

Appendix FEIR-5

Transportation Memorandum



MEMORANDUM

TO: Wes Pringle, Los Angeles Department of Transportation

FROM: Sarah M. Drobis, P.E.
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DATE: November 17, 2022

RE: Supplemental Transportation Assessment for the
Refined 1000 Seward Project Design
Hollywood, California

Ref: J1780

This memorandum presents an assessment of the 1000 Seward Project (Project) located at 1000 and 1006 Seward Street, 6565 Romaine Street, and 1003, 1007, and 1013 Hudson Avenue (Project Site) in the Hollywood community of the City of Los Angeles (City). The Project's development program has been refined since the issuance of the Los Angeles Department of Transportation (LADOT) *Inter-Departmental Correspondence: Transportation Impact Assessment for the Proposed Mixed-Use Project Located at 1000 North Seward Street (CEN19-48795)* (August 12, 2021) (LADOT Assessment Letter) for *Transportation Assessment for the 1000 Seward Mixed-Use Development Project* (Gibson Transportation Consulting, Inc., July 2021) (Approved Transportation Assessment) and the publication of the Draft Environmental Impact Report (EIR).

The Project's potential transportation impacts in the Approved Transportation Assessment were evaluated in accordance with the adopted methodology and guidelines in effect at the time of the approval, *Transportation Assessment Guidelines* (LADOT, July 2020) (TAG). Since the issuance of the LADOT Assessment Letter, an update to the TAG was released in August 2022. The analysis presented in this memorandum was prepared in accordance with the latest TAG.

PROJECT

The Approved Transportation Assessment reflected an analysis of the Project land use program with 136,000 square feet (sf) of office uses, 2,200 sf of retail uses, and 12,200 sf of restaurant uses (of which 6,100 sf may be used for entertainment use). The Approved Transportation Assessment assumed full buildout of the Project in Year 2025.

Parking for the Project would be provided within four subterranean levels and four fully enclosed and mechanically ventilated above-grade levels, with vehicular access provided via one driveway along Hudson Avenue. Pedestrian and bicycle access to the Project Site would be provided via the commercial plaza entrance along Romaine Street.

The trip generation estimates for the Project were calculated using published rates from *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers [ITE], 2017). The application of *Trip Generation Manual, 10th Edition* rates is consistent with the study approach outlined in the Project Memorandum of Understanding (MOU), which was reviewed and approved by LADOT in April 2020. With the application of *Trip Generation Manual, 10th Edition* rates, the Project was anticipated to generate 195 net new morning peak hour trips (147 inbound, 48 outbound) and 193 net new afternoon peak hour trips (58 inbound, 135 outbound).

The Project would not result in any significant California Environmental Quality Act (CEQA) transportation impacts. The Project would be consistent with the City's adopted plans, programs, ordinances, and policies, would not exceed the Area Planning Commission (APC) thresholds for vehicle miles traveled (VMT), and would not cause any geometric design hazards. Therefore, no mitigation measures were required.

Furthermore, the non-CEQA operational evaluation concluded that the Project would not result in adverse increases in delay or queuing. Thus, no corrective measures were required.

REFINED PROJECT DESIGN

The Project development program was refined to adjust the square footage of the Project components. This refinement consists of 136,842 sf of office uses (an increase of 842 sf from the original design), 2,464 sf of retail uses (an increase of 264 sf from the original design), and 11,152 sf of restaurant uses (a decrease of 1,048 sf from the original design) (Refined Project Design). Vehicle parking would be provided within four subterranean parking levels, one at-grade level, and three fully enclosed and mechanically ventilated above-grade parking levels. Pedestrian and bicycle access to the Project Site would continue to be provided via the commercial plaza entrance along Romaine Street. Consistent with the Approved Transportation Assessment, the full buildout of the Refined Project Design is continued to be anticipated in Year 2025.

CEQA ANALYSIS OF TRANSPORTATION IMPACTS

The Refined Project Design was evaluated for potential significant CEQA impacts consistent with the methodologies presented in the Approved Transportation Assessment.

Threshold T-1: Conflicting with Plans, Programs, Ordinances, Or Policies Analysis

Threshold T-1 assesses whether a project would conflict with an adopted program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities.

Consistent with the original Project design, the Refined Project Design would include the same uses and be designed to conform with the applicable programs, plans, ordinances, or policies identified in Table 2-1.1 of the TAG related to the circulation system, including transit, roadways, bicycles, and pedestrian facilities. Furthermore, the Refined Project Design would not preclude the City from implementing future improvements to serve the long-term mobility needs of the City.

Therefore, the Refined Project Design would not result in a significant impact under Threshold T-1.

Cumulatively, each of the Related Projects considered in the analysis would be separately reviewed and approved by the City and would be individually responsible for complying with relevant plans, programs, ordinances, or policies addressing the circulation system. Therefore, consistent with the Project, the Refined Project Design, together with the Related Projects within 0.50 miles of the Project Site, would not result in a cumulative impact that would preclude the City from serving the transportation needs as defined by the City's adopted programs, plans, ordinances, or policies. The Refined Project Design and the Related Projects would not interfere with any of the general policy recommendations and/or pilot proposals, and, therefore, there would be no significant Project impact or cumulative impact.

Threshold T-2.1: Causing Substantial VMT Analysis

The VMT analysis for the Refined Project Design was evaluated using *City of Los Angeles VMT Calculator Version 1.3* (LADOT, July 2020) (VMT Calculator), consistent with the Approved Transportation Analysis. The VMT analysis presented below reflects estimates of daily work VMT per employee for the Project. Consistent with the Approved Transportation Assessment, the latest TAG identifies a significant impact criterion of 7.6 work VMT per employee for the Central APC.

Refined Project Design VMT. The VMT Calculator was modeled with the Project's refined land use and density as the primary inputs. The Refined Project Design does not include residential units and, therefore, consistent with the Project with the original design, the Refined Project Design would not generate household VMT per capita and would not result in a significant household VMT impact.

In addition, the Refined Project Design's new total retail and restaurant use is less than 50,000 sf. Therefore, per the TAG, the total retail and restaurant uses are considered local-serving and, thus, have a negligible impact on regional VMT and a "no impact" determination can be made. However, to provide a more conservative work VMT analysis, the retail and restaurant uses were considered in the work VMT analysis below as it is a component of the larger office development.

Consistent with the Approved Transportation Assessment, the VMT evaluation for the Refined Project Design accounted for the following transportation demand management (TDM) strategies inherent to the Project design that help reduce the number of single occupancy vehicle trips:

- Reduce parking supply to provide less parking than the direct Los Angeles Municipal Code (LAMC) requirement without consideration of additional parking reduction mechanisms (i.e., Bicycle Parking Ordinance or Enterprise Zone areas, etc.)
- Parking cash-out to offer employees the opportunity to "cash-out" the monthly value of their currently free or subsidized parking space
- Promotions and marketing to educate and inform travelers about site-specific transportation options and the effects of travel choices

- Bike parking per LAMC, including short-term and long-term parking facilities, to support safe and comfortable bicycle travel
- Include secure bike parking and showers to support safe and comfortable bicycle travel by providing end-of-trip amenities
- Pedestrian network improvements within the Project site and connecting to off-site pedestrian facilities to encourage walking

As summarized in Table 1, with the application of the above TDM strategies, the VMT Calculator estimates that the Refined Project Design would generate 4,468 daily work VMT. Thus, the Refined Project Design would generate average work VMT per employee of 7.5 and would not exceed the Central Los Angeles APC significant work VMT impact threshold of 7.6. Therefore, the Refined Project Design would not result in a significant VMT impact, and no mitigation measures are required. The detailed output from the VMT Calculator is provided in Attachment A.

Cumulative VMT Analysis. As detailed in the TAG, for projects that do not demonstrate a project impact by applying an efficiency-based impact threshold (i.e., household VMT per capita, work VMT per employee) in the project impact analysis, a less than significant impact conclusion is sufficient in demonstrating there is no cumulative VMT impact, as those projects are already shown to align with the long-term VMT and greenhouse gas goals of *Connect SoCal – The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy* (Southern California Association of Governments, Adopted September 2020) (RTP/SCS). The Refined Project Design would not result in a significant VMT impact, as detailed above. Therefore, consistent with the Project, the Refined Project Design would result in a less than significant cumulative VMT impact under Threshold 2.1-1. Furthermore, the Refined Project Design would further reduce single occupancy trips to the Project Site through design features that encourage a variety of transportation options. The Refined Project Design would also contribute to the productivity and use of the regional transportation system by providing employment near transit, consistent with the RTP/SCS goal of maximizing mobility and accessibility in the region.

Threshold T-2.2: Substantially Inducing Additional Automobile Travel Analysis

The intent of Threshold T-2.2 is to assess whether a transportation project would induce substantial VMT by increasing vehicular capacity on the roadway network, such as the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges.

Consistent with the Project as originally designed, the Refined Project Design is not a transportation project that would induce automobile travel. Therefore, further evaluation is not required, and the Project would not result in a significant impact under Threshold T-2.2.

Threshold T-3: Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use Analysis

Threshold T-3 requires that a project undergo further evaluation if it proposes new driveways or new vehicle access points to the property from the public right-of-way (ROW) or modifications along the public ROW (i.e., street dedications) to determine if the geometric design features would substantially increase safety, operational, or capacity hazards.

Refined Project Design Consistency. Consistent with the Project as originally designed, vehicular access to the Project Site under the Refined Project Design would continue to be provided via one driveway on Hudson Avenue, a designated Local Street in *Mobility Plan 2035, An Element of the General Plan* (Los Angeles Department of City Planning, September 2016) (Mobility Plan). The Refined Project Design would maintain the designated roadway widths and ROW requirements as indicated in the Mobility Plan. Pedestrian and bicycle access would be provided via separate entrances along Romaine Street. No additional access points are proposed as part of the Refined Project Design, and no unusual or new obstacles are presented in the design that would be considered hazardous to motorized vehicles, non-motorized vehicles, or pedestrians.

Based on the site plan review and design assumptions, the Refined Project Design does not present any geometric design hazards related to traffic movement, mobility, or pedestrian accessibility, and is considered less than significant.

As detailed in the Approved Transportation Assessment, there are no identified Related Projects proposed with access points along the same block of the Project Site. Therefore, the Refined Project Design would not result in cumulative impacts that would substantially increase hazards due to geometric design features, including safety, operational, or capacity impacts.

NON-CEQA TRANSPORTATION ANALYSIS

A non-CEQA operational transportation analysis of the Refined Project Design was conducted for informational purposes. The analysis methodology is consistent with the Approved Transportation Assessment.

Trip Generation

As previously detailed, the Project trip generation estimates in the Approved Transportation Study were calculated using published rates from *Trip Generation Manual, 10th Edition*, consistent with the study approach outlined in the MOU. As shown in Table 2A, with the application of *Trip Generation Manual, 10th Edition* rates, the Refined Project Design is estimated to generate 191 net new morning peak hour trips (144 inbound, 47 outbound) and 189 afternoon peak hour trips (56 inbound, 133 outbound). Thus, when comparing trip generation estimates based on *Trip Generation Manual, 10th Edition* rates to the Approved Transportation Assessment, the Refined Project Design would result in fewer morning and afternoon peak hour trips.

Since the approval of the MOU and the Approved Transportation Assessment, ITE has published refined trip rates based on updated survey data in *Trip Generation Manual, 11th Edition* (2021),

which are detailed in Table 2B. To provide further information, trip generation estimates for the Refined Project Design were also developed based on rates from *Trip Generation Manual, 11th Edition*. As shown in Table 2B, applying rates from *Trip Generation Manual, 11th Edition*, the Refined Project Design would generate 230 net new morning peak hour trips (186 inbound, 44 outbound) and 223 afternoon peak hour trips (61 inbound, 162 outbound). Thus, the Refined Project Design trip generation estimates based on *Trip Generation Manual, 11th Edition* rates would result in more total morning and afternoon peak hour trips when compared to the trip estimates based on *Trip Generation Manual, 10th Edition* for the Project in the Approved Transportation Assessment. Therefore, further evaluation of operational conditions with the addition of Refined Project Design trips based on *Trip Generation Manual, 11th Edition* was conducted for informational purposes only, and is detailed below.

Operational Evaluation

In accordance with the TAG and consistent with the Approved Transportation Assessment, the intersection operational evaluation was conducted using the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016) (HCM) methodology, which was implemented using Synchro software and signal timing worksheets from the agency of jurisdiction to analyze intersection operating conditions. Intersection operations were evaluated under Existing Conditions (Year 2020) and Future Conditions (Year 2025), consistent with the operational analysis included in the Approved Transportation Assessment.

Level of service (LOS) and queuing worksheets for each scenario are provided in Attachment B.

Existing with Refined Project Design Conditions

Traffic Volumes. The Refined Project Design-only morning and afternoon peak hour traffic volumes, described above and shown in Figure 1, were added to the existing morning and afternoon peak hour traffic volumes shown in Figure 2. The resulting volumes are illustrated in Figure 3 and represent Existing with Refined Project Design Conditions.

Intersection LOS. Table 3 summarizes the weekday morning and afternoon peak hour LOS results for each of the study intersections under Existing Conditions and Existing with Refined Project Design Conditions. Consistent with the Project analysis in Approved Transportation Assessment, four of the five study intersections would operate at LOS C or better during both the morning and afternoon peak hours under Existing Conditions and Existing with Refined Project Design Conditions as shown in Table 3. The remaining intersection of Seward Street & Santa Monica Boulevard (Intersection #1), a two-way stop-controlled intersection, would operate at LOS F during both the morning and afternoon peak hours under Existing Conditions and Existing with Refined Project Design Conditions. It should be noted that the HCM Two-Way Stop Control Unsignalized methodology calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, typically on the lower volume minor street, and does not account for traffic gaps created by adjacent traffic signals that allow turn movements to proceed from the minor street.

Future with Refined Project Design Conditions

The Future Conditions analysis was updated to reflect Year 2025 conditions to correspond to the anticipated buildout year of the Refined Project Design. Consistent with the Approved Transportation Assessment, the Year 2025 future background traffic conditions account for both ambient growth and Related Projects.

Traffic Volumes. The Related Projects volumes were added to the Existing Conditions traffic volumes with ambient growth through the projected Project buildout in Year 2025 and represent the Future without Project Conditions. The Future without Project Conditions traffic volumes at the study intersections are shown in Figure 4.

The Project-only morning and afternoon peak hour traffic volumes, described above and shown in Figure 1, were added to the Future without Project morning and afternoon peak hour traffic volumes shown in Figure 4. The resulting volumes are illustrated in Figure 5 and represent Future with Refined Project Design Conditions after occupancy of the Project with the refined design in Year 2025.

Intersection LOS. Table 4 summarizes the results of the Future without Project Conditions and Future with Refined Project Design Conditions during the weekday morning and afternoon peak hours for the study intersections. Consistent with the Approved Project analysis in Approved Transportation Assessment, four of the five study intersections would operate at LOS C or better during both the morning and afternoon peak hours under Future without Project Conditions and Future with Refined Project Design Conditions as shown in Table 4. The remaining intersection of Seward Street & Santa Monica Boulevard (Intersection #1), a two-way stop-controlled intersection, would operate at LOS F during both the morning and afternoon peak hours under Future without Project Conditions and Future with Refined Project Design Conditions. As mentioned above, the HCM Two-Way Stop Control Unsignalized methodology calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, typically on the lower volume minor street, and does not account for traffic gaps created by adjacent traffic signals which allow turn movements to proceed from the minor street.

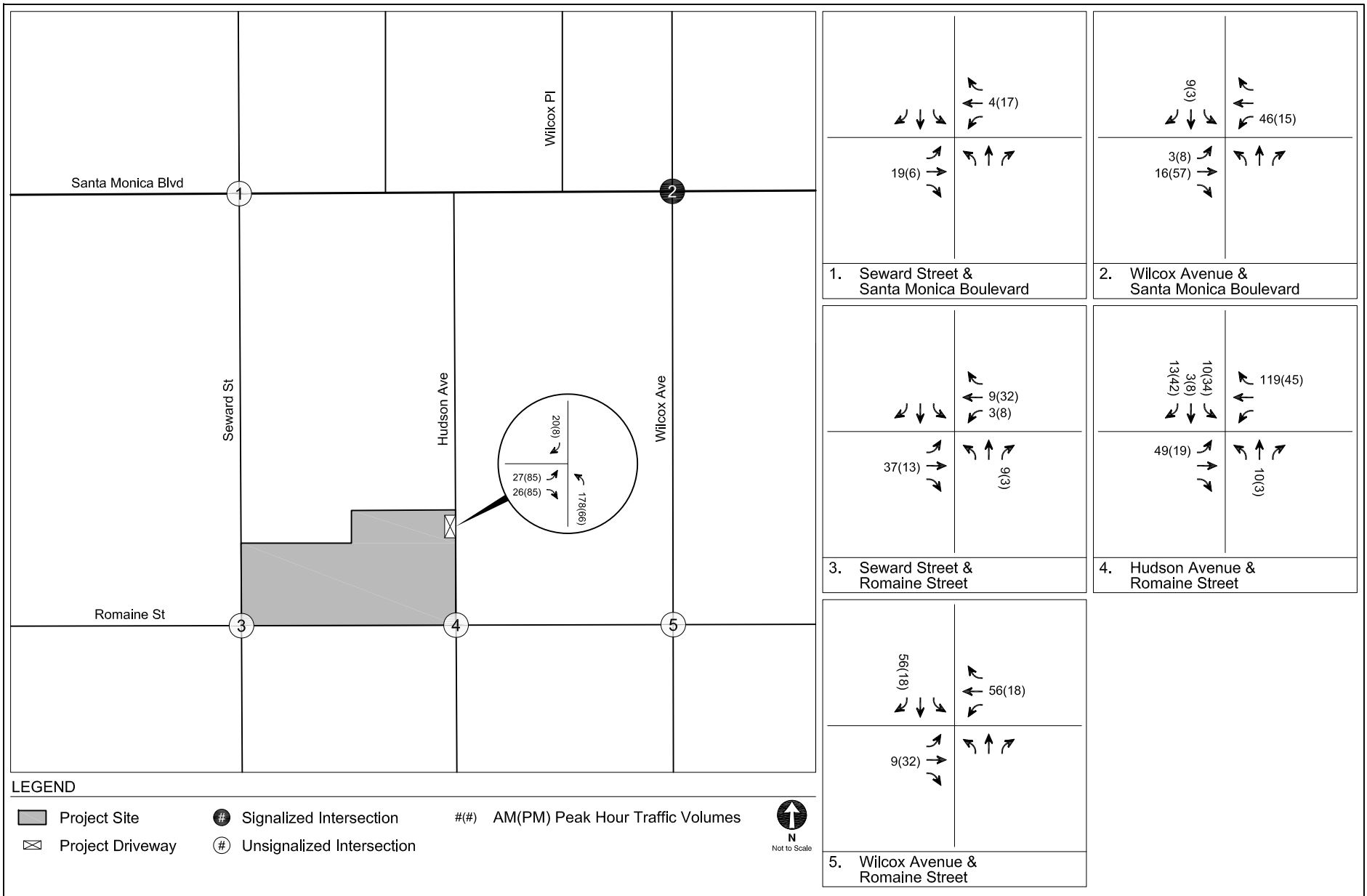
Based on LOS results shown in Table 4 and the minor street traffic volumes illustrated in Figure 5, the intersection of Seward Street & Santa Monica Boulevard (Intersection #1) likely would not meet the minimum vehicular threshold requirements set forth in Attachment I: LADOT Traffic Signal Warrants Worksheet of the TAG and *California Manual on Uniform Traffic Control Devices*, (California Department of Transportation, 2021) under Future with Refined Project Design Conditions to warrant the installation of a traffic signal. Therefore, consistent with findings of the Approved Transportation Assessment, the installation of a traffic signal at the intersection of Seward Avenue & Santa Monica Boulevard is not recommended with the Project.

CONCLUSIONS

The Refined Project Design is consistent with the City's plans, programs, ordinances, and policies and would not generate significant VMT impacts nor geometric design hazard impacts. Therefore, no mitigation measures would be required. Further operational analysis of the Refined Project Design based on *Trip Generation, 11th Edition* rates was conducted for informational purposes

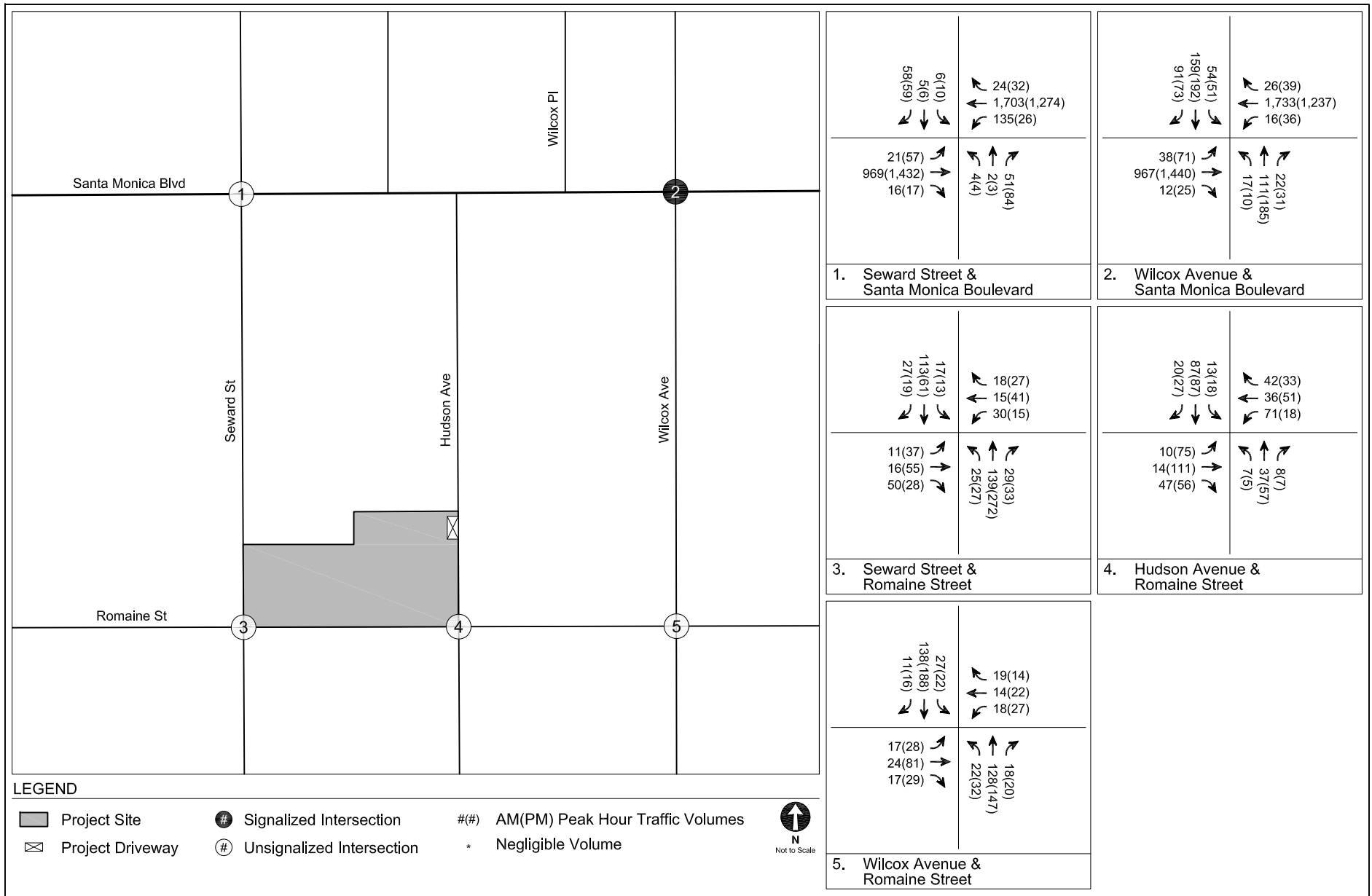
and, consistent with the Approved Project in the Approved Transportation Assessment, the Refined Project Design would not result in any adverse operational conditions that would require further improvements.

Therefore, the conclusions and findings of this analysis are consistent with the Approved Transportation Assessment.



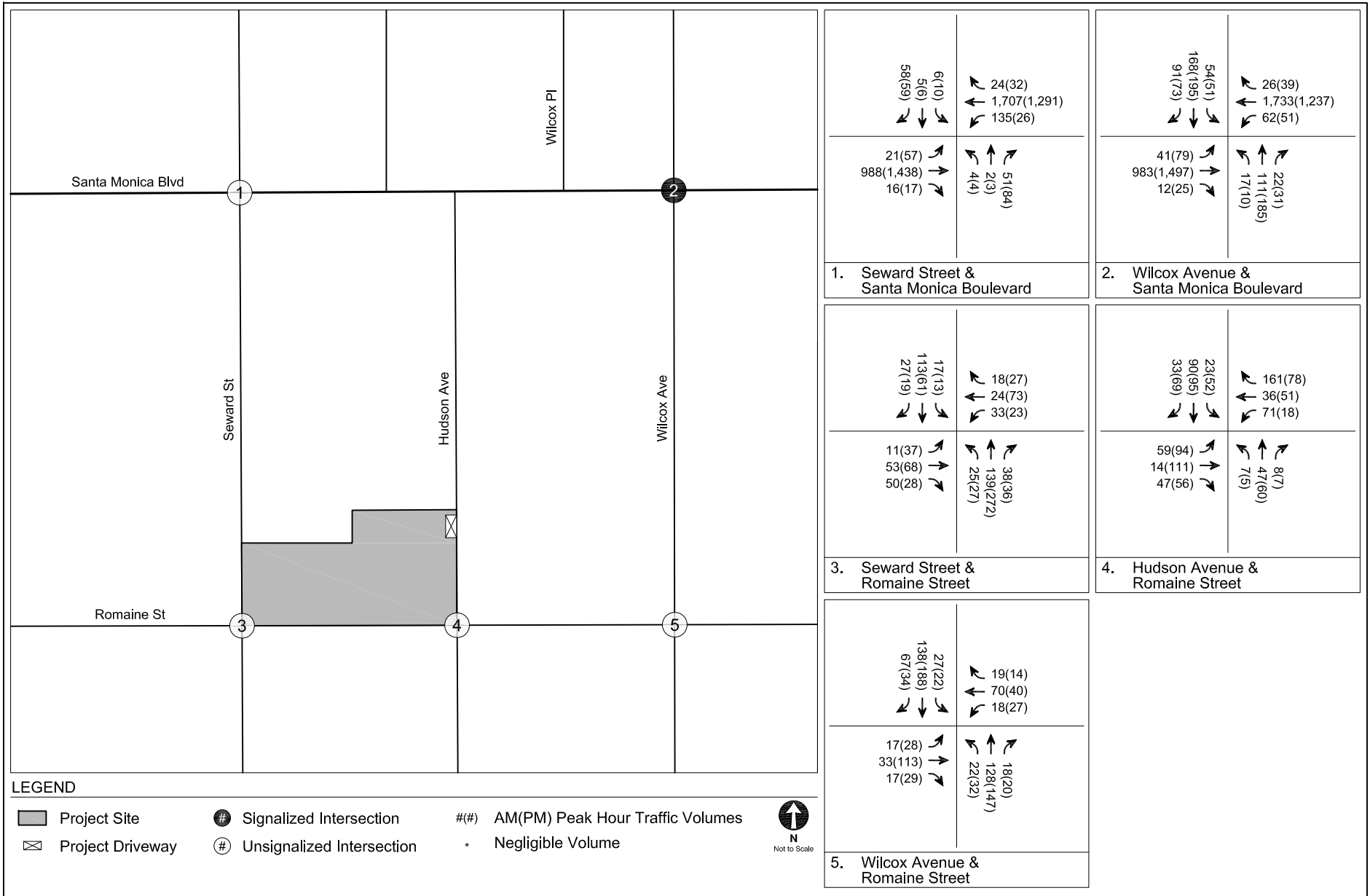
REFINED DESIGN
PEAK HOUR TRAFFIC VOLUMES

FIGURE
1



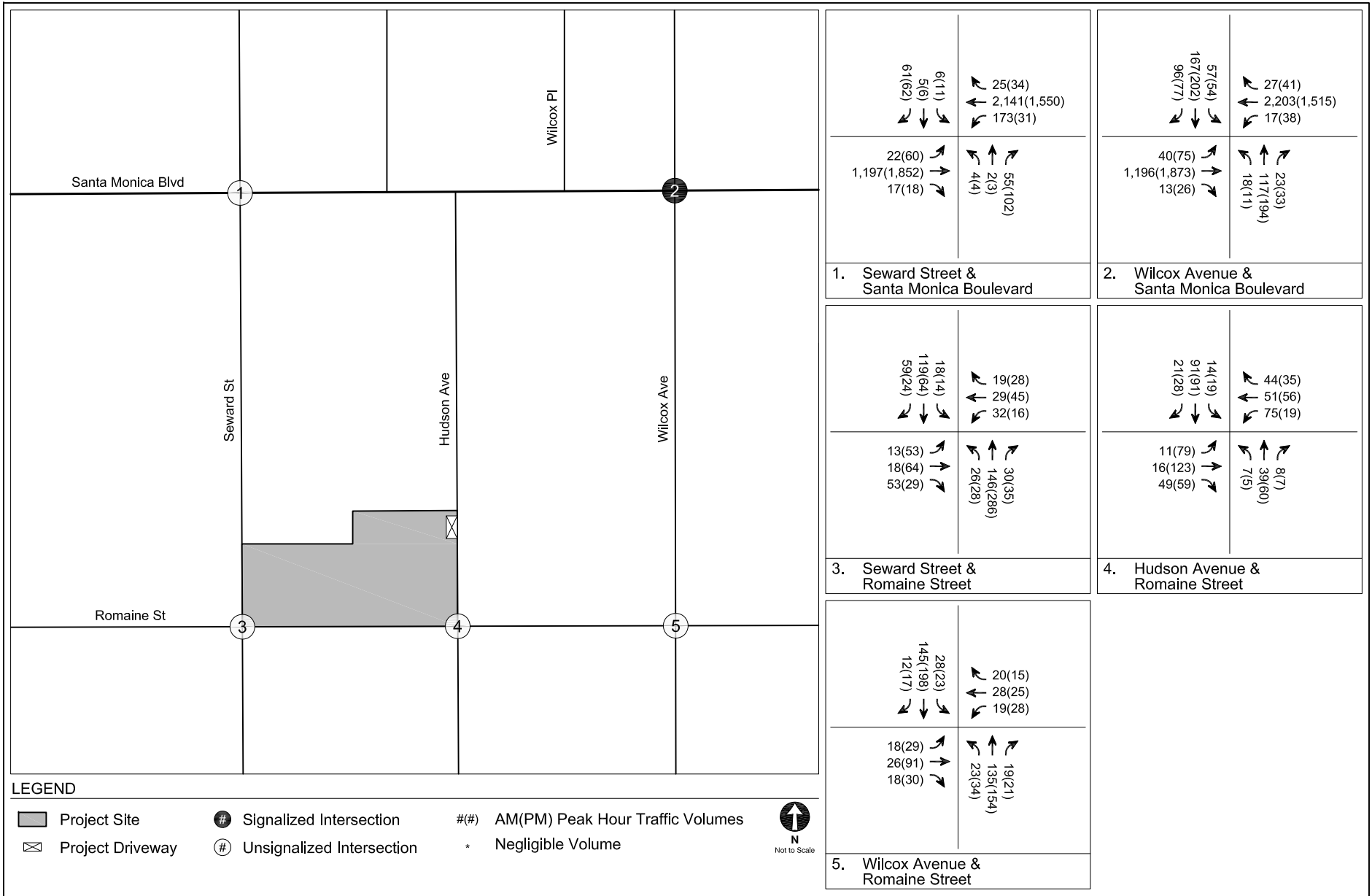
EXISTING CONDITIONS (YEAR 2020)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
2



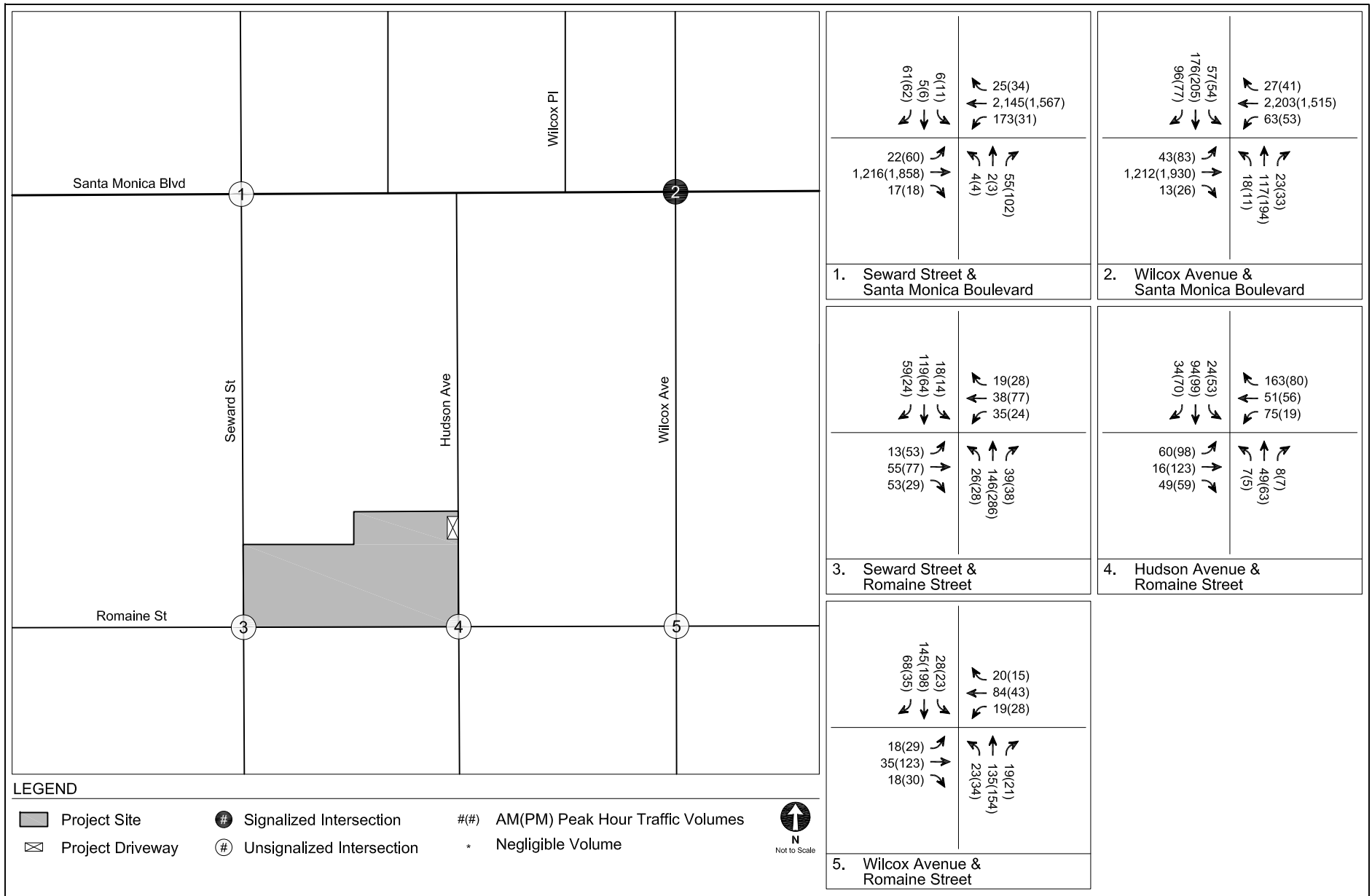
EXISTING WITH REFINED DESIGN CONDITIONS (YEAR 2020)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
3



FUTURE WITHOUT DESIGN CONDITIONS (YEAR 2025)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
4



FUTURE WITH REFINED DESIGN CONDITIONS (YEAR 2025)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
5

**TABLE 1
VMT ANALYSIS SUMMARY
REFINED PROJECT DESIGN**

Project Information	
Land Use	Size
Office General Office	136,842 sf
Retail General Retail	2,464 sf
Retail High-Turnover Sit-Down Restaurant	11,152 sf
Project Analysis [a]	
Resident Population [b]	0
Employee Population [c]	597
Project Area Planning Commission	Central
Travel Behavior Zone (TBZ)	Compact Infill
Maximum Allowable VMT Reduction [d]	40%
VMT Analysis [e]	
Daily Vehicle Trips	1,492
Daily VMT	11,350
Total Household VMT [f]	0
Household VMT per Capita	N/A
Impact Threshold	6.0
Significant Impact	-
Total Work VMT [g]	4,468
Work VMT per Employee	7.5
Impact Threshold	7.6
Significant Impact	NO

Notes:

[a] Project Analysis based on the *City of Los Angeles VMT Calculator Version 1.3* (July 2020).

[b] Total Population and Household VMT do not apply to the land uses of this Project.

[c] Total Employment estimate is based on the following employment factors:

General Office: 4.0 / 1,000 sf

General Retail: 2.0 / 1,000 sf

High-Turnover (Sit-Down) Restaurant: 4.0 / 1,000 sf

The employment factors are based on employee data from the Los Angeles Unified School District, 2012 SANDAG Activity Based Model, ITE trip generation rates, US Department of Energy, and other modeling resources.

[d] The maximum allowable VMT reduction is based on the Project's designated TBZ as determined from *Transportation Demand Management Strategies in LA VMT Calculator* (LADOT, November 2019) and *Quantifying Greenhouse Gas Mitigation Measures* (California Air Pollution Control Officers Association, 2010).

[e] Project design features include:

1. Reduce parking supply - Provide 310 spaces of base LAMC requirement of 403 spaces
2. Parking cash-out - 35% employees eligible
3. Promotions and marketing - 100% employees eligible
4. Include bike parking per LAMC
5. Include secure bike parking and showers
6. Pedestrian network improvements within project and connecting off-site

[f] Based on home-based production trips only (see Appendix C, Report 4).

[g] Based on home-based work attraction trips only (see Appendix C, Report 4).

**TABLE 2A
TRIP GENERATION ESTIMATES
REFINED PROJECT DESIGN - ITE 10TH EDITION RATES**

Land Use	ITE Land Use	Rate	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
<u>Trip Generation Rates [a]</u>								
General Office Building	710	per ksf	86%	14%	1.16	16%	84%	1.15
Shopping Center	820	per ksf	62%	38%	0.94	48%	52%	3.81
High-Turnover (Sit-Down) Restaurant	932	per ksf	55%	45%	9.94	62%	38%	9.77
<u>Refined Project Design</u>								
Office <i>Transit/Walk Adjustment - 10% [b]</i>	710	136.842 ksf	137 (14)	22 (2)	159 (16)	25 (3)	132 (13)	157 (16)
Subtotal - Office			123	20	143	22	119	141
Commercial - Retail <i>Internal Capture Adjustment - 10% [c]</i> <i>Transit/Walk Adjustment - 10% [b]</i> <i>Pass-by Adjustment - 50% [d]</i>	820	2.464 ksf	1 0 0 (1)	1 0 0 (1)	2 0 0 (1)	4 0 0 (2)	5 (1) 0 (2)	9 (1) (1) (4)
Commercial - Restaurant <i>Internal Capture Adjustment - 10% [c]</i> <i>Transit/Walk Adjustment - 10% [b]</i> <i>Pass-by Adjustment - 20% [d]</i>	932	11.152 ksf	61 (6) (6) (10)	50 (5) (5) (8)	111 (11) (10) (18)	68 (7) (6) (11)	41 (4) (4) (7)	109 (11) (10) (18)
Subtotal - Commercial			39	34	73	46	27	73
TOTAL REFINED PROJECT DESIGN TRIPS			162	54	216	68	146	214
<u>Existing Uses to be Removed</u>								
Office <i>Transit/Walk Adjustment - 10% [b]</i>	710	8.442 ksf	9 (1)	1 0	10 (1)	2 0	8 (1)	10 (1)
Commercial - Restaurant <i>Internal Capture Adjustment - 10% [c]</i> <i>Transit/Walk Adjustment - 10% [b]</i> <i>Pass-by Adjustment - 20% [d]</i>	932	2.551 ksf	14 (1) (1) (2)	11 (2) (1) (2)	25 (3) (2) (4)	16 (2) (1) (3)	9 (1) (1) (1)	25 (3) (2) (4)
Total - Existing Uses to be Removed			(18)	(7)	(25)	(12)	(13)	(25)
NET NEW REFINED PROJECT DESIGN TRIPS			144	47	191	56	133	189
NET NEW PROJECT TRIPS [e]			147	48	195	58	135	193
<i>Difference in Trips [f]</i>			(3)	(1)	(4)	(2)	(2)	(4)

Notes:

ksf: 1,000 square feet

[a] Source: *Trip Generation Manual, 10th Edition*, Institute of Transportation Engineers, 2017.

[b] The Project site is located within a 1/4 mile of a Metro Local Bus stop (Line 4) at Santa Monica Boulevard and Wilcox Avenue, therefore a 10% transit adjustment was applied to account for transit usage and walking visitor arrivals.

[c] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development (i.e., between residential and retail).

[d] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

[e] Project trips from *Transportation Assessment for the 1000 Seward Mixed-Use Development Project* (GTC, July 2021), which was reviewed and approved by LADOT in *Transportation Assessment for the Proposed Mixed-Use Project Located at 1000 North Seward Street* (August 2021).

[f] Difference in Trips = Net New Project Trips - Net New Refined Project Design Trips

**TABLE 2B
TRIP GENERATION ESTIMATES
REFINED PROJECT DESIGN - ITE 11TH EDITION RATES**

Land Use	ITE Land Use	Rate	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
<u>Trip Generation Rates [a]</u>								
General Office Building	710	per ksf	88%	12%	1.52	17%	83%	1.44
Strip Retail Plaza (<40k)	822	per ksf	60%	40%	2.36	50%	50%	6.59
High-Turnover (Sit-Down) Restaurant	932	per ksf	55%	45%	9.57	61%	39%	9.05
<u>Refined Project Design</u>								
Office <i>Transit/Walk Adjustment - 10% [b]</i>	710	136.842 ksf	183 (18)	25 (3)	208 (21)	33 (3)	164 (17)	197 (20)
Subtotal - Office			165	22	187	30	147	177
Commercial - Retail <i>Internal Capture Adjustment - 10% [c]</i> <i>Transit/Walk Adjustment - 10% [b]</i> <i>Pass-by Adjustment - 50% [d]</i>	822	2.464 ksf	4 0 0 (2)	2 (1) 0 (1)	6 (1) (1) (2)	8 (1) (1) (3)	8 (1) (1) (3)	16 (2) (1) (7)
Commercial - Restaurant <i>Internal Capture Adjustment - 10% [c]</i> <i>Transit/Walk Adjustment - 10% [b]</i> <i>Pass-by Adjustment - 20% [d]</i>	932	11.152 ksf	59 (6) (5) (10)	48 (5) (4) (8)	107 (11) (10) (17)	62 (6) (6) (10)	39 (4) (4) (6)	101 (10) (9) (16)
Subtotal - Commercial			40	31	71	43	29	72
TOTAL REFINED PROJECT DESIGN TRIPS			205	53	258	73	176	249
<u>Existing Uses to be Removed</u>								
Office <i>Transit/Walk Adjustment - 10% [b]</i>	710	8.442 ksf	11 (1)	2 0	13 (1)	2 0	10 (1)	12 (1)
Commercial - Restaurant <i>Internal Capture Adjustment - 10% [c]</i> <i>Transit/Walk Adjustment - 10% [b]</i> <i>Pass-by Adjustment - 20% [d]</i>	932	2.551 ksf	13 (1) (1) (2)	11 (1) (1) (2)	24 (2) (2) (4)	14 (1) (1) (2)	9 (1) (1) (2)	23 (2) (2) (4)
Total - Existing Uses to be Removed			(19)	(9)	(28)	(12)	(14)	(26)
NET NEW REFINED PROJECT DESIGN TRIPS			186	44	230	61	162	223
NET NEW PROJECT TRIPS [e]			147	48	195	58	135	193
<i>Difference in Trips [f]</i>			39	(4)	35	3	27	30

Notes:
ksf: 1,000 square feet
[a] Source: *Trip Generation Manual, 11th Edition*, Institute of Transportation Engineers, 2021.
[b] The Project site is located within a 1/4 mile of a Metro Local Bus stop (Line 4) at Santa Monica Boulevard and Wilcox Avenue, therefore a 10% transit adjustment was applied to account for transit usage and walking visitor arrivals.
[c] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development (i.e., between residential and retail).
[d] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.
[e] Project trips from *Transportation Assessment for the 1000 Seward Mixed-Use Development Project* (GTC, July 2021), which was reviewed and approved by LADOT in *Transportation Assessment for the Proposed Mixed-Use Project Located at 1000 North Seward Street* (August 2021), and are based on *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017).
[f] Difference in Trips = Net New Project Trips - Net New Refined Project Design Trips

**TABLE 3
EXISTING CONDITIONS (YEAR 2020)
INTERSECTION LEVELS OF SERVICE
REFINED PROJECT DESIGN**

No	Intersection	Peak Hour	Existing Conditions		Existing with Refined Project Design Conditions	
			Delay	LOS	Delay	LOS
1.	Seward Street &	AM	--	F	--	F
[a]	Santa Monica Boulevard	PM	--	F	--	F
2.	Wilcox Avenue &	AM	19.4	B	18.7	B
[b]	Santa Monica Boulevard	PM	17.8	B	17.8	B
3.	Seward Street &	AM	8.7	A	9.0	A
[c]	Romaine Street	PM	10.3	B	10.7	B
4.	Hudson Avenue &	AM	12.4	B	15.8	C
[a]	Romaine Street	PM	14.7	B	18.9	C
5.	Wilcox Avenue &	AM	8.6	A	9.2	A
[c]	Romaine Street	PM	9.7	A	10.2	B

Notes:

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Synchro 11

[a] Intersection analysis based on the HCM 6th Edition Two-Way Stop Control Unsignalized methodology, which calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, and does not account for traffic gaps created by adjacent traffic signals.

[b] Intersection analysis based on HCM 6th Edition Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection.

[c] Intersection analysis based on HCM 6th Edition All-Way Stop Control Unsignalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through an intersection.

**TABLE 4
FUTURE CONDITIONS (YEAR 2025)
INTERSECTION LEVELS OF SERVICE
REFINED PROJECT DESIGN**

No	Intersection	Peak Hour	Future without Project Conditions		Future with Refined Project Design Conditions	
			Delay	LOS	Delay	LOS
1.	Seward Street &	AM	--	F	--	F
[a]	Santa Monica Boulevard	PM	--	F	--	F
2.	Wilcox Avenue &	AM	30.2	C	29.3	C
[b]	Santa Monica Boulevard	PM	22.9	C	23.3	C
3.	Seward Street &	AM	9.0	A	9.4	A
[c]	Romaine Street	PM	10.8	B	11.5	B
4.	Hudson Avenue &	AM	12.9	B	16.9	C
[a]	Romaine Street	PM	15.6	C	20.9	C
5.	Wilcox Avenue &	AM	8.8	A	9.5	A
[c]	Romaine Street	PM	10.0	A	10.7	B

Notes:

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Synchro 11

[a] Intersection analysis based on the HCM 6th Edition Two-Way Stop Control Unsignalized methodology, which calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, and does not account for traffic gaps created by adjacent traffic signals.

[b] Intersection analysis based on HCM 6th Edition Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection.

[c] Intersection analysis based on HCM 6th Edition All-Way Stop Control Unsignalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through an intersection.

Attachment A
VMT Calculator Worksheets

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3



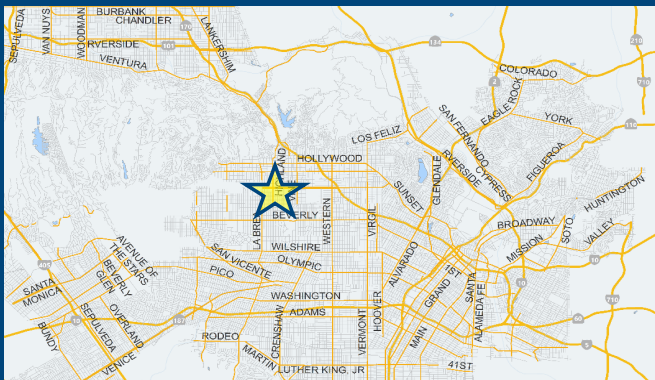
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project:

Scenario:

Address:



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit

Yes No

Existing Land Use

Land Use Type	Value	Unit
Office General Office	8.442	ksf
Retail High-Turnover Sit-Down Restaurant	2.551	ksf
Office General Office	8.442	ksf

[Click here to add a single custom land use type \(will be included in the above list\)](#)

Proposed Project Land Use

Land Use Type	Value	Unit
Office General Office	136.842	ksf
Retail General Retail	2.464	ksf
Retail High-Turnover Sit-Down Restaurant	11.152	ksf
Office General Office	136.842	ksf

[Click here to add a single custom land use type \(will be included in the above list\)](#)

Project Screening Summary

Existing Land Use	Proposed
223 Daily Vehicle Trips	1,841 Daily Vehicle Trips
1,638 Daily VMT	14,034 Daily VMT
Tier 1 Screening Criteria	
Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. <input type="checkbox"/>	
Tier 2 Screening Criteria	
The net increase in daily trips < 250 trips	1,618 Net Daily Trips
The net increase in daily VMT ≤ 0	12,396 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	13,616 ksf
The proposed project is required to perform VMT analysis.	

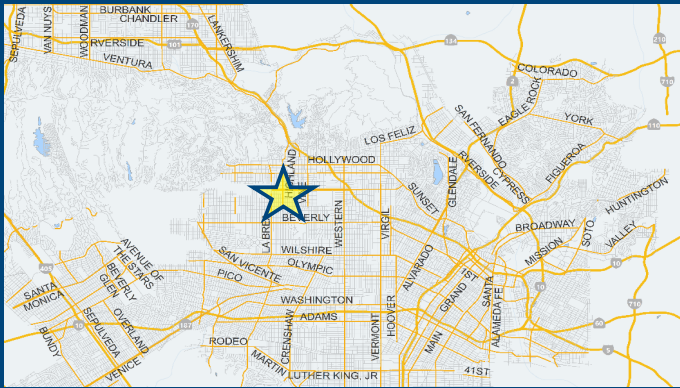


CITY OF LOS ANGELES VMT CALCULATOR Version 1.3



Project Information

Project: J1780 - 100 Seward
 Scenario: Refined Project Design
 Address: 6565 W ROMAINE ST, 90038



TDM Strategies

Select each section to show individual strategies
 Use to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	No	No
Max Work Based TDM Achieved?	No	No
A Parking	<input type="checkbox"/>	<input type="checkbox"/>
B Transit	<input type="checkbox"/>	<input type="checkbox"/>
C Education & Encouragement	<input type="checkbox"/>	<input type="checkbox"/>
D Commute Trip Reductions	<input type="checkbox"/>	<input type="checkbox"/>
E Shared Mobility	<input type="checkbox"/>	<input type="checkbox"/>
F Bicycle Infrastructure	<input type="checkbox"/>	<input type="checkbox"/>
G Neighborhood Enhancement	<input type="checkbox"/>	<input type="checkbox"/>
Traffic Calming Improvements	<input type="checkbox"/> Proposed Prj <input type="checkbox"/> Mitigation 25 percent of streets within project with traffic calming improvements 25 percent of intersections within project with traffic calming improvements	
Pedestrian Network Improvements	<input checked="" type="checkbox"/> Proposed Prj <input type="checkbox"/> Mitigation within project and connecting off-site	

Analysis Results

Proposed Project	With
1,492 Daily Vehicle Trips	1,492 Daily Vehicle Trips
11,350 Daily VMT	11,350 Daily VMT
0.0 Household VMT per Capita	0.0 Household VMT
7.5 Work VMT per Employee	7.5 Work VMT per Employee

Proposed Project Land Use Type	Value	Unit
Retail General Retail	2.464	ksf
Retail High-Turnover Sit-Down Restaurant	11.152	ksf
Office General Office	136.842	ksf

Significant VMT Impact?

Household: No Threshold = 6.0 15% Below APC	Household: No Threshold = 6.0 15% Below APC
Work: No Threshold = 7.6 15% Below APC	Work: No Threshold = 7.6 15% Below APC



CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: November 15, 2022

Project Name: J1780 - 100 Seward

Project Scenario: Refined Project Design

Project Address: 6565 W ROMAINE ST, 90038



Version 1.3

Project Information			
Land Use Type		Value	Units
Housing	Single Family	0	DU
	Multi Family	0	DU
	Townhouse	0	DU
	Hotel	0	Rooms
	Motel	0	Rooms
Affordable Housing	Family	0	DU
	Senior	0	DU
	Special Needs	0	DU
	Permanent Supportive	0	DU
Retail	General Retail	2.464	ksf
	Furniture Store	0.000	ksf
	Pharmacy/Drugstore	0.000	ksf
	Supermarket	0.000	ksf
	Bank	0.000	ksf
	Health Club	0.000	ksf
	High-Turnover Sit-Down Restaurant	11.152	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	0.000	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
	Office	General Office	136.842
Medical Office		0.000	ksf
Industrial	Light Industrial	0.000	ksf
	Manufacturing	0.000	ksf
	Warehousing/Self-Storage	0.000	ksf
School	University	0	Students
	High School	0	Students
	Middle School	0	Students
	Elementary	0	Students
	Private School (K-12)	0	Students
Other		0	Trips

Analysis Results			
Total Employees: 597			
Total Population: 0			
Proposed Project		With Mitigation	
1,492	Daily Vehicle Trips	1,492	Daily Vehicle Trips
11,350	Daily VMT	11,350	Daily VMT
0	Household VMT per Capita	0	Household VMT per Capita
7.5	Work VMT per Employee	7.5	Work VMT per Employee
Significant VMT Impact?			
APC: Central			
Impact Threshold: 15% Below APC Average			
Household = 6.0			
Work = 7.6			
Proposed Project		With Mitigation	
VMT Threshold	Impact	VMT Threshold	Impact
Household > 6.0	No	Household > 6.0	No
Work > 7.6	No	Work > 7.6	No



TDM Strategy Inputs				
Strategy Type	Description	Proposed Project	Mitigations	
Parking	Reduce parking supply	City code parking provision (spaces)	396	396
		Actual parking provision (spaces)	301	301
	Unbundle parking	Monthly cost for parking (\$) (\$)	\$0	\$0
	Parking cash-out	Employees eligible (%)	35%	35%
	Price workplace parking	Daily parking charge (\$) (\$)	\$0.00	\$0.00
		Employees subject to priced parking (%)	0%	0%
		Residential area parking permits	Cost of annual permit (\$) (\$)	\$0
(cont. on following page)				

TDM Strategy Inputs, Cont.				
Strategy Type	Description	Proposed Project	Mitigations	
Transit	Reduce transit headways	Reduction in headways (increase in frequency) (%)	0%	0%
		Existing transit mode share (as a percent of total daily trips) (%)	0%	0%
		Lines within project site improved (<50%, >=50%)	0	0
	Implement neighborhood shuttle	Degree of implementation (low, medium, high)	0	0
		Employees and residents eligible (%)	0%	0%
	Transit subsidies	Employees and residents eligible (%)	0%	0%
	Amount of transit subsidy per passenger (daily equivalent) (\$) (\$)	\$0.00	\$0.00	
Education & Encouragement	Voluntary travel behavior change program	Employees and residents participating (%)	0%	0%
	Promotions and marketing	Employees and residents participating (%)	100%	100%
(cont. on following page)				

TDM Strategy Inputs, Cont.					
Strategy Type	Description	Proposed Project	Mitigations		
Commuter Trip Reductions	Required commute trip reduction program	Employees participating (%)	0%	0%	
		Type of program	0	0	
	Alternative Work Schedules and Telecommute	Degree of implementation (low, medium, high)	0	0	
		Employer sponsored vanpool or shuttle	Employees eligible (%)	0%	0%
			Employer size (small, medium, large)	0	0
	Ride-share program	Employees eligible (%)	0%	0%	
Shared Mobility	Car share	Car share project setting (Urban, Suburban, All Other)	0	0	
	Bike share	Within 600 feet of existing bike share station - Or - implementing new bike share station (Yes/No)	0	0	
	School carpool program	Level of implementation (Low, Medium, High)	0	0	
(cont. on following page)					

TDM Strategy Inputs, Cont.				
Strategy Type	Description	Proposed Project	Mitigations	
Bicycle Infrastructure	Implements/improve on-street bicycle facility	Provide bicycle facility along site (Yes/No)	0	0
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	Includes indoor bike parking/lockers, showers, & repair station (Yes/No)	Yes	Yes
Neighborhood Enhancement	Traffic calming improvements	Streets with traffic calming improvements (%)	0%	0%
		Intersections with traffic calming improvements (%)	0%	0%
	Pedestrian network improvements	Included (within project and connecting off-site/within project only)	within project and connecting off-site	within project and connecting off-site



Report 3: TDM Outputs

TDM Adjustments by Trip Purpose & Strategy

Place type: Compact Infill

		Home Based Work Production		Home Based Work Attraction		Home Based Other Production		Home Based Other Attraction		Non-Home Based Other Production		Non-Home Based Other Attraction		Source
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
		Parking	Reduce parking supply	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	3%	3%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	0%	
Commuter Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Compact Infill

		Home Based Work Production		Home Based Work Attraction		Home Based Other Production		Home Based Other Attraction		Non-Home Based Other Production		Non-Home Based Other Attraction		Source
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
		Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
Neighborhood Enhancement	Traffic calming improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	

Final Combined & Maximum TDM Effect

	Home Based Work Production		Home Based Work Attraction		Home Based Other Production		Home Based Other Attraction		Non-Home Based Other Production		Non-Home Based Other Attraction	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
	COMBINED TOTAL	18%	18%	20%	20%	18%	18%	18%	18%	18%	18%	18%
MAX. TDM EFFECT	18%	18%	20%	20%	18%	18%	18%	18%	18%	18%	18%	18%

$$= \text{Minimum } (X\%, 1 - [(1-A) * (1-B)...])$$

where X%=

PLACE	urban	75%
PLACE TYPE MAX:	compact infill	40%
	suburban center	20%
	suburban	15%

Note: (1-[(1-A)*(1-B)...]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,...). See the TDM Strategy Appendix (Transportation Assessment Guidelines Attachment G) for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: November 15, 2022

Project Name: J1780 - 100 Seward

Project Scenario: Refined Project Design

Project Address: 6565 W ROMAINE ST, 90038



Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	7.1	0	0
Home Based Other Production	0	0.0%	0	4.7	0	0
Non-Home Based Other Production	408	-5.4%	386	7.5	3,060	2,895
Home-Based Work Attraction	866	-27.9%	624	9.0	7,794	5,616
Home-Based Other Attraction	884	-49.7%	445	6.6	5,834	2,937
Non-Home Based Other Attraction	408	-5.4%	386	6.7	2,734	2,586

MXD Methodology with TDM Measures

	<i>Proposed Project</i>			<i>Project with Mitigation Measures</i>		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-18.2%	0	0	-18.2%	0	0
Home Based Other Production	-18.2%	0	0	-18.2%	0	0
Non-Home Based Other Production	-18.2%	316	2,367	-18.2%	316	2,367
Home-Based Work Attraction	-20.4%	496	4,468	-20.4%	496	4,468
Home-Based Other Attraction	-18.2%	364	2,401	-18.2%	364	2,401
Non-Home Based Other Attraction	-18.2%	316	2,114	-18.2%	316	2,114

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0

Total Employees: 597

APC: Central

	<i>Proposed Project</i>	<i>Project with Mitigation Measures</i>
<i>Total Home Based Production VMT</i>	0	0
<i>Total Home Based Work Attraction VMT</i>	4,468	4,468
<i>Total Home Based VMT Per Capita</i>	0.0	0.0
<i>Total Work Based VMT Per Employee</i>	7.5	7.5

**TABLE A-1
VEHICLE PARKING CODE REQUIREMENTS**

REFINED PROJECT DESIGN SUMMARY	
Total Base Code Parking Requirement [a]	396
Total Code Parking Requirement with Allowable Reductions [b]	301

BASE CITY CODE PARKING REQUIREMENT [a]			
Land Use	Size	Parking Rate	Total Spaces
Office	136,842 sf	2.00 sp / 1,000 sf	274
Restaurant and Bars, General	11,152 sf	10.00 sp / 1,000 sf	112
Retail Stores, General	2,464 sf	4.00 sp / 1,000 sf	10
Total			396

CODE PARKING REQUIREMENT WITH ALLOWABLE REDUCTIONS [b]			
Land Use	Size	Parking Rate [a]	Total Spaces
Office	136,842 sf	2.00 sp / 1,000 sf	274
Retail	2,464 sf	2.00 sp / 1,000 sf	5
Restaurant	11,152 sf	2.00 sp / 1,000 sf	22
Total			301

Notes:

[a] Parking rates per LAMC Section 12.21. A4(x)(3).

[b] Parking rates for Los Angeles - Hollywood State Enterprise Zone (SEZ) exception for commercial uses per LAMC Section 12.21.A4(x)(3)

Attachment B
LOS Worksheets

HCM 6th TWSC
1: Seward St & Santa Monica Blvd

06/08/2020

Intersection												
Int Delay, s/veh	12.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕		↵	↕			↕	↕		↕	↕
Traffic Vol, veh/h	21	969	16	135	1703	24	4	2	51	6	5	58
Future Vol, veh/h	21	969	16	135	1703	24	4	2	51	6	5	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	0	-	-	0
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	23	1053	17	147	1851	26	4	2	55	7	5	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1877	0	0	1070	0	0	2330	3279	535	2732	3274	939
Stage 1	-	-	-	-	-	-	1108	1108	-	2158	2158	-
Stage 2	-	-	-	-	-	-	1222	2171	-	574	1116	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	316	-	-	647	-	-	20	9	490	10	9	265
Stage 1	-	-	-	-	-	-	224	284	-	49	86	-
Stage 2	-	-	-	-	-	-	190	84	-	471	281	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	316	-	-	647	-	-	~ 3	6	490	~ 5	6	265
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 3	6	-	~ 5	6	-
Stage 1	-	-	-	-	-	-	208	263	-	45	66	-
Stage 2	-	-	-	-	-	-	103	65	-	384	260	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.9			208.9			\$ 333.6		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	4	490	316	-	-	647	-	-	5	265
HCM Lane V/C Ratio	1.63	0.113	0.072	-	-	0.227	-	-	2.391	0.238
HCM Control Delay (s)	\$ 1871.7	13.3	17.3	-	-	12.2	-	-	\$ 1972.3	22.8
HCM Lane LOS	F	B	C	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	1.7	0.4	0.2	-	-	0.9	-	-	2.6	0.9

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

HCM 6th Signalized Intersection Summary
 2: Wilcox Ave & Santa Monica Blvd

07/06/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Traffic Volume (veh/h)	38	967	12	16	1733	26	17	111	22	54	159	91
Future Volume (veh/h)	38	967	12	16	1733	26	17	111	22	54	159	91
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	41	1051	13	17	1884	28	18	121	24	59	173	99
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	130	2257	28	331	2250	33	70	385	71	106	258	135
Arrive On Green	0.63	0.63	0.63	0.63	0.63	0.63	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	235	3595	44	530	3584	53	96	1426	263	219	954	501
Grp Volume(v), veh/h	41	519	545	17	932	980	163	0	0	331	0	0
Grp Sat Flow(s),veh/h/ln	235	1777	1862	530	1777	1861	1785	0	0	1673	0	0
Q Serve(g_s), s	15.0	13.8	13.8	1.6	36.9	37.3	0.0	0.0	0.0	9.5	0.0	0.0
Cycle Q Clear(g_c), s	52.3	13.8	13.8	15.4	36.9	37.3	6.5	0.0	0.0	16.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.03	0.11		0.15	0.18		0.30
Lane Grp Cap(c), veh/h	130	1115	1169	331	1115	1168	526	0	0	499	0	0
V/C Ratio(X)	0.32	0.47	0.47	0.05	0.84	0.84	0.31	0.00	0.00	0.66	0.00	0.00
Avail Cap(c_a), veh/h	130	1115	1169	331	1115	1168	526	0	0	499	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.7	8.8	8.8	12.9	13.1	13.2	26.3	0.0	0.0	29.7	0.0	0.0
Incr Delay (d2), s/veh	6.2	1.4	1.3	0.3	7.4	7.3	1.5	0.0	0.0	6.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.9	7.5	7.8	0.4	18.9	19.8	4.8	0.0	0.0	10.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.0	10.2	10.1	13.2	20.5	20.5	27.9	0.0	0.0	36.5	0.0	0.0
LnGrp LOS	D	B	B	B	C	C	C	A	A	D	A	A
Approach Vol, veh/h		1105			1929			163			331	
Approach Delay, s/veh		11.3			20.4			27.9			36.5	
Approach LOS		B			C			C			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		61.0		29.0		61.0		29.0				
Change Period (Y+Rc), s		* 4.5		* 4.7		* 4.5		* 4.7				
Max Green Setting (Gmax), s		* 57		* 24		* 57		* 24				
Max Q Clear Time (g_c+I1), s		54.3		18.0		39.3		8.5				
Green Ext Time (p_c), s		1.5		1.1		13.1		0.7				

Intersection Summary

HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

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

HCM 6th AWSC
3: Seward St & Romaine St

06/08/2020

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	16	50	30	15	18	25	139	29	17	113	27
Future Vol, veh/h	11	16	50	30	15	18	25	139	29	17	113	27
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	17	54	33	16	20	27	151	32	18	123	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	8.3	9	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	14%	48%	11%
Vol Thru, %	72%	21%	24%	72%
Vol Right, %	15%	65%	29%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	193	77	63	157
LT Vol	25	11	30	17
Through Vol	139	16	15	113
RT Vol	29	50	18	27
Lane Flow Rate	210	84	68	171
Geometry Grp	1	1	1	1
Degree of Util (X)	0.257	0.105	0.092	0.21
Departure Headway (Hd)	4.415	4.515	4.815	4.44
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	814	793	743	807
Service Time	2.444	2.548	2.85	2.47
HCM Lane V/C Ratio	0.258	0.106	0.092	0.212
HCM Control Delay	9	8.1	8.3	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.4	0.3	0.8

HCM 6th TWSC
4: Hudson Ave & Romaine St

06/08/2020

Intersection												
Int Delay, s/veh	6.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	14	47	71	36	42	7	37	8	13	87	20
Future Vol, veh/h	10	14	47	71	36	42	7	37	8	13	87	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	15	51	77	39	46	8	40	9	14	95	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	85	0	0	66	0	0	338	302	41	303	304	62
Stage 1	-	-	-	-	-	-	63	63	-	216	216	-
Stage 2	-	-	-	-	-	-	275	239	-	87	88	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1512	-	-	1536	-	-	616	611	1030	649	609	1003
Stage 1	-	-	-	-	-	-	948	842	-	786	724	-
Stage 2	-	-	-	-	-	-	731	708	-	921	822	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1512	-	-	1536	-	-	503	574	1030	581	572	1003
Mov Cap-2 Maneuver	-	-	-	-	-	-	503	574	-	581	572	-
Stage 1	-	-	-	-	-	-	940	835	-	780	686	-
Stage 2	-	-	-	-	-	-	584	670	-	862	815	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			3.6			11.6			12.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	604	1512	-	-	1536	-	-	617
HCM Lane V/C Ratio	0.094	0.007	-	-	0.05	-	-	0.211
HCM Control Delay (s)	11.6	7.4	0	-	7.5	0	-	12.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.2	-	-	0.8

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	24	17	18	14	19	22	128	18	27	138	11
Future Vol, veh/h	17	24	17	18	14	19	22	128	18	27	138	11
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	26	18	20	15	21	24	139	20	29	150	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	8.1	8.7	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	29%	35%	15%
Vol Thru, %	76%	41%	27%	78%
Vol Right, %	11%	29%	37%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	168	58	51	176
LT Vol	22	17	18	27
Through Vol	128	24	14	138
RT Vol	18	17	19	11
Lane Flow Rate	183	63	55	191
Geometry Grp	1	1	1	1
Degree of Util (X)	0.223	0.083	0.072	0.234
Departure Headway (Hd)	4.387	4.725	4.699	4.409
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	820	758	762	815
Service Time	2.408	2.754	2.73	2.429
HCM Lane V/C Ratio	0.223	0.083	0.072	0.234
HCM Control Delay	8.7	8.2	8.1	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.3	0.2	0.9

HCM 6th TWSC
1: Seward St & Santa Monica Blvd

06/08/2020

Intersection												
Int Delay, s/veh	12.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗			↖	↖		↖	↖
Traffic Vol, veh/h	57	1432	17	26	1274	32	4	3	84	10	6	59
Future Vol, veh/h	57	1432	17	26	1274	32	4	3	84	10	6	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	0	-	-	0
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	62	1557	18	28	1385	35	4	3	91	11	7	64

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1420	0	0	1575	0	0	2442	3166	788	2363	3158	710
Stage 1	-	-	-	-	-	-	1690	1690	-	1459	1459	-
Stage 2	-	-	-	-	-	-	752	1476	-	904	1699	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	475	-	-	414	-	-	16	10	334	19	10	376
Stage 1	-	-	-	-	-	-	97	148	-	136	192	-
Stage 2	-	-	-	-	-	-	368	189	-	298	146	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	475	-	-	414	-	-	~ 4	8	334	~ 8	8	376
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 4	8	-	~ 8	8	-
Stage 1	-	-	-	-	-	-	84	129	-	118	179	-
Stage 2	-	-	-	-	-	-	274	176	-	184	127	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.5		0.3		137.8		\$ 318.8	
HCM LOS					F		F	

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	5	334	475	-	-	414	-	-	8	376
HCM Lane V/C Ratio	1.522	0.273	0.13	-	-	0.068	-	-	2.174	0.171
HCM Control Delay (s)	\$ 1554.3	19.8	13.7	-	-	14.3	-	-	\$ 1433.3	16.5
HCM Lane LOS	F	C	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	1.9	1.1	0.4	-	-	0.2	-	-	3.2	0.6

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

HCM 6th Signalized Intersection Summary
 2: Wilcox Ave & Santa Monica Blvd

07/06/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1440	25	36	1237	39	10	185	31	51	192	73
Future Volume (veh/h)	71	1440	25	36	1237	39	10	185	31	51	192	73
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	77	1565	27	39	1345	42	11	201	34	55	209	79
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	228	2204	38	182	2169	68	51	428	70	101	314	111
Arrive On Green	0.62	0.62	0.62	0.62	0.62	0.62	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	390	3575	62	320	3518	110	31	1524	249	196	1118	393
Grp Volume(v), veh/h	77	777	815	39	679	708	246	0	0	343	0	0
Grp Sat Flow(s),veh/h/ln	390	1777	1859	320	1777	1851	1805	0	0	1708	0	0
Q Serve(g_s), s	13.7	26.8	26.9	8.5	21.3	21.4	0.0	0.0	0.0	5.7	0.0	0.0
Cycle Q Clear(g_c), s	35.1	26.8	26.9	35.4	21.3	21.4	10.1	0.0	0.0	15.8	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.06	0.04		0.14	0.16		0.23
Lane Grp Cap(c), veh/h	228	1096	1147	182	1096	1141	549	0	0	526	0	0
V/C Ratio(X)	0.34	0.71	0.71	0.21	0.62	0.62	0.45	0.00	0.00	0.65	0.00	0.00
Avail Cap(c_a), veh/h	228	1096	1147	182	1096	1141	549	0	0	526	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.6	11.8	11.8	23.9	10.7	10.7	26.9	0.0	0.0	28.8	0.0	0.0
Incr Delay (d2), s/veh	4.0	3.9	3.8	2.7	2.6	2.5	2.6	0.0	0.0	6.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	2.6	13.8	14.3	1.4	11.1	11.5	6.9	0.0	0.0	10.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	15.6	15.5	26.6	13.3	13.3	29.5	0.0	0.0	34.9	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	C	A	A	C	A	A
Approach Vol, veh/h		1669			1426			246			343	
Approach Delay, s/veh		16.0			13.7			29.5			34.9	
Approach LOS		B			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.0		30.0		60.0		30.0				
Change Period (Y+Rc), s		* 4.5		* 4.7		* 4.5		* 4.7				
Max Green Setting (Gmax), s		* 56		* 25		* 56		* 25				
Max Q Clear Time (g_c+I1), s		37.1		17.8		37.4		12.1				
Green Ext Time (p_c), s		12.2		1.3		10.1		1.1				

Intersection Summary

HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Notes

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

HCM 6th AWSC
3: Seward St & Romaine St

06/08/2020

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	55	28	15	41	27	27	272	33	13	61	19
Future Vol, veh/h	37	55	28	15	41	27	27	272	33	13	61	19
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	60	30	16	45	29	29	296	36	14	66	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	8.8	11.5	8.6
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	31%	18%	14%
Vol Thru, %	82%	46%	49%	66%
Vol Right, %	10%	23%	33%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	332	120	83	93
LT Vol	27	37	15	13
Through Vol	272	55	41	61
RT Vol	33	28	27	19
Lane Flow Rate	361	130	90	101
Geometry Grp	1	1	1	1
Degree of Util (X)	0.458	0.183	0.126	0.135
Departure Headway (Hd)	4.565	5.053	5.032	4.816
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	787	706	706	739
Service Time	2.614	3.12	3.104	2.882
HCM Lane V/C Ratio	0.459	0.184	0.127	0.137
HCM Control Delay	11.5	9.3	8.8	8.6
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.4	0.7	0.4	0.5

HCM 6th TWSC
4: Hudson Ave & Romaine St

06/08/2020

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	75	111	56	18	51	33	5	57	7	18	87	27
Future Vol, veh/h	75	111	56	18	51	33	5	57	7	18	87	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	82	121	61	20	55	36	5	62	8	20	95	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	91	0	0	182	0	0	491	447	152	464	459	73
Stage 1	-	-	-	-	-	-	316	316	-	113	113	-
Stage 2	-	-	-	-	-	-	175	131	-	351	346	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1504	-	-	1393	-	-	488	506	894	508	499	989
Stage 1	-	-	-	-	-	-	695	655	-	892	802	-
Stage 2	-	-	-	-	-	-	827	788	-	666	635	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1504	-	-	1393	-	-	377	468	894	427	462	989
Mov Cap-2 Maneuver	-	-	-	-	-	-	377	468	-	427	462	-
Stage 1	-	-	-	-	-	-	653	615	-	838	790	-
Stage 2	-	-	-	-	-	-	696	776	-	558	596	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.3			1.3			13.8			14.7		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	483	1504	-	-	1393	-	-	512
HCM Lane V/C Ratio	0.155	0.054	-	-	0.014	-	-	0.28
HCM Control Delay (s)	13.8	7.5	0	-	7.6	0	-	14.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0	-	-	1.1

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	81	29	27	22	14	32	147	20	22	188	16
Future Vol, veh/h	28	81	29	27	22	14	32	147	20	22	188	16
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	88	32	29	24	15	35	160	22	24	204	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	8.8	9.7	10
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	20%	43%	10%
Vol Thru, %	74%	59%	35%	83%
Vol Right, %	10%	21%	22%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	199	138	63	226
LT Vol	32	28	27	22
Through Vol	147	81	22	188
RT Vol	20	29	14	16
Lane Flow Rate	216	150	68	246
Geometry Grp	1	1	1	1
Degree of Util (X)	0.285	0.209	0.099	0.322
Departure Headway (Hd)	4.751	5.022	5.181	4.721
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	751	710	685	757
Service Time	2.813	3.092	3.26	2.782
HCM Lane V/C Ratio	0.288	0.211	0.099	0.325
HCM Control Delay	9.7	9.4	8.8	10
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.2	0.8	0.3	1.4

HCM 6th TWSC
1: Seward St & Santa Monica Blvd

11/08/2022

Intersection												
Int Delay, s/veh	12.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗			↖	↖		↖	↖
Traffic Vol, veh/h	21	988	16	135	1707	24	4	2	51	6	5	58
Future Vol, veh/h	21	988	16	135	1707	24	4	2	51	6	5	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	0	-	-	0
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	23	1074	17	147	1855	26	4	2	55	7	5	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1881	0	0	1091	0	0	2353	3304	546	2746	3299	941
Stage 1	-	-	-	-	-	-	1129	1129	-	2162	2162	-
Stage 2	-	-	-	-	-	-	1224	2175	-	584	1137	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	315	-	-	635	-	-	19	8	482	9	8	264
Stage 1	-	-	-	-	-	-	217	277	-	48	85	-
Stage 2	-	-	-	-	-	-	190	84	-	465	275	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	315	-	-	635	-	-	~ 3	6	482	~ 5	6	264
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 3	6	-	~ 5	6	-
Stage 1	-	-	-	-	-	-	201	257	-	44	65	-
Stage 2	-	-	-	-	-	-	102	65	-	378	255	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.4		0.9		209		\$ 333.7	
HCM LOS					F		F	

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	4	482	315	-	-	635	-	-	5	264
HCM Lane V/C Ratio	1.63	0.115	0.072	-	-	0.231	-	-	2.391	0.239
HCM Control Delay (s)	\$ 1871.7	13.4	17.3	-	-	12.4	-	-	\$ 1972.3	22.9
HCM Lane LOS	F	B	C	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	1.7	0.4	0.2	-	-	0.9	-	-	2.6	0.9

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

HCM 6th Signalized Intersection Summary

2: Wilcox Ave & Santa Monica Blvd

11/08/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	983	12	62	1733	26	17	111	22	54	168	91
Future Volume (veh/h)	41	983	12	62	1733	26	17	111	22	54	168	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	1068	13	67	1884	28	18	121	24	59	183	99
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	136	2297	28	334	2290	34	69	369	68	103	253	126
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	235	3596	44	522	3584	53	95	1426	262	215	979	488
Grp Volume(v), veh/h	45	528	553	67	932	980	163	0	0	341	0	0
Grp Sat Flow(s),veh/h/ln	235	1777	1862	522	1777	1861	1783	0	0	1682	0	0
Q Serve(g_s), s	16.3	13.7	13.7	6.8	35.8	36.2	0.0	0.0	0.0	10.2	0.0	0.0
Cycle Q Clear(g_c), s	52.5	13.7	13.7	20.5	35.8	36.2	6.6	0.0	0.0	16.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.03	0.11		0.15	0.17		0.29
Lane Grp Cap(c), veh/h	136	1135	1190	334	1135	1189	506	0	0	482	0	0
V/C Ratio(X)	0.33	0.46	0.46	0.20	0.82	0.82	0.32	0.00	0.00	0.71	0.00	0.00
Avail Cap(c_a), veh/h	136	1135	1190	334	1135	1189	506	0	0	482	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.4	8.3	8.3	13.6	12.3	12.4	27.1	0.0	0.0	30.8	0.0	0.0
Incr Delay (d2), s/veh	6.5	1.4	1.3	1.3	6.7	6.6	1.7	0.0	0.0	8.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	2.1	7.4	7.6	1.6	18.0	18.9	4.9	0.0	0.0	10.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	9.7	9.7	15.0	19.0	19.0	28.8	0.0	0.0	39.2	0.0	0.0
LnGrp LOS	D	A	A	B	B	B	C	A	A	D	A	A
Approach Vol, veh/h		1126			1979			163			341	
Approach Delay, s/veh		10.9			18.9			28.8			39.2	
Approach LOS		B			B			C			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		62.0		28.0		62.0		28.0				
Change Period (Y+Rc), s		* 4.5		* 4.7		* 4.5		* 4.7				
Max Green Setting (Gmax), s		* 58		* 23		* 58		* 23				
Max Q Clear Time (g_c+I1), s		54.5		18.8		38.2		8.6				
Green Ext Time (p_c), s		2.1		0.8		14.8		0.7				

Intersection Summary

HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

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

HCM 6th AWSC
3: Seward St & Romaine St

11/08/2022

Intersection

Intersection Delay, s/veh 9
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	53	50	33	24	18	25	139	38	17	113	27
Future Vol, veh/h	11	53	50	33	24	18	25	139	38	17	113	27
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	58	54	36	26	20	27	151	41	18	123	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	8.6	9.3	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	10%	44%	11%
Vol Thru, %	69%	46%	32%	72%
Vol Right, %	19%	44%	24%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	202	114	75	157
LT Vol	25	11	33	17
Through Vol	139	53	24	113
RT Vol	38	50	18	27
Lane Flow Rate	220	124	82	171
Geometry Grp	1	1	1	1
Degree of Util (X)	0.277	0.162	0.112	0.218
Departure Headway (Hd)	4.538	4.692	4.933	4.599
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	788	761	723	778
Service Time	2.581	2.741	2.986	2.645
HCM Lane V/C Ratio	0.279	0.163	0.113	0.22
HCM Control Delay	9.3	8.7	8.6	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.6	0.4	0.8

HCM 6th TWSC
4: Hudson Ave & Romaine St

11/08/2022

Intersection												
Int Delay, s/veh	7.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	59	14	47	71	36	161	7	47	8	23	90	33
Future Vol, veh/h	59	14	47	71	36	161	7	47	8	23	90	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	15	51	77	39	175	8	51	9	25	98	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	214	0	0	66	0	0	517	537	41	480	475	127
Stage 1	-	-	-	-	-	-	169	169	-	281	281	-
Stage 2	-	-	-	-	-	-	348	368	-	199	194	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1356	-	-	1536	-	-	469	450	1030	496	488	923
Stage 1	-	-	-	-	-	-	833	759	-	726	678	-
Stage 2	-	-	-	-	-	-	668	621	-	803	740	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1356	-	-	1536	-	-	344	403	1030	409	437	923
Mov Cap-2 Maneuver	-	-	-	-	-	-	344	403	-	409	437	-
Stage 1	-	-	-	-	-	-	792	722	-	690	639	-
Stage 2	-	-	-	-	-	-	512	585	-	704	704	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.8	2	15	15.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	428	1356	-	-	1536	-	-	490
HCM Lane V/C Ratio	0.157	0.047	-	-	0.05	-	-	0.324
HCM Control Delay (s)	15	7.8	0	-	7.5	0	-	15.8
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.2	-	-	1.4

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	33	17	18	70	19	22	128	18	27	138	67
Future Vol, veh/h	17	33	17	18	70	19	22	128	18	27	138	67
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	36	18	20	76	21	24	139	20	29	150	73
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	9	9.1	9.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	25%	17%	12%
Vol Thru, %	76%	49%	65%	59%
Vol Right, %	11%	25%	18%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	168	67	107	232
LT Vol	22	17	18	27
Through Vol	128	33	70	138
RT Vol	18	17	19	67
Lane Flow Rate	183	73	116	252
Geometry Grp	1	1	1	1
Degree of Util (X)	0.236	0.101	0.16	0.313
Departure Headway (Hd)	4.65	4.979	4.943	4.467
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	769	715	721	802
Service Time	2.697	3.04	3.001	2.511
HCM Lane V/C Ratio	0.238	0.102	0.161	0.314
HCM Control Delay	9.1	8.6	9	9.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.3	0.6	1.3

HCM 6th TWSC
1: Seward St & Santa Monica Blvd

11/08/2022

Intersection												
Int Delay, s/veh	12.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗			↖	↖		↖	↖
Traffic Vol, veh/h	57	1438	17	26	1291	32	4	3	84	10	6	59
Future Vol, veh/h	57	1438	17	26	1291	32	4	3	84	10	6	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	0	-	-	0
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	62	1563	18	28	1403	35	4	3	91	11	7	64

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1438	0	0	1581	0	0	2457	3190	791	2384	3182	719
Stage 1	-	-	-	-	-	-	1696	1696	-	1477	1477	-
Stage 2	-	-	-	-	-	-	761	1494	-	907	1705	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	468	-	-	412	-	-	16	10	332	18	10	371
Stage 1	-	-	-	-	-	-	96	147	-	132	188	-
Stage 2	-	-	-	-	-	-	364	185	-	297	145	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	468	-	-	412	-	-	~ 4	8	332	~ 8	8	371
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 4	8	-	~ 8	8	-
Stage 1	-	-	-	-	-	-	83	128	-	115	175	-
Stage 2	-	-	-	-	-	-	270	172	-	182	126	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.5		0.3		137.9		\$ 318.9	
HCM LOS					F		F	

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	5	332	468	-	-	412	-	-	8	371
HCM Lane V/C Ratio	1.522	0.275	0.132	-	-	0.069	-	-	2.174	0.173
HCM Control Delay (s)	\$ 1554.3	19.9	13.9	-	-	14.4	-	-	\$ 1433.3	16.7
HCM Lane LOS	F	C	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	1.9	1.1	0.5	-	-	0.2	-	-	3.2	0.6

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

HCM 6th Signalized Intersection Summary
 2: Wilcox Ave & Santa Monica Blvd

11/08/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (veh/h)	79	1497	25	51	1237	39	10	185	31	51	195	73
Future Volume (veh/h)	79	1497	25	51	1237	39	10	185	31	51	195	73
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	86	1627	27	55	1345	42	11	201	34	55	212	79
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	235	2246	37	175	2208	69	50	412	68	99	304	106
Arrive On Green	0.63	0.63	0.63	0.63	0.63	0.63	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	390	3577	59	302	3518	110	32	1527	250	196	1127	391
Grp Volume(v), veh/h	86	807	847	55	679	708	246	0	0	346	0	0
Grp Sat Flow(s),veh/h/ln	390	1777	1860	302	1777	1851	1809	0	0	1714	0	0
Q Serve(g_s), s	15.4	27.9	28.0	13.7	20.7	20.8	0.0	0.0	0.0	5.9	0.0	0.0
Cycle Q Clear(g_c), s	36.1	27.9	28.0	41.7	20.7	20.8	10.2	0.0	0.0	16.2	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.06	0.04		0.14	0.16		0.23
Lane Grp Cap(c), veh/h	235	1115	1167	175	1115	1162	530	0	0	509	0	0
V/C Ratio(X)	0.37	0.72	0.73	0.31	0.61	0.61	0.46	0.00	0.00	0.68	0.00	0.00
Avail Cap(c_a), veh/h	235	1115	1167	175	1115	1162	530	0	0	509	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.0	11.4	11.4	25.7	10.1	10.1	27.7	0.0	0.0	29.7	0.0	0.0
Incr Delay (d2), s/veh	4.4	4.1	3.9	4.6	2.5	2.4	2.9	0.0	0.0	7.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	2.9	14.2	14.7	2.1	10.7	11.1	7.1	0.0	0.0	10.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	15.5	15.4	30.3	12.6	12.5	30.6	0.0	0.0	36.9	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	C	A	A	D	A	A
Approach Vol, veh/h		1740			1442			246			346	
Approach Delay, s/veh		15.9			13.2			30.6			36.9	
Approach LOS		B			B			C			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		61.0		29.0		61.0		29.0				
Change Period (Y+Rc), s		* 4.5		* 4.7		* 4.5		* 4.7				
Max Green Setting (Gmax), s		* 57		* 24		* 57		* 24				
Max Q Clear Time (g_c+I1), s		38.1		18.2		43.7		12.2				
Green Ext Time (p_c), s		12.8		1.1		8.2		1.1				

Intersection Summary

HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Notes

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

HCM 6th AWSC
3: Seward St & Romaine St

11/08/2022

Intersection

Intersection Delay, s/veh10.7

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	68	28	23	73	27	27	272	36	13	61	19
Future Vol, veh/h	37	68	28	23	73	27	27	272	36	13	61	19
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	74	30	25	79	29	29	296	39	14	66	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	9.5	12.1	8.9
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	28%	19%	14%
Vol Thru, %	81%	51%	59%	66%
Vol Right, %	11%	21%	22%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	335	133	123	93
LT Vol	27	37	23	13
Through Vol	272	68	73	61
RT Vol	36	28	27	19
Lane Flow Rate	364	145	134	101
Geometry Grp	1	1	1	1
Degree of Util (X)	0.477	0.207	0.191	0.14
Departure Headway (Hd)	4.719	5.161	5.155	5
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	757	688	689	709
Service Time	2.784	3.249	3.243	3.09
HCM Lane V/C Ratio	0.481	0.211	0.194	0.142
HCM Control Delay	12.1	9.6	9.5	8.9
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.6	0.8	0.7	0.5

HCM 6th TWSC
4: Hudson Ave & Romaine St

11/08/2022

Intersection												
Int Delay, s/veh	8.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	94	111	56	18	51	78	5	60	7	52	95	69
Future Vol, veh/h	94	111	56	18	51	78	5	60	7	52	95	69
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	102	121	61	20	55	85	5	65	8	57	103	75

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	140	0	0	182	0	0	583	536	152	530	524	98
Stage 1	-	-	-	-	-	-	356	356	-	138	138	-
Stage 2	-	-	-	-	-	-	227	180	-	392	386	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1443	-	-	1393	-	-	424	451	894	460	458	958
Stage 1	-	-	-	-	-	-	661	629	-	865	782	-
Stage 2	-	-	-	-	-	-	776	750	-	633	610	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1443	-	-	1393	-	-	294	409	894	372	415	958
Mov Cap-2 Maneuver	-	-	-	-	-	-	294	409	-	372	415	-
Stage 1	-	-	-	-	-	-	609	579	-	797	769	-
Stage 2	-	-	-	-	-	-	609	738	-	513	562	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.8			0.9			15.5			18.9		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	420	1443	-	-	1393	-	-	490
HCM Lane V/C Ratio	0.186	0.071	-	-	0.014	-	-	0.479
HCM Control Delay (s)	15.5	7.7	0	-	7.6	0	-	18.9
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0.2	-	-	0	-	-	2.6

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	113	29	27	40	14	32	147	20	22	188	34
Future Vol, veh/h	28	113	29	27	40	14	32	147	20	22	188	34
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	123	32	29	43	15	35	160	22	24	204	37
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.1	9.3	10.1	10.6
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	16%	33%	9%
Vol Thru, %	74%	66%	49%	77%
Vol Right, %	10%	17%	17%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	199	170	81	244
LT Vol	32	28	27	22
Through Vol	147	113	40	188
RT Vol	20	29	14	34
Lane Flow Rate	216	185	88	265
Geometry Grp	1	1	1	1
Degree of Util (X)	0.297	0.264	0.133	0.357
Departure Headway (Hd)	4.937	5.136	5.428	4.841
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	718	691	665	735
Service Time	3.031	3.235	3.428	2.931
HCM Lane V/C Ratio	0.301	0.268	0.132	0.361
HCM Control Delay	10.1	10.1	9.3	10.6
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.2	1.1	0.5	1.6

HCM 6th TWSC
1: Seward St & Santa Monica Blvd

06/08/2020

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗			↖	↖		↖	↖
Traffic Vol, veh/h	22	1114	17	171	2056	25	4	2	54	6	5	60
Future Vol, veh/h	22	1114	17	171	2056	25	4	2	54	6	5	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	0	-	-	0
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	24	1211	18	186	2235	27	4	2	59	7	5	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2262	0	0	1229	0	0	2760	3902	615	3276	3898	1131
Stage 1	-	-	-	-	-	-	1268	1268	-	2621	2621	-
Stage 2	-	-	-	-	-	-	1492	2634	-	655	1277	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	223	-	-	563	-	-	9	3	434	~ 4	~ 3	197
Stage 1	-	-	-	-	-	-	178	238	-	24	49	-
Stage 2	-	-	-	-	-	-	129	48	-	421	236	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	223	-	-	563	-	-	-	~ 2	434	-	~ 2	197
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 2	-	-	~ 2	-
Stage 1	-	-	-	-	-	-	159	212	-	21	33	-
Stage 2	-	-	-	-	-	-	48	32	-	322	211	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	434	223	-	-	563	-	-	-	197
HCM Lane V/C Ratio	-	0.135	0.107	-	-	0.33	-	-	-	0.331
HCM Control Delay (s)	-	14.6	23.1	-	-	14.5	-	-	-	32.1
HCM Lane LOS	-	B	C	-	-	B	-	-	-	D
HCM 95th %tile Q(veh)	-	0.5	0.4	-	-	1.4	-	-	-	1.4

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

HCM 6th Signalized Intersection Summary
 2: Wilcox Ave & Santa Monica Blvd

07/06/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	
Traffic Volume (veh/h)	40	1114	12	17	2118	27	18	116	23	56	165	95
Future Volume (veh/h)	40	1114	12	17	2118	27	18	116	23	56	165	95
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	43	1211	13	18	2302	29	20	126	25	61	179	103
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	93	2421	26	311	2416	30	68	313	58	99	216	115
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	155	3602	39	456	3594	45	103	1389	256	229	956	509
Grp Volume(v), veh/h	43	597	627	18	1136	1195	171	0	0	343	0	0
Grp Sat Flow(s),veh/h/ln	155	1777	1863	456	1777	1862	1748	0	0	1694	0	0
Q Serve(g_s), s	7.6	14.9	14.9	1.8	52.2	52.9	0.0	0.0	0.0	10.4	0.0	0.0
Cycle Q Clear(g_c), s	60.5	14.9	14.9	16.8	52.2	52.9	7.2	0.0	0.0	17.6	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.02	0.12		0.15	0.18		0.30
Lane Grp Cap(c), veh/h	93	1194	1253	311	1194	1252	439	0	0	429	0	0
V/C Ratio(X)	0.46	0.50	0.50	0.06	0.95	0.95	0.39	0.00	0.00	0.80	0.00	0.00
Avail Cap(c_a), veh/h	93	1194	1253	311	1194	1252	439	0	0	429	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.8	7.3	7.3	11.4	13.4	13.5	29.8	0.0	0.0	33.6	0.0	0.0
Incr Delay (d2), s/veh	15.6	1.5	1.4	0.4	16.6	16.7	2.6	0.0	0.0	14.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	2.4	7.6	7.9	0.4	27.1	28.5	5.3	0.0	0.0	11.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	8.8	8.7	11.8	30.0	30.2	32.4	0.0	0.0	48.0	0.0	0.0
LnGrp LOS	E	A	A	B	C	C	C	A	A	D	A	A
Approach Vol, veh/h		1267			2349			171			343	
Approach Delay, s/veh		10.5			30.0			32.4			48.0	
Approach LOS		B			C			C			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		65.0		25.0		65.0		25.0				
Change Period (Y+Rc), s		* 4.5		* 4.7		* 4.5		* 4.7				
Max Green Setting (Gmax), s		* 61		* 20		* 61		* 20				
Max Q Clear Time (g_c+I1), s		62.5		19.6		54.9		9.2				
Green Ext Time (p_c), s		0.0		0.2		5.3		0.6				

Intersection Summary

HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Notes

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

HCM 6th AWSC
3: Seward St & Romaine St

06/08/2020

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	18	52	31	29	19	26	145	30	18	118	59
Future Vol, veh/h	12	18	52	31	29	19	26	145	30	18	118	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	20	57	34	32	21	28	158	33	20	128	64
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.3	8.7	9.3	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	15%	39%	9%
Vol Thru, %	72%	22%	37%	61%
Vol Right, %	15%	63%	24%	30%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	201	82	79	195
LT Vol	26	12	31	18
Through Vol	145	18	29	118
RT Vol	30	52	19	59
Lane Flow Rate	218	89	86	212
Geometry Grp	1	1	1	1
Degree of Util (X)	0.275	0.115	0.118	0.261
Departure Headway (Hd)	4.528	4.664	4.95	4.44
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	791	765	721	808
Service Time	2.565	2.714	2.999	2.478
HCM Lane V/C Ratio	0.276	0.116	0.119	0.262
HCM Control Delay	9.3	8.3	8.7	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.4	0.4	1

HCM 6th TWSC
4: Hudson Ave & Romaine St

06/08/2020

Intersection												
Int Delay, s/veh	6.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	16	49	74	50	44	7	39	8	14	91	21
Future Vol, veh/h	10	16	49	74	50	44	7	39	8	14	91	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	17	53	80	54	48	8	42	9	15	99	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	102	0	0	70	0	0	365	328	44	329	330	78
Stage 1	-	-	-	-	-	-	66	66	-	238	238	-
Stage 2	-	-	-	-	-	-	299	262	-	91	92	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1490	-	-	1531	-	-	591	591	1026	624	589	983
Stage 1	-	-	-	-	-	-	945	840	-	765	708	-
Stage 2	-	-	-	-	-	-	710	691	-	916	819	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1490	-	-	1531	-	-	474	553	1026	555	551	983
Mov Cap-2 Maneuver	-	-	-	-	-	-	474	553	-	555	551	-
Stage 1	-	-	-	-	-	-	937	833	-	759	668	-
Stage 2	-	-	-	-	-	-	558	652	-	855	812	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			3.3			11.9			12.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	580	1490	-	-	1531	-	-	595
HCM Lane V/C Ratio	0.101	0.007	-	-	0.053	-	-	0.23
HCM Control Delay (s)	11.9	7.4	0	-	7.5	0	-	12.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.2	-	-	0.9

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	26	18	19	28	20	23	133	19	28	144	11
Future Vol, veh/h	18	26	18	19	28	20	23	133	19	28	144	11
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	28	20	21	30	22	25	145	21	30	157	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.3	8.3	8.9	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	29%	28%	15%
Vol Thru, %	76%	42%	42%	79%
Vol Right, %	11%	29%	30%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	175	62	67	183
LT Vol	23	18	19	28
Through Vol	133	26	28	144
RT Vol	19	18	20	11
Lane Flow Rate	190	67	73	199
Geometry Grp	1	1	1	1
Degree of Util (X)	0.235	0.09	0.097	0.247
Departure Headway (Hd)	4.456	4.793	4.779	4.478
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	807	747	749	802
Service Time	2.483	2.828	2.814	2.506
HCM Lane V/C Ratio	0.235	0.09	0.097	0.248
HCM Control Delay	8.9	8.3	8.3	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.3	0.3	1

HCM 6th TWSC
1: Seward St & Santa Monica Blvd

06/08/2020

Intersection												
Int Delay, s/veh	31.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗			↖	↖		↖	↖
Traffic Vol, veh/h	59	1743	18	31	1441	33	4	3	101	10	6	61
Future Vol, veh/h	59	1743	18	31	1441	33	4	3	101	10	6	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	0	-	-	0
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	64	1895	20	34	1566	36	4	3	110	11	7	66

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1602	0	0	1915	0	0	2888	3703	958	2729	3695	801
Stage 1	-	-	-	-	-	-	2033	2033	-	1652	1652	-
Stage 2	-	-	-	-	-	-	855	1670	-	1077	2043	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	404	-	-	305	-	-	7	5	258	~ 10	~ 5	327
Stage 1	-	-	-	-	-	-	59	99	-	103	154	-
Stage 2	-	-	-	-	-	-	319	151	-	234	98	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	404	-	-	305	-	-	-	4	258	~ 2	~ 4	327
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	4	-	~ 2	~ 4	-
Stage 1	-	-	-	-	-	-	50	83	-	87	137	-
Stage 2	-	-	-	-	-	-	215	134	-	109	83	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.4		\$ 1408.2
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	258	404	-	-	305	-	-	2	327
HCM Lane V/C Ratio	-	0.426	0.159	-	-	0.11	-	-	8.696	0.203
HCM Control Delay (s)	-	28.9	15.6	-	-	18.3	-	-	\$ 6705.4	18.8
HCM Lane LOS	-	D	C	-	-	C	-	-	F	C
HCM 95th %tile Q(veh)	-	2	0.6	-	-	0.4	-	-	3.7	0.7

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

HCM 6th Signalized Intersection Summary

2: Wilcox Ave & Santa Monica Blvd

07/06/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	1764	26	37	1406	41	10	193	32	53	200	76
Future Volume (veh/h)	74	1764	26	37	1406	41	10	193	32	53	200	76
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	80	1917	28	40	1528	45	11	210	35	58	217	83
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	2291	33	130	2252	66	50	398	64	99	286	102
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	326	3586	52	227	3525	104	31	1538	249	202	1104	394
Grp Volume(v), veh/h	80	948	997	40	769	804	256	0	0	358	0	0
Grp Sat Flow(s),veh/h/ln	326	1777	1861	227	1777	1852	1818	0	0	1700	0	0
Q Serve(g_s), s	18.7	37.1	37.5	15.0	24.8	25.0	0.0	0.0	0.0	6.6	0.0	0.0
Cycle Q Clear(g_c), s	43.6	37.1	37.5	52.5	24.8	25.0	10.9	0.0	0.0	17.5	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.06	0.04		0.14	0.16		0.23
Lane Grp Cap(c), veh/h	198	1135	1189	130	1135	1183	512	0	0	487	0	0
V/C Ratio(X)	0.40	0.83	0.84	0.31	0.68	0.68	0.50	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	198	1135	1189	130	1135	1183	512	0	0	487	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.3	12.6	12.6	33.1	10.3	10.4	28.7	0.0	0.0	31.0	0.0	0.0
Incr Delay (d2), s/veh	6.0	7.3	7.2	6.0	3.3	3.2	3.5	0.0	0.0	9.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	3.1	18.7	19.7	1.8	12.5	13.0	7.5	0.0	0.0	11.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	19.9	19.8	39.1	13.6	13.5	32.2	0.0	0.0	40.5	0.0	0.0
LnGrp LOS	C	B	B	D	B	B	C	A	A	D	A	A
Approach Vol, veh/h		2025			1613			256			358	
Approach Delay, s/veh		20.3			14.2			32.2			40.5	
Approach LOS		C			B			C			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		62.0		28.0		62.0		28.0				
Change Period (Y+Rc), s		* 4.5		* 4.7		* 4.5		* 4.7				
Max Green Setting (Gmax), s		* 58		* 23		* 58		* 23				
Max Q Clear Time (g_c+I1), s		45.6		19.5		54.5		12.9				
Green Ext Time (p_c), s		10.1		0.8		2.5		1.0				

Intersection Summary

HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

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

HCM 6th AWSC
3: Seward St & Romaine St

06/08/2020

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	53	63	29	16	45	28	28	283	34	14	63	24
Future Vol, veh/h	53	63	29	16	45	28	28	283	34	14	63	24
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	68	32	17	49	30	30	308	37	15	68	26
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.8	9.1	12.1	8.9
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	37%	18%	14%
Vol Thru, %	82%	43%	51%	62%
Vol Right, %	10%	20%	31%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	345	145	89	101
LT Vol	28	53	16	14
Through Vol	283	63	45	63
RT Vol	34	29	28	24
Lane Flow Rate	375	158	97	110
Geometry Grp	1	1	1	1
Degree of Util (X)	0.487	0.226	0.138	0.15
Departure Headway (Hd)	4.675	5.165	5.152	4.925
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	765	689	688	720
Service Time	2.736	3.248	3.245	3.008
HCM Lane V/C Ratio	0.49	0.229	0.141	0.153
HCM Control Delay	12.1	9.8	9.1	8.9
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.7	0.9	0.5	0.5

HCM 6th TWSC
4: Hudson Ave & Romaine St

06/08/2020

Intersection												
Int Delay, s/veh	6.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	78	122	58	19	55	34	5	59	7	19	91	28
Future Vol, veh/h	78	122	58	19	55	34	5	59	7	19	91	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	85	133	63	21	60	37	5	64	8	21	99	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	97	0	0	196	0	0	520	474	165	492	487	79
Stage 1	-	-	-	-	-	-	335	335	-	121	121	-
Stage 2	-	-	-	-	-	-	185	139	-	371	366	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1496	-	-	1377	-	-	467	489	879	487	481	981
Stage 1	-	-	-	-	-	-	679	643	-	883	796	-
Stage 2	-	-	-	-	-	-	817	782	-	649	623	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1496	-	-	1377	-	-	353	450	879	405	443	981
Mov Cap-2 Maneuver	-	-	-	-	-	-	353	450	-	405	443	-
Stage 1	-	-	-	-	-	-	636	602	-	826	783	-
Stage 2	-	-	-	-	-	-	681	769	-	538	583	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.3			1.3			14.3			15.5		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	463	1496	-	-	1377	-	-	491
HCM Lane V/C Ratio	0.167	0.057	-	-	0.015	-	-	0.305
HCM Control Delay (s)	14.3	7.6	0	-	7.7	0	-	15.5
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0	-	-	1.3

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	29	90	30	28	25	15	33	153	21	23	196	17
Future Vol, veh/h	29	90	30	28	25	15	33	153	21	23	196	17
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	98	33	30	27	16	36	166	23	25	213	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	9	10	10.3
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	19%	41%	10%
Vol Thru, %	74%	60%	37%	83%
Vol Right, %	10%	20%	22%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	207	149	68	236
LT Vol	33	29	28	23
Through Vol	153	90	25	196
RT Vol	21	30	15	17
Lane Flow Rate	225	162	74	257
Geometry Grp	1	1	1	1
Degree of Util (X)	0.301	0.229	0.108	0.341
Departure Headway (Hd)	4.819	5.09	5.257	4.787
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	740	698	674	746
Service Time	2.891	3.17	3.349	2.856
HCM Lane V/C Ratio	0.304	0.232	0.11	0.345
HCM Control Delay	10	9.7	9	10.3
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	1.3	0.9	0.4	1.5

HCM 6th TWSC
1: Seward St & Santa Monica Blvd

11/08/2022

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕	↖		↕	↖
Traffic Vol, veh/h	22	1216	17	173	2145	25	4	2	55	6	5	61
Future Vol, veh/h	22	1216	17	173	2145	25	4	2	55	6	5	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	0	-	-	0
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	24	1322	18	188	2332	27	4	2	60	7	5	66

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2359	0	0	1340	0	0	2924	4114	670	3432	4110	1180
Stage 1	-	-	-	-	-	-	1379	1379	-	2722	2722	-
Stage 2	-	-	-	-	-	-	1545	2735	-	710	1388	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	204	-	-	510	-	-	7	-2	399	-3	-2	183
Stage 1	-	-	-	-	-	-	152	210	-	21	43	-
Stage 2	-	-	-	-	-	-	120	43	-	391	208	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	204	-	-	510	-	-	-	-1	399	-	-1	183
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-1	-	-	-1	-
Stage 1	-	-	-	-	-	-	134	185	-	19	27	-
Stage 2	-	-	-	-	-	-	39	27	-	290	183	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.2		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	399	204	-	-	510	-	-	-	183
HCM Lane V/C Ratio	-	0.15	0.117	-	-	0.369	-	-	-	0.362
HCM Control Delay (s)	-	15.6	25	-	-	16.1	-	-	-	35.4
HCM Lane LOS	-	C	C	-	-	C	-	-	-	E
HCM 95th %tile Q(veh)	-	0.5	0.4	-	-	1.7	-	-	-	1.5

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

HCM 6th Signalized Intersection Summary
 2: Wilcox Ave & Santa Monica Blvd

11/08/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	↖
Traffic Volume (veh/h)	43	1212	13	63	2203	27	18	117	23	57	176	96
Future Volume (veh/h)	43	1212	13	63	2203	27	18	117	23	57	176	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	1317	14	68	2395	29	20	127	25	62	191	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	2437	26	282	2433	29	67	304	56	97	216	110
Arrive On Green	0.68	0.68	0.68	0.68	0.68	0.68	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	142	3602	38	411	3596	43	101	1377	251	227	978	495
Grp Volume(v), veh/h	47	649	682	68	1181	1243	172	0	0	357	0	0
Grp Sat Flow(s),veh/h/ln	142	1777	1863	411	1777	1863	1729	0	0	1700	0	0
Q Serve(g_s), s	2.5	16.8	16.8	9.1	57.7	58.4	0.0	0.0	0.0	11.3	0.0	0.0
Cycle Q Clear(g_c), s	60.9	16.8	16.8	25.9	57.7	58.4	7.3	0.0	0.0	18.6	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.02	0.12		0.15	0.17		0.29
Lane Grp Cap(c), veh/h	84	1202	1261	282	1202	1260	427	0	0	423	0	0
V/C Ratio(X)	0.56	0.54	0.54	0.24	0.98	0.99	0.40	0.00	0.00	0.84	0.00	0.00
Avail Cap(c_a), veh/h	84	1202	1261	282	1202	1260	427	0	0	423	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	44.9	7.4	7.4	14.0	14.0	14.1	30.1	0.0	0.0	34.3	0.0	0.0
Incr Delay (d2), s/veh	24.3	1.7	1.7	2.0	22.0	22.3	2.8	0.0	0.0	18.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	2.9	8.4	8.7	1.7	30.9	32.6	5.4	0.0	0.0	12.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.2	9.2	9.1	16.0	36.1	36.4	33.0	0.0	0.0	52.6	0.0	0.0
LnGrp LOS	E	A	A	B	D	D	C	A	A	D	A	A
Approach Vol, veh/h		1378			2492			172			357	
Approach Delay, s/veh		11.2			35.7			33.0			52.6	
Approach LOS		B			D			C			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		65.4		24.6		65.4		24.6				
Change Period (Y+Rc), s		* 4.5		* 4.7		* 4.5		* 4.7				
Max Green Setting (Gmax), s		* 61		* 20		* 61		* 20				
Max Q Clear Time (g_c+I1), s		62.9		20.6		60.4		9.3				
Green Ext Time (p_c), s		0.0		0.0		0.5		0.6				

Intersection Summary

HCM 6th Ctrl Delay	29.3
HCM 6th LOS	C

Notes

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

HCM 6th AWSC
3: Seward St & Romaine St

11/08/2022

Intersection

Intersection Delay, s/veh 9.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	55	53	35	38	19	26	146	39	18	119	59
Future Vol, veh/h	13	55	53	35	38	19	26	146	39	18	119	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	60	58	38	41	21	28	159	42	20	129	64
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9	9.7	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	11%	38%	9%
Vol Thru, %	69%	45%	41%	61%
Vol Right, %	18%	44%	21%	30%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	211	121	92	196
LT Vol	26	13	35	18
Through Vol	146	55	38	119
RT Vol	39	53	19	59
Lane Flow Rate	229	132	100	213
Geometry Grp	1	1	1	1
Degree of Util (X)	0.297	0.177	0.141	0.273
Departure Headway (Hd)	4.668	4.849	5.082	4.615
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	766	734	700	773
Service Time	2.725	2.915	3.152	2.672
HCM Lane V/C Ratio	0.299	0.18	0.143	0.276
HCM Control Delay	9.7	9	9	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.2	0.6	0.5	1.1

HCM 6th TWSC
4: Hudson Ave & Romaine St

11/08/2022

Intersection												
Int Delay, s/veh	7.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	60	16	49	75	51	163	7	49	8	24	94	34
Future Vol, veh/h	60	16	49	75	51	163	7	49	8	24	94	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	17	53	82	55	177	8	53	9	26	102	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	232	0	0	70	0	0	551	570	44	513	508	144
Stage 1	-	-	-	-	-	-	174	174	-	308	308	-
Stage 2	-	-	-	-	-	-	377	396	-	205	200	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1336	-	-	1531	-	-	445	431	1026	472	468	903
Stage 1	-	-	-	-	-	-	828	755	-	702	660	-
Stage 2	-	-	-	-	-	-	644	604	-	797	736	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1336	-	-	1531	-	-	318	383	1026	383	416	903
Mov Cap-2 Maneuver	-	-	-	-	-	-	318	383	-	383	416	-
Stage 1	-	-	-	-	-	-	786	716	-	666	618	-
Stage 2	-	-	-	-	-	-	483	566	-	694	698	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.8			1.9			15.7			16.9		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	406	1336	-	-	1531	-	-	466
HCM Lane V/C Ratio	0.171	0.049	-	-	0.053	-	-	0.355
HCM Control Delay (s)	15.7	7.8	0	-	7.5	0	-	16.9
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0.2	-	-	1.6

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	35	18	19	84	20	23	135	19	28	145	68
Future Vol, veh/h	18	35	18	19	84	20	23	135	19	28	145	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	38	20	21	91	22	25	147	21	30	158	74
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	9.2	9.4	9.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	25%	15%	12%
Vol Thru, %	76%	49%	68%	60%
Vol Right, %	11%	25%	16%	28%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	177	71	123	241
LT Vol	23	18	19	28
Through Vol	135	35	84	145
RT Vol	19	18	20	68
Lane Flow Rate	192	77	134	262
Geometry Grp	1	1	1	1
Degree of Util (X)	0.253	0.109	0.186	0.331
Departure Headway (Hd)	4.728	5.063	5.013	4.548
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	756	702	710	786
Service Time	2.784	3.136	3.081	2.599
HCM Lane V/C Ratio	0.254	0.11	0.189	0.333
HCM Control Delay	9.4	8.8	9.2	9.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.4	0.7	1.5

HCM 6th TWSC

1: Seward St & Santa Monica Blvd

11/08/2022

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗			↖	↖		↖	↖
Traffic Vol, veh/h	60	1858	18	31	1567	34	4	3	102	11	6	62
Future Vol, veh/h	60	1858	18	31	1567	34	4	3	102	11	6	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	0	-	-	0
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	65	2020	20	34	1703	37	4	3	111	12	7	67

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1740	0	0	2040	0	0	3083	3968	1020	2932	3960	870
Stage 1	-	-	-	-	-	-	2160	2160	-	1790	1790	-
Stage 2	-	-	-	-	-	-	923	1808	-	1142	2170	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	358	-	-	273	-	-	5	~3	234	~7	~3	295
Stage 1	-	-	-	-	-	-	49	85	-	84	132	-
Stage 2	-	-	-	-	-	-	290	129	-	213	84	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	358	-	-	273	-	-	-	~2	234	-	~2	295
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~2	-	-	~2	-
Stage 1	-	-	-	-	-	-	40	70	-	69	116	-
Stage 2	-	-	-	-	-	-	185	113	-	87	69	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.4		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	234	358	-	-	273	-	-	-	295
HCM Lane V/C Ratio	-	0.474	0.182	-	-	0.123	-	-	-	0.228
HCM Control Delay (s)	-	33.5	17.3	-	-	20	-	-	-	20.8
HCM Lane LOS	-	D	C	-	-	C	-	-	-	C
HCM 95th %tile Q(veh)	-	2.3	0.7	-	-	0.4	-	-	-	0.9

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

HCM 6th Signalized Intersection Summary

2: Wilcox Ave & Santa Monica Blvd

11/08/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Traffic Volume (veh/h)	83	1930	26	53	1515	41	11	194	33	54	205	77
Future Volume (veh/h)	83	1930	26	53	1515	41	11	194	33	54	205	77
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	90	2098	28	58	1647	45	12	211	36	59	223	84
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	2334	31	110	2297	63	51	379	63	97	273	96
Arrive On Green	0.65	0.65	0.65	0.65	0.65	0.65	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	291	3591	48	190	3534	96	35	1528	252	202	1102	388
Grp Volume(v), veh/h	90	1036	1090	58	826	866	259	0	0	366	0	0
Grp Sat Flow(s),veh/h/ln	291	1777	1862	190	1777	1853	1816	0	0	1692	0	0
Q Serve(g_s), s	26.5	44.0	44.5	14.0	27.4	27.6	0.0	0.0	0.0	7.3	0.0	0.0
Cycle Q Clear(g_c), s	54.1	44.0	44.5	58.5	27.4	27.6	11.2	0.0	0.0	18.5	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.05	0.05		0.14	0.16		0.23
Lane Grp Cap(c), veh/h	180	1155	1210	110	1155	1204	492	0	0	466	0	0
V/C Ratio(X)	0.50	0.90	0.90	0.53	0.72	0.72	0.53	0.00	0.00	0.79	0.00	0.00
Avail Cap(c_a), veh/h	180	1155	1210	110	1155	1204	492	0	0	466	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.1	13.2	13.3	41.4	10.3	10.3	29.7	0.0	0.0	32.2	0.0	0.0
Incr Delay (d2), s/veh	9.6	11.0	10.9	17.1	3.8	3.7	4.0	0.0	0.0	12.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	3.8	22.5	23.6	3.2	13.6	14.2	7.8	0.0	0.0	12.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	24.2	24.2	58.5	14.1	14.1	33.7	0.0	0.0	44.8	0.0	0.0
LnGrp LOS	D	C	C	E	B	B	C	A	A	D	A	A
Approach Vol, veh/h		2216			1750			259			366	
Approach Delay, s/veh		24.7			15.6			33.7			44.8	
Approach LOS		C			B			C			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.0		27.0		63.0		27.0				
Change Period (Y+Rc), s		* 4.5		* 4.7		* 4.5		* 4.7				
Max Green Setting (Gmax), s		* 59		* 22		* 59		* 22				
Max Q Clear Time (g_c+I1), s		56.1		20.5		60.5		13.2				
Green Ext Time (p_c), s		2.2		0.4		0.0		1.0				

Intersection Summary

HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

Notes

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

HCM 6th AWSC
3: Seward St & Romaine St

11/08/2022

Intersection

Intersection Delay, s/veh 11.5

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	53	77	29	24	77	28	28	286	38	14	64	24
Future Vol, veh/h	53	77	29	24	77	28	28	286	38	14	64	24
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	84	32	26	84	30	30	311	41	15	70	26
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.3	9.9	13.3	9.3
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	33%	19%	14%
Vol Thru, %	81%	48%	60%	63%
Vol Right, %	11%	18%	22%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	352	159	129	102
LT Vol	28	53	24	14
Through Vol	286	77	77	64
RT Vol	38	29	28	24
Lane Flow Rate	383	173	140	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.525	0.259	0.211	0.161
Departure Headway (Hd)	4.944	5.4	5.407	5.242
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	735	665	663	684
Service Time	2.944	3.433	3.441	3.275
HCM Lane V/C Ratio	0.521	0.26	0.211	0.162
HCM Control Delay	13.3	10.3	9.9	9.3
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	3.1	1	0.8	0.6

HCM 6th TWSC
4: Hudson Ave & Romaine St

11/08/2022

Intersection												
Int Delay, s/veh	9.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	98	123	59	19	56	80	5	63	7	53	99	70
Future Vol, veh/h	98	123	59	19	56	80	5	63	7	53	99	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	107	134	64	21	61	87	5	68	8	58	108	76

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	148	0	0	198	0	0	619	570	166	565	559	105
Stage 1	-	-	-	-	-	-	380	380	-	147	147	-
Stage 2	-	-	-	-	-	-	239	190	-	418	412	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1434	-	-	1375	-	-	401	431	878	436	438	949
Stage 1	-	-	-	-	-	-	642	614	-	856	775	-
Stage 2	-	-	-	-	-	-	764	743	-	612	594	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1434	-	-	1375	-	-	270	387	878	346	394	949
Mov Cap-2 Maneuver	-	-	-	-	-	-	270	387	-	346	394	-
Stage 1	-	-	-	-	-	-	587	562	-	783	762	-
Stage 2	-	-	-	-	-	-	593	730	-	487	544	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.7			0.9			16.4			20.9		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	396	1434	-	-	1375	-	-	464
HCM Lane V/C Ratio	0.206	0.074	-	-	0.015	-	-	0.52
HCM Control Delay (s)	16.4	7.7	0	-	7.7	0	-	20.9
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.8	0.2	-	-	0	-	-	2.9

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	29	123	30	28	43	15	34	154	21	23	198	35
Future Vol, veh/h	29	123	30	28	43	15	34	154	21	23	198	35
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	134	33	30	47	16	37	167	23	25	215	38
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.6	9.5	10.6	11.2
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	16%	33%	9%
Vol Thru, %	74%	68%	50%	77%
Vol Right, %	10%	16%	17%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	209	182	86	256
LT Vol	34	29	28	23
Through Vol	154	123	43	198
RT Vol	21	30	15	35
Lane Flow Rate	227	198	93	278
Geometry Grp	1	1	1	1
Degree of Util (X)	0.324	0.293	0.144	0.389
Departure Headway (Hd)	5.138	5.325	5.537	5.034
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	702	675	647	718
Service Time	3.148	3.359	3.575	3.042
HCM Lane V/C Ratio	0.323	0.293	0.144	0.387
HCM Control Delay	10.6	10.6	9.5	11.2
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.4	1.2	0.5	1.8