7.7 | 6.2 | 9.8 |
| Cycle Q Clear(g_c), s | 10.0 | 30.1 | 8.1 | 23.5 | 36.1 | 7.3 | 17.3 | 0.0 | 10.8 | 7.7 | 6.2 | 9.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 250 | 1783 | 795 | 157 | 1286 | 573 | 234 | 0 | 428 | 350 | 732 | 779 |
| V/C Ratio(X) | 1.24 | 0.64 | 0.19 | 0.23 | 1.00 | 0.40 | 0.48 | 0.00 | 0.53 | 0.78 | 0.24 | 0.33 |
| Avail Cap(c_a), veh/h | 250 | 1783 | 795 | 157 | 1286 | 573 | 234 | 0 | 428 | 518 | 787 | 826 |
| 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) | 0.16 | 0.16 | 0.16 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.0 | 33.4 | 24.2 | 34.9 | 31.9 | 10.8 | 39.1 | 0.0 | 33.7 | 43.9 | 20.4 | 15.4 |
| Incr Delay (d2), s/veh | 112.9 | 0.3 | 0.1 | 3.4 | 24.8 | 2.1 | 6.9 | 0.0 | 4.7 | 4.5 | 0.2 | 0.2 |
| 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 | 14.4 | 14.3 | 3.2 | 0.9 | 19.1 | 4.0 | 3.0 | 0.0 | 5.2 | 3.4 | 2.6 | 3.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 144.8 | 33.7 | 24.2 | 38.3 | 56.7 | 12.9 | 46.1 | 0.0 | 38.4 | 48.4 | 20.6 | 15.7 |
| LnGrp LOS | F | C | C | D | E | B | D | A | D | D | C | B |
| Approach Vol, veh/h | | 1606 | | | 1550 | | | 341 | | | 702 | |
| Approach Delay, s/veh | | 54.2 | | | 49.8 | | | 41.0 | | | 29.6 | |
| Approach LOS | | D | | | D | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | 7 | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 41.0 | | 45.0 | | 55.0 | 16.0 | 29.0 | | | | |
| Change Period (Y+Rc), s | 4.0 | * 4.8 | | 5.9 | | * 4.8 | 5.9 | * 5.9 | | | | |
| Max Green Setting (Gmax), s | 10.0 | * 33 | | 42.1 | | * 47 | 15.0 | * 23 | | | | |
| Max Q Clear Time (g_c+I1), s | 12.0 | 38.1 | | 11.8 | | 32.1 | 9.7 | 19.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 1.8 | | 7.5 | 0.4 | 0.6 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 47.4 |
| HCM 6th LOS | | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



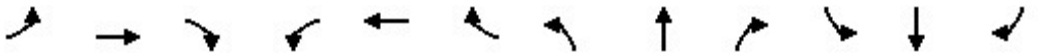
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 99 | 666 | 58 | 93 | 596 | 107 | 76 | 1001 | 213 | 150 | 952 | 154 |
| Future Volume (veh/h) | 99 | 666 | 58 | 93 | 596 | 107 | 76 | 1001 | 213 | 150 | 952 | 154 |
| 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 | 108 | 724 | 47 | 101 | 648 | 102 | 83 | 1088 | 210 | 163 | 1035 | 152 |
| 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 | 202 | 931 | 789 | 206 | 931 | 789 | 119 | 1153 | 222 | 94 | 1206 | 177 |
| Arrive On Green | 0.50 | 0.50 | 0.50 | 0.16 | 0.16 | 0.16 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 |
| Sat Flow, veh/h | 712 | 1870 | 1585 | 698 | 1870 | 1585 | 472 | 2973 | 572 | 425 | 3109 | 456 |
| Grp Volume(v), veh/h | 108 | 724 | 47 | 101 | 648 | 102 | 83 | 649 | 649 | 163 | 591 | 596 |
| Grp Sat Flow(s),veh/h/ln | 712 | 1870 | 1585 | 698 | 1870 | 1585 | 472 | 1777 | 1767 | 425 | 1777 | 1788 |
| Q Serve(g_s), s | 13.3 | 28.5 | 1.4 | 12.9 | 29.4 | 4.9 | 7.4 | 31.7 | 32.0 | 2.9 | 27.5 | 27.5 |
| Cycle Q Clear(g_c), s | 42.8 | 28.5 | 1.4 | 41.4 | 29.4 | 4.9 | 34.9 | 31.7 | 32.0 | 34.9 | 27.5 | 27.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.32 | 1.00 | | 0.26 |
| Lane Grp Cap(c), veh/h | 202 | 931 | 789 | 206 | 931 | 789 | 119 | 689 | 685 | 94 | 689 | 693 |
| V/C Ratio(X) | 0.54 | 0.78 | 0.06 | 0.49 | 0.70 | 0.13 | 0.70 | 0.94 | 0.95 | 1.74 | 0.86 | 0.86 |
| Avail Cap(c_a), veh/h | 202 | 931 | 789 | 206 | 931 | 789 | 119 | 689 | 685 | 94 | 689 | 693 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.62 | 0.62 | 0.62 | 0.39 | 0.39 | 0.39 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.5 | 18.5 | 11.7 | 50.3 | 31.2 | 21.0 | 43.3 | 26.6 | 26.7 | 44.8 | 25.3 | 25.3 |
| Incr Delay (d2), s/veh | 9.8 | 6.4 | 0.1 | 5.1 | 2.7 | 0.2 | 12.6 | 11.4 | 12.2 | 373.0 | 13.1 | 13.1 |
| 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 | 2.8 | 12.8 | 0.5 | 2.7 | 15.2 | 1.8 | 2.2 | 14.6 | 14.8 | 11.8 | 13.3 | 13.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.3 | 24.9 | 11.8 | 55.4 | 33.9 | 21.2 | 55.9 | 38.0 | 38.8 | 417.8 | 38.3 | 38.4 |
| LnGrp LOS | D | C | B | E | C | C | E | D | D | F | D | D |
| Approach Vol, veh/h | | 879 | | | 851 | | | 1381 | | | 1350 | |
| Approach Delay, s/veh | | 26.8 | | | 34.9 | | | 39.5 | | | 84.2 | |
| Approach LOS | | C | | | C | | | D | | | F | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 40.0 | | 50.0 | | 40.0 | | 50.0 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | * 5.2 | | 5.1 | | * 5.2 | | | | |
| Max Green Setting (Gmax), s | | 34.9 | | * 45 | | 34.9 | | * 45 | | | | |
| Max Q Clear Time (g_c+I1), s | | 36.9 | | 43.4 | | 36.9 | | 44.8 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | 0.8 | | 0.0 | | 0.0 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 49.6 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 247 | 1093 | 165 | 149 | 1051 | 174 | 290 | 922 | 208 | 341 | 502 | 274 |
| Future Volume (veh/h) | 247 | 1093 | 165 | 149 | 1051 | 174 | 290 | 922 | 208 | 341 | 502 | 274 |
| 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 | 268 | 1188 | 65 | 162 | 1142 | 75 | 315 | 1002 | 181 | 371 | 546 | 218 |
| 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 | 161 | 1124 | 501 | 161 | 1124 | 501 | 338 | 1279 | 650 | 346 | 645 | 257 |
| Arrive On Green | 0.05 | 0.32 | 0.32 | 0.02 | 0.10 | 0.10 | 0.19 | 0.36 | 0.36 | 0.10 | 0.26 | 0.26 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 3456 | 2482 | 988 |
| Grp Volume(v), veh/h | 268 | 1188 | 65 | 162 | 1142 | 75 | 315 | 1002 | 181 | 371 | 390 | 374 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1728 | 1777 | 1693 |
| Q Serve(g_s), s | 5.0 | 31.6 | 1.7 | 5.0 | 31.6 | 4.3 | 17.4 | 25.1 | 7.6 | 10.0 | 20.8 | 21.0 |
| Cycle Q Clear(g_c), s | 5.0 | 31.6 | 1.7 | 5.0 | 31.6 | 4.3 | 17.4 | 25.1 | 7.6 | 10.0 | 20.8 | 21.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.58 |
| Lane Grp Cap(c), veh/h | 161 | 1124 | 501 | 161 | 1124 | 501 | 338 | 1279 | 650 | 346 | 462 | 440 |
| V/C Ratio(X) | 1.66 | 1.06 | 0.13 | 1.01 | 1.02 | 0.15 | 0.93 | 0.78 | 0.28 | 1.07 | 0.85 | 0.85 |
| Avail Cap(c_a), veh/h | 161 | 1124 | 501 | 161 | 1124 | 501 | 338 | 1279 | 650 | 346 | 498 | 474 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.28 | 0.28 | 0.28 | 1.00 | 1.00 | 1.00 | 0.45 | 0.45 | 0.45 |
| Uniform Delay (d), s/veh | 31.1 | 34.2 | 7.9 | 31.7 | 44.8 | 32.6 | 39.9 | 28.5 | 19.7 | 45.0 | 35.1 | 35.2 |
| Incr Delay (d2), s/veh | 324.5 | 43.3 | 0.5 | 39.0 | 18.5 | 0.2 | 31.6 | 3.8 | 0.5 | 54.1 | 6.7 | 7.3 |
| 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 | 16.0 | 19.8 | 1.1 | 3.2 | 17.8 | 1.7 | 10.4 | 10.9 | 2.8 | 6.8 | 9.6 | 9.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 355.7 | 77.5 | 8.5 | 70.7 | 63.2 | 32.7 | 71.5 | 32.3 | 20.2 | 99.1 | 41.9 | 42.4 |
| LnGrp LOS | F | F | A | F | F | C | E | C | C | F | D | D |
| Approach Vol, veh/h | | 1521 | | | 1379 | | | 1498 | | | 1135 | |
| Approach Delay, s/veh | | 123.6 | | | 62.5 | | | 39.1 | | | 60.7 | |
| Approach LOS | | F | | | E | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | 37.0 | 14.0 | 41.0 | 8.0 | 37.0 | 24.0 | 31.0 |
| Change Period (Y+Rc), s | 3.0 | 5.4 | 4.0 | * 5 | 3.0 | 5.4 | * 5 | * 5 |
| Max Green Setting (Gmax), s | 5.0 | 31.6 | 10.0 | * 36 | 5.0 | 31.6 | * 19 | * 28 |
| Max Q Clear Time (g_c+I1), s | 7.0 | 33.6 | 12.0 | 27.1 | 7.0 | 33.6 | 19.4 | 23.0 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 6.6 | 0.0 | 0.0 | 0.0 | 3.0 |

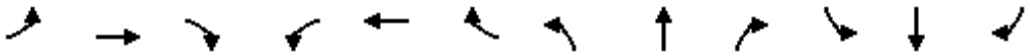
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 72.6 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# HCM 6th Signalized Intersection Summary
## 1: Whitsett Ave & Moorpark St

02/08/2021



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 148 | 786 | 99 | 91 | 580 | 124 | 131 | 879 | 159 | 83 | 547 | 136 |
| Future Volume (veh/h) | 148 | 786 | 99 | 91 | 580 | 124 | 131 | 879 | 159 | 83 | 547 | 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 | 161 | 854 | 92 | 99 | 630 | 107 | 142 | 955 | 156 | 90 | 595 | 122 |
| 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 | 214 | 860 | 729 | 82 | 860 | 729 | 296 | 1339 | 219 | 172 | 1286 | 263 |
| Arrive On Green | 0.15 | 0.15 | 0.15 | 0.46 | 0.46 | 0.46 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| Sat Flow, veh/h | 721 | 1870 | 1585 | 593 | 1870 | 1585 | 734 | 3058 | 499 | 507 | 2938 | 601 |
| Grp Volume(v), veh/h | 161 | 854 | 92 | 99 | 630 | 107 | 142 | 555 | 556 | 90 | 359 | 358 |
| Grp Sat Flow(s),veh/h/ln | 721 | 1870 | 1585 | 593 | 1870 | 1585 | 734 | 1777 | 1780 | 507 | 1777 | 1762 |
| Q Serve(g_s), s | 16.7 | 41.0 | 4.5 | 0.4 | 24.7 | 3.5 | 15.2 | 23.0 | 23.0 | 15.9 | 12.8 | 12.9 |
| Cycle Q Clear(g_c), s | 41.4 | 41.0 | 4.5 | 41.4 | 24.7 | 3.5 | 28.1 | 23.0 | 23.0 | 38.9 | 12.8 | 12.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.28 | 1.00 | | 0.34 |
| Lane Grp Cap(c), veh/h | 214 | 860 | 729 | 82 | 860 | 729 | 296 | 778 | 779 | 172 | 778 | 771 |
| V/C Ratio(X) | 0.75 | 0.99 | 0.13 | 1.20 | 0.73 | 0.15 | 0.48 | 0.71 | 0.71 | 0.52 | 0.46 | 0.46 |
| Avail Cap(c_a), veh/h | 214 | 860 | 729 | 82 | 860 | 729 | 296 | 778 | 779 | 172 | 778 | 771 |
| 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) | 0.09 | 0.09 | 0.09 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 51.9 | 38.0 | 22.5 | 45.0 | 19.8 | 14.1 | 27.8 | 20.7 | 20.7 | 36.6 | 17.8 | 17.8 |
| Incr Delay (d2), s/veh | 2.3 | 7.7 | 0.0 | 163.2 | 5.5 | 0.4 | 5.5 | 5.5 | 5.5 | 10.8 | 2.0 | 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 | 4.0 | 22.1 | 1.7 | 5.5 | 11.2 | 1.3 | 3.0 | 9.8 | 9.8 | 2.4 | 5.2 | 5.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 54.2 | 45.7 | 22.6 | 208.2 | 25.3 | 14.5 | 33.2 | 26.2 | 26.2 | 47.4 | 19.8 | 19.8 |
| LnGrp LOS | D | D | C | F | C | B | C | C | C | D | B | B |
| Approach Vol, veh/h | | 1107 | | | 836 | | | 1253 | | | 807 | |
| Approach Delay, s/veh | | 45.0 | | | 45.5 | | | 27.0 | | | 22.9 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 46.0 | | 44.0 | | 46.0 | | 44.0 | | | | |
| Change Period (Y+Rc), s | | * 4.6 | | * 4.6 | | * 4.6 | | * 4.6 | | | | |
| Max Green Setting (Gmax), s | | * 41 | | * 39 | | * 41 | | * 39 | | | | |
| Max Q Clear Time (g_c+I1), s | | 43.4 | | 40.9 | | 43.4 | | 30.1 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | 0.0 | | 0.0 | | 5.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 35.0 | |
| HCM 6th LOS | D | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

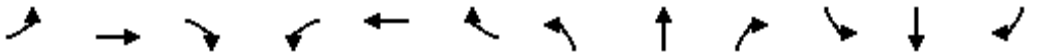
| Intersection | |
|---|---|
| Int Delay, s/veh | 2.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 2 | 23 | 4 | 3 | 94 | 28 | 1065 | 16 | 36 | 674 | 10 |
| Future Vol, veh/h | 4 | 2 | 23 | 4 | 3 | 94 | 28 | 1065 | 16 | 36 | 674 | 10 |
| 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 | - | - | 50 | - | - | 50 | - | - | - | - | - | 50 |
| 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 | 4 | 2 | 25 | 4 | 3 | 102 | 30 | 1158 | 17 | 39 | 733 | 11 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1452 | 2046 | 367 | 1673 | 2049 | 588 | 744 | 0 | 0 | 1175 | 0 | 0 |
| Stage 1 | 811 | 811 | - | 1227 | 1227 | - | - | - | - | - | - | - |
| Stage 2 | 641 | 1235 | - | 446 | 822 | - | - | - | - | - | - | - |
| 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 | 92 | 55 | 630 | 62 | 55 | 452 | 859 | - | - | 590 | - | - |
| Stage 1 | 339 | 391 | - | 189 | 249 | - | - | - | - | - | - | - |
| Stage 2 | 430 | 247 | - | 561 | 386 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 57 | 44 | 630 | 48 | 44 | 452 | 859 | - | - | 590 | - | - |
| Mov Cap-2 Maneuver | 57 | 44 | - | 48 | 44 | - | - | - | - | - | - | - |
| Stage 1 | 305 | 347 | - | 170 | 224 | - | - | - | - | - | - | - |
| Stage 2 | 295 | 222 | - | 475 | 342 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 26.1 | 21 | 0.6 | 1.1 |
| HCM LOS | D | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 859 | - | - | 52 | 630 | 46 | 452 | 590 | - | - |
| HCM Lane V/C Ratio | 0.035 | - | - | 0.125 | 0.04 | 0.165 | 0.226 | 0.066 | - | - |
| HCM Control Delay (s) | 9.3 | 0.4 | - | 83.9 | 11 | 98.2 | 15.3 | 11.5 | 0.6 | - |
| HCM Lane LOS | A | A | - | F | B | F | C | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.4 | 0.1 | 0.5 | 0.9 | 0.2 | - | - |



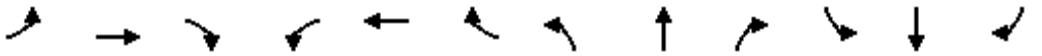
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 302 | 1055 | 186 | 33 | 1181 | 304 | 104 | 196 | 14 | 274 | 155 | 347 |
| Future Volume (veh/h) | 302 | 1055 | 186 | 33 | 1181 | 304 | 104 | 196 | 14 | 274 | 155 | 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 | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 328 | 1147 | 149 | 36 | 1284 | 228 | 113 | 213 | 13 | 298 | 168 | 366 |
| 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 | 250 | 1758 | 784 | 154 | 1260 | 562 | 221 | 403 | 25 | 375 | 745 | 790 |
| Arrive On Green | 0.03 | 0.16 | 0.16 | 0.35 | 0.35 | 0.35 | 0.23 | 0.23 | 0.23 | 0.11 | 0.40 | 0.40 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 425 | 3554 | 1585 | 870 | 1745 | 106 | 3456 | 1870 | 1585 |
| Grp Volume(v), veh/h | 328 | 1147 | 149 | 36 | 1284 | 228 | 113 | 0 | 226 | 298 | 168 | 366 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 425 | 1777 | 1585 | 870 | 0 | 1851 | 1728 | 1870 | 1585 |
| Q Serve(g_s), s | 10.0 | 30.2 | 8.1 | 7.5 | 35.5 | 7.2 | 12.4 | 0.0 | 10.7 | 8.4 | 5.9 | 15.1 |
| Cycle Q Clear(g_c), s | 10.0 | 30.2 | 8.1 | 23.7 | 35.5 | 7.2 | 18.3 | 0.0 | 10.7 | 8.4 | 5.9 | 15.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 250 | 1758 | 784 | 154 | 1260 | 562 | 221 | 0 | 428 | 375 | 745 | 790 |
| V/C Ratio(X) | 1.31 | 0.65 | 0.19 | 0.23 | 1.02 | 0.41 | 0.51 | 0.00 | 0.53 | 0.80 | 0.23 | 0.46 |
| Avail Cap(c_a), veh/h | 250 | 1758 | 784 | 154 | 1260 | 562 | 221 | 0 | 428 | 518 | 787 | 826 |
| 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) | 0.17 | 0.17 | 0.17 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.8 | 33.8 | 24.5 | 35.6 | 32.3 | 10.8 | 39.4 | 0.0 | 33.7 | 43.5 | 19.9 | 16.4 |
| Incr Delay (d2), s/veh | 145.1 | 0.3 | 0.1 | 3.5 | 30.2 | 2.2 | 8.2 | 0.0 | 4.6 | 5.9 | 0.2 | 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 | 14.6 | 14.4 | 3.2 | 0.9 | 19.8 | 4.0 | 3.1 | 0.0 | 5.2 | 3.8 | 2.5 | 5.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 176.9 | 34.1 | 24.6 | 39.2 | 62.5 | 13.0 | 47.6 | 0.0 | 38.3 | 49.4 | 20.0 | 16.8 |
| LnGrp LOS | F | C | C | D | F | B | D | A | D | D | C | B |
| Approach Vol, veh/h | | 1624 | | | 1548 | | | 339 | | | 832 | |
| Approach Delay, s/veh | | 62.1 | | | 54.6 | | | 41.4 | | | 29.1 | |
| Approach LOS | | E | | | D | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | 7 | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 40.3 | | 45.7 | | 54.3 | 16.7 | 29.0 | | | | |
| Change Period (Y+Rc), s | 4.0 | * 4.8 | | 5.9 | | * 4.8 | 5.9 | * 5.9 | | | | |
| Max Green Setting (Gmax), s | 10.0 | * 33 | | 42.1 | | * 47 | 15.0 | * 23 | | | | |
| Max Q Clear Time (g_c+I1), s | 12.0 | 37.5 | | 17.1 | | 32.2 | 10.4 | 20.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 2.2 | | 7.5 | 0.4 | 0.5 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 51.5 | |
| HCM 6th LOS | | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



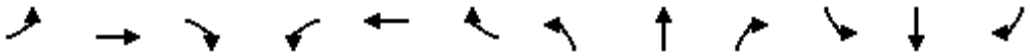
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 99 | 665 | 58 | 93 | 590 | 101 | 84 | 1067 | 233 | 156 | 953 | 154 |
| Future Volume (veh/h) | 99 | 665 | 58 | 93 | 590 | 101 | 84 | 1067 | 233 | 156 | 953 | 154 |
| 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 | 108 | 723 | 47 | 101 | 641 | 96 | 91 | 1160 | 230 | 170 | 1036 | 152 |
| 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 | 206 | 931 | 789 | 207 | 931 | 789 | 118 | 1147 | 226 | 80 | 1206 | 177 |
| Arrive On Green | 0.50 | 0.50 | 0.50 | 0.16 | 0.16 | 0.16 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 |
| Sat Flow, veh/h | 721 | 1870 | 1585 | 699 | 1870 | 1585 | 472 | 2959 | 583 | 389 | 3110 | 456 |
| Grp Volume(v), veh/h | 108 | 723 | 47 | 101 | 641 | 96 | 91 | 694 | 696 | 170 | 591 | 597 |
| Grp Sat Flow(s),veh/h/ln | 721 | 1870 | 1585 | 699 | 1870 | 1585 | 472 | 1777 | 1765 | 389 | 1777 | 1788 |
| Q Serve(g_s), s | 13.1 | 28.5 | 1.4 | 12.8 | 29.1 | 4.6 | 7.3 | 34.9 | 34.9 | 0.0 | 27.5 | 27.6 |
| Cycle Q Clear(g_c), s | 42.2 | 28.5 | 1.4 | 41.3 | 29.1 | 4.6 | 34.9 | 34.9 | 34.9 | 34.9 | 27.5 | 27.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 0.25 |
| Lane Grp Cap(c), veh/h | 206 | 931 | 789 | 207 | 931 | 789 | 118 | 689 | 685 | 80 | 689 | 693 |
| V/C Ratio(X) | 0.52 | 0.78 | 0.06 | 0.49 | 0.69 | 0.12 | 0.77 | 1.01 | 1.02 | 2.12 | 0.86 | 0.86 |
| Avail Cap(c_a), veh/h | 206 | 931 | 789 | 207 | 931 | 789 | 118 | 689 | 685 | 80 | 689 | 693 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.63 | 0.63 | 0.63 | 0.39 | 0.39 | 0.39 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.0 | 18.5 | 11.7 | 50.2 | 31.0 | 20.8 | 43.5 | 27.6 | 27.6 | 45.0 | 25.3 | 25.3 |
| Incr Delay (d2), s/veh | 9.2 | 6.3 | 0.1 | 5.1 | 2.6 | 0.2 | 17.0 | 23.0 | 25.9 | 545.7 | 13.1 | 13.2 |
| 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 | 2.8 | 12.8 | 0.5 | 2.7 | 15.0 | 1.7 | 2.5 | 18.1 | 18.6 | 13.9 | 13.3 | 13.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 45.3 | 24.8 | 11.8 | 55.3 | 33.7 | 21.0 | 60.4 | 50.6 | 53.4 | 590.7 | 38.4 | 38.5 |
| LnGrp LOS | D | C | B | E | C | C | E | F | F | F | D | D |
| Approach Vol, veh/h | | 878 | | | 838 | | | 1481 | | | 1358 | |
| Approach Delay, s/veh | | 26.6 | | | 34.8 | | | 52.5 | | | 107.6 | |
| Approach LOS | | C | | | C | | | D | | | F | |

| Timer - Assigned Phs | 2 | 4 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 40.0 | 50.0 | 40.0 | 50.0 |
| Change Period (Y+Rc), s | 5.1 | * 5.2 | 5.1 | * 5.2 |
| Max Green Setting (Gmax), s | 34.9 | * 45 | 34.9 | * 45 |
| Max Q Clear Time (g_c+I1), s | 36.9 | 43.3 | 36.9 | 44.2 |
| Green Ext Time (p_c), s | 0.0 | 0.8 | 0.0 | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 60.7 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 246 | 1093 | 165 | 164 | 1054 | 256 | 290 | 935 | 225 | 341 | 502 | 274 |
| Future Volume (veh/h) | 246 | 1093 | 165 | 164 | 1054 | 256 | 290 | 935 | 225 | 341 | 502 | 274 |
| 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 | 267 | 1188 | 65 | 178 | 1146 | 164 | 315 | 1016 | 200 | 371 | 546 | 218 |
| 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 | 161 | 1124 | 501 | 161 | 1124 | 501 | 338 | 1279 | 650 | 346 | 645 | 257 |
| Arrive On Green | 0.05 | 0.32 | 0.32 | 0.02 | 0.10 | 0.10 | 0.19 | 0.36 | 0.36 | 0.10 | 0.26 | 0.26 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 3456 | 2482 | 988 |
| Grp Volume(v), veh/h | 267 | 1188 | 65 | 178 | 1146 | 164 | 315 | 1016 | 200 | 371 | 390 | 374 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1728 | 1777 | 1693 |
| Q Serve(g_s), s | 5.0 | 31.6 | 1.7 | 5.0 | 31.6 | 9.6 | 17.4 | 25.6 | 8.5 | 10.0 | 20.8 | 21.0 |
| Cycle Q Clear(g_c), s | 5.0 | 31.6 | 1.7 | 5.0 | 31.6 | 9.6 | 17.4 | 25.6 | 8.5 | 10.0 | 20.8 | 21.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.58 |
| Lane Grp Cap(c), veh/h | 161 | 1124 | 501 | 161 | 1124 | 501 | 338 | 1279 | 650 | 346 | 462 | 440 |
| V/C Ratio(X) | 1.66 | 1.06 | 0.13 | 1.11 | 1.02 | 0.33 | 0.93 | 0.79 | 0.31 | 1.07 | 0.85 | 0.85 |
| Avail Cap(c_a), veh/h | 161 | 1124 | 501 | 161 | 1124 | 501 | 338 | 1279 | 650 | 346 | 498 | 474 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.31 | 0.31 | 0.31 | 1.00 | 1.00 | 1.00 | 0.45 | 0.45 | 0.45 |
| Uniform Delay (d), s/veh | 31.1 | 34.2 | 7.9 | 31.7 | 44.8 | 34.9 | 39.9 | 28.7 | 19.9 | 45.0 | 35.1 | 35.2 |
| Incr Delay (d2), s/veh | 321.9 | 43.3 | 0.5 | 71.4 | 20.2 | 0.5 | 31.6 | 4.1 | 0.6 | 54.1 | 6.7 | 7.3 |
| 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 | 15.9 | 19.8 | 1.1 | 4.7 | 18.1 | 4.0 | 10.4 | 11.2 | 3.1 | 6.8 | 9.6 | 9.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 353.0 | 77.5 | 8.5 | 103.1 | 65.0 | 35.5 | 71.5 | 32.8 | 20.5 | 99.1 | 41.9 | 42.4 |
| LnGrp LOS | F | F | A | F | F | D | E | C | C | F | D | D |
| Approach Vol, veh/h | | 1520 | | | 1488 | | | 1531 | | | 1135 | |
| Approach Delay, s/veh | | 123.0 | | | 66.3 | | | 39.1 | | | 60.7 | |
| Approach LOS | | F | | | E | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | 37.0 | 14.0 | 41.0 | 8.0 | 37.0 | 24.0 | 31.0 |
| Change Period (Y+Rc), s | 3.0 | 5.4 | 4.0 | * 5 | 3.0 | 5.4 | * 5 | * 5 |
| Max Green Setting (Gmax), s | 5.0 | 31.6 | 10.0 | * 36 | 5.0 | 31.6 | * 19 | * 28 |
| Max Q Clear Time (g_c+I1), s | 7.0 | 33.6 | 12.0 | 27.6 | 7.0 | 33.6 | 19.4 | 23.0 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 6.4 | 0.0 | 0.0 | 0.0 | 3.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 73.0 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# HCM 6th Signalized Intersection Summary
## 1: Whitsett Ave & Moorpark St

02/08/2021

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 165 | 786 | 107 | 94 | 580 | 124 | 160 | 882 | 165 | 83 | 549 | 136 |
| Future Volume (veh/h) | 165 | 786 | 107 | 94 | 580 | 124 | 160 | 882 | 165 | 83 | 549 | 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 | 179 | 854 | 99 | 102 | 630 | 107 | 174 | 959 | 161 | 90 | 597 | 122 |
| 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 | 214 | 860 | 729 | 82 | 860 | 729 | 296 | 1333 | 224 | 170 | 1287 | 262 |
| Arrive On Green | 0.15 | 0.15 | 0.15 | 0.46 | 0.46 | 0.46 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| Sat Flow, veh/h | 721 | 1870 | 1585 | 589 | 1870 | 1585 | 733 | 3044 | 511 | 503 | 2940 | 599 |
| Grp Volume(v), veh/h | 179 | 854 | 99 | 102 | 630 | 107 | 174 | 559 | 561 | 90 | 360 | 359 |
| Grp Sat Flow(s),veh/h/ln | 721 | 1870 | 1585 | 589 | 1870 | 1585 | 733 | 1777 | 1778 | 503 | 1777 | 1762 |
| Q Serve(g_s), s | 16.7 | 41.0 | 4.9 | 0.4 | 24.7 | 3.5 | 19.8 | 23.3 | 23.3 | 16.1 | 12.9 | 12.9 |
| Cycle Q Clear(g_c), s | 41.4 | 41.0 | 4.9 | 41.4 | 24.7 | 3.5 | 32.7 | 23.3 | 23.3 | 39.4 | 12.9 | 12.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 0.34 |
| Lane Grp Cap(c), veh/h | 214 | 860 | 729 | 82 | 860 | 729 | 296 | 778 | 779 | 170 | 778 | 772 |
| V/C Ratio(X) | 0.84 | 0.99 | 0.14 | 1.24 | 0.73 | 0.15 | 0.59 | 0.72 | 0.72 | 0.53 | 0.46 | 0.46 |
| Avail Cap(c_a), veh/h | 214 | 860 | 729 | 82 | 860 | 729 | 296 | 778 | 779 | 170 | 778 | 772 |
| 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) | 0.09 | 0.09 | 0.09 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 52.6 | 38.0 | 22.7 | 45.0 | 19.8 | 14.1 | 29.4 | 20.8 | 20.8 | 36.9 | 17.8 | 17.9 |
| Incr Delay (d2), s/veh | 3.7 | 7.7 | 0.0 | 176.4 | 5.5 | 0.4 | 8.3 | 5.7 | 5.7 | 11.3 | 2.0 | 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 | 4.5 | 22.1 | 1.8 | 5.8 | 11.2 | 1.3 | 3.9 | 10.0 | 10.0 | 2.4 | 5.3 | 5.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.3 | 45.7 | 22.7 | 221.4 | 25.3 | 14.5 | 37.7 | 26.4 | 26.5 | 48.2 | 19.8 | 19.9 |
| LnGrp LOS | E | D | C | F | C | B | D | C | C | D | B | B |
| Approach Vol, veh/h | | 1132 | | | 839 | | | 1294 | | | 809 | |
| Approach Delay, s/veh | | 45.3 | | | 47.7 | | | 28.0 | | | 23.0 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 46.0 | | 44.0 | | 46.0 | | 44.0 | | | | |
| Change Period (Y+Rc), s | | * 4.6 | | * 4.6 | | * 4.6 | | * 4.6 | | | | |
| Max Green Setting (Gmax), s | | * 41 | | * 39 | | * 41 | | * 39 | | | | |
| Max Q Clear Time (g_c+I1), s | | 43.4 | | 41.4 | | 43.4 | | 34.7 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | 0.0 | | 0.0 | | 3.1 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 35.9 |
| HCM 6th LOS | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

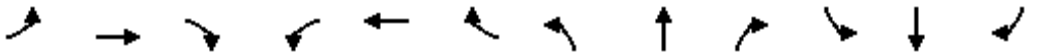
| Intersection | |
|---|---|
| Int Delay, s/veh | 2.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 2 | 23 | 4 | 3 | 94 | 28 | 1103 | 16 | 36 | 689 | 10 |
| Future Vol, veh/h | 4 | 2 | 23 | 4 | 3 | 94 | 28 | 1103 | 16 | 36 | 689 | 10 |
| 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 | - | - | 50 | - | - | 50 | - | - | - | - | - | 50 |
| 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 | 4 | 2 | 25 | 4 | 3 | 102 | 30 | 1199 | 17 | 39 | 749 | 11 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1488 | 2103 | 375 | 1722 | 2106 | 608 | 760 | 0 | 0 | 1216 | 0 | 0 |
| Stage 1 | 827 | 827 | - | 1268 | 1268 | - | - | - | - | - | - | - |
| Stage 2 | 661 | 1276 | - | 454 | 838 | - | - | - | - | - | - | - |
| 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 | 86 | 51 | 623 | 57 | 51 | 439 | 848 | - | - | 569 | - | - |
| Stage 1 | 332 | 384 | - | 178 | 238 | - | - | - | - | - | - | - |
| Stage 2 | 418 | 236 | - | 555 | 380 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 52 | 40 | 623 | 44 | 40 | 439 | 848 | - | - | 569 | - | - |
| Mov Cap-2 Maneuver | 52 | 40 | - | 44 | 40 | - | - | - | - | - | - | - |
| Stage 1 | 295 | 338 | - | 158 | 212 | - | - | - | - | - | - | - |
| Stage 2 | 281 | 210 | - | 466 | 335 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 28.1 | 22.2 | 0.7 | 1.1 |
| HCM LOS | D | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 848 | - | - | 47 | 623 | 42 | 439 | 569 | - | - |
| HCM Lane V/C Ratio | 0.036 | - | - | 0.139 | 0.04 | 0.181 | 0.233 | 0.069 | - | - |
| HCM Control Delay (s) | 9.4 | 0.5 | - | 93.6 | 11 | 108.8 | 15.7 | 11.8 | 0.6 | - |
| HCM Lane LOS | A | A | - | F | B | F | C | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.4 | 0.1 | 0.6 | 0.9 | 0.2 | - | - |



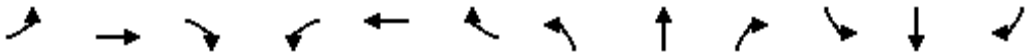
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 287 | 1055 | 186 | 33 | 1181 | 306 | 104 | 196 | 14 | 349 | 155 | 627 |
| Future Volume (veh/h) | 287 | 1055 | 186 | 33 | 1181 | 306 | 104 | 196 | 14 | 349 | 155 | 627 |
| 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 | 312 | 1147 | 148 | 36 | 1284 | 231 | 113 | 213 | 13 | 379 | 168 | 671 |
| 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 | 250 | 1679 | 749 | 143 | 1182 | 527 | 186 | 403 | 25 | 451 | 786 | 825 |
| Arrive On Green | 0.03 | 0.16 | 0.16 | 0.33 | 0.33 | 0.33 | 0.23 | 0.23 | 0.23 | 0.13 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 426 | 3554 | 1585 | 655 | 1745 | 106 | 3456 | 1870 | 1585 |
| Grp Volume(v), veh/h | 312 | 1147 | 148 | 36 | 1284 | 231 | 113 | 0 | 226 | 379 | 168 | 671 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 426 | 1777 | 1585 | 655 | 0 | 1851 | 1728 | 1870 | 1585 |
| Q Serve(g_s), s | 10.0 | 30.5 | 8.1 | 7.7 | 33.3 | 7.3 | 17.2 | 0.0 | 10.7 | 10.7 | 5.7 | 35.2 |
| Cycle Q Clear(g_c), s | 10.0 | 30.5 | 8.1 | 24.2 | 33.3 | 7.3 | 22.9 | 0.0 | 10.7 | 10.7 | 5.7 | 35.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 250 | 1679 | 749 | 143 | 1182 | 527 | 186 | 0 | 428 | 451 | 786 | 825 |
| V/C Ratio(X) | 1.25 | 0.68 | 0.20 | 0.25 | 1.09 | 0.44 | 0.61 | 0.00 | 0.53 | 0.84 | 0.21 | 0.81 |
| Avail Cap(c_a), veh/h | 250 | 1679 | 749 | 143 | 1182 | 527 | 186 | 0 | 428 | 518 | 787 | 826 |
| 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) | 0.16 | 0.16 | 0.16 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.2 | 35.1 | 25.7 | 37.8 | 33.4 | 10.8 | 41.2 | 0.0 | 33.7 | 42.5 | 18.5 | 19.9 |
| Incr Delay (d2), s/veh | 116.8 | 0.4 | 0.1 | 4.2 | 53.0 | 2.6 | 13.9 | 0.0 | 4.6 | 10.6 | 0.1 | 6.3 |
| 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 | 12.7 | 14.5 | 3.2 | 1.0 | 22.4 | 4.2 | 3.4 | 0.0 | 5.2 | 5.1 | 2.4 | 13.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 148.0 | 35.5 | 25.8 | 42.0 | 86.3 | 13.5 | 55.2 | 0.0 | 38.3 | 53.1 | 18.6 | 26.2 |
| LnGrp LOS | F | D | C | D | F | B | E | A | D | D | B | C |
| Approach Vol, veh/h | | 1607 | | | 1551 | | | 339 | | | 1218 | |
| Approach Delay, s/veh | | 56.4 | | | 74.4 | | | 43.9 | | | 33.5 | |
| Approach LOS | | E | | | E | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | 7 | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 38.1 | | 47.9 | | 52.1 | 18.9 | 29.0 | | | | |
| Change Period (Y+Rc), s | 4.0 | * 4.8 | | 5.9 | | * 4.8 | 5.9 | * 5.9 | | | | |
| Max Green Setting (Gmax), s | 10.0 | * 33 | | 42.1 | | * 47 | 15.0 | * 23 | | | | |
| Max Q Clear Time (g_c+I1), s | 12.0 | 35.3 | | 37.2 | | 32.5 | 12.7 | 24.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 1.7 | | 7.4 | 0.3 | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 55.5 |
| HCM 6th LOS | | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



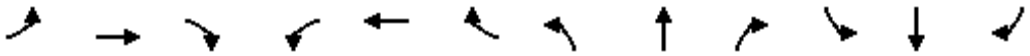
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 99 | 667 | 58 | 93 | 593 | 127 | 101 | 1285 | 238 | 174 | 955 | 154 |
| Future Volume (veh/h) | 99 | 667 | 58 | 93 | 593 | 127 | 101 | 1285 | 238 | 174 | 955 | 154 |
| 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 | 108 | 725 | 47 | 101 | 645 | 124 | 110 | 1397 | 241 | 189 | 1038 | 152 |
| 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 | 201 | 931 | 789 | 205 | 931 | 789 | 118 | 1178 | 200 | 80 | 1206 | 176 |
| Arrive On Green | 0.50 | 0.50 | 0.50 | 0.16 | 0.16 | 0.16 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 |
| Sat Flow, veh/h | 700 | 1870 | 1585 | 698 | 1870 | 1585 | 471 | 3037 | 517 | 306 | 3110 | 455 |
| Grp Volume(v), veh/h | 108 | 725 | 47 | 101 | 645 | 124 | 110 | 809 | 829 | 189 | 592 | 598 |
| Grp Sat Flow(s),veh/h/ln | 700 | 1870 | 1585 | 698 | 1870 | 1585 | 471 | 1777 | 1777 | 306 | 1777 | 1788 |
| Q Serve(g_s), s | 13.6 | 28.6 | 1.4 | 12.9 | 29.3 | 6.0 | 7.3 | 34.9 | 34.9 | 0.0 | 27.6 | 27.6 |
| Cycle Q Clear(g_c), s | 42.9 | 28.6 | 1.4 | 41.5 | 29.3 | 6.0 | 34.9 | 34.9 | 34.9 | 34.9 | 27.6 | 27.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 0.25 |
| Lane Grp Cap(c), veh/h | 201 | 931 | 789 | 205 | 931 | 789 | 118 | 689 | 689 | 80 | 689 | 694 |
| V/C Ratio(X) | 0.54 | 0.78 | 0.06 | 0.49 | 0.69 | 0.16 | 0.93 | 1.17 | 1.20 | 2.36 | 0.86 | 0.86 |
| Avail Cap(c_a), veh/h | 201 | 931 | 789 | 205 | 931 | 789 | 118 | 689 | 689 | 80 | 689 | 694 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.59 | 0.59 | 0.59 | 0.29 | 0.29 | 0.29 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.4 | 18.5 | 11.7 | 50.4 | 31.1 | 21.4 | 43.8 | 27.6 | 27.6 | 45.0 | 25.3 | 25.3 |
| Incr Delay (d2), s/veh | 10.0 | 6.4 | 0.1 | 4.9 | 2.5 | 0.3 | 30.6 | 83.3 | 95.4 | 649.9 | 13.2 | 13.3 |
| 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 | 2.8 | 12.8 | 0.5 | 2.7 | 15.1 | 2.3 | 3.4 | 29.7 | 32.0 | 16.2 | 13.4 | 13.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.4 | 24.9 | 11.8 | 55.2 | 33.6 | 21.7 | 74.3 | 110.9 | 122.9 | 694.9 | 38.5 | 38.6 |
| LnGrp LOS | D | C | B | E | C | C | E | F | F | F | D | D |
| Approach Vol, veh/h | | 880 | | | 870 | | | 1748 | | | 1379 | |
| Approach Delay, s/veh | | 26.9 | | | 34.4 | | | 114.3 | | | 128.5 | |
| Approach LOS | | C | | | C | | | F | | | F | |

| Timer - Assigned Phs | 2 | 4 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 40.0 | 50.0 | 40.0 | 50.0 |
| Change Period (Y+Rc), s | 5.1 | * 5.2 | 5.1 | * 5.2 |
| Max Green Setting (Gmax), s | 34.9 | * 45 | 34.9 | * 45 |
| Max Q Clear Time (g_c+I1), s | 36.9 | 43.5 | 36.9 | 44.9 |
| Green Ext Time (p_c), s | 0.0 | 0.7 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 88.3 |
| HCM 6th LOS | F |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 247 | 1094 | 165 | 172 | 1074 | 508 | 290 | 922 | 209 | 341 | 502 | 274 |
| Future Volume (veh/h) | 247 | 1094 | 165 | 172 | 1074 | 508 | 290 | 922 | 209 | 341 | 502 | 274 |
| 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 | 268 | 1189 | 65 | 187 | 1167 | 381 | 315 | 1002 | 182 | 371 | 546 | 218 |
| 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 | 161 | 1124 | 501 | 161 | 1124 | 501 | 338 | 1279 | 650 | 346 | 645 | 257 |
| Arrive On Green | 0.05 | 0.32 | 0.32 | 0.02 | 0.10 | 0.10 | 0.19 | 0.36 | 0.36 | 0.10 | 0.26 | 0.26 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 3456 | 2482 | 988 |
| Grp Volume(v), veh/h | 268 | 1189 | 65 | 187 | 1167 | 381 | 315 | 1002 | 182 | 371 | 390 | 374 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1728 | 1777 | 1693 |
| Q Serve(g_s), s | 5.0 | 31.6 | 1.7 | 5.0 | 31.6 | 23.4 | 17.4 | 25.1 | 7.7 | 10.0 | 20.8 | 21.0 |
| Cycle Q Clear(g_c), s | 5.0 | 31.6 | 1.7 | 5.0 | 31.6 | 23.4 | 17.4 | 25.1 | 7.7 | 10.0 | 20.8 | 21.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.58 |
| Lane Grp Cap(c), veh/h | 161 | 1124 | 501 | 161 | 1124 | 501 | 338 | 1279 | 650 | 346 | 462 | 440 |
| V/C Ratio(X) | 1.66 | 1.06 | 0.13 | 1.16 | 1.04 | 0.76 | 0.93 | 0.78 | 0.28 | 1.07 | 0.85 | 0.85 |
| Avail Cap(c_a), veh/h | 161 | 1124 | 501 | 161 | 1124 | 501 | 338 | 1279 | 650 | 346 | 498 | 474 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.23 | 0.23 | 0.23 | 1.00 | 1.00 | 1.00 | 0.44 | 0.44 | 0.44 |
| Uniform Delay (d), s/veh | 31.1 | 34.2 | 7.9 | 31.7 | 44.8 | 41.1 | 39.9 | 28.5 | 19.7 | 45.0 | 35.1 | 35.2 |
| Incr Delay (d2), s/veh | 324.5 | 43.6 | 0.5 | 87.8 | 24.4 | 2.6 | 31.6 | 3.8 | 0.5 | 53.7 | 6.6 | 7.1 |
| 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 | 16.0 | 19.9 | 1.1 | 5.4 | 18.8 | 10.2 | 10.4 | 10.9 | 2.8 | 6.8 | 9.6 | 9.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 355.7 | 77.8 | 8.5 | 119.5 | 69.2 | 43.7 | 71.5 | 32.3 | 20.2 | 98.7 | 41.7 | 42.3 |
| LnGrp LOS | F | F | A | F | F | D | E | C | C | F | D | D |
| Approach Vol, veh/h | | 1522 | | | 1735 | | | 1499 | | | 1135 | |
| Approach Delay, s/veh | | 123.8 | | | 69.0 | | | 39.1 | | | 60.5 | |
| Approach LOS | | F | | | E | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | 37.0 | 14.0 | 41.0 | 8.0 | 37.0 | 24.0 | 31.0 |
| Change Period (Y+Rc), s | 3.0 | 5.4 | 4.0 | * 5 | 3.0 | 5.4 | * 5 | * 5 |
| Max Green Setting (Gmax), s | 5.0 | 31.6 | 10.0 | * 36 | 5.0 | 31.6 | * 19 | * 28 |
| Max Q Clear Time (g_c+I1), s | 7.0 | 33.6 | 12.0 | 27.1 | 7.0 | 33.6 | 19.4 | 23.0 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 6.6 | 0.0 | 0.0 | 0.0 | 3.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 73.9 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# HCM 6th Signalized Intersection Summary
## 1: Whitsett Ave & Moorpark St

03/15/2021

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 168 | 786 | 107 | 95 | 580 | 124 | 127 | 879 | 158 | 83 | 549 | 136 |
| Future Volume (veh/h) | 168 | 786 | 107 | 95 | 580 | 124 | 127 | 879 | 158 | 83 | 549 | 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 | 183 | 854 | 99 | 103 | 630 | 107 | 138 | 955 | 155 | 90 | 597 | 122 |
| 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 | 214 | 860 | 729 | 82 | 860 | 729 | 296 | 1340 | 217 | 173 | 1287 | 262 |
| Arrive On Green | 0.15 | 0.15 | 0.15 | 0.46 | 0.46 | 0.46 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| Sat Flow, veh/h | 721 | 1870 | 1585 | 589 | 1870 | 1585 | 733 | 3061 | 497 | 508 | 2940 | 599 |
| Grp Volume(v), veh/h | 183 | 854 | 99 | 103 | 630 | 107 | 138 | 554 | 556 | 90 | 360 | 359 |
| Grp Sat Flow(s),veh/h/ln | 721 | 1870 | 1585 | 589 | 1870 | 1585 | 733 | 1777 | 1781 | 508 | 1777 | 1762 |
| Q Serve(g_s), s | 16.7 | 41.0 | 4.9 | 0.4 | 24.7 | 3.5 | 14.7 | 22.9 | 23.0 | 15.8 | 12.9 | 12.9 |
| Cycle Q Clear(g_c), s | 41.4 | 41.0 | 4.9 | 41.4 | 24.7 | 3.5 | 27.7 | 22.9 | 23.0 | 38.8 | 12.9 | 12.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.28 | 1.00 | | 0.34 |
| Lane Grp Cap(c), veh/h | 214 | 860 | 729 | 82 | 860 | 729 | 296 | 778 | 780 | 173 | 778 | 772 |
| V/C Ratio(X) | 0.86 | 0.99 | 0.14 | 1.25 | 0.73 | 0.15 | 0.47 | 0.71 | 0.71 | 0.52 | 0.46 | 0.46 |
| Avail Cap(c_a), veh/h | 214 | 860 | 729 | 82 | 860 | 729 | 296 | 778 | 780 | 173 | 778 | 772 |
| 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) | 0.09 | 0.09 | 0.09 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 52.8 | 38.0 | 22.7 | 45.0 | 19.8 | 14.1 | 27.6 | 20.7 | 20.7 | 36.5 | 17.8 | 17.9 |
| Incr Delay (d2), s/veh | 4.2 | 7.7 | 0.0 | 180.8 | 5.5 | 0.4 | 5.2 | 5.5 | 5.5 | 10.8 | 2.0 | 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 | 4.6 | 22.1 | 1.8 | 5.9 | 11.2 | 1.3 | 2.9 | 9.8 | 9.9 | 2.4 | 5.3 | 5.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.0 | 45.7 | 22.7 | 225.8 | 25.3 | 14.5 | 32.8 | 26.2 | 26.2 | 47.3 | 19.8 | 19.9 |
| LnGrp LOS | E | D | C | F | C | B | C | C | C | D | B | B |
| Approach Vol, veh/h | | 1136 | | | 840 | | | 1248 | | | 809 | |
| Approach Delay, s/veh | | 45.5 | | | 48.5 | | | 26.9 | | | 22.9 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 46.0 | | 44.0 | | 46.0 | | 44.0 | | | | |
| Change Period (Y+Rc), s | | * 4.6 | | * 4.6 | | * 4.6 | | * 4.6 | | | | |
| Max Green Setting (Gmax), s | | * 41 | | * 39 | | * 41 | | * 39 | | | | |
| Max Q Clear Time (g_c+I1), s | | 43.4 | | 40.8 | | 43.4 | | 29.7 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | 0.0 | | 0.0 | | 5.3 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 35.8 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

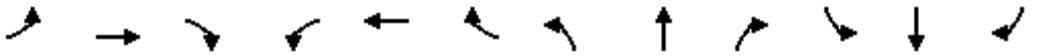
| Intersection | |
|---|---|
| Int Delay, s/veh | 2.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 2 | 23 | 4 | 3 | 94 | 28 | 1060 | 16 | 36 | 690 | 10 |
| Future Vol, veh/h | 4 | 2 | 23 | 4 | 3 | 94 | 28 | 1060 | 16 | 36 | 690 | 10 |
| 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 | - | - | 50 | - | - | 50 | - | - | - | - | - | 50 |
| 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 | 4 | 2 | 25 | 4 | 3 | 102 | 30 | 1152 | 17 | 39 | 750 | 11 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1466 | 2057 | 375 | 1675 | 2060 | 585 | 761 | 0 | 0 | 1169 | 0 | 0 |
| Stage 1 | 828 | 828 | - | 1221 | 1221 | - | - | - | - | - | - | - |
| Stage 2 | 638 | 1229 | - | 454 | 839 | - | - | - | - | - | - | - |
| 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 | 89 | 54 | 623 | 62 | 54 | 454 | 847 | - | - | 593 | - | - |
| Stage 1 | 332 | 384 | - | 191 | 251 | - | - | - | - | - | - | - |
| Stage 2 | 431 | 248 | - | 555 | 379 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 55 | 43 | 623 | 48 | 43 | 454 | 847 | - | - | 593 | - | - |
| Mov Cap-2 Maneuver | 55 | 43 | - | 48 | 43 | - | - | - | - | - | - | - |
| Stage 1 | 298 | 340 | - | 172 | 225 | - | - | - | - | - | - | - |
| Stage 2 | 296 | 223 | - | 469 | 336 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 26.8 | 21 | 0.7 | 1.1 |
| HCM LOS | D | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 847 | - | - | 50 | 623 | 46 | 454 | 593 | - | - |
| HCM Lane V/C Ratio | 0.036 | - | - | 0.13 | 0.04 | 0.165 | 0.225 | 0.066 | - | - |
| HCM Control Delay (s) | 9.4 | 0.5 | - | 87.5 | 11 | 98.2 | 15.2 | 11.5 | 0.6 | - |
| HCM Lane LOS | A | A | - | F | B | F | C | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.4 | 0.1 | 0.5 | 0.9 | 0.2 | - | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 287 | 1055 | 186 | 33 | 1181 | 306 | 104 | 196 | 14 | 356 | 155 | 663 |
| Future Volume (veh/h) | 287 | 1055 | 186 | 33 | 1181 | 306 | 104 | 196 | 14 | 356 | 155 | 663 |
| 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 | 312 | 1147 | 148 | 36 | 1284 | 231 | 113 | 213 | 13 | 387 | 168 | 710 |
| 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 | 250 | 1681 | 750 | 144 | 1184 | 528 | 182 | 403 | 25 | 449 | 785 | 824 |
| Arrive On Green | 0.03 | 0.16 | 0.16 | 0.33 | 0.33 | 0.33 | 0.23 | 0.23 | 0.23 | 0.13 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 426 | 3554 | 1585 | 632 | 1745 | 106 | 3456 | 1870 | 1585 |
| Grp Volume(v), veh/h | 312 | 1147 | 148 | 36 | 1284 | 231 | 113 | 0 | 226 | 387 | 168 | 710 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 426 | 1777 | 1585 | 632 | 0 | 1851 | 1728 | 1870 | 1585 |
| Q Serve(g_s), s | 10.0 | 30.5 | 8.1 | 7.7 | 33.3 | 7.3 | 17.4 | 0.0 | 10.7 | 11.0 | 5.7 | 39.0 |
| Cycle Q Clear(g_c), s | 10.0 | 30.5 | 8.1 | 24.2 | 33.3 | 7.3 | 23.1 | 0.0 | 10.7 | 11.0 | 5.7 | 39.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 250 | 1681 | 750 | 144 | 1184 | 528 | 182 | 0 | 428 | 449 | 785 | 824 |
| V/C Ratio(X) | 1.25 | 0.68 | 0.20 | 0.25 | 1.08 | 0.44 | 0.62 | 0.00 | 0.53 | 0.86 | 0.21 | 0.86 |
| Avail Cap(c_a), veh/h | 250 | 1681 | 750 | 144 | 1184 | 528 | 182 | 0 | 428 | 453 | 787 | 826 |
| 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) | 0.16 | 0.16 | 0.16 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.2 | 35.1 | 25.7 | 37.8 | 33.3 | 10.8 | 41.6 | 0.0 | 33.7 | 42.6 | 18.5 | 20.9 |
| Incr Delay (d2), s/veh | 116.8 | 0.4 | 0.1 | 4.1 | 52.4 | 2.6 | 15.0 | 0.0 | 4.6 | 15.5 | 0.1 | 9.2 |
| 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 | 12.7 | 14.5 | 3.2 | 1.0 | 22.3 | 4.2 | 3.5 | 0.0 | 5.2 | 5.5 | 2.4 | 15.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 148.0 | 35.5 | 25.8 | 41.9 | 85.7 | 13.4 | 56.5 | 0.0 | 38.3 | 58.1 | 18.6 | 30.1 |
| LnGrp LOS | F | D | C | D | F | B | E | A | D | E | B | C |
| Approach Vol, veh/h | | 1607 | | | 1551 | | | 339 | | | 1265 | |
| Approach Delay, s/veh | | 56.4 | | | 73.9 | | | 44.4 | | | 37.1 | |
| Approach LOS | | E | | | E | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | 7 | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 38.1 | | 47.9 | | 52.1 | 18.9 | 29.0 | | | | |
| Change Period (Y+Rc), s | 4.0 | * 4.8 | | 5.9 | | * 4.8 | 5.9 | 5.9 | | | | |
| Max Green Setting (Gmax), s | 10.0 | * 33 | | 42.1 | | * 47 | 13.1 | 23.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 12.0 | 35.3 | | 41.0 | | 32.5 | 13.0 | 25.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.5 | | 7.4 | 0.0 | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 56.1 |
| HCM 6th LOS | | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 99 | 667 | 58 | 93 | 590 | 97 | 104 | 1315 | 241 | 174 | 955 | 154 |
| Future Volume (veh/h) | 99 | 667 | 58 | 93 | 590 | 97 | 104 | 1315 | 241 | 174 | 955 | 154 |
| 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 | 108 | 725 | 47 | 101 | 641 | 91 | 113 | 1429 | 244 | 189 | 1038 | 152 |
| 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 | 207 | 931 | 789 | 205 | 931 | 789 | 118 | 1180 | 198 | 80 | 1206 | 176 |
| Arrive On Green | 0.50 | 0.50 | 0.50 | 0.16 | 0.16 | 0.16 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 |
| Sat Flow, veh/h | 724 | 1870 | 1585 | 698 | 1870 | 1585 | 471 | 3043 | 512 | 296 | 3110 | 455 |
| Grp Volume(v), veh/h | 108 | 725 | 47 | 101 | 641 | 91 | 113 | 825 | 848 | 189 | 592 | 598 |
| Grp Sat Flow(s),veh/h/ln | 724 | 1870 | 1585 | 698 | 1870 | 1585 | 471 | 1777 | 1778 | 296 | 1777 | 1788 |
| Q Serve(g_s), s | 13.0 | 28.6 | 1.4 | 12.9 | 29.1 | 4.4 | 7.3 | 34.9 | 34.9 | 0.0 | 27.6 | 27.6 |
| Cycle Q Clear(g_c), s | 42.1 | 28.6 | 1.4 | 41.5 | 29.1 | 4.4 | 34.9 | 34.9 | 34.9 | 34.9 | 27.6 | 27.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 0.25 |
| Lane Grp Cap(c), veh/h | 207 | 931 | 789 | 205 | 931 | 789 | 118 | 689 | 690 | 80 | 689 | 694 |
| V/C Ratio(X) | 0.52 | 0.78 | 0.06 | 0.49 | 0.69 | 0.12 | 0.96 | 1.20 | 1.23 | 2.36 | 0.86 | 0.86 |
| Avail Cap(c_a), veh/h | 207 | 931 | 789 | 205 | 931 | 789 | 118 | 689 | 690 | 80 | 689 | 694 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.63 | 0.63 | 0.63 | 0.26 | 0.26 | 0.26 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.0 | 18.5 | 11.7 | 50.4 | 31.0 | 20.7 | 43.8 | 27.6 | 27.6 | 45.0 | 25.3 | 25.3 |
| Incr Delay (d2), s/veh | 9.2 | 6.4 | 0.1 | 5.2 | 2.6 | 0.2 | 33.0 | 93.0 | 106.7 | 649.9 | 13.2 | 13.3 |
| 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 | 2.7 | 12.8 | 0.5 | 2.7 | 15.0 | 1.6 | 3.6 | 31.5 | 34.2 | 16.2 | 13.4 | 13.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 45.2 | 24.9 | 11.8 | 55.6 | 33.7 | 20.9 | 76.8 | 120.5 | 134.2 | 694.9 | 38.5 | 38.6 |
| LnGrp LOS | D | C | B | E | C | C | E | F | F | F | D | D |
| Approach Vol, veh/h | | 880 | | | 833 | | | 1786 | | | 1379 | |
| Approach Delay, s/veh | | 26.7 | | | 34.9 | | | 124.3 | | | 128.5 | |
| Approach LOS | | C | | | C | | | F | | | F | |

| Timer - Assigned Phs | 2 | 4 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 40.0 | 50.0 | 40.0 | 50.0 |
| Change Period (Y+Rc), s | 5.1 | * 5.2 | 5.1 | * 5.2 |
| Max Green Setting (Gmax), s | 34.9 | * 45 | 34.9 | * 45 |
| Max Q Clear Time (g_c+I1), s | 36.9 | 43.5 | 36.9 | 44.1 |
| Green Ext Time (p_c), s | 0.0 | 0.7 | 0.0 | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 92.6 |
| HCM 6th LOS | F |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 247 | 1094 | 165 | 172 | 1074 | 544 | 290 | 922 | 209 | 341 | 502 | 274 |
| Future Volume (veh/h) | 247 | 1094 | 165 | 172 | 1074 | 544 | 290 | 922 | 209 | 341 | 502 | 274 |
| 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 | 268 | 1189 | 65 | 187 | 1167 | 408 | 315 | 1002 | 182 | 371 | 546 | 218 |
| 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 | 161 | 1124 | 501 | 161 | 1124 | 501 | 338 | 1279 | 650 | 346 | 645 | 257 |
| Arrive On Green | 0.05 | 0.32 | 0.32 | 0.02 | 0.10 | 0.10 | 0.19 | 0.36 | 0.36 | 0.10 | 0.26 | 0.26 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 3456 | 2482 | 988 |
| Grp Volume(v), veh/h | 268 | 1189 | 65 | 187 | 1167 | 408 | 315 | 1002 | 182 | 371 | 390 | 374 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1728 | 1777 | 1693 |
| Q Serve(g_s), s | 5.0 | 31.6 | 1.7 | 5.0 | 31.6 | 25.2 | 17.4 | 25.1 | 7.7 | 10.0 | 20.8 | 21.0 |
| Cycle Q Clear(g_c), s | 5.0 | 31.6 | 1.7 | 5.0 | 31.6 | 25.2 | 17.4 | 25.1 | 7.7 | 10.0 | 20.8 | 21.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.58 |
| Lane Grp Cap(c), veh/h | 161 | 1124 | 501 | 161 | 1124 | 501 | 338 | 1279 | 650 | 346 | 462 | 440 |
| V/C Ratio(X) | 1.66 | 1.06 | 0.13 | 1.16 | 1.04 | 0.81 | 0.93 | 0.78 | 0.28 | 1.07 | 0.85 | 0.85 |
| Avail Cap(c_a), veh/h | 161 | 1124 | 501 | 161 | 1124 | 501 | 338 | 1279 | 650 | 346 | 498 | 474 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.21 | 0.21 | 0.21 | 1.00 | 1.00 | 1.00 | 0.44 | 0.44 | 0.44 |
| Uniform Delay (d), s/veh | 31.1 | 34.2 | 7.9 | 31.7 | 44.8 | 41.9 | 39.9 | 28.5 | 19.7 | 45.0 | 35.1 | 35.2 |
| Incr Delay (d2), s/veh | 324.5 | 43.6 | 0.5 | 86.6 | 23.9 | 3.2 | 31.6 | 3.8 | 0.5 | 53.7 | 6.6 | 7.1 |
| 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 | 16.0 | 19.9 | 1.1 | 5.4 | 18.7 | 11.1 | 10.4 | 10.9 | 2.8 | 6.8 | 9.6 | 9.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 355.7 | 77.8 | 8.5 | 118.3 | 68.7 | 45.1 | 71.5 | 32.3 | 20.2 | 98.7 | 41.7 | 42.3 |
| LnGrp LOS | F | F | A | F | F | D | E | C | C | F | D | D |
| Approach Vol, veh/h | | 1522 | | | 1762 | | | 1499 | | | 1135 | |
| Approach Delay, s/veh | | 123.8 | | | 68.5 | | | 39.1 | | | 60.5 | |
| Approach LOS | | F | | | E | | | D | | | E | |

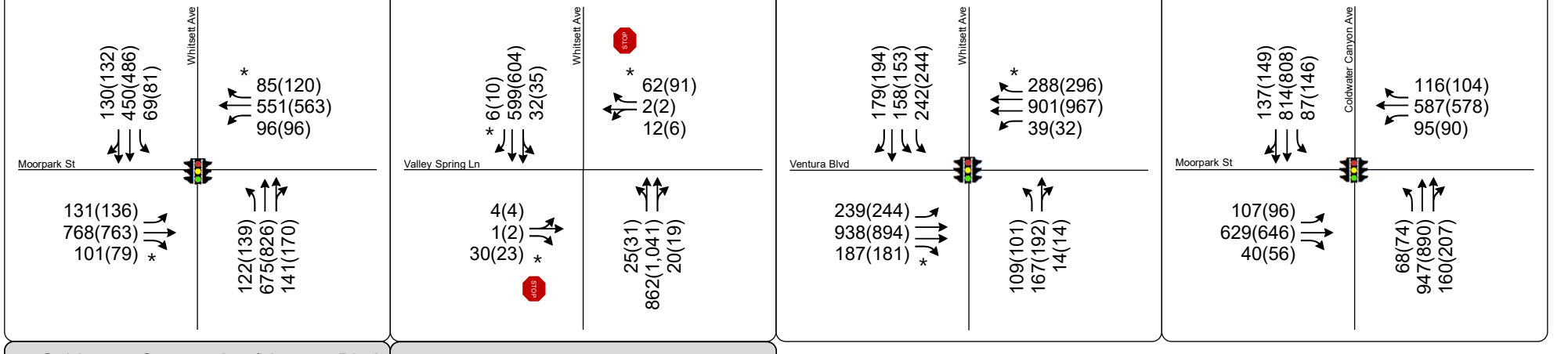
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | 37.0 | 14.0 | 41.0 | 8.0 | 37.0 | 24.0 | 31.0 |
| Change Period (Y+Rc), s | 3.0 | 5.4 | 4.0 | * 5 | 3.0 | 5.4 | * 5 | * 5 |
| Max Green Setting (Gmax), s | 5.0 | 31.6 | 10.0 | * 36 | 5.0 | 31.6 | * 19 | * 28 |
| Max Q Clear Time (g_c+I1), s | 7.0 | 33.6 | 12.0 | 27.1 | 7.0 | 33.6 | 19.4 | 23.0 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 6.6 | 0.0 | 0.0 | 0.0 | 3.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 73.7 |
| HCM 6th LOS | E |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# Appendix H: Peak Hour Traffic Volumes and Lane Configurations

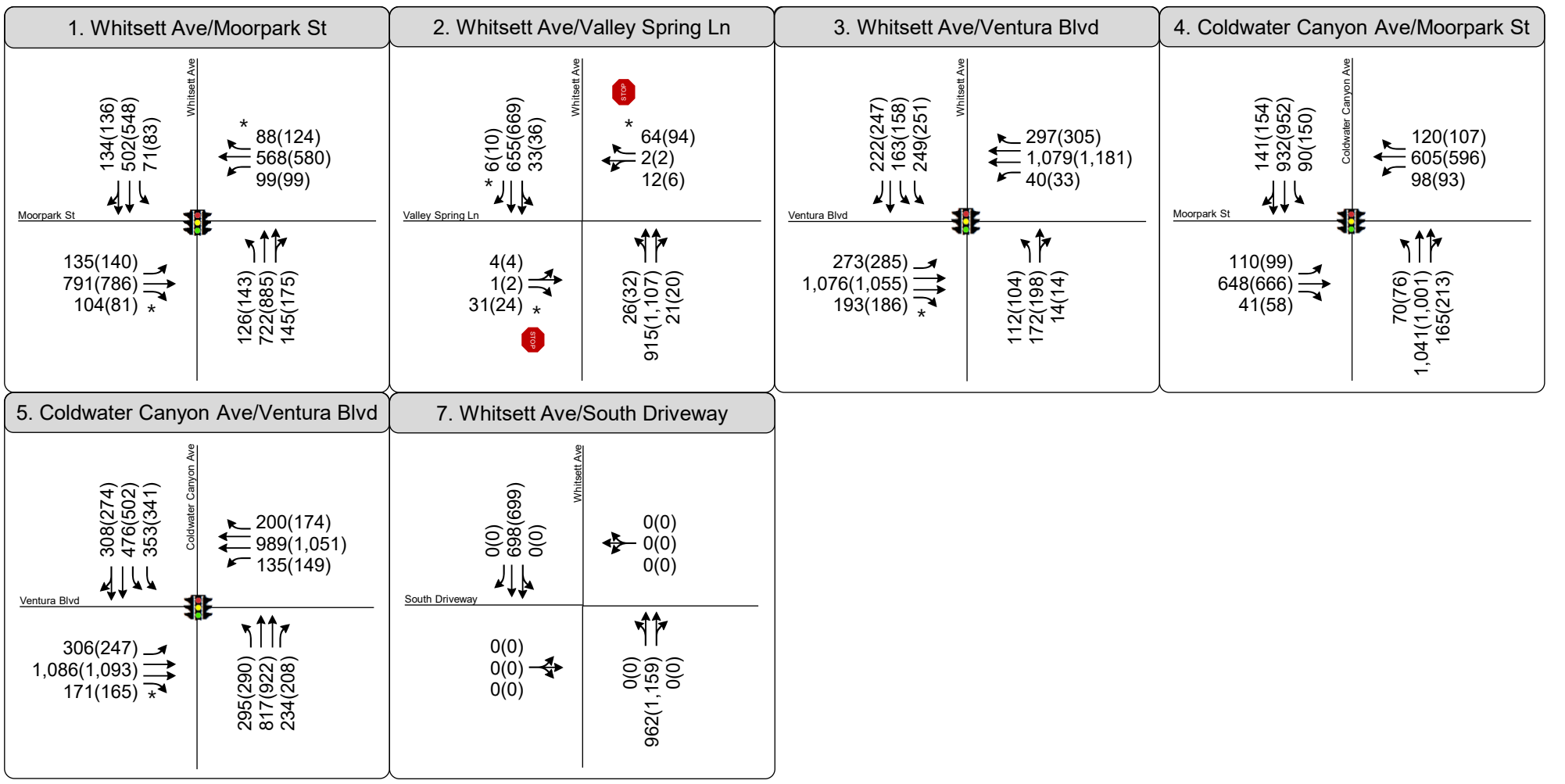




3-4 PM (5-6 PM)

* De facto right turn lane

Figure H1

## Peak Hour Traffic Volumes and Lane Configurations
## Baseline (2020)
## PM Peak Period


3-4 PM (5-6 PM)

* De facto right turn lane

Figure H2

## Peak Hour Traffic Volumes and Lane Configurations
## Opening Year (2025) No Project
## PM Peak Period


3-4 PM (5-6 PM)

* De facto right turn lane

Figure H3

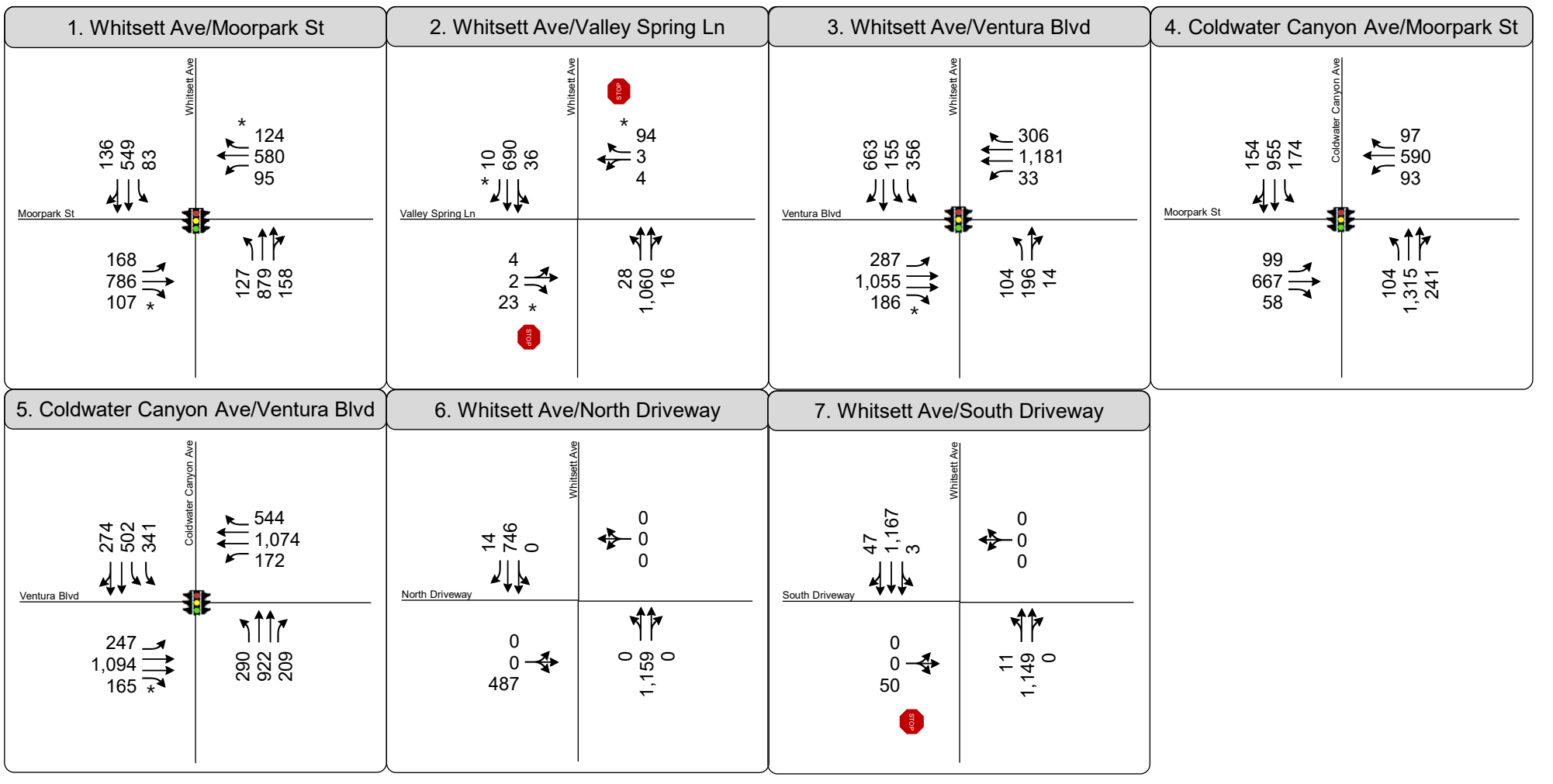
## Peak Hour Traffic Volumes and Lane Configurations
## Opening Year (2025) Plus Project - Non-Event Scenario
## PM Peak Period


5-6 PM

* De facto right turn lane

Figure H4

## Peak Hour Traffic Volumes and Lane Configurations
## Opening Year (2025) Plus Project - Special Event Scenario
## PM Peak Period

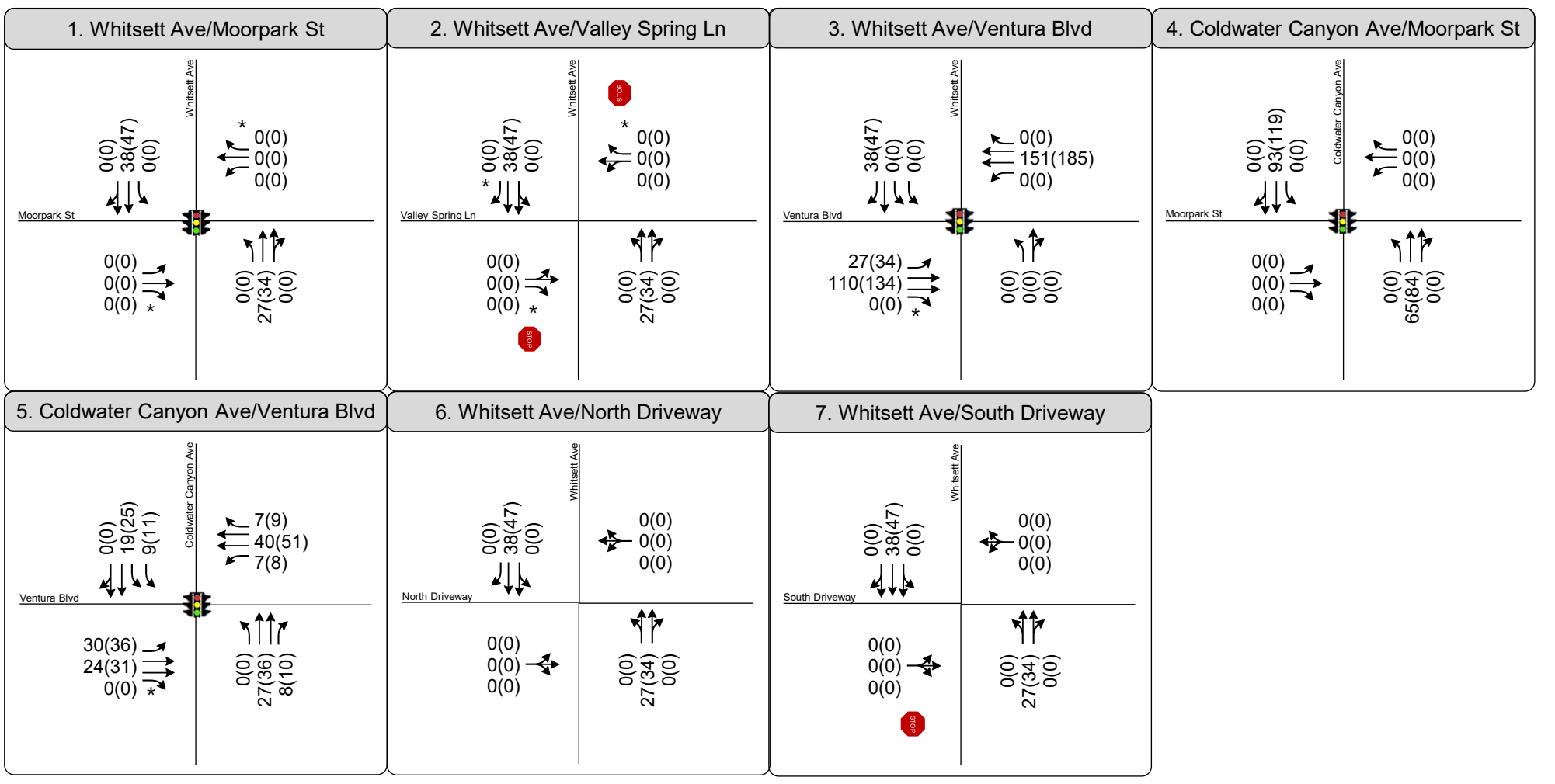




5-6 PM

* De facto right turn lane

Figure H5

## Peak Hour Traffic Volumes and Lane Configurations
## Opening Year (2025) Plus Project with Corrective Action - Special Event Scenario
## PM Peak Period


3-4 PM (5-6 PM)

* De facto right turn lane

Figure H6

## Peak Hour Traffic Volumes and Lane Configurations
## Related Projects
## PM Peak Period


3-4 PM (5-6 PM)

* De facto right turn lane

Figure H7

## Peak Hour Traffic Volumes and Lane Configurations
## Project Only - Non-Event Scenario
## PM Peak Period


5-6 PM

* De facto right turn lane

Figure H8

## Peak Hour Traffic Volumes and Lane Configurations
## Project Only - Special Event Scenario
## PM Peak Period

# Appendix I: Driveway LOS Analysis Sheet

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 22 | 0 | 967 | 730 | 59 |
| Future Vol, veh/h | 0 | 22 | 0 | 967 | 730 | 59 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | 50 |
| 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 | 0 | 24 | 0 | 1051 | 793 | 64 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 397 | - | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 602 | 0 | - | - | - |
| Stage 1 | 0 | - | 0 | - | - | - |
| Stage 2 | 0 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 602 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.2 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|
| Capacity (veh/h) | - | 602 | - | - |
| HCM Lane V/C Ratio | - | 0.04 | - | - |
| HCM Control Delay (s) | - | 11.2 | - | - |
| HCM Lane LOS | - | B | - | - |
| HCM 95th %tile Q(veh) | - | 0.1 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 0 | 14 | 0 | 0 | 0 | 39 | 952 | 0 | 3 | 709 | 32 |
| Future Vol, veh/h | 5 | 0 | 14 | 0 | 0 | 0 | 39 | 952 | 0 | 3 | 709 | 32 |
| 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 | - | - | - | - | - | - | - | - | - | - | - | 50 |
| 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 | 5 | 0 | 15 | 0 | 0 | 0 | 42 | 1035 | 0 | 3 | 771 | 35 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1379 | 1896 | 386 | 1511 | 1931 | 518 | 806 | 0 | 0 | 1035 | 0 | 0 |
| Stage 1 | 777 | 777 | - | 1119 | 1119 | - | - | - | - | - | - | - |
| Stage 2 | 602 | 1119 | - | 392 | 812 | - | - | - | - | - | - | - |
| 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 | 104 | 69 | 612 | 83 | 65 | 502 | 814 | - | - | 667 | - | - |
| Stage 1 | 356 | 405 | - | 220 | 280 | - | - | - | - | - | - | - |
| Stage 2 | 453 | 280 | - | 604 | 390 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 94 | 60 | 612 | 73 | 57 | 502 | 814 | - | - | 667 | - | - |
| Mov Cap-2 Maneuver | 94 | 60 | - | 73 | 57 | - | - | - | - | - | - | - |
| Stage 1 | 313 | 402 | - | 193 | 246 | - | - | - | - | - | - | - |
| Stage 2 | 398 | 246 | - | 584 | 387 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 20.7 | 0 | 0.9 | 0 |
| HCM LOS | C | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 814 | - | - | 250 | - | 667 | - | - |
| HCM Lane V/C Ratio | 0.052 | - | - | 0.083 | - | 0.005 | - | - |
| HCM Control Delay (s) | 9.7 | 0.5 | - | 20.7 | 0 | 10.4 | 0 | - |
| HCM Lane LOS | A | A | - | C | A | B | A | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0.3 | - | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 125 | 0 | 1164 | 722 | 23 |
| Future Vol, veh/h | 0 | 125 | 0 | 1164 | 722 | 23 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | 50 |
| 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 | 0 | 136 | 0 | 1265 | 785 | 25 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 393 | - | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 606 | 0 | - | - | - |
| Stage 1 | 0 | - | 0 | - | - | - |
| Stage 2 | 0 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 606 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 12.6 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|
| Capacity (veh/h) | - | 606 | - | - |
| HCM Lane V/C Ratio | - | 0.224 | - | - |
| HCM Control Delay (s) | - | 12.6 | - | - |
| HCM Lane LOS | - | B | - | - |
| HCM 95th %tile Q(veh) | - | 0.9 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 0 | 14 | 0 | 0 | 0 | 24 | 1149 | 0 | 3 | 805 | 23 |
| Future Vol, veh/h | 5 | 0 | 14 | 0 | 0 | 0 | 24 | 1149 | 0 | 3 | 805 | 23 |
| 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 | - | - | - | - | - | - | - | - | - | - | - | 50 |
| 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 | 5 | 0 | 15 | 0 | 0 | 0 | 26 | 1249 | 0 | 3 | 875 | 25 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1558 | 2182 | 438 | 1745 | 2207 | 625 | 900 | 0 | 0 | 1249 | 0 | 0 |
| Stage 1 | 881 | 881 | - | 1301 | 1301 | - | - | - | - | - | - | - |
| Stage 2 | 677 | 1301 | - | 444 | 906 | - | - | - | - | - | - | - |
| 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 | 76 | 45 | 567 | 55 | 44 | 428 | 751 | - | - | 553 | - | - |
| Stage 1 | 308 | 363 | - | 170 | 229 | - | - | - | - | - | - | - |
| Stage 2 | 409 | 229 | - | 563 | 353 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 69 | 39 | 567 | 49 | 39 | 428 | 751 | - | - | 553 | - | - |
| Mov Cap-2 Maneuver | 69 | 39 | - | 49 | 39 | - | - | - | - | - | - | - |
| Stage 1 | 273 | 359 | - | 151 | 203 | - | - | - | - | - | - | - |
| Stage 2 | 363 | 203 | - | 542 | 349 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 25.5 | 0 | 0.7 | 0.1 |
| HCM LOS | D | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 751 | - | - | 196 | - | 553 | - | - |
| HCM Lane V/C Ratio | 0.035 | - | - | 0.105 | - | 0.006 | - | - |
| HCM Control Delay (s) | 10 | 0.5 | - | 25.5 | 0 | 11.5 | 0.1 | - |
| HCM Lane LOS | A | A | - | D | A | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.3 | - | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 8.3 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 487 | 0 | 1202 | 746 | 14 |
| Future Vol, veh/h | 0 | 487 | 0 | 1202 | 746 | 14 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | 50 |
| 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 | 0 | 529 | 0 | 1307 | 811 | 15 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 406 | - | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 594 | 0 | - | - | - |
| Stage 1 | 0 | - | 0 | - | - | - |
| Stage 2 | 0 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 594 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 41.6 | 0 | 0 |
| HCM LOS | E | | |

| Minor Lane/Major Mvmt | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|
| Capacity (veh/h) | - | 594 | - | - |
| HCM Lane V/C Ratio | - | 0.891 | - | - |
| HCM Control Delay (s) | - | 41.6 | - | - |
| HCM Lane LOS | - | E | - | - |
| HCM 95th %tile Q(veh) | - | 10.6 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 8.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 43 | 0 | 7 | 0 | 0 | 0 | 11 | 1149 | 0 | 3 | 1167 | 47 |
| Future Vol, veh/h | 43 | 0 | 7 | 0 | 0 | 0 | 11 | 1149 | 0 | 3 | 1167 | 47 |
| 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 | - | - | - | - | - | - | - | - | - | - | - | 50 |
| 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 | 47 | 0 | 8 | 0 | 0 | 0 | 12 | 1249 | 0 | 3 | 1268 | 51 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1923 | 2547 | 634 | 1913 | 2598 | 625 | 1319 | 0 | 0 | 1249 | 0 | 0 |
| Stage 1 | 1274 | 1274 | - | 1273 | 1273 | - | - | - | - | - | - | - |
| Stage 2 | 649 | 1273 | - | 640 | 1325 | - | - | - | - | - | - | - |
| 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 | ~ 40 | 26 | 422 | 41 | 25 | 428 | 520 | - | - | 553 | - | - |
| Stage 1 | 177 | 236 | - | 177 | 237 | - | - | - | - | - | - | - |
| Stage 2 | 425 | 237 | - | 430 | 223 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | ~ 37 | 24 | 422 | 37 | 23 | 428 | 520 | - | - | 553 | - | - |
| Mov Cap-2 Maneuver | ~ 37 | 24 | - | 37 | 23 | - | - | - | - | - | - | - |
| Stage 1 | 164 | 231 | - | 164 | 219 | - | - | - | - | - | - | - |
| Stage 2 | 393 | 219 | - | 413 | 218 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | $ 389.9 | 0 | 0.5 | 0.1 |
| HCM LOS | F | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 520 | - | - | 42 | - | 553 | - | - |
| HCM Lane V/C Ratio | 0.023 | - | - | 1.294 | - | 0.006 | - | - |
| HCM Control Delay (s) | 12.1 | 0.4 | - | $ 389.9 | 0 | 11.5 | 0.1 | - |
| HCM Lane LOS | B | A | - | F | A | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 5.4 | - | 0 | - | - |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Intersection | |
|---|---|
| Int Delay, s/veh | 8.4 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 487 | 0 | 1159 | 746 | 14 |
| Future Vol, veh/h | 0 | 487 | 0 | 1159 | 746 | 14 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | 50 |
| 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 | 0 | 529 | 0 | 1260 | 811 | 15 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 406 | - | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 594 | 0 | - | - | - |
| Stage 1 | 0 | - | 0 | - | - | - |
| Stage 2 | 0 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 594 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 41.6 | 0 | 0 |
| HCM LOS | E | | |

| Minor Lane/Major Mvmt | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|
| Capacity (veh/h) | - | 594 | - | - |
| HCM Lane V/C Ratio | - | 0.891 | - | - |
| HCM Control Delay (s) | - | 41.6 | - | - |
| HCM Lane LOS | - | E | - | - |
| HCM 95th %tile Q(veh) | - | 10.6 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↔ | | | ↔ | | | ↕ | | | ↕ | ↱ |
| Traffic Vol, veh/h | 0 | 0 | 50 | 0 | 0 | 0 | 11 | 1149 | 0 | 3 | 1167 | 47 |
| Future Vol, veh/h | 0 | 0 | 50 | 0 | 0 | 0 | 11 | 1149 | 0 | 3 | 1167 | 47 |
| 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 | - | - | - | - | - | - | - | - | - | - | - | 50 |
| 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 | 54 | 0 | 0 | 0 | 12 | 1249 | 0 | 3 | 1268 | 51 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1923 | 2547 | 634 | 1913 | 2598 | 625 | 1319 | 0 | 0 | 1249 | 0 | 0 |
| Stage 1 | 1274 | 1274 | - | 1273 | 1273 | - | - | - | - | - | - | - |
| Stage 2 | 649 | 1273 | - | 640 | 1325 | - | - | - | - | - | - | - |
| 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 | 40 | 26 | 422 | 41 | 25 | 428 | 520 | - | - | 553 | - | - |
| Stage 1 | 177 | 236 | - | 177 | 237 | - | - | - | - | - | - | - |
| Stage 2 | 425 | 237 | - | 430 | 223 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 37 | 24 | 422 | 33 | 23 | 428 | 520 | - | - | 553 | - | - |
| Mov Cap-2 Maneuver | 37 | 24 | - | 33 | 23 | - | - | - | - | - | - | - |
| Stage 1 | 164 | 231 | - | 164 | 219 | - | - | - | - | - | - | - |
| Stage 2 | 393 | 219 | - | 367 | 218 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 14.8 | 0 | 0.5 | 0.1 |
| HCM LOS | B | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 520 | - | - | 422 | - | 553 | - | - |
| HCM Lane V/C Ratio | 0.023 | - | - | 0.129 | - | 0.006 | - | - |
| HCM Control Delay (s) | 12.1 | 0.4 | - | 14.8 | 0 | 11.5 | 0.1 | - |
| HCM Lane LOS | B | A | - | B | A | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.4 | - | 0 | - | - |