MAGNOLIA FLATS PROJECT

FOCUSED TRAFFIC ANALYSIS

Prepared For:

Magnolia Partnership, LLC
1201 Dove Street, Suite 520
Newport Beach, CA 92660

Prepared By:

ENVIRONMENT | PLANNING | DEVELOPMENT SOLUTIONS, INC.

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July 14, 2020

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Appendices

1 INTRODUCTION

This focused traffic analysis has been prepared by EPD Solutions, Inc. (EPD) to analyze the project access and area circulation of the proposed Magnolia Flats Project (project; proposed project). The scope of work for this focused traffic analysis was reviewed and approved by the City of Riverside and is provided in Appendix A. The traffic analysis was prepared according to the approved scope of work using methodologies consistent with the requirements of the City of Riverside Traffic Impact Analysis Preparation Guide.

1.1 Project Description

The proposed Magnolia Flats mixed-use project is located on a 16.3-acre site located at 10411 – 10491 Magnolia Avenue, at the northeast corner of the intersection of Magnolia Avenue and Banbury Drive, in the City of Riverside. The location of the project is shown in Figure 1 - Project Location and Study Area Intersections, and the project site plan is shown in Figure 2 – Project Site Plan. The project site is currently vacant, although the site was previously the location of a Gemco big box retail store, along with smaller retail tenants and a gas station. Access to the project site is provided via signalized driveway at Banbury Drive/Magnolia Avenue, as well as a right-in/right-out driveway located on Magnolia Avenue east of Banbury Drive. The project proposes to construct 450 4-story multifamily residential units and two retail buildings totaling 9,050 square feet. At the time the scope of work was approved by the City, the project proposed one commercial building of approximately 10,000 square feet, which was planned to be fast-casual restaurant. Because the currently proposed retail buildings would generate fewer trips than the previously proposed fast-casual restaurant use. Instead of modifying the scope of work that was previously approved by the City, this analysis will evaluate 10,000 square feet of fast-casual restaurant instead of 9,050 square feet of retail. This approach would overestimate project trips and result in a conservative evaluation of potential impacts.

The project site would be accessible via the north leg of the Banbury Drive/Magnolia Avenue intersection, as well as a right-in/right-out driveway located on Magnolia Avenue east of Banbury Drive. The project site will also be accessible from the existing adjacent retail properties.

Figure 1: Project Location and Study Area Intersections

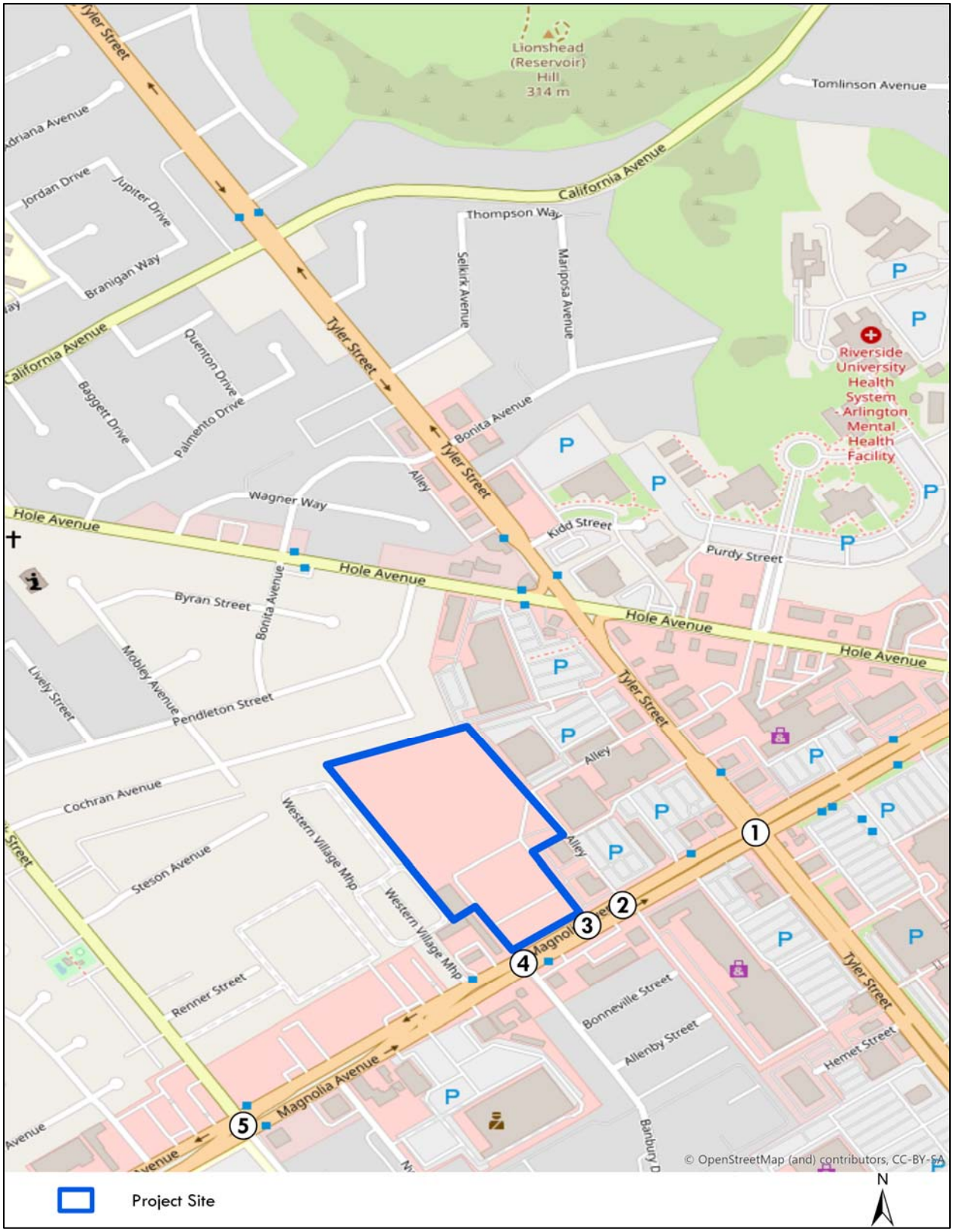
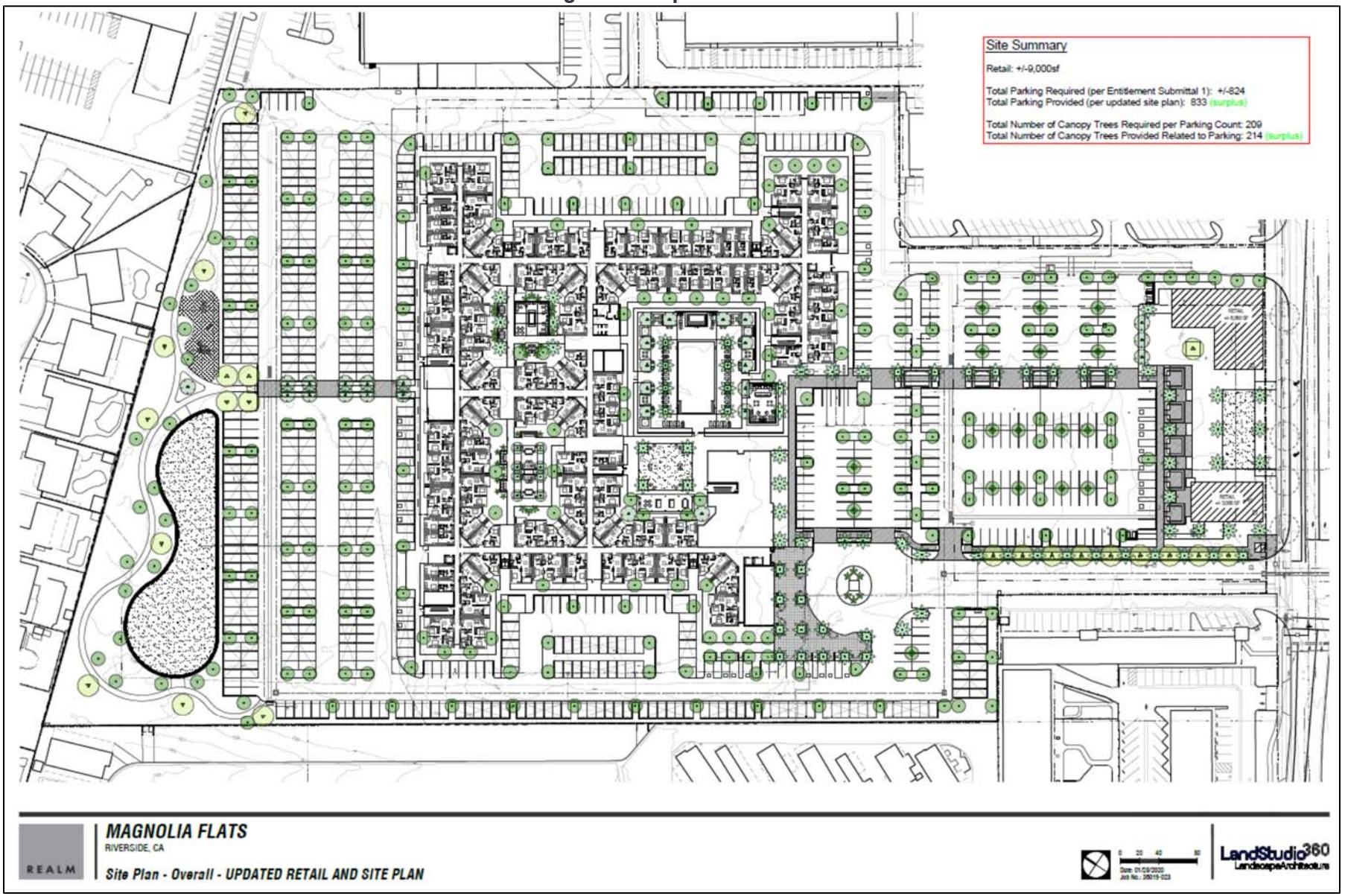


Figure 2: Project Site Plan



1.2 Study Area and Analysis Scenarios

This focused traffic analysis includes evaluation of the project driveways, the adjacent retail center driveway, and adjacent signalized intersections on Magnolia Avenue. The following intersections were included in the analysis:

1. Tyler Street/Magnolia Avenue
2. 10391 Magnolia Avenue Driveway/Magnolia Avenue
3. Project Driveway/Magnolia Avenue
4. Banbury Drive/Magnolia Avenue
5. Polk Street/Magnolia Avenue

The location of the study area intersections is shown on previously referenced Figure 2 – Project Location and Study Area Intersections. Study area intersections were evaluated during the AM and PM peak hours, which are defined as the hour with the highest traffic volumes during the 7 AM to 9 AM and 4 PM to 6 PM peak commute periods. AM and PM peak hour traffic operations were evaluated for the following scenarios:

- Existing Condition
- Existing plus Project Condition

The project is consistent with the City's General Plan and has been previously evaluated as part of the housing element Environmental Impact Report (EIR). Therefore, the City determined that evaluation of future cumulative or General Plan Buildout conditions is not necessary. Evaluation of Existing and Existing plus Project conditions will identify any short-term improvements required to accommodate project access and travel in the immediate project area.

1.3 Methodology

Intersection operations are evaluated using Level of Service (LOS), which is a measure of the delay experienced by drivers on a roadway facility. LOS A indicates free-flow traffic conditions and is generally the best operating conditions. LOS F is an extremely congested condition and is the worst operating condition from the driver's perspective. In this report, LOS at signalized and unsignalized intersections is calculated using the Highway Capacity Manual (HCM), 6th Edition methodology.

LOS at signalized intersections is defined in terms of the weighted average control delay for the intersection as a whole. Control delay is a measure of the increase in travel time that is experienced due to traffic signal control and is expressed in terms of average control delay per vehicle (in seconds). Control delay is determined based on the intersection geometry and volume, signal cycle length, phasing and coordination along the arterial corridor. Table 1shows the relationship between control delay and LOS at a signalized intersection.

Table 1. Relationship between Control Delay and LOS at a Signalized Intersection

LOS	Delay (Seconds per Vehicle)
A	≤ 10
B	>10 – 20
C	>20 – 35
D	>35 – 55
E	>55 – 80
F	>80

Unsignalized intersections are categorized as either all-way stop control (AWSC) or two-way stop control (TWSC). The two unsignalized driveway intersections are both TWSC intersections. LOS at AWSC intersections is determined by the weighted average control delay of the overall intersection. The HCM TWSC intersection methodology calculates LOS based on the delay experienced by drivers on the minor (stop-controlled) approaches to the intersection. For TWSC intersections, LOS is determined for each minor-street movement, as well as the major-street left-turns. The relationship between delay and LOS at Unsignalized intersections is shown in Table 2.

Table 2. Relationship between Delay and LOS an Unsignalized Intersection

LOS	Delay (seconds)
A	0-10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	>50

2 EXISTING CONDITIONS

This section discusses the existing (without project) transportation conditions in the vicinity of the project site.

2.1 Existing Transportation System

Access to the project site is provided from Magnolia Avenue and Banbury Drive. Magnolia Avenue is a 120-foot Arterial (6-lanes) classified as a Special Boulevard on the City's Master Plan of Roadways. Magnolia Avenue has a speed limit of 40 mph near the project site. Banbury Drive is a local street with a speed limit of 25 mph that runs from Magnolia Avenue to Diana Avenue, adjacent to the SR-91 Freeway. The Magnolia Avenue widening project is currently planned to start construction in 2020 and would widen Magnolia Avenue from 2 lanes in each direction to 3 lanes in each direction from Buchanan Street to Banbury Drive. The project would also include capacity improvements at signalized intersections within the project limits, including Polk Street and Banbury Drive. Because this study evaluates only Existing and Existing plus Project conditions, the improvements at these two intersections are not included in the intersection analysis, as the Magnolia Flats project construction would likely be completed before completion of the Magnolia Avenue widening project.

Sidewalks are provided adjacent to the project site and would facilitate pedestrian travel to nearby land uses and to transit stop. Transit service is provided to the site by Riverside Transit (RT) and there are bus stops on Magnolia Avenue at Banbury Drive. The Rapidlink Gold Line as well as RT routes 1 and 15 serve Magnolia Avenue. Route 1 provides service approximately every 20 minutes and Route 15 provides service approximately every 30 minutes. Routes 12 and 13 stop on Tyler Avenue near Magnolia Avenue, approximately 830 feet from the project site. Route 12 provides service approximately every 60 minutes and Route 13 provides service approximately every 50 minutes. Routes 10, 12, 13, 14, 15, 21, 27, and 200 serve the Galleria at Tyler, approximately 1,500 feet from the project site. At least 10 busses per hour stop at the Galleria at Tyler and provide service to destinations throughout Riverside and the surrounding communities.

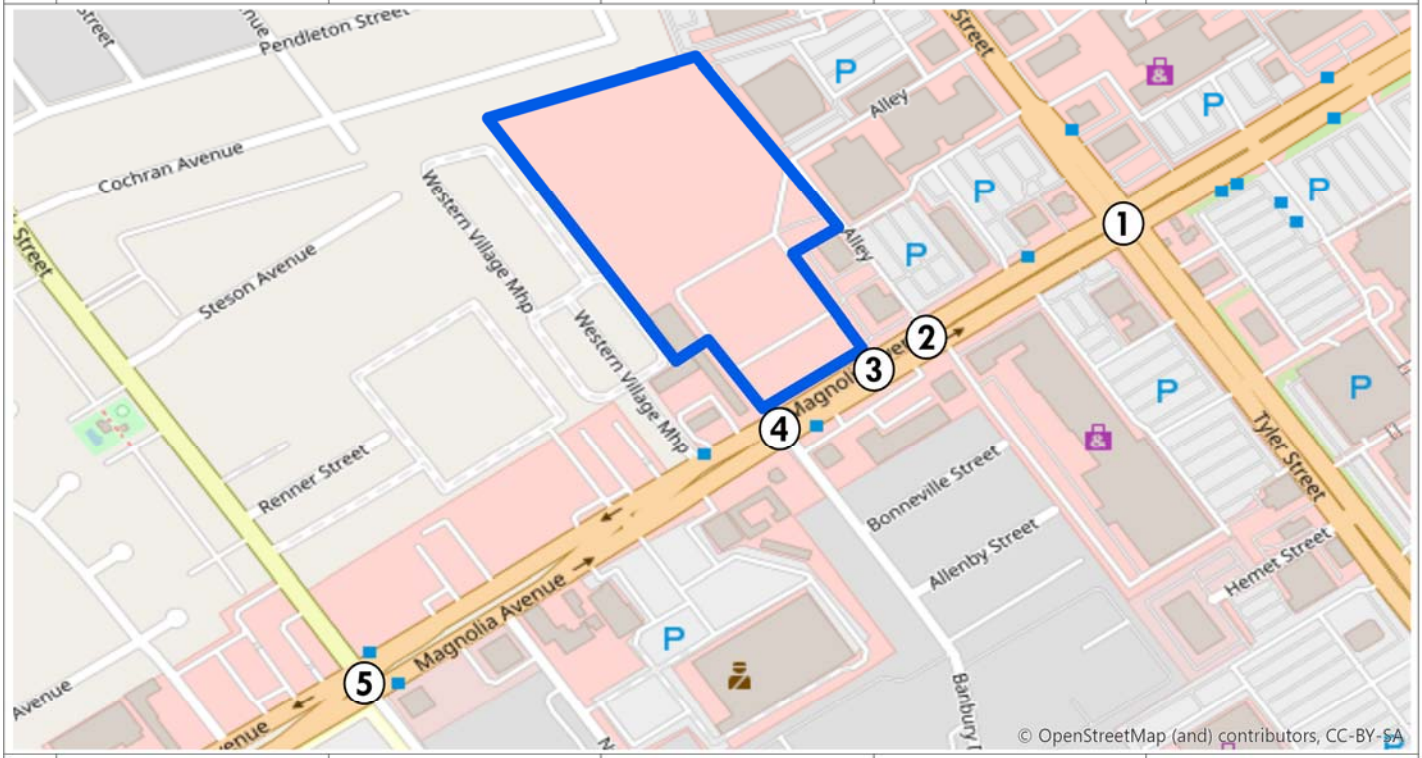
2.2 Existing Traffic Volumes and Levels of Service

Traffic counts at the existing study area intersections were collected on Thursday, December 5, 2019. The counts were taken on a typical weekday when schools were in session. Intersection turn movement count sheets are provided in Appendix B. Existing AM and PM peak hour traffic volumes are shown on Figure 3 – Existing and Existing plus Project Peak Hour Traffic Volumes. It should be noted that there was construction at the intersection of Polk Street/Magnolia Avenue. The construction was mostly contained to the median on the east side of the intersection; however, construction activities also partially blocked the northbound movements at the intersections. A picture showing the construction is also provided in Appendix B.

The existing Levels of Service at the study area intersections were determined using the HCM methodology, described previously in Section 1.3. Table 3 shows the existing AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in Appendix C. As shown in Table 3, all study intersections operate at LOS D or better during the AM and PM peak hours in the existing condition.

Figure 3: Existing and Existing plus Project Peak Hour Traffic Volumes

	1. Tyler St/Magnolia Ave	2. 10391 Magnolia Ave Driveway/Magnolia Ave	3. Project Driveway/Magnolia Ave	4. Banbury Dr/Magnolia Ave	5. Polk St/Magnolia Ave
Existing Traffic Volumes	↖ 145/166 ↓ 487/818 ↘ 72/275 ↖ 153/332 ← 380/614 ↗ 45/127 — 33/57 ∪ ↗ 289/336 → ↘ 551/779 ↘ 191/285 — 113/211 ↘ 324/848 → 142/358 ↙	↖ 62/189 ← 678/943 ↗ 93/196 — 603/1468 →	↖ 8/23 ← 728/1108 ↗ 12/24 — 603/1468 →	↖ 7/16 ↓ 2/6 ↘ 3/10 ↖ 49/87 ← 683/1031 ↗ 4/13 ∪ 42/96 — 17/20 ∪ ↗ 47/49 → ↘ 8/12 ↘ 66/76 — 23/54 ↗ 492/1286 → 28/69 ↘	↖ 170/120 ↓ 92/72 ↘ 76/95 ↖ 61/30 ← 545/892 ↗ 49/106 ∪ 18/15 — 16/39 ∪ ↗ 36/96 → ↘ 38/113 ↘ 34/121 — 91/151 ↘ 457/1114 → 79/40 ↙



	1. Tyler St/Magnolia Ave	2. 10391 Magnolia Ave Driveway/Magnolia Ave	3. Project Driveway/Magnolia Ave	4. Banbury Dr/Magnolia Ave	5. Polk St/Magnolia Ave
Existing plus Project Traffic Volumes	↖ 147/175 ↓ 487/818 ↘ 72/275 ↖ 153/332 ← 392/657 ↗ 45/127 — 33/57 ∪ ↗ 299/370 → ↘ 551/779 ↘ 191/285 — 119/217 ↘ 352/878 → 165/382 ↙	↖ 68/195 ← 698/1012 ↗ 98/213 — 660/1529 →	↖ 19/35 ← 741/1140 ↗ 24/67 — 660/1529 →	↖ 41/52 ↓ 8/12 ↘ 60/71 ↖ 49/87 ← 700/1049 ↗ 11/39 ∪ 42/96 — 17/20 ∪ ↗ 47/49 → ↘ 10/21 ↘ 66/76 — 45/131 ↗ 492/1286 → 28/69 ↘	↖ 170/120 ↓ 92/72 ↘ 78/104 ↖ 67/36 ← 585/934 ↗ 55/112 ∪ 18/15 — 16/39 ∪ ↗ 36/96 → ↘ 38/113 ↘ 36/130 — 91/151 ↘ 474/1174 → 79/40 ↙

xx/yy = AM/PM Peak Hour Traffic Volumes

① = Project Study Area Intersection

= Project Site

Magnolia Flats

Table 3. Existing AM and PM Peak Hour Levels of Service

Intersection	Signal Control	AM Peak		PM Peak	
		Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Tyler St/Magnolia Ave	Signal	17.3	B	26.6	C
2. 10391 Magnolia Ave Driveway/Magnolia Ave	TWSC	13.5	B	27.8	D
3. Project Driveway/Magnolia Ave	TWSC	12.3	B	15.6	C
4. Banbury Dr/Magnolia Ave	Signal	10.9	B	12.4	B
5. Polk St/Magnolia Ave	Signal	18.1	B	42.9	D

TWSC = Two-Way Stop Controlled

[1] Delay in Seconds

[2] Level of Service

3 PROPOSED PROJECT

3.1 Project Description and Project Access

As described in the project description, the project proposes to construct 450 4-story multifamily residential units and a 9,050 square-foot commercial component, planned to be retail commercial but evaluated conservatively as fast-casual restaurant. The project site would be accessible via the north leg of the Banbury Drive/Magnolia Avenue intersection, as well as a right-in/right-out driveway located on Magnolia Avenue east of Banbury Drive. The project site will also be accessible from the adjacent retail center, which is anchored by a grocery market. It should be noted that previous versions of this study evaluated a site plan that included a median on Banbury Drive north of Magnolia Avenue. The median has been removed from the site plan and is not proposed at this time. If a median is proposed in the future, a traffic flow assessment will be required to ensure that access is maintained to the businesses located on the west side of Banbury Drive.

3.2 Project Trip Generation

Vehicle trips were generated for the project using trip rates from the Institute of Transportation Engineers (ITE) *Trip Generation* (10th Edition, 2017). It is likely that a portion of the trip generation would be captured internally, as residents would patronize the on-site retail/commercial or adjacent businesses. An internal trip capture of 10 percent has been applied, per the City Traffic Impact Study procedures. The project trip generation is shown in Table 4. The project would generate 5,040 daily trips, including 163 AM peak hour trips and 293 PM peak hour trips.

Table 4. Project Trip Generation

				AM Peak Hour			PM Peak Hour		
Land Use	**Units**		**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trip Rates									
Multifamily Housing (Mid-Rise)[1]		DU	5.440	0.094	0.266	0.360	0.268	0.172	0.440
Fast Casual Restaurant[2]		TSF	315.170	1.387	0.683	2.070	7.772	6.359	14.130
Project Trip Generation									
Residential	450	DU	2448	42	120	162	121	77	198
Internal Trip Capture (Residential)[3]			-245	-4	-12	-16	-12	-8	-20
Food Hall	9.000	TSF	2837	12	6	19	70	57	127
Internal Trip Capture (Food Hall)[3]			-284	-1	-1	-2	-7	-6	-13
Total Trip Generation			5040	49	113	163	172	121	293

TSF = Thousand Square Feet

[1] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 10th Edition,* 2017. Land Use Code 222 - Multifamily Housing (Mid-Rise).

[2] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 10th Edition,* 2017. Land Use Code 930 - Fast Casual Restaurant.

[3] 10 percent Internal Trip Capture utilized at the direction of City staff.

As noted in Section 3.1, the project proposes a 9,050 square-foot commercial component, which was evaluated using the ITE trip rates for Fast Casual Restaurant (ITE Land Use (930). The City has requested that the ITE fitted curve equation for retail uses be used for the AM peak hour trip generation, which would result in an AM peak hour trip generation of 156 trips for the 9,000 square-foot commercial space, instead of 19 trips. However, The ITE fitted curve equation for shopping center doesn't provide an accurate estimate of trips for very small retail spaces, such as proposed by the project. The ITE Land Use Code 820 database includes only 4 samples of retail uses less than 20,000 square feet. Table 5 breaks down the square footage and AM peak hour trip generation of each of the 4 samples. As shown in Table 5 the trip generation of 3 of the 4 samples is approximately 25% of the fitted curve trip generation (156 trips). The 4th sample is an outlier with a trip generation of 235 AM peak hour trips. ITE does not provide enough data to determine the type of retail associated with this sample, but for purposes of analysis it was removed from the sample. If we consider the remaining three samples (Samples 1, 2, and 3), the average rate is 2.35 trips/TSF. When applied to the project, the AM peak hour trip generation would be 21 trips, which is only nominally higher than the AM peak hour trip generation shown in Table 4. As a result, and with the City's concurrence, the rates for Fast Casual Restaurant were used to calculate the project trip generation.

Table 5. ITE Shopping Center Samples <20,000 Square Feet

ITE Samples	TSF	Total AM Peak hour Trips
Sample #1	9	28
Sample #2	12	28
Sample #3	16	31
Sample #4	9.9	235

3.3 Project Trip Distribution and Assignment

Project trips were distributed to the four study area intersections based on the location of the project and logical routes of travel to and from the site. Project trips were assigned to the study area intersections by multiplying the net project trip generation by the trip distribution percent at each location. The project trip distribution and are shown in Figure 4.

Figure 4: Project Trip Distribution and Assignment

3.4 Existing Plus Project Traffic Volumes and Intersection Operations

Existing plus Project traffic volumes were determined by adding the project trips to Existing traffic volumes. Figure 3 shows the Existing plus Project weekday AM and PM peak hour traffic volumes at the study intersections.

An intersection operations analysis was conducted for the study area to evaluate the Existing plus Project weekday AM and PM peak hour conditions. Intersection operations were calculated using the LOS methodology described previously in Section 1.3 - Methodology. Table 5 provides a comparison between the Existing Without and With Project conditions.

As shown in Table 6, all the intersections would operate at LOS D or better in the Existing plus Project Condition.

Table 6. Existing and Existing plus Project Peak Hour Levels of Service

Intersection	Signal Control	Existing				Existing plus Project			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Tyler St/Magnolia Ave	Signal	17.5	B	26.6	C	17.5	B	28.3	C
2. 10391 Magnolia Ave Driveway/Magnolia Ave	TWSC	13.5	B	27.8	D	13.9	B	33.0	D
3. Project Driveway/Magnolia Ave	TWSC	12.3	B	15.6	C	12.6	B	16.9	C
4. Banbury Dr/Magnolia Ave	Signal	10.9	B	12.4	B	11.2	B	15.2	B
5. Polk St/Magnolia Ave	Signal	18.1	B	42.9	D	22.0	C	49.5	D

TWSC = Two-Way Stop Controlled

[1] Delay in Seconds

[2] Level of Service

3.5 Vehicle Miles Traveled

The proposed project was included in the City's General Plan Housing Element, and a Vehicle Miles Traveled (VMT) Analysis was prepared for the Housing Element. As a result, the project is not subject to additional CEQA assessment, as it has already been evaluated as part of the Housing Element. However, the following information is included for completeness.

Senate Bill (SB) 743 was signed by Governor Brown in 2013 and required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to LOS for evaluating Transportation impacts. SB743 specified that the new criteria should promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks and a diversity of land uses. The bill also specified that delay-based level of service could no longer be considered an indicator of a significant impact on the environment under CEQA. In response, Section 15064.3 was added to the CEQA Guidelines beginning January 1, 2019. Section 15064.3 - Determining the Significance of Transportation Impacts states that VMT is the most appropriate measure of transportation impacts and provides lead agencies with the discretion to choose the

most appropriate methodology and thresholds for evaluating VMT. Section 15064.3(c) states that the provisions of the section shall apply statewide beginning on July 1, 2020.

The City of Riverside has prepared Draft Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (March 2020). The draft guidelines provide an exemption to the VMT analysis requirement for projects that meet certain criteria. Based on the City's guidelines, the Magnolia Flats project would not be required to prepare a VMT analysis because it meets the following criteria:

- The project is located within a Transit Priority Area. According to the WRCOG VMT Screening Tool (https://gis.fehrandpeers.com/WRCOGVMT/) the project TAZs are located within an existing Transit Priority Area.

- The project is located within a low VMT-generating area. According to the WRCOG VMT Screening Tool, the project TAZ is within a low VMT generating TAZ based on Total VMT, Residential Home-Based VMT, and Home-Based Work VMT as noted below:

    - Jurisdictional average 2012 daily total VMT per service population = 27.77. Project TAZ 2012 daily total VMT per service population = 18.63 (33 percent below jurisdictional average)

    - Jurisdictional average 2012 daily residential home-based VMT per capita = 10.77. Project TAZ 2012 daily residential home-based VMT per capita = 5.01 (53 percent below jurisdictional average)

    - Jurisdictional average 2012 daily home-based work VMT per worker = 13.24. Project TAZ 2012 daily home-based work VMT per worker = 10.50 (21 percent below jurisdictional average)

Because the project meets these two screening criteria, the project is considered to have a less than significant impact on VMT would not be required to prepare a VMT analysis.

3.6 On-Site Circulation Analysis

The project is located adjacent to retail and restaurant land uses providing an opportunity for residents to walk to access dining, shopping and services. The project site plan provides sidewalks for pedestrian circulation between the residential and commercial retail land uses. Additionally, a sidewalk provides access to Magnolia Avenue at Banbury Drive. Pedestrians could access the adjacent bus stops or utilize the signalized intersection to access land uses on the south side of Magnolia Avenue. As noted previously, The Rapidlink Gold Line as well as RT routes 1 and 15 serve Magnolia Avenue. These routes account for approximately 23 percent of all county ridership.

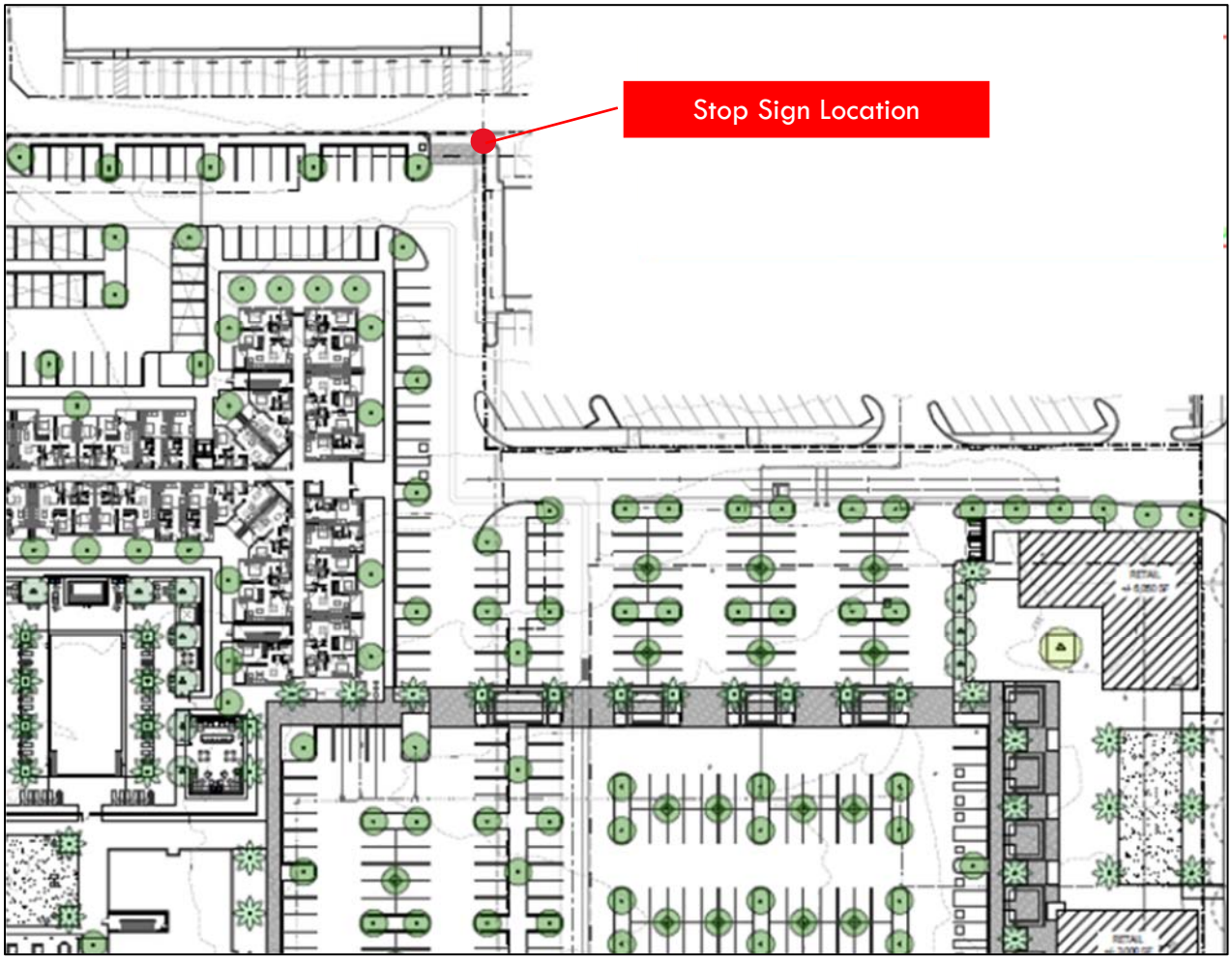
Two driveways would allow vehicular circulation between the project and the adjacent retail properties. The driveways would intersect with existing drive aisles and would allow circulation between the retail site and the project site. It is recommended that a stop or yield sign be placed on the internal driveways where they would intersect the existing parking lot to assign right-of-way and improve safety for vehicles and pedestrians circulating between the two sites. The location of

the proposed stop sign is shown by the red dot on Figure 5. Landscaping in the parking lot medians should be designed so that pedestrians are visible to motorists. Additionally, some parking lot medians could be maintained as pavers or stamped concrete to establish a pedestrian path of travel between the two sites.

During preparation of the Citywide Active Transportation Master Plan, the City identified that the intersection of Tyler Street/Magnolia Avenue experiences the highest rate of collisions of all intersections in the City. Because project residents will likely walk between their homes and nearby commercial centers using the intersections, the City has recommended that the project implement the following pedestrian safety improvements at the Tyler Street/Magnolia Avenue intersection:

- The project should provide accessible pedestrian push buttons at the intersection of Tyler Street/Magnolia Avenue.
- The project should provide funding to the City to upgrade the signal timing to include leading pedestrian intervals at the intersection of Tyler Street/Magnolia Avenue.

Figure 5: Location of Proposed Stop Sign



APPENDIX A – TRAFFIC STUDY SCOPING AGREEMENT

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the City of Riverside Public Works Traffic Engineering Division requirements for traffic impact analysis of the following project. The analysis must follow the City Traffic Impact Analysis Preparation Guide dated January 2016.

Case No. P19-0593
Related Cases -
SP No.
EIR No.
GPA No.
CZ No.
Project Name: Magnolia Flats
Project Location: 10411-10491 Magnolia Avenue
Project Description: Mixed-use development of 450 residential rental units and 9,000 square feet of commercial/restaurant/food hall.

	Consultant	Developer
Name:	EPD Solutions	Relm/Magnolia Partnership, LLC.
Address:	2 Park Plaza Suite 1120, Irvine, CA 92614	1201 Dove Street Suite 520, Newport Beach, CA 92660
Telephone:	949-794-1186	949-975-1122

A. Trip Generation Source: ITE *Trip Generation Manual*, most recent edition

Existing Land Use	Mixed Use - Village		**Proposed Land Use**	Mixed Use - Village
Existing Zoning	Commercial Retail (with MU-V-SP and MU-V-WC-SP Overlay Zones)		**Proposed Zoning**	Commercial Retail (with MU-V-SP and MU-V-WC-SP Overlay Zones)
Total Daily Trips	**In**	**Out**	**Total**	
AM Trips	49	113	163	
PM Trips	172	121	293	

Internal Trip Allowance ☒ Yes ☐ No (10 % Trip Discount)
Pass-By Trip Allowance ☐ Yes ☐ No (_____ % Trip Discount)
(Attach additional sheet if this is a multi-use site with a breakdown of trips generated)

B. Trip Geographic Distribution: (See attached exhibit for detailed assignment)

N	%	S	%	E	%	W	%
	10%		30%		25%		35%

C. Background Traffic

Project Completion Year: NA **Annual Ambient Growth Rate:** NA %
Other area projects to be included:

Please contact Planning Division or use the most recently provided data

Model/Forecast methodology if required _____

D. Build-out Studies: Does this project require a Build-out Study per TIA Guidelines Section 7.2?
☐ Yes ☒ No

E. Study intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)

1. Tyler Street/Magnolia Avenue
2. Northgate Driveway/Magnolia Avenue
3. Project Driveway/Magnolia Avenue
4. Banbury Drive/Magnolia Avenue
5. Polk Street/Magnolia Avenue
6. _____
7. _____
8. _____

F. Study Roadway Segments (For Build-out Studies):

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

G. Other Jurisdictional Impacts

Is this project within any other Agency's Sphere of Influence or one-mile radius of boundaries? ☐ Yes ☒ No

If so, name of Jurisdiction: _____

H. Site Plan (please attach a legible 11'X17' copy)

I. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Public Works Traffic Department)

Per City correspondence to the project applicant, the project has been evaluatedas part of the housing element EIR, therefore only an assessment of project trips in the Existing and Existing plus Project conditions is proposed. An access evaluation will be prepared to identify operational improvements that may be needed to address project access and queuing. Pedestrian and bicycle travel in the project area, as well as pedestrian access to nearby transit will be evaluated to determine whether adequate pedestrian access is provided. An analysis of access to businesses on Banbury Drive as well as access to the adjacent Northgate Market parcel will be provided.

Recommended by:

Meghan Macias
_____
Consultant's Representative

11/19/2019
Date

Scoping Agreement Submitted on _____
Date

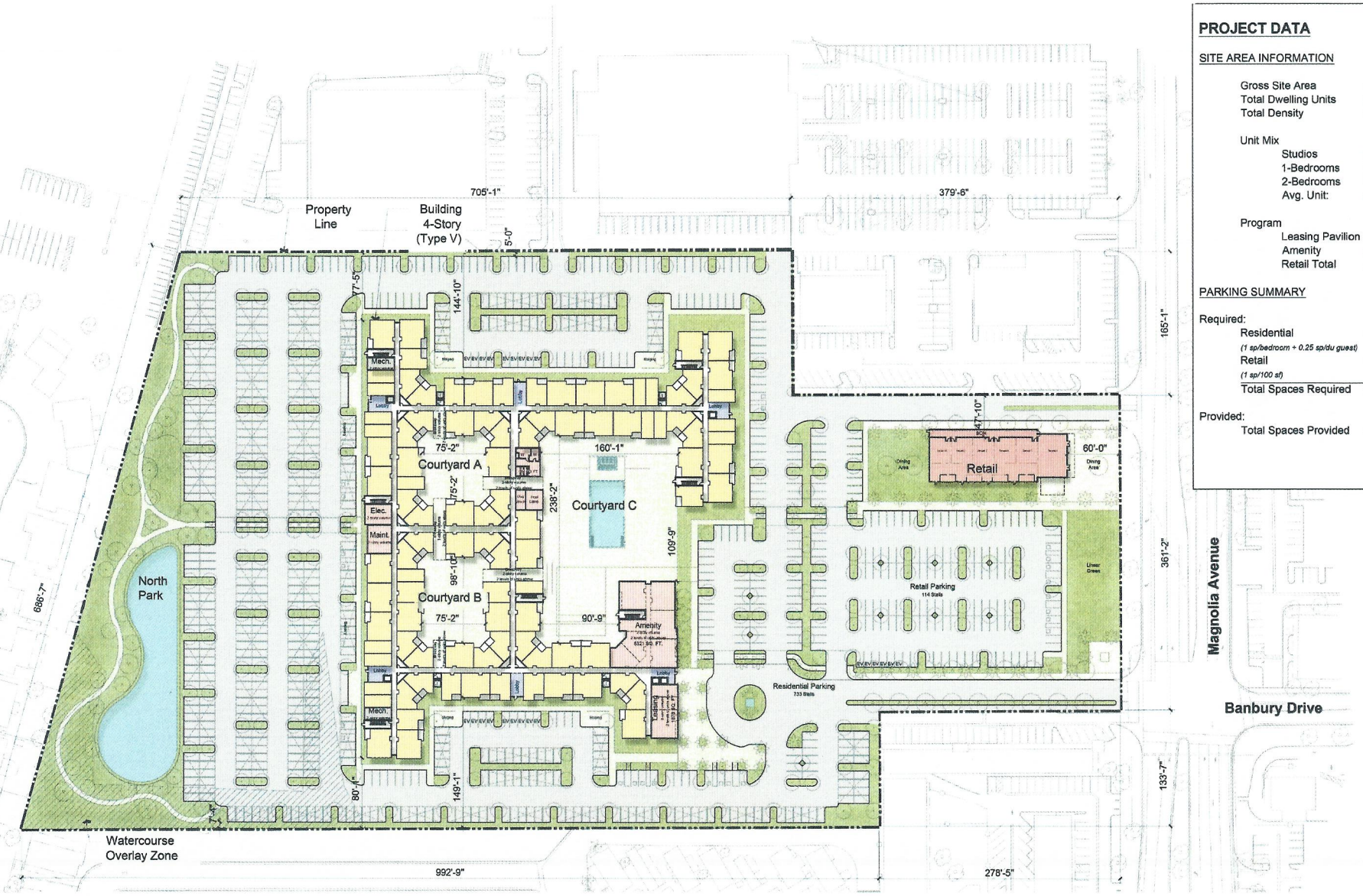
Scoping Agreement Resubmitted on _____
Date

Approved Scoping Agreement:

_____
City of Riverside
Traffic Engineering Division

12/11/19
Date

cc: Planning Division



PROJECT DATA

SITE AREA INFORMATION

Gross Site Area	±16.3 AC
Total Dwelling Units	±450 DU
Total Density	±27.6 DU/AC

Unit Mix

Studios	106 du	±24%
1-Bedrooms	173 du	±38%
2-Bedrooms	171 du	±38%
Avg. Unit:	±690 sf	

Program

Leasing Pavilion	±1,880 sf
Amenity	±6,320 sf
Retail Total	±9,000 sf

PARKING SUMMARY

Required:	
Residential	±734 spaces
(1 sp/bedroom + 0.25 sp/du guest)	
Retail	±90 spaces
(1 sp/100 sf)	
Total Spaces Required	±824 spaces
Provided:	
Total Spaces Provided	±847 spaces

ktgy
Architecture + Planning
888.456.5849
ktgy.com

REALM
1201 Dove Street, Suite 520
Newport Beach, CA 92660

MAGNOLIA FLATS
RIVERSIDE, CALIFORNIA # 2018-1172

CONCEPT DESIGN
NOVEMBER 4, 2019

0 25 50 100

SITE PLAN
PROJECT SUMMARY

A1.0

P19-0683 (PPE) & P20-0133 (CUP) Exhibit 11 - Appendix N
Checklist and Appendices 10411-10481 Magnolia Avenue

Table 1. Project Trip Generation

Land Use	Units		Daily	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Trip Rates									
Multifamily Housing (Mid-Rise)[1]		DU	5.440	0.094	0.266	0.360	0.268	0.172	0.440
Fast Casual Restaurant[2]		TSF	315.170	1.387	0.683	2.070	7.772	6.359	14.130
Project Trip Generation									
Residential	450	DU	2448	42	120	162	121	77	198
Internal Trip Capture (Residential)[3]			-245	-4	-12	-16	-12	-8	-20
Food Hall	9.000	TSF	2837	12	6	19	70	57	127
Internal Trip Capture (Food Hall)[3]			-284	-1	-1	-2	-7	-6	-13
Total Trip Generation			5040	49	113	163	172	121	293

TSF = Thousand Square Feet

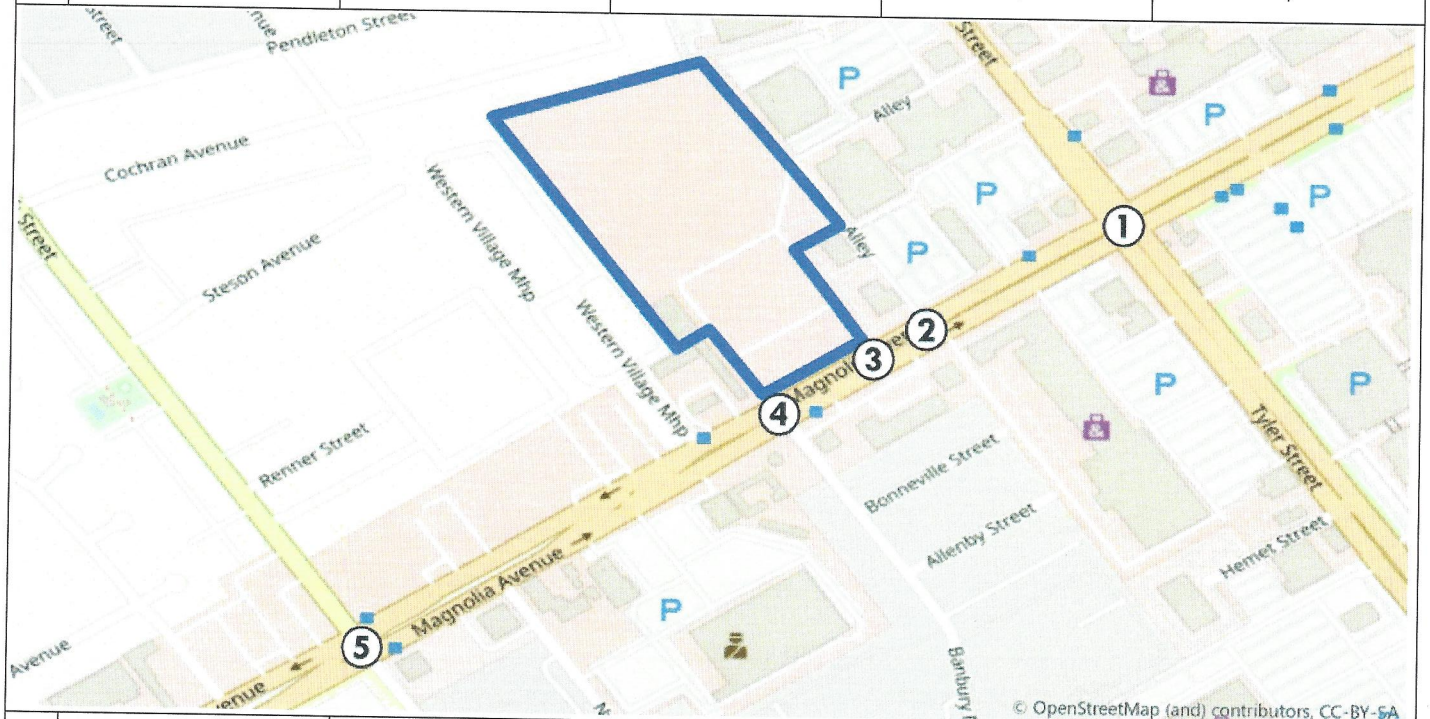
[1] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 10th Edition,* 2017. Land Use Code 222 - Multifamily Housing (Mid-Rise).

[2] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 10th Edition,* 2017. Land Use Code 930 - Fast Casual Restaurant.

[3] 10 percent Internal Trip Capture utilized at the direction of City staff.

Figure 1: Project Trip Distribution and Assignment

	1. Tyler St/Magnolia Ave	2. Northgate Driveway/Magnolia Ave	3. Project Driveway/Magnolia Ave	4. Banbury Dr/Magnolia Ave	5. Polk St/Magnolia Ave
Project Trip distribution (%)	0/5 ↘ 0/25 → 0/20 ↘ | ↖ 5/0 ← 25/0 | ↗ 20/0	0/50 → | ↖ 0/5 ↗ 10/0 ← 40/0	0/50 → | ↖ 0/10 ↗ 25/0 ← 15/5	45/0 ↗ 5/0 → | ↖ 0/30 ← 0/5 ↙ 0/50 ↗ 15/0 ← 0/15	35/0 → | ↙ 5/0 ↗ 5/0 ↖ 0/5 ← 0/35



	1. Tyler St/Magnolia Ave	2. Northgate Driveway/Magnolia Ave	3. Project Driveway/Magnolia Ave	4. Banbury Dr/Magnolia Ave	5. Polk St/Magnolia Ave
Project Trip Assignment (Trips)	6/6 ↘ 28/30 → 23/24 ↘ | ↖ 2/9 ← 12/43 | ↗ 10/34	57/61 → | ↖ 6/6 ↗ 5/17 ← 20/69	57/61 → | ↖ 11/12 ↗ 12/43 ← 13/32	22/77 ↗ 2/9 → | ↖ 34/36 ← 6/6 ↙ 57/61 ↗ 7/26 ← 17/18	17/60 → | ↙ 2/9 ↗ 2/9 ↖ 6/6 ← 40/42

xx/yy = Inbound/Outbound Trip Distribution or AM/PM Peak Hour Traffic Volumes

① = Project Study Area Intersection

= Project Site

Magnolia Flats

APPENDIX B – TRAFFIC COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Thu, Dec 5, 19

LOCATION: Riverside
NORTH & SOUTH: Polk
EAST & WEST: Magnolia

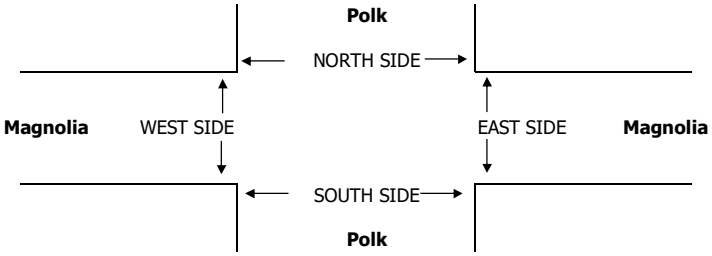
PROJECT #: SC2433
LOCATION #: 1
CONTROL: SIGNAL

NOTES:
Construction AM 08:46-09:00, PM 4:00-4:38

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND Polk			SOUTHBOUND Polk			EASTBOUND Magnolia			WESTBOUND Magnolia				U-TURNS				
	LANES:	NL 1	NT 1	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	10	3	3	19	6	31	14	58	16	14	69	8	251	0	0	0	1	1
	7:15 AM	9	8	9	24	13	26	21	105	28	14	81	10	348	0	0	3	6	9
	7:30 AM	20	6	14	13	15	39	24	98	30	20	97	13	389	0	0	4	3	7
	7:45 AM	6	9	13	13	18	54	21	90	30	29	105	18	406	0	0	3	4	7
	8:00 AM	7	12	11	11	38	53	21	104	33	33	116	7	446	0	0	4	10	14
	8:15 AM	3	10	2	17	23	44	35	103	21	29	126	19	432	0	0	5	7	12
	8:30 AM	17	12	12	25	19	42	29	116	12	17	123	11	435	0	0	5	1	6
	8:45 AM	9	4	9	23	12	31	22	134	13	0	180	12	449	0	0	2	0	2
	VOLUMES	81	64	73	145	144	320	187	808	183	156	897	98	3,156	0	0	26	32	58
	APPROACH %	37%	29%	33%	24%	24%	53%	16%	69%	16%	14%	78%	9%						
	APP/DEPART	218	/	323	609	/	451	1,178	/	1,058	1,151	/	1,324	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	36	38	34	76	92	170	107	457	79	79	545	49	1,762					
	APPROACH %	33%	35%	31%	22%	27%	50%	17%	71%	12%	12%	81%	7%						
	PEAK HR FACTOR		0.659			0.828			0.951			0.876		0.981					
	APP/DEPART	108	/	178	338	/	232	643	/	585	673	/	767	0					
PM	4:00 PM	21	25	24	8	27	21	57	287	7	0	224	26	727	0	0	14	0	14
	4:15 PM	12	9	33	12	24	39	42	245	8	0	233	16	673	0	0	10	0	10
	4:30 PM	18	34	32	5	28	30	51	287	10	4	201	23	723	0	0	10	1	11
	4:45 PM	28	25	32	26	15	30	48	298	11	11	237	32	793	0	0	10	4	14
	5:00 PM	35	31	36	30	13	21	51	272	10	18	219	18	754	0	0	8	7	15
	5:15 PM	15	23	21	34	16	39	40	257	9	12	235	33	734	0	0	11	3	14
	5:30 PM	8	22	17	31	10	32	48	288	8	14	208	25	711	0	0	13	5	18
	5:45 PM	8	12	6	26	18	28	34	235	9	13	238	29	656	0	0	13	5	18
	VOLUMES	145	181	201	172	151	240	371	2,169	72	72	1,795	202	5,771	0	0	89	25	114
	APPROACH %	28%	34%	38%	31%	27%	43%	14%	83%	3%	3%	87%	10%						
	APP/DEPART	527	/	665	563	/	270	2,612	/	2,567	2,069	/	2,269	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	96	113	121	95	72	120	190	1,114	40	45	892	106	3,004					
	APPROACH %	29%	34%	37%	33%	25%	42%	14%	83%	3%	4%	86%	10%						
	PEAK HR FACTOR		0.809			0.806			0.941			0.931		0.947					
	APP/DEPART	330	/	370	287	/	142	1,344	/	1,345	1,043	/	1,147	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	4	1	3	8	0	4	1	3	8	0	0	0	0	0
	7:15 AM	1	3	0	2	6	1	3	0	2	6	0	0	0	0	0
	7:30 AM	1	0	0	1	2	1	0	0	1	2	0	0	0	0	0
	7:45 AM	3	2	0	3	8	3	2	0	3	8	0	0	0	0	0
	8:00 AM	3	4	0	1	8	3	4	0	1	8	0	0	0	0	0
	8:15 AM	3	3	0	2	8	2	3	0	1	6	1	0	0	1	2
	8:30 AM	8	4	2	2	16	6	4	2	2	14	2	0	0	0	2
	8:45 AM	6	1	0	3	10	6	1	0	3	10	0	0	0	0	0
	TOTAL	25	21	3	17	66	22	21	3	16	62	3	0	0	1	4
	AM BEGIN PEAK HR	8:00 AM					17	12	2	7	38					
PM	4:00 PM	4	7	0	4	15	3	7	0	4	14	1	0	0	0	1
	4:15 PM	1	3	0	1	5	1	2	0	1	4	0	1	0	0	1
	4:30 PM	6	6	1	1	14	6	4	1	1	12	0	2	0	0	2
	4:45 PM	2	7	0	2	11	2	7	0	2	11	0	0	0	0	0
	5:00 PM	2	3	1	1	7	0	1	0	1	2	2	2	1	0	5
	5:15 PM	2	3	0	2	7	2	2	0	2	6	0	1	0	0	1
	5:30 PM	0	4	1	5	10	0	4	1	5	10	0	0	0	0	0
	5:45 PM	4	2	0	1	7	2	0	0	0	2	2	2	0	1	5
	TOTAL	21	35	3	17	76	16	27	2	16	61	5	8	1	1	15
	PM BEGIN PEAK HR	4:30 PM					10	14	1	6	31					


2019-12-05/15:57:37

INTERSECTION TURNING MOVEMENT COUNTS

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

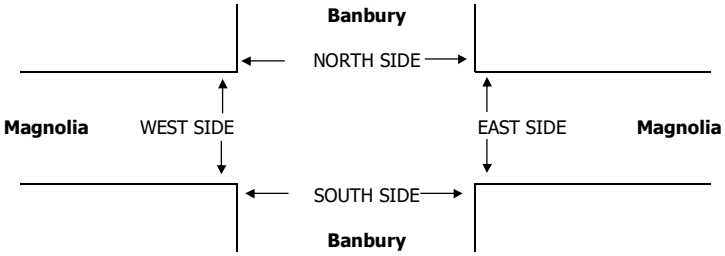
DATE:	LOCATION:	Riverside	PROJECT #:	SC2433
Thu, Dec 5, 19	NORTH & SOUTH:	Banbury	LOCATION #:	2
	EAST & WEST:	Magnolia	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Banbury			SOUTHBOUND Banbury			EASTBOUND Magnolia			WESTBOUND Magnolia				U-TURNS				
	LANES:	NL 1	NT 1	NR 0	SL 0	ST 2	SR 0	EL 1	ET 3	ER 0	WL 1	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	10	0	18	0	0	1	6	82	2	9	94	1	223	0	0	5	3	8
	7:15 AM	11	1	35	0	0	0	5	130	11	7	89	0	289	0	0	2	0	2
	7:30 AM	9	1	20	0	0	0	6	118	5	13	125	1	298	0	0	3	5	8
	7:45 AM	15	0	23	1	0	0	5	109	8	16	149	1	327	0	0	0	6	6
	8:00 AM	12	2	21	0	0	1	10	106	9	19	152	0	332	0	0	6	7	13
	8:15 AM	10	3	14	0	0	1	10	105	10	24	171	0	348	0	0	3	6	9
	8:30 AM	13	1	17	0	1	2	5	140	4	21	172	1	377	0	0	1	11	12
	8:45 AM	12	2	14	3	1	3	15	141	5	27	188	3	414	0	0	7	18	25
	VOLUMES	92	10	162	4	2	8	62	931	54	136	1,140	7	2,608	0	0	27	56	83
	APPROACH %	35%	4%	61%	29%	14%	57%	6%	89%	5%	11%	89%	1%						
	APP/DEPART	264	/	52	14	/	136	1,047	/	1,153	1,283	/	1,267	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	47	8	66	3	2	7	40	492	28	91	683	4	1,471					
	APPROACH %	39%	7%	55%	25%	17%	58%	7%	88%	5%	12%	88%	1%						
	PEAK HR FACTOR		0.864			0.429			0.870			0.892		0.888					
	APP/DEPART	121	/	35	12	/	79	560	/	603	778	/	754	0					
PM	4:00 PM	12	4	23	1	0	1	19	307	11	42	228	3	651	0	0	6	20	26
	4:15 PM	6	2	12	2	0	4	24	255	10	35	221	3	574	0	0	7	20	27
	4:30 PM	8	0	16	1	1	2	22	284	12	55	223	1	625	0	0	7	37	44
	4:45 PM	13	4	19	3	1	4	18	339	19	48	282	2	752	0	0	5	22	27
	5:00 PM	8	2	24	3	3	4	23	322	10	42	243	2	686	0	0	7	27	34
	5:15 PM	18	3	13	1	1	4	17	305	19	45	261	1	688	0	0	3	26	29
	5:30 PM	10	3	20	3	1	4	16	320	21	48	245	8	699	0	0	5	21	26
	5:45 PM	12	1	27	2	0	5	15	251	16	37	262	3	631	0	0	6	17	23
	VOLUMES	87	19	154	16	7	28	154	2,383	118	352	1,965	23	5,306	0	0	46	190	236
	APPROACH %	33%	7%	59%	31%	14%	55%	6%	90%	4%	15%	84%	1%						
	APP/DEPART	260	/	150	51	/	287	2,655	/	2,743	2,340	/	2,126	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	49	12	76	10	6	16	74	1,286	69	183	1,031	13	2,825					
	APPROACH %	36%	9%	55%	31%	19%	50%	5%	90%	5%	15%	84%	1%						
	PEAK HR FACTOR		0.951			0.800			0.950			0.924		0.939					
	APP/DEPART	137	/	79	32	/	162	1,429	/	1,468	1,227	/	1,116	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	4	0	0	2	6	4	0	0	2	6	0	0	0	0	0
	7:15 AM	0	4	0	1	5	0	4	0	1	5	0	0	0	0	0
	7:30 AM	0	1	0	1	2	0	1	0	1	2	0	0	0	0	0
	7:45 AM	1	3	0	2	6	1	2	0	1	4	0	1	0	1	2
	8:00 AM	6	3	0	0	9	5	2	0	0	7	1	1	0	0	2
	8:15 AM	2	1	0	2	5	2	1	0	2	5	0	0	0	0	0
	8:30 AM	3	2	0	1	6	3	2	0	1	6	0	0	0	0	0
	8:45 AM	1	1	0	3	5	1	1	0	3	5	0	0	0	0	0
	TOTAL	17	15	0	12	44	16	13	0	11	40	1	2	0	1	4
	AM BEGIN PEAK HR	8:00 AM					11	6	0	6	23					
PM	4:00 PM	3	8	1	1	13	2	8	1	1	12	1	0	0	0	1
	4:15 PM	6	3	0	3	12	6	3	0	3	12	0	0	0	0	0
	4:30 PM	6	8	0	2	16	6	7	0	2	15	0	1	0	0	1
	4:45 PM	1	5	0	9	15	1	4	0	8	13	0	1	0	1	2
	5:00 PM	3	9	0	9	21	1	8	0	8	17	2	1	0	1	4
	5:15 PM	1	3	0	2	6	1	2	0	1	4	0	1	0	1	2
	5:30 PM	3	3	0	3	9	1	3	0	2	6	2	0	0	1	3
	5:45 PM	2	4	0	9	15	0	3	0	9	12	2	1	0	0	3
	TOTAL	25	43	1	38	107	18	38	1	34	91	7	5	0	4	16
	PM BEGIN PEAK HR	4:45 PM					4	17	0	19	40					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:	LOCATION:	Riverside	PROJECT #:	SC2433
Thu, Dec 5, 19	NORTH & SOUTH:	Tyler	LOCATION #:	3
	EAST & WEST:	Magnolia	CONTROL:	SIGNAL

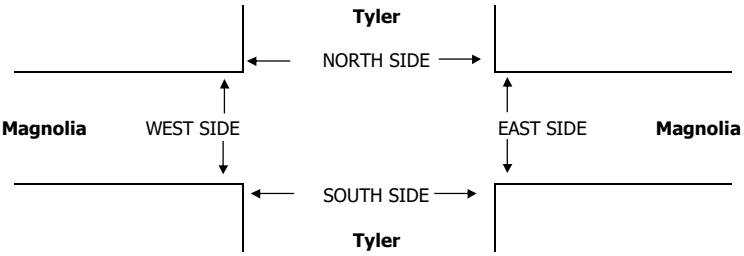
NOTES:

Queue EB PM

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND (Tyler)			SOUTHBOUND (Tyler)			EASTBOUND (Magnolia)			WESTBOUND (Magnolia)				U-TURNS				
	LANES:	NL 2	NT 3	NR 1	SL 2	ST 3	SR 1	EL 2	ET 3	ER 1	WL 2	WT 3	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	29	143	37	8	147	19	26	49	29	20	52	5	564	1	0	3	0	4
	7:15 AM	36	208	29	4	136	20	38	92	33	19	50	3	668	1	0	2	0	3
	7:30 AM	43	177	53	9	145	28	32	83	37	33	70	2	712	1	0	6	1	8
	7:45 AM	58	199	54	16	167	22	26	74	36	32	80	11	775	0	0	4	1	5
	8:00 AM	61	130	45	17	137	43	31	77	27	42	100	15	725	0	1	5	0	6
	8:15 AM	66	125	42	17	106	35	29	71	29	30	99	15	664	0	0	6	0	6
	8:30 AM	72	143	49	17	108	27	41	82	38	41	87	6	711	0	0	13	1	14
	8:45 AM	90	153	55	21	136	40	45	94	48	40	94	9	825	0	1	9	1	11
	VOLUMES	455	1,278	364	109	1,082	234	268	622	277	257	632	66	5,644	3	2	48	4	57
	APPROACH %	22%	61%	17%	8%	76%	16%	23%	53%	24%	27%	66%	7%						
	APP/DEPART	2,097	/	1,566	1,425	/	1,615	1,167	/	1,097	955	/	1,366	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	289	551	191	72	487	145	146	324	142	153	380	45	2,925					
	APPROACH %	28%	53%	19%	10%	69%	21%	24%	53%	23%	26%	66%	8%						
	PEAK HR FACTOR		0.865			0.893			0.818			0.920		0.886					
	APP/DEPART	1,031	/	711	704	/	780	612	/	587	578	/	847	0					
PM	4:00 PM	92	206	85	67	200	41	73	190	95	73	134	39	1,295	3	3	15	0	21
	4:15 PM	73	198	76	65	175	36	61	180	62	82	161	36	1,205	0	0	10	2	12
	4:30 PM	85	197	76	78	173	52	69	183	90	80	130	34	1,247	0	2	7	1	10
	4:45 PM	82	237	61	70	215	50	68	192	96	84	149	32	1,336	0	1	9	1	11
	5:00 PM	91	190	68	72	190	33	69	239	96	70	158	32	1,308	2	2	20	1	25
	5:15 PM	86	189	93	72	224	41	64	203	88	82	136	22	1,300	0	2	18	2	22
	5:30 PM	77	163	63	61	189	42	67	214	78	96	171	41	1,262	0	0	10	1	11
	5:45 PM	80	194	61	68	173	39	53	172	64	75	136	27	1,142	1	0	8	0	9
	VOLUMES	666	1,574	583	553	1,539	334	524	1,573	669	642	1,175	263	10,095	6	10	97	8	121
	APPROACH %	24%	56%	21%	23%	63%	14%	19%	57%	24%	31%	56%	13%						
	APP/DEPART	2,823	/	2,274	2,426	/	2,848	2,766	/	2,707	2,080	/	2,266	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	336	779	285	275	818	166	268	848	358	332	614	127	5,206					
	APPROACH %	24%	56%	20%	22%	65%	13%	18%	58%	24%	31%	57%	12%						
	PEAK HR FACTOR		0.921			0.934			0.912			0.871		0.974					
	APP/DEPART	1,400	/	1,122	1,259	/	1,505	1,474	/	1,408	1,073	/	1,171	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	1	7	3	1	12	0	7	3	1	11	1	0	0	0	1
	7:15 AM	1	4	0	0	5	1	4	0	0	5	0	0	0	0	0
	7:30 AM	3	2	2	0	7	3	2	2	0	7	0	0	0	0	0
	7:45 AM	3	4	3	1	11	3	3	3	0	9	0	1	0	1	2
	8:00 AM	4	4	0	1	9	3	2	0	1	6	1	2	0	0	3
	8:15 AM	1	2	3	0	6	1	1	3	0	5	0	1	0	0	1
	8:30 AM	2	4	1	5	12	2	3	1	4	10	0	1	0	1	2
	8:45 AM	3	3	2	3	11	3	3	2	3	11	0	0	0	0	0
	TOTAL	18	30	14	11	73	16	25	14	9	64	2	5	0	2	9
	AM BEGIN PEAK HR			8:00 AM			9	9	6	8	32					
PM	4:00 PM	3	3	10	7	23	3	3	10	7	23	0	0	0	0	0
	4:15 PM	10	5	5	3	23	10	5	5	3	23	0	0	0	0	0
	4:30 PM	10	3	5	12	30	9	3	5	11	28	1	0	0	1	2
	4:45 PM	7	14	7	9	37	7	11	7	8	33	0	3	0	1	4
	5:00 PM	3	2	8	3	16	2	2	7	3	14	1	0	1	0	2
	5:15 PM	4	8	7	4	23	4	6	6	3	19	0	2	1	1	4
	5:30 PM	0	6	3	3	12	0	5	3	2	10	0	1	0	1	2
	5:45 PM	4	8	12	4	28	4	6	12	4	26	0	2	0	0	2
	TOTAL	41	49	57	45	192	39	41	55	41	176	2	8	2	4	16
	PM BEGIN PEAK HR			4:45 PM			13	24	23	16	76					

APPENDIX C – LEVEL OF SERVICE CALCULATIONS

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT
Lane Configurations												
Traffic Volume (veh/h)	33	146	324	142	153	380	45	72	487	145	289	551
Future Volume (veh/h)	33	146	324	142	153	380	45	72	487	145	289	551
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96	1.00		0.97	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
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
Adj Flow Rate, veh/h		178	395	173	166	413	49	84	566	169	325	619
Peak Hour Factor		0.82	0.82	0.82	0.92	0.92	0.92	0.86	0.86	0.86	0.89	0.89
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		231	1027	518	274	694	81	152	1367	411	463	1826
Arrive On Green		0.13	0.20	0.20	0.08	0.15	0.15	0.04	0.27	0.27	0.13	0.36
Sat Flow, veh/h		1781	5106	1518	3456	4615	535	3456	5106	1534	3456	5106
Grp Volume(v), veh/h		178	395	173	166	302	160	84	566	169	325	619
Grp Sat Flow(s),veh/h/ln		1781	1702	1518	1728	1702	1746	1728	1702	1534	1728	1702
Q Serve(g_s), s		4.9	3.4	4.3	2.3	4.2	4.3	1.2	4.6	4.6	4.5	4.5
Cycle Q Clear(g_c), s		4.9	3.4	4.3	2.3	4.2	4.3	1.2	4.6	4.6	4.5	4.5
Prop In Lane		1.00		1.00	1.00		0.31	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h		231	1027	518	274	512	263	152	1367	411	463	1826
V/C Ratio(X)		0.77	0.38	0.33	0.61	0.59	0.61	0.55	0.41	0.41	0.70	0.34
Avail Cap(c_a), veh/h		496	1623	695	412	541	278	275	1367	411	618	1826
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		21.2	17.4	12.6	22.4	19.9	20.0	23.6	15.2	15.2	20.8	11.8
Incr Delay (d2), s/veh		5.4	0.2	0.4	2.2	1.5	3.5	3.1	0.9	3.0	2.3	0.5
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
%ile BackOfQ(50%),veh/ln		2.2	1.2	1.3	1.0	1.6	1.8	0.5	1.7	1.7	1.8	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		26.5	17.6	12.9	24.6	21.5	23.5	26.6	16.1	18.2	23.1	12.3
LnGrp LOS		C	B	B	C	C	C	C	B	B	C	B
Approach Vol, veh/h			746			628			819			1159
Approach Delay, s/veh			18.7			22.8			17.6			13.8
Approach LOS			B			C			B			B

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	22.0	8.0	14.1	10.7	17.5	10.5	11.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	6.0	16.0	9.0	13.0	14.0	8.0
Max Q Clear Time (g_c+I1), s	3.2	6.5	4.3	6.3	6.5	6.6	6.9	6.3
Green Ext Time (p_c), s	0.0	3.9	0.1	2.3	0.3	2.4	0.3	0.5

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	NWR
Lane Configurations	
Traffic Volume (veh/h)	191
Future Volume (veh/h)	191
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.97
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	215
Peak Hour Factor	0.89
Percent Heavy Veh, %	2
Cap, veh/h	677
Arrive On Green	0.36
Sat Flow, veh/h	1543
Grp Volume(v), veh/h	215
Grp Sat Flow(s),veh/h/ln	1543
Q Serve(g_s), s	2.3
Cycle Q Clear(g_c), s	2.3
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	677
V/C Ratio(X)	0.32
Avail Cap(c_a), veh/h	677
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	2.7
Incr Delay (d2), s/veh	1.2
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	1.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	4.0
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	0	603	678	93	0	62
Future Vol, veh/h	0	603	678	93	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	670	753	103	0	69

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	428
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	492
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	492
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SE
HCM Control Delay, s	0	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SELn1
Capacity (veh/h)	-	-	-	492
HCM Lane V/C Ratio	-	-	-	0.14
HCM Control Delay (s)	-	-	-	13.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	603	728	12	0	8
Future Vol, veh/h	0	603	728	12	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	670	809	13	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	411
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	504
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	504
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	504
HCM Lane V/C Ratio	-	-	-	0.018
HCM Control Delay (s)	-	-	-	12.3
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	17	57	492	28	42	133	683	4	47	8	66	3
Future Volume (veh/h)	17	57	492	28	42	133	683	4	47	8	66	3
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.97	0.98		0.98	0.99
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		66	566	32		149	767	4	55	9	77	7
Peak Hour Factor		0.87	0.87	0.87		0.89	0.89	0.89	0.86	0.86	0.86	0.43
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		81	1577	88		198	1369	589	486	35	297	430
Arrive On Green		0.05	0.32	0.32		0.11	0.39	0.39	0.21	0.21	0.21	0.21
Sat Flow, veh/h		1781	4934	277		1781	3554	1530	1359	165	1414	1303
Grp Volume(v), veh/h		66	389	209		149	767	4	55	0	86	7
Grp Sat Flow(s),veh/h/ln		1781	1702	1807		1781	1777	1530	1359	0	1579	1303
Q Serve(g_s), s		1.2	2.9	3.0		2.7	5.6	0.1	1.1	0.0	1.5	0.2
Cycle Q Clear(g_c), s		1.2	2.9	3.0		2.7	5.6	0.1	1.5	0.0	1.5	1.7
Prop In Lane		1.00		0.15		1.00		1.00	1.00		0.90	1.00
Lane Grp Cap(c), veh/h		81	1088	578		198	1369	589	486	0	331	430
V/C Ratio(X)		0.82	0.36	0.36		0.75	0.56	0.01	0.11	0.00	0.26	0.02
Avail Cap(c_a), veh/h		747	2244	1191		747	2343	1008	486	0	331	430
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		15.8	8.7	8.7		14.4	8.0	6.3	11.2	0.0	11.0	11.7
Incr Delay (d2), s/veh		17.7	0.2	0.4		5.7	0.4	0.0	0.5	0.0	1.9	0.1
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
%ile BackOfQ(50%),veh/ln		0.8	0.8	0.9		1.2	1.5	0.0	0.3	0.0	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		33.4	8.9	9.1		20.1	8.4	6.3	11.6	0.0	12.9	11.8
LnGrp LOS		C	A	A		C	A	A	B	A	B	B
Approach Vol, veh/h			664				920			141		
Approach Delay, s/veh			11.4				10.3			12.4		
Approach LOS			B				B			B		

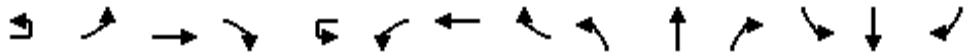
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	11.0	7.7	14.7	11.0	5.5	16.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	14.0	22.0	7.0	14.0	22.0
Max Q Clear Time (g_c+I1), s	3.5	4.7	5.0	3.7	3.2	7.6
Green Ext Time (p_c), s	0.2	0.2	3.6	0.0	0.1	4.6

Intersection Summary	
HCM 6th Ctrl Delay	10.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	2	7
Future Volume (veh/h)	2	7
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.96
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	5	16
Peak Hour Factor	0.43	0.43
Percent Heavy Veh, %	2	2
Cap, veh/h	80	255
Arrive On Green	0.21	0.21
Sat Flow, veh/h	380	1216
Grp Volume(v), veh/h	0	21
Grp Sat Flow(s),veh/h/ln	0	1597
Q Serve(g_s), s	0.0	0.4
Cycle Q Clear(g_c), s	0.0	0.4
Prop In Lane		0.76
Lane Grp Cap(c), veh/h	0	335
V/C Ratio(X)	0.00	0.06
Avail Cap(c_a), veh/h	0	335
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.6
Incr Delay (d2), s/veh	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	0.0	10.9
LnGrp LOS	A	B
Approach Vol, veh/h	28	
Approach Delay, s/veh	11.1	
Approach LOS	B	
Timer - Assigned Phs		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	16	91	457	79	18	61	545	49	36	38	34	76	92	170
Future Volume (veh/h)	16	91	457	79	18	61	545	49	36	38	34	76	92	170
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.94	1.00		0.98	1.00		0.95
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		96	481	83		69	619	56	55	58	52	92	111	205
Peak Hour Factor		0.95	0.95	0.95		0.88	0.88	0.88	0.66	0.66	0.66	0.83	0.83	0.83
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		122	797	137		148	915	83	66	176	158	116	398	338
Arrive On Green		0.07	0.26	0.26		0.08	0.28	0.28	0.04	0.20	0.20	0.06	0.22	0.22
Sat Flow, veh/h		1781	3016	517		1781	3277	296	1781	899	806	1781	1777	1510
Grp Volume(v), veh/h		96	282	282		69	335	340	55	0	110	92	111	205
Grp Sat Flow(s),veh/h/ln		1781	1777	1756		1781	1777	1796	1781	0	1704	1781	1777	1510
Q Serve(g_s), s		2.2	5.7	5.7		1.5	6.8	6.9	1.3	0.0	2.3	2.1	2.1	5.0
Cycle Q Clear(g_c), s		2.2	5.7	5.7		1.5	6.8	6.9	1.3	0.0	2.3	2.1	2.1	5.0
Prop In Lane		1.00		0.29		1.00		0.16	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h		122	470	464		148	496	501	66	0	334	116	398	338
V/C Ratio(X)		0.79	0.60	0.61		0.46	0.68	0.68	0.83	0.00	0.33	0.80	0.28	0.61
Avail Cap(c_a), veh/h		305	652	645		262	609	615	174	0	334	218	398	338
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		18.7	13.1	13.2		17.9	13.1	13.1	19.5	0.0	14.1	18.8	13.1	14.2
Incr Delay (d2), s/veh		10.6	1.2	1.3		2.3	2.2	2.2	22.7	0.0	2.6	11.6	1.7	7.9
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		1.1	2.0	2.0		0.6	2.5	2.5	0.9	0.0	1.0	1.1	0.9	2.1
Unsig. Movement Delay, s/veh														
LnGrp Delay(d),s/veh		29.3	14.4	14.5		20.1	15.3	15.3	42.2	0.0	16.7	30.4	14.9	22.1
LnGrp LOS		C	B	B		C	B	B	D	A	B	C	B	C
Approach Vol, veh/h			660				744			165			408	
Approach Delay, s/veh			16.6				15.7			25.2			22.0	
Approach LOS			B				B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	12.0	7.4	14.8	5.5	13.1	6.8	15.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	8.0	6.0	15.0	4.0	9.0	7.0	14.0
Max Q Clear Time (g_c+I1), s	4.1	4.3	3.5	7.7	3.3	7.0	4.2	8.9
Green Ext Time (p_c), s	0.0	0.1	0.0	2.0	0.0	0.4	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	18.1
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT
Lane Configurations												
Traffic Volume (veh/h)	57	268	848	358	332	614	127	275	818	166	336	779
Future Volume (veh/h)	57	268	848	358	332	614	127	275	818	166	336	779
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.93	1.00		0.93	1.00		0.95	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
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
Adj Flow Rate, veh/h		327	1034	437	361	667	138	320	951	193	378	875
Peak Hour Factor		0.82	0.82	0.82	0.92	0.92	0.92	0.86	0.86	0.86	0.89	0.89
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		533	1201	570	408	835	169	429	1205	355	487	1291
Arrive On Green		0.15	0.24	0.24	0.12	0.20	0.20	0.12	0.24	0.24	0.14	0.25
Sat Flow, veh/h		3456	5106	1474	3456	4197	851	3456	5106	1503	3456	5106
Grp Volume(v), veh/h		327	1034	437	361	538	267	320	951	193	378	875
Grp Sat Flow(s),veh/h/ln		1728	1702	1474	1728	1702	1644	1728	1702	1503	1728	1702
Q Serve(g_s), s		5.2	11.5	4.6	6.1	8.9	9.2	5.3	10.4	6.7	6.3	9.2
Cycle Q Clear(g_c), s		5.2	11.5	4.6	6.1	8.9	9.2	5.3	10.4	6.7	6.3	9.2
Prop In Lane		1.00		1.00	1.00		0.52	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h		533	1201	570	408	678	327	429	1205	355	487	1291
V/C Ratio(X)		0.61	0.86	0.77	0.89	0.79	0.81	0.75	0.79	0.54	0.78	0.68
Avail Cap(c_a), veh/h		533	1205	572	408	689	333	466	1205	355	524	1291
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		23.4	21.8	5.2	25.8	22.6	22.7	25.1	21.3	19.9	24.6	20.0
Incr Delay (d2), s/veh		2.1	6.5	6.2	20.1	6.3	14.2	6.0	5.3	5.9	6.7	2.9
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
%ile BackOfQ(50%),veh/ln		2.1	4.9	2.2	3.5	3.9	4.6	2.4	4.4	2.7	2.8	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		25.5	28.3	11.4	45.8	28.9	36.9	31.0	26.6	25.7	31.3	22.8
LnGrp LOS		C	C	B	D	C	D	C	C	C	C	C
Approach Vol, veh/h			1798			1166			1464			1573
Approach Delay, s/veh			23.7			36.0			27.4			22.1
Approach LOS			C			D			C			C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	19.0	11.0	17.9	12.4	18.0	13.1	15.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	15.0	7.0	14.0	9.0	14.0	9.0	12.0
Max Q Clear Time (g_c+I1), s	7.3	11.2	8.1	13.5	8.3	12.4	7.2	11.2
Green Ext Time (p_c), s	0.1	2.4	0.0	0.4	0.1	1.1	0.2	0.4

Intersection Summary	
HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	NWR
Lane Configurations	
Traffic Volume (veh/h)	285
Future Volume (veh/h)	285
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.93
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	320
Peak Hour Factor	0.89
Percent Heavy Veh, %	2
Cap, veh/h	559
Arrive On Green	0.25
Sat Flow, veh/h	1469
Grp Volume(v), veh/h	320
Grp Sat Flow(s),veh/h/ln	1469
Q Serve(g_s), s	5.0
Cycle Q Clear(g_c), s	5.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	559
V/C Ratio(X)	0.57
Avail Cap(c_a), veh/h	559
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	4.8
Incr Delay (d2), s/veh	4.2
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	2.2
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	9.1
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	0	1468	943	196	0	189
Future Vol, veh/h	0	1468	943	196	0	189
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1631	1048	218	0	210

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	633
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	362
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	362
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SE
HCM Control Delay, s	0	0	27.8
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBT	WBR	SELn1
Capacity (veh/h)	-	-	-	362
HCM Lane V/C Ratio	-	-	-	0.58
HCM Control Delay (s)	-	-	-	27.8
HCM Lane LOS	-	-	-	D
HCM 95th %tile Q(veh)	-	-	-	3.5

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1468	1108	24	0	23
Future Vol, veh/h	0	1468	1108	24	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1631	1231	27	0	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	629
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	364
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	364
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	364
HCM Lane V/C Ratio	-	-	-	0.07
HCM Control Delay (s)	-	-	-	15.6
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	20	74	1286	69	96	183	1031	13	49	12	76	10
Future Volume (veh/h)	20	74	1286	69	96	183	1031	13	49	12	76	10
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.93		1.00		0.97	0.96		0.95	0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		85	1478	79		206	1158	15	57	14	88	23
Peak Hour Factor		0.87	0.87	0.87		0.89	0.89	0.89	0.86	0.86	0.86	0.43
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		107	2029	108		270	1785	775	327	31	195	283
Arrive On Green		0.06	0.41	0.41		0.15	0.50	0.50	0.15	0.15	0.15	0.15
Sat Flow, veh/h		1781	4940	264		1781	3554	1543	1300	212	1334	1261
Grp Volume(v), veh/h		85	1018	539		206	1158	15	57	0	102	23
Grp Sat Flow(s),veh/h/ln		1781	1702	1800		1781	1777	1543	1300	0	1546	1261
Q Serve(g_s), s		1.9	10.3	10.3		4.6	9.9	0.2	1.7	0.0	2.5	0.7
Cycle Q Clear(g_c), s		1.9	10.3	10.3		4.6	9.9	0.2	2.8	0.0	2.5	3.2
Prop In Lane		1.00		0.15		1.00		1.00	1.00		0.86	1.00
Lane Grp Cap(c), veh/h		107	1398	739		270	1785	775	327	0	226	283
V/C Ratio(X)		0.79	0.73	0.73		0.76	0.65	0.02	0.17	0.00	0.45	0.08
Avail Cap(c_a), veh/h		303	1490	788		606	2160	938	327	0	226	283
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		19.1	10.2	10.2		16.7	7.6	5.1	16.8	0.0	16.1	17.5
Incr Delay (d2), s/veh		12.3	1.7	3.2		4.4	0.5	0.0	1.2	0.0	6.4	0.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.1	3.1	3.6		1.9	2.5	0.0	0.5	0.0	1.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		31.4	11.9	13.4		21.2	8.1	5.2	17.9	0.0	22.5	18.1
LnGrp LOS		C	B	B		C	A	A	B	A	C	B
Approach Vol, veh/h			1642				1379			159		
Approach Delay, s/veh			13.4				10.0			20.8		
Approach LOS			B				A			C		

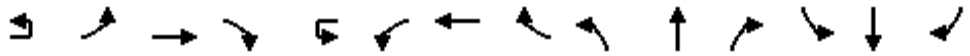
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	10.0	10.2	20.9	10.0	6.5	24.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	14.0	18.0	6.0	7.0	25.0
Max Q Clear Time (g_c+I1), s	4.8	6.6	12.3	5.2	3.9	11.9
Green Ext Time (p_c), s	0.1	0.3	4.3	0.0	0.0	6.8

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	6	16
Future Volume (veh/h)	6	16
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.93
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	14	37
Peak Hour Factor	0.43	0.43
Percent Heavy Veh, %	2	2
Cap, veh/h	63	166
Arrive On Green	0.15	0.15
Sat Flow, veh/h	430	1136
Grp Volume(v), veh/h	0	51
Grp Sat Flow(s),veh/h/ln	0	1566
Q Serve(g_s), s	0.0	1.2
Cycle Q Clear(g_c), s	0.0	1.2
Prop In Lane		0.73
Lane Grp Cap(c), veh/h	0	228
V/C Ratio(X)	0.00	0.22
Avail Cap(c_a), veh/h	0	228
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.5
Incr Delay (d2), s/veh	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	0.0	17.8
LnGrp LOS	A	B
Approach Vol, veh/h	74	
Approach Delay, s/veh	17.9	
Approach LOS	B	
Timer - Assigned Phs		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	39	190	1114	40	15	45	892	106	96	113	121	95	72	120
Future Volume (veh/h)	39	190	1114	40	15	45	892	106	96	113	121	95	72	120
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.97	1.00		0.96	1.00		0.96
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		200	1173	42		51	1014	120	145	171	183	114	87	145
Peak Hour Factor		0.95	0.95	0.95		0.88	0.88	0.88	0.66	0.66	0.66	0.83	0.83	0.83
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		245	1372	49		132	1050	124	183	165	176	140	319	274
Arrive On Green		0.14	0.39	0.39		0.07	0.33	0.33	0.10	0.20	0.20	0.08	0.18	0.18
Sat Flow, veh/h		1781	3495	125		1781	3188	377	1781	809	866	1781	1777	1526
Grp Volume(v), veh/h		200	596	619		51	565	569	145	0	354	114	87	145
Grp Sat Flow(s),veh/h/ln		1781	1777	1843		1781	1777	1788	1781	0	1674	1781	1777	1526
Q Serve(g_s), s		7.0	19.6	19.6		1.7	19.9	20.0	5.1	0.0	13.0	4.0	2.7	5.5
Cycle Q Clear(g_c), s		7.0	19.6	19.6		1.7	19.9	20.0	5.1	0.0	13.0	4.0	2.7	5.5
Prop In Lane		1.00		0.07		1.00		0.21	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h		245	698	724		132	585	589	183	0	341	140	319	274
V/C Ratio(X)		0.82	0.85	0.86		0.39	0.97	0.97	0.79	0.00	1.04	0.82	0.27	0.53
Avail Cap(c_a), veh/h		279	752	781		132	585	589	224	0	341	140	319	274
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		26.7	17.7	17.7		28.1	21.0	21.0	27.9	0.0	25.4	28.9	22.6	23.7
Incr Delay (d2), s/veh		15.4	9.0	8.8		1.8	28.5	28.7	14.5	0.0	58.6	29.9	2.1	7.2
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		3.8	8.8	9.1		0.8	12.1	12.2	2.8	0.0	10.4	2.8	1.3	2.4
Unsig. Movement Delay, s/veh														
LnGrp Delay(d),s/veh		42.1	26.7	26.5		30.0	49.5	49.7	42.4	0.0	84.0	58.8	24.7	30.9
LnGrp LOS		D	C	C		C	D	D	D	A	F	E	C	C
Approach Vol, veh/h			1415				1185			499			346	
Approach Delay, s/veh			28.8				48.8			71.9			38.5	
Approach LOS			C				D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	17.0	8.7	29.0	10.6	15.4	12.8	25.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	13.0	4.0	27.0	8.0	10.0	10.0	21.0
Max Q Clear Time (g_c+I1), s	6.0	15.0	3.7	21.6	7.1	7.5	9.0	22.0
Green Ext Time (p_c), s	0.0	0.0	0.0	3.5	0.0	0.3	0.1	0.0

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

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT
Lane Configurations												
Traffic Volume (veh/h)	33	152	352	165	153	392	45	72	487	147	299	551
Future Volume (veh/h)	33	152	352	165	153	392	45	72	487	147	299	551
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96	1.00		0.97	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
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
Adj Flow Rate, veh/h		185	429	201	166	426	49	84	566	171	336	619
Peak Hour Factor		0.82	0.82	0.82	0.92	0.92	0.92	0.86	0.86	0.86	0.89	0.89
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		312	800	569	269	668	75	151	1323	397	727	2173
Arrive On Green		0.09	0.16	0.16	0.08	0.14	0.14	0.04	0.26	0.26	0.21	0.43
Sat Flow, veh/h		3456	5106	1505	3456	4631	521	3456	5106	1533	3456	5106
Grp Volume(v), veh/h		185	429	201	166	311	164	84	566	171	336	619
Grp Sat Flow(s),veh/h/ln		1728	1702	1505	1728	1702	1748	1728	1702	1533	1728	1702
Q Serve(g_s), s		2.8	4.2	1.3	2.5	4.6	4.8	1.3	5.0	5.0	4.6	4.3
Cycle Q Clear(g_c), s		2.8	4.2	1.3	2.5	4.6	4.8	1.3	5.0	5.0	4.6	4.3
Prop In Lane		1.00		1.00	1.00		0.30	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h		312	800	569	269	491	252	151	1323	397	727	2173
V/C Ratio(X)		0.59	0.54	0.35	0.62	0.63	0.65	0.56	0.43	0.43	0.46	0.28
Avail Cap(c_a), veh/h		512	1039	640	384	567	291	256	1323	397	831	2173
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		23.6	21.0	4.2	24.1	21.8	21.8	25.3	16.7	16.7	18.7	10.1
Incr Delay (d2), s/veh		1.8	0.6	0.4	2.3	1.8	4.1	3.2	1.0	3.4	0.5	0.3
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
%ile BackOfQ(50%),veh/ln		1.1	1.6	0.5	1.0	1.8	2.1	0.6	1.9	2.0	1.7	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		25.4	21.5	4.5	26.4	23.6	26.0	28.5	17.7	20.1	19.1	10.5
LnGrp LOS		C	C	A	C	C	C	C	B	C	B	B
Approach Vol, veh/h			815			641			821			1170
Approach Delay, s/veh			18.2			24.9			19.3			11.6
Approach LOS			B			C			B			B

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	27.0	8.2	12.5	15.4	18.0	8.9	11.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	23.0	6.0	11.0	13.0	14.0	8.0	9.0
Max Q Clear Time (g_c+I1), s	3.3	6.3	4.5	6.2	6.6	7.0	4.8	6.8
Green Ext Time (p_c), s	0.0	4.7	0.1	1.6	0.7	2.5	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	NWR
Lane Configurations	
Traffic Volume (veh/h)	191
Future Volume (veh/h)	191
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.98
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	215
Peak Hour Factor	0.89
Percent Heavy Veh, %	2
Cap, veh/h	782
Arrive On Green	0.43
Sat Flow, veh/h	1546
Grp Volume(v), veh/h	215
Grp Sat Flow(s),veh/h/ln	1546
Q Serve(g_s), s	2.0
Cycle Q Clear(g_c), s	2.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	782
V/C Ratio(X)	0.28
Avail Cap(c_a), veh/h	782
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	2.1
Incr Delay (d2), s/veh	0.9
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.8
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	3.0
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	0	660	698	98	0	68
Future Vol, veh/h	0	660	698	98	0	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	733	776	109	0	76

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	443
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	481
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	481
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SE
HCM Control Delay, s	0	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SELn1
Capacity (veh/h)	-	-	-	481
HCM Lane V/C Ratio	-	-	-	0.157
HCM Control Delay (s)	-	-	-	13.9
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	660	741	24	0	19
Future Vol, veh/h	0	660	741	24	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	733	823	27	0	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	425
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	494
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	494
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	494
HCM Lane V/C Ratio	-	-	-	0.043
HCM Control Delay (s)	-	-	-	12.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	17	62	492	28	42	91	700	11	47	10	66	60
Future Volume (veh/h)	17	62	492	28	42	91	700	11	47	10	66	60
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.97	0.98		0.98	0.99
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		71	566	32		102	787	12	55	12	77	140
Peak Hour Factor		0.87	0.87	0.87		0.89	0.89	0.89	0.86	0.86	0.86	0.43
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		88	1800	101		132	1384	596	395	44	284	420
Arrive On Green		0.05	0.36	0.36		0.07	0.39	0.39	0.21	0.21	0.21	0.21
Sat Flow, veh/h		1781	4935	277		1781	3554	1530	1256	214	1373	1299
Grp Volume(v), veh/h		71	389	209		102	787	12	55	0	89	140
Grp Sat Flow(s),veh/h/ln		1781	1702	1808		1781	1777	1530	1256	0	1587	1299
Q Serve(g_s), s		1.3	2.8	2.8		1.9	5.9	0.2	1.3	0.0	1.6	3.4
Cycle Q Clear(g_c), s		1.3	2.8	2.8		1.9	5.9	0.2	3.4	0.0	1.6	5.0
Prop In Lane		1.00		0.15		1.00		1.00	1.00		0.87	1.00
Lane Grp Cap(c), veh/h		88	1242	660		132	1384	596	395	0	328	420
V/C Ratio(X)		0.81	0.31	0.32		0.78	0.57	0.02	0.14	0.00	0.27	0.33
Avail Cap(c_a), veh/h		737	2212	1175		737	2310	994	395	0	328	420
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		15.9	7.7	7.7		15.4	8.1	6.4	12.9	0.0	11.3	13.4
Incr Delay (d2), s/veh		15.8	0.1	0.3		9.3	0.4	0.0	0.7	0.0	2.0	2.1
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.8	0.7	0.8		1.0	1.5	0.0	0.4	0.0	0.6	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		31.7	7.9	8.0		24.7	8.5	6.4	13.7	0.0	13.3	15.5
LnGrp LOS		C	A	A		C	A	A	B	A	B	B
Approach Vol, veh/h			669				901			144		
Approach Delay, s/veh			10.4				10.3			13.4		
Approach LOS			B				B			B		

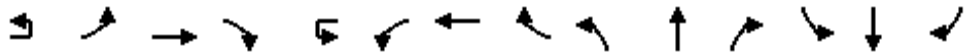
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	11.0	6.5	16.3	11.0	5.7	17.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	14.0	22.0	7.0	14.0	22.0
Max Q Clear Time (g_c+I1), s	5.4	3.9	4.8	7.0	3.3	7.9
Green Ext Time (p_c), s	0.1	0.2	3.6	0.0	0.1	4.7

Intersection Summary	
HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	8	41
Future Volume (veh/h)	8	41
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.96
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	19	95
Peak Hour Factor	0.43	0.43
Percent Heavy Veh, %	2	2
Cap, veh/h	54	271
Arrive On Green	0.21	0.21
Sat Flow, veh/h	262	1312
Grp Volume(v), veh/h	0	114
Grp Sat Flow(s),veh/h/ln	0	1574
Q Serve(g_s), s	0.0	2.1
Cycle Q Clear(g_c), s	0.0	2.1
Prop In Lane		0.83
Lane Grp Cap(c), veh/h	0	326
V/C Ratio(X)	0.00	0.35
Avail Cap(c_a), veh/h	0	326
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.5
Incr Delay (d2), s/veh	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.8
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	0.0	14.4
LnGrp LOS	A	B
Approach Vol, veh/h	254	
Approach Delay, s/veh	15.0	
Approach LOS	B	
Timer - Assigned Phs		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	16	107	474	79	18	85	585	55	36	38	36	78	92	170
Future Volume (veh/h)	16	107	474	79	18	85	585	55	36	38	36	78	92	170
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.94	1.00		0.97	1.00		0.96
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		113	499	83		97	665	62	55	58	55	94	111	205
Peak Hour Factor		0.95	0.95	0.95		0.88	0.88	0.88	0.66	0.66	0.66	0.83	0.83	0.83
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		145	735	121		175	845	79	67	139	132	320	536	460
Arrive On Green		0.08	0.24	0.24		0.10	0.26	0.26	0.04	0.16	0.16	0.18	0.30	0.30
Sat Flow, veh/h		1781	3033	502		1781	3266	304	1781	870	825	1781	1777	1524
Grp Volume(v), veh/h		113	291	291		97	361	366	55	0	113	94	111	205
Grp Sat Flow(s),veh/h/ln		1781	1777	1758		1781	1777	1793	1781	0	1696	1781	1777	1524
Q Serve(g_s), s		3.1	7.4	7.5		2.6	9.5	9.5	1.5	0.0	3.0	2.3	2.3	5.4
Cycle Q Clear(g_c), s		3.1	7.4	7.5		2.6	9.5	9.5	1.5	0.0	3.0	2.3	2.3	5.4
Prop In Lane		1.00		0.29		1.00		0.17	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h		145	430	426		175	460	464	67	0	271	320	536	460
V/C Ratio(X)		0.78	0.68	0.68		0.55	0.79	0.79	0.82	0.00	0.42	0.29	0.21	0.45
Avail Cap(c_a), veh/h		249	533	527		214	498	502	143	0	271	320	536	460
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		0.79	0.79	0.79	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		22.5	17.2	17.2		21.5	17.2	17.3	23.9	0.0	18.9	17.8	13.0	14.1
Incr Delay (d2), s/veh		8.6	2.5	2.7		2.2	6.1	6.1	20.7	0.0	4.7	0.5	0.9	3.1
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		1.5	2.9	3.0		1.1	4.1	4.2	1.0	0.0	1.4	0.9	0.9	2.0
Unsig. Movement Delay, s/veh														
LnGrp Delay(d),s/veh		31.1	19.7	19.9		23.7	23.3	23.4	44.5	0.0	23.6	18.3	13.9	17.2
LnGrp LOS		C	B	B		C	C	C	D	A	C	B	B	B
Approach Vol, veh/h			695				824			168			410	
Approach Delay, s/veh			21.6				23.4			30.4			16.5	
Approach LOS			C				C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	12.0	8.9	16.1	5.9	19.1	8.1	16.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	8.0	6.0	15.0	4.0	9.0	7.0	14.0
Max Q Clear Time (g_c+I1), s	4.3	5.0	4.6	9.5	3.5	7.4	5.1	11.5
Green Ext Time (p_c), s	0.0	0.1	0.0	1.7	0.0	0.3	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT
Lane Configurations												
Traffic Volume (veh/h)	57	274	878	382	332	657	127	275	818	175	370	779
Future Volume (veh/h)	57	274	878	382	332	657	127	275	818	175	370	779
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.93	1.00		0.93	1.00		0.95	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
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
Adj Flow Rate, veh/h		334	1071	466	361	714	138	320	951	203	416	875
Peak Hour Factor		0.82	0.82	0.82	0.92	0.92	0.92	0.86	0.86	0.86	0.89	0.89
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		520	1192	581	403	849	161	460	1192	351	517	1277
Arrive On Green		0.15	0.23	0.23	0.12	0.20	0.20	0.13	0.23	0.23	0.15	0.25
Sat Flow, veh/h		3456	5106	1474	3456	4251	808	3456	5106	1502	3456	5106
Grp Volume(v), veh/h		334	1071	466	361	569	283	320	951	203	416	875
Grp Sat Flow(s),veh/h/ln		1728	1702	1474	1728	1702	1655	1728	1702	1502	1728	1702
Q Serve(g_s), s		5.5	12.2	5.1	6.2	9.6	9.9	5.3	10.5	7.2	7.0	9.3
Cycle Q Clear(g_c), s		5.5	12.2	5.1	6.2	9.6	9.9	5.3	10.5	7.2	7.0	9.3
Prop In Lane		1.00		1.00	1.00		0.49	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h		520	1192	581	403	680	330	460	1192	351	517	1277
V/C Ratio(X)		0.64	0.90	0.80	0.90	0.84	0.85	0.70	0.80	0.58	0.80	0.69
Avail Cap(c_a), veh/h		520	1192	581	403	681	331	461	1192	351	519	1277
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		24.0	22.3	5.3	26.1	23.1	23.2	24.8	21.7	20.4	24.7	20.4
Incr Delay (d2), s/veh		2.7	9.3	7.9	21.8	9.1	19.1	4.5	5.6	6.8	9.0	3.0
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
%ile BackOfQ(50%),veh/ln		2.3	5.5	2.7	3.6	4.4	5.3	2.3	4.5	3.0	3.3	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		26.6	31.6	13.2	47.9	32.1	42.3	29.4	27.3	27.2	33.6	23.4
LnGrp LOS		C	C	B	D	C	D	C	C	C	C	C
Approach Vol, veh/h			1871			1213			1474			1611
Approach Delay, s/veh			26.2			39.2			27.7			23.2
Approach LOS			C			D			C			C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	19.0	11.0	18.0	13.0	18.0	13.0	16.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	15.0	7.0	14.0	9.0	14.0	9.0	12.0
Max Q Clear Time (g_c+I1), s	7.3	11.3	8.2	14.2	9.0	12.5	7.5	11.9
Green Ext Time (p_c), s	0.1	2.3	0.0	0.0	0.0	1.0	0.2	0.1

Intersection Summary	
HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	NWR
Lane Configurations	
Traffic Volume (veh/h)	285
Future Volume (veh/h)	285
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.93
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	320
Peak Hour Factor	0.89
Percent Heavy Veh, %	2
Cap, veh/h	552
Arrive On Green	0.25
Sat Flow, veh/h	1468
Grp Volume(v), veh/h	320
Grp Sat Flow(s),veh/h/ln	1468
Q Serve(g_s), s	5.0
Cycle Q Clear(g_c), s	5.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	552
V/C Ratio(X)	0.58
Avail Cap(c_a), veh/h	552
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	5.0
Incr Delay (d2), s/veh	4.4
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	2.2
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	9.3
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	0	1529	1012	213	0	195
Future Vol, veh/h	0	1529	1012	213	0	195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1699	1124	237	0	217

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	681
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	337
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	337
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SE
HCM Control Delay, s	0	0	33
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBT	WBR	SELn1
Capacity (veh/h)	-	-	-	337
HCM Lane V/C Ratio	-	-	-	0.643
HCM Control Delay (s)	-	-	-	33
HCM Lane LOS	-	-	-	D
HCM 95th %tile Q(veh)	-	-	-	4.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1529	1140	67	0	35
Future Vol, veh/h	0	1529	1140	67	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1699	1267	74	0	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	671
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	342
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	342
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	342
HCM Lane V/C Ratio	-	-	-	0.114
HCM Control Delay (s)	-	-	-	16.9
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.4

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	20	151	1286	69	96	183	1049	39	49	21	76	71
Future Volume (veh/h)	20	151	1286	69	96	183	1049	39	49	21	76	71
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.93		1.00		0.97	0.97		0.95	0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		174	1478	79		206	1179	44	57	24	88	165
Peak Hour Factor		0.87	0.87	0.87		0.89	0.89	0.89	0.86	0.86	0.86	0.43
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		222	2146	115		269	1637	710	221	46	170	256
Arrive On Green		0.12	0.43	0.43		0.15	0.46	0.46	0.14	0.14	0.14	0.14
Sat Flow, veh/h		1781	4941	264		1781	3554	1542	1205	336	1232	1250
Grp Volume(v), veh/h		174	1018	539		206	1179	44	57	0	112	165
Grp Sat Flow(s),veh/h/ln		1781	1702	1801		1781	1777	1542	1205	0	1568	1250
Q Serve(g_s), s		4.1	10.5	10.5		4.8	11.6	0.7	2.0	0.0	2.9	3.1
Cycle Q Clear(g_c), s		4.1	10.5	10.5		4.8	11.6	0.7	6.0	0.0	2.9	6.0
Prop In Lane		1.00		0.15		1.00		1.00	1.00		0.79	1.00
Lane Grp Cap(c), veh/h		222	1479	782		269	1637	710	221	0	217	256
V/C Ratio(X)		0.79	0.69	0.69		0.77	0.72	0.06	0.26	0.00	0.52	0.64
Avail Cap(c_a), veh/h		287	1479	782		575	2047	888	221	0	217	256
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		18.4	9.9	9.9		17.7	9.4	6.5	20.8	0.0	17.4	20.8
Incr Delay (d2), s/veh		10.2	1.4	2.6		4.6	0.9	0.0	2.8	0.0	8.5	11.9
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
%ile BackOfQ(50%),veh/ln		2.1	3.1	3.6		2.1	3.4	0.2	0.7	0.0	1.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		28.7	11.3	12.5		22.3	10.4	6.5	23.6	0.0	25.9	32.7
LnGrp LOS		C	B	B		C	B	A	C	A	C	C
Approach Vol, veh/h			1731				1429			169		
Approach Delay, s/veh			13.4				12.0			25.1		
Approach LOS			B				B			C		

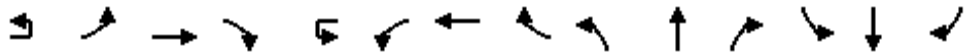
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	10.0	10.5	22.9	10.0	9.4	24.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	14.0	18.0	6.0	7.0	25.0
Max Q Clear Time (g_c+I1), s	8.0	6.8	12.5	8.0	6.1	13.6
Green Ext Time (p_c), s	0.0	0.3	4.2	0.0	0.0	6.4

Intersection Summary	
HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	12	52
Future Volume (veh/h)	12	52
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.93
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	28	121
Peak Hour Factor	0.43	0.43
Percent Heavy Veh, %	2	2
Cap, veh/h	40	172
Arrive On Green	0.14	0.14
Sat Flow, veh/h	288	1244
Grp Volume(v), veh/h	0	149
Grp Sat Flow(s),veh/h/ln	0	1531
Q Serve(g_s), s	0.0	4.0
Cycle Q Clear(g_c), s	0.0	4.0
Prop In Lane		0.81
Lane Grp Cap(c), veh/h	0	212
V/C Ratio(X)	0.00	0.70
Avail Cap(c_a), veh/h	0	212
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.8
Incr Delay (d2), s/veh	0.0	17.8
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	0.0	35.7
LnGrp LOS	A	D
Approach Vol, veh/h	314	
Approach Delay, s/veh	34.1	
Approach LOS	C	
Timer - Assigned Phs		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	39	190	1174	40	15	36	934	112	96	113	130	104	72	120
Future Volume (veh/h)	39	190	1174	40	15	36	934	112	96	113	130	104	72	120
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.97	1.00		0.96	1.00		0.96
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		200	1236	42		41	1061	127	145	171	197	125	87	145
Peak Hour Factor		0.95	0.95	0.95		0.88	0.88	0.88	0.66	0.66	0.66	0.83	0.83	0.83
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		245	1411	48		114	1049	125	183	158	182	140	319	274
Arrive On Green		0.14	0.40	0.40		0.06	0.33	0.33	0.10	0.20	0.20	0.08	0.18	0.18
Sat Flow, veh/h		1781	3502	119		1781	3184	381	1781	775	893	1781	1777	1526
Grp Volume(v), veh/h		200	627	651		41	592	596	145	0	368	125	87	145
Grp Sat Flow(s),veh/h/ln		1781	1777	1844		1781	1777	1788	1781	0	1668	1781	1777	1526
Q Serve(g_s), s		7.0	20.7	20.8		1.4	21.0	21.0	5.1	0.0	13.0	4.4	2.7	5.5
Cycle Q Clear(g_c), s		7.0	20.7	20.8		1.4	21.0	21.0	5.1	0.0	13.0	4.4	2.7	5.5
Prop In Lane		1.00		0.06		1.00		0.21	1.00		0.54	1.00		1.00
Lane Grp Cap(c), veh/h		245	716	743		114	585	589	183	0	340	140	319	274
V/C Ratio(X)		0.82	0.88	0.88		0.36	1.01	1.01	0.79	0.00	1.08	0.89	0.27	0.53
Avail Cap(c_a), veh/h		279	752	781		114	585	589	224	0	340	140	319	274
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		26.7	17.6	17.6		28.6	21.4	21.4	27.9	0.0	25.4	29.1	22.6	23.7
Incr Delay (d2), s/veh		15.4	10.9	10.7		1.9	39.9	40.4	14.5	0.0	72.4	46.3	2.1	7.2
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		3.8	9.6	9.9		0.6	14.3	14.5	2.8	0.0	11.6	3.6	1.3	2.4
Unsig. Movement Delay, s/veh														
LnGrp Delay(d),s/veh		42.1	28.5	28.3		30.5	61.3	61.7	42.4	0.0	97.8	75.4	24.7	30.9
LnGrp LOS		D	C	C		C	F	F	D	A	F	E	C	C
Approach Vol, veh/h			1478				1229			513			357	
Approach Delay, s/veh			30.2				60.5			82.1			44.9	
Approach LOS			C				E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	17.0	8.1	29.7	10.6	15.4	12.8	25.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	13.0	4.0	27.0	8.0	10.0	10.0	21.0
Max Q Clear Time (g_c+I1), s	6.4	15.0	3.4	22.8	7.1	7.5	9.0	23.0
Green Ext Time (p_c), s	0.0	0.0	0.0	2.9	0.0	0.3	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	49.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.