Local Transportation Assessment

DESERT MEADOWS

30TH STREET W AND W LANCASTER BOULEVARD, LANCASTER, CA

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Executive Summary

This Local Transportation Assessment (LTA) evaluates potential traffic deficiencies related to the proposed Desert Meadows Apartments and Townhomes project (Project) located at the northeast corner of the intersection of 30th Street W and W Lancaster Boulevard in the City of Lancaster, California, in conformance with the analysis requirements per the City of Lancaster Department of Public Works *Local Transportation Assessment Guidelines (Guidelines, January 2021)*. The Project involves construction on a 20.1-acre vacant site for 420 multi-family (low-rise) dwelling units (DU) in two phases including 324 apartments with a clubhouse in Phase I and 96 townhomes with a clubhouse in Phase II.

The project's trip generation was calculated using the trip generation rates of the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021).* The project is expected to generate 2,875 average daily trips (ADT), 176 AM peak hour trips (43 inbound and 133 outbound), and 219 PM peak hour trips (136 inbound and 83 outbound).

Through coordination with City of Lancaster staff, four study intersections, including two existing intersections and two proposed Project driveways, were identified, and evaluated per the Guidelines. The existing weekday AM and PM peak hour traffic volumes were collected at the study intersections, and operations were analyzed for the following traffic scenarios:

- Existing Conditions Year 2023
- Existing plust Project Phase I
- Year 2024 (Existing plus Ambient Growth, compounded at 1.25% per year)
- Year 2024 plus Project Phase I
- Year 2024 plus Project Phase I with Mitigation (if necessary)
- Year 2026 (Existing plus Ambient Growth)
- Year 2026 plus Project Phases I & II
- Year 2026 plus Project Phases I & II with Mitigation (if necessary)

All study intersections operate at satisfactory LOS D or better during the weekday AM and PM peak hours under all conditions.

Project Introduction

The purpose of this Local Transportation Assessment (LTA) is to identify potential traffic deficiencies related to the proposed Desert Meadows Apartments and Townhomes project (Project).

The objectives of this LTA include documenting the existing and future traffic conditions and identifying additional circulation system features or system management actions needed to achieve the City of Lancaster General Plan goals with the implementation of the Project.

This LTA has been prepared in conformance with the analysis requirements per the City of Lancaster Department of Public Works *Local Transportation Assessment Guidelines (Guidelines, January 2021)*.

Project Description

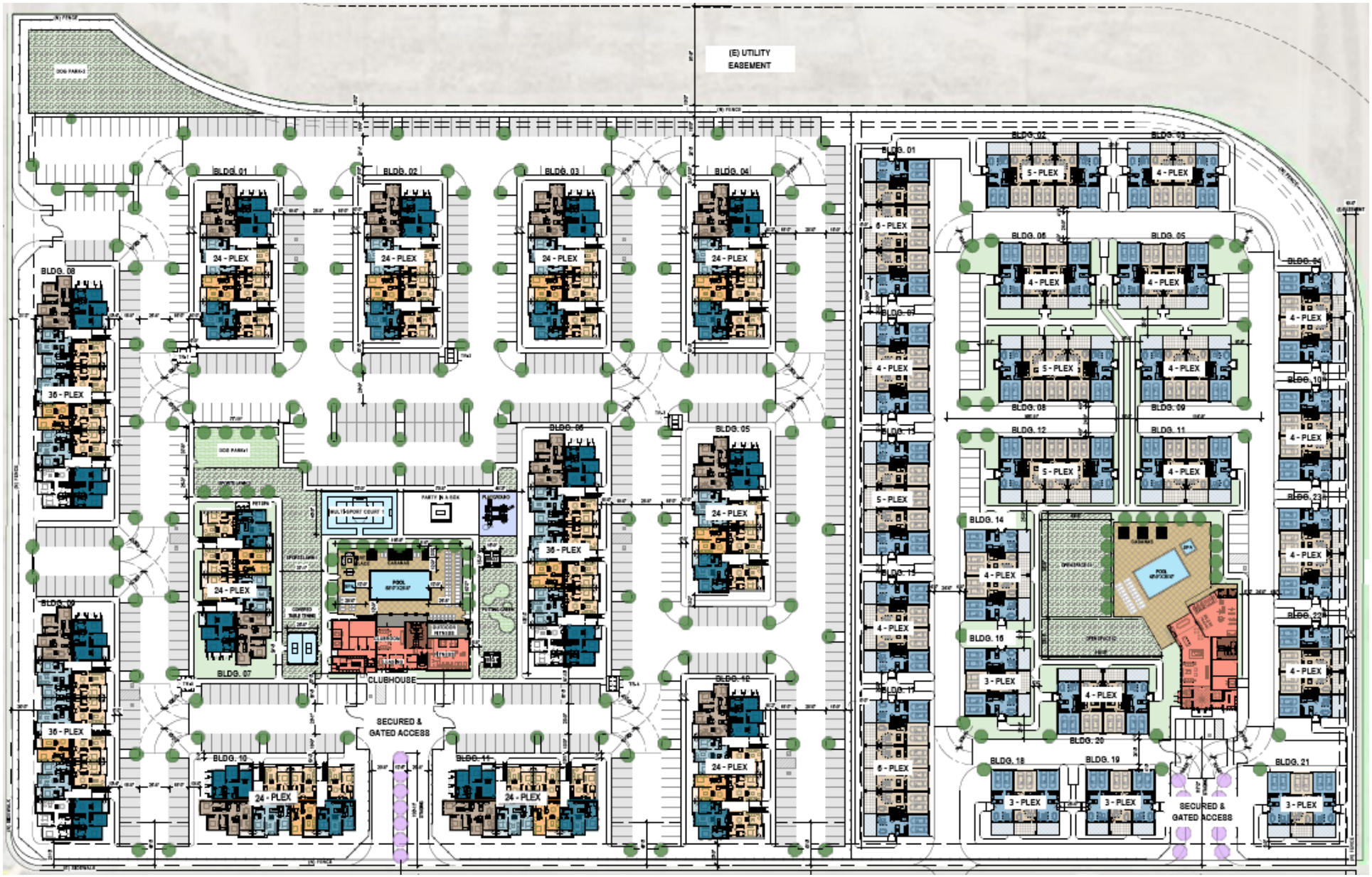
The Project involves construction on a 20.1-acre vacant site for 324 apartments (multifamily low-rise housing) with a clubhouse in Phase I and 96 townhomes (single-family attached housing) with a clubhouse in Phase II.

Access to Phase I will be provided via one (1) right-in/right-out only driveway along W Lancaster Blvd and one (1) right-out only driveway along 30th St W. Phase I will also construct an exclusive eastbound left turn lane at the intersection of Shadowcrest Drive and W Lancaster Boulevard for proposed project U-turns. Access to Phase II will be provided via one (1) full access driveway with the construction of the northern leg of the existing Shadowcrest Drive and W Lancaster Boulevard intersection.

Site Location

The project is located at the northeast corner of the intersection of 30th Street W and W Lancaster Boulevard in the City of Lancaster, California. The project site is designated as a Commercial land use category with a Commercial Planned Development (CDP) zone.

Figure 1 shows the Project site plan.



Site Plan

Desert Meadows

FIGURE

1

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Study Area

The study area intersections listed below and shown in Figure 2 were identified as part of this study scoping with the City of Lancaster in coordination with City staff. **Figure 2** presents the study area that includes the following study intersections:

1. 30th Street W and W Lancaster Boulevard
2. Shadowcrest Drive/Project Phase II Driveway and W Lancaster Boulevard
3. Project Phase I Driveway and W Lancaster Boulevard

Project Trip Generation

Trip generation is a measure or forecast of the number of trips that begin or end at the Project site. The traffic generated is a function of the extent and type of development proposed for the site. These trips will result in some traffic increases on the streets where they occur. Per the Guidelines, the project's trip generation was calculated using the trip generation rates of the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021)* for Land Use Codes 215 Single-Family Attached Housing and 220 Multifamily Housing (Low-Rise).

Table 1 summarizes the estimated trip generation for the project site on a typical weekday during the AM peak and PM peak hours. As shown, the project is expected to generate 2,875 average daily trips (ADT), 176 AM peak hour trips (43 inbound and 133 outbound), and 219 PM peak hour trips (136 inbound and 83 outbound).

Table 1. Project Trip Generation

Land Use	Land Use Code	Units[2]	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rate									
Single-Family Attached Housing	215	DU	7.20	0.12	0.36	0.48	0.34	0.23	0.57
Multifamily Housing (Low-Rise)[1]	220	DU	6.74	0.10	0.30	0.40	0.32	0.19	0.51
Project Trip Generation									
Phase I – Apartments	324	DU	2,184	31	98	129	104	61	165
Phase II – Townhomes	96	DU	691	12	35	47	32	22	54
	Total Trip Generation		***2,875***	***43***	***133***	***176***	***136***	***83***	***219***

[1] Peak hour and Daily trip rates based on fitted curve equations from the Institute of Transportation Engineers, *Trip Generation Manual, 11th Edition,* 2021.
[2] DU = Dwelling Unit

Project Trip Distribution and Assignment

Trip distribution and assignment is the process of identifying the probable destinations, directions, and traffic routes that project related traffic will likely affect. Once the proposed development trips have been estimated, they are assigned to the study area network. For this development, the project distribution was developed based on the land use characteristics of the proposed project and surrounding area, anticipated travel patterns to and from the project site and existing travel patterns within the study area. The project's trip distribution and assignment are illustrated in **Figures 2** and **3**, respectively.



Study Area and Project Trip Distribution

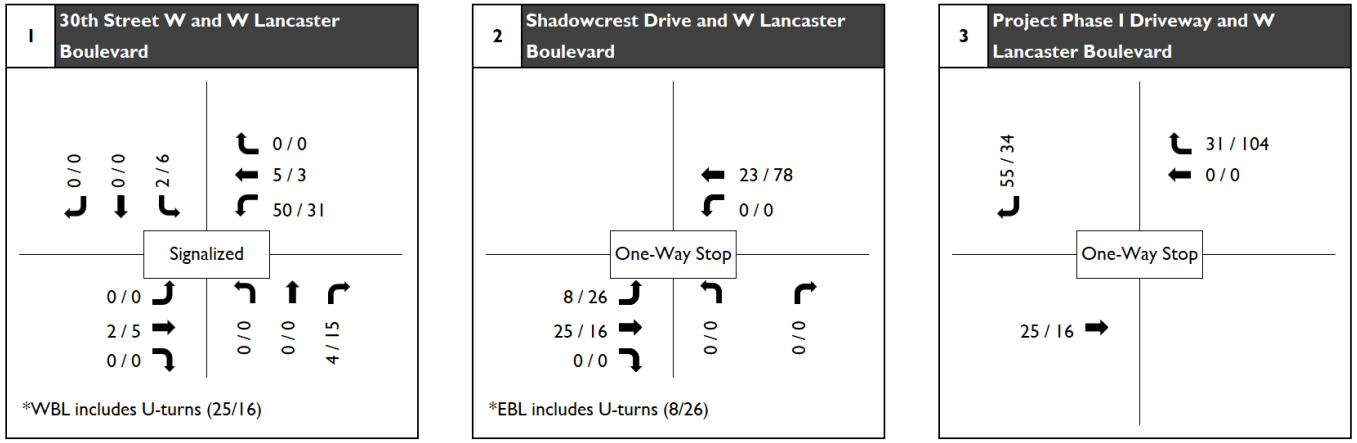
LEGEND # Intersection # Driveway

FIGURE 2

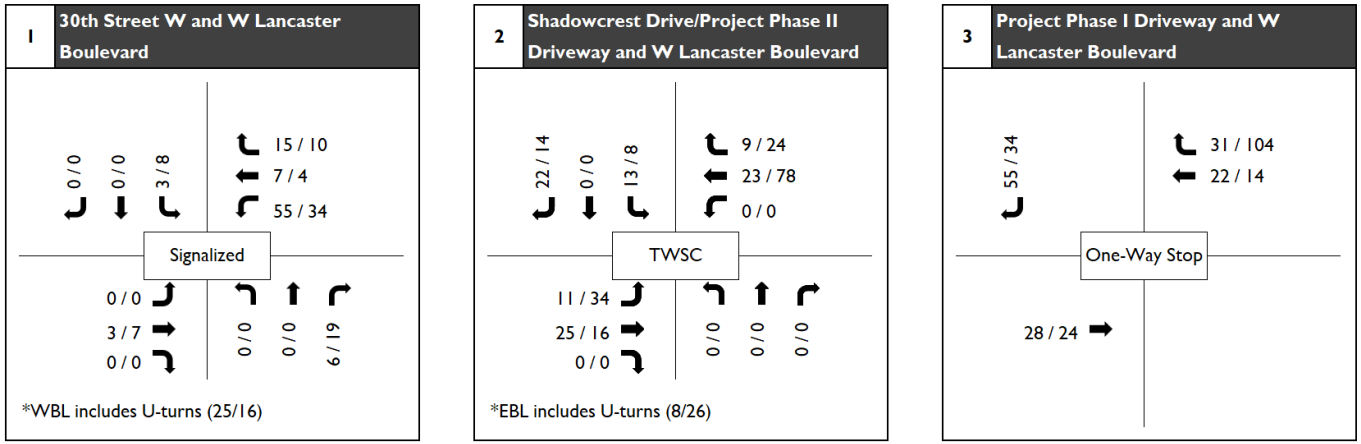
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Phase I



Phases I and II



Project Trip Assignment

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FIGURE
3

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Methodology

As noted earlier, this study was conducted in conformance with the analysis requirements per the Guidelines. This section contains the following background information:

- Study scenarios
- Study time periods
- Analysis methodologies

Traffic Analysis Scenarios

These study intersections were analyzed for the following traffic scenarios as described in the Guidelines:

- Existing Conditions Year 2023
- Existing plus Project Phase I
- Year 2024 (Existing plus Ambient Growth, compounded at 1.25% per year)
- Year 2024 plus Project Phase I
- Year 2024 plus Project Phase I with Mitigation (if necessary)
- Year 2026 (Existing plus Ambient Growth, plus Related Projects)
- Year 2026 plus Project Phases I & II
- Year 2026 plus Project Phases I & II with Mitigation (if necessary)

Study Time Periods

The study intersections will be analyzed for the following peak hours:

- Weekday AM (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM (peak hour between 4:00 PM and 6:00 PM)

Level of Service Analyses

Per the *Guidelines*, LOS analysis is required to maintain traffic operation performance in accordance with the City of Lancaster General Plan policies.

The degree of congestion at an intersection is described by the level of service, which ranges from LOS A to LOS F, with LOS A representing free-flow conditions with little delay and LOS F representing over-saturated traffic flow throughout the peak hour. A complete description of the meaning of level of service can be found in the Transportation Research Board *Highway Capacity Manual 6th Edition (HCM6, 2016)*. LOS criteria and brief descriptions of LOS A through F for signalized and unsignalized intersections based on the HCM6 methodologies are shown in **Table 2**.

Table 2. Level of Service Definitions for Signalized and Unsignalized Intersections

Level of Service	Signalized Intersection Average Control Delay per Vehicle	Unsignalized Intersection Average Control Delay per Vehicle
A	0.0 – 10.0 seconds	0.0 – 10.0 seconds
B	10.1 – 20.0 seconds	10.1 – 15.0 seconds
C	20.1 – 35.0 seconds	15.1 – 25.0 seconds
D	35.1 – 55.0 seconds	25.1 – 35.0 seconds
E	55.1 – 80.0 seconds	35.1 – 50.0 seconds
F	80.1 seconds or greater	50.1 seconds or greater

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

LOS A. No approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.

LOS B. This service level represents stable operation, where an occasional approach phase is fully utilized and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles.

LOS C. This level still represents stable operating conditions. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.

LOS D. This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.

LOS E. Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand.

LOS F. This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, both speed and volume can drop to zero.

For this project outside of the City's "infill area," the Guidelines have established LOS "D" as the minimum allowable level of service at intersections. Therefore, any intersection operating at LOS "E" or worse will be considered deficient for the purposes of this analysis and improvements may be required.

Intersection Capacity Analysis

LOS for intersections is determined by control delay. Control delay is defined as the total elapsed time from when a vehicle stops at the end of a queue to the time the vehicle departs from the stop line. The total elapsed time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in the queue.

Signalized Intersections

The HCM6 analysis methodology for evaluating signalized intersections is based on the "operational analysis" procedure. This technique uses 1,900 passenger cars per hour of green per lane (pcphgpl) as the maximum saturation flow of a single lane at an intersection. This saturation flow rate is adjusted to account for lane width, on-street parking, conflicting pedestrian flow, traffic composition, (e.g., the percentage of vehicles that are trucks) and shared lane movements (e.g., through and right-turn movements from the same lane). A factor of 1/1.18 is applied to determine the saturation flow for exclusive right turn lanes (1900/1.18 = 1610 pcphpl) and a factor of 1/1.05 is applied for the saturation flow of exclusive left turns (1900/1.05 = 1810 pcphpl). Average control delay is calculated by taking a volume-weighted average of all the delays for all vehicles entering the intersection. Additionally, HCM6 delay calculation within Synchro 11 does not calculate delay for U-turn volume inputs. Therefore, Project U-turn volumes were input as left-turns and the saturation flow for the northbound left turn movement was reduced to 1600 pcphpl to mimic the increased perception-reaction time and decreased turning speed of U-turn movements when compared to saturation flow of left turn movements (1810 pcphpl).

Side-street Stop-controlled (SSSC) Intersections

The HCM6 analysis methodology for evaluating side-street stop-controlled (SSSC) intersections is based on gap acceptance and conflicting traffic for vehicles stopped on the minor-street approaches. The critical gap (minimum gap that would be acceptable) is defined as the minimum time interval in the major-street traffic stream that allows intersection entry for one minor-street vehicle. Average control delay and LOS for the "worst approach" are reported. Level of service is not defined for the entire intersection.

Traffic Signal Warrant Analysis

The Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), amended with California MUTCD 2014 Edition, presents warrant criteria for justifying the installation of a traffic signal at an unsignalized intersection. The criteria include studying traffic conditions, pedestrian characteristics, and physical characteristics of the intersection location. The MUTCD indicates that satisfaction of one or more of the traffic signal warrants does not in itself require the installation of a traffic control signal.

This study uses MUTCD Section 4C.04 Warrant 3, Peak Hour to assess the need of a traffic signal at the unsignalized intersection of Shadowcrest Drive/Project Phase II Driveway and W Lancaster Boulevard. Signal warrant worksheets are included in **Appendix E**.

Existing Year 2023 Conditions

This section documents the circulation system conditions within the study area of the project under Existing Year 2023 Conditions. This section also documents operational deficiencies on the existing local circulation network.

Street System

As mentioned earlier, immediate access to the project site is provided via 30th Street W and W Lancaster Boulevard. Below is a description of the street system in the immediate vicinity of the project.

30th Street from W Lancaster Boulevard to W Jackman Street is a 4-lane divided roadway. The posted speed limit on 30th Street is 50 miles per hour (mph). Per the City of Lancaster General Plan, the buildout classification for this segment of 30th Street is a 6-lane major arterial.

Lancaster Boulevard from 30th Street W to 27th Street W is a 4-lane divided roadway. The posted speed limit on Lancaster Boulevard is 50 mph. Per the City of Lancaster General Plan, this segment of Lancaster Boulevard is at its buildout classification of a 4-lane secondary arterial.

Figure 4 shows the City of Lancaster General Plan Street Classifications.

Transit System

The Antelope Valley Transit Authority (AVTA) is the main transit agency servicing the City of Lancaster. AVTA operates Route 11 within the vicinity of the project that can be boarded from the bus stops located at the intersection of 30th Street W and W Lancaster Boulevard. Route 11 runs 7 days a week south to Owen Memorial Park and east to the shopping centers at the intersection of 20th Street E and Avenue J. Route 11 provides service with 30-minute weekday frequency between 5:15 AM and 11:55 PM and 60-minute weekend frequency between 5:45 AM and 7:57 PM. Route information is included in **Appendix F**.

Pedestrian Facilities

30th Street provides contiguous sidewalks on the west side of the street and Lancaster Boulevard provides contiguous sidewalks both sides of the street within the vicinity of the Project. The signalized study intersection provides crosswalks with pedestrian pushbuttons and curb ramps.

Bicycle Facilities

30th Street includes existing Class II bike lanes in both directions and Lancaster Bouelvard includes existing buffered Class II bike lanes in both directions within the vicinity of the Project.

Traffic Volumes

The existing weekday AM and PM peak hour traffic volumes were collected for the study intersections on Wednesday May 10, 2023, and Thursday, June 15, 2023. The raw traffic counts are provided in **Appendix A.**

Figures 5 and **6** show intersection turning movement volumes under Existing Year 2023 and Existing plus Project Phase I Conditions.

Analysis Results

Table 3 shows Existing Year 2023 and Existing plus Project Phase I Conditions intersection operation analysis results.

Table 3. Existing Year 2023 Conditions Intersection Operation Analysis

		Existing Year 2023				Existing Plus Project Phase I			
		AM Peak		PM Peak		AM Peak		PM Peak	
Intersection	Control	LOS[1]	Delay[2]	LOS	Delay	LOS	Delay	LOS	Delay
1. 30th St W and W Lancaster Blvd	Signal	C	22.0	C	25.0	C	23.8	C	27.3
2. Shadowcrest Dr and W Lancaster Blvd[3]	SSSC	A	9.1	B	10.0	A	9.3	B	10.2
3. Proj Ph I Dwy and W Lancaster Blvd	SSSC	Does not exist				A	9.8	B	10.1

1. LOS calculations are based on the methodology outlined in the Highway Capacity Manual 6th Edition and performed using Synchro 11.
2. Delay refers to the average control delay for the entire intersection, measured in seconds/vehicle, for signalized intersections. At unsignalized intersection, delay refers to the worst movement.
3. Project Phase I will improve this intersection to provide an exclusive eastbound left turn lane. Synchro 11 analysis includes a dummy north leg to model this left turn lane with U-turns.

Per the analysis results shown in Table 3, all analyzed intersections are operating at an acceptable LOS under Existing Year 2023 Conditions. Additionally, all analyzed intersections are anticipated to operate at an acceptable LOS under Existing plus Project Phase I Conditions.

Existing Year 2023 and Existing Plus Project Phase I Conditions peak hour analysis worksheets are provided in **Appendix B**.

Although the Shadowcrest Drive and W Lancaster Boulevard intersection is anticipated to operate at an acceptable LOS under Existing Plus Project Phase I Conditions, the City has requested a signal warrant analysis for this intersection. The addition of Project Phase I traffic would not cause the intersection to satisfy Warrant 3 Peak Hour criteria under Existing Plus Project Phase I conditions. Signal warrant worksheets are provided in **Appendix E**. However, with future development, appropriate infrastructure improvements such as a traffic signal may be required, if it is warranted, and such infrastructure can be funded through fair share commensurate with the demand generated by developments.

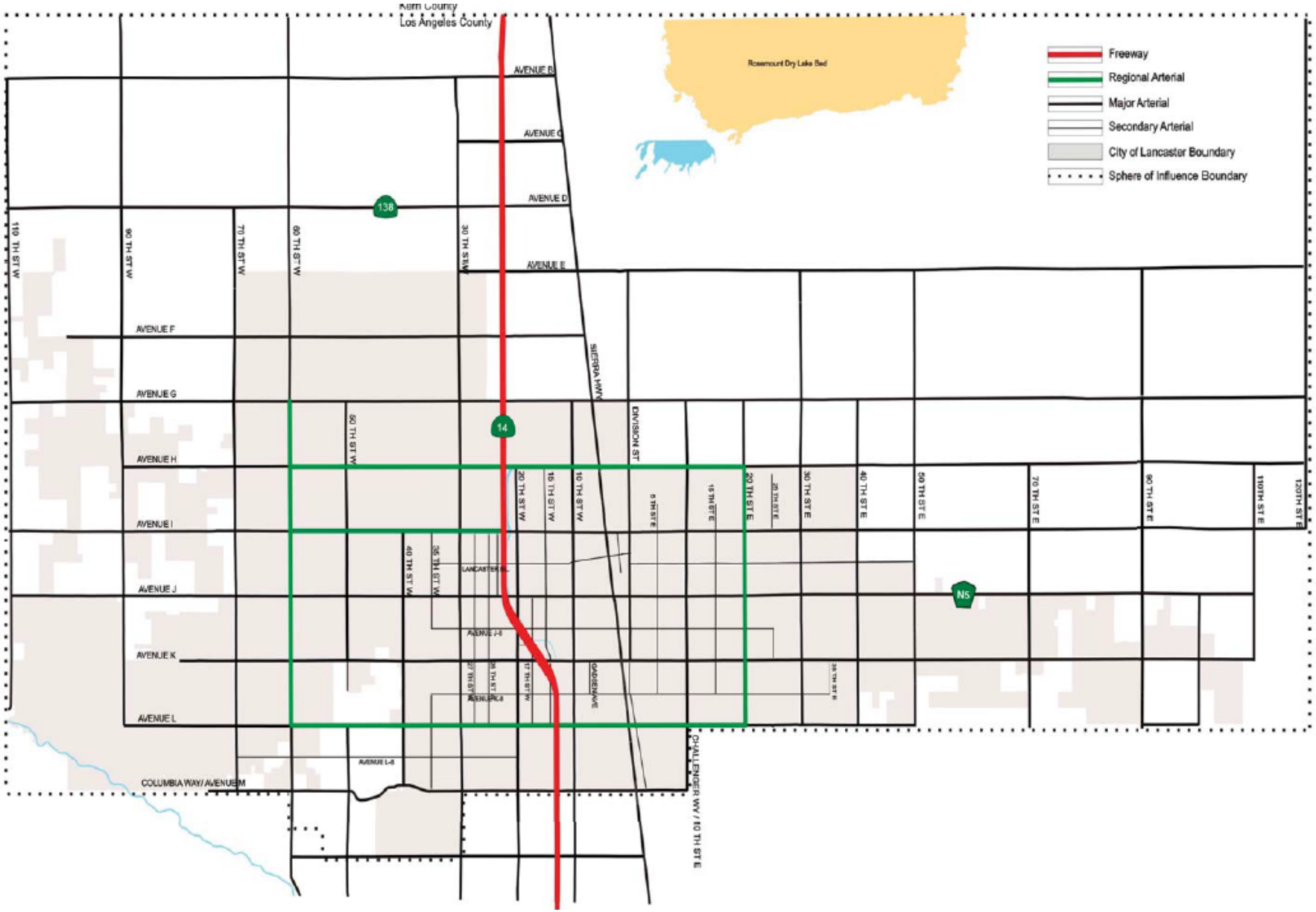
Table 4 shows Existing Year 2023 and Existing Plus Project Phase I conditions queue analysis results. Queue analysis worksheets are included in **Appendix B**. As shown, the Project would not cause the queue at any of the analyzed movements to exceed the existing or proposed storage values:

- The southbound left turn movement at the 30th St W and W Lancaster Blvd intersection is anticipated to exceed the available storage under Existing Year 2023 conditions, prior to the addition of Project Phase I traffic. Therefore, Project Phase I is not the cause of the queue exceedance.
- The westbound left turn movement with the addition of Project Phase I U-turns at the 30th St W and W Lancaster Blvd intersection is not anticipated to provide a queue that would exceed the available storage.
- The westbound left turn and through movements at the 30th St W and W Lancaster Blvd intersection are not anticipated to queue past the proposed location of the Project Phase I driveway. Therefore, added Project Phase I U-turning vehicles exiting the driveway would have enough clearance to queue in the exclusive westbound left turn lane.
- The proposed 50 ft storage length for the eastbound left turn lane at the Shadowcrest Dr and W Lancaster Blvd intersection would accommodate the anticipated queue from Project Phase I traffic.

Table 4. Existing Year 2023 Intersection Operation Analysis

			Existing Year 2023				Existing Plus Project Phase I			
			AM Peak		PM Peak		AM Peak		PM Peak	
Intersection	Movement	Storage Length	Queue	Excess	Queue	Excess	Queue	Excess	Queue	Excess
1. 30th St W and W Lancaster Blvd	SBL	205	166	-	256	51	250	45	301	96
	WBL	305	61	-	111	-	109	-	162	-
	WBT	305[1]	78	-	99	-	76	-	90	-
2. Shadowcrest Dr and W Lancaster Blvd	EBL	50	N/A	N/A	N/A	N/A	11	-	27	-

Notes:
Storage length, queue and excess values are measured in feet.
1. This 305 ft length is for the proposed location of the Project Phase I driveway.

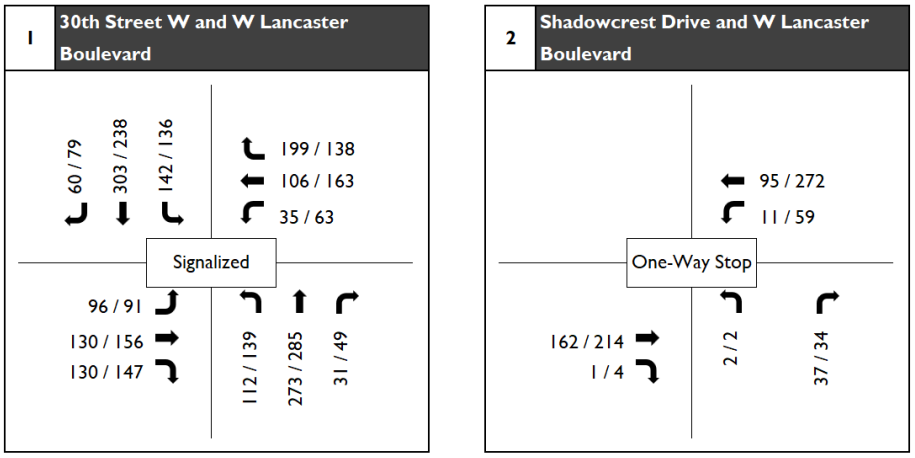


City of Lancaster General Plan Street Classifications

FIGURE
4

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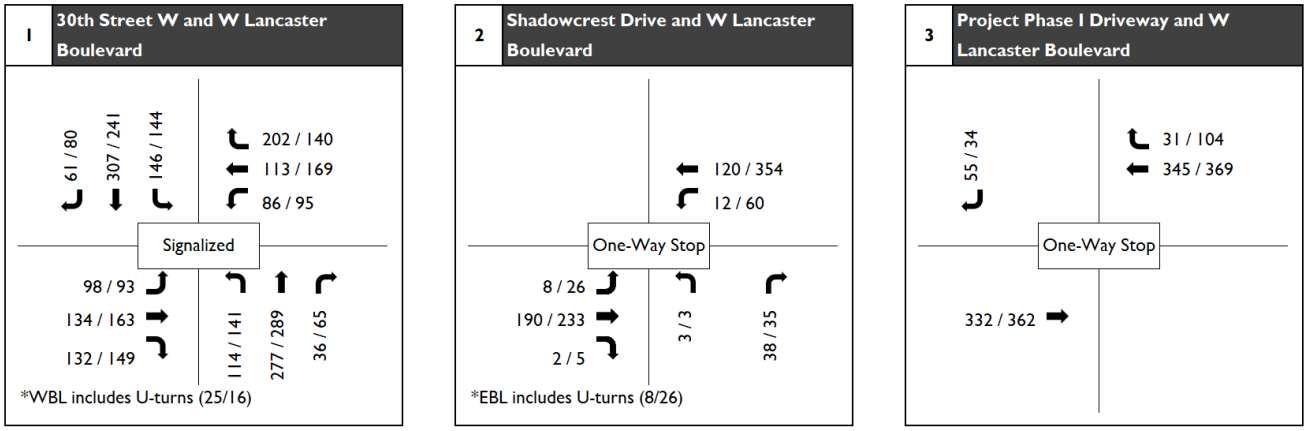
XX/XX AM/PM Peak Hour Volumes

Existing Year 2023 Peak Hour Intersection Volumes

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FIGURE 5



XX/XX AM/PM Peak Hour Volumes

Existing Plus Project Phase I Peak Hour Intersection Volumes

FIGURE 6

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Year 2024 Conditions

This section documents the circulation system conditions within the study area of the project under Year 2024 (existing plus ambient growth) and Year 2024 Plus Project Phase I conditions. Since Project Phase I is expected to be built and operational in 2024, a compounded annual growth rate of 1.25% was applied for one year to the Existing Year 2023 counts to develop Year 2024 baseline volumes. Project Phase I traffic volumes are then added to Year 2024 volumes to develop Year 2024 Plus Project Phase I traffic volumes. **Figures 7** and **8** show intersection turning volumes under Year 2024 and Year 2024 Plus Project Phase I conditions.

Analysis Results

Table 5 shows Year 2024 and Year 2024 Plus Project Phase I conditions intersection operation analysis results.

Table 5. Year 2024 Intersection Operation Analysis

		Year 2024				Year 2024 Plus Project Phase I			
		AM Peak		PM Peak		AM Peak		PM Peak	
Intersection	**Control**	**LOS[1]**	**Delay[2]**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
1. 30th St W and W Lancaster Blvd	Signal	C	22.1	C	25.6	C	24.4	C	28.0
2. Shadowcrest Dr and W Lancaster Blvd[3]	SSSC	A	9.2	B	10.1	A	9.3	B	10.5
3. Proj Ph I Dwy and W Lancaster Blvd	SSSC	Does not exist				A	9.9	B	10.1

1. LOS calculations are based on the methodology outlined in the Highway Capacity Manual 6th Edition and performed using Synchro 11.
2. Delay refers to the average control delay for the entire intersection, measured in seconds/vehicle, for signalized intersections. At unsignalized intersection, delay refers to the worst movement.
3. Project Phase I will improve this intersection to provide an exclusive eastbound left turn lane. Synchro 11 analysis includes a dummy north leg to model this left turn lane with U-turns.

Per the analysis results shown in Table 5, all analyzed intersections are anticipated to operate at an acceptable LOS under Year 2024 conditions. Additionally, all analyzed intersections are anticipated to operate at an acceptable LOS under Year 2024 Plus Project Phase I conditions. Year 2024 and Year 2024 Plus Project Phase I Conditions peak hour analysis worksheets are provided in **Appendix C**.

Although the Shadowcrest Drive and W Lancaster Boulevard intersection is anticipated to operate at an acceptable LOS under Year 2024 Plus Project Phase I Conditions, the City has requested a signal warrant analysis for this intersection. The addition of Project Phase I traffic would not cause the intersection to satisfy Warrant

3 Peak Hour criteria under Year 2024 Plus Project Phase I conditions. Signal warrant worksheets are provided in **Appendix E**. However, with future development, appropriate infrastructure improvements such as a traffic signal may be required, if it is warranted, and such infrastructure can be funded through fair share commensurate with the demand generated by developments.

Table 6 shows Year 2024 and Year 2024 Plus Project Phase I conditions queue analysis results. Queue analysis worksheets are included in **Appendix C**. As shown, the Project would not cause the queue at any of the analyzed movements to exceed the existing or proposed storage values:

- The southbound left turn movement at the 30th St W and W Lancaster Blvd intersection is anticipated to exceed the available storage under Year 2024 conditions, prior to the addition of Project Phase I traffic. Therefore, Project Phase I is not the cause of the queue exceedance.
- The westbound left turn movement with the addition of Project Phase I U-turns at the 30th St W and W Lancaster Blvd intersection is not anticipated to provide a queue that would exceed the available storage.
- The westbound left turn and through movements at the 30th St W and W Lancaster Blvd intersection are not anticipated to queue past the proposed location of the Project Phase I driveway. Therefore, added Project Phase I U-turning vehicles exiting the driveway would have enough clearance to queue in the exclusive westbound left turn lane.
- The proposed 50 ft storage length for the eastbound left turn lane at the Shadowcrest Dr and W Lancaster Blvd intersection would accommodate the anticipated queue from Project Phase I traffic.

Table 6. Year 2024 Intersection Operation Analysis

			Year 2024				Year 2024 Plus Project Phase I			
			AM Peak		PM Peak		AM Peak		PM Peak	
Intersection	Movement	Storage Length	Queue	Excess	Queue	Excess	Queue	Excess	Queue	Excess
1. 30th St W and W Lancaster Blvd	SBL	205	239	34	286	81	274	69	356	151
	WBL	305	65	-	117	-	152	-	172	-
	WBT	305[1]	81	-	104	-	79	-	104	-
2. Shadowcrest Dr and W Lancaster Blvd	EBL	50	N/A	N/A	N/A	N/A	12	-	31	-

Notes:
Storage length, queue and excess values are measured in feet.
1. This 305 ft length is for the proposed location of the Project Phase I driveway.

Phase I Gated Access

The assessment below demonstrates whether the proposed Phase I gated access will cause vehicular queue into the public right-of-way.

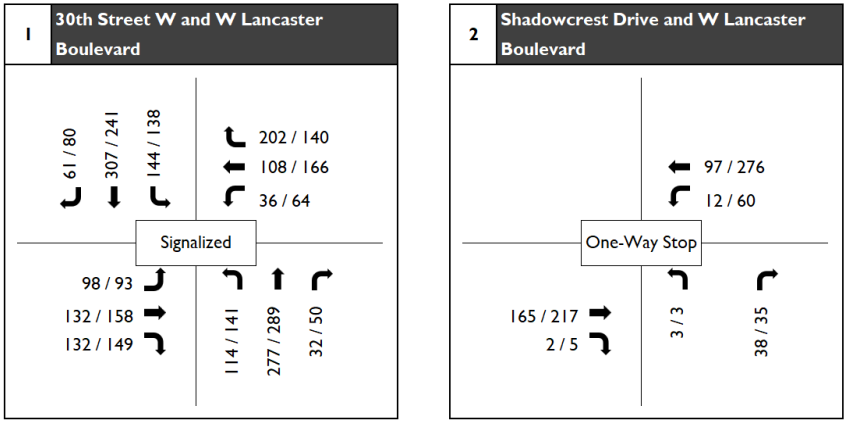
The Los Angeles Department of Transportation (LADOT) Manual of Policies & Procedures (MPP) Section 321 Appendix B[1] provides methodology to determine the queue length necessary to service traffic intensity based on random arrivals (Poisson distribution). This methodology is consistent with Transportation Research Board Report 165 Traffic Flow Theory, Chapter 8 Queuing Models[2]. Traffic intensity is calculated as the ratio of peak hour arrival rate to typical service rate.

The peak hour arrival rate (average number of vehicles expected to utilize the proposed drive-through lane) was determined based on the derived service utilization rate applied to unadjusted peak hour inbound trip generation.

As shown in **Table 1**, the proposed project is expected to generate 31 AM and 104 PM unadjusted inbound peak hour trips. The higher peak hour arrival rate of 104 vehicles per hour (vph) will be used. Based on the LADOT service rate for a coded card operated gate of 405 vph and the higher AM inbound arrival rates, the expected traffic intensities are 0.26 (104/405) for Phase I gate. Based on LADOT MPP Section 321 Appendix B Reservoir Needs vs Traffic Intensity graph included in **Appendix G**, the anticipated 99th-percentile queue for traffic intensities less than 0.3 is the minimum of 1 vehicle. This queue is in addition to 1 service position at the gate, resulting in a required storage of 2 vehicles. As per Figure 1, Phase I gate provides queue storage for approximately 5 vehicles based on the LADOT assumption of 20 feet per vehicle. Therefore, Phase I gate is anticipated to accommodate the queue demand for the project.

[1] https://planning.lacity.org/eir/8150Sunset/References/4.J.%20Transportation%20and%20Circulation/TRAF.03_LADOT%20Policies%20and%20Procedures_2013.pdf

[2] https://onlinepubs.trb.org/onlinepubs/sr/sr165/165.pdf



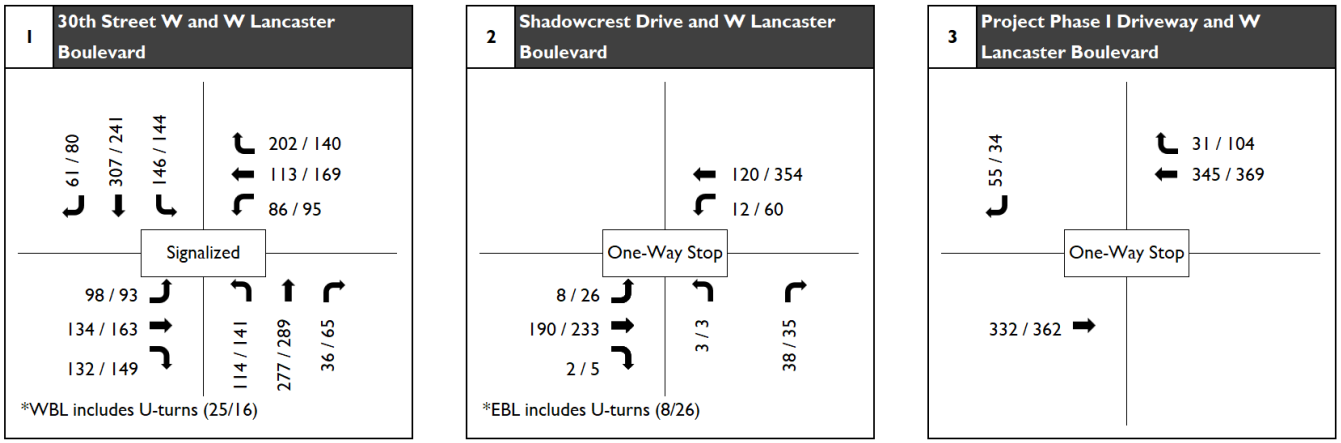
XX/XX AM/PM Peak Hour Volumes

Year 2024 Peak Hour Intersection Volumes

FIGURE 7

Desert Meadows

GENERAL TECHNOLOGIES & SOLUTIONS



XX/XX AM/PM Peak Hour Volumes

Year 2024 Plus Project Phase I Peak Hour Intersection Volumes

FIGURE 8

Desert Meadows

GENERAL TECHNOLOGIES & SOLUTIONS

Year 2026 Conditions

This section documents the circulation system conditions within the study area of the Project under Year 2026 (plus Ambient Growth, plus Related Projects) and Year 2026 Plus Project Phases I and II Conditions. Since Project Phase II is expected to be built and operational in 2026, a compounded annual growth rate of 1.25% was applied for three years to the Existing Year 2023 counts and related project trips were added to develop Year 2026 plus Ambient Growth, plus Related Project volumes. These related projects are listed in **Table 7** and the locations are shown in **Figure 9**. The cumulative project trip volumes assigned to the study intersections are shown in **Figure 10.**

Table 7. Related Projects

Location	Land Use[1]	Daily Trips
1. SWC 20th St W and W Ave I	392 DUs of multifamily housing	2,642
2. NWC 40th St W and W Lancaster Blvd	141 DUs of single family detached housing	1,015
3. SEC 40th St W and W A	154 DUs of single family detached housing	1,109
4. 23rd St W, 900 ft north of W Ave I	30,145 SF of office/storage building	327
5. 20th St W, 700 ft south of W Ave J	5,987 SF automated car wash with 1 tunnel	890
6. SWC 32nd St W and W Ave J	29 DUs of single family detached housing	209

Notes:
DU = Dwelling Unit and SF = Square Feet

Project Phases I and II traffic volumes were then added to Year 2026 volumes to develop Year 2026 Plus Project Phases I and II traffic volumes. **Figures 11** and **12** show intersection turning volumes under Year 2026 and Year 2026 Plus Project Phases I and II conditions.



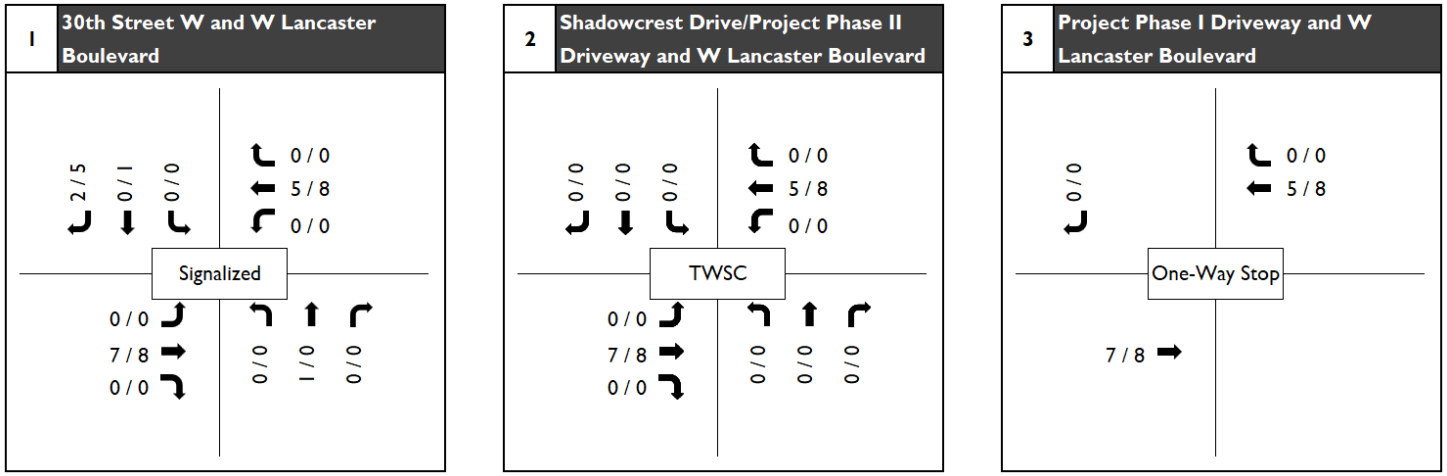
Related Project Locations

LEGEND **# Related Project**

Desert Meadows

FIGURE
9

GENERAL
TECHNOLOGIES &
SOLUTIONS



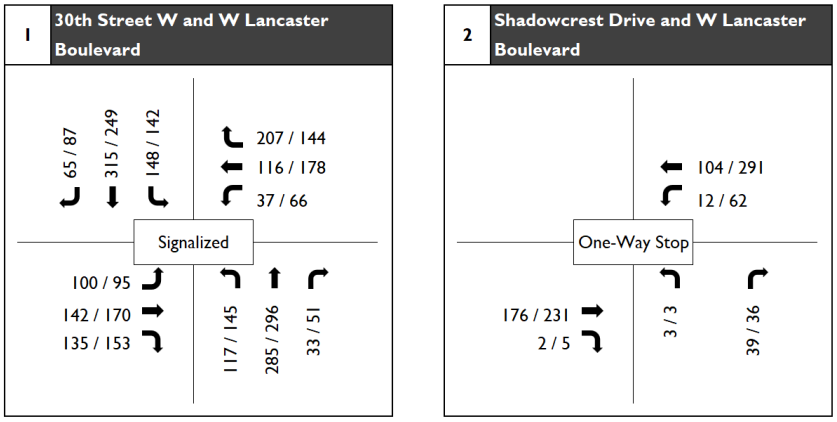
XX/XX AM/PM Peak Hour Volumes

Related Project Peak Hour Intersection Volumes

Desert Meadows

GENERAL TECHNOLOGIES & SOLUTIONS

FIGURE
10



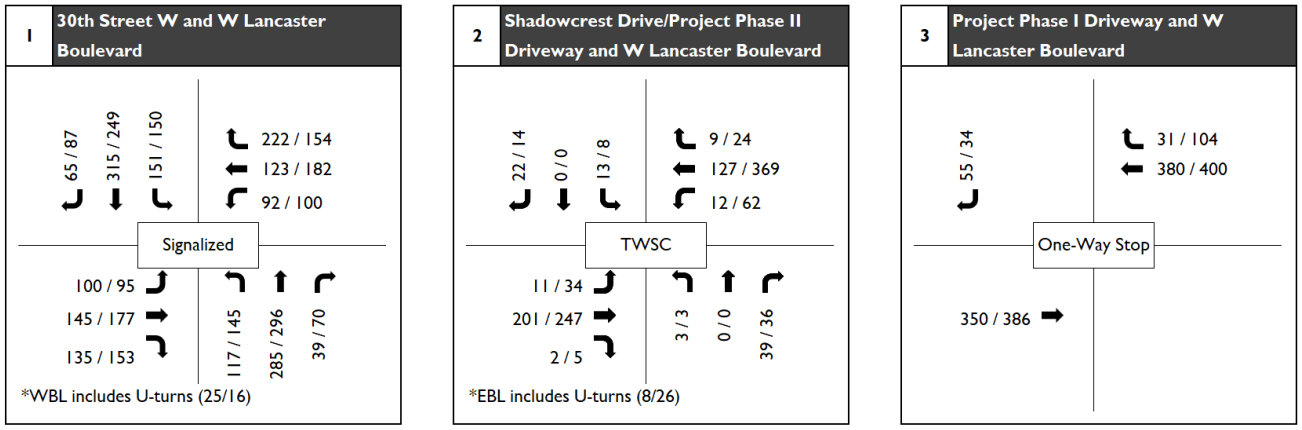
XX/XX AM/PM Peak Hour Volumes

Year 2026 Peak Hour Intersection Volumes

Desert Meadows

GENERAL TECHNOLOGIES & SOLUTIONS

FIGURE **12**



XX/XX AM/PM Peak Hour Volumes

Year 2026 Plus Project Phases I and II Peak Hour Intersection Volumes

FIGURE **12**

Desert Meadows

GENERAL TECHNOLOGIES & SOLUTIONS

Analysis Results

Table 8 shows Year 2026 and Year 2026 Plus Project Phases I and II conditions intersection operation analysis results.

Table 8. Year 2026 Intersection Operation Analysis

		Year 2026				Year 2026 Plus Project Phases I and II			
		AM Peak		PM Peak		AM Peak		PM Peak	
Intersection	Control	LOS[1]	Delay[2]	LOS	Delay	LOS	Delay	LOS	Delay
1. 30th St W and W Lancaster Blvd	Signal	C	23.3	C	26.0	C	25.4	C	34.0
2. Shadowcrest Dr/Proj Ph II Dwy and W Lancaster Blvd	SSSC	A	9.2	B	10.2	B	10.0	B	13.2
3. Proj Ph I Dwy and W Lancaster Blvd	SSSC	Does not exist				B	10.0	B	10.2

1. LOS calculations are based on the methodology outlined in the Highway Capacity Manual 6th Edition and performed using Synchro 11.
2. Delay refers to the average control delay for the entire intersection, measured in seconds/vehicle, for signalized intersections. At unsignalized intersection, delay refers to the worst movement.
3. Project Phase I will improve this intersection to include an exclusive eastbound left turn lane and Phase II will provide a project driveway as the north leg.

Per the analysis results shown in Table 8, all analyzed intersections are anticipated to operate at an acceptable LOS under Year 2026 conditions. Additionally, all analyzed intersections are anticipated to operate an acceptable LOS under Year 2026 Plus Project Phases I and II conditions. Year 2026 and Year 2026 Plus Project Phases I and II Conditions peak hour analysis worksheets are provided in **Appendix D**.

Although the Shadowcrest Drive/Project Phase II Driveway and W Lancaster Boulevard intersection is anticipated to operate at an acceptable LOS under Year 2026 Plus Project Phases I and II Conditions, the City has requested a signal warrant analysis for this intersection. The addition of Project Phases I and II traffic would not cause the intersection to satisfy Warrant 3 Peak Hour criteria under Year 2026 Plus Project Phases I and II Conditions. Signal warrant worksheets are provided in **Appendix E**. However, with future development, appropriate infrastructure improvements such as a traffic signal may be required, if it is warranted, and such infrastructure can be funded through fair share commensurate with the demand generated by developments.

Table 9 shows the Year 2026 Plus Project Phases I and II conditions intersection operation analysis results for the Shadowcrest Drive/Project Phase II Driveway and W Lancaster Boulevard intersection with traffic signal improvement. 2026 Plus Project Phases I and II Conditions with improvement peak hour analysis worksheets are provided in **Appendix D**.

Table 7. Year 2026 Intersection Operation Analysis

Intersection	Control	Year 2026 Plus Project Phases I and II			
		AM Peak		PM Peak	
		LOS	Delay	LOS	Delay
2. Shadowcrest Dr/Proj Ph II Dwy and W Lancaster Blvd	Signal	A	7.2	A	7.5

1. LOS calculations are based on the methodology outlined in the Highway Capacity Manual 6th Edition and performed using Synchro 11.
2. Delay refers to the average control delay for the entire intersection, measured in seconds/vehicle, for signalized intersections.

Table 9 shows Year 2026 and Year 2026 Plus Project Phases I and II conditions queue analysis results. Queue analysis worksheets are included in **Appendix D**. As shown, the Project would not cause the queue at any of the analyzed movements to exceed the existing or proposed storage values:

- The southbound left turn movement at the 30th St W and W Lancaster Blvd intersection is anticipated to exceed the available storage under Year 2026 conditions, prior to the addition of Project traffic. Therefore, the Project is not the cause of the queue exceedance.
- The westbound left turn movement with the addition of Project U-turns at the 30th St W and W Lancaster Blvd intersection is not anticipated to develop a vehicular queue that would exceed the available storage.
- The westbound left turn and through movements at the 30th St W and W Lancaster Blvd intersection are not anticipated to queue past the proposed location of the Project Phase II driveway. Therefore, added Project U-turning vehicles exiting the driveway would have enough clearance to queue in the exclusive westbound left turn lane.
- The proposed 50 ft storage length for the eastbound left turn lane at the Shadowcrest Dr/Project Phase II driveway and W Lancaster Blvd intersection would accommodate the anticipated queue from Project Phases I and II traffic.

Table 8. Year 2026 Intersection Operation Analysis

Intersection	Movement	Storage Length	Year 2026 AM Peak Queue	Year 2026 AM Peak Excess	Year 2026 PM Peak Queue	Year 2026 PM Peak Excess	Year 2026 Plus Project Phases I and II AM Peak Queue	Year 2026 Plus Project Phases I and II AM Peak Excess	Year 2026 Plus Project Phases I and II PM Peak Queue	Year 2026 Plus Project Phases I and II PM Peak Excess
1. 30th St W and W Lancaster Blvd	SBL	205	248	43	292	14	295	90	356	151
	WBL	305	72	-	126	-	145	-	194	-
	WBT	305[1]	92	-	106	-	80	-	115	-
2. Shadowcrest Dr/Proj Ph II Dwy and W Lancaster Blvd	EBL	50	N/A	N/A	N/A	N/A	14	-	35	-

Notes:
Storage length, queue and excess values are measured in feet.
1. This 305 ft length is for the proposed location of the Project Phase I driveway.

Phase II Gated Access

The assessment below demonstrates whether the proposed Phase I gated access will cause vehicular queue into the public right-of-way.

The Los Angeles Department of Transportation (LADOT) Manual of Policies & Procedures (MPP) Section 321 Appendix B[3] provides methodology to determine the queue length necessary to service traffic intensity based on random arrivals (Poisson distribution). This methodology is consistent with Transportation Research Board Report 165 Traffic Flow Theory, Chapter 8 Queuing Models[4]. Traffic intensity is calculated as the ratio of peak hour arrival rate to typical service rate.

The peak hour arrival rate (average number of vehicles expected to utilize the proposed drive-through lane) was determined based on the derived service utilization rate applied to unadjusted peak hour inbound trip generation.

As shown in **Table 1**, the proposed project is expected to generate 12 AM and 32 PM unadjusted inbound peak hour trips. The higher peak hour arrival rate of 32 vehicles per hour (vph) will be used. Based on the LADOT service rate for a coded card operated gate of 405 vph and the higher AM inbound arrival rates, the expected traffic intensities are 0.08 (32/405) for Phase I gate. Based on LADOT MPP Section 321 Appendix B Reservoir Needs vs Traffic Intensity graph included in **Appendix G**, the anticipated 99th-percentile queue for traffic intensities less than 0.3 is the

[3] https://planning.lacity.org/eir/8150Sunset/References/4.J.%20Transportation%20and%20Circulation/TRAF.03_LADOT%20Policies%20and%20Procedures_2013.pdf

[4] https://onlinepubs.trb.org/onlinepubs/sr/sr165/165.pdf

minimum of 1 vehicle. This queue is in addition to 1 service position at the gate, resulting in a required storage of 2 vehicles. As per Figure 1, Phase I gate provides queue storage for approximately 5 vehicles based on the LADOT assumption of 20 feet per vehicle. Therefore, Phase II gate is anticipated to accommodate the vehicular queue demand for the project.

Conclusion

This LTA evaluated the potential traffic deficiencies related to the Project in conformance with the analysis requirements per the City of Lancaster Department of Public Works *Local Transportation Assessment Guidelines* for the purposes of compliance with the City of Lancaster General Plan.

An intersection operation analysis was conducted per the Guidelines at the study area intersections for Existing Year 2023, Year 2024, and Year 2026 without and with Project conditions. Based on the analysis, all study intersections operate at satisfactory LOS D or better during the weekday AM and PM peak hours under all conditions.

Project will be conditioned to construct and eastbound left turn lane at the intersection of Shadowcrest Dr/Project Phase II driveway and W Lancaster Blvd. with a recommended length of 100 feet with the appropriate transition to the satisfaction of the City Engineer.

Appendix A. Traffic Counts

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Wed, May 10, 23

LOCATION: Lancaster
NORTH & SOUTH: 30th
EAST & WEST: Lancaster

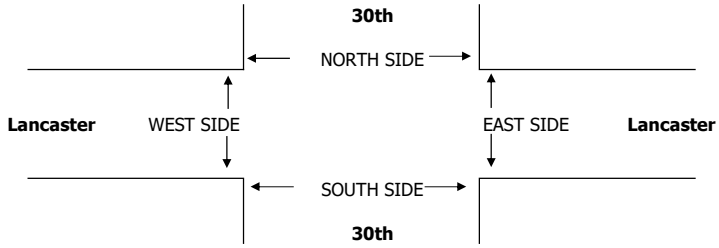
PROJECT #: SC4020
LOCATION #: 1
CONTROL: SIGNAL

NOTES:

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

☑ Add U-Turns to Left Turns

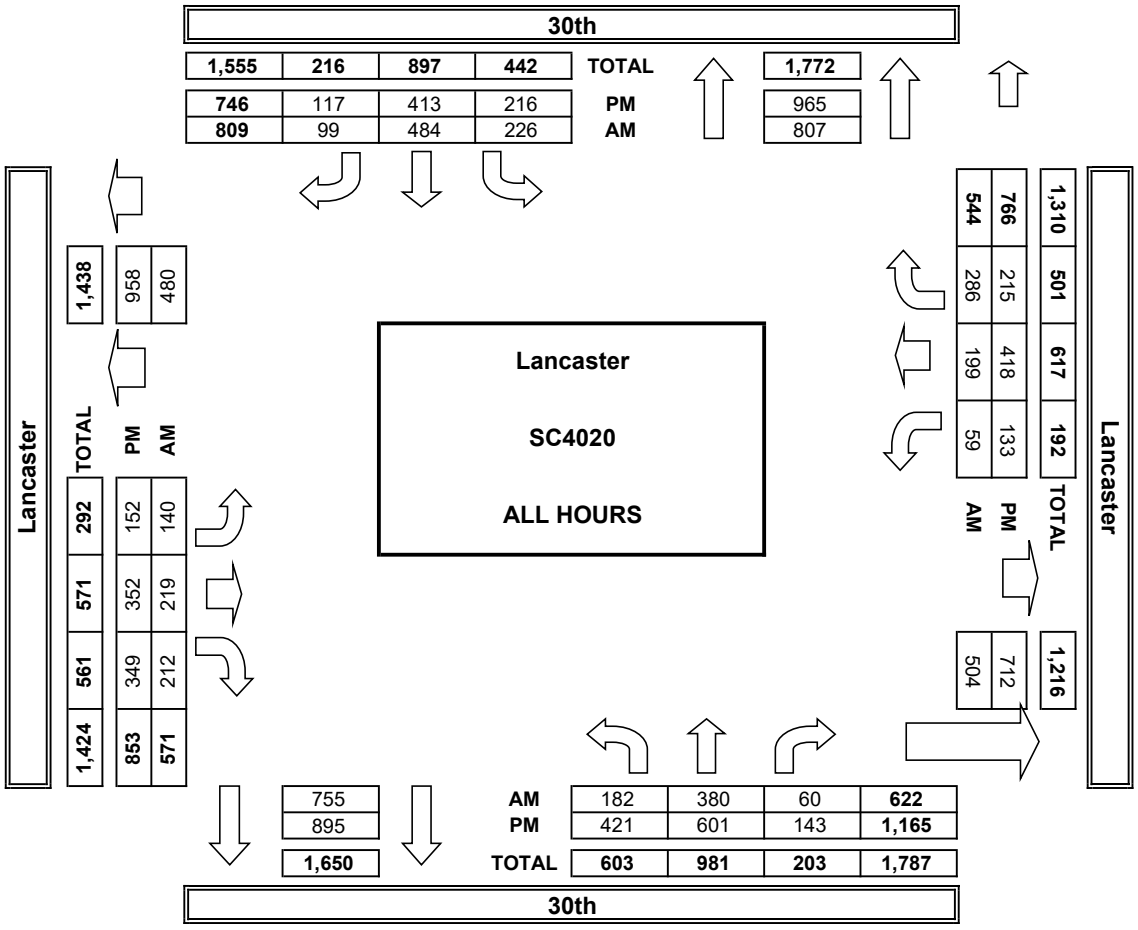
		NORTHBOUND 30th			SOUTHBOUND 30th			EASTBOUND Lancaster			WESTBOUND Lancaster				U-TURNS				
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 2	ER 1	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	11	13	5	5	16	5	2	10	6	4	16	11	104	0	1	0	0	1
	7:15 AM	14	20	8	10	37	7	4	30	16	3	15	8	172	0	0	0	0	0
	7:30 AM	23	38	6	21	54	11	19	27	37	9	37	36	318	0	0	0	0	0
	7:45 AM	21	32	7	40	66	7	23	37	40	9	38	37	357	0	0	0	0	0
	8:00 AM	38	63	7	19	63	19	16	38	43	6	15	33	360	0	0	0	0	0
	8:15 AM	20	69	11	28	72	10	25	28	30	10	31	57	391	0	0	0	0	0
	8:30 AM	33	109	6	55	102	24	32	27	17	10	22	72	509	0	0	0	0	0
	8:45 AM	22	36	10	48	74	16	19	22	23	8	25	32	335	0	0	0	0	0
	VOLUMES	182	380	60	226	484	99	140	219	212	59	199	286	2,546	0	1	0	0	1
	APPROACH %	29%	61%	10%	28%	60%	12%	25%	38%	37%	11%	37%	53%						
	APP/DEPART	622	/	807	809	/	755	571	/	504	544	/	480	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	112	273	31	142	303	60	96	130	130	35	106	199	1,617					
	APPROACH %	27%	66%	7%	28%	60%	12%	27%	37%	37%	10%	31%	59%						
	PEAK HR FACTOR		0.703			0.698			0.890			0.817		0.794					
	APP/DEPART	416	/	568	505	/	468	356	/	303	340	/	278	0					
PM	3:00 PM	44	46	14	9	24	9	18	33	29	9	31	20	286	0	0	0	0	0
	3:15 PM	39	55	9	7	33	6	31	45	42	11	40	31	349	0	0	0	0	0
	3:30 PM	40	95	13	14	38	6	21	41	24	12	34	40	378	0	0	0	0	0
	3:45 PM	28	74	18	78	113	50	23	35	35	23	47	46	570	0	0	0	0	0
	4:00 PM	32	61	9	37	54	17	16	35	46	17	42	21	387	0	0	1	0	1
	4:15 PM	33	30	12	16	38	11	5	24	24	6	35	7	241	1	0	0	0	1
	4:30 PM	31	30	15	10	22	4	7	26	16	8	34	10	213	0	0	0	0	0
	4:45 PM	31	47	13	6	22	6	4	14	32	8	30	7	220	0	0	0	0	0
	5:00 PM	39	51	10	14	19	2	12	18	21	14	48	7	255	0	0	1	0	1
	5:15 PM	31	32	11	10	21	3	7	30	30	7	27	12	221	0	0	0	1	1
	5:30 PM	34	36	11	8	13	3	6	27	21	12	28	11	210	0	0	0	0	0
	5:45 PM	39	44	8	7	16	0	2	24	29	6	22	3	200	0	0	1	0	1
	VOLUMES	421	601	143	216	413	117	152	352	349	133	418	215	3,530	1	0	3	1	5
	APPROACH %	36%	52%	12%	29%	55%	16%	18%	41%	41%	17%	55%	28%						
	APP/DEPART	1,165	/	965	746	/	895	853	/	712	766	/	958	0					
	BEGIN PEAK HR		3:15 PM																
	VOLUMES	139	285	49	136	238	79	91	156	147	63	163	138	1,684					
	APPROACH %	29%	60%	10%	30%	53%	17%	23%	40%	37%	17%	45%	38%						
	PEAK HR FACTOR		0.799			0.470			0.835			0.784		0.739					
	APP/DEPART	473	/	513	453	/	448	394	/	341	364	/	382	0					

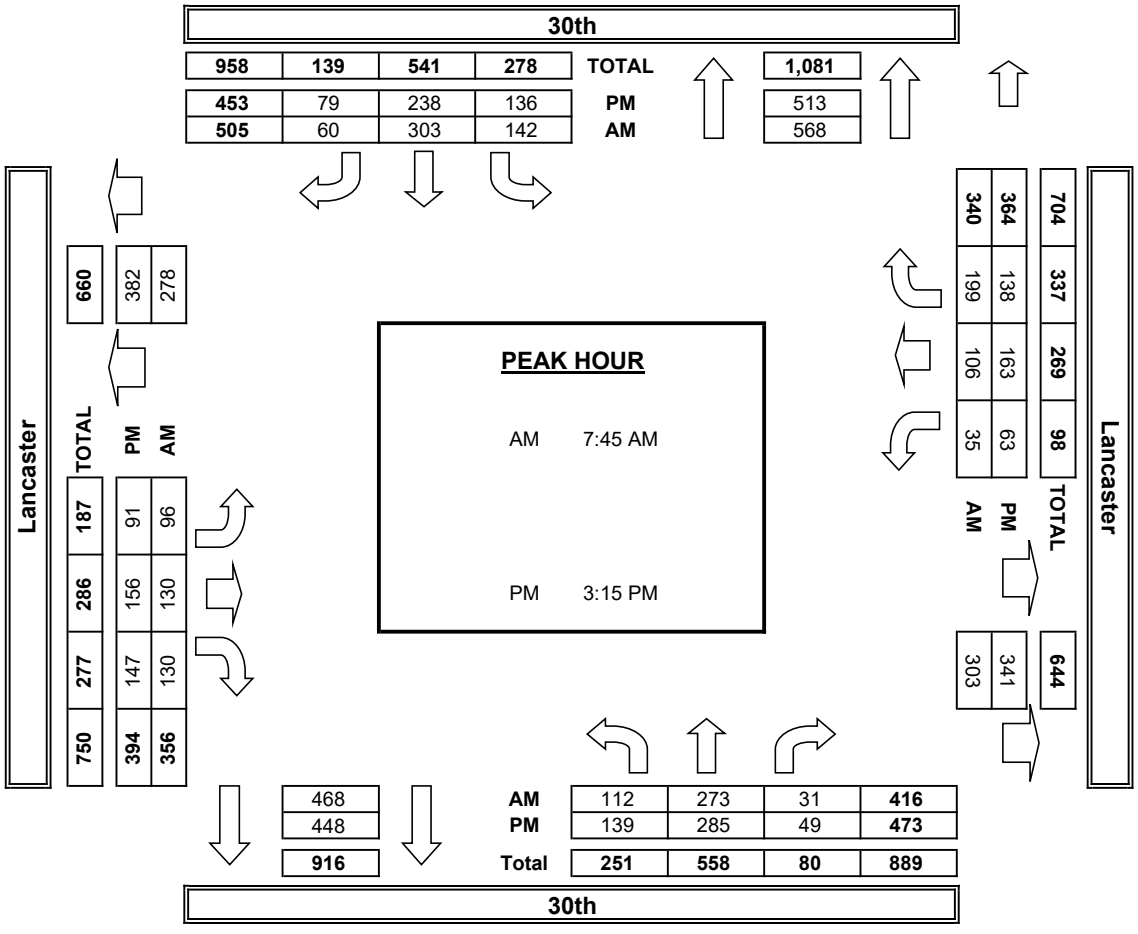


		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	1	1	0	2	0	1	1	0	2	0	0	0	0	0
	7:15 AM	0	0	0	3	3	0	0	0	3	3	0	0	0	0	0
	7:30 AM	1	0	1	1	3	1	0	1	0	2	0	0	0	1	1
	7:45 AM	0	0	5	0	5	0	0	4	0	4	0	0	1	0	1
	8:00 AM	0	0	2	9	11	0	0	2	9	11	0	0	0	0	0
	8:15 AM	0	1	5	3	9	0	1	4	2	7	0	0	1	1	2
	8:30 AM	0	1	5	4	10	0	0	2	4	6	0	1	3	0	4
	8:45 AM	3	0	0	0	3	3	0	0	0	3	0	0	0	0	0
	TOTAL	4	3	19	20	46	4	2	14	18	38	0	1	5	2	8
	AM BEGIN PEAK HR			7:45 AM			0	1	12	15	28					
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	4	4	0	0	0	3	3	0	0	0	1	1
	3:30 PM	0	0	2	1	3	0	0	2	1	3	0	0	0	0	0
	3:45 PM	1	1	20	25	47	1	1	18	25	45	0	0	2	0	2
	4:00 PM	0	0	6	8	14	0	0	4	8	12	0	0	2	0	2
	4:15 PM	1	0	2	8	11	1	0	2	8	11	0	0	0	0	0
	4:30 PM	2	1	4	3	10	2	1	3	1	7	0	0	1	2	3
	4:45 PM	0	0	0	2	2	0	0	0	1	1	0	0	0	1	1
	5:00 PM	2	1	2	1	6	2	0	1	1	4	0	1	1	0	2
	5:15 PM	0	2	4	1	7	0	2	4	1	7	0	0	0	0	0
	5:30 PM	0	0	3	0	3	0	0	2	0	2	0	0	1	0	1
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	6	5	43	53	107	6	4	36	49	95	0	1	7	4	12
	PM BEGIN PEAK HR			3:15 PM			1	1	24	37	63					

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Thu, Jun 15, 23

LOCATION: Lancaster
NORTH & SOUTH: Shadowcrest
EAST & WEST: Lancaster

PROJECT #: SC4093
LOCATION #: 2
CONTROL: STOP N

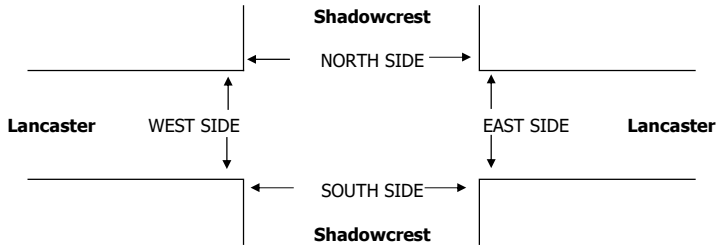
NOTES:

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

		NORTHBOUND Shadowcrest			SOUTHBOUND Shadowcrest			EASTBOUND Lancaster			WESTBOUND Lancaster			
	LANES:	NL 0	NT X	NR 0	SL X	ST X	SR X	EL X	ET 2	ER 0	WL 1	WT 2	WR X	TOTAL
AM	7:00 AM	1	0	6	0	0	0	0	14	1	0	19	0	41
	7:15 AM	1	0	8	0	0	0	0	24	0	4	30	0	67
	7:30 AM	0	0	9	0	0	0	0	31	0	1	18	0	59
	7:45 AM	2	0	12	0	0	0	0	46	0	2	29	0	91
	8:00 AM	0	0	7	0	0	0	0	36	0	2	20	0	65
	8:15 AM	0	0	6	0	0	0	0	40	0	5	15	0	66
	8:30 AM	0	0	12	0	0	0	0	40	1	2	31	0	86
	8:45 AM	2	0	9	0	0	0	0	48	0	1	30	0	90
	VOLUMES	6	0	69	0	0	0	0	279	2	17	192	0	565
	APPROACH %	8%	0%	92%	0%	0%	0%	0%	99%	1%	8%	92%	0%	
	APP/DEPART	75	/	0	0	/	19	281	/	348	209	/	198	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	2	0	37	0	0	0	0	162	1	11	95	0	308
	APPROACH %	5%	0%	95%	0%	0%	0%	0%	99%	1%	10%	90%	0%	
	PEAK HR FACTOR		0.696			0.000			0.886			0.803		0.846
	APP/DEPART	39	/	0	0	/	12	163	/	199	106	/	97	0
PM	3:00 PM	0	0	3	0	0	0	0	31	1	3	56	0	94
	3:15 PM	0	0	5	0	0	0	0	30	1	8	46	0	90
	3:30 PM	1	0	8	0	0	0	0	42	1	6	52	0	110
	3:45 PM	0	0	6	0	0	0	0	57	0	2	55	0	120
	4:00 PM	0	0	16	0	0	0	0	43	1	12	64	0	136
	4:15 PM	1	0	11	0	0	0	0	45	2	9	47	0	115
	4:30 PM	0	0	12	0	0	0	0	47	1	16	63	0	139
	4:45 PM	1	0	12	0	0	0	0	49	3	15	75	0	155
	5:00 PM	1	0	8	0	0	0	0	57	1	12	67	0	146
	5:15 PM	0	0	6	0	0	0	0	49	0	13	69	0	137
	5:30 PM	0	0	8	0	0	0	0	59	0	19	61	0	147
	5:45 PM	1	0	7	0	0	0	0	53	1	5	64	0	131
	VOLUMES	5	0	102	0	0	0	0	562	12	120	719	0	1,520
	APPROACH %	5%	0%	95%	0%	0%	0%	0%	98%	2%	14%	86%	0%	
	APP/DEPART	107	/	0	0	/	130	574	/	666	839	/	724	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	2	0	34	0	0	0	0	214	4	59	272	0	585
	APPROACH %	6%	0%	94%	0%	0%	0%	0%	98%	2%	18%	82%	0%	
	PEAK HR FACTOR		0.692			0.000			0.924			0.919		0.944
	APP/DEPART	36	/	0	0	/	62	218	/	249	331	/	274	0

U-TURNS

	NB	SB	EB	WB	TTL
AM 7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
PM 3:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	1	1
3:45 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	1	1
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	2	2



PEDESTRIAN + BIKE CROSSINGS

	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM 7:00 AM	0	2	0	0	2
7:15 AM	0	0	0	0	0
7:30 AM	1	0	0	0	1
7:45 AM	1	0	0	0	1
8:00 AM	0	1	0	0	1
8:15 AM	1	1	0	0	2
8:30 AM	0	3	1	0	4
8:45 AM	1	1	0	0	2
TOTAL	4	8	1	0	13
AM BEGIN PEAK HR	7:45 AM				
PM 3:00 PM	1	1	0	0	2
3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0
3:45 PM	0	1	0	0	1
4:00 PM	0	1	0	0	1
4:15 PM	0	1	0	0	1
4:30 PM	2	1	0	0	3
4:45 PM	0	0	0	0	0
5:00 PM	2	0	1	0	3
5:15 PM	0	3	0	0	3
5:30 PM	1	52	0	0	53
5:45 PM	0	3	0	0	3
TOTAL	6	63	1	0	70
PM BEGIN PEAK HR	4:45 PM				

PEDESTRIAN CROSSINGS

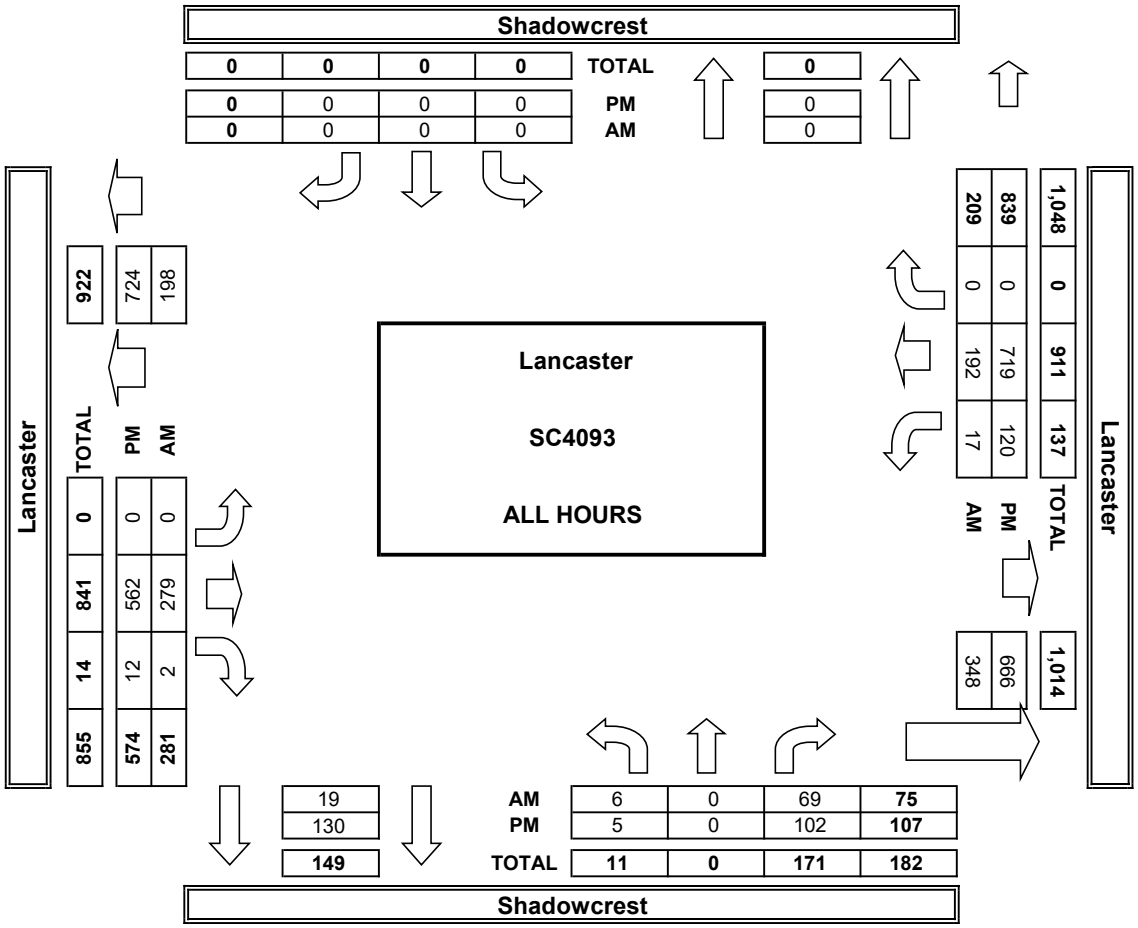
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM 7:00 AM	0	1	0	0	1
7:15 AM	0	0	0	0	0
7:30 AM	1	0	0	0	1
7:45 AM	1	0	0	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	1	0	0	1
8:30 AM	0	1	0	0	1
8:45 AM	1	1	0	0	2
TOTAL	3	4	0	0	7
AM BEGIN PEAK HR	1	2	0	0	3
PM 3:00 PM	1	1	0	0	2
3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0
3:45 PM	0	1	0	0	1
4:00 PM	0	1	0	0	1
4:15 PM	0	1	0	0	1
4:30 PM	2	1	0	0	3
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	2	0	0	2
5:30 PM	0	52	0	0	52
5:45 PM	0	3	0	0	3
TOTAL	3	62	0	0	65
PM BEGIN PEAK HR	0	54	0	0	54

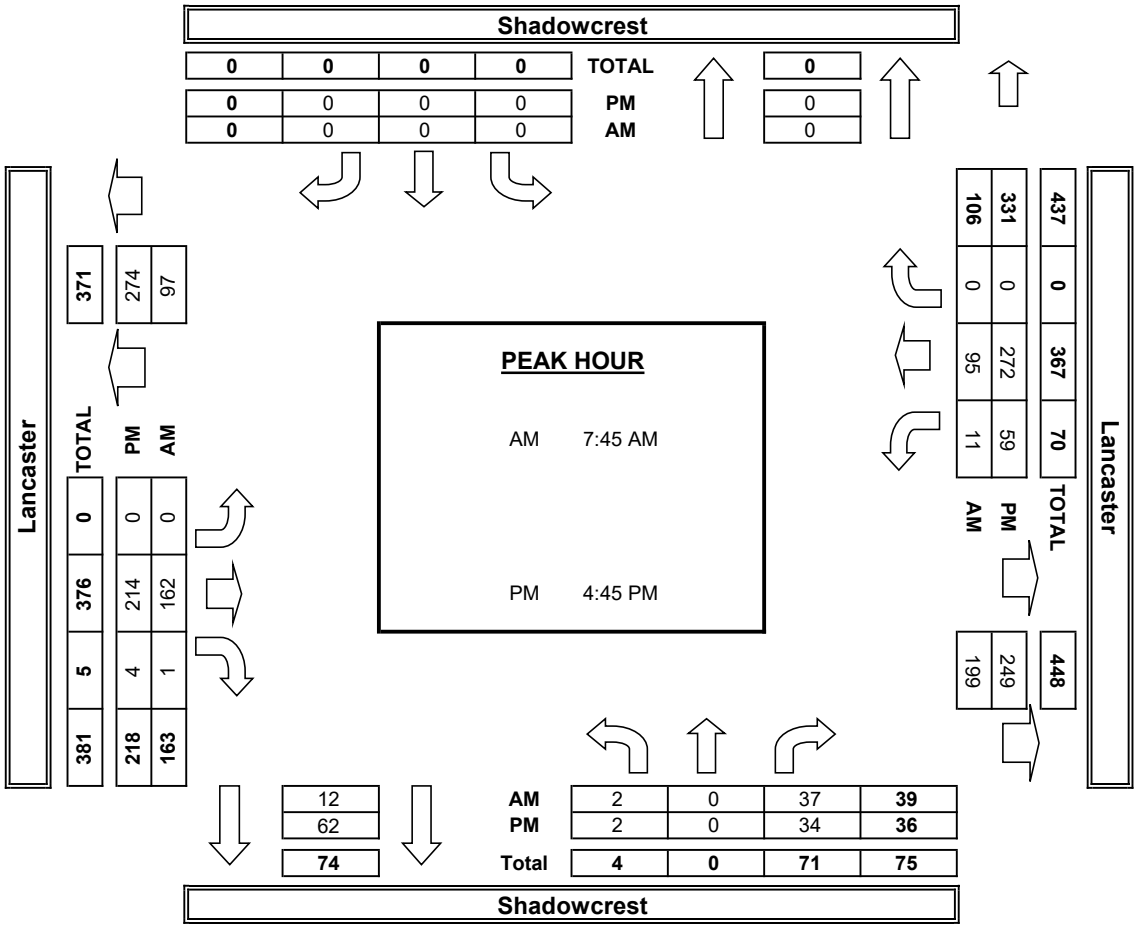
BICYCLE CROSSINGS

	NS	SS	ES	WS	TOTAL
AM 7:00 AM	0	1	0	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	1	0	0	1
8:15 AM	1	0	0	0	1
8:30 AM	0	2	1	0	3
8:45 AM	0	0	0	0	0
TOTAL	1	4	1	0	6
PM 3:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	2	0	1	0	3
5:15 PM	0	1	0	0	1
5:30 PM	1	0	0	0	1
5:45 PM	0	0	0	0	0
TOTAL	3	1	1	0	5

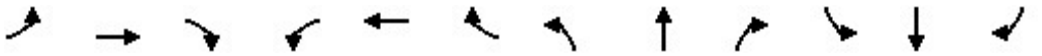
AimTD LLC

TURNING MOVEMENT COUNTS





Appendix B. Existing Year 2023 Conditions Peak Hour Intersection Analysis Worksheets



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	130	130	35	106	199	112	273	31	142	303	60
Future Volume (veh/h)	96	130	130	35	106	199	112	273	31	142	303	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.96	1.00		0.97
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	1782	1870	1585	1782	1870	1585	1782	1870	1585	1782	1870	1585
Adj Flow Rate, veh/h	122	165	165	44	134	252	142	346	39	180	384	76
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	1029	384	77	869	328	179	807	294	223	899	329
Arrive On Green	0.09	0.29	0.29	0.05	0.24	0.24	0.11	0.23	0.23	0.13	0.25	0.25
Sat Flow, veh/h	1697	3554	1325	1697	3554	1341	1697	3554	1295	1697	3554	1302
Grp Volume(v), veh/h	122	165	165	44	134	252	142	346	39	180	384	76
Grp Sat Flow(s),veh/h/ln	1697	1777	1325	1697	1777	1341	1697	1777	1295	1697	1777	1302
Q Serve(g_s), s	3.7	1.8	5.3	1.3	1.5	9.1	4.3	4.4	1.3	5.4	4.7	2.4
Cycle Q Clear(g_c), s	3.7	1.8	5.3	1.3	1.5	9.1	4.3	4.4	1.3	5.4	4.7	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	153	1029	384	77	869	328	179	807	294	223	899	329
V/C Ratio(X)	0.80	0.16	0.43	0.57	0.15	0.77	0.79	0.43	0.13	0.81	0.43	0.23
Avail Cap(c_a), veh/h	163	1975	736	163	1975	746	260	1839	670	260	1839	674
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	13.8	15.0	24.4	15.5	18.3	22.8	17.3	16.1	22.0	16.3	15.5
Incr Delay (d2), s/veh	22.5	0.1	0.8	6.6	0.1	3.8	10.0	0.4	0.2	14.9	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.6	1.3	0.6	0.5	2.6	1.9	1.5	0.3	2.7	1.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	13.9	15.8	31.0	15.6	22.1	32.8	17.6	16.3	36.9	16.6	15.8
LnGrp LOS	D	B	B	C	B	C	C	B	B	D	B	B
Approach Vol, veh/h		452			430			527			640	
Approach Delay, s/veh		23.2			21.0			21.6			22.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	15.8	6.4	19.1	9.5	17.2	8.7	16.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	27.0	5.0	29.0	8.0	27.0	5.0	29.0
Max Q Clear Time (g_c+I1), s	7.4	6.4	3.3	7.3	6.3	6.7	5.7	11.1
Green Ext Time (p_c), s	0.0	2.0	0.0	1.4	0.1	2.3	0.0	1.4

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

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	162	1	11	95	2	37
Future Vol, veh/h	162	1	11	95	2	37
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	191	1	13	112	2	44

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	194	0	276	98
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	82	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1377	-	691	939
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	932	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1374	-	683	937
Mov Cap-2 Maneuver	-	-	-	-	683	-
Stage 1	-	-	-	-	818	-
Stage 2	-	-	-	-	924	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.1
HCM LOS			A

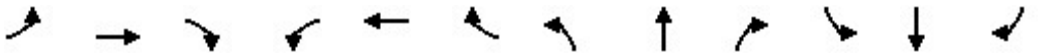
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	919	-	-	1374	-
HCM Lane V/C Ratio	0.05	-	-	0.009	-
HCM Control Delay (s)	9.1	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	168	110	85	78	78	94	59	110	144	140	116	61
Average Queue (ft)	74	40	16	26	27	42	10	43	71	70	43	11
95th Queue (ft)	137	82	49	53	61	78	35	84	124	119	93	34
Link Distance (ft)		604	604			1059	1059					
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			225	305			150	200			215
Storage Blk Time (%)								0				
Queuing Penalty (veh)								0				

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	186	147	117	42
Average Queue (ft)	93	74	45	15
95th Queue (ft)	166	126	95	34
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	205			210
Storage Blk Time (%)	1	0		
Queuing Penalty (veh)	2	0		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	156	147	63	163	138	139	285	49	136	238	79
Future Volume (veh/h)	91	156	147	63	163	138	139	285	49	136	238	79
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		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1782	1870	1585	1782	1870	1585	1782	1870	1585	1782	1870	1585
Adj Flow Rate, veh/h	123	211	199	85	220	186	188	385	66	184	322	107
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	792	299	111	709	267	230	1049	376	226	1040	374
Arrive On Green	0.09	0.22	0.22	0.07	0.20	0.20	0.14	0.30	0.30	0.13	0.29	0.29
Sat Flow, veh/h	1697	3554	1341	1697	3554	1341	1697	3554	1274	1697	3554	1276
Grp Volume(v), veh/h	123	211	199	85	220	186	188	385	66	184	322	107
Grp Sat Flow(s),veh/h/ln	1697	1777	1341	1697	1777	1341	1697	1777	1274	1697	1777	1276
Q Serve(g_s), s	4.0	2.8	7.6	2.8	3.0	7.3	6.1	4.8	2.2	5.9	4.0	3.7
Cycle Q Clear(g_c), s	4.0	2.8	7.6	2.8	3.0	7.3	6.1	4.8	2.2	5.9	4.0	3.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	792	299	111	709	267	230	1049	376	226	1040	374
V/C Ratio(X)	0.82	0.27	0.67	0.77	0.31	0.70	0.82	0.37	0.18	0.81	0.31	0.29
Avail Cap(c_a), veh/h	150	1826	689	150	1826	689	241	1700	609	241	1700	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.3	18.1	20.0	26.0	19.3	21.0	23.7	15.7	14.8	23.8	15.5	15.4
Incr Delay (d2), s/veh	28.5	0.2	2.5	15.0	0.2	3.2	18.7	0.2	0.2	18.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	1.0	2.2	1.4	1.0	2.1	3.3	1.6	0.5	3.2	1.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	18.3	22.6	40.9	19.5	24.2	42.4	15.9	15.0	42.0	15.7	15.8
LnGrp LOS	D	B	C	D	B	C	D	B	B	D	B	B
Approach Vol, veh/h		533			491			639			613	
Approach Delay, s/veh		28.1			25.0			23.6			23.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	20.7	7.7	16.6	11.7	20.5	9.0	15.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	27.0	5.0	29.0	8.0	27.0	5.0	29.0
Max Q Clear Time (g_c+I1), s	7.9	6.8	4.8	9.6	8.1	6.0	6.0	9.3
Green Ext Time (p_c), s	0.0	2.3	0.0	1.7	0.0	2.1	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	214	4	59	272	2	34
Future Vol, veh/h	214	4	59	272	2	34
Conflicting Peds, #/hr	0	54	54	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	228	4	63	289	2	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	286	0	555	170
Stage 1	-	-	-	-	284	-
Stage 2	-	-	-	-	271	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1273	-	462	844
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	750	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1208	-	416	801
Mov Cap-2 Maneuver	-	-	-	-	416	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	711	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	10
HCM LOS			B

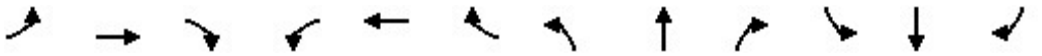
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	762	-	-	1208	-
HCM Lane V/C Ratio	0.05	-	-	0.052	-
HCM Control Delay (s)	10	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	267	195	67	91	126	114	93	84	281	330	262	51
Average Queue (ft)	122	59	21	34	58	55	29	34	157	116	70	15
95th Queue (ft)	263	143	52	67	111	99	69	65	287	282	190	34
Link Distance (ft)		604	604			1059	1059					
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			225	305			150	200			215
Storage Blk Time (%)	3	0							19	0		
Queuing Penalty (veh)	3	0							36	0		

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	262	352	253	62
Average Queue (ft)	157	109	65	23
95th Queue (ft)	256	297	224	46
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	205			210
Storage Blk Time (%)	19	0		
Queuing Penalty (veh)	31	0		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	132	130	85	111	199	112	273	35	144	303	60
Future Volume (veh/h)	96	132	130	85	111	199	112	273	35	144	303	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.96	1.00		0.97
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	1782	1870	1585	1575	1870	1585	1782	1870	1585	1782	1870	1585
Adj Flow Rate, veh/h	122	167	165	108	141	252	142	346	44	182	384	76
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	884	330	130	871	329	179	805	293	225	901	330
Arrive On Green	0.09	0.25	0.25	0.09	0.24	0.24	0.11	0.23	0.23	0.13	0.25	0.25
Sat Flow, veh/h	1697	3554	1324	1500	3554	1341	1697	3554	1294	1697	3554	1303
Grp Volume(v), veh/h	122	167	165	108	141	252	142	346	44	182	384	76
Grp Sat Flow(s),veh/h/ln	1697	1777	1324	1500	1777	1341	1697	1777	1294	1697	1777	1303
Q Serve(g_s), s	3.7	1.9	5.6	3.7	1.6	9.1	4.3	4.4	1.4	5.5	4.7	2.4
Cycle Q Clear(g_c), s	3.7	1.9	5.6	3.7	1.6	9.1	4.3	4.4	1.4	5.5	4.7	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	153	884	330	130	871	329	179	805	293	225	901	330
V/C Ratio(X)	0.80	0.19	0.50	0.83	0.16	0.77	0.79	0.43	0.15	0.81	0.43	0.23
Avail Cap(c_a), veh/h	194	1967	733	172	1967	743	259	1764	643	259	1764	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	15.5	16.9	23.6	15.5	18.4	22.9	17.4	16.2	22.1	16.4	15.5
Incr Delay (d2), s/veh	16.2	0.1	1.2	22.2	0.1	3.8	10.1	0.4	0.2	15.2	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.6	1.5	1.9	0.5	2.6	1.9	1.5	0.4	2.8	1.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	15.6	18.1	45.8	15.6	22.1	33.0	17.7	16.5	37.3	16.7	15.8
LnGrp LOS	D	B	B	D	B	C	C	B	B	D	B	B
Approach Vol, veh/h		454			501			532			642	
Approach Delay, s/veh		22.9			25.4			21.7			22.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	15.9	8.5	17.0	9.5	17.3	8.7	16.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	26.0	6.0	29.0	8.0	26.0	6.0	29.0
Max Q Clear Time (g_c+I1), s	7.5	6.4	5.7	7.6	6.3	6.7	5.7	11.1
Green Ext Time (p_c), s	0.0	2.0	0.0	1.4	0.1	2.3	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	187	1	11	118	0	2	0	37	0	0	0
Future Vol, veh/h	8	187	1	11	118	0	2	0	37	0	0	0
Conflicting Peds, #/hr	0	0	2	2	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	50	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	85	85	85	92	85	92	85	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	220	1	13	139	0	2	0	44	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	139	0	0	223	0	0	337	406	113	293	406	70
Stage 1	-	-	-	-	-	-	241	241	-	165	165	-
Stage 2	-	-	-	-	-	-	96	165	-	128	241	-
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	1442	-	-	1343	-	0	593	533	918	637	533	978
Stage 1	-	-	-	-	-	0	741	705	-	821	761	-
Stage 2	-	-	-	-	-	0	900	761	-	862	705	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1442	-	-	1340	-	-	585	523	916	599	523	978
Mov Cap-2 Maneuver	-	-	-	-	-	-	585	523	-	599	523	-
Stage 1	-	-	-	-	-	-	735	699	-	816	753	-
Stage 2	-	-	-	-	-	-	891	753	-	816	699	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.7	9.3	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	890	1442	-	-	1340	-	-
HCM Lane V/C Ratio	0.052	0.006	-	-	0.01	-	-
HCM Control Delay (s)	9.3	7.5	-	-	7.7	-	0
HCM Lane LOS	A	A	-	-	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	328	340	31	0	55
Future Vol, veh/h	0	328	340	31	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	357	370	34	0	60

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	202
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	805
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	805
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	805
HCM Lane V/C Ratio	-	-	-	0.074
HCM Control Delay (s)	-	-	-	9.8
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	UL	T	T	R	L	T	T	R
Maximum Queue (ft)	156	106	52	69	141	89	66	97	190	140	116	46
Average Queue (ft)	72	48	15	27	56	40	17	43	83	73	46	11
95th Queue (ft)	138	90	42	53	109	76	48	77	148	121	94	29
Link Distance (ft)		604	604			418	418					
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			225	305			150	200			215
Storage Blk Time (%)									1			
Queuing Penalty (veh)									1			

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	243	331	240	53
Average Queue (ft)	127	125	90	16
95th Queue (ft)	250	366	305	37
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	205			210
Storage Blk Time (%)	11	0	0	
Queuing Penalty (veh)	22	0	0	

Intersection: 2: Shadowcrest Drive & W Lancaster Blvd

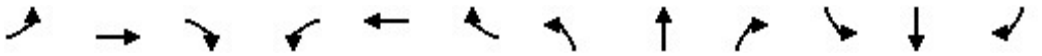
Movement	EB	WB	NB
Directions Served	UL	L	LTR
Maximum Queue (ft)	17	21	54
Average Queue (ft)	1	1	22
95th Queue (ft)	11	11	45
Link Distance (ft)			436
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50	150	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: W Lancaster Blvd & Phase I Dwy

Movement	SB
Directions Served	R
Maximum Queue (ft)	58
Average Queue (ft)	31
95th Queue (ft)	54
Link Distance (ft)	182
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 23



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	161	147	94	166	138	139	285	64	142	238	79
Future Volume (veh/h)	91	161	147	94	166	138	139	285	64	142	238	79
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		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1782	1870	1585	1575	1870	1585	1782	1870	1585	1782	1870	1585
Adj Flow Rate, veh/h	123	218	199	127	224	186	188	385	86	192	322	107
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	731	276	152	767	290	229	1025	367	229	1025	368
Arrive On Green	0.09	0.21	0.21	0.10	0.22	0.22	0.13	0.29	0.29	0.13	0.29	0.29
Sat Flow, veh/h	1697	3554	1341	1500	3554	1341	1697	3554	1272	1697	3554	1275
Grp Volume(v), veh/h	123	218	199	127	224	186	188	385	86	192	322	107
Grp Sat Flow(s),veh/h/ln	1697	1777	1341	1500	1777	1341	1697	1777	1272	1697	1777	1275
Q Serve(g_s), s	4.2	3.1	8.2	4.9	3.1	7.5	6.4	5.1	3.1	6.5	4.2	3.9
Cycle Q Clear(g_c), s	4.2	3.1	8.2	4.9	3.1	7.5	6.4	5.1	3.1	6.5	4.2	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	731	276	152	767	290	229	1025	367	229	1025	368
V/C Ratio(X)	0.80	0.30	0.72	0.84	0.29	0.64	0.82	0.38	0.23	0.84	0.31	0.29
Avail Cap(c_a), veh/h	172	1737	656	152	1737	656	229	1558	558	229	1558	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	19.9	22.0	26.2	19.5	21.2	25.0	16.8	16.1	25.0	16.5	16.4
Incr Delay (d2), s/veh	20.7	0.2	3.6	31.7	0.2	2.4	20.7	0.2	0.3	23.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	1.1	2.4	2.9	1.1	2.2	3.5	1.7	0.8	3.7	1.4	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	20.2	25.5	57.8	19.7	23.5	45.7	17.1	16.4	48.2	16.7	16.8
LnGrp LOS	D	C	C	E	B	C	D	B	B	D	B	B
Approach Vol, veh/h		540			537			659			621	
Approach Delay, s/veh		28.3			30.0			25.1			26.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	21.1	10.0	16.2	12.0	21.1	9.4	16.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	26.0	6.0	29.0	8.0	26.0	6.0	29.0
Max Q Clear Time (g_c+I1), s	8.5	7.1	6.9	10.2	8.4	6.2	6.2	9.5
Green Ext Time (p_c), s	0.0	2.3	0.0	1.7	0.0	2.0	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	27.3
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	230	4	59	350	0	2	0	34	0	0	0
Future Vol, veh/h	26	230	4	59	350	0	2	0	34	0	0	0
Conflicting Peds, #/hr	0	0	54	54	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	50	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	94	94	94	94	92	94	92	94	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	245	4	63	372	0	2	0	36	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	372	0	0	303	0	0	669	855	179	677	857	186
Stage 1	-	-	-	-	-	-	357	357	-	498	498	-
Stage 2	-	-	-	-	-	-	312	498	-	179	359	-
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	1183	-	-	1255	-	0	343	294	833	339	293	824
Stage 1	-	-	-	-	-	0	633	627	-	523	543	-
Stage 2	-	-	-	-	-	0	673	543	-	805	626	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1183	-	-	1190	-	-	307	258	790	305	257	824
Mov Cap-2 Maneuver	-	-	-	-	-	-	307	258	-	305	257	-
Stage 1	-	-	-	-	-	-	586	581	-	510	514	-
Stage 2	-	-	-	-	-	-	637	514	-	750	580	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1.2	10.2	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	727	1183	-	-	1190	-	-
HCM Lane V/C Ratio	0.053	0.024	-	-	0.053	-	-
HCM Control Delay (s)	10.2	8.1	-	-	8.2	-	0
HCM Lane LOS	B	A	-	-	A	-	A
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	357	364	104	0	34
Future Vol, veh/h	0	357	364	104	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	388	396	113	0	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	255
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	744
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	744
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	744
HCM Lane V/C Ratio	-	-	-	0.05
HCM Control Delay (s)	-	-	-	10.1
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	UL	T	T	R	L	T	T	R
Maximum Queue (ft)	189	140	103	86	194	104	90	80	296	364	278	59
Average Queue (ft)	86	66	22	37	83	52	33	36	173	132	82	19
95th Queue (ft)	161	117	61	69	162	90	72	67	309	335	251	42
Link Distance (ft)		604	604			418	418					
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			225	305			150	200			215
Storage Blk Time (%)					0		0		23	0		
Queuing Penalty (veh)					0		0		45	0		

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	271	351	249	70
Average Queue (ft)	173	137	74	24
95th Queue (ft)	301	356	252	51
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	205			210
Storage Blk Time (%)	24	0	0	
Queuing Penalty (veh)	38	0	0	

Intersection: 2: Shadowcrest Drive & W Lancaster Blvd

Movement	EB	EB	WB	NB
Directions Served	UL	TR	L	LTR
Maximum Queue (ft)	38	3	41	58
Average Queue (ft)	8	0	8	23
95th Queue (ft)	27	2	30	45
Link Distance (ft)		590		436
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	50		150	
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

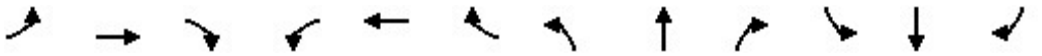
Intersection: 3: W Lancaster Blvd & Phase I Dwy

Movement	SB
Directions Served	R
Maximum Queue (ft)	47
Average Queue (ft)	20
95th Queue (ft)	46
Link Distance (ft)	182
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 84

Appendix C. Year 2024 Conditions Peak Hour Intersection Analysis Worksheets



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	132	132	36	108	202	114	277	32	144	307	61
Future Volume (veh/h)	98	132	132	36	108	202	114	277	32	144	307	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.96	1.00		0.97
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	1782	1870	1585	1782	1870	1585	1782	1870	1585	1782	1870	1585
Adj Flow Rate, veh/h	124	167	167	46	137	256	144	351	41	182	389	77
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	1039	387	79	877	331	181	805	293	225	897	329
Arrive On Green	0.09	0.29	0.29	0.05	0.25	0.25	0.11	0.23	0.23	0.13	0.25	0.25
Sat Flow, veh/h	1697	3554	1325	1697	3554	1341	1697	3554	1294	1697	3554	1302
Grp Volume(v), veh/h	124	167	167	46	137	256	144	351	41	182	389	77
Grp Sat Flow(s),veh/h/ln	1697	1777	1325	1697	1777	1341	1697	1777	1294	1697	1777	1302
Q Serve(g_s), s	3.8	1.8	5.4	1.4	1.6	9.4	4.4	4.5	1.3	5.5	4.9	2.5
Cycle Q Clear(g_c), s	3.8	1.8	5.4	1.4	1.6	9.4	4.4	4.5	1.3	5.5	4.9	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	1039	387	79	877	331	181	805	293	225	897	329
V/C Ratio(X)	0.80	0.16	0.43	0.58	0.16	0.77	0.79	0.44	0.14	0.81	0.43	0.23
Avail Cap(c_a), veh/h	192	2013	750	160	1946	734	256	1744	635	256	1744	639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	13.9	15.2	24.8	15.6	18.6	23.1	17.6	16.4	22.3	16.6	15.7
Incr Delay (d2), s/veh	16.9	0.1	0.8	6.7	0.1	3.9	10.7	0.4	0.2	15.6	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.6	1.3	0.6	0.5	2.7	2.0	1.5	0.3	2.8	1.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.5	14.0	15.9	31.4	15.7	22.4	33.8	17.9	16.6	37.9	17.0	16.1
LnGrp LOS	D	B	B	C	B	C	C	B	B	D	B	B
Approach Vol, veh/h		458			439			536			648	
Approach Delay, s/veh		21.9			21.3			22.1			22.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	16.0	6.5	19.5	9.7	17.4	8.9	17.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	26.0	5.0	30.0	8.0	26.0	6.0	29.0
Max Q Clear Time (g_c+I1), s	7.5	6.5	3.4	7.4	6.4	6.9	5.8	11.4
Green Ext Time (p_c), s	0.0	2.0	0.0	1.4	0.1	2.3	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	165	2	12	97	3	38
Future Vol, veh/h	165	2	12	97	3	38
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	194	2	14	114	4	45

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	198	0	282	100
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	85	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1372	-	685	936
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1369	-	677	934
Mov Cap-2 Maneuver	-	-	-	-	677	-
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	920	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.2
HCM LOS			A

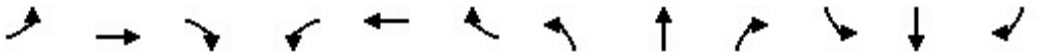
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	909	-	-	1369	-
HCM Lane V/C Ratio	0.053	-	-	0.01	-
HCM Control Delay (s)	9.2	-	-	7.7	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	192	90	50	77	73	99	62	117	171	144	109	38
Average Queue (ft)	85	40	15	27	32	44	11	43	84	72	45	10
95th Queue (ft)	168	75	40	54	65	81	36	84	149	123	92	26
Link Distance (ft)		604	604			1059	1059					
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			225	305			150	200			215
Storage Blk Time (%)								0	0			
Queuing Penalty (veh)								0	1			

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	260	347	250	51
Average Queue (ft)	127	107	66	17
95th Queue (ft)	239	281	207	38
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	205			210
Storage Blk Time (%)	8	0		
Queuing Penalty (veh)	16	0		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	158	149	64	166	140	141	289	50	138	241	80
Future Volume (veh/h)	93	158	149	64	166	140	141	289	50	138	241	80
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		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1782	1870	1585	1782	1870	1585	1782	1870	1585	1782	1870	1585
Adj Flow Rate, veh/h	126	214	201	86	224	189	191	391	68	186	326	108
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	796	300	111	716	270	233	1049	376	228	1038	373
Arrive On Green	0.09	0.22	0.22	0.07	0.20	0.20	0.14	0.30	0.30	0.13	0.29	0.29
Sat Flow, veh/h	1697	3554	1341	1697	3554	1341	1697	3554	1274	1697	3554	1276
Grp Volume(v), veh/h	126	214	201	86	224	189	191	391	68	186	326	108
Grp Sat Flow(s),veh/h/ln	1697	1777	1341	1697	1777	1341	1697	1777	1274	1697	1777	1276
Q Serve(g_s), s	4.2	2.8	7.8	2.8	3.1	7.5	6.2	5.0	2.3	6.1	4.1	3.7
Cycle Q Clear(g_c), s	4.2	2.8	7.8	2.8	3.1	7.5	6.2	5.0	2.3	6.1	4.1	3.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	149	796	300	111	716	270	233	1049	376	228	1038	373
V/C Ratio(X)	0.85	0.27	0.67	0.78	0.31	0.70	0.82	0.37	0.18	0.82	0.31	0.29
Avail Cap(c_a), veh/h	149	1811	684	149	1811	683	239	1686	604	239	1686	605
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	18.2	20.2	26.2	19.4	21.1	23.9	15.9	14.9	24.0	15.7	15.6
Incr Delay (d2), s/veh	33.6	0.2	2.6	16.3	0.2	3.3	19.4	0.2	0.2	18.8	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	1.0	2.2	1.5	1.1	2.2	3.4	1.6	0.5	3.2	1.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.2	18.4	22.7	42.5	19.6	24.4	43.2	16.1	15.2	42.7	15.9	16.0
LnGrp LOS	E	B	C	D	B	C	D	B	B	D	B	B
Approach Vol, veh/h		541			499			650			620	
Approach Delay, s/veh		29.5			25.4			24.0			23.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	20.8	7.7	16.7	11.8	20.6	9.0	15.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	27.0	5.0	29.0	8.0	27.0	5.0	29.0
Max Q Clear Time (g_c+I1), s	8.1	7.0	4.8	9.8	8.2	6.1	6.2	9.5
Green Ext Time (p_c), s	0.0	2.3	0.0	1.7	0.0	2.1	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	217	5	60	276	3	35
Future Vol, veh/h	217	5	60	276	3	35
Conflicting Peds, #/hr	0	54	54	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	231	5	64	294	3	37

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	290	0	563	172
Stage 1	-	-	-	-	288	-
Stage 2	-	-	-	-	275	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1269	-	456	842
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	747	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1204	-	410	799
Mov Cap-2 Maneuver	-	-	-	-	410	-
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	707	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	10.1
HCM LOS			B

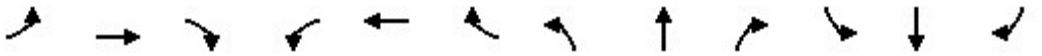
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	743	-	-	1204	-
HCM Lane V/C Ratio	0.054	-	-	0.053	-
HCM Control Delay (s)	10.1	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	212	124	62	76	133	121	99	84	302	412	325	44
Average Queue (ft)	100	57	22	32	62	59	30	34	189	143	91	16
95th Queue (ft)	200	101	54	59	117	104	76	65	318	352	268	34
Link Distance (ft)		604	604			1059	1059					
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			225	305			150	200			215
Storage Blk Time (%)	0								28	0		
Queuing Penalty (veh)	0								55	0		

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	247	271	190	61
Average Queue (ft)	142	94	49	22
95th Queue (ft)	286	233	155	46
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	205			210
Storage Blk Time (%)	10	0		
Queuing Penalty (veh)	17	0		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	134	132	86	113	202	114	277	36	146	307	61
Future Volume (veh/h)	98	134	132	86	113	202	114	277	36	146	307	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.96	1.00		0.97
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	1782	1870	1585	1575	1870	1585	1782	1870	1585	1782	1870	1585
Adj Flow Rate, veh/h	124	170	167	109	143	256	144	351	46	185	389	77
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	893	333	131	878	331	181	806	293	228	904	331
Arrive On Green	0.09	0.25	0.25	0.09	0.25	0.25	0.11	0.23	0.23	0.13	0.25	0.25
Sat Flow, veh/h	1697	3554	1324	1500	3554	1341	1697	3554	1295	1697	3554	1303
Grp Volume(v), veh/h	124	170	167	109	143	256	144	351	46	185	389	77
Grp Sat Flow(s),veh/h/ln	1697	1777	1324	1500	1777	1341	1697	1777	1295	1697	1777	1303
Q Serve(g_s), s	3.8	2.0	5.8	3.8	1.7	9.5	4.4	4.5	1.5	5.6	4.9	2.5
Cycle Q Clear(g_c), s	3.8	2.0	5.8	3.8	1.7	9.5	4.4	4.5	1.5	5.6	4.9	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	893	333	131	878	331	181	806	293	228	904	331
V/C Ratio(X)	0.80	0.19	0.50	0.83	0.16	0.77	0.79	0.44	0.16	0.81	0.43	0.23
Avail Cap(c_a), veh/h	159	1933	720	141	1933	730	255	1800	656	255	1800	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	15.7	17.1	23.9	15.7	18.7	23.2	17.7	16.5	22.4	16.6	15.8
Incr Delay (d2), s/veh	23.6	0.1	1.2	31.2	0.1	3.8	10.9	0.4	0.2	16.2	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.7	1.5	2.3	0.6	2.7	2.0	1.5	0.4	2.9	1.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.3	15.8	18.3	55.1	15.8	22.5	34.1	18.1	16.8	38.6	17.0	16.1
LnGrp LOS	D	B	B	E	B	C	C	B	B	D	B	B
Approach Vol, veh/h		461			508			541			651	
Approach Delay, s/veh		25.2			27.6			22.2			23.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	16.1	8.7	17.4	9.7	17.6	8.9	17.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	27.0	5.0	29.0	8.0	27.0	5.0	29.0
Max Q Clear Time (g_c+I1), s	7.6	6.5	5.8	7.8	6.4	6.9	5.8	11.5
Green Ext Time (p_c), s	0.0	2.0	0.0	1.4	0.0	2.4	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	190	2	12	120	0	3	0	38	0	0	0
Future Vol, veh/h	8	190	2	12	120	0	3	0	38	0	0	0
Conflicting Peds, #/hr	0	0	2	2	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	50	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	85	85	85	92	85	92	85	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	224	2	14	141	0	4	0	45	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	141	0	0	228	0	0	344	414	115	299	415	71
Stage 1	-	-	-	-	-	-	245	245	-	169	169	-
Stage 2	-	-	-	-	-	-	99	169	-	130	246	-
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	1440	-	-	1337	-	0	586	527	916	631	527	977
Stage 1	-	-	-	-	-	0	737	702	-	816	758	-
Stage 2	-	-	-	-	-	0	896	758	-	860	701	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1440	-	-	1334	-	-	577	518	914	593	518	977
Mov Cap-2 Maneuver	-	-	-	-	-	-	577	518	-	593	518	-
Stage 1	-	-	-	-	-	-	731	696	-	811	750	-
Stage 2	-	-	-	-	-	-	887	750	-	813	695	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.7	9.3	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	877	1440	-	-	1334	-	-
HCM Lane V/C Ratio	0.055	0.006	-	-	0.011	-	-
HCM Control Delay (s)	9.3	7.5	-	-	7.7	-	0
HCM Lane LOS	A	A	-	-	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	332	345	31	0	55
Future Vol, veh/h	0	332	345	31	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	361	375	34	0	60

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	205
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	802
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	802
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	802
HCM Lane V/C Ratio	-	-	-	0.075
HCM Control Delay (s)	-	-	-	9.9
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	UL	T	T	R	L	T	T	R
Maximum Queue (ft)	217	107	63	71	181	98	74	110	175	156	113	45
Average Queue (ft)	91	49	17	29	75	42	21	48	86	72	44	12
95th Queue (ft)	174	90	47	57	152	79	56	87	156	127	94	31
Link Distance (ft)		604	604			418	418					
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			225	305			150	200			215
Storage Blk Time (%)					0			0	1	0		
Queuing Penalty (veh)					0			0	1	0		

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	267	307	193	44
Average Queue (ft)	144	117	66	16
95th Queue (ft)	274	294	199	36
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	205			210
Storage Blk Time (%)	16	0		
Queuing Penalty (veh)	31	0		

Intersection: 2: Shadowcrest Drive & W Lancaster Blvd

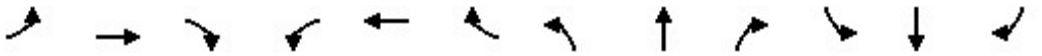
Movement	EB	WB	NB
Directions Served	UL	L	LTR
Maximum Queue (ft)	23	24	47
Average Queue (ft)	2	2	22
95th Queue (ft)	12	14	44
Link Distance (ft)			436
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50	150	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: W Lancaster Blvd & Phase I Dwy

Movement	SB
Directions Served	R
Maximum Queue (ft)	56
Average Queue (ft)	28
95th Queue (ft)	51
Link Distance (ft)	182
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 32



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	163	149	95	169	140	141	289	65	144	241	80
Future Volume (veh/h)	93	163	149	95	169	140	141	289	65	144	241	80
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		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1782	1870	1585	1575	1870	1585	1782	1870	1585	1782	1870	1585
Adj Flow Rate, veh/h	126	220	201	128	228	189	191	391	88	195	326	108
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	736	278	151	763	288	228	1027	368	228	1027	369
Arrive On Green	0.09	0.21	0.21	0.10	0.21	0.21	0.13	0.29	0.29	0.13	0.29	0.29
Sat Flow, veh/h	1697	3554	1341	1500	3554	1341	1697	3554	1273	1697	3554	1275
Grp Volume(v), veh/h	126	220	201	128	228	189	191	391	88	195	326	108
Grp Sat Flow(s),veh/h/ln	1697	1777	1341	1500	1777	1341	1697	1777	1273	1697	1777	1275
Q Serve(g_s), s	4.3	3.1	8.3	5.0	3.2	7.7	6.5	5.2	3.1	6.7	4.3	3.9
Cycle Q Clear(g_c), s	4.3	3.1	8.3	5.0	3.2	7.7	6.5	5.2	3.1	6.7	4.3	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	736	278	151	763	288	228	1027	368	228	1027	369
V/C Ratio(X)	0.80	0.30	0.72	0.85	0.30	0.66	0.84	0.38	0.24	0.86	0.32	0.29
Avail Cap(c_a), veh/h	171	1731	653	151	1731	653	228	1552	556	228	1552	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	20.0	22.0	26.3	19.6	21.4	25.1	16.9	16.2	25.2	16.6	16.4
Incr Delay (d2), s/veh	21.4	0.2	3.6	33.6	0.2	2.5	23.1	0.2	0.3	25.8	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	1.1	2.5	3.0	1.1	2.2	3.7	1.8	0.8	4.0	1.5	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	20.2	25.6	59.9	19.8	23.9	48.2	17.1	16.5	51.0	16.7	16.9
LnGrp LOS	D	C	C	E	B	C	D	B	B	D	B	B
Approach Vol, veh/h		547			545			670			629	
Approach Delay, s/veh		28.5			30.7			25.9			27.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	21.2	10.0	16.3	12.0	21.2	9.5	16.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	26.0	6.0	29.0	8.0	26.0	6.0	29.0
Max Q Clear Time (g_c+I1), s	8.7	7.2	7.0	10.3	8.5	6.3	6.3	9.7
Green Ext Time (p_c), s	0.0	2.4	0.0	1.7	0.0	2.1	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	233	5	60	354	0	3	0	35	0	0	0
Future Vol, veh/h	26	233	5	60	354	0	3	0	35	0	0	0
Conflicting Peds, #/hr	0	0	54	54	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	50	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	94	94	94	94	92	94	92	94	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	248	5	64	377	0	3	0	37	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	377	0	0	307	0	0	678	866	181	685	868	189
Stage 1	-	-	-	-	-	-	361	361	-	505	505	-
Stage 2	-	-	-	-	-	-	317	505	-	180	363	-
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	1178	-	-	1250	-	0	338	290	831	334	289	821
Stage 1	-	-	-	-	-	0	630	624	-	518	539	-
Stage 2	-	-	-	-	-	0	669	539	-	804	623	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1178	-	-	1186	-	-	302	254	788	300	253	821
Mov Cap-2 Maneuver	-	-	-	-	-	-	302	254	-	300	253	-
Stage 1	-	-	-	-	-	-	583	578	-	506	510	-
Stage 2	-	-	-	-	-	-	633	510	-	748	577	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1.2	10.5	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	699	1178	-	-	1186	-	-
HCM Lane V/C Ratio	0.058	0.024	-	-	0.054	-	-
HCM Control Delay (s)	10.5	8.1	-	-	8.2	-	0
HCM Lane LOS	B	A	-	-	A	-	A
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	362	369	104	0	34
Future Vol, veh/h	0	362	369	104	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	393	401	113	0	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	257
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	742
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	742
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	742
HCM Lane V/C Ratio	-	-	-	0.05
HCM Control Delay (s)	-	-	-	10.1
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	UL	T	T	R	L	T	T	R
Maximum Queue (ft)	187	129	93	92	192	125	108	103	315	557	478	62
Average Queue (ft)	89	63	23	36	90	60	41	39	253	313	239	21
95th Queue (ft)	163	111	57	70	172	104	86	76	387	719	653	44
Link Distance (ft)		604	604			418	418					
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			225	305			150	200			215
Storage Blk Time (%)							0	0	64	0		
Queuing Penalty (veh)							0	0	125	0		

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	295	543	456	66
Average Queue (ft)	226	251	160	23
95th Queue (ft)	356	601	498	47
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	205			210
Storage Blk Time (%)	51	0	0	
Queuing Penalty (veh)	84	0	0	

Intersection: 2: Shadowcrest Drive & W Lancaster Blvd

Movement	EB	WB	NB
Directions Served	UL	L	LTR
Maximum Queue (ft)	41	41	53
Average Queue (ft)	9	10	22
95th Queue (ft)	31	32	46
Link Distance (ft)			436
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50	150	
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

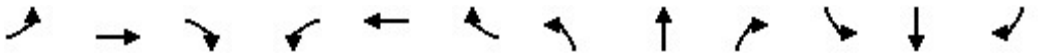
Intersection: 3: W Lancaster Blvd & Phase I Dwy

Movement	SB
Directions Served	R
Maximum Queue (ft)	59
Average Queue (ft)	24
95th Queue (ft)	50
Link Distance (ft)	182
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 209

Appendix D. Year 2026 Conditions Peak Hour Intersection and Queue Analysis Worksheets



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	142	135	37	116	207	117	285	33	148	315	65
Future Volume (veh/h)	100	142	135	37	116	207	117	285	33	148	315	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.96	1.00		0.97
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	1782	1870	1585	1782	1870	1585	1782	1870	1585	1782	1870	1585
Adj Flow Rate, veh/h	127	180	171	47	147	262	148	361	42	187	399	82
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	1051	392	79	890	336	186	808	294	230	900	330
Arrive On Green	0.09	0.30	0.30	0.05	0.25	0.25	0.11	0.23	0.23	0.14	0.25	0.25
Sat Flow, veh/h	1697	3554	1325	1697	3554	1342	1697	3554	1295	1697	3554	1302
Grp Volume(v), veh/h	127	180	171	47	147	262	148	361	42	187	399	82
Grp Sat Flow(s),veh/h/ln	1697	1777	1325	1697	1777	1342	1697	1777	1295	1697	1777	1302
Q Serve(g_s), s	4.0	2.0	5.7	1.5	1.8	9.9	4.6	4.7	1.4	5.8	5.1	2.7
Cycle Q Clear(g_c), s	4.0	2.0	5.7	1.5	1.8	9.9	4.6	4.7	1.4	5.8	5.1	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	1051	392	79	890	336	186	808	294	230	900	330
V/C Ratio(X)	0.81	0.17	0.44	0.59	0.17	0.78	0.80	0.45	0.14	0.81	0.44	0.25
Avail Cap(c_a), veh/h	156	1897	707	156	1897	716	250	1766	643	250	1766	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	14.2	15.5	25.4	15.9	19.0	23.6	18.0	16.8	22.8	17.1	16.2
Incr Delay (d2), s/veh	26.9	0.1	0.8	6.9	0.1	3.9	12.0	0.4	0.2	17.2	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.7	1.4	0.7	0.6	2.8	2.2	1.6	0.4	3.0	1.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	14.3	16.2	32.3	16.0	22.9	35.6	18.4	17.0	40.0	17.4	16.6
LnGrp LOS	D	B	B	C	B	C	D	B	B	D	B	B
Approach Vol, veh/h		478			456			551			668	
Approach Delay, s/veh		24.8			21.6			22.9			23.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	16.4	6.5	20.1	10.0	17.8	9.0	17.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	27.0	5.0	29.0	8.0	27.0	5.0	29.0
Max Q Clear Time (g_c+I1), s	7.8	6.7	3.5	7.7	6.6	7.1	6.0	11.9
Green Ext Time (p_c), s	0.0	2.1	0.0	1.5	0.0	2.4	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	176	2	12	104	3	39
Future Vol, veh/h	176	2	12	104	3	39
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	207	2	14	122	4	46

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	211	0	299	107
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	89	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1357	-	668	926
Stage 1	-	-	-	-	805	-
Stage 2	-	-	-	-	924	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1354	-	660	924
Mov Cap-2 Maneuver	-	-	-	-	660	-
Stage 1	-	-	-	-	803	-
Stage 2	-	-	-	-	915	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.2
HCM LOS			A

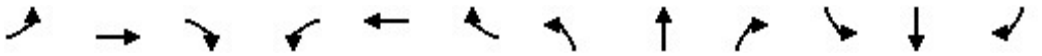
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	898	-	-	1354	-
HCM Lane V/C Ratio	0.055	-	-	0.01	-
HCM Control Delay (s)	9.2	-	-	7.7	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	174	110	60	72	74	95	58	103	206	187	117	38
Average Queue (ft)	85	45	15	29	28	44	12	41	86	74	44	10
95th Queue (ft)	159	83	41	57	72	92	40	78	155	133	92	27
Link Distance (ft)		604	604			1059	1059					
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			225	305			150	200			215
Storage Blk Time (%)								0	1	0		
Queuing Penalty (veh)								0	2	0		

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	262	278	160	59
Average Queue (ft)	124	91	50	17
95th Queue (ft)	248	203	120	42
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	205			210
Storage Blk Time (%)	6	0		
Queuing Penalty (veh)	12	0		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	170	153	66	178	144	145	296	51	142	249	87
Future Volume (veh/h)	95	170	153	66	178	144	145	296	51	142	249	87
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		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1782	1870	1585	1782	1870	1585	1782	1870	1585	1782	1870	1585
Adj Flow Rate, veh/h	128	230	207	89	241	195	196	400	69	192	336	118
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	805	304	111	732	276	239	1044	374	235	1035	372
Arrive On Green	0.09	0.23	0.23	0.07	0.21	0.21	0.14	0.29	0.29	0.14	0.29	0.29
Sat Flow, veh/h	1697	3554	1341	1697	3554	1341	1697	3554	1273	1697	3554	1276
Grp Volume(v), veh/h	128	230	207	89	241	195	196	400	69	192	336	118
Grp Sat Flow(s),veh/h/ln	1697	1777	1341	1697	1777	1341	1697	1777	1273	1697	1777	1276
Q Serve(g_s), s	4.3	3.1	8.2	3.0	3.4	7.8	6.5	5.2	2.3	6.4	4.3	4.2
Cycle Q Clear(g_c), s	4.3	3.1	8.2	3.0	3.4	7.8	6.5	5.2	2.3	6.4	4.3	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	146	805	304	111	732	276	239	1044	374	235	1035	372
V/C Ratio(X)	0.88	0.29	0.68	0.80	0.33	0.71	0.82	0.38	0.18	0.82	0.32	0.32
Avail Cap(c_a), veh/h	146	1776	670	146	1776	670	263	1592	571	263	1592	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	18.6	20.5	26.7	19.6	21.4	24.2	16.3	15.3	24.3	16.1	16.1
Incr Delay (d2), s/veh	40.5	0.2	2.7	20.3	0.3	3.3	17.0	0.2	0.2	16.5	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	1.1	2.3	1.7	1.2	2.3	3.4	1.7	0.6	3.3	1.4	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.7	18.8	23.2	47.0	19.9	24.7	41.2	16.5	15.5	40.8	16.3	16.5
LnGrp LOS	E	B	C	D	B	C	D	B	B	D	B	B
Approach Vol, veh/h		565			525			665			646	
Approach Delay, s/veh		31.2			26.3			23.7			23.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	21.0	7.8	17.1	12.2	20.9	9.0	16.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	9.0	26.0	5.0	29.0	9.0	26.0	5.0	29.0
Max Q Clear Time (g_c+I1), s	8.4	7.2	5.0	10.2	8.5	6.3	6.3	9.8
Green Ext Time (p_c), s	0.0	2.4	0.0	1.8	0.0	2.2	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	231	5	62	291	3	36
Future Vol, veh/h	231	5	62	291	3	36
Conflicting Peds, #/hr	0	54	54	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	246	5	66	310	3	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	305	0	590	180
Stage 1	-	-	-	-	303	-
Stage 2	-	-	-	-	287	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1253	-	439	832
Stage 1	-	-	-	-	723	-
Stage 2	-	-	-	-	736	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1189	-	393	789
Mov Cap-2 Maneuver	-	-	-	-	393	-
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	695	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	10.2
HCM LOS			B

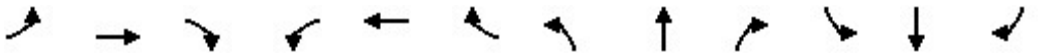
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	732	-	-	1189	-
HCM Lane V/C Ratio	0.057	-	-	0.055	-
HCM Control Delay (s)	10.2	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	261	230	152	92	135	127	96	105	252	194	132	69
Average Queue (ft)	124	78	27	35	57	62	32	38	120	83	57	19
95th Queue (ft)	252	200	111	68	126	106	76	73	203	153	106	46
Link Distance (ft)		604	604			1059	1059					
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			225	305			150	200			215
Storage Blk Time (%)	4							0	3	0		
Queuing Penalty (veh)	4							0	6	0		

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	226	252	183	61
Average Queue (ft)	129	115	80	24
95th Queue (ft)	292	356	298	48
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	205			210
Storage Blk Time (%)	9	0		
Queuing Penalty (veh)	15	0		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	145	135	93	123	222	117	285	39	151	315	65
Future Volume (veh/h)	100	145	135	93	123	222	117	285	39	151	315	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.96	1.00		0.97
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	1782	1870	1585	1575	1870	1585	1782	1870	1585	1782	1870	1585
Adj Flow Rate, veh/h	127	184	171	118	156	281	148	361	49	191	399	82
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	929	346	142	933	352	185	794	289	233	895	328
Arrive On Green	0.09	0.26	0.26	0.09	0.26	0.26	0.11	0.22	0.22	0.14	0.25	0.25
Sat Flow, veh/h	1697	3554	1324	1500	3554	1342	1697	3554	1294	1697	3554	1302
Grp Volume(v), veh/h	127	184	171	118	156	281	148	361	49	191	399	82
Grp Sat Flow(s),veh/h/ln	1697	1777	1324	1500	1777	1342	1697	1777	1294	1697	1777	1302
Q Serve(g_s), s	4.2	2.3	6.2	4.4	1.9	11.1	4.8	5.0	1.7	6.2	5.4	2.8
Cycle Q Clear(g_c), s	4.2	2.3	6.2	4.4	1.9	11.1	4.8	5.0	1.7	6.2	5.4	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	929	346	142	933	352	185	794	289	233	895	328
V/C Ratio(X)	0.80	0.20	0.49	0.83	0.17	0.80	0.80	0.45	0.17	0.82	0.45	0.25
Avail Cap(c_a), veh/h	180	1820	678	159	1820	687	240	1632	594	240	1632	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	16.3	17.7	25.2	16.1	19.5	24.6	19.0	17.7	23.7	17.9	16.9
Incr Delay (d2), s/veh	19.7	0.1	1.1	26.9	0.1	4.2	13.4	0.4	0.3	19.2	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.8	1.6	2.4	0.6	3.2	2.3	1.7	0.4	3.3	1.8	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.8	16.4	18.8	52.1	16.2	23.6	38.0	19.4	18.0	42.9	18.2	17.3
LnGrp LOS	D	B	B	D	B	C	D	B	B	D	B	B
Approach Vol, veh/h		482			555			558			672	
Approach Delay, s/veh		24.7			27.6			24.2			25.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	16.7	9.4	18.8	10.2	18.3	9.3	18.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	26.0	6.0	29.0	8.0	26.0	6.0	29.0
Max Q Clear Time (g_c+I1), s	8.2	7.0	6.4	8.2	6.8	7.4	6.2	13.1
Green Ext Time (p_c), s	0.0	2.1	0.0	1.5	0.0	2.4	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	201	2	12	127	9	3	0	39	13	0	22
Future Vol, veh/h	11	201	2	12	127	9	3	0	39	13	0	22
Conflicting Peds, #/hr	0	0	2	2	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	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	85	85	85	92	85	92	85	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	236	2	14	149	10	4	0	46	14	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	159	0	0	240	0	0	366	450	121	324	446	80
Stage 1	-	-	-	-	-	-	263	263	-	182	182	-
Stage 2	-	-	-	-	-	-	103	187	-	142	264	-
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	1418	-	-	1324	-	-	565	503	908	605	506	964
Stage 1	-	-	-	-	-	-	719	689	-	802	748	-
Stage 2	-	-	-	-	-	-	892	744	-	846	689	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1418	-	-	1321	-	-	542	492	906	566	495	964
Mov Cap-2 Maneuver	-	-	-	-	-	-	542	492	-	566	495	-
Stage 1	-	-	-	-	-	-	712	682	-	796	740	-
Stage 2	-	-	-	-	-	-	861	736	-	796	682	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.6	9.4	10
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	865	1418	-	-	1321	-	-	764
HCM Lane V/C Ratio	0.057	0.008	-	-	0.011	-	-	0.05
HCM Control Delay (s)	9.4	7.6	-	-	7.8	-	-	10
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	350	380	31	0	55
Future Vol, veh/h	0	350	380	31	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	380	413	34	0	60

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	224
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	779
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	779
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	779
HCM Lane V/C Ratio	-	-	-	0.077
HCM Control Delay (s)	-	-	-	10
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	UL	T	T	R	L	T	T	R
Maximum Queue (ft)	181	117	66	71	174	101	74	125	158	127	112	43
Average Queue (ft)	84	52	17	28	74	42	20	52	84	69	47	11
95th Queue (ft)	155	95	47	55	145	80	52	97	140	114	95	30
Link Distance (ft)		604	604			418	418					
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			225	305			150	200			215
Storage Blk Time (%)								0	0			
Queuing Penalty (veh)								0	0			

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	282	334	171	44
Average Queue (ft)	146	114	59	17
95th Queue (ft)	295	267	138	37
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	205			210
Storage Blk Time (%)	13	0		
Queuing Penalty (veh)	26	0		

Intersection: 2: Shadowcrest Drive/Phase II Dwy & W Lancaster Blvd

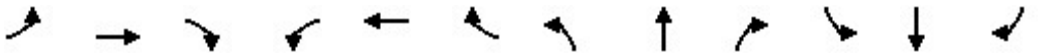
Movement	EB	WB	NB	SB
Directions Served	UL	L	LTR	LTR
Maximum Queue (ft)	19	22	56	40
Average Queue (ft)	2	3	26	21
95th Queue (ft)	14	17	48	46
Link Distance (ft)			436	216
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	50	150		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: W Lancaster Blvd & Phase I Dwy

Movement	SB
Directions Served	R
Maximum Queue (ft)	55
Average Queue (ft)	30
95th Queue (ft)	50
Link Distance (ft)	182
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

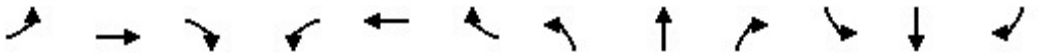
Zone wide Queuing Penalty: 27



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	201	2	12	127	9	3	0	39	13	0	22
Future Volume (veh/h)	11	201	2	12	127	9	3	0	39	13	0	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.99	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	1575	1870	1585	1575	1870	1585	1575	1870	1585	1575	1870	1585
Adj Flow Rate, veh/h	12	236	2	14	149	10	4	0	46	14	0	24
Peak Hour Factor	0.92	0.85	0.85	0.85	0.85	0.92	0.85	0.92	0.85	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	1135	10	28	1072	71	186	4	189	282	13	128
Arrive On Green	0.02	0.31	0.31	0.02	0.32	0.32	0.13	0.00	0.13	0.13	0.00	0.13
Sat Flow, veh/h	1500	3610	31	1500	3381	225	94	31	1433	474	95	975
Grp Volume(v), veh/h	12	116	122	14	78	81	50	0	0	38	0	0
Grp Sat Flow(s),veh/h/ln	1500	1777	1864	1500	1777	1829	1558	0	0	1543	0	0
Q Serve(g_s), s	0.2	1.1	1.1	0.2	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	1.1	1.1	0.2	0.7	0.7	0.6	0.0	0.0	0.5	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.12	0.08		0.92	0.37		0.63
Lane Grp Cap(c), veh/h	24	559	586	28	563	580	379	0	0	423	0	0
V/C Ratio(X)	0.50	0.21	0.21	0.50	0.14	0.14	0.13	0.00	0.00	0.09	0.00	0.00
Avail Cap(c_a), veh/h	468	1189	1247	468	1189	1224	1971	0	0	1959	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	10.9	5.6	5.6	10.9	5.5	5.5	8.7	0.0	0.0	8.6	0.0	0.0
Incr Delay (d2), s/veh	15.0	0.2	0.2	13.2	0.1	0.1	0.2	0.0	0.0	0.1	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(50%),veh/ln	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	5.8	5.8	24.1	5.6	5.6	8.9	0.0	0.0	8.7	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		250			173			50			38	
Approach Delay, s/veh		6.8			7.1			8.9			8.7	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.0	4.4	11.1		7.0	4.4	11.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		26.0	7.0	15.0		26.0	7.0	15.0				
Max Q Clear Time (g_c+I1), s		2.6	2.2	3.1		2.5	2.2	2.7				
Green Ext Time (p_c), s		0.2	0.0	0.8		0.1	0.0	0.5				

Intersection Summary	
HCM 6th Ctrl Delay	7.2
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	177	153	102	182	154	145	296	70	150	249	87
Future Volume (veh/h)	95	177	153	102	182	154	145	296	70	150	249	87
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		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1782	1870	1585	1575	1870	1585	1782	1870	1585	1782	1870	1585
Adj Flow Rate, veh/h	128	239	207	138	246	208	196	400	95	203	336	118
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	759	287	153	786	297	202	1041	373	202	1041	374
Arrive On Green	0.09	0.21	0.21	0.10	0.22	0.22	0.12	0.29	0.29	0.12	0.29	0.29
Sat Flow, veh/h	1697	3554	1341	1500	3554	1341	1697	3554	1273	1697	3554	1276
Grp Volume(v), veh/h	128	239	207	138	246	208	196	400	95	203	336	118
Grp Sat Flow(s),veh/h/ln	1697	1777	1341	1500	1777	1341	1697	1777	1273	1697	1777	1276
Q Serve(g_s), s	4.3	3.3	8.4	5.3	3.4	8.4	6.8	5.3	3.4	7.0	4.3	4.2
Cycle Q Clear(g_c), s	4.3	3.3	8.4	5.3	3.4	8.4	6.8	5.3	3.4	7.0	4.3	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	759	287	153	786	297	202	1041	373	202	1041	374
V/C Ratio(X)	0.80	0.31	0.72	0.90	0.31	0.70	0.97	0.38	0.25	1.00	0.32	0.32
Avail Cap(c_a), veh/h	173	1753	662	153	1753	662	202	1632	585	202	1632	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	19.5	21.5	26.1	19.2	21.1	25.8	16.6	15.9	25.9	16.2	16.2
Incr Delay (d2), s/veh	21.2	0.2	3.4	45.1	0.2	3.0	54.5	0.2	0.4	64.5	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	1.2	2.5	3.6	1.2	2.4	5.4	1.8	0.8	6.1	1.5	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.3	19.7	24.9	71.2	19.4	24.1	80.3	16.8	16.2	90.4	16.4	16.7
LnGrp LOS	D	B	C	E	B	C	F	B	B	F	B	B
Approach Vol, veh/h		574			592			691			657	
Approach Delay, s/veh		27.7			33.1			34.7			39.3	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	21.2	10.0	16.6	11.0	21.2	9.6	17.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	27.0	6.0	29.0	7.0	27.0	6.0	29.0
Max Q Clear Time (g_c+I1), s	9.0	7.3	7.3	10.4	8.8	6.3	6.3	10.4
Green Ext Time (p_c), s	0.0	2.5	0.0	1.8	0.0	2.2	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	247	5	62	369	24	3	0	36	8	0	14
Future Vol, veh/h	34	247	5	62	369	24	3	0	36	8	0	14
Conflicting Peds, #/hr	0	0	54	54	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	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	94	94	94	94	92	94	92	94	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	263	5	66	393	26	3	0	38	9	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	419	0	0	322	0	0	723	945	188	744	934	210
Stage 1	-	-	-	-	-	-	394	394	-	538	538	-
Stage 2	-	-	-	-	-	-	329	551	-	206	396	-
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	1137	-	-	1235	-	-	314	260	822	303	264	796
Stage 1	-	-	-	-	-	-	602	604	-	495	521	-
Stage 2	-	-	-	-	-	-	658	514	-	777	602	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1137	-	-	1171	-	-	273	225	780	269	229	796
Mov Cap-2 Maneuver	-	-	-	-	-	-	273	225	-	269	229	-
Stage 1	-	-	-	-	-	-	553	554	-	479	492	-
Stage 2	-	-	-	-	-	-	609	485	-	715	553	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	1.1	10.6	13.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	682	1137	-	-	1171	-	-	465
HCM Lane V/C Ratio	0.061	0.033	-	-	0.056	-	-	0.051
HCM Control Delay (s)	10.6	8.3	-	-	8.3	-	-	13.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.2	-	-	0.2

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	386	400	104	0	34
Future Vol, veh/h	0	386	400	104	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	420	435	113	0	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	274
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	724
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	724
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	724
HCM Lane V/C Ratio	-	-	-	0.051
HCM Control Delay (s)	-	-	-	10.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	UL	T	T	R	L	T	T	R
Maximum Queue (ft)	235	186	95	105	216	106	89	90	274	275	181	59
Average Queue (ft)	108	73	25	37	100	58	39	41	156	104	62	19
95th Queue (ft)	212	136	62	76	194	115	77	74	268	226	144	41
Link Distance (ft)		604	604			418	418					
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			225	305			150	200			215
Storage Blk Time (%)	1	0							15	0		
Queuing Penalty (veh)	1	0							30	0		

Intersection: 1: 30th St W & W Lancaster Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	295	526	456	62
Average Queue (ft)	227	276	182	23
95th Queue (ft)	356	622	520	51
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	205			210
Storage Blk Time (%)	55	0	0	
Queuing Penalty (veh)	93	0	0	

Intersection: 2: Shadowcrest Drive/Phase II Dwy & W Lancaster Blvd

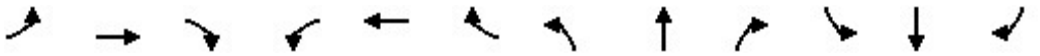
Movement	EB	WB	NB	SB
Directions Served	UL	L	LTR	LTR
Maximum Queue (ft)	54	43	55	40
Average Queue (ft)	11	12	21	16
95th Queue (ft)	35	35	47	43
Link Distance (ft)			436	216
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	50	150		
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

Intersection: 3: W Lancaster Blvd & Phase I Dwy

Movement	SB
Directions Served	R
Maximum Queue (ft)	55
Average Queue (ft)	25
95th Queue (ft)	52
Link Distance (ft)	182
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 125



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	247	5	62	369	24	3	0	36	8	0	14
Future Volume (veh/h)	34	247	5	62	369	24	3	0	36	8	0	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.93	1.00		0.99	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	1575	1870	1585	1782	1870	1585	1782	1870	1585	1782	1870	1585
Adj Flow Rate, veh/h	37	263	5	66	393	26	3	0	38	9	0	15
Peak Hour Factor	0.92	0.94	0.94	0.94	0.94	0.92	0.94	0.92	0.94	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	1195	23	125	1226	81	167	2	147	257	4	100
Arrive On Green	0.05	0.34	0.34	0.07	0.36	0.36	0.10	0.00	0.10	0.10	0.00	0.10
Sat Flow, veh/h	1500	3559	67	1697	3365	221	99	15	1442	547	41	979
Grp Volume(v), veh/h	37	131	137	66	206	213	41	0	0	24	0	0
Grp Sat Flow(s),veh/h/ln	1500	1777	1849	1697	1777	1810	1556	0	0	1567	0	0
Q Serve(g_s), s	0.6	1.3	1.3	0.9	2.1	2.1	0.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	1.3	1.3	0.9	2.1	2.1	0.6	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.12	0.07		0.93	0.37		0.62
Lane Grp Cap(c), veh/h	68	597	621	125	647	659	316	0	0	361	0	0
V/C Ratio(X)	0.54	0.22	0.22	0.53	0.32	0.32	0.13	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	488	1085	1129	552	1085	1104	1736	0	0	1731	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	11.5	5.9	5.9	11.0	5.6	5.6	10.2	0.0	0.0	10.0	0.0	0.0
Incr Delay (d2), s/veh	6.6	0.2	0.2	3.4	0.3	0.3	0.2	0.0	0.0	0.1	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(50%),veh/ln	0.2	0.1	0.1	0.3	0.2	0.2	0.2	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	6.0	6.0	14.4	5.9	5.9	10.4	0.0	0.0	10.1	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		305			485			41			24	
Approach Delay, s/veh		7.5			7.1			10.4			10.1	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.5	5.8	12.3		6.5	5.1	13.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		25.0	8.0	15.0		25.0	8.0	15.0				
Max Q Clear Time (g_c+I1), s		2.6	2.9	3.3		2.3	2.6	4.1				
Green Ext Time (p_c), s		0.1	0.0	0.9		0.1	0.0	1.6				

Intersection Summary	
HCM 6th Ctrl Delay	7.5
HCM 6th LOS	A

Appendix E. Signal Warrant Analysis

Scenario: Existing Plus Project Phase I Conditions
Major Approach: W Lancaster Blvd
Minor Approach: Shadowcrest Dr

WARRANT 3 - PEAK HOUR

(Part A or Part B must be satisfied) SATISFIED ☐ YES ☑ NO

Part A SATISFIED ☐ YES ☑ NO

(All parts 1, 2, and 3 below must be satisfied for the same

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for one-lane approach, or five vehicle-hours for a two-lane approach; AND	☐ YES ☑ NO
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	☐ YES ☑ NO
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches	☐ YES ☑ NO

SATISFIED ☐ YES ☑ NO

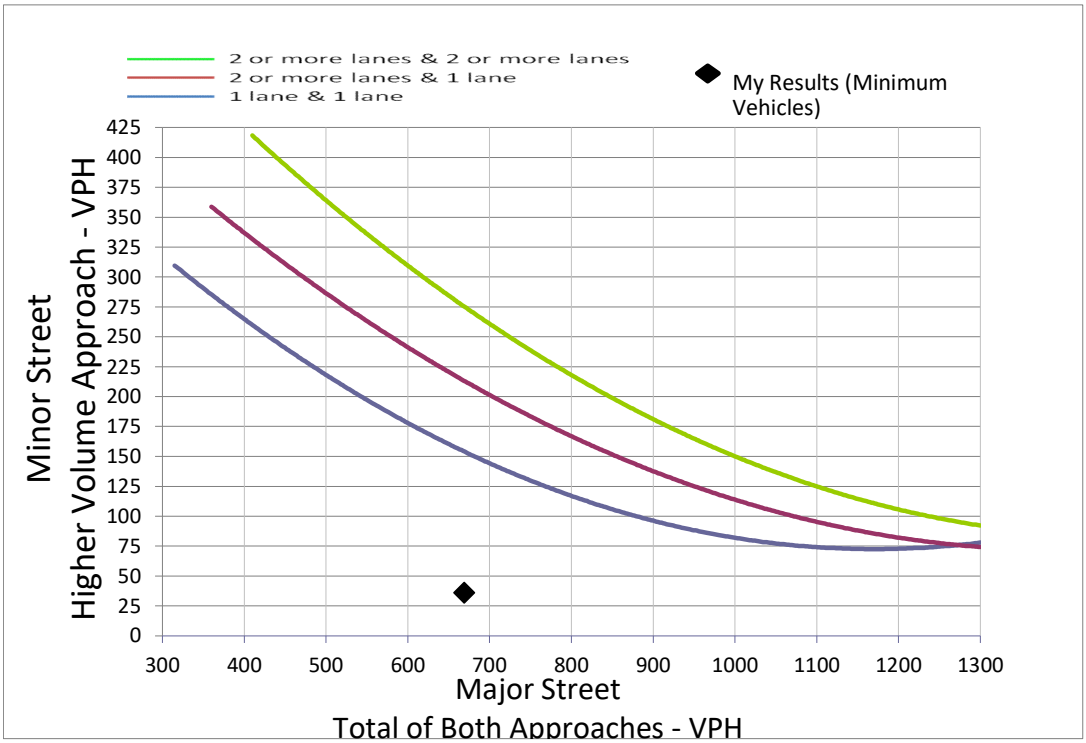
Part B

APPROACH LANES	One	Two or More	
Both Approaches - Major Street	☐	☑	669 ← ENTER CORRECT HOURS
Higher Approach - Minor Street	☑	☐	36

ENTER PEAK HOUR VOL.

The plotted point falls above the applicable curve in Figure 4C-3 (Urban Areas)	☐ YES ☐ NO
OR The plotted point falls above the applicable curve in Figure 4C-4 (Rural Areas)	☐ YES ☑ NO

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



WARRANT 3 - PEAK HOUR

(Part A or Part B must be satisfied) SATISFIED ☐ YES ☑ NO

Part A SATISFIED ☐ YES ☑ NO

(All parts 1, 2, and 3 below must be satisfied for the same

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for one-lane approach, or five vehicle-hours for a two-lane approach; AND	☐ YES ☑ NO
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	☐ YES ☑ NO
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches	☐ YES ☑ NO

SATISFIED ☐ YES ☑ NO

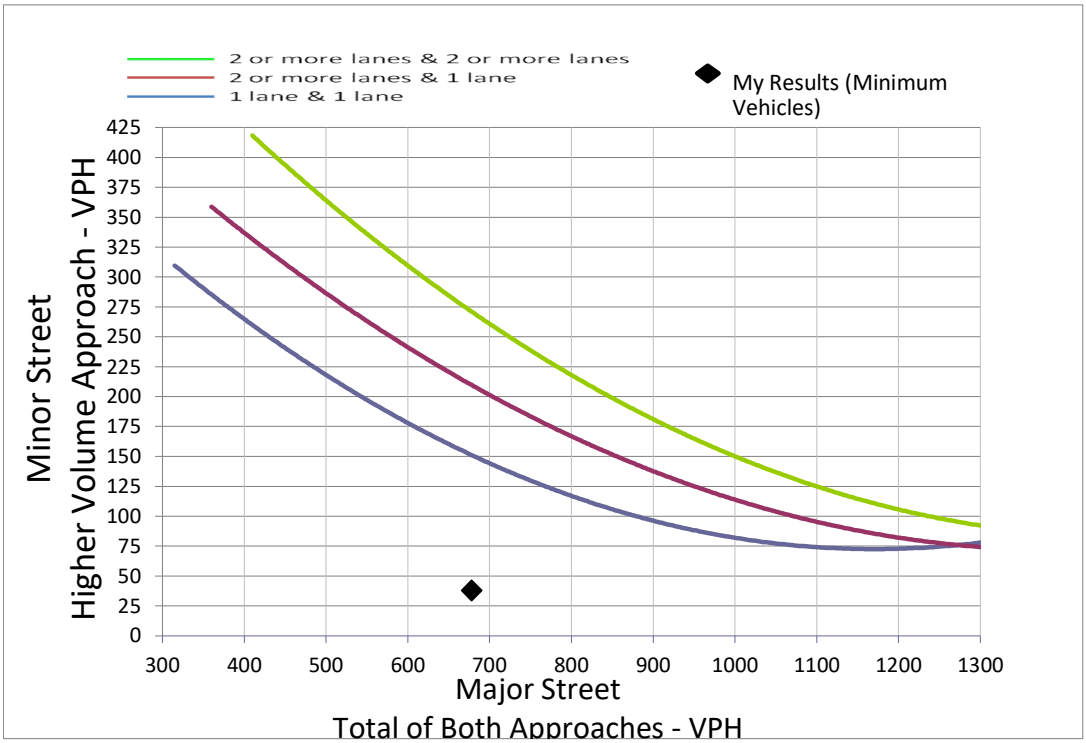
Part B

APPROACH LANES	One	Two or More	
Both Approaches - Major Street	☐	☑	678 ← ENTER CORRECT HOURS
Higher Approach - Minor Street	☑	☐	38

ENTER PEAK HOUR VOL.

The plotted point falls above the applicable curve in Figure 4C-3 (Urban Areas)	☐ YES ☐ NO
OR The plotted point falls above the applicable curve in Figure 4C-4 (Rural Areas)	☐ YES ☑ NO

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



WARRANT 3 - PEAK HOUR

(Part A or Part B must be satisfied) SATISFIED ☐ YES ☑ NO

Part A

SATISFIED ☐ YES ☑ NO

(All parts 1, 2, and 3 below must be satisfied for the same

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for one-lane approach, or five vehicle-hours for a two-lane approach; AND	☐ YES ☑ NO
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	☐ YES ☑ NO
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches	☐ YES ☑ NO

SATISFIED ☐ YES ☑ NO

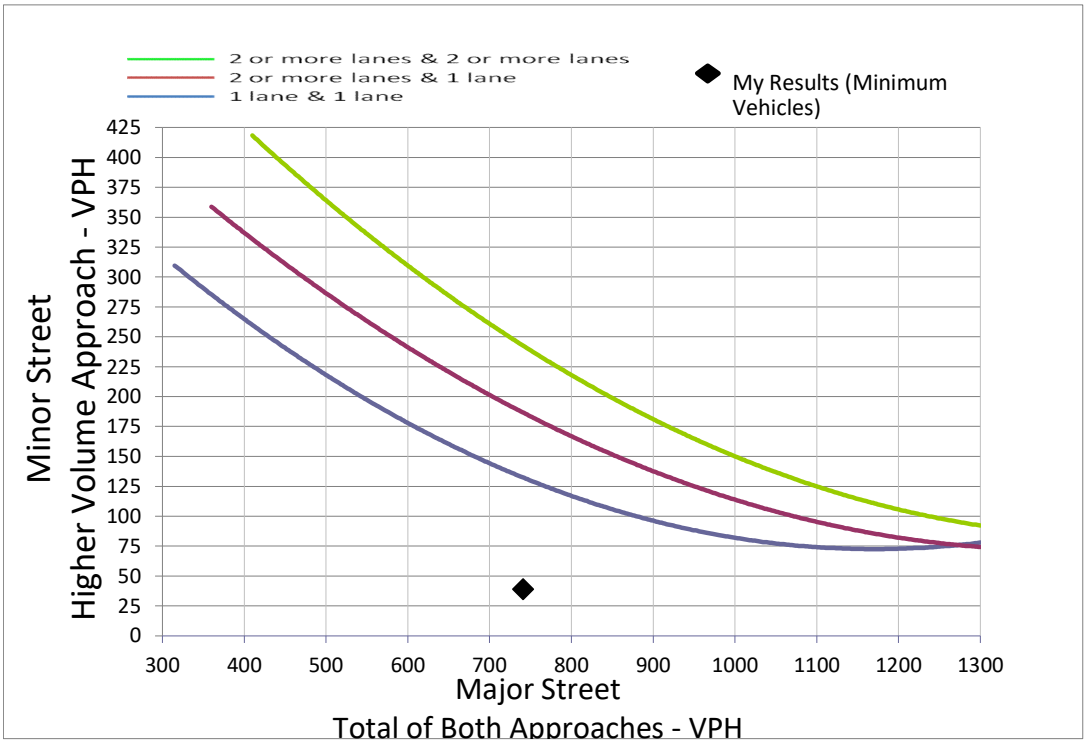
Part B

APPROACH LANES	One	Two or More	
Both Approaches - Major Street	☐	☑	741 ← ENTER CORRECT HOURS
Higher Approach - Minor Street	☑	☐	39

ENTER PEAK HOUR VOL.

The plotted point falls above the applicable curve in Figure 4C-3 (Urban Areas)	☐ YES ☐ NO
OR The plotted point falls above the applicable curve in Figure 4C-4 (Rural Areas)	☐ YES ☑ NO

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Appendix F. Transit Route Information

11

PM times in bold

Westbound to Owen Memorial Park via Ave. I

Depart Ave J & 20th St. E. Stop # 0607	Ave I & 40th St. E. Stop # 0025	Ave I & 20th St. E. Stop # 0652	Sierra Hwy. & Lancaster Blvd. Stop # 1034	Ave I & 10th St. W. Stop # 0040	Lancaster Blvd. & Valley Central Way Stop # 0676	15th St. W. & Ave. J Stop # 0041	Arrive Owen Memorial Park Stop # 1009
5:15	5:22	5:28	5:38	5:43	5:54	5:59	6:07
5:45	5:52	5:58	6:08	6:13	6:24	6:29	6:37
6:15	6:22	6:28	6:38	6:43	6:54	6:59	7:07
6:45	6:52	6:58	7:08	7:13	7:24	7:29	7:37
7:15	7:22	7:28	7:40	7:46	7:58	8:03	8:12
7:45	7:52	7:58	8:10	8:16	8:28	8:33	8:42
8:15	8:22	8:28	8:40	8:46	8:58	9:03	9:12
8:45	8:52	8:58	9:10	9:16	9:28	9:33	9:42
9:15	9:22	9:28	9:40	9:46	9:58	10:03	10:12
9:45	9:52	9:58	10:10	10:16	10:28	10:33	10:42
10:15	10:22	10:28	10:40	10:46	10:58	11:03	11:12
10:45	10:52	10:58	11:10	11:16	11:28	11:33	11:42
11:20	11:27	11:33	11:45	11:51	**12:03**	**12:08**	**12:17**
11:50	11:57	**12:03**	**12:15**	**12:21**	**12:33**	**12:38**	**12:47**
12:20	**12:27**	**12:33**	**12:45**	**12:51**	**1:03**	**1:08**	**1:17**
12:50	**12:57**	**1:03**	**1:15**	**1:21**	**1:33**	**1:38**	**1:47**
1:20	**1:27**	**1:33**	**1:45**	**1:51**	**2:03**	**2:08**	**2:17**
1:50	**1:57**	**2:03**	**2:15**	**2:21**	**2:33**	**2:38**	**2:47**
2:20	**2:27**	**2:33**	**2:45**	**2:51**	**3:03**	**3:08**	**3:17**
2:50	**2:57**	**3:03**	**3:15**	**3:21**	**3:33**	**3:38**	**3:47**
3:20	**3:27**	**3:33**	**3:45**	**3:51**	**4:03**	**4:08**	**4:17**
3:50	**3:57**	**4:03**	**4:15**	**4:21**	**4:33**	**4:38**	**4:47**
4:20	**4:27**	**4:33**	**4:45**	**4:51**	**5:03**	**5:08**	**5:17**
4:50	**4:57**	**5:03**	**5:15**	**5:21**	**5:33**	**5:38**	**5:47**
5:20	**5:27**	**5:33**	**5:45**	**5:51**	**6:03**	**6:08**	**6:17**
5:50	**5:57**	**6:03**	**6:13**	**6:18**	**6:29**	**6:34**	**6:42**
6:50	**6:57**	**7:03**	**7:13**	**7:18**	**7:29**	**7:34**	**7:42**
7:45	**7:52**	**7:58**	**8:08**	**8:13**	**8:24**	**8:29**	**8:37**
8:45	**8:52**	**8:58**	**9:08**	**9:13**	**9:24**	**9:29**	**9:37**
9:45	**9:52**	**9:58**	**10:08**	**10:13**	**10:24**	**10:29**	**10:37**
10:45	**10:52**	**10:58**	**11:08**	**11:13**	**11:24**	**11:29**	**11:37**

Saturday / Sábado

5:45	5:51	5:56	6:05	6:10	6:21	6:27	6:35
6:45	6:51	6:56	7:05	7:10	7:21	7:27	7:35
7:45	7:52	7:59	8:10	8:15	8:26	8:32	8:40
8:45	8:52	8:59	9:10	9:15	9:26	9:32	9:40
9:45	9:52	9:59	10:10	10:15	10:26	10:32	10:40
10:50	10:57	11:03	11:15	11:22	11:34	11:39	11:48
11:50	11:57	**12:03**	**12:15**	**12:22**	**12:34**	**12:39**	**12:48**
12:50	**12:57**	**1:03**	**1:15**	**1:22**	**1:34**	**1:39**	**1:48**
1:50	**1:57**	**2:03**	**2:15**	**2:22**	**2:34**	**2:39**	**2:48**
2:50	**2:57**	**3:03**	**3:15**	**3:22**	**3:34**	**3:39**	**3:48**
3:50	**3:57**	**4:03**	**4:13**	**4:19**	**4:30**	**4:35**	**4:44**
4:50	**4:57**	**5:03**	**5:13**	**5:19**	**5:30**	**5:35**	**5:44**
5:50	**5:57**	**6:03**	**6:13**	**6:19**	**6:30**	**6:35**	**6:44**

Sunday / Domingo

6:45	6:52	6:59	7:09	7:15	7:25	7:31	7:39
7:45	7:52	7:59	8:09	8:15	8:25	8:31	8:39
8:45	8:52	8:59	9:09	9:15	9:25	9:31	9:39
9:45	9:52	9:59	10:09	10:15	10:25	10:31	10:39
10:50	10:57	11:04	11:14	11:20	11:30	11:36	11:44
11:50	11:57	**12:04**	**12:14**	**12:20**	**12:30**	**12:36**	**12:44**
12:50	**12:57**	**1:04**	**1:14**	**1:20**	**1:30**	**1:36**	**1:44**
1:50	**1:57**	**2:04**	**2:14**	**2:20**	**2:30**	**2:36**	**2:44**
2:50	**2:57**	**3:04**	**3:14**	**3:20**	**3:30**	**3:36**	**3:44**
3:50	**3:57**	**4:04**	**4:14**	**4:20**	**4:30**	**4:36**	**4:44**
4:50	**4:57**	**5:04**	**5:14**	**5:20**	**5:30**	**5:36**	**5:44**
5:50	**5:57**	**6:04**	**6:14**	**6:20**	**6:30**	**6:36**	**6:44**

Eastbound to Ave. J & 20th St. E. via Ave. I

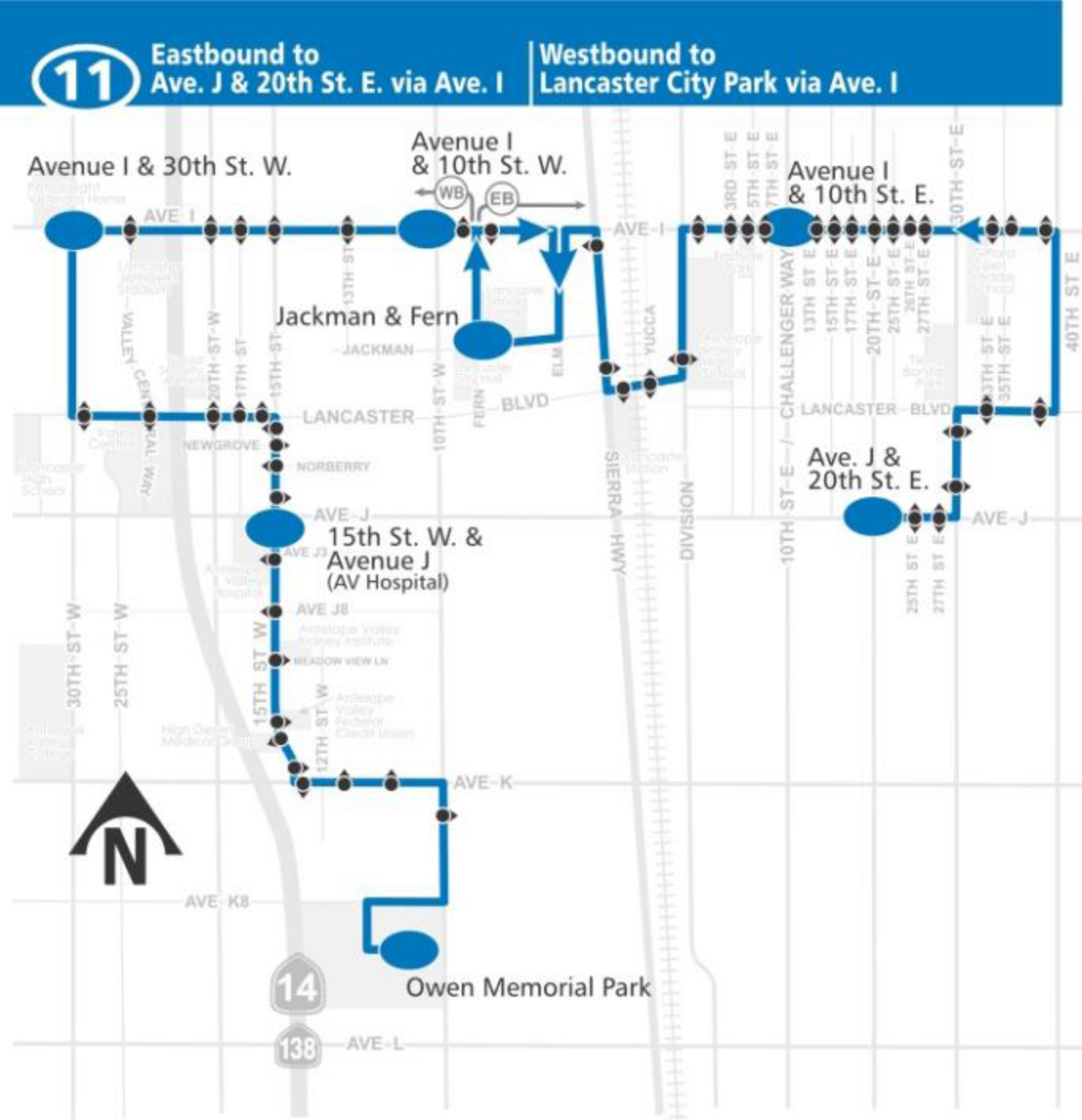
Depart Owen Memorial Park Stop # 1009	15th St. W. & Ave. J Stop # 0047	Lancaster Blvd. & Valley Central Way Stop # 1020	Ave. I & 10th St. W. Stop # 0115	Lancaster Blvd. & Sierra Hwy. Stop # 0342	Ave. I & 20th St. E. Stop # 0647	Ave. I & 40th St. E. Stop # 0033	Arrive Ave. J & 20th St. E. Stop # 0553
6:00	6:10	6:13	6:24	6:31	6:42	6:49	6:56
6:30	6:40	6:43	6:54	7:01	7:12	7:19	7:26
7:00	7:10	7:13	7:24	7:31	7:42	7:49	7:56
7:30	7:40	7:43	7:54	8:01	8:12	8:19	8:26
8:00	8:10	8:13	8:24	8:31	8:42	8:49	8:56
8:30	8:40	8:43	8:54	9:01	9:12	9:19	9:26
9:00	9:10	9:13	9:24	9:31	9:42	9:49	9:56
9:30	9:40	9:43	9:54	10:01	10:12	10:19	10:26
10:00	10:10	10:13	10:24	10:31	10:42	10:49	10:56
10:30	10:41	10:45	10:56	11:04	11:16	11:22	11:29
11:00	11:11	11:15	11:26	11:34	11:46	11:52	11:59
11:30	11:41	11:45	11:56	**12:04**	**12:16**	**12:22**	**12:29**
12:00	**12:11**	**12:15**	**12:26**	**12:34**	**12:46**	**12:52**	**12:59**
12:30	**12:41**	**12:45**	**12:56**	**1:04**	**1:16**	**1:22**	**1:29**
1:00	**1:11**	**1:15**	**1:26**	**1:34**	**1:46**	**1:52**	**1:59**
1:30	**1:41**	**1:45**	**1:56**	**2:04**	**2:16**	**2:22**	**2:29**
2:00	**2:11**	**2:15**	**2:26**	**2:34**	**2:46**	**2:52**	**2:59**
2:30	**2:41**	**2:45**	**2:56**	**3:04**	**3:16**	**3:22**	**3:29**
3:00	**3:11**	**3:15**	**3:26**	**3:34**	**3:46**	**3:52**	**3:59**
3:30	**3:41**	**3:45**	**3:56**	**4:04**	**4:16**	**4:22**	**4:29**
4:00	**4:11**	**4:15**	**4:26**	**4:34**	**4:46**	**4:52**	**4:59**
4:30	**4:41**	**4:45**	**4:56**	**5:04**	**5:16**	**5:22**	**5:29**
5:00	**5:10**	**5:13**	**5:24**	**5:31**	**5:41**	**5:48**	**5:55**
5:30	**5:40**	**5:43**	**5:54**	**6:01**	**6:11**	**6:18**	**6:25**
6:00	**6:10**	**6:13**	**6:24**	**6:31**	**6:41**	**6:48**	**6:55**
7:00	**7:10**	**7:13**	**7:24**	**7:31**	**7:41**	**7:48**	**7:55**
8:00	**8:10**	**8:13**	**8:24**	**8:31**	**8:41**	**8:48**	**8:55**
9:00	**9:10**	**9:13**	**9:24**	**9:31**	**9:41**	**9:48**	**9:55**
10:00	**10:10**	**10:13**	**10:24**	**10:31**	**10:41**	**10:48**	**10:55**
11:00	**11:10**	**11:13**	**11:24**	**11:31**	**11:41**	**11:48**	**11:55**

Saturday / Sábado

7:00	7:11	7:16	7:25	7:33	7:43	7:50	7:57
8:00	8:11	8:16	8:25	8:33	8:43	8:50	8:57
9:00	9:11	9:16	9:25	9:33	9:43	9:50	9:57
10:00	10:11	10:16	10:25	10:33	10:43	10:50	10:57
11:00	11:11	11:16	11:25	11:33	11:43	11:50	11:57
12:00	**12:11**	**12:16**	**12:25**	**12:33**	**12:43**	**12:50**	**12:57**
1:00	**1:11**	**1:16**	**1:25**	**1:33**	**1:43**	**1:50**	**1:57**
2:00	**2:11**	**2:16**	**2:25**	**2:33**	**2:43**	**2:50**	**2:57**
3:00	**3:11**	**3:16**	**3:25**	**3:33**	**3:43**	**3:50**	**3:57**
4:00	**4:11**	**4:16**	**4:25**	**4:33**	**4:43**	**4:50**	**4:57**
5:00	**5:11**	**5:16**	**5:25**	**5:33**	**5:43**	**5:50**	**5:57**
6:00	**6:11**	**6:16**	**6:25**	**6:33**	**6:43**	**6:50**	**6:57**

Sunday / Domingo

7:00	7:10	7:15	7:23	7:30	7:40	7:47	7:54
8:00	8:10	8:15	8:23	8:30	8:40	8:47	8:54
9:00	9:10	9:15	9:23	9:30	9:40	9:47	9:54
10:00	10:11	10:16	10:25	10:33	10:43	10:50	10:57
11:00	11:11	11:16	11:25	11:33	11:43	11:50	11:57
12:00	**12:11**	**12:16**	**12:25**	**12:33**	**12:43**	**12:50**	**12:57**
1:00	**1:11**	**1:16**	**1:25**	**1:33**	**1:43**	**1:50**	**1:57**
2:00	**2:11**	**2:16**	**2:25**	**2:33**	**2:43**	**2:50**	**2:57**
3:00	**3:11**	**3:16**	**3:25**	**3:33**	**3:43**	**3:50**	**3:57**
4:00	**4:11**	**4:16**	**4:25**	**4:33**	**4:43**	**4:50**	**4:57**
5:00	**5:11**	**5:16**	**5:25**	**5:33**	**5:43**	**5:50**	**5:57**
6:00	**6:11**	**6:16**	**6:25**	**6:33**	**6:43**	**6:50**	**6:57**


11
Eastbound to
Ave. J & 20th St. E. via Ave. I
Westbound to
Lancaster City Park via Ave. I
Avenue I & 30th St. W.
Avenue I
& 10th St. W.
WB
EB
Avenue I
& 10th St. E.
Jackman & Fern
AVE I
JACKMAN
LANCASTER
LANCASTER BLVD
NEWGROVE
NORBERRY
AVE J
15th St. W. &
Avenue J
(AV Hospital)
AVE J8
MEADOW VIEW LN
AVE K
AVE K8
Owen Memorial Park
AVE L
Ave. J &
20th St. E.
14
138
N
30TH ST W
25TH ST W
15TH ST W
12TH ST W
20TH ST W
17TH ST
13TH ST
10TH ST W
FERN
ELM
YUCCA
SIERRA HWY
DIVISION
CHALLENGER WAY
10TH ST E
13TH ST E
15TH ST E
17TH ST E
20TH ST E
25TH ST E
26TH ST E
27TH ST E
30TH ST E
35TH ST E
40TH ST E

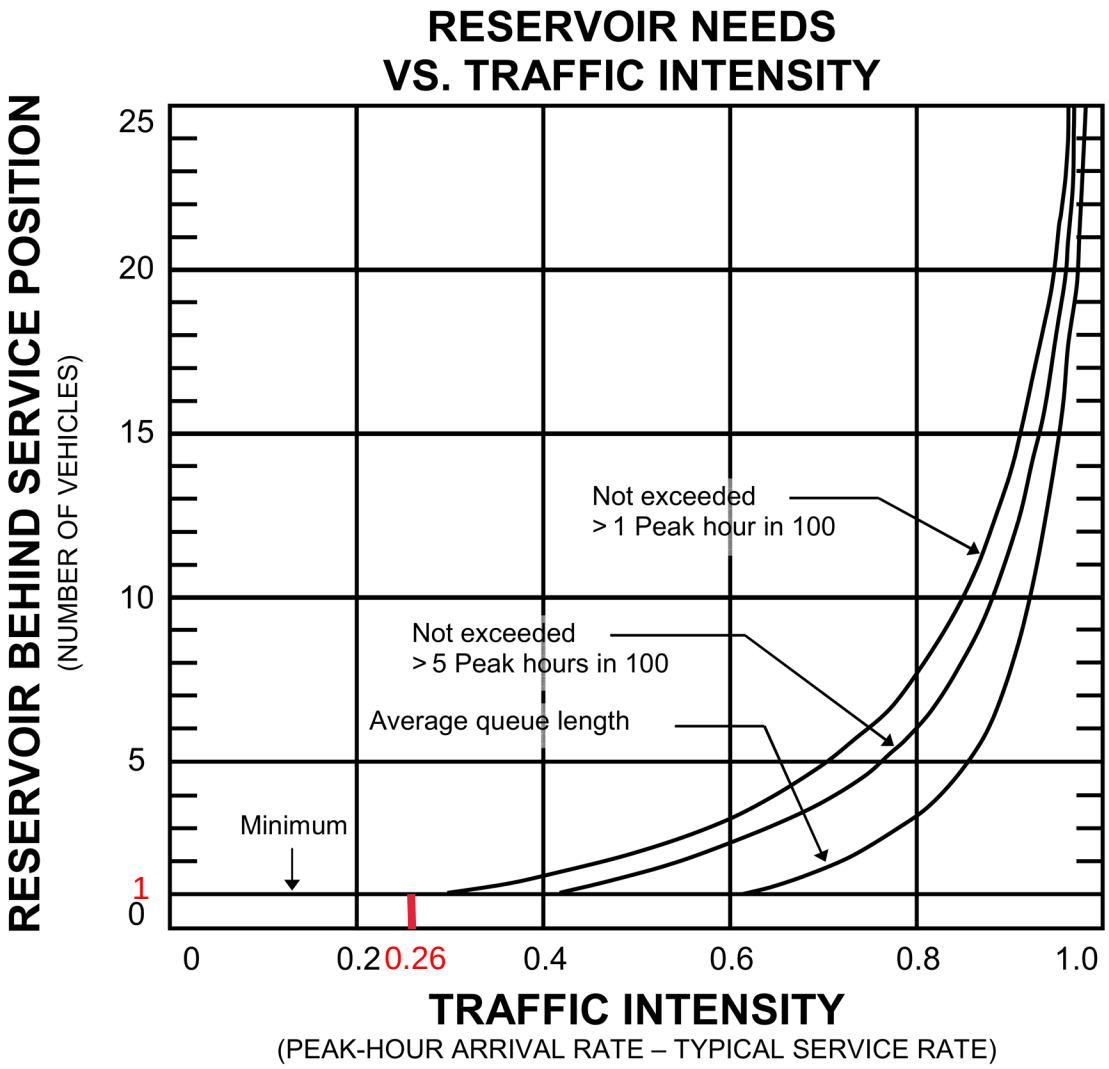
Appendix G. Access/Gate Vehicular Queue

APPENDIX A – PARKING CONTROL SERVICE RATE

Type of Control	Typical Service Rates Per Lane[4] Average Headway (Sec/Veh)	Capacity (Veh/Hr)
Entering:		
Clear aisle, no control	3.6	1,000
Ticket dispenser, no gate	5.0	720
Time stamp and handed to driver	8.5	425
Coded-card operated gate	8.9	405
Cashier, flat fee, no gate		
No information given	9.2	390
Direction-info needed	14.8	250
Ticket dispenser with gate		
Sharp turn @ approach	9.5	380
Easy direct approach	5.5	650
Coin-operated gate	20.4	175
Internal:		
Clear aisle or ramp, no parking	2.0	1,800
Straight ramp w/bend @ end	2.2	1,650
Circular ramp, 30´ R @ C/L	2.2	1,650
Aisle with adjacent 9´ x 18´ stalls		
Inbound	3.5	1,040
Outbound	8.6	420
Exiting:		
Light street congestion	7.2	500
Moderate street congestion	9.0	400
Coded card/token-operated gate	9.0	400
Cashier, flat fee with gate	13.4	270
Cashier, variable fee with gate	19.5	185
Coin operated gate	20.4	175

[4] Assumes no significant interference by pedestrians, other traffic, etc.

APPENDIX B



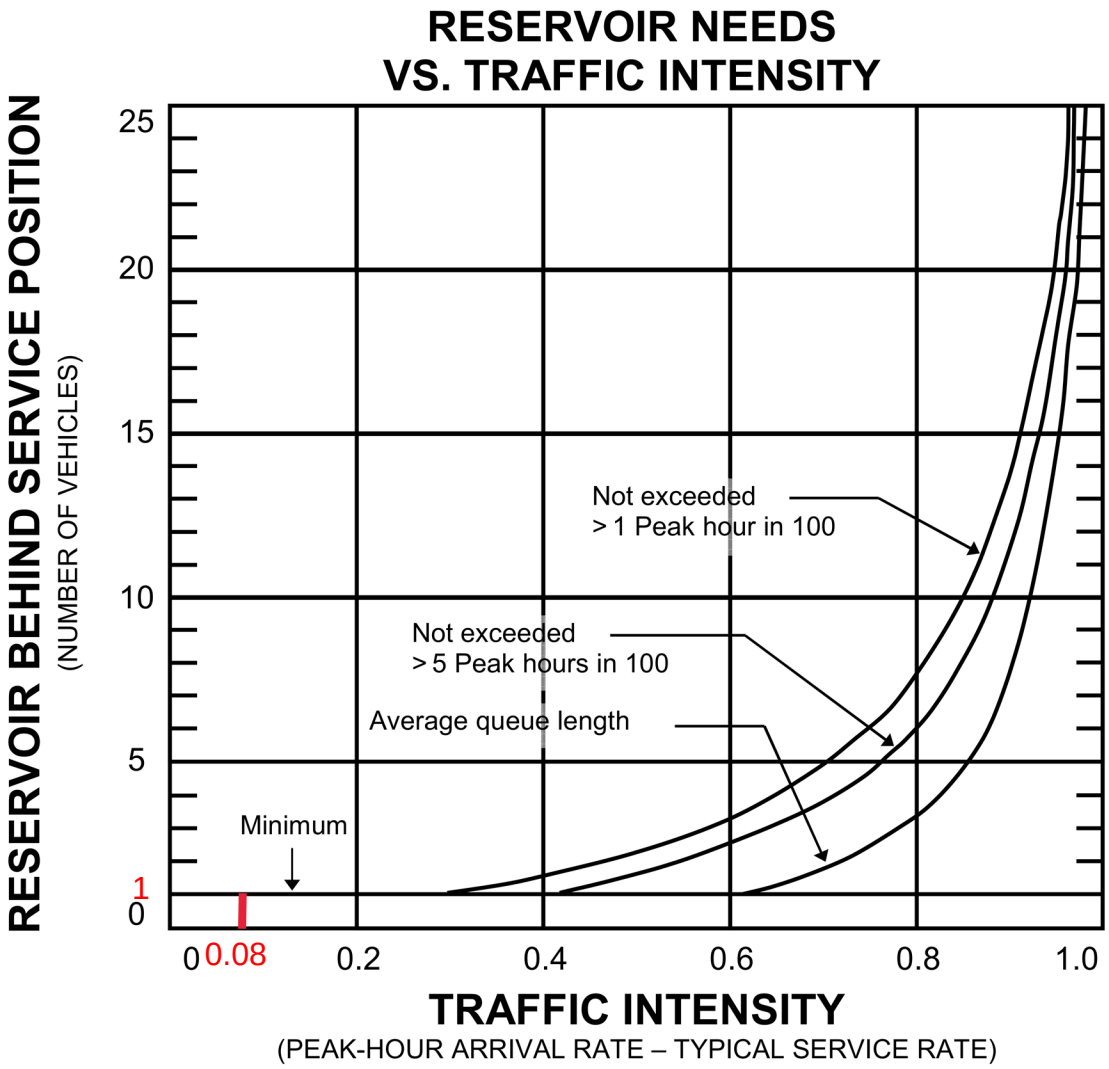
Assumptions: Arrivals follow a Poisson Distribution.
Service rate can be represented by an exponential probability function.
Flow is equally divided between each line if more than one if available.

Notes:

1. To obtain total reservoir length, use 20 feet per vehicle + 20 feet for the service position (or 12 feet to the driver of the vehicle in the service position).
2. For peak-hour arrival rate contact City-Wide Planning Coordination Section at (213) 482-7024.
3. See Appendix A for parking control service rate.

Phase 1 Gate
PM inbound = 104 vph
Traffic Intensity = 104 vph arrival/405 vph service = 0.26

APPENDIX B



Assumptions: Arrivals follow a Poisson Distribution.
Service rate can be represented by an exponential probability function.
Flow is equally divided between each line if more than one if available.

Notes:

1. To obtain total reservoir length, use 20 feet per vehicle + 20 feet for the service position (or 12 feet to the driver of the vehicle in the service position).
2. For peak-hour arrival rate contact City-Wide Planning Coordination Section at (213) 482-7024.
3. See Appendix A for parking control service rate.

Phase II Gate
PM inbound = 32 vph
Traffic Intensity = 32 vph arrival/405 vph service = 0.08