Gibson transportation consulting, inc.

MEMORANDUM

TO: Brandon Wilson, T.E., Los Angeles Department of Transportation

FROM: Eugene Tang, AICP, and Lauren Mullarkey-Williams

DATE: December 1, 2022

RE: Transportation Analysis for
20032 Ventura Boulevard
Woodland Hills, California **Ref:** J1996

Gibson Transportation Consulting, Inc. prepared a transportation analysis for the drive-thru fast-food restaurant (Project) located at 20032 Ventura Boulevard (Project Site) in the Woodland Hills community of the City of Los Angeles (City). The methodology and base assumptions used in the analysis were established in conjunction with the Los Angeles Department of Transportation (LADOT). This memorandum summarizes our analysis.

PROJECT DESCRIPTION

The Project would develop a 1,300 square foot (sf) fast-food restaurant with drive-thru operations. The Project is anticipated to be completed in Year 2025.

The Project would provide 13 striped parking spaces within an on-site surface parking lot and an on-site drive-thru queuing capacity for nine vehicles. Vehicular access to the Project Site would be provided via one driveway on Ventura Boulevard that would accommodate right-turn and left-turn ingress and right-turn-only egress and one driveway along the alley south of the Project Site that would accommodate right-turn-only egress toward Quakertown Avenue. Pedestrian access to the Project Site would be provided via a front entry connecting to the outdoor dining area and accessible via the parking lot and a side entry connecting to the sidewalk along Ventura Boulevard. Internal to the Project parking lot, marked pedestrian crossings would be provided across the drive-thru exit and across the primary circulation aisle.

Figure 1 illustrates the Project's ground floor site plan, including the access points and the proposed internal pedestrian crossing infrastructure.

PROJECT LOCATION

As shown in Figure 2, the Project Site is bounded by Ventura Boulevard to the north, commercial uses to the east, and an alley to the south, and Quakertown Avenue to the west. The Project Site lies within an urbanized area consisting of residential and commercial uses.

Metered on-street parking is provided adjacent to the Project Site along the Ventura Boulevard frontage. Nearest to the Project Site, Los Angeles County Metropolitan Transportation Authority (Metro) operates Lines 150 and 243 and Antelope Valley Transit Authority (AVTA) operates Route 787 with bus stops at the intersection of Winnetka Avenue & Ventura Boulevard.

STUDY SCOPE

The scope of the assessment was developed in consultation with LADOT and is consistent with *Transportation Assessment Guidelines* (LADOT, August 2022) (TAG) and in compliance with the California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations, Title 14, Section 15000 and following). The base assumptions and technical methodologies (i.e., trip generation, study locations, analysis methodology, etc.) were identified as part of the study approach and were outlined in a Memorandum of Understanding that was reviewed and approved by LADOT in September 2022 and is provided in Attachment A.

CEQA Screening

The Project is pursuing a Specific Plan Exemption and Conditional Use Permits to permit the drive-thru operations and allow hours of operation 24 hours a day-seven days a week, with no dining or food served inside the restaurant. The Project would operate in conformance with the City's General Plan and transportation plans, policies, programs, and ordinances, and per Section 2.2.2 of the TAG, the Project, a retail development less than 50,000 sf, is considered local serving and would not have a significant effect on regional vehicle miles traveled. In addition, access to the Project Site would be provided via an existing curb cut on Ventura Boulevard, as well as via the alley along the southern boundary of the Project Site. An additional existing curb cut on Ventura Boulevard would be consolidated, and no further modifications to the public right-of-way are anticipated with development of the Project. Therefore, no further CEQA analysis was required for the Project, per the screening criteria outlined in Section 2 of the TAG, and a determination can be made that the Project has no CEQA impact.

EXISTING TRANSPORTATION SETTING

An assessment of the existing transportation infrastructure and conditions of the Study Area, including freeway and street systems and public transit service, as well as pedestrian and bicycle circulation was conducted. An inventory of lane configurations, signal phasing, parking restrictions, etc., for the Study Area was also collected.

Study Area

The Study Area was established in consultation with LADOT and by reviewing the existing intersection/corridor operations, Project peak hour vehicle trip generation, and the anticipated distribution of Project vehicular trips. This Study Area was established in consultation with LADOT based on the following factors identified in the TAG:

1. Primary driveway(s)
2. Intersections at either end of the block on which the Project is located or up to 600 feet from the primary Project driveway(s)
3. Unsignalized intersections adjacent to the Project Site that are integral to the Project's site access and circulation plan
4. Signalized intersections in proximity to the Project Site where 100 or more Project trips would be added

The signalized intersections of Winnetka Avenue & Ventura Boulevard (Intersection #1) and Oakdale Avenue & Ventura Boulevard (Intersection #3) and the unsignalized intersection of Quakertown Avenue & Ventura Boulevard (Intersection #2) were identified for detailed analysis consistent with the above criteria. Figure 3 illustrates the location of the Project Site in relation to the surrounding street system and Study Intersections. The existing lane configurations at the Study Intersections are provided in Figure 4.

Existing Roadway System

Primary regional access to the Project Site is provided by US 101, which generally runs in the northwest-southeast direction east of the Study Area and is located approximately a mile north of the Project Site, with access provided via an interchange at Winnetka Avenue. The major arterials providing regional and sub-regional access to the Project Site include Winnetka Avenue and Ventura Boulevard. The following is a brief description of the major streets in the Study Area and their classifications in *Mobility Plan 2035, An Element of the General Plan* (Los Angeles Department of City Planning [LADCP], September 2016) (Mobility Plan):

- Winnetka Avenue – Winnetka Avenue is a designated Boulevard II north of Ventura Boulevard and a designated Collector south of Ventura Boulevard. It travels in the north-south direction and is located west of the Project Site. North of Ventura Boulevard, it provides four lanes, two lanes in each direction, with two exclusive turning lanes at major intersections. South of Ventura Boulevard, it provides two travel lanes, one in each direction, with a two-way left-turn median and exclusive turn lanes at major intersections. There is generally no parking permitted along either side of Winnetka Avenue nearest to the Project Site.

- Ventura Boulevard – Ventura Boulevard is a designated Boulevard II. It travels in the east-west direction and is located along the northern boundary of the Project Site. Ventura Boulevard provides four travel lanes, two lanes in each direction, with a two-way left-turn median and exclusive turn lanes at major intersections. Two-hour metered street parking is generally available on both sides of Ventura Boulevard nearest to the Project Site.

- Oakdale Avenue – Oakdale Avenue is a designated Collector. It travels in the north-south direction and is located east of the Project Site. Oakdale Avenue provides two travel lanes, one lane in each direction, with exclusive turn lanes at major intersections. No parking is permitted along either side of Oakdale Avenue north of Ventura Boulevard, and limited unmetered parking is available on both sides of Oakdale Avenue south of Ventura Boulevard.

- Quakertown Avenue – Quakertown Avenue is a designated Local Street. It travels in the north-south direction and is located on the western boundary of the Project Site. Quakertown Avenue provides two travel lanes, one lane in each direction. Unmetered parking is generally available on both sides of Quakertown Avenue within the Study Area.

As required in the TAG, an inventory was conducted of facilities serving pedestrians, bicyclists, and transit riders. The existing mobility facilities at the Study Intersections are detailed in Figure 4 and the Mobility Plan street designations and pedestrian destinations within the Study Area are detailed in Figure 5.

Existing Transit System

As detailed in Table 1 and Figure 6, the Project area is served by bus lines operated by Metro and AVTA, including Metro Local Lines 150 and 243 and AVTA route 787, which travel adjacent to the Project Site along Ventura Boulevard.

Tables 2A and 2B summarize the total residual capacity of the Metro bus lines at the Study Intersections during the morning and afternoon peak hours based on the frequency of service of each line and the maximum seated and standing capacity of each transit line. As shown, the Metro bus lines within 0.25 miles of the Project currently have residual capacity for 363 transit trips during the morning peak hour and 351 transit trips during the afternoon peak hour. No data was available for the AVTA bus lines at this time.

Existing Bicycle System

Based on *2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element* (LADCP, adopted March 1, 2011) (2010 Bicycle Plan), the existing bicycle system consists of a limited network of bicycle lanes (Class II) and bicycle routes (Class III). Class II bicycle lanes are a component of street design with dedicated striping, separating vehicular traffic from bicycle traffic. These facilities offer a safer environment for both cyclists and motorists. Class III bicycle routes and bicycle-friendly streets are those where motorists and cyclists share the roadway and there is no separated striping for bicycle travel. Bicycle routes and bicycle-friendly streets are preferably placed on collector and low volume arterial streets. Bicycle routes with shared lane markings, or "sharrows," remind bicyclists to ride farther from parked cars to prevent collisions, increase awareness of motorists that bicycles may be in the travel lane, and show bicyclists the correct direction of travel.

The components of the 2010 Bicycle Plan have been incorporated into the bicycle network of the Mobility Plan. The Mobility Plan consists of a Low-Stress Bikeway System and a Bicycle Lane Network. The Low-Stress Bikeway System is comprised of the Bicycle Enhanced Network (BEN), the Neighborhood Enhanced Network (NEN), and Bike Paths. The BEN includes protected bicycle lanes (Class IV), which provide bicycle infrastructure including cycle tracks, bicycle traffic signals, and demarcated areas to facilitate turns at intersections and along neighborhood streets. These Class IV networks typically provide mini-roundabouts, cross-street stop signs, crossing islands at major intersection crossings, improved street lighting, bicycle boxed, and bicycle-only left-turn pockets. The NEN and Bicycle Paths are relatively unchanged from the 2010 Bicycle Plan.

There are no existing bicycle facilities near the Project Site.

Existing Pedestrian Facilities

The walkability of existing facilities is based on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile. These attributes are quantified by WalkScore.com and assigned a score out of 100 points. With the various commercial businesses, employment, entertainment, and cultural centers adjacent to residential neighborhoods, the walkability of the Study Area is approximately 74 points[1].

Currently surrounding the Project frontage, sidewalks along both sides of Ventura Boulevard and Quakertown Avenue provide proper connectivity and adequate widths for a comfortable and safe pedestrian environment. Winnetka Avenue & Ventura Boulevard (Intersection #1) provides signalized pedestrian crossings near the Project Site with marked crosswalks, including continental striping and pedestrian phasing on all four legs and Americans with Disabilities Act (ADA) accessible curb ramps on three of the four corners. Oakdale Avenue & Ventura Boulevard (Intersection #3) also provides signalized pedestrian crossings near the Project Site with marked crosswalks and pedestrian phasing on all four legs, continental striping on three of the four legs, and ADA accessible curb ramps on the southeast corner of the intersection.

Existing Traffic Volumes

Traffic count data collection is typically conducted during times with typical travel demand patterns (i.e., when local schools are in session, businesses in full operation, weeks with holidays, etc.) However, due to the current traffic conditions related to the State and City's response to COVID-19, LADOT has directed transportation assessments to utilize traffic counts collected prior to March 1, 2020. Given the uncertainty of the return to typical traffic conditions, LADOT is allowing the use of historical traffic data or new traffic count data with application of an adjustment factor.

Thus, historical weekday peak hour traffic data from May 2016 was assessed and conservatively increased at a rate of 1% per year to reflect regional growth and development between the year of the traffic counts and Existing Year 2022 Conditions for Winnetka Avenue & Ventura Boulevard (Intersection #1). Additionally, existing weekday peak hour traffic count data was collected in June 2022 at Winnetka Avenue & Ventura Boulevard (Intersection #1) to help calibrate current turning movement volumes for non-pandemic conditions and develop an applicable growth factor to account for COVID-19 related traffic disruptions. After review of the historic count data grown to effectively represent typical Year 2022 conditions, a growth factor of 19% was applied to the existing morning peak hour counts and a growth factor of 11% was applied to the existing afternoon peak hour counts to effectively represent non-pandemic Existing Conditions in Year 2022 at Winnetka Avenue & Ventura Boulevard (Intersection #1).

Existing weekday peak hour traffic count data was subsequently collected in September 2022 at Quakertown Avenue & Ventura Boulevard (Intersection #2) and Oakdale Avenue & Ventura Boulevard (Intersection #3). The empirical 19% morning and 11% afternoon growth factors were applied to the existing peak hour counts to effectively represent non-pandemic Existing Conditions in Year 2022 at all Study Intersections.

[1] Walk Score (www.walkscore.com) rates the Project Site with a score of 74 of 100 possible points (scores assessed on October 17, 2022 for 20032 Ventura Boulevard). Walk Score calculates the walkability of specific addresses by taking into account the ease of living in the neighborhood with a reduced reliance on automobile travel.

The existing intersection peak hour traffic volumes are illustrated in Figure 7. The traffic count summaries and COVID-19 adjustment factor approach are provided in Attachment B.

Future Traffic Volumes

The traffic volumes were forecast to the Future Year 2025 to reflect conditions at the anticipated buildout year of the Project. The analysis of future traffic conditions includes the addition of ambient growth to account for regional growth and development outside the Study Area. An ambient growth factor of 1% per year compounded annually was applied to be conservative, and thus, the total adjustment applied for the three-year period between the adjusted Year 2022 count and Year 2025 was 3.03%. The Future without Project Conditions peak hour traffic volumes at the Study Intersections are illustrated in Figure 8.

PROJECT TRAFFIC

Trip generation rates for a fast-food restaurant with drive-thru window use from *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021) were utilized to develop trip generation estimates for the Project. No adjustments were made to account for transit/walk-in or pass-by trips to the Project Site.

As shown in Table 3, the Project is estimated to generate 58 morning net new peak hour trips (30 inbound, 28 outbound) and 43 net new afternoon peak hour trips (22 inbound, 21 outbound).

The traffic volumes entering and exiting the Project Site were distributed and assigned to the local street system based on the location of the Project driveways, demographics, and existing/anticipated travel patterns in the Study Area. The trip distribution of the Project is illustrated in Figure 9.

Project traffic was assigned to the surrounding street system based on the following general distribution pattern:

- 30% to/from the north
- 30% to/from the east
- 10% to/from the south
- 30% to/from the west

The trip distribution patterns illustrated in Figure 9 were applied to the trip generation estimates detailed in Table 3 to develop the Project-only traffic assignments. Figure 10 illustrates the Project traffic volumes through the Study Intersections and driveways.

ACCESS AND CIRCULATION ANALYSIS

The following provides the operational analysis of the local circulation system surrounding the Project Site.

Project Access

As described above, vehicular access to the Project Site would be provided via one driveway on Ventura Boulevard that would accommodate right-turn and left-turn ingress and right-turn-only egress, and one driveway along the alley south of the Project Site that would accommodate right-turn-only egress toward Quakertown Avenue. The Project would consolidate the two existing curb cuts along Ventura Avenue to provide the new driveway. Pedestrian access to the Project Site would be provided via a front entry connecting to the outdoor dining area and accessible via the parking lot and a side entry connecting to the sidewalk along Ventura Boulevard. Internal to the Project parking lot, continental striped pedestrian crossings with push button pedestrian signals would be provided across the drive-thru exit stop bar and across the primary circulation aisle. Visitors arriving by bicycle would have the same access opportunities as pedestrian visitors.

Operational Evaluation & Methodology

Intersection operations at the Study Intersections and Project driveways were evaluated for typical weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak periods.

In accordance with the TAG, the intersection delay and queue analyses for the operational evaluation were conducted using the Highway Capacity Manual (HCM) methodology, which was implemented using Synchro software with signal timing plans provided by the City. The HCM signalized and two-way stop-controlled methodologies calculate the control delay, in seconds, for each vehicle passing through the intersections. Table 4 presents a description of the level of service (LOS) categories, which range from excellent, nearly free-flow traffic at LOS A to congested stop-and-go conditions at LOS F, for signalized and unsignalized intersections.

Existing with Project Conditions. The Existing with Project Conditions are defined by the traffic volumes, roadways, and intersection configurations that currently exist in Year 2022. The Project-only traffic volumes were added to the Existing Conditions traffic volumes to develop the Existing with Project Conditions peak hour traffic volumes, shown in Figure 11.

The Existing Conditions and Existing with Project Conditions intersection operating conditions for typical weekday morning and afternoon peak hours are summarized in Table 5. As shown, under both Existing Conditions and Existing with Project Conditions, Winnetka Avenue & Ventura Boulevard (Intersection #1) is projected to operate at LOS D during both the morning and afternoon peak hours, Quakertown Avenue & Ventura Boulevard (Intersection #2) is projected to operate at LOS F during both the morning and afternoon peak hours, and Oakdale Avenue & Ventura Boulevard (Intersection #3) is projected to operate at LOS F during the morning peak hour and LOS D during the afternoon peak hour. The Project would not substantially increase delay at any of the study intersections; therefore, no corrective measures are required/recommended.

In addition, both Project driveways were analyzed under with Existing with Project Conditions. As shown in Table 5, the two driveways would operate at LOS C or better during the morning and afternoon peak hours.

Future with Project Conditions. The Future with Project Conditions are defined by the traffic volumes, roadways, and intersection configurations at full development of the Project. The

Project-only traffic volumes were added to the Future without Project traffic volumes to develop the Future with Project peak hour traffic volumes, shown in Figure 12.

The Future Conditions and Future with Project Conditions intersection operating conditions for typical weekday morning and afternoon peak hours are summarized in Table 6. As shown, Winnetka Avenue & Ventura Boulevard (Intersection #1) is projected to operate at LOS D during both the morning and afternoon peak hours under Future Conditions, LOS D during the afternoon peak hour under Future with Project Conditions, and LOS E during the afternoon peak hour under Future with Project Conditions. Under both Future Conditions and Future with Project Conditions, Quakertown Avenue & Ventura Boulevard (Intersection #2) is projected to operate at LOS F during both the morning and afternoon peak hours, and Oakdale Avenue & Ventura Boulevard (Intersection #3) is projected to operate at LOS F during the morning peak hour and LOS D during the afternoon peak hour. The Project would not substantially increase delay at any of the study intersections; therefore, no corrective measures are required/recommended.

In addition, both Project driveways were analyzed under with Future with Project Conditions. As shown in Table 6, the two driveways would operate at LOS C or better during the morning and afternoon peak hours.

Detailed LOS worksheets are provided in Attachment C.

Driveway and Signalized Intersection Queuing Analysis

In accordance with operational evaluation guidelines detailed in Section 3.3.3 of the TAG, the Project traffic was evaluated to determine whether the Project access would contribute to unacceptable queuing on an Avenue or Boulevard (as designated in the Mobility Plan) at Project driveways or would cause or substantially extend queuing at nearby signalized intersections. Per the TAG, unacceptable or extended queuing may be defined as follows:

- *Additional queue along through lanes and either of the following conditions are expected:*
    - *The projected peak hour intersection LOS is D and the through lane queue increases by greater than 75 feet on any approach with the directional approach LOS at E or F, or*
    - *The projected peak hour intersection LOS is E or F and the through lane queue increases by greater than 50 feet on any approach with the directional approach LOS at E or F.*
- *Spill over from turn pockets into through lanes.*
- *Block cross streets or alleys.*
- *Spill over from drive-throughs into streets.*
- *Contribute to "gridlock" congestion. For the purposes of this section, "gridlock" is defined as the condition where traffic queues between closely-spaced intersections and impedes the flow of traffic through upstream intersections.*

The queue lengths were estimated using Synchro software, which reports the 95th percentile queue length, in vehicles, for each approach lane. The queue lengths were then converted into linear distance by multiplying vehicle lengths by 25 feet. The reported queues are calculated using the HCM signalized intersection methodology. Detailed queuing analysis worksheets are provided in Attachment C.

The addition of Project trips to the driveway would not cause unacceptable queuing on Ventura Boulevard, a designated Boulevard II. The westbound left queue length is not anticipated to exceed one vehicle per morning or afternoon peak hour under Existing with Project Conditions (Year 2022) or Future with Project Conditions (Year 2025). The westbound left-turn lane along Ventura Boulevard has adequate capacity to hold the anticipated one vehicle queue at the Project driveway.

The queuing analysis for signalized study intersections under Future Conditions (Year 2025) is provided in Table 7. As detailed, the addition of Project trips would not cause extended queuing at Winnetka Avenue & Ventura Boulevard (Intersection #1) or Oakdale Avenue & Ventura Boulevard (Intersection #3).

Drive-Thru Queuing Analysis

The Project would provide an on-site drive-thru queuing capacity for nine vehicles. To evaluate the adequacy of the provided drive-thru queue storage, surveys at three existing fast-food restaurants (Study Sites) with drive-thru operations were conducted during business hours on a weekday and weekend day to determine peak queues. Queuing surveys were conducted at the following Study Sites on Tuesday, June 21, 2022, and Saturday, June 25, 2022:

1. Original Tommy's Van Nuys (14601 Victory Boulevard, 899 sf fast food restaurant with drive-thru operations, eight-vehicle queuing capacity)

2. Original Tommy's North Hills (15745 Roscoe Boulevard, 4,898 sf fast food restaurant with drive-thru operations, 15-vehicle queuing capacity)

3. Original Tommy's Canoga Park (7240 Topanga Canyon Boulevard, 1,600 sf fast food restaurant with drive-thru operations, eight-vehicle queuing capacity)

Table 8 shows the results of the drive-thru queuing surveys, including the average queues and maximum queues recorded for all three Study Sites on both the weekday and weekend survey dates.

- Original Tommy's Canoga Park is nearest in size to the Project (300 sf larger than the Project); the maximum observed queue of six vehicles could be satisfied by the nine-vehicle queuing capacity provided by the Project.

- The maximum observed queue of eight vehicles at Original Tommy's Van Nuys (401 sf smaller than the Project) could be satisfied by the Project's nine-vehicle queuing capacity.

- The maximum observed queue of 10 vehicles at Original Tommy's North Hills (3,598 sf larger than the Project) was observed on the weekend; it should be noted that while the maximum queue observed exceeds the Project's queuing capacity by one vehicle, this Study Site is over three times larger than the Project and provides an increased 15-vehicle queuing capacity.

Overall, the three Study Sites were observed to have fewer vehicle queues than their respective queuing capacities. Therefore, the results of the drive-thru queue surveys suggest that the 1,300 sf Project would provide adequate drive-thru queue storage with the nine-vehicle queuing capacity. The drive-thru queue survey data is provided in Attachment D.

On-Street Parking Analysis

Along the Project frontage on Ventura Boulevard, there is currently one metered on-street parking space with a two-hour time restriction. As discussed above, the Project would consolidate the two existing curb cuts along Ventura Boulevard to provide a new single driveway on Ventura Boulevard. Therefore, there would still be adequate room for the existing on-street parking space, and the total amount of uninterrupted sidewalk adjacent to the Project Site along Ventura Boulevard would increase. The Project design proposes shifting the existing parking meter westerly on Ventura Boulevard to accommodate the vehicular access point. As required by TAG Section 4.4.2B, the applicant will coordinate with LADOT's Parking Meters Division to address the potential shift of the existing metered parking space as applicable.

PARKING ANALYSIS

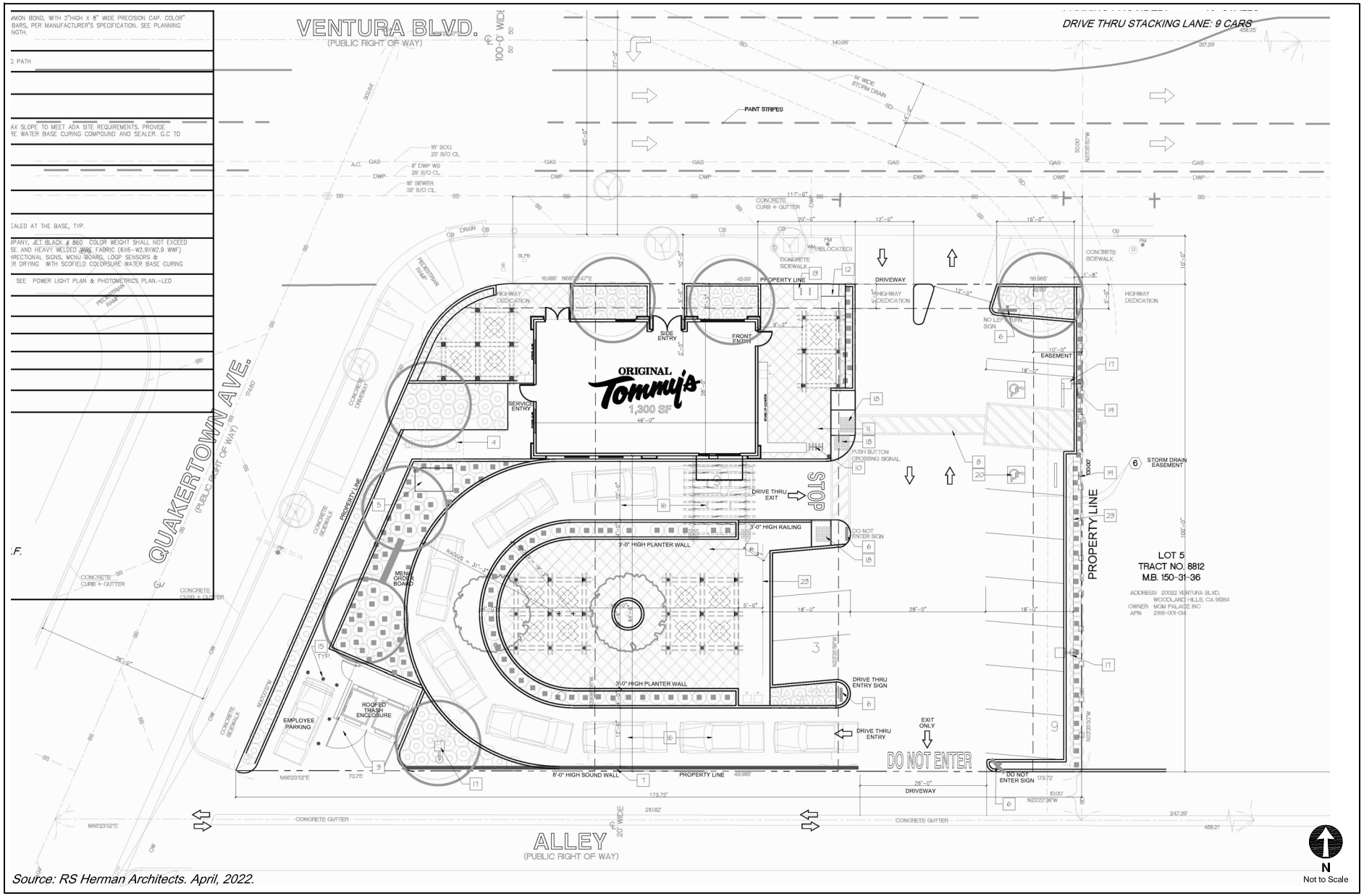
The Project would provide a total of 13 vehicular parking spaces at-grade in the surface parking lot. The Project would also provide two short-term bicycle parking spaces adjacent to the sidewalk along Ventura Boulevard and two long-term bicycle parking spaces internal to the Project Site.

The Los Angeles Municipal Code (LAMC) details City vehicle parking requirements for new developments. Table 9 summarizes the Project's standard LAMC vehicle parking requirement by applying rates from LAMC Section 12.21.A.4.(c) and *Ventura-Cahuenga Boulevard Corridor Specific Plan* (LADCP, Amended August 2001) Section 7.F.1.c for restaurant uses. As shown in Table 9, a total of 13 vehicle parking spaces would be required for the Project. The Project's vehicle parking supply would satisfy this requirement.

The LAMC also details the City short-term and long-term bicycle parking requirements for new developments. Table 10 summarizes the Project's standard LAMC bicycle parking requirement by applying rates from LAMC Section 12.21.A.16.(a).(2) for restaurant uses. As shown in Table 10, a total of two short-term and two long-term bicycle parking spaces would be required for the Project. The Project's bicycle parking supply would satisfy this requirement.

SUMMARY

The 1,300 sf fast-food restaurant with drive-thru operations, with an anticipated completion in Year 2025, is not required to conduct CEQA analysis and a no CEQA impact determination can be made from a transportation perspective. Further, the Project design provides adequate vehicular access and circulation and is not anticipated to worsen existing intersection operations or queuing at the Study Intersections or Project driveways. Based on review of comparable Study Sites, the Project's nine-vehicle queuing capacity is expected to accommodate drive-thru demand, and the Project meets LAMC code requirements for vehicle and bicycle parking.



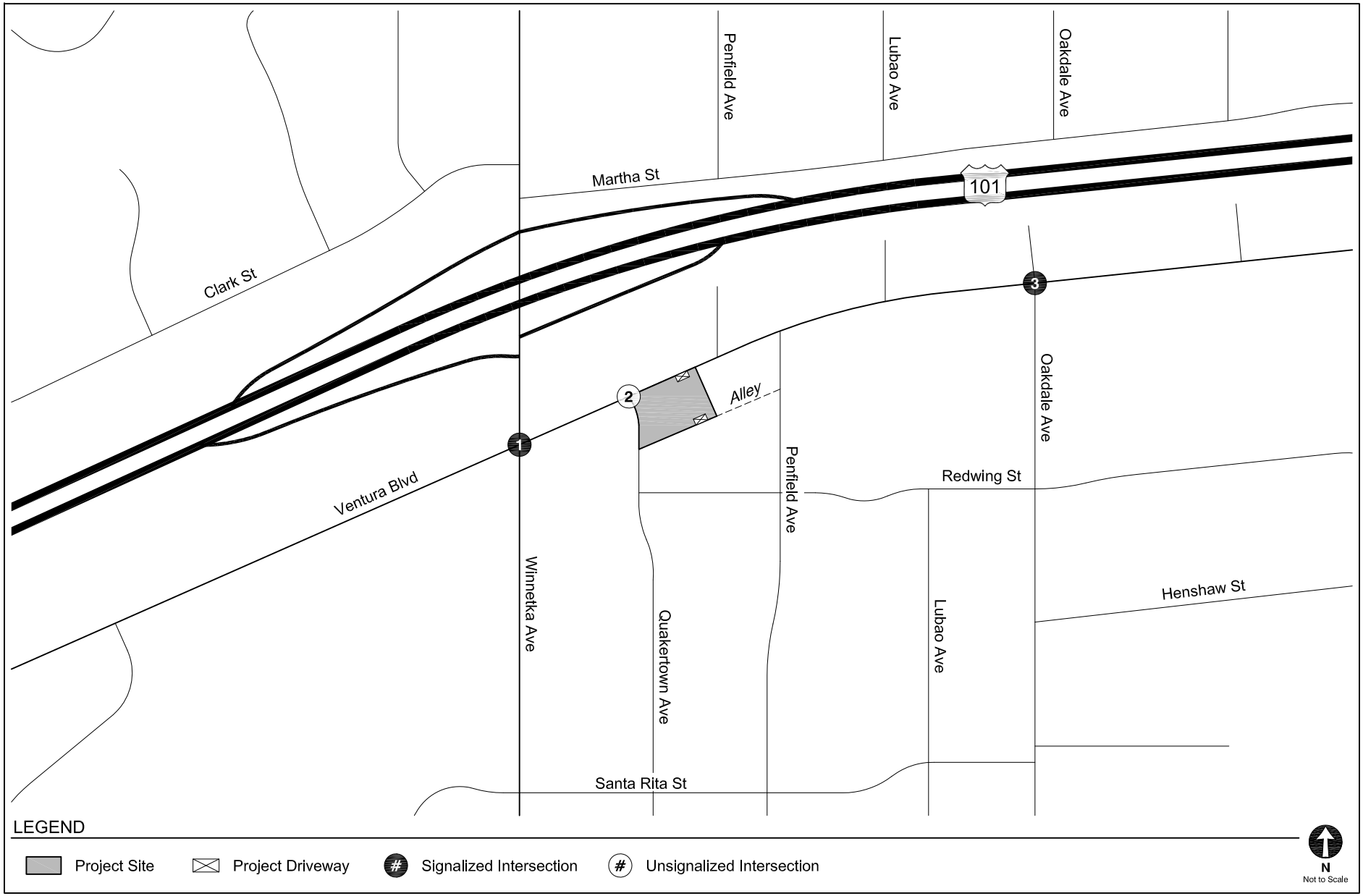
Source: RS Herman Architects. April, 2022.

PROJECT SITE PLAN

FIGURE 1

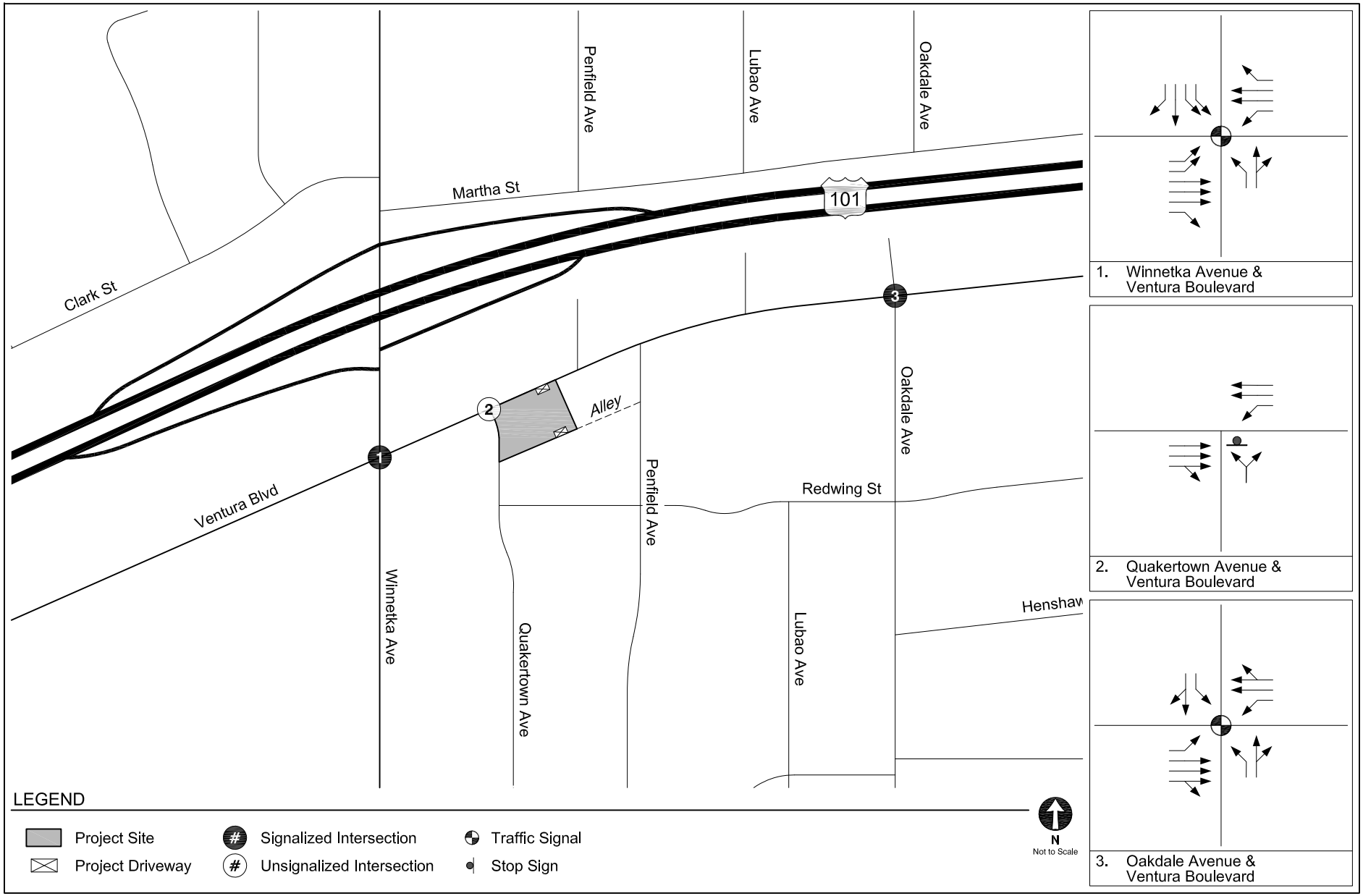
PROJECT SITE LOCATION

FIGURE 2



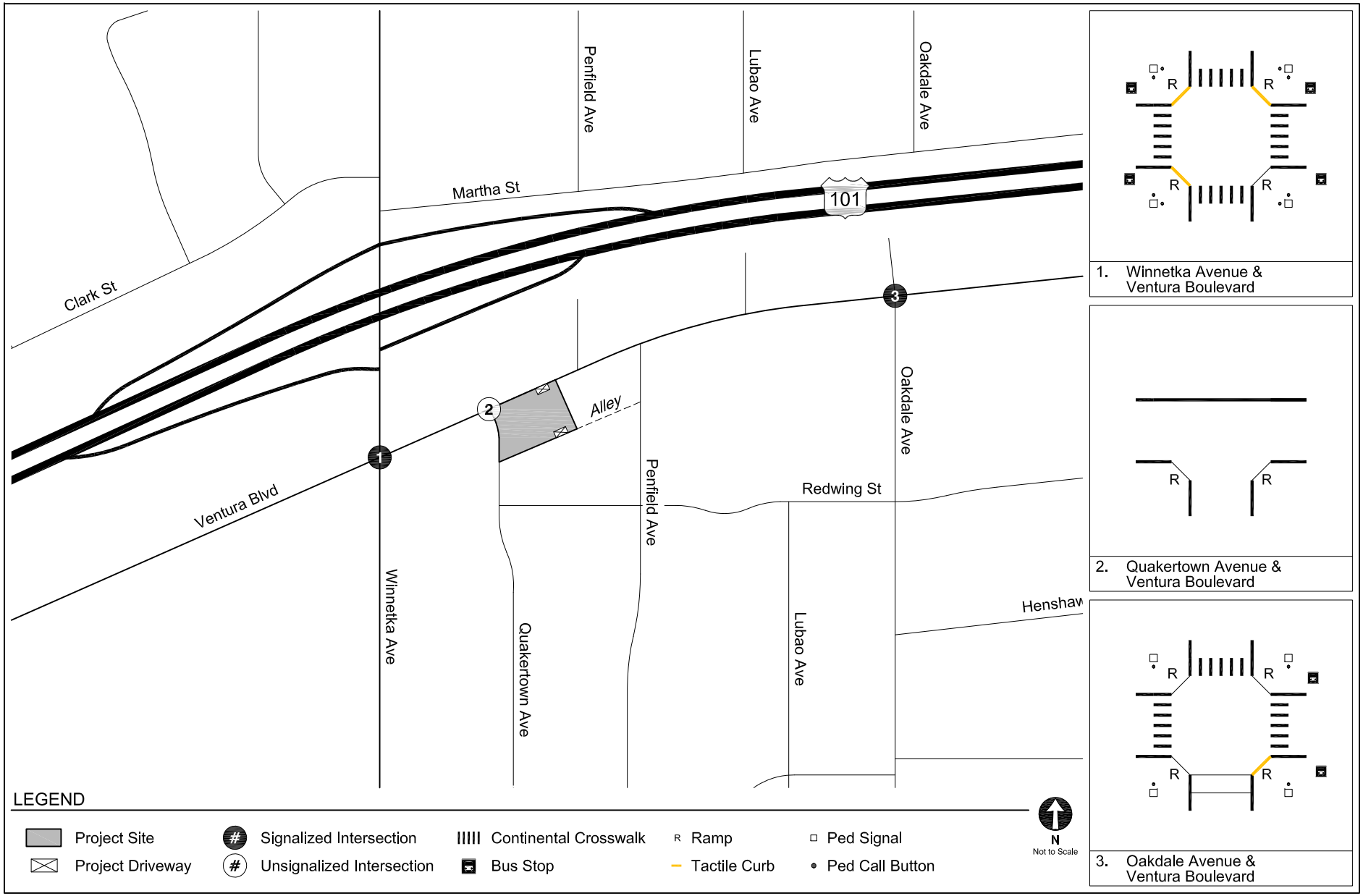
STUDY AREA AND ANALYZED INTERSECTION

FIGURE 3



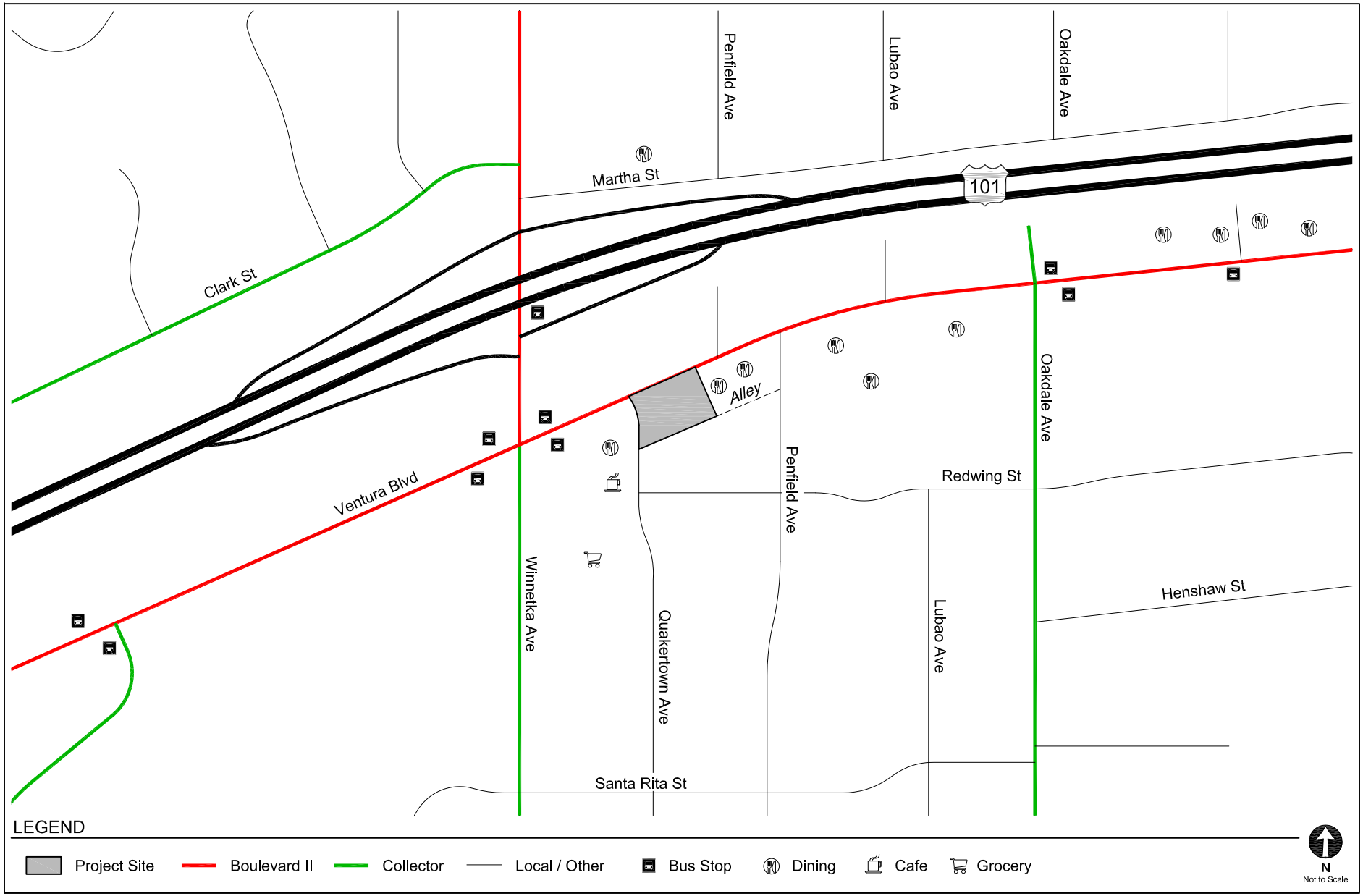
EXISTING INTERSECTION LANE CONFIGURATIONS

FIGURE 4



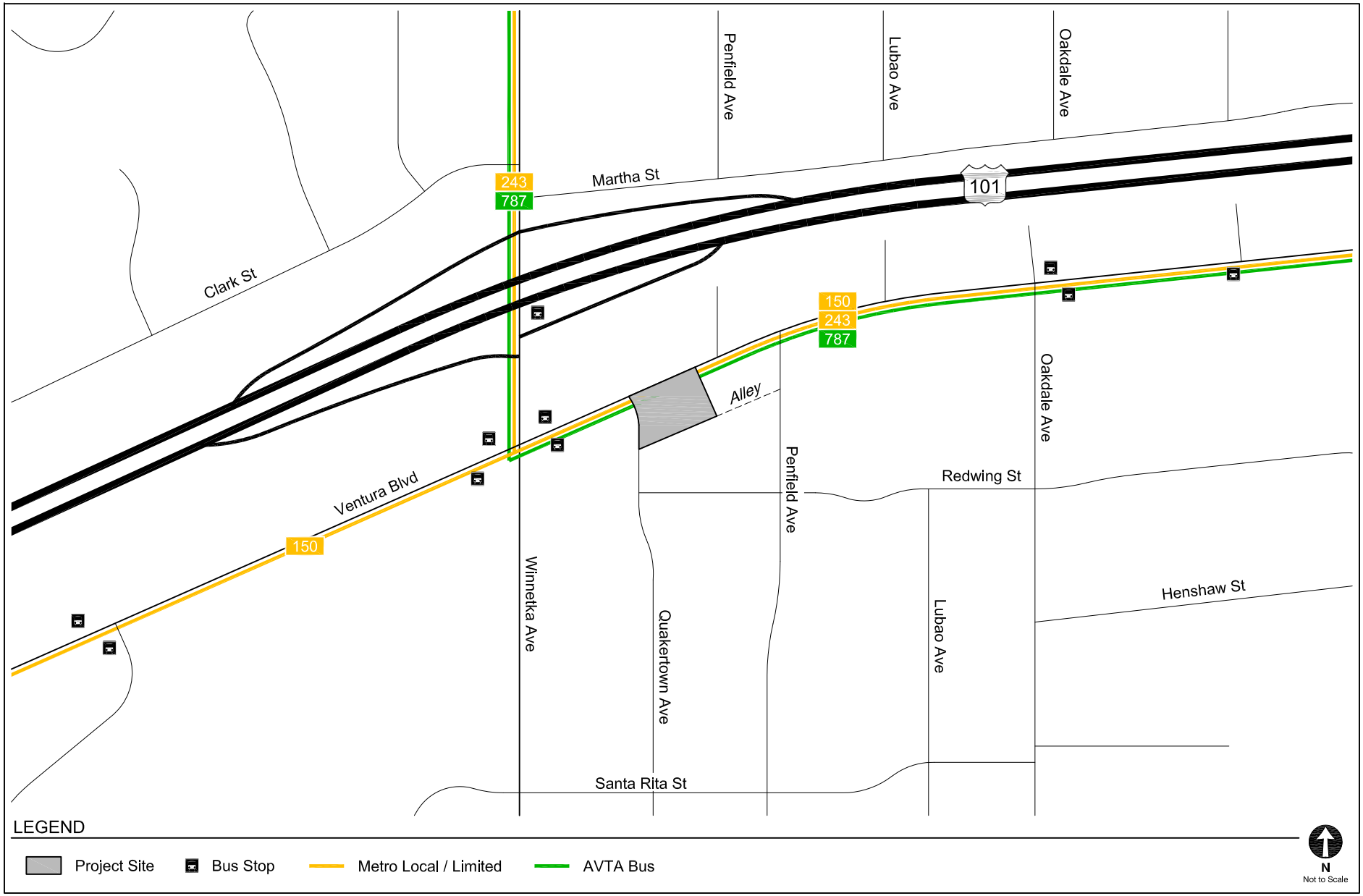
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE 5



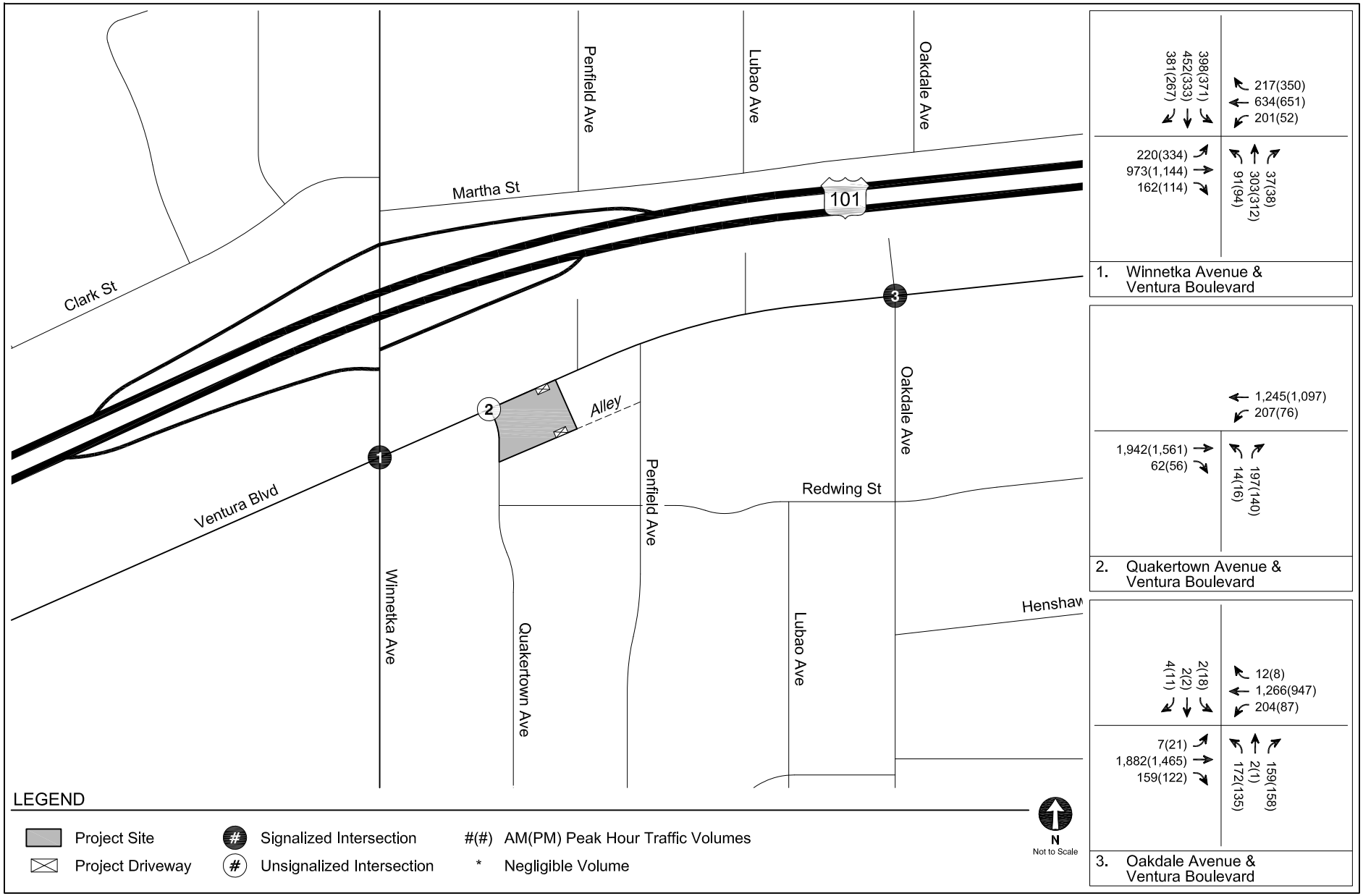
MOBILITY PLAN STREET DESIGNATIONS AND PEDESTRIAN DESTINATIONS

FIGURE 6



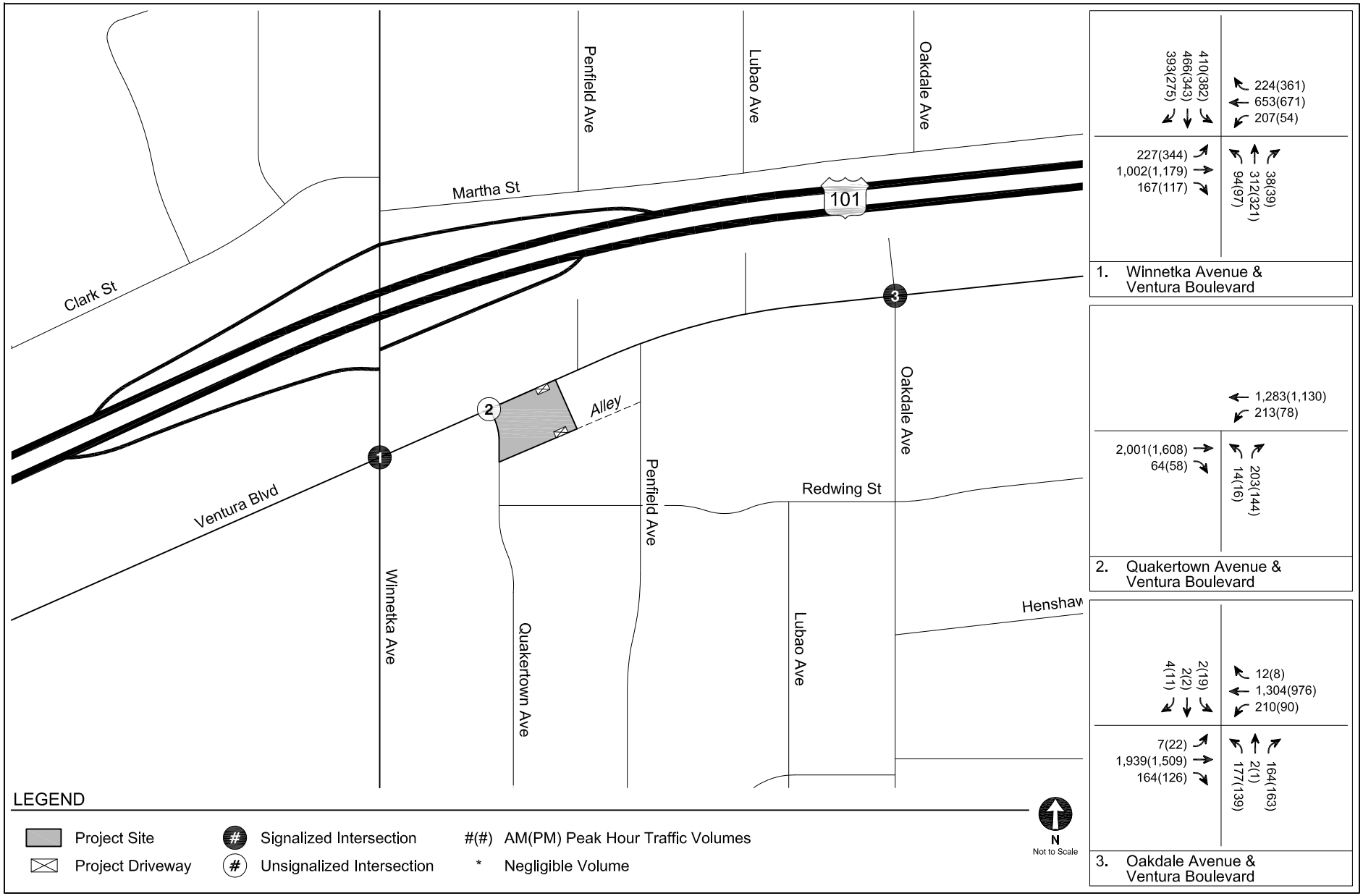
EXISTING TRANSIT SERVICE

FIGURE 7



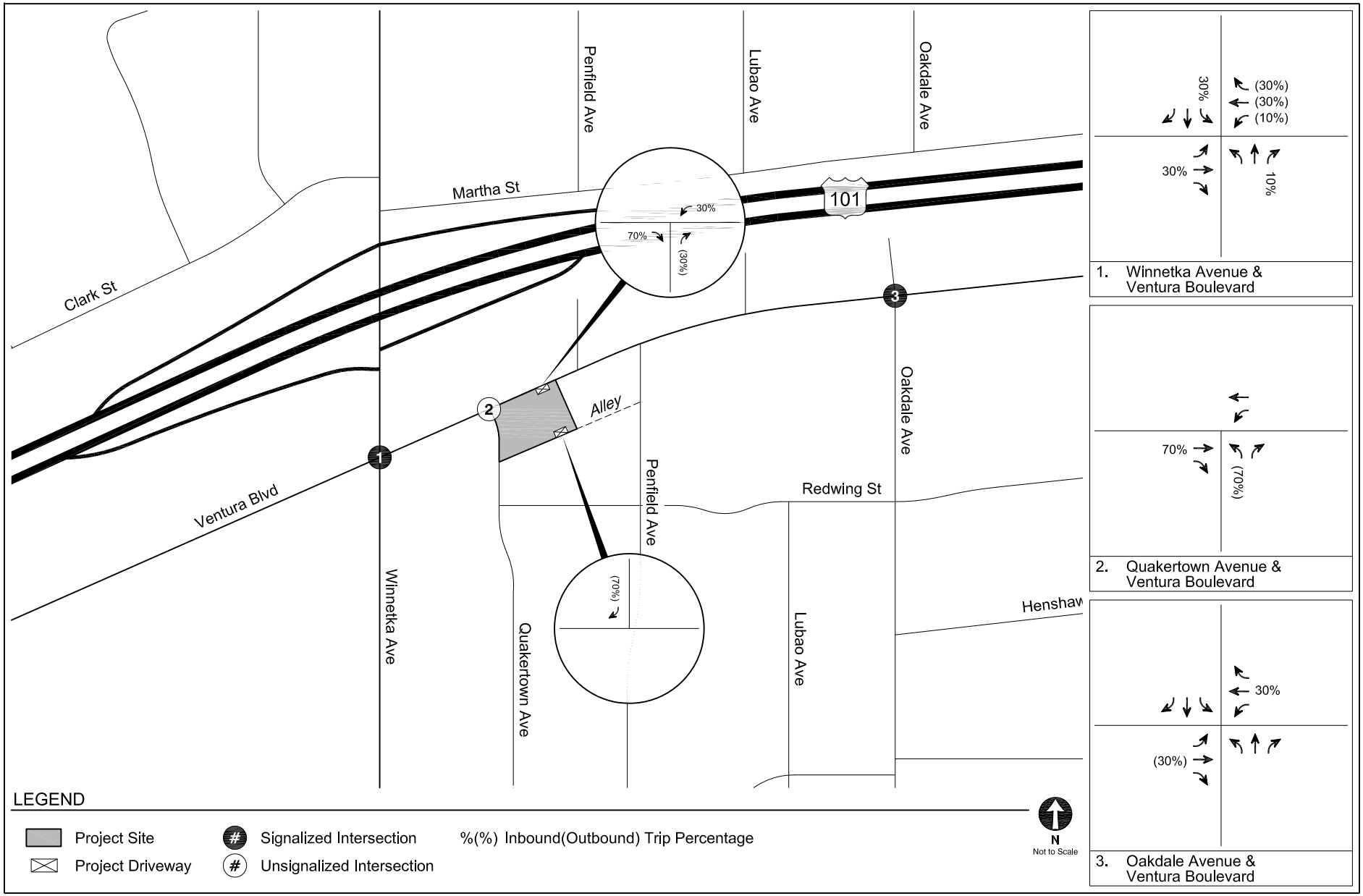
EXISTING CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 8



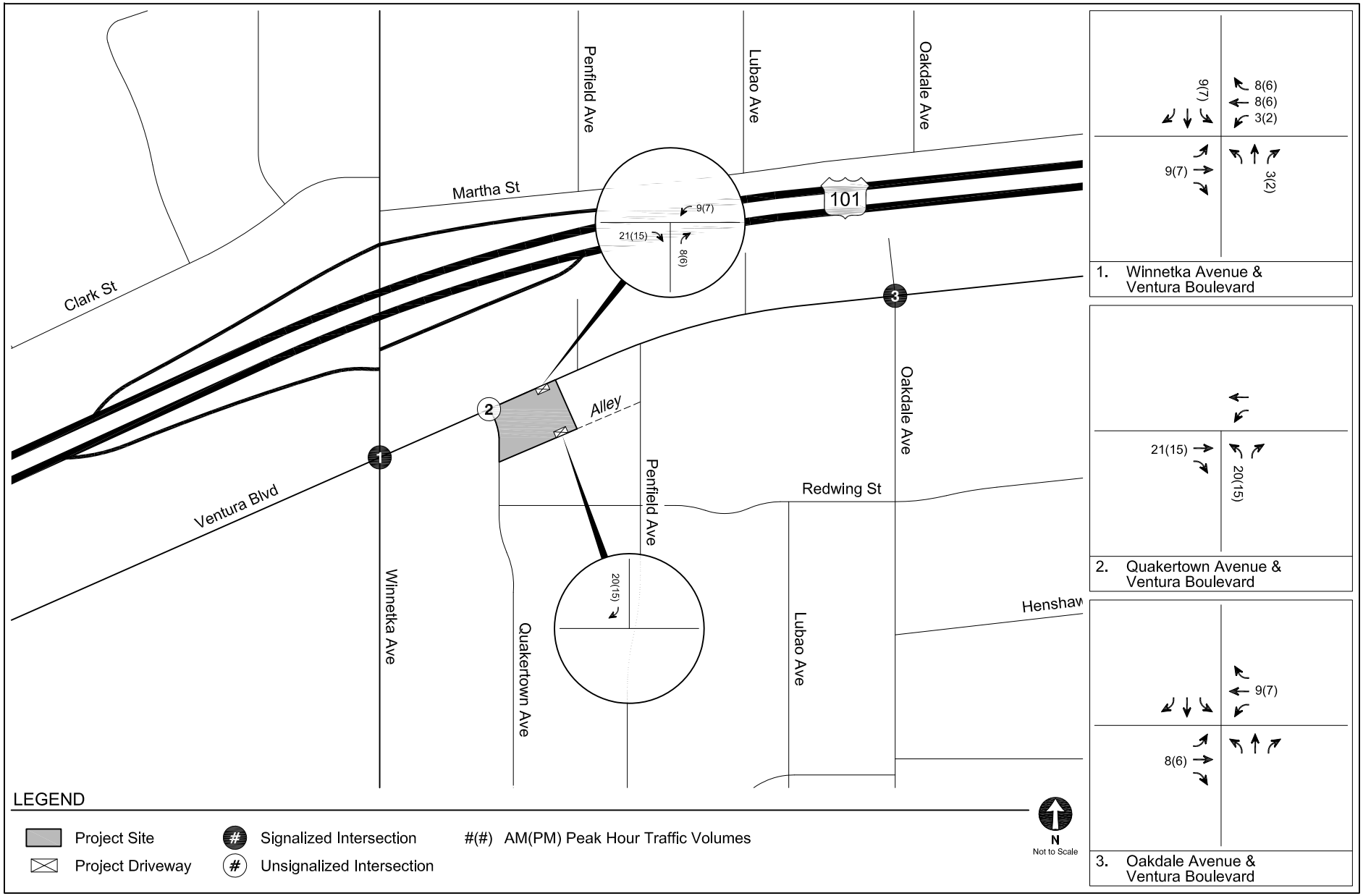
FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2025)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 9



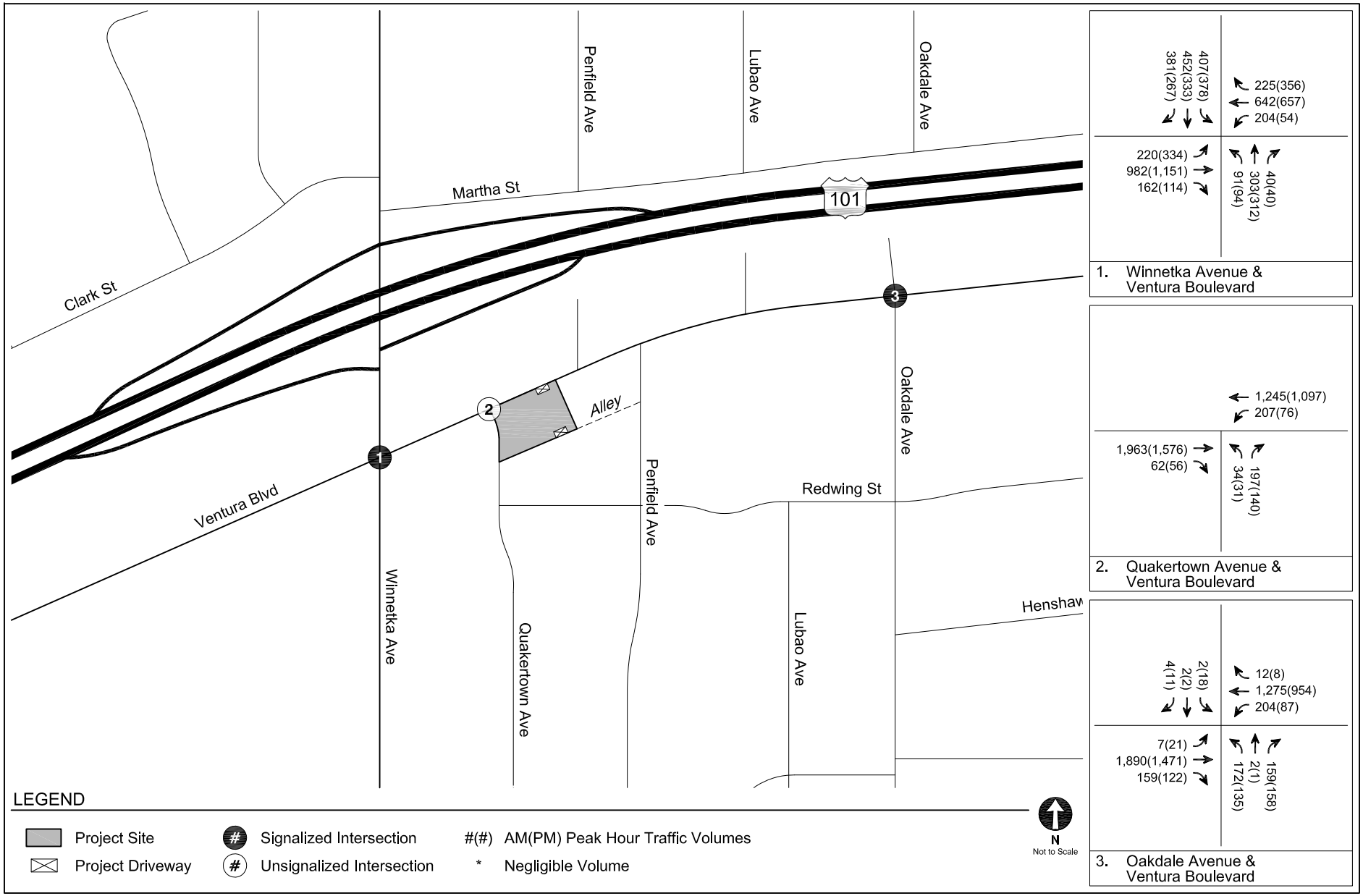
PROJECT TRIP DISTRIBUTION

FIGURE 10



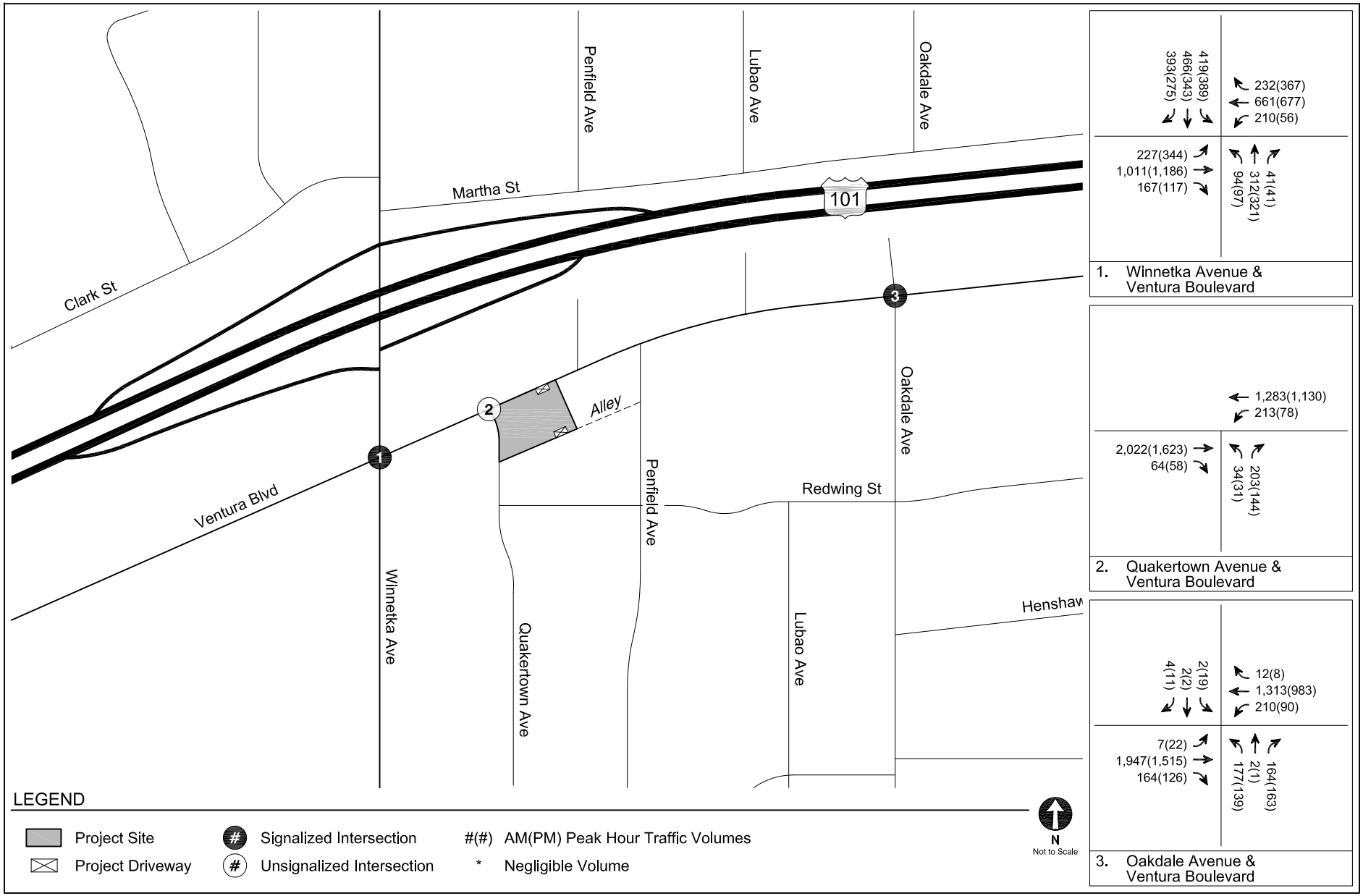
PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
11



EXISTING WITH PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
12



FUTURE WITH PROJECT CONDITIONS (YEAR 2025)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 13

TABLE 1
EXISTING TRANSIT SERVICE IN STUDY AREA

Provider, Route, and Service Area	Service Type	Hours of Operation	Average Headway (minutes)			
			Morning Peak Hour		Afternoon Peak Hour	
Metro Bus Service			**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
150 Chatsworth-Encino via Ventura Boulevard	Local	24 hour	22	22	20	20
243 Tarzana-Chatsworth via Ventura Boulevard	Local	5:30 AM- 10 PM	40	48	34	48
AVTA Bus Service			**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
787 Canoga & Burbank via Ventura Boulevard	Local	4 AM- 8 PM	N/A	23	20	N/A

Notes:

Metro: Los Angeles County Metropolitan Transportation Authority AVTA: Antelope Valley Transit Authority

NB: Northbound

EB: Eastbound

SB: Southbound

WB: Westbound

TABLE 2A
TRANSIT SYSTEM CAPACITY IN STUDY AREA - MORNING PEAK HOUR

Provider, Route, and Service Area		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Average Remaining Peak Hour Capacity	
			Peak Load		Average Load					
			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Metro Bus Servic										
150	Chatsworth-Encino via Ventura Boulev	50	13	9	9	8	41	42	114	116
243	Tarzana-Chatsworth via Ventura Boulev	50	2	7	1	3	49	47	74	59
AVTA Bus Service										
787	Canoga & Burbank via Ventura Boulevard	*No Data Available*								
							Total Remaining Peak Hour Transit System Capac		**363**	

Notes:
Metro: Los Angeles County Metropolitan Transportation Authority
AVTA: Antelope Valley Transit Authority
NB: Northbound
EB: Eastbound
SB: Southbound
WB: Westbound
[a] Capacity assumptions:
Metro Bus - 40 seated / 50 standing
[b] Based on ridership data provided by Metro in 2019.

TABLE 2B
TRANSIT SYSTEM CAPACITY IN STUDY AREA - AFTERNOON PEAK HOUR

Provider, Route, and Service Area		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Average Remaining Peak Hour Capacity	
			Peak Load		Average Load					
			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Metro Bus Servic										
150	Chatsworth-Encino via Ventura Boulev	50	24	22	14	12	36	38	108	113
243	Tarzana-Chatsworth via Ventura Boulev	50	17	10	6	7	44	43	76	53
AVTA Bus Service										
787	Canoga & Burbank via Ventura Boulevard	*No Data Available*								
							Total Remaining Peak Hour Transit System Capac		**351**	

Notes:
Metro: Los Angeles County Metropolitan Transportation Authority AVTA: Antelope Valley Transit Authority
NB: Northbound
EB: Eastbound
SB: Southbound
WB: Westbound
[a] Capacity assumptions:
Metro Bus - 40 seated / 50 standing
[b] Based on ridership data provided by Metro in 2019.

TABLE 3
PROJECT VEHICLE TRIP GENERATION ESTIMATES

Land Use	Land Use	Rate	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Trip Generation Rates [a]								
Fast-Food Restaurant with Drive-Thru Window	934	per 1,000 sf	51%	49%	44.61	52%	48%	33.03
Proposed Project								
Fast-Food Restaurant with Drive-Thru Window	934	1,300 sf	30	28	58	22	21	43
TOTAL NEW PROJECT TRIPS			**30**	**28**	**58**	**22**	**21**	**43**

Notes:
sf: square feet
[a] Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021.

TABLE 4
INTERSECTION LEVEL OF SERVIC

Level of Service	Description	Delay [a]	
		Signalized Intersections	Unsignalized Intersections
A	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.	≤ 10	≤ 10
B	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.	> 10 and ≤ 20	> 10 and ≤ 15
C	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	> 20 and ≤ 35	> 15 and ≤ 25
D	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.	> 35 and ≤ 55	> 25 and ≤ 35
E	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	> 55 and ≤ 80	> 35 and ≤ 50
F	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.	> 80	> 50

Notes:

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

[a] Measured in seconds.

TABLE 5
EXISTING CONDITIONS (YEAR 202
INTERSECTION LEVELS OF SERVI(

No	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions	
			Delay (sec)	LOS	Delay (sec)	LOS
1.	Winnetka Avenue &	AM	47.0	D	48.7	D
[a]	Ventura Boulevard	PM	51.3	D	52.5	D
2.	Quakertown Avenue &	AM	207.3	F	263.8	F
[b]	Ventura Boulevard	PM	89.0	F	184.2	F
3.	Oakdale Avenue &	AM	119.9	F	117.4	F
[a]	Ventura Boulevard	PM	38.5	D	38.7	D
4.	Driveway &	AM	-	N/A	17.8	C
[b]	Ventura Boulevard	PM	-	N/A	19.2	C
5.	Egress Driveway &	AM	-	N/A	8.4	A
[b]	Alley	PM	-	N/A	8.4	A

Notes:

Delay is measured in seconds per vehicle. LOS = Level of Service.

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

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

TABLE 6
FUTURE CONDITIONS (YEAR 202
INTERSECTION LEVELS OF SERVIC

No	Intersection	Peak Hour	Future Conditions		Future with Project Conditions	
			Delay (sec)	LOS	Delay (sec)	LOS
1.	Winnetka Avenue &	AM	50.1	D	51.8	D
[a]	Ventura Boulevard	PM	54.0	D	55.3	E
2.	Quakertown Avenue &	AM	250.5	F	313.2	F
[b]	Ventura Boulevard	PM	109.2	F	224.6	F
3.	Oakdale Avenue &	AM	126.7	F	127.9	F
[a]	Ventura Boulevard	PM	40.6	D	40.8	D
4.	Driveway &	AM	-	N/A	18.2	C
[b]	Ventura Boulevard	PM	-	N/A	19.8	C
5.	Egress Driveway &	AM	-	N/A	8.4	A
[b]	Alley	PM	-	N/A	8.4	A

Notes:

Delay is measured in seconds per vehicle. LOS = Level of Service.

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

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

TABLE 7
QUEUING ANALYSIS - FUTURE CONDITIONS (YEAR 2025)

No.	Intersection [a]	Future with Project Conditions					Lane	Vehicle Storage Capacity (ft) [d]	Future without Project Conditions (Year 2025)				Future with Project Conditions (Year 2025)				Change in Vehicle Queue Length (ft)	
		Intersection LOS [b]		Approach	Approach LOS [c]				Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour			
		Morning Peak Hour	Afternoon Peak Hour		Morning Peak Hour	Afternoon Peak Hour			Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Morning Peak Hour [f]	Afternoon Peak Hour [f]
1.	Winnetka Avenue & Ventura Boulevard	D	E	EB	C	D	Left	225	148	NO	315	YES	148	NO	315	YES	--	--
							Through	1,200	283	NO	313	NO	285	NO	315	NO	--	--
							Right	180	145	NO	88	NO	145	NO	88	NO	--	--
				WB	C	D	Left	155	233	YES	40	NO	243	YES	43	NO	--	--
							Through	250	168	NO	365	YES	170	NO	370	YES	--	--
							Right	155	98	NO	355	YES	103	NO	360	YES	--	--
				NB	D	D	Left	100	113	YES	105	YES	113	YES	105	YES	--	--
							Through	940	345	NO	393	NO	350	NO	395	NO	--	--
				SB	F	F	Left	145	530	YES	460	YES	553	YES	478	YES	--	--
							Through	180	368	YES	278	YES	368	YES	275	YES	--	--
							Right	100	260	YES	193	YES	260	YES	193	YES	--	--
3.	Oakdale Avenue & Ventura Boulevard	F	D	EB	F	D	Left	95	13	NO	30	NO	13	NO	30	NO	--	--
							Through	375	1,068	YES	605	YES	1,080	YES	608	YES	--	--
				WB	F	D	Left	130	990	YES	235	YES	990	YES	235	YES	--	--
							Through	220	775	YES	445	YES	793	YES	450	YES	--	--
				NB	B	B	Left	135	118	NO	90	NO	118	NO	90	NO	--	--
							Through	350	108	NO	105	NO	108	NO	105	NO	--	--
				SB	B	B	Left	100	0	NO	13	NO	0	NO	13	NO	--	--
							Through	100	3	NO	8	NO	3	NO	8	NO	--	--

Notes
LOS: Level of Service
Results per Synchro 11.
[a] Per TAG Section 3.3.3, projects must be evaluated for unacceptable queueing at turn-pockets on an Avenue or Boulevard at project driveway(s) or at nearby signalized intersections.
[b] If the projected peak hour intersection LOS is D, E, or F (See *Table 13 - Future Conditions (Year 2026) Intersection Levels of Service*), evaluation of unacceptable queueing at through lanes is also required.
[c] Directional approach LOS included for locations where through lane queue evaluation is required.
[d] Vehicle storage capacity reflects turn pocket lengths (left/right-turn lanes) and distance between the intersection and the nearest cross street or alley (through lanes).
[e] Vehicle queue lengths were converted to feet (ft) by multiplying 25-feet per reported vehicle length.
[f] Changes in vehicle queue lengths of less than 25 feet (1 vehicle length) are negligible.

TABLE 8
DRIVE-THRU QUEUING ANALYSIS

No	Intersection	Size (sf)	Drive-Thru Queuing Capacity [a] [b	Weekday [b]		Weekend [b]	
				Average Queue	Max Queue	Average Queue	Max Queue
1.	Van Nuy 14601 Victory Bouleva	899	8	2	8	2	4
2.	North Hills 15745 Roscoe Bouleva	4,898	15	4	8	6	10
3.	Canoga Parl 7240 Topanga Canyon Boulevard	1,600	8	3	6	3	6

Notes:
sf: square fee
[a] Queues measured in vehicl
[b] Drive-thru queuing capacity estimated based on aerial imag

TABLE 9
VEHICLE CODE PARKING REQUIREMENTS

Land Use	Size	Parking Rate	Total Spaces
Fast-Food Restaurant with Drive-Thru Window [a]	1,300 sf	10 sp / 1,000 sf	13
		Total Code Parking Requirement	**13**

Notes:
sf: square feet sp: space
[a] Parking rates consistent with LAMC Section 12.21.A.4.(c) and *Ventura-Cahuenga Boulevard Corridor Specific* Plan (LADCP, Amended August 2001) Section 7.F.1.c for restaurant uses.

TABLE 10
BICYCLE CODE PARKING REQUIREMENTS

Land Use	Size	Short-Term Parking Rate	Total Spaces	Long-Term Parking Rate	Total Spaces
Fast-Food Restaurant with Drive-Thru Window [a]	1,300 sf	1 sp / 2,000 sf	2	1 sp / 2,000 sf	2
		Total Short-Term Requirement	**2**	**Total Long-Term Requirement**	**2**

Notes:
sf: square feet sp: space
[a] Bicycle parking rates consistent with LAMC Section 12.21.A.16.(a).(2) for restaurant uses. The LAMC requires a minimum of two short-term and two long-term bicycle parking spaces be provided for restaurant uses.

Attachment A

Memorandum of Understanding

LADOT

Attachment C

Transportation Assessment Memorandum of Understanding (MOU)

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

I. PROJECT INFORMATION

Project Name: Original Tommy's

Project Address: 20032 Ventura Boulevard, Woodland Hills, California 91364

Project Description: The Project proposes the development of a 1,300 square foot fast-food restaurant with drive-thru operations. Vehicular access would be provided via one driveway on Ventura Boulevard with two-way ingress and right-only egress and one driveway on the alley south of the Project Site.

LADOT Project Case Number: VEN20-110446 Project Site Plan attached? *(Required)* ☑ Yes ☐ No

II. TRANSPORTATION DEMAND MANAGEMENT (TDM) MEASURES

Select any of the following TDM measures, which may be eligible as a Project Design Feature[1], that are being considered for this project:

	Reduced Parking Supply[2]		Bicycle Parking and Amenities		Parking Cash Out

List any other TDM measures (e.g. bike share kiosks, unbundled parking, microtransit service, etc) below that are also being considered and would require LADOT staff's determination of its eligibility as a TDM measure. LADOT staff will make the final determination of the TDM measure's eligibility for this project.

1 _____ 4 _____

2 _____ 5 _____

3 _____ 6 _____

III. TRIP GENERATION

Trip Generation Rate(s) Source: ITE 10th Edition / Other ITE 11th Edition

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

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

	IN	OUT	TOTAL
AM Trips	30	28	58
PM Trips	22	21	43

NET Daily Vehicle Trips (DVT)

_____ DVT (ITE ___ ed.)

556 DVT (VMT Calculator ver. 1.3)

[1] At this time Project Design Features are only those measures that are also shown to be needed to comply with a local ordinance, affordable housing incentive program, or State law.

[2] Select if reduced parking supply is pursued as a result of a parking incentive as permitted by the City's Bicycle Parking Ordinance, State Density Bonus Law, or the City's Transit Oriented Community Guidelines.

LADOT

City of Los Angeles Transportation Assessment MOU
LADOT Project Case No: VEN20-110446

IV. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: 2025 Ambient Growth Rate: 1.0 % Per Yr.

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

STUDY INTERSECTIONS and/or STREET SEGMENTS:
(May be subject to LADOT revision after access, safety, and circulation evaluation.)

1 Winnetka Avenue & Ventura Boulevard
2 Quakertown Avenue & Ventura Boulevard
3 Oakdale Avenue & Ventura Boulevard
4
5
6

Provide a separate list if more than six study intersections and/or street segments.

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

If a study intersection is located within a ¼-mile of an adjacent municipality's jurisdiction, signature approval from said municipality is required prior to MOU approval.

V. ACCESS ASSESSMENT

a. Does the project exceed 1,000 net DVT? ☐ Yes ☑ No
b. Is the project's frontage 250 linear feet or more along an Avenue or Boulevard as classified by the City's General Plan? ☐ Yes ☑ No
c. Is the project's building frontage encompassing an entire block along an Avenue or Boulevard as classified by the City's General Plan? ☐ Yes ☑ No

VI. ACCESS ASSESSMENT CRITERIA

If Yes to any of the above questions a., b., or c., the Transportation Assessment must assess the project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the proposed project. Complete **Attachment C.1: Access Assessment Criteria** and attach to the draft Transportation Assessment to support the analysis. For the full scope of analysis, see Section 3.2 of the Transportation Assessment Guidelines.

VII. SITE PLAN AND MAP OF STUDY AREA

Please note that the site plan should be submitted to the Department of City Planning for cursory review.

Does the attached site plan and/or map of study area show	Yes	No	Not Applicable
Each study intersection and/or street segment	☑	☐	☐
*Project Vehicle Peak Hour trips at each study intersection	☑	☐	☐
*Project Vehicle Peak Hour trips at each project access point	☑	☐	☐
*Project trip distribution percentages at each study intersection	☑	☐	☐
Project driveways designed per LADOT MPP 321 (show widths and directions or lane assignment)	☑	☐	☐
Pedestrian access points and any pedestrian paths	☑	☐	☐
Pedestrian loading zones	☑	☐	☐
Delivery loading zone or area	☑	☐	☐
Bicycle parking onsite	☑	☐	☐
Bicycle parking offsite (in public right-of-way)	☐	☐	☑

*For mixed-use projects, also show the project trips and project trip distribution by land use category.

VIII. FREEWAY SAFETY ANALYSIS SCREENING

Will the project add 25 or more trips to any freeway off-ramp in either the AM or PM peak hour? ☐ YES ☑ NO
Provide a brief explanation or graphic identifying the number of project trips expected to be added to the nearby freeway off-ramps serving the project site. If Yes to the question above, a freeway ramp analysis is required.

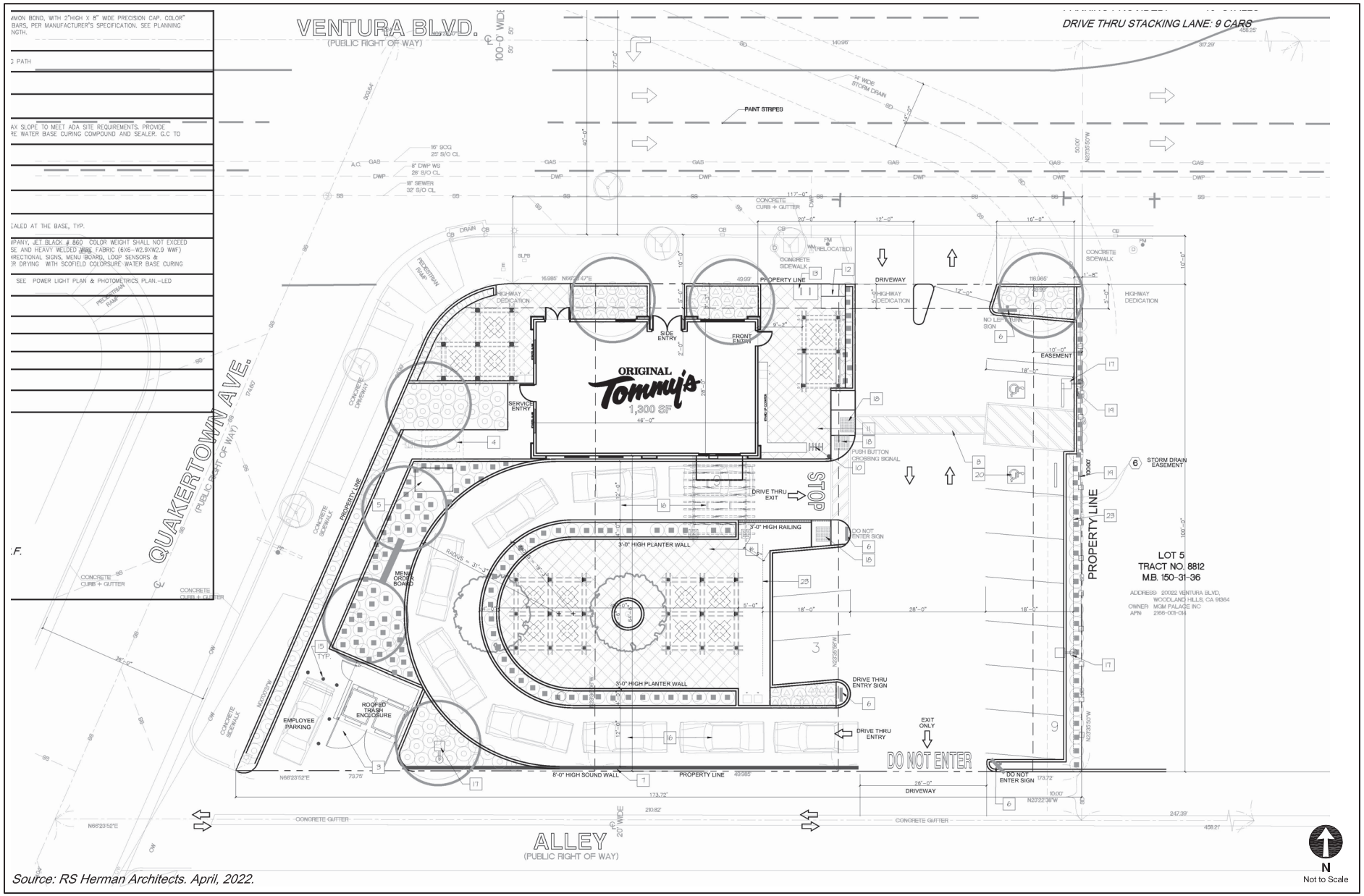
IX. CONTACT INFORMATION

	CONSULTANT	DEVELOPER
Name:	Gibson Transportation Consulting, Inc.	Koufax Enterprises (Richard Hicks)
Address:	555 W 5th St., Suite 3375, Los Angeles, CA 90013	831 Huntington Dr; Monrovia CA 91016
Phone Number:	(213) 683-0088	(949) 633-2005
E-Mail:	lmullarkey-williams@gibsontrans.com	rhicks@tomdanenterprises.com

Approved by:	x	Consultant's Representative	9/7/22 Date	x	LADOT Representative	9/8/22 **Date
Adjacent Municipality:			Approved by: (if applicable)		Representative	Date

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

Gibson transportation consulting, inc.



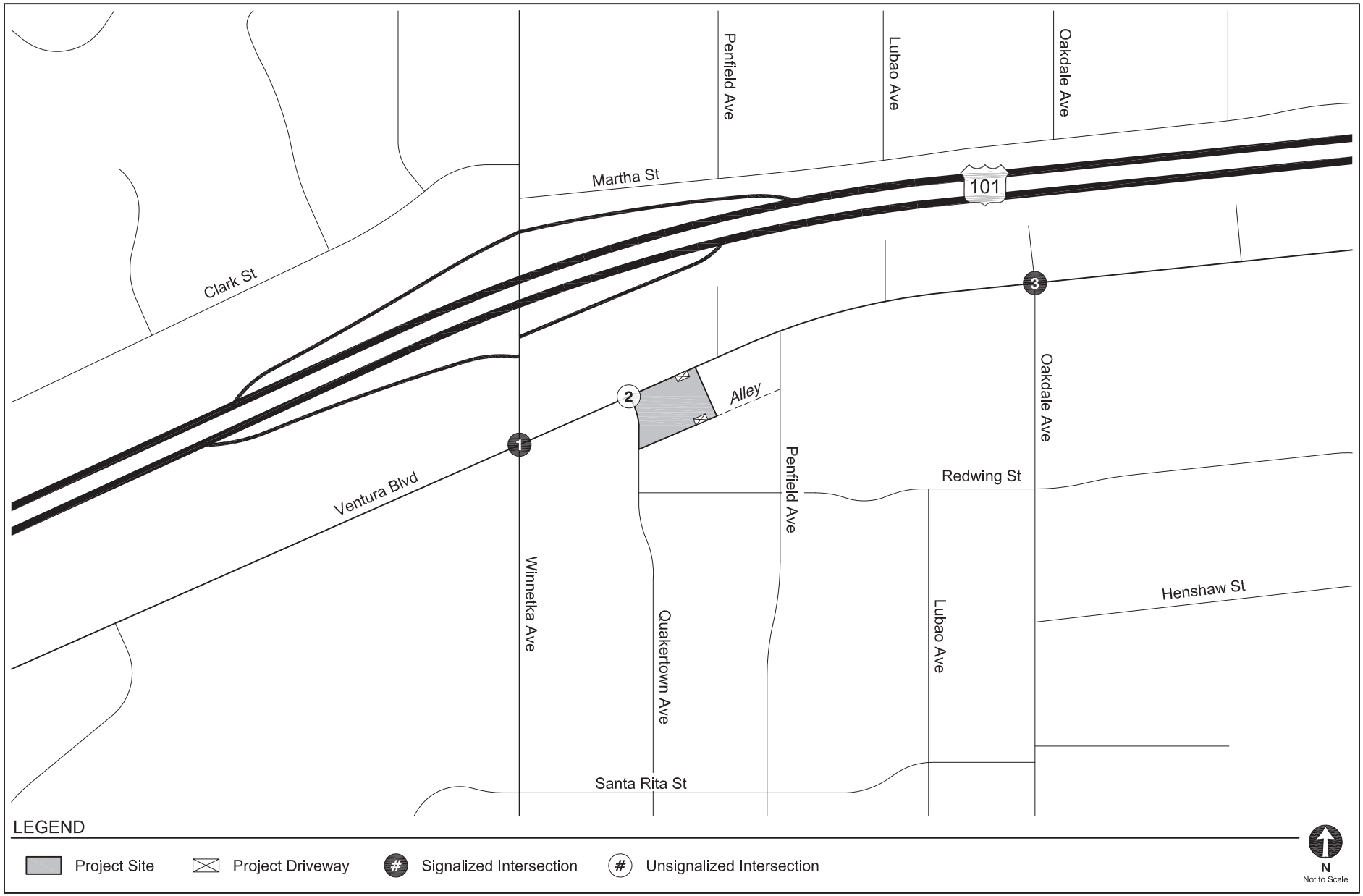
Source: RS Herman Architects. April, 2022.

PROJECT SITE PLAN

FIGURE 1

PROJECT SITE LOCATION

FIGURE 2



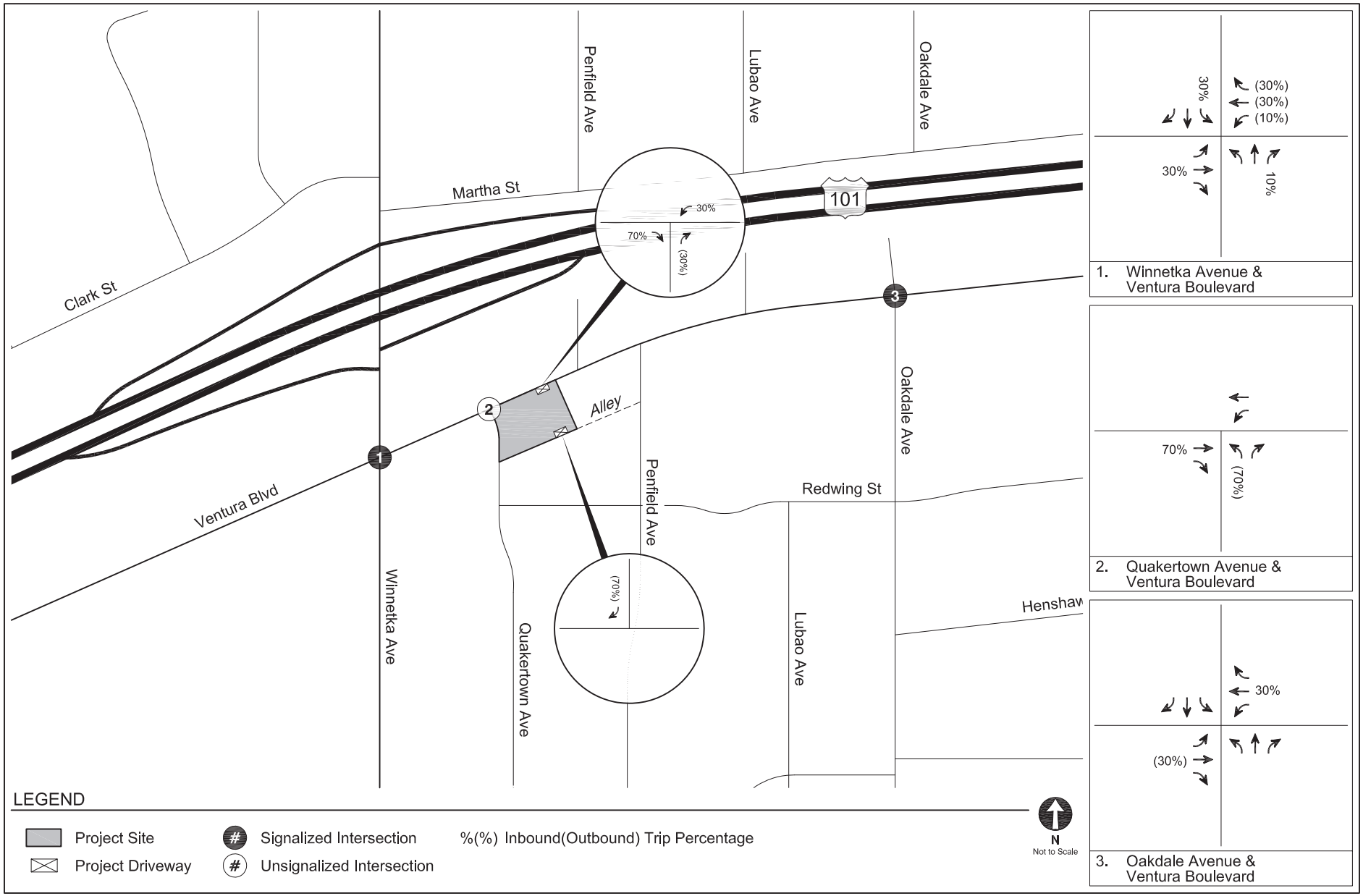
STUDY AREA AND ANALYZED INTERSECTION

FIGURE 3

TABLE 1
PROJECT VEHICLE TRIP GENERATION ESTIMATES

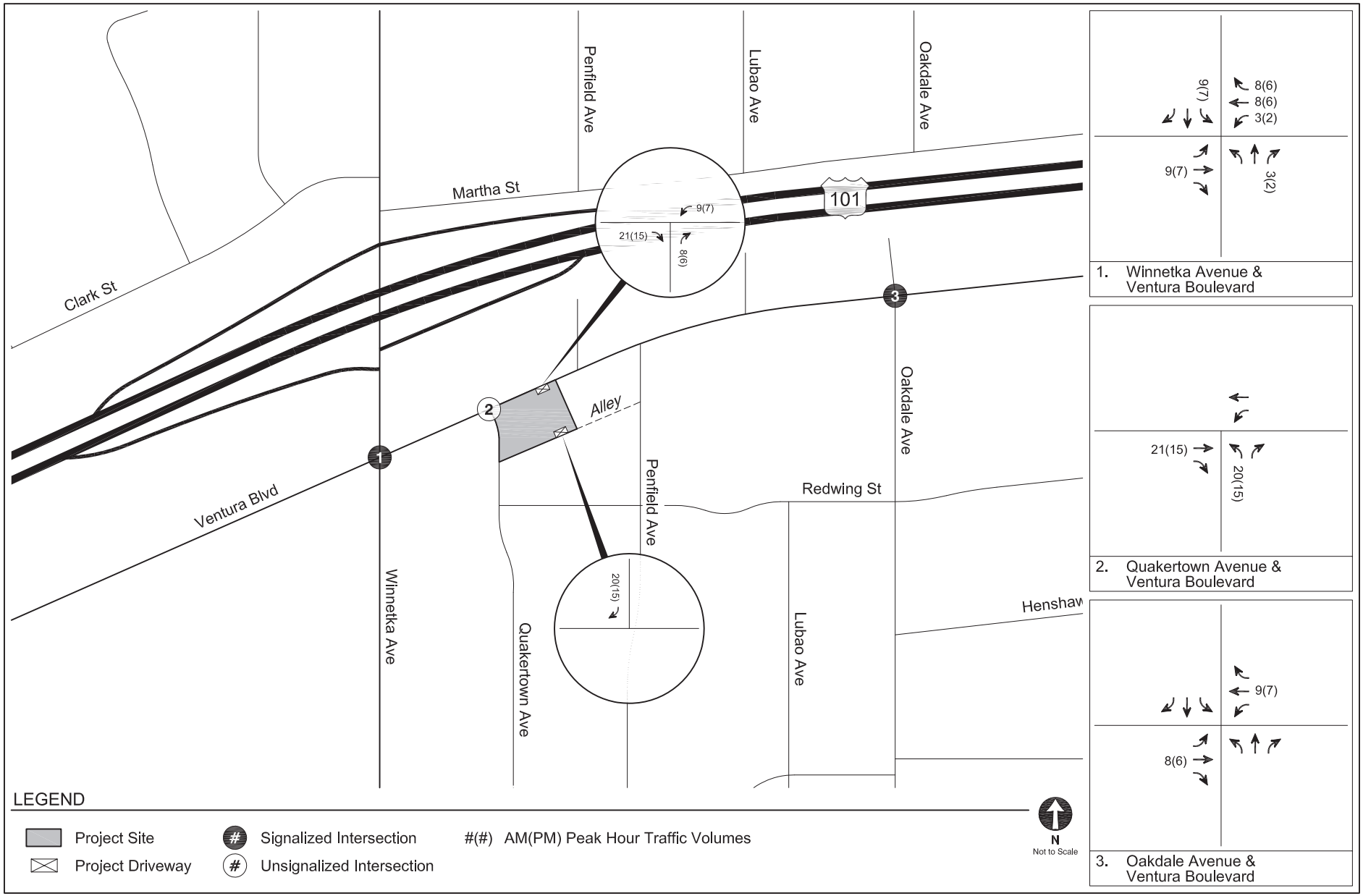
Land Use	Land Use	Rate	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Trip Generation Rates [a]								
Fast-Food Restaurant with Drive-Thru Window	934	per 1,000 sf	51%	49%	44.61	52%	48%	33.03
Proposed Project								
Fast-Food Restaurant with Drive-Thru Window	934	1,300 sf	30	28	58	22	21	43
TOTAL NEW PROJECT TRIPS			**30**	**28**	**58**	**22**	**21**	**43**

Notes:
sf: square feet
[a] Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021.



PROJECT TRIP DISTRIBUTION

FIGURE 4



PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
5

TABLE 2
FREEWAY OFF-RAMP SCREENING PROCE

Freeway Off-Ramp	Peak Hour	Project Traffic	Meets Screening Criteria? [a]
US-101 Southbound [b]			
Off-ramp to	AM	3	NO
Winnetka Avenue	PM	2	NO
US-101 Northbound [c]			
Off-ramp to	AM	3	NO
Winnetka Avenue	PM	2	NO

Notes:

[a] Based on *Interim Guidance for Freeway Safety Analysis* (LADOT, 2020), a transportation assessment for a development project must include analysis of any freeway off-ramp where a project adds 25 or more peak hour trips.

[b] 10% of incoming trips were assumed to travel Southbound on the US-101 to the Project Site via an off-ramp to Winnetka Avenue.

[c] 10% of incoming trips were assumed to travel Northbound on the US-101 to the Project Site via an off-ramp to Winnetka Avenue.

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

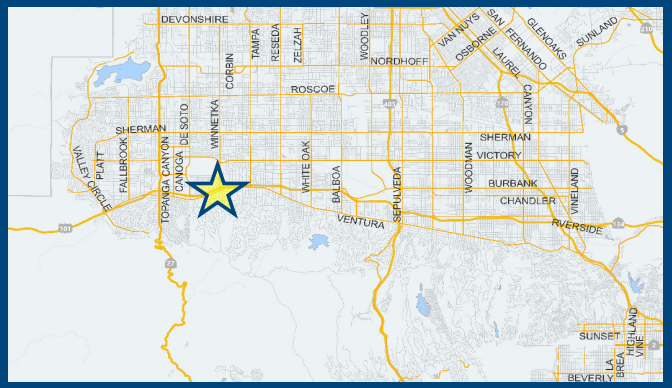
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project:

Scenario: www

Address: 20032 W VENTURA BLVD, 91364



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

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
Retail | Auto Repair	1.15	ksf
Retail | Auto Repair	1.15	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | Fast-Food Restaurant	1.3	ksf
Retail | Fast-Food Restaurant	1.3	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed
30 Daily Vehicle Trips	556 Daily Vehicle Trips
272 Daily VMT	5,046 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	526 Net Daily Trips
The net increase in daily VMT ≤ 0	4,774 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	1.300 ksf

The proposed project is not required to perform VMT analysis.

Measuring the Miles

12/5/2022

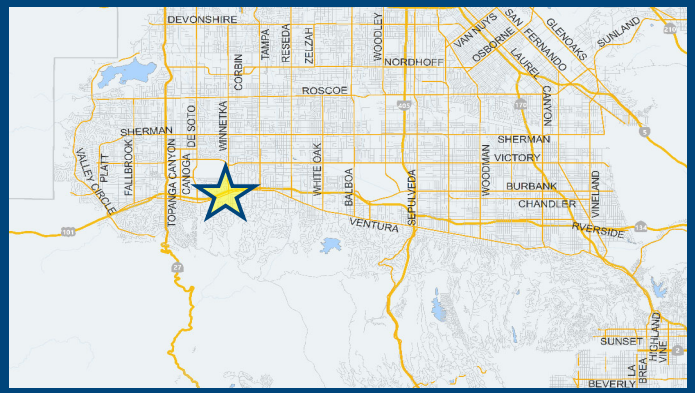
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project:

Scenario:

Address: 20032 W VENTURA BLVD, 91364



Proposed Project Land Use Type	Value	Unit
Retail | Fast-Food Restaurant	1.3	ksf

TDM Strategies

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

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**No**
Max Work Based TDM Achieved?	**No**	**No**

- **A** Parking
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
- **F** Bicycle Infrastructure

Implement/Improve On-street Bicycle Facility
☐ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy

Include Bike Parking Per LAMC
☐ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy

Include Secure Bike Parking and Showers
☐ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy

- **G** Neighborhood Enhancement

Analysis Results

Proposed Project	With
556 Daily Vehicle Trips	**556** Daily Vehicle Trips
5,046 Daily VMT	**5,046** Daily VMT
N/A Household VMT per Capita	**N/A** Household VMT
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Household: N/A Threshold = 9.4 15% Below APC	**Household: N/A** Threshold = 9.4 15% Below APC
Work: N/A Threshold = 11.6 15% Below APC	**Work: N/A** Threshold = 11.6 15% Below APC

Measuring the Miles

12/5/2022

VMT Calculator User Agreement

The Los Angeles Department of Transportation (LADOT), in partnership with the Department of City Planning and Fehr & Peers, has developed the City of Los Angeles Vehicle Miles Traveled (VMT) Calculator to estimate project-specific daily household VMT per capita and daily work VMT per employee for land use development projects. This application, the VMT Calculator, has been provided to You, the User, to assess vehicle miles traveled (VMT) outcomes of land use projects within the City of Los Angeles. The term "City" as used below shall refer to the City of Los Angeles. The terms "City" and "Fehr & Peers" as used below shall include their respective affiliates, subconsultants, employees, and representatives.

The City is pleased to be able to provide this information to the public. The City believes that the public is most effectively served when they are provided access to the technical tools that inform the public review process of private and public land use investments. However, in using the VMT Calculator, You agree to be bound by this VMT Calculator User Agreement (this Agreement).

VMT Calculator Application for the City of Los Angeles. The City's consultant calibrated the VMT Calculator's parameters in 2018 to estimate travel patterns of locations in the City, and validated those outcomes against empirical data. However, this calibration process is limited to locations within the City, and practitioners applying the VMT Calculator outside of the City boundaries should not apply these estimates without further calibration and validation of travel patterns to verify the VMT Calculator's accuracy in estimating VMT in such other locations.

Limited License to Use. This Agreement gives You a limited, non-transferrable, non-assignable, and non-exclusive license to use and execute a copy of the VMT Calculator on a computer system owned, leased or otherwise controlled by You in Your own facilities, as set out below, provided You do not use the VMT Calculator in an unauthorized manner, and that You do not republish, copy, distribute, reverse-engineer, modify, decompile, disassemble, transfer, or sell any part of the VMT Calculator, and provided that You know and follow the terms of this Agreement. Your failure to follow the terms of this Agreement shall automatically terminate this license and Your right to use the VMT Calculator.

Ownership. You understand and acknowledge that the City owns the VMT Calculator, and shall continue to own it through Your use of it, and that no transfer of ownership of any kind is intended in allowing You to use the VMT Calculator.

Warranty Disclaimer. In spite of the efforts of the City and Fehr & Peers, some information on the VMT Calculator may not be accurate. The VMT Calculator, OUTPUTS AND ASSOCIATED DATA ARE PROVIDED "as is" WITHOUT WARRANTY OF ANY KIND, whether expressed, implied, statutory, or otherwise including but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Limitation of Liability. It is understood that the VMT Calculator is provided without charge. Neither the City nor Fehr & Peers can be responsible or liable for any information derived from its use, or for any delays, inaccuracies, incompleteness, errors or omissions arising out of your use of the VMT Calculator or with respect to the material contained in the VMT Calculator. You understand and agree that Your sole remedy against the City or Fehr & Peers for loss or damage caused by any defect or failure of the

VMT Calculator, regardless of the form of action, whether in contract, tort, including negligence, strict liability or otherwise, shall be the repair or replacement of the VMT Calculator to the extent feasible as determined solely by the City. In no event shall the City or Fehr & Peers be responsible to You or anyone else for, or have liability for any special, indirect, incidental or consequential damages (including, without limitation, damages for loss of business profits or changes to businesses costs) or lost data or downtime, however caused, and on any theory of liability from the use of, or the inability to use, the VMT Calculator, whether the data, and/or formulas contained in the VMT Calculator are provided by the City or Fehr & Peers, or another third party, even if the City or Fehr & Peers have been advised of the possibility of such damages.

This Agreement and License shall be governed by the laws of the State of California without regard to their conflicts of law provisions, and shall be effective as of the date set forth below and, unless terminated in accordance with the above or extended by written amendment to this Agreement, shall terminate on the earlier of the date that You are not making use of the VMT Calculator or one year after the beginning of Your use of the VMT Calculator.

By using the VMT Calculator, You hereby waive and release all claims, responsibilities, liabilities, actions, damages, costs, and losses, known and unknown, against the City and Fehr & Peers for Your use of the VMT Calculator.

Before making decisions using the information provided in this application, contact City LADOT staff to confirm the validity of the data provided.

Print and sign below, and submit to LADOT along with the transportation assessment Memorandum of Understanding (MOU).

You, the User	
By:	Lauren Mullarkey-Williams
Print Name:	Lauren Mullarkey-Williams
Title:	Associate
Company:	Gibson Transportation Consulting, Inc.
Address:	555 W. 5th Street, Suite 3365, Los Angeles, CA 90013
Phone:	(213) 683-0088
Email Address:	lmullarkey-williams@gibsontrans.com
Date:	9/7/22

Attachment B

Traffic Counts

TABLE B-1
COVID-19 ADJUSTMENT FACTOR

Intersection	Description	Date	Total Volume [a]	
			Morning Peak Hour	Afternoon Peak Hour
Winnetka Avenue & Ventura Boulevard	Pre-COVID-19 Traffic Volumes	5/31/2016	4,141	4,083
	Current Traffic Volumes	6/2/2022	3,406	3,667
		COVID-19 Adjustment Factor [b]	19%	11%

Notes:

[a] The sum of each of the turning movement volumes through the intersection.

[b] The factor to be applied to current traffic volumes to represent pre-COVID-19 conditions.

CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Winnetka_Ventura
Site Code : 00000000
Start Date : 5/31/2016
Page No : 1

Groups Printed- Unshifted

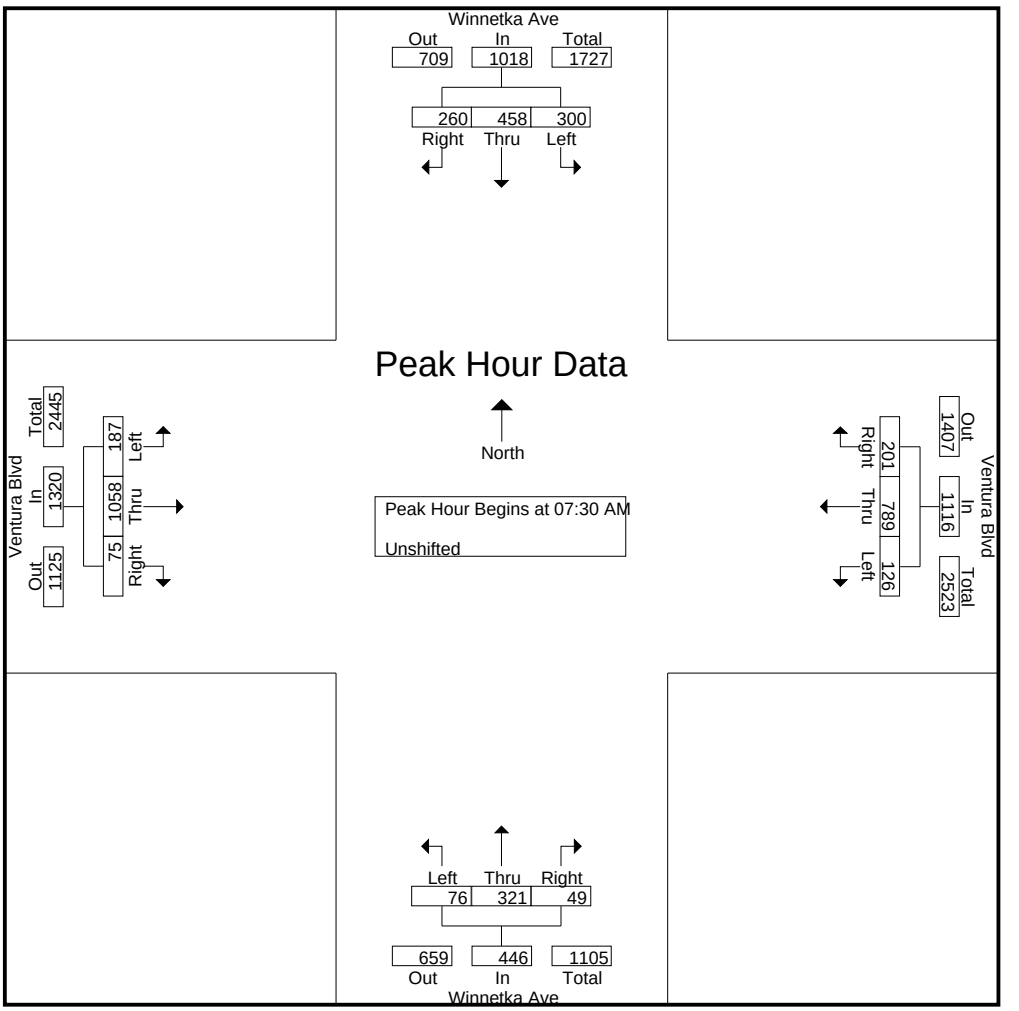
	Winnetka Ave Southbound			Ventura Blvd Westbound			Winnetka Ave Northbound			Ventura Blvd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	53	67	21	17	80	21	21	56	14	43	145	4	542
07:15 AM	65	91	29	23	117	33	16	74	7	28	174	17	674
07:30 AM	56	117	42	44	196	55	11	90	9	53	236	17	926
07:45 AM	81	138	91	48	211	54	20	73	10	55	267	19	1067
Total	255	413	183	132	604	163	68	293	40	179	822	57	3209
08:00 AM	80	99	63	18	208	45	25	86	15	41	298	23	1001
08:15 AM	83	104	64	16	174	47	20	72	15	38	257	16	906
08:30 AM	65	71	71	12	190	68	26	78	12	39	259	22	913
08:45 AM	82	75	85	12	174	41	26	49	19	29	226	12	830
Total	310	349	283	58	746	201	97	285	61	147	1040	73	3650
09:00 AM	79	80	78	11	132	41	26	41	11	27	183	10	719
09:15 AM	85	56	62	15	134	51	13	56	16	42	136	13	679
09:30 AM	87	59	65	11	120	46	23	49	17	25	182	7	691
09:45 AM	98	76	60	6	134	52	21	54	18	37	145	8	709
Total	349	271	265	43	520	190	83	200	62	131	646	38	2798
03:00 PM	56	114	76	18	178	93	24	75	10	53	212	4	913
03:15 PM	73	114	47	19	202	76	27	101	8	70	210	2	949
03:30 PM	75	94	40	25	214	101	34	95	10	77	241	10	1016
03:45 PM	71	74	32	13	214	103	25	99	15	48	206	1	901
Total	275	396	195	75	808	373	110	370	43	248	869	17	3779
04:00 PM	67	79	42	15	196	98	16	90	14	52	236	12	917
04:15 PM	64	74	46	14	209	80	23	82	18	58	216	8	892
04:30 PM	68	64	40	14	199	96	29	69	19	59	237	11	905
04:45 PM	79	63	49	10	201	84	24	70	14	63	228	7	892
Total	278	280	177	53	805	358	92	311	65	232	917	38	3606
05:00 PM	62	69	44	12	185	89	37	92	18	88	281	5	982
05:15 PM	65	77	31	11	201	118	20	66	9	81	258	12	949
05:30 PM	61	63	39	6	217	96	24	60	14	106	266	6	958
05:45 PM	67	62	48	16	233	85	32	61	10	76	261	5	956
Total	255	271	162	45	836	388	113	279	51	351	1066	28	3845
Grand Total	1722	1980	1265	406	4319	1673	563	1738	322	1288	5360	251	20887
Apprch %	34.7	39.9	25.5	6.3	67.5	26.1	21.5	66.3	12.3	18.7	77.7	3.6	
Total %	8.2	9.5	6.1	1.9	20.7	8	2.7	8.3	1.5	6.2	25.7	1.2	

CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Winnetka_Ventura
Site Code : 00000000
Start Date : 5/31/2016
Page No : 2

	Winnetka Ave Southbound				Ventura Blvd Westbound				Winnetka Ave Northbound				Ventura Blvd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	56	117	42	215	44	196	**55**	295	11	**90**	9	110	53	236	17	306	926
07:45 AM	81	**138**	**91**	**310**	**48**	**211**	54	**313**	20	73	10	103	**55**	267	19	341	**1067**
08:00 AM	80	99	63	242	18	208	45	271	**25**	86	**15**	**126**	41	**298**	**23**	**362**	1001
08:15 AM	**83**	104	64	251	16	174	47	237	20	72	15	107	38	257	16	311	906
Total Volume	300	458	260	1018	126	789	201	1116	76	321	49	446	187	1058	75	1320	3900
% App. Total	29.5	45	25.5		11.3	70.7	18		17	72	11		14.2	80.2	5.7		
PHF	.904	.830	.714	.821	.656	.935	.914	.891	.760	.892	.817	.885	.850	.888	.815	.912	.914

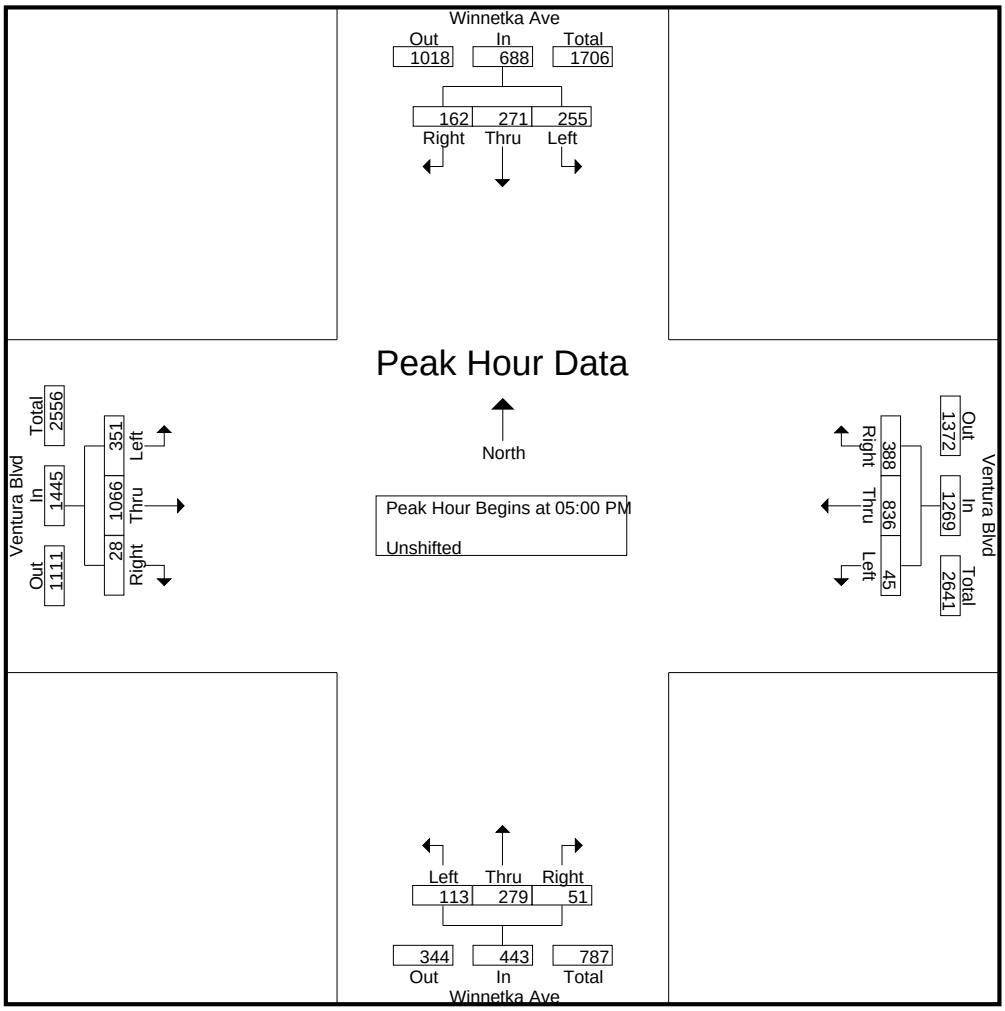


CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Winnetka_Ventura
Site Code : 00000000
Start Date : 5/31/2016
Page No : 3

	Winnetka Ave Southbound				Ventura Blvd Westbound				Winnetka Ave Northbound				Ventura Blvd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	62	69	44	175	12	185	89	286	**37**	**92**	**18**	**147**	88	**281**	5	374	**982**
05:15 PM	65	**77**	31	173	11	201	**118**	330	20	66	9	95	81	258	**12**	351	949
05:30 PM	61	63	39	163	6	217	96	319	24	60	14	98	**106**	266	6	**378**	958
05:45 PM	**67**	62	**48**	**177**	**16**	**233**	85	**334**	32	61	10	103	76	261	5	342	956
Total Volume	255	271	162	688	45	836	388	1269	113	279	51	443	351	1066	28	1445	3845
% App. Total	37.1	39.4	23.5		3.5	65.9	30.6		25.5	63	11.5		24.3	73.8	1.9		
PHF	.951	.880	.844	.972	.703	.897	.822	.950	.764	.758	.708	.753	.828	.948	.583	.956	.979



CITY TRAFFIC COUNTERS

www.ctcounters.com

File Name : Winnetka_Ventura_BP
Site Code : 00000000
Start Date : 5/31/2016
Page No : 1

Groups Printed- Bank 1

	Winnetka Ave Southbound		Ventura Blvd Westbound		Winnetka Ave Northbound		Ventura Blvd Eastbound		
Start Time	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Int. Total
07:00 AM	0	12	0	3	1	11	0	9	36
07:15 AM	0	60	0	25	0	35	0	27	147
07:30 AM	0	143	0	80	0	5	0	25	253
07:45 AM	1	177	2	54	0	6	0	45	285
Total	1	392	2	162	1	57	0	106	721
08:00 AM	0	14	0	15	0	1	0	10	40
08:15 AM	1	17	0	10	0	3	0	5	36
08:30 AM	0	2	0	1	0	5	0	3	11
08:45 AM	0	3	0	9	0	0	0	8	20
Total	1	36	0	35	0	9	0	26	107
09:00 AM	0	2	1	1	0	0	0	10	14
09:15 AM	1	5	0	6	0	0	0	5	17
09:30 AM	0	5	0	4	0	0	0	1	10
09:45 AM	1	5	0	1	0	0	0	4	11
Total	2	17	1	12	0	0	0	20	52
03:00 PM	0	8	0	7	0	6	0	3	24
03:15 PM	1	203	4	180	1	25	0	147	561
03:30 PM	1	80	1	22	3	2	0	36	145
03:45 PM	0	56	0	16	1	11	0	20	104
Total	2	347	5	225	5	44	0	206	834
04:00 PM	1	19	0	9	0	6	0	15	50
04:15 PM	0	6	0	7	0	6	0	6	25
04:30 PM	1	9	3	4	0	4	1	8	30
04:45 PM	0	4	0	3	1	7	2	4	21
Total	2	38	3	23	1	23	3	33	126
05:00 PM	0	6	0	1	0	1	0	6	14
05:15 PM	0	3	0	4	0	0	0	16	23
05:30 PM	0	7	0	2	0	4	1	12	26
05:45 PM	1	3	0	6	1	4	0	3	18
Total	1	19	0	13	1	9	1	37	81
Grand Total	9	849	11	470	8	142	4	428	1921
Apprch %	1	99	2.3	97.7	5.3	94.7	0.9	99.1	
Total %	0.5	44.2	0.6	24.5	0.4	7.4	0.2	22.3	

CITY TRAFFIC COUNTERS

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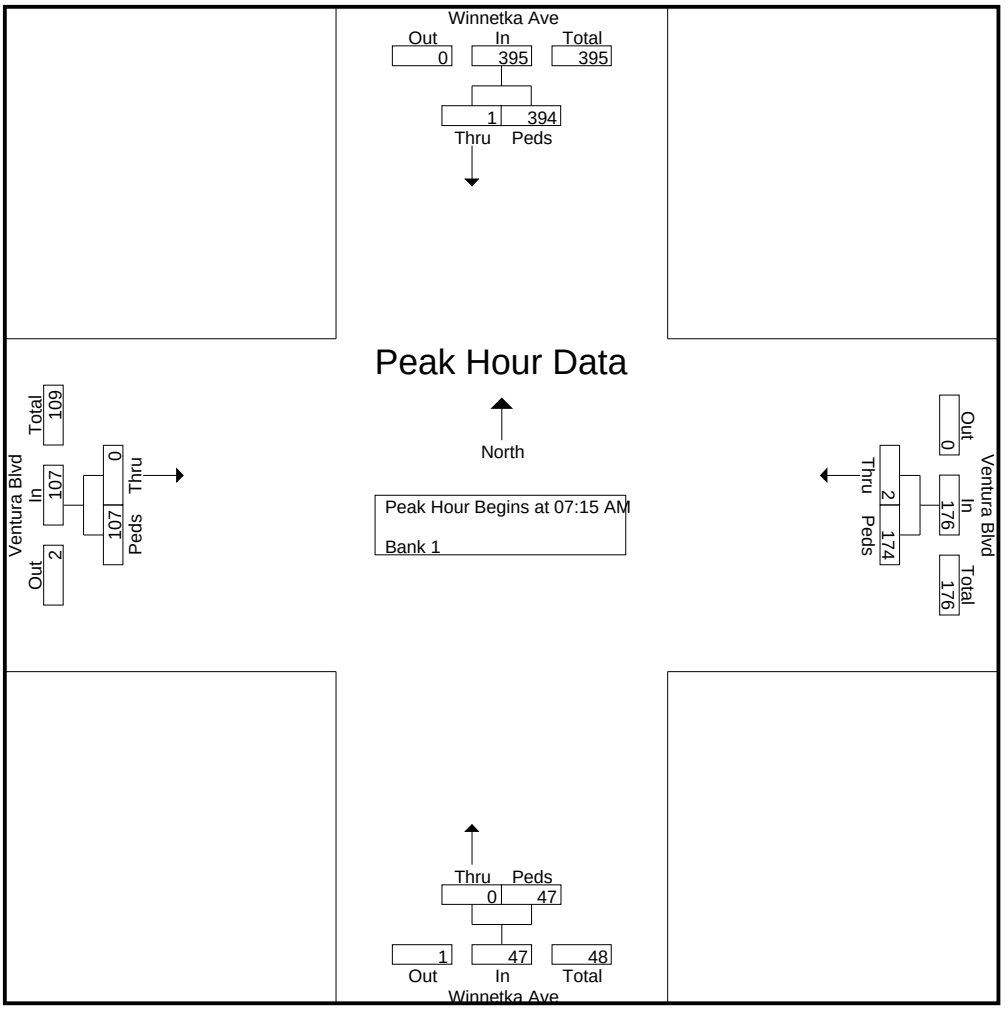
File Name : Winnetka_Ventura_BP
Site Code : 00000000
Start Date : 5/31/2016
Page No : 2

	Winnetka Ave Southbound			Ventura Blvd Westbound			Winnetka Ave Northbound			Ventura Blvd Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	0	60	60	0	25	25	0	**35**	**35**	0	27	27	147
07:30 AM	0	143	143	0	**80**	**80**	0	5	5	0	25	25	253
07:45 AM	**1**	**177**	**178**	**2**	54	56	0	6	6	0	**45**	**45**	**285**
08:00 AM	0	14	14	0	15	15	0	1	1	0	10	10	40
Total Volume	1	394	395	2	174	176	0	47	47	0	107	107	725
% App. Total	0.3	99.7		1.1	98.9		0	100		0	100		
PHF	.250	.556	.555	.250	.544	.550	.000	.336	.336	.000	.594	.594	.636



CITY TRAFFIC COUNTERS

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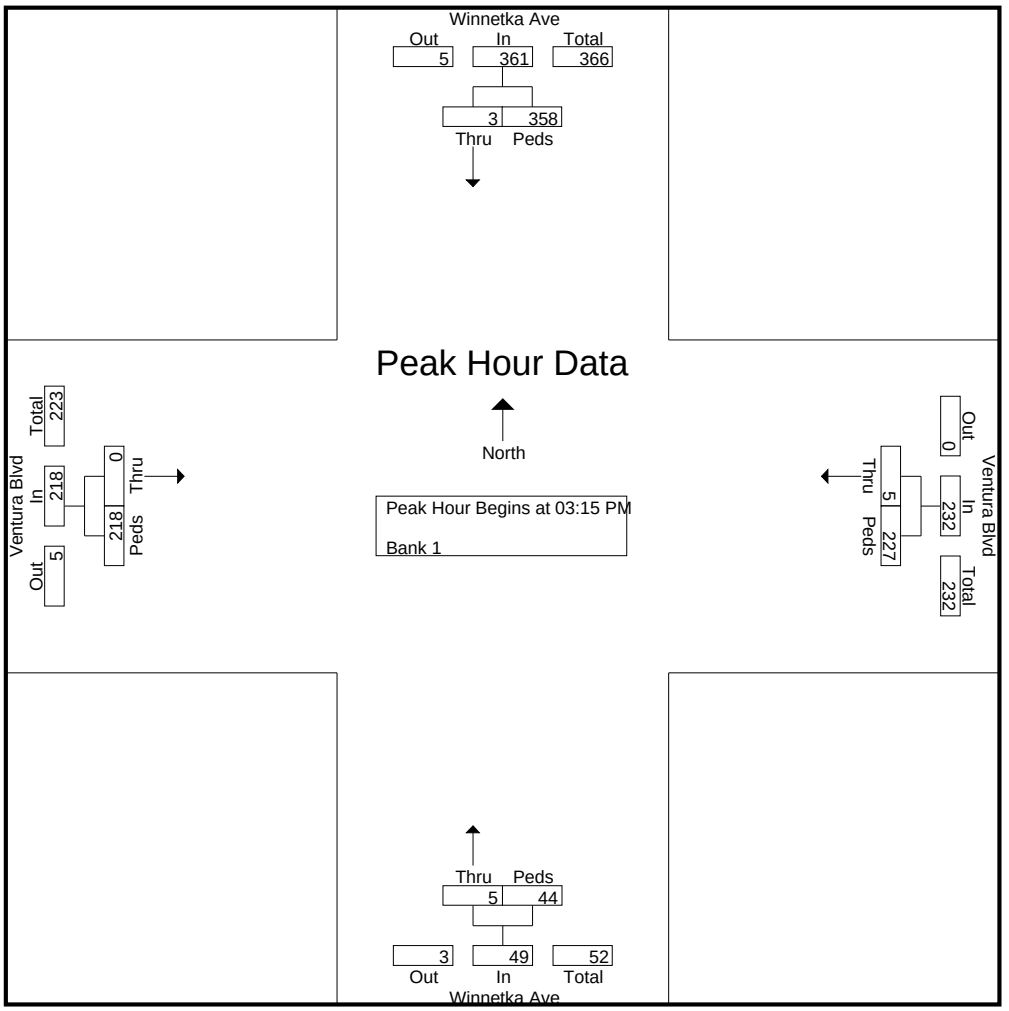
File Name : Winnetka_Ventura_BP
Site Code : 00000000
Start Date : 5/31/2016
Page No : 3

	Winnetka Ave Southbound			Ventura Blvd Westbound			Winnetka Ave Northbound			Ventura Blvd Eastbound			
Start Time	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:15 PM													
03:15 PM	**1**	**203**	**204**	**4**	**180**	**184**	1	**25**	**26**	0	**147**	**147**	**561**
03:30 PM	1	80	81	1	22	23	**3**	2	5	0	36	36	145
03:45 PM	0	56	56	0	16	16	1	11	12	0	20	20	104
04:00 PM	1	19	20	0	9	9	0	6	6	0	15	15	50
Total Volume	3	358	361	5	227	232	5	44	49	0	218	218	860
% App. Total	0.8	99.2		2.2	97.8		10.2	89.8		0	100		
PHF	.750	.441	.442	.313	.315	.315	.417	.440	.471	.000	.371	.371	.383



Turning Movement Count Report AM

Location ID: 1
North/South: Winnetka Avenue
East/West: Ventura Blvd

Date: 06/02/22
City: Woodland Hills, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	32	63	43	22	53	16	7	47	11	21	81	31	427
7:15	49	109	62	31	74	19	11	64	10	22	116	34	601
7:30	73	114	67	31	112	49	14	67	15	30	174	49	795
7:45	89	105	85	40	136	72	4	72	18	48	241	58	968
8:00	64	90	81	58	133	32	8	76	27	45	216	42	872
8:15	93	69	100	53	150	15	5	39	16	13	183	35	771
8:30	97	55	82	39	141	12	14	47	18	18	179	38	740
8:45	127	63	101	50	140	6	8	60	24	22	166	30	797
9:00	77	53	80	42	129	9	7	51	15	16	145	47	671
9:15	61	48	81	48	111	6	7	60	23	14	132	36	627
9:30	55	37	85	41	144	7	14	33	19	18	142	33	628
9:45	83	69	94	42	107	11	10	51	20	16	159	35	697
Total Volume:	900	875	961	497	1430	254	109	667	216	283	1934	468	8594
Approach %	33%	32%	35%	23%	66%	12%	11%	67%	22%	11%	72%	17%	
Peak Hr Begin:	7:30												
PHV	319	378	333	182	531	168	31	254	76	136	814	184	3406
PHF	0.923			0.888			0.813			0.817			0.880

Turning Movement Count Report PM

Location ID: 1
North/South: Winnetka Avenue
East/West: Ventura Blvd

Date: 06/02/22
City: Woodland Hills, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	67	93	72	69	140	9	5	68	20	29	215	83	870
15:15	62	95	96	76	160	23	5	65	20	28	263	76	969
15:30	64	69	74	77	110	10	6	83	24	30	272	91	910
15:45	70	81	90	87	165	6	11	67	25	30	224	53	909
16:00	45	56	75	76	153	8	12	67	16	15	274	82	879
16:15	46	39	88	72	152	16	13	58	18	23	219	69	813
16:30	42	48	61	82	137	8	22	65	26	24	249	74	838
16:45	51	53	70	65	146	13	3	62	18	22	227	74	804
17:00	56	77	63	72	129	15	13	60	21	16	278	104	904
17:15	57	83	69	90	192	37	11	56	17	34	242	77	965
17:30	54	98	62	75	112	32	7	54	22	43	268	66	893
17:45	56	87	78	61	179	21	6	53	22	35	196	62	856

Total Volume:	670	879	898	902	1775	198	114	758	249	329	2927	911	10610
Approach %	27%	36%	37%	31%	62%	7%	10%	68%	22%	8%	70%	22%	

Peak Hr Begin:	15:15												
PHV	241	301	335	316	588	47	34	282	85	103	1033	302	3667
PHF	0.867			0.918			0.887			0.915			0.946

Turning Movement Count Report AM

Location ID: 1
North/South: Quakertown Ave
East/West: Ventura Blvd

Date: 09/29/22
City: Woodland Hills, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	104	2	5	0	1	6	163	0	281
7:15	0	0	0	0	149	12	12	0	5	2	294	0	474
7:30	0	0	0	0	217	9	20	0	3	2	400	0	651
7:45	0	0	0	0	254	33	24	0	4	10	358	0	683
8:00	0	0	0	0	300	67	51	0	1	18	442	1	880
8:15	0	0	0	0	286	62	64	0	4	17	413	0	846
8:30	0	0	0	0	202	11	26	0	3	7	412	0	661
8:45	0	0	0	0	204	6	7	0	3	4	390	2	616
9:00	0	0	0	0	175	9	11	0	1	4	316	0	516
9:15	0	0	0	0	188	20	9	0	2	4	208	1	432
9:30	0	0	0	0	159	8	7	0	2	3	229	0	408
9:45	0	0	0	0	178	3	9	0	3	4	198	0	395
Total Volume:	0	0	0	0	2416	242	245	0	32	81	3823	4	6843
Approach %	0%	0%	0%	0%	91%	9%	88%	0%	12%	2%	98%	0%	
Peak Hr Begin:	7:45												
PHV	0	0	0	0	1042	173	165	0	12	52	1625	1	3070
PHF	0.000			0.828			0.651			0.910			0.872

Turning Movement Count Report PM

Location ID: 1
North/South: Quakertown Ave
East/West: Ventura Blvd

Date: 09/29/22
City: Woodland Hills, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	0	0	0	271	14	12	0	2	9	270	0	578
15:15	0	0	0	0	262	35	2	0	4	13	261	0	577
15:30	0	0	0	0	251	26	57	0	1	20	377	1	733
15:45	0	0	0	0	277	20	42	0	5	20	360	0	724
16:00	0	0	0	0	237	10	16	0	5	5	352	1	626
16:15	0	0	0	0	226	13	11	0	3	6	321	1	581
16:30	0	0	0	0	233	10	11	0	0	9	358	0	621
16:45	0	0	0	0	251	14	13	0	2	3	346	0	629
17:00	0	0	0	0	206	6	6	0	1	13	352	0	584
17:15	0	0	0	0	252	9	12	0	2	5	369	0	649
17:30	0	0	0	0	239	15	11	0	6	6	328	0	605
17:45	0	0	0	0	243	9	8	0	1	5	270	0	536
Total Volume:	0	0	0	0	2948	181	201	0	32	114	3964	3	7443
Approach %	0%	0%	0%	0%	94%	6%	86%	0%	14%	3%	97%	0%	
Peak Hr Begin:	15:30												
PHV	0	0	0	0	991	69	126	0	14	51	1410	3	2664
PHF	0.000			0.892			0.603			0.920			0.909

Turning Movement Count Report AM

Location ID: 2
North/South: Oakdale Ave
East/West: Ventura Blvd

Date: 09/29/22
City: Woodland Hills, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			Totals:
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	87	8	14	0	7	8	146	1	271
7:15	0	0	0	0	155	22	7	0	10	8	291	1	494
7:30	0	0	0	0	219	32	15	0	13	21	377	0	677
7:45	0	0	0	0	244	46	22	1	42	40	359	2	756
8:00	3	0	0	4	330	54	30	0	34	32	408	3	898
8:15	0	0	1	4	293	41	42	1	42	38	416	0	878
8:30	0	2	1	2	193	30	39	0	26	23	392	1	709
8:45	0	0	0	6	181	26	18	1	20	25	387	0	664
9:00	1	1	1	1	166	18	25	1	16	10	290	1	531
9:15	1	1	2	5	190	18	13	0	15	11	213	2	471
9:30	0	0	2	0	137	10	10	0	16	11	193	1	380
9:45	3	0	2	2	147	6	11	1	21	5	194	4	396

Total Volume:	8	4	9	24	2342	311	246	5	262	232	3666	16	7125
Approach %	38%	19%	43%	1%	87%	12%	48%	1%	51%	6%	94%	0%	

Peak Hr Begin:	7:45												
PHV	3	2	2	10	1060	171	133	2	144	133	1575	6	3241
PHF	0.583			0.800			0.821			0.944			0.902

Turning Movement Count Report PM

Location ID: 2
North/South: Oakdale Ave
East/West: Ventura Blvd

Date: 09/29/22
City: Woodland Hills, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			Totals:
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	9	1	0	2	199	23	36	0	64	23	241	7	605
15:15	6	0	2	2	251	19	28	0	38	19	254	4	623
15:30	4	1	4	1	235	19	72	0	39	33	332	3	743
15:45	1	0	2	3	202	22	27	0	28	21	379	6	691
16:00	2	0	6	1	200	16	21	0	30	28	294	6	604
16:15	3	1	4	2	218	22	23	1	25	28	318	4	649
16:30	3	2	2	1	217	18	32	1	33	25	328	2	664
16:45	1	1	2	0	202	20	20	1	24	18	334	3	626
17:00	2	0	2	1	218	14	23	0	24	26	304	3	617
17:15	1	0	7	2	208	20	16	0	21	16	380	3	674
17:30	4	0	3	2	232	14	26	0	19	12	296	5	613
17:45	2	0	0	2	194	11	15	0	20	11	261	3	519

Total Volume:	38	6	34	19	2576	218	339	3	365	260	3721	49	7628
Approach %	49%	8%	44%	1%	92%	8%	48%	0%	52%	6%	92%	1%	

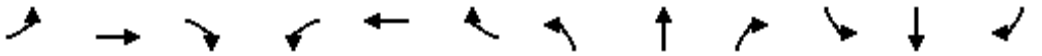
Peak Hr Begin:	15:30												
PHV	10	2	16	7	855	79	143	1	122	110	1323	19	2687
PHF	0.778			0.923			0.599			0.894			0.904

Attachment C

LOS Worksheets

HCM 6th Signalized Intersection Summary
1: Winnetka & Ventura

10/19/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	973	162	201	634	217	91	303	37	398	452	381
Future Volume (veh/h)	220	973	162	201	634	217	91	303	37	398	452	381
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	239	1058	176	218	689	236	99	329	40	433	491	414
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	1960	608	262	1187	672	189	437	53	311	754	797
Arrive On Green	0.10	0.38	0.38	0.10	0.67	0.67	0.27	0.27	0.27	0.09	0.40	0.40
Sat Flow, veh/h	3456	5106	1585	1781	3554	1585	616	1636	199	3456	1870	1585
Grp Volume(v), veh/h	239	1058	176	218	689	236	99	0	369	433	491	414
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1781	1777	1585	616	0	1835	1728	1870	1585
Q Serve(g_s), s	6.7	16.1	7.7	5.0	10.5	6.1	15.5	0.0	18.5	9.0	21.2	17.6
Cycle Q Clear(g_c), s	6.7	16.1	7.7	5.0	10.5	6.1	23.1	0.0	18.5	9.0	21.2	17.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	345	1960	608	262	1187	672	189	0	490	311	754	797
V/C Ratio(X)	0.69	0.54	0.29	0.83	0.58	0.35	0.52	0.00	0.75	1.39	0.65	0.52
Avail Cap(c_a), veh/h	346	1960	608	262	1187	672	216	0	569	311	834	865
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	23.9	21.4	29.4	12.8	9.1	39.0	0.0	33.6	45.5	24.2	16.7
Incr Delay (d2), s/veh	5.8	1.1	1.2	20.0	2.1	1.4	2.2	0.0	4.8	195.1	1.6	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(95%),veh/ln	5.6	10.7	5.4	7.9	6.0	3.5	4.4	0.0	13.6	20.0	14.5	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	25.0	22.5	49.5	14.9	10.6	41.2	0.0	38.4	240.6	25.7	17.2
LnGrp LOS	D	C	C	D	B	B	D	A	D	F	C	B
Approach Vol, veh/h		1473			1143			468			1338	
Approach Delay, s/veh		28.7			20.6			39.0			92.6	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	38.9		46.5	9.6	43.9	13.6	32.9				
Change Period (Y+Rc), s	4.6	* 5.5		6.2	4.6	* 5.5	4.6	6.2				
Max Green Setting (Gmax), s	10.0	* 29		44.6	5.0	* 34	9.0	31.0				
Max Q Clear Time (g_c+I1), s	8.7	12.5		23.2	7.0	18.1	11.0	25.1				
Green Ext Time (p_c), s	0.1	5.2		4.8	0.0	7.4	0.0	1.6				

Intersection Summary		
HCM 6th Ctrl Delay		47.0
HCM 6th LOS		D

Notes

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

User approved changes to right turn type.

Intersection	
Int Delay, s/veh	48.7

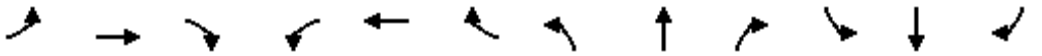
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1942	62	207	1245	14	197
Future Vol, veh/h	1942	62	207	1245	14	197
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	-
Veh in Median 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	2111	67	225	1353	15	214

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2178	0	3272	1089
Stage 1	-	-	-	-	2145	-
Stage 2	-	-	-	-	1127	-
Critical Hdwy	-	-	5.34	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	3.12	-	3.67	3.92
Pot Cap-1 Maneuver	-	-	~ 101	-	~ 11	~ 181
Stage 1	-	-	-	-	46	-
Stage 2	-	-	-	-	265	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	~ 101	-	0	~ 181
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	46	-
Stage 2	-	-	-	-	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	92.9	207.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	181	-	-	~ 101	-
HCM Lane V/C Ratio	1.267	-	-	2.228	-
HCM Control Delay (s)	207.3	-	-	$ 651.6	-
HCM Lane LOS	F	-	-	F	-
HCM 95th %tile Q(veh)	12.8	-	-	19.8	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1882	159	204	1266	12	172	2	159	2	2	4
Future Volume (veh/h)	7	1882	159	204	1266	12	172	2	159	2	2	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	2046	173	222	1376	13	187	2	173	2	2	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1900	159	72	1428	13	774	9	785	602	278	557
Arrive On Green	0.27	0.27	0.27	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	389	4799	403	174	3607	34	1410	18	1570	1210	557	1113
Grp Volume(v), veh/h	8	1447	772	222	678	711	187	0	175	2	0	6
Grp Sat Flow(s),veh/h/ln	389	1702	1798	174	1777	1864	1410	0	1588	1210	0	1670
Q Serve(g_s), s	2.1	39.6	39.6	0.0	37.2	37.3	7.7	0.0	6.2	0.1	0.0	0.2
Cycle Q Clear(g_c), s	39.3	39.6	39.6	39.6	37.2	37.3	7.9	0.0	6.2	6.3	0.0	0.2
Prop In Lane	1.00		0.22	1.00		0.02	1.00		0.99	1.00		0.67
Lane Grp Cap(c), veh/h	81	1348	712	72	704	738	774	0	794	602	0	835
V/C Ratio(X)	0.10	1.07	1.08	3.08	0.96	0.96	0.24	0.00	0.22	0.00	0.00	0.01
Avail Cap(c_a), veh/h	81	1348	712	72	704	738	774	0	794	602	0	835
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.2	36.7	36.7	50.0	29.5	29.5	14.5	0.0	14.0	15.8	0.0	12.5
Incr Delay (d2), s/veh	2.4	46.8	59.0	973.1	26.0	25.3	0.7	0.0	0.6	0.0	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(95%),veh/ln	0.5	35.8	40.8	38.3	27.7	28.7	4.6	0.0	4.1	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	83.5	95.7	1023.1	55.5	54.8	15.3	0.0	14.7	15.8	0.0	12.6
LnGrp LOS	E	F	F	F	E	D	B	A	B	B	A	B
Approach Vol, veh/h		2227			1611			362			8	
Approach Delay, s/veh		87.7			188.5			15.0			13.4	
Approach LOS		F			F			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.4		55.6		44.4		55.6				
Change Period (Y+Rc), s		* 4.8		5.6		* 4.8		5.6				
Max Green Setting (Gmax), s		* 40		50.0		* 40		50.0				
Max Q Clear Time (g_c+I1), s		41.6		8.3		41.6		9.9				
Green Ext Time (p_c), s		0.0		0.0		0.0		1.7				

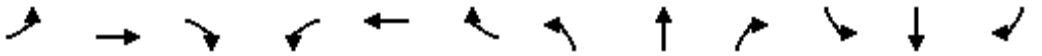
Intersection Summary		
HCM 6th Ctrl Delay		119.9
HCM 6th LOS		F

Notes

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

HCM 6th Signalized Intersection Summary
1: Winnetka & Ventura

10/19/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	334	1144	114	52	651	350	94	312	38	371	333	267
Future Volume (veh/h)	334	1144	114	52	651	350	94	312	38	371	333	267
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	363	1243	124	57	708	380	102	339	41	403	362	290
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	2155	669	237	1285	716	248	392	47	311	702	753
Arrive On Green	0.10	0.42	0.42	0.01	0.12	0.12	0.24	0.24	0.24	0.09	0.38	0.38
Sat Flow, veh/h	3456	5106	1585	1781	3554	1585	780	1637	198	3456	1870	1585
Grp Volume(v), veh/h	363	1243	124	57	708	380	102	0	380	403	362	290
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1781	1777	1585	780	0	1835	1728	1870	1585
Q Serve(g_s), s	10.0	18.6	4.9	2.0	18.8	19.7	11.7	0.0	19.9	9.0	15.0	11.7
Cycle Q Clear(g_c), s	10.0	18.6	4.9	2.0	18.8	19.7	13.0	0.0	19.9	9.0	15.0	11.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	346	2155	669	237	1285	716	248	0	439	311	702	753
V/C Ratio(X)	1.05	0.58	0.19	0.24	0.55	0.53	0.41	0.00	0.87	1.30	0.52	0.38
Avail Cap(c_a), veh/h	346	2155	669	255	1285	716	303	0	569	311	834	865
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	22.1	18.1	20.0	36.4	28.2	34.5	0.0	36.5	45.5	24.2	16.8
Incr Delay (d2), s/veh	62.2	1.1	0.6	0.5	1.7	2.8	1.1	0.0	10.7	154.9	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.9	11.9	3.4	1.6	14.2	13.7	4.1	0.0	15.3	17.3	10.8	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.2	23.2	18.7	20.5	38.1	31.0	35.6	0.0	47.2	200.4	24.8	17.2
LnGrp LOS	F	C	B	C	D	C	D	A	D	F	C	B
Approach Vol, veh/h		1730			1145			482			1055	
Approach Delay, s/veh		40.5			34.9			44.8			89.8	
Approach LOS		D			C			D			F	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	41.7		43.7	8.6	47.7	13.6	30.1				
Change Period (Y+Rc), s	4.6	* 5.5		6.2	4.6	* 5.5	4.6	6.2				
Max Green Setting (Gmax), s	10.0	* 29		44.6	5.0	* 34	9.0	31.0				
Max Q Clear Time (g_c+I1), s	12.0	21.7		17.0	4.0	20.6	11.0	21.9				
Green Ext Time (p_c), s	0.0	3.6		3.4	0.0	7.6	0.0	2.1				

Intersection Summary			
HCM 6th Ctrl Delay		51.3	
HCM 6th LOS		D	

Notes

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

User approved changes to right turn type.

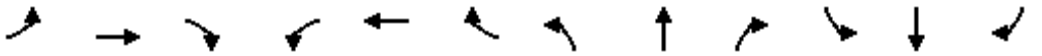
Intersection	
Int Delay, s/veh	5.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1561	56	76	1097	16	140
Future Vol, veh/h	1561	56	76	1097	16	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	-
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	1697	61	83	1192	17	152

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1758	0	2490	879
Stage 1	-	-	-	-	1728	-
Stage 2	-	-	-	-	762	-
Critical Hdwy	-	-	5.34	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	3.12	-	3.67	3.92
Pot Cap-1 Maneuver	-	-	166	-	35	250
Stage 1	-	-	-	-	86	-
Stage 2	-	-	-	-	410	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	166	-	18	250
Mov Cap-2 Maneuver	-	-	-	-	62	-
Stage 1	-	-	-	-	86	-
Stage 2	-	-	-	-	205	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	89
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	191	-	-	166	-
HCM Lane V/C Ratio	0.888	-	-	0.498	-
HCM Control Delay (s)	89	-	-	46.4	-
HCM Lane LOS	F	-	-	E	-
HCM 95th %tile Q(veh)	6.7	-	-	2.4	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	1465	122	87	947	8	135	1	158	18	2	11
Future Volume (veh/h)	21	1465	122	87	947	8	135	1	158	18	2	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	1592	133	95	1029	9	147	1	172	20	2	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	1901	159	95	1430	13	766	5	789	604	116	694
Arrive On Green	0.27	0.27	0.27	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	544	4802	401	282	3610	32	1400	9	1577	1212	231	1389
Grp Volume(v), veh/h	23	1128	597	95	506	532	147	0	173	20	0	14
Grp Sat Flow(s),veh/h/ln	544	1702	1798	282	1777	1865	1400	0	1586	1212	0	1620
Q Serve(g_s), s	3.9	31.3	31.4	8.2	24.1	24.1	5.9	0.0	6.1	0.9	0.0	0.4
Cycle Q Clear(g_c), s	28.0	31.3	31.4	39.6	24.1	24.1	6.4	0.0	6.1	7.1	0.0	0.4
Prop In Lane	1.00		0.22	1.00		0.02	1.00		0.99	1.00		0.86
Lane Grp Cap(c), veh/h	156	1348	712	95	704	738	766	0	793	604	0	810
V/C Ratio(X)	0.15	0.84	0.84	1.00	0.72	0.72	0.19	0.00	0.22	0.03	0.00	0.02
Avail Cap(c_a), veh/h	156	1348	712	95	704	738	766	0	793	604	0	810
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.6	33.7	33.7	49.0	25.5	25.5	14.2	0.0	14.0	16.0	0.0	12.6
Incr Delay (d2), s/veh	2.0	6.3	11.3	91.6	6.3	6.0	0.6	0.0	0.6	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(95%),veh/ln	1.1	20.8	23.0	8.4	16.5	17.1	3.5	0.0	4.1	0.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	40.0	45.0	140.6	31.8	31.5	14.8	0.0	14.7	16.1	0.0	12.6
LnGrp LOS	D	D	D	F	C	C	B	A	B	B	A	B
Approach Vol, veh/h		1748			1133			320			34	
Approach Delay, s/veh		41.8			40.8			14.7			14.7	
Approach LOS		D			D			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.4		55.6		44.4		55.6				
Change Period (Y+Rc), s		* 4.8		5.6		* 4.8		5.6				
Max Green Setting (Gmax), s		* 40		50.0		* 40		50.0				
Max Q Clear Time (g_c+I1), s		41.6		9.1		33.4		8.4				
Green Ext Time (p_c), s		0.0		0.1		5.8		1.6				

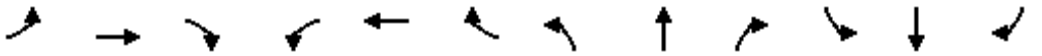
Intersection Summary												
HCM 6th Ctrl Delay			38.5									
HCM 6th LOS			D									

Notes

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

HCM 6th Signalized Intersection Summary
1: Winnetka & Ventura

10/19/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	982	162	204	642	225	91	303	40	407	452	381
Future Volume (veh/h)	220	982	162	204	642	225	91	303	40	407	452	381
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	239	1067	176	222	698	245	99	329	43	442	491	414
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	1960	608	260	1187	672	190	433	57	311	754	797
Arrive On Green	0.10	0.38	0.38	0.10	0.67	0.67	0.27	0.27	0.27	0.09	0.40	0.40
Sat Flow, veh/h	3456	5106	1585	1781	3554	1585	616	1620	212	3456	1870	1585
Grp Volume(v), veh/h	239	1067	176	222	698	245	99	0	372	442	491	414
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1781	1777	1585	616	0	1832	1728	1870	1585
Q Serve(g_s), s	6.7	16.3	7.7	5.0	10.7	6.4	15.5	0.0	18.7	9.0	21.2	17.6
Cycle Q Clear(g_c), s	6.7	16.3	7.7	5.0	10.7	6.4	23.1	0.0	18.7	9.0	21.2	17.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	345	1960	608	260	1187	672	190	0	490	311	754	797
V/C Ratio(X)	0.69	0.54	0.29	0.85	0.59	0.36	0.52	0.00	0.76	1.42	0.65	0.52
Avail Cap(c_a), veh/h	346	1960	608	260	1187	672	216	0	568	311	834	865
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	24.0	21.4	29.9	12.8	9.2	39.0	0.0	33.7	45.5	24.1	16.7
Incr Delay (d2), s/veh	5.8	1.1	1.2	23.1	2.1	1.5	2.2	0.0	5.1	207.4	1.6	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(95%),veh/ln	5.6	10.8	5.4	8.3	6.1	3.6	4.4	0.0	13.7	20.9	14.5	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	25.1	22.6	53.0	15.0	10.7	41.2	0.0	38.8	252.9	25.7	17.2
LnGrp LOS	D	C	C	D	B	B	D	A	D	F	C	B
Approach Vol, veh/h		1482			1165			471			1347	
Approach Delay, s/veh		28.7			21.3			39.3			97.6	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	38.9		46.5	9.6	43.9	13.6	32.9				
Change Period (Y+Rc), s	4.6	* 5.5		6.2	4.6	* 5.5	4.6	6.2				
Max Green Setting (Gmax), s	10.0	* 29		44.6	5.0	* 34	9.0	31.0				
Max Q Clear Time (g_c+I1), s	8.7	12.7		23.2	7.0	18.3	11.0	25.1				
Green Ext Time (p_c), s	0.1	5.3		4.8	0.0	7.4	0.0	1.6				

Intersection Summary			
HCM 6th Ctrl Delay		48.7	
HCM 6th LOS		D	

Notes

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

User approved changes to right turn type.

Intersection	
Int Delay, s/veh	54

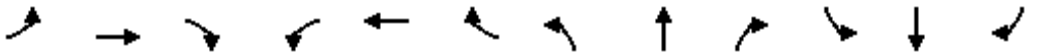
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1963	62	207	1245	34	197
Future Vol, veh/h	1963	62	207	1245	34	197
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	-
Veh in Median 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	2134	67	225	1353	37	214

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2201	0	3295	1101
Stage 1	-	-	-	-	2168	-
Stage 2	-	-	-	-	1127	-
Critical Hdwy	-	-	5.34	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	3.12	-	3.67	3.92
Pot Cap-1 Maneuver	-	-	~ 99	-	~ 11	~ 178
Stage 1	-	-	-	-	45	-
Stage 2	-	-	-	-	265	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	~ 99	-	0	~ 178
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	45	-
Stage 2	-	-	-	-	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	95.9	263.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	178	-	-	~ 99	-
HCM Lane V/C Ratio	1.411	-	-	2.273	-
HCM Control Delay (s)	263.8	-	-	$ 673	-
HCM Lane LOS	F	-	-	F	-
HCM 95th %tile Q(veh)	15.3	-	-	20	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1890	159	204	1275	12	172	2	159	2	2	4
Future Volume (veh/h)	7	1890	159	204	1275	12	172	2	159	2	2	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	2054	173	222	1386	13	187	2	173	2	2	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	1901	159	72	1428	13	774	9	785	602	278	557
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	386	4801	401	172	3607	34	1410	18	1570	1210	557	1113
Grp Volume(v), veh/h	8	1452	775	222	682	717	187	0	175	2	0	6
Grp Sat Flow(s),veh/h/ln	386	1702	1798	172	1777	1864	1410	0	1588	1210	0	1670
Q Serve(g_s), s	1.9	39.6	39.6	0.0	37.7	37.7	7.7	0.0	6.2	0.1	0.0	0.2
Cycle Q Clear(g_c), s	39.6	39.6	39.6	39.6	37.7	37.7	7.9	0.0	6.2	6.3	0.0	0.2
Prop In Lane	1.00		0.22	1.00		0.02	1.00		0.99	1.00		0.67
Lane Grp Cap(c), veh/h	79	1348	712	72	704	738	774	0	794	602	0	835
V/C Ratio(X)	0.10	1.08	1.09	3.08	0.97	0.97	0.24	0.00	0.22	0.00	0.00	0.01
Avail Cap(c_a), veh/h	79	1348	712	72	704	738	774	0	794	602	0	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.1	30.2	30.2	50.0	29.6	29.6	14.5	0.0	14.0	15.8	0.0	12.5
Incr Delay (d2), s/veh	2.5	48.1	60.4	973.1	27.3	26.7	0.7	0.0	0.6	0.0	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(95%),veh/ln	0.5	34.3	39.3	38.3	28.2	29.3	4.6	0.0	4.1	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	78.3	90.6	1023.1	56.9	56.3	15.3	0.0	14.7	15.8	0.0	12.6
LnGrp LOS	D	F	F	F	E	E	B	A	B	B	A	B
Approach Vol, veh/h		2235			1621			362			8	
Approach Delay, s/veh		82.5			189.0			15.0			13.4	
Approach LOS		F			F			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.4		55.6		44.4		55.6				
Change Period (Y+Rc), s		* 4.8		5.6		* 4.8		5.6				
Max Green Setting (Gmax), s		* 40		50.0		* 40		50.0				
Max Q Clear Time (g_c+I1), s		41.6		8.3		41.6		9.9				
Green Ext Time (p_c), s		0.0		0.0		0.0		1.7				

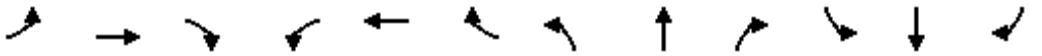
Intersection Summary		
HCM 6th Ctrl Delay		117.4
HCM 6th LOS		F

Notes

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

HCM 6th Signalized Intersection Summary
1: Winnetka & Ventura

10/19/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	334	1151	114	54	657	356	94	312	40	378	333	267
Future Volume (veh/h)	334	1151	114	54	657	356	94	312	40	378	333	267
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	363	1251	124	59	714	387	102	339	43	411	362	290
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	2146	666	235	1281	714	249	391	50	311	704	755
Arrive On Green	0.10	0.42	0.42	0.01	0.12	0.12	0.24	0.24	0.24	0.09	0.38	0.38
Sat Flow, veh/h	3456	5106	1585	1781	3554	1585	780	1627	206	3456	1870	1585
Grp Volume(v), veh/h	363	1251	124	59	714	387	102	0	382	411	362	290
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1781	1777	1585	780	0	1833	1728	1870	1585
Q Serve(g_s), s	10.0	18.8	4.9	2.1	19.0	20.1	11.6	0.0	20.0	9.0	15.0	11.7
Cycle Q Clear(g_c), s	10.0	18.8	4.9	2.1	19.0	20.1	13.0	0.0	20.0	9.0	15.0	11.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	346	2146	666	235	1281	714	249	0	441	311	704	755
V/C Ratio(X)	1.05	0.58	0.19	0.25	0.56	0.54	0.41	0.00	0.87	1.32	0.51	0.38
Avail Cap(c_a), veh/h	346	2146	666	253	1281	714	303	0	568	311	834	865
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	22.3	18.2	20.1	36.5	28.4	34.4	0.0	36.4	45.5	24.1	16.8
Incr Delay (d2), s/veh	62.2	1.2	0.6	0.6	1.8	2.9	1.1	0.0	10.9	165.5	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.9	12.0	3.4	1.6	14.3	14.0	4.1	0.0	15.3	18.0	10.8	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.2	23.4	18.8	20.6	38.3	31.3	35.5	0.0	47.4	211.0	24.7	17.1
LnGrp LOS	F	C	B	C	D	C	D	A	D	F	C	B
Approach Vol, veh/h		1738			1160			484			1063	
Approach Delay, s/veh		40.6			35.1			44.8			94.6	
Approach LOS		D			D			D			F	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	41.6		43.8	8.6	47.5	13.6	30.2
Change Period (Y+Rc), s	4.6	* 5.5		6.2	4.6	* 5.5	4.6	6.2
Max Green Setting (Gmax), s	10.0	* 29		44.6	5.0	* 34	9.0	31.0
Max Q Clear Time (g_c+I1), s	12.0	22.1		17.0	4.1	20.8	11.0	22.0
Green Ext Time (p_c), s	0.0	3.5		3.4	0.0	7.5	0.0	2.1

Intersection Summary		
HCM 6th Ctrl Delay		52.5
HCM 6th LOS		D

Notes

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

User approved changes to right turn type.

Intersection	
Int Delay, s/veh	11.8

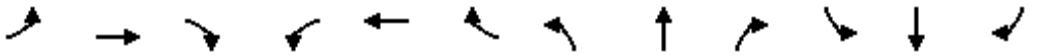
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1576	56	76	1097	31	140
Future Vol, veh/h	1576	56	76	1097	31	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	-
Veh in Median Storage, #	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	1713	61	83	1192	34	152

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1774	0	2506	887
Stage 1	-	-	-	-	1744	-
Stage 2	-	-	-	-	762	-
Critical Hdwy	-	-	5.34	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	3.12	-	3.67	3.92
Pot Cap-1 Maneuver	-	-	163	-	34	247
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	410	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	163	-	~ 17	247
Mov Cap-2 Maneuver	-	-	-	-	60	-
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	201	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.1	184.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	158	-	-	163	-
HCM Lane V/C Ratio	1.176	-	-	0.507	-
HCM Control Delay (s)	184.2	-	-	47.8	-
HCM Lane LOS	F	-	-	E	-
HCM 95th %tile Q(veh)	10.3	-	-	2.5	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	1471	122	87	954	8	135	1	158	18	2	11
Future Volume (veh/h)	21	1471	122	87	954	8	135	1	158	18	2	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	1599	133	95	1037	9	147	1	172	20	2	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	1902	158	95	1430	12	766	5	789	604	116	694
Arrive On Green	0.27	0.27	0.27	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	539	4803	399	280	3610	31	1400	9	1577	1212	231	1389
Grp Volume(v), veh/h	23	1133	599	95	510	536	147	0	173	20	0	14
Grp Sat Flow(s),veh/h/ln	539	1702	1799	280	1777	1865	1400	0	1586	1212	0	1620
Q Serve(g_s), s	3.9	31.5	31.5	8.1	24.3	24.3	5.9	0.0	6.1	0.9	0.0	0.4
Cycle Q Clear(g_c), s	28.3	31.5	31.5	39.6	24.3	24.3	6.4	0.0	6.1	7.1	0.0	0.4
Prop In Lane	1.00		0.22	1.00		0.02	1.00		0.99	1.00		0.86
Lane Grp Cap(c), veh/h	154	1348	712	95	704	738	766	0	793	604	0	810
V/C Ratio(X)	0.15	0.84	0.84	1.00	0.73	0.73	0.19	0.00	0.22	0.03	0.00	0.02
Avail Cap(c_a), veh/h	154	1348	712	95	704	738	766	0	793	604	0	810
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.8	33.7	33.8	49.0	25.6	25.6	14.2	0.0	14.0	16.0	0.0	12.6
Incr Delay (d2), s/veh	2.0	6.4	11.5	93.7	6.4	6.1	0.6	0.0	0.6	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(95%),veh/ln	1.1	20.9	23.2	8.4	16.7	17.3	3.5	0.0	4.1	0.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	40.2	45.3	142.7	32.0	31.7	14.8	0.0	14.7	16.1	0.0	12.6
LnGrp LOS	D	D	D	F	C	C	B	A	B	B	A	B
Approach Vol, veh/h		1755			1141			320			34	
Approach Delay, s/veh		42.0			41.1			14.7			14.7	
Approach LOS		D			D			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.4		55.6		44.4		55.6				
Change Period (Y+Rc), s		* 4.8		5.6		* 4.8		5.6				
Max Green Setting (Gmax), s		* 40		50.0		* 40		50.0				
Max Q Clear Time (g_c+I1), s		41.6		9.1		33.5		8.4				
Green Ext Time (p_c), s		0.0		0.1		5.6		1.6				

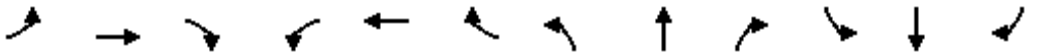
Intersection Summary												
HCM 6th Ctrl Delay			38.7									
HCM 6th LOS			D									

Notes

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

HCM 6th Signalized Intersection Summary
1: Winnetka & Ventura

10/19/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	1002	167	207	653	224	94	312	38	410	466	393
Future Volume (veh/h)	227	1002	167	207	653	224	94	312	38	410	466	393
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	247	1089	182	225	710	243	102	339	41	446	507	427
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	1899	590	249	1144	653	190	457	55	311	776	816
Arrive On Green	0.10	0.37	0.37	0.10	0.64	0.64	0.28	0.28	0.28	0.09	0.42	0.42
Sat Flow, veh/h	3456	5106	1585	1781	3554	1585	599	1637	198	3456	1870	1585
Grp Volume(v), veh/h	247	1089	182	225	710	243	102	0	380	446	507	427
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1781	1777	1585	599	0	1835	1728	1870	1585
Q Serve(g_s), s	6.9	17.0	8.1	5.0	11.8	6.8	16.5	0.0	18.8	9.0	21.8	17.9
Cycle Q Clear(g_c), s	6.9	17.0	8.1	5.0	11.8	6.8	24.6	0.0	18.8	9.0	21.8	17.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	345	1899	590	249	1144	653	190	0	512	311	776	816
V/C Ratio(X)	0.72	0.57	0.31	0.90	0.62	0.37	0.54	0.00	0.74	1.43	0.65	0.52
Avail Cap(c_a), veh/h	346	1899	590	249	1144	653	209	0	569	311	834	865
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	25.1	22.3	31.5	14.2	10.1	38.8	0.0	32.8	45.5	23.5	16.1
Incr Delay (d2), s/veh	6.9	1.3	1.4	32.8	2.5	1.6	2.3	0.0	4.7	212.9	1.7	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(95%),veh/ln	5.9	11.3	5.8	9.3	6.7	3.9	4.5	0.0	13.8	21.2	14.7	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	26.3	23.6	64.4	16.7	11.8	41.1	0.0	37.4	258.4	25.1	16.6
LnGrp LOS	D	C	C	E	B	B	D	A	D	F	C	B
Approach Vol, veh/h		1518			1178			482			1380	
Approach Delay, s/veh		29.9			24.8			38.2			97.9	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	37.7		47.7	9.6	42.7	13.6	34.1				
Change Period (Y+Rc), s	4.6	* 5.5		6.2	4.6	* 5.5	4.6	6.2				
Max Green Setting (Gmax), s	10.0	* 29		44.6	5.0	* 34	9.0	31.0				
Max Q Clear Time (g_c+I1), s	8.9	13.8		23.8	7.0	19.0	11.0	26.6				
Green Ext Time (p_c), s	0.1	5.2		5.0	0.0	7.4	0.0	1.3				

Intersection Summary												
HCM 6th Ctrl Delay			50.1									
HCM 6th LOS			D									

Notes

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

User approved changes to right turn type.

Intersection	
Int Delay, s/veh	57.3

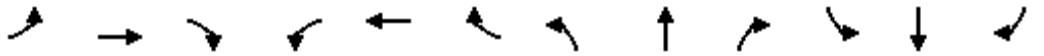
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2001	64	213	1283	14	203
Future Vol, veh/h	2001	64	213	1283	14	203
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	-
Veh in Median 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	2175	70	232	1395	15	221

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2245	0	3372	1123
Stage 1	-	-	-	-	2210	-
Stage 2	-	-	-	-	1162	-
Critical Hdwy	-	-	5.34	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	3.12	-	3.67	3.92
Pot Cap-1 Maneuver	-	-	~ 94	-	~ 10	~ 172
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	254	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	~ 94	-	0	~ 172
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	108.3	250.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	172	-	-	~ 94	-
HCM Lane V/C Ratio	1.371	-	-	2.463	-
HCM Control Delay (s)	250.5	-	-	$ 760.8	-
HCM Lane LOS	F	-	-	F	-
HCM 95th %tile Q(veh)	14.2	-	-	21.3	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1939	164	210	1304	12	177	2	164	2	2	4
Future Volume (veh/h)	7	1939	164	210	1304	12	177	2	164	2	2	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	2108	178	228	1417	13	192	2	178	2	2	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	1901	159	72	1429	13	774	9	785	597	278	557
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	374	4800	402	162	3608	33	1410	18	1570	1204	557	1113
Grp Volume(v), veh/h	8	1489	797	228	698	732	192	0	180	2	0	6
Grp Sat Flow(s),veh/h/ln	374	1702	1798	162	1777	1864	1410	0	1588	1204	0	1670
Q Serve(g_s), s	0.5	39.6	39.6	0.0	39.0	39.1	7.9	0.0	6.4	0.1	0.0	0.2
Cycle Q Clear(g_c), s	39.6	39.6	39.6	39.6	39.0	39.1	8.1	0.0	6.4	6.5	0.0	0.2
Prop In Lane	1.00		0.22	1.00		0.02	1.00		0.99	1.00		0.67
Lane Grp Cap(c), veh/h	74	1348	712	72	704	738	774	0	794	597	0	835
V/C Ratio(X)	0.11	1.10	1.12	3.17	0.99	0.99	0.25	0.00	0.23	0.00	0.00	0.01
Avail Cap(c_a), veh/h	74	1348	712	72	704	738	774	0	794	597	0	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.9	30.2	30.2	50.0	30.0	30.0	14.6	0.0	14.1	15.9	0.0	12.5
Incr Delay (d2), s/veh	2.9	58.5	71.3	1010.3	31.9	31.3	0.8	0.0	0.7	0.0	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(95%),veh/ln	0.5	37.4	42.7	39.6	29.9	31.0	4.7	0.0	4.3	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.9	88.7	101.5	1060.3	61.9	61.3	15.3	0.0	14.8	15.9	0.0	12.6
LnGrp LOS	D	F	F	F	E	E	B	A	B	B	A	B
Approach Vol, veh/h		2294			1658			372			8	
Approach Delay, s/veh		93.0			198.9			15.1			13.4	
Approach LOS		F			F			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.4		55.6		44.4		55.6				
Change Period (Y+Rc), s		* 4.8		5.6		* 4.8		5.6				
Max Green Setting (Gmax), s		* 40		50.0		* 40		50.0				
Max Q Clear Time (g_c+I1), s		41.6		8.5		41.6		10.1				
Green Ext Time (p_c), s		0.0		0.0		0.0		1.8				

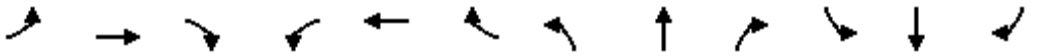
Intersection Summary												
HCM 6th Ctrl Delay			126.7									
HCM 6th LOS			F									

Notes

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

HCM 6th Signalized Intersection Summary
1: Winnetka & Ventura

10/19/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	344	1179	117	54	671	361	97	321	39	382	343	275
Future Volume (veh/h)	344	1179	117	54	671	361	97	321	39	382	343	275
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	374	1282	127	59	729	392	105	349	42	415	373	299
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	2123	659	228	1265	707	246	401	48	311	713	762
Arrive On Green	0.10	0.42	0.42	0.01	0.12	0.12	0.24	0.24	0.24	0.09	0.38	0.38
Sat Flow, veh/h	3456	5106	1585	1781	3554	1585	766	1638	197	3456	1870	1585
Grp Volume(v), veh/h	374	1282	127	59	729	392	105	0	391	415	373	299
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1781	1777	1585	766	0	1835	1728	1870	1585
Q Serve(g_s), s	10.0	19.6	5.1	2.1	19.4	20.4	12.3	0.0	20.4	9.0	15.4	12.1
Cycle Q Clear(g_c), s	10.0	19.6	5.1	2.1	19.4	20.4	14.1	0.0	20.4	9.0	15.4	12.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	346	2123	659	228	1265	707	246	0	450	311	713	762
V/C Ratio(X)	1.08	0.60	0.19	0.26	0.58	0.55	0.43	0.00	0.87	1.33	0.52	0.39
Avail Cap(c_a), veh/h	346	2123	659	245	1265	707	295	0	569	311	834	865
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	22.8	18.6	20.5	37.0	28.8	34.6	0.0	36.2	45.5	23.9	16.6
Incr Delay (d2), s/veh	72.2	1.3	0.7	0.6	1.9	3.1	1.2	0.0	11.4	170.8	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.6	12.5	3.5	1.6	14.6	14.2	4.2	0.0	15.7	18.4	11.1	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	117.2	24.1	19.2	21.1	38.9	31.9	35.8	0.0	47.6	216.3	24.5	16.9
LnGrp LOS	F	C	B	C	D	C	D	A	D	F	C	B
Approach Vol, veh/h		1783			1180			496			1087	
Approach Delay, s/veh		43.3			35.7			45.1			95.7	
Approach LOS		D			D			D			F	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	41.1		44.3	8.6	47.1	13.6	30.7				
Change Period (Y+Rc), s	4.6	* 5.5		6.2	4.6	* 5.5	4.6	6.2				
Max Green Setting (Gmax), s	10.0	* 29		44.6	5.0	* 34	9.0	31.0				
Max Q Clear Time (g_c+I1), s	12.0	22.4		17.4	4.1	21.6	11.0	22.4				
Green Ext Time (p_c), s	0.0	3.5		3.5	0.0	7.4	0.0	2.1				

Intersection Summary		
HCM 6th Ctrl Delay		54.0
HCM 6th LOS		D

Notes

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

User approved changes to right turn type.

Intersection	
Int Delay, s/veh	7.1

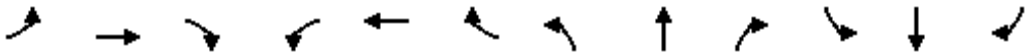
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1608	58	78	1130	16	144
Future Vol, veh/h	1608	58	78	1130	16	144
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	-
Veh in Median Storage, #	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	1748	63	85	1228	17	157

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1811	0	2564	906
Stage 1	-	-	-	-	1780	-
Stage 2	-	-	-	-	784	-
Critical Hdwy	-	-	5.34	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	3.12	-	3.67	3.92
Pot Cap-1 Maneuver	-	-	156	-	31	240
Stage 1	-	-	-	-	80	-
Stage 2	-	-	-	-	399	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	156	-	~ 14	240
Mov Cap-2 Maneuver	-	-	-	-	56	-
Stage 1	-	-	-	-	80	-
Stage 2	-	-	-	-	182	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	109.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	181	-	-	156	-
HCM Lane V/C Ratio	0.961	-	-	0.543	-
HCM Control Delay (s)	109.2	-	-	52.6	-
HCM Lane LOS	F	-	-	F	-
HCM 95th %tile Q(veh)	7.6	-	-	2.7	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1509	126	90	976	8	139	1	163	19	2	11
Future Volume (veh/h)	22	1509	126	90	976	8	139	1	163	19	2	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	1640	137	98	1061	9	151	1	177	21	2	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	1901	159	91	1430	12	766	4	789	599	116	694
Arrive On Green	0.27	0.27	0.27	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	527	4802	401	268	3611	31	1400	9	1577	1206	231	1389
Grp Volume(v), veh/h	24	1162	615	98	522	548	151	0	178	21	0	14
Grp Sat Flow(s),veh/h/ln	527	1702	1798	268	1777	1865	1400	0	1586	1206	0	1620
Q Serve(g_s), s	4.2	32.5	32.6	7.0	25.1	25.1	6.1	0.0	6.3	1.0	0.0	0.4
Cycle Q Clear(g_c), s	29.4	32.5	32.6	39.6	25.1	25.1	6.5	0.0	6.3	7.3	0.0	0.4
Prop In Lane	1.00		0.22	1.00		0.02	1.00		0.99	1.00		0.86
Lane Grp Cap(c), veh/h	148	1348	712	91	704	738	766	0	793	599	0	810
V/C Ratio(X)	0.16	0.86	0.86	1.08	0.74	0.74	0.20	0.00	0.22	0.04	0.00	0.02
Avail Cap(c_a), veh/h	148	1348	712	91	704	738	766	0	793	599	0	810
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.7	34.1	34.2	49.3	25.8	25.8	14.3	0.0	14.1	16.1	0.0	12.6
Incr Delay (d2), s/veh	2.3	7.4	13.2	117.8	6.9	6.6	0.6	0.0	0.7	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(95%),veh/ln	1.2	21.7	24.2	9.4	17.2	17.8	3.6	0.0	4.2	0.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.0	41.6	47.3	167.0	32.8	32.5	14.8	0.0	14.7	16.2	0.0	12.6
LnGrp LOS	D	D	D	F	C	C	B	A	B	B	A	B
Approach Vol, veh/h		1801			1168			329			35	
Approach Delay, s/veh		43.6			43.9			14.8			14.8	
Approach LOS		D			D			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.4		55.6		44.4		55.6				
Change Period (Y+Rc), s		* 4.8		5.6		* 4.8		5.6				
Max Green Setting (Gmax), s		* 40		50.0		* 40		50.0				
Max Q Clear Time (g_c+I1), s		41.6		9.3		34.6		8.5				
Green Ext Time (p_c), s		0.0		0.1		4.7		1.7				

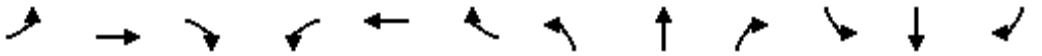
Intersection Summary		
HCM 6th Ctrl Delay		40.6
HCM 6th LOS		D

Notes

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

HCM 6th Signalized Intersection Summary
1: Winnetka & Ventura

10/19/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	1011	167	210	661	232	94	312	41	419	466	393
Future Volume (veh/h)	227	1011	167	210	661	232	94	312	41	419	466	393
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	247	1099	182	228	718	252	102	339	45	455	507	427
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	1899	589	247	1144	653	191	451	60	311	777	816
Arrive On Green	0.10	0.37	0.37	0.10	0.64	0.64	0.28	0.28	0.28	0.09	0.42	0.42
Sat Flow, veh/h	3456	5106	1585	1781	3554	1585	599	1617	215	3456	1870	1585
Grp Volume(v), veh/h	247	1099	182	228	718	252	102	0	384	455	507	427
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1781	1777	1585	599	0	1832	1728	1870	1585
Q Serve(g_s), s	6.9	17.2	8.1	5.0	12.1	7.2	16.5	0.0	19.1	9.0	21.7	17.9
Cycle Q Clear(g_c), s	6.9	17.2	8.1	5.0	12.1	7.2	24.6	0.0	19.1	9.0	21.7	17.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	345	1899	589	247	1144	653	191	0	511	311	777	816
V/C Ratio(X)	0.72	0.58	0.31	0.92	0.63	0.39	0.54	0.00	0.75	1.46	0.65	0.52
Avail Cap(c_a), veh/h	346	1899	589	247	1144	653	209	0	568	311	834	865
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	25.1	22.3	31.9	14.2	10.2	38.8	0.0	32.9	45.5	23.5	16.1
Incr Delay (d2), s/veh	6.9	1.3	1.4	36.9	2.6	1.7	2.3	0.0	5.0	225.2	1.7	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(95%),veh/ln	5.9	11.4	5.8	9.7	6.8	4.1	4.5	0.0	14.0	22.1	14.7	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	26.4	23.6	68.8	16.8	11.9	41.1	0.0	37.9	270.7	25.1	16.6
LnGrp LOS	D	C	C	E	B	B	D	A	D	F	C	B
Approach Vol, veh/h		1528			1198			486			1389	
Approach Delay, s/veh		30.0			25.7			38.6			103.0	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	37.7		47.7	9.6	42.7	13.6	34.1				
Change Period (Y+Rc), s	4.6	* 5.5		6.2	4.6	* 5.5	4.6	6.2				
Max Green Setting (Gmax), s	10.0	* 29		44.6	5.0	* 34	9.0	31.0				
Max Q Clear Time (g_c+I1), s	8.9	14.1		23.7	7.0	19.2	11.0	26.6				
Green Ext Time (p_c), s	0.1	5.2		5.0	0.0	7.4	0.0	1.3				

Intersection Summary												
HCM 6th Ctrl Delay			51.8									
HCM 6th LOS			D									

Notes

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

User approved changes to right turn type.

Intersection	
Int Delay, s/veh	64

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2022	64	213	1283	34	203
Future Vol, veh/h	2022	64	213	1283	34	203
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	-
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	2198	70	232	1395	37	221

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2268	0	3395	1134
Stage 1	-	-	-	-	2233	-
Stage 2	-	-	-	-	1162	-
Critical Hdwy	-	-	5.34	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	3.12	-	3.67	3.92
Pot Cap-1 Maneuver	-	-	~ 91	-	~ 9	~ 169
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	254	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	~ 91	-	0	~ 169
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	113.8	$ 313.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	169	-	-	~ 91	-
HCM Lane V/C Ratio	1.524	-	-	2.544	-
HCM Control Delay (s)	$ 313.2	-	-	$ 799.4	-
HCM Lane LOS	F	-	-	F	-
HCM 95th %tile Q(veh)	16.8	-	-	21.6	-

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1947	164	210	1313	12	177	2	164	2	2	4
Future Volume (veh/h)	7	1947	164	210	1313	12	177	2	164	2	2	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	2116	178	228	1427	13	192	2	178	2	2	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	1902	159	72	1429	13	774	9	785	597	278	557
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	371	4802	400	161	3608	33	1410	18	1570	1204	557	1113
Grp Volume(v), veh/h	8	1494	800	228	702	738	192	0	180	2	0	6
Grp Sat Flow(s),veh/h/ln	371	1702	1798	161	1777	1864	1410	0	1588	1204	0	1670
Q Serve(g_s), s	0.1	39.6	39.6	0.0	39.5	39.5	7.9	0.0	6.4	0.1	0.0	0.2
Cycle Q Clear(g_c), s	39.6	39.6	39.6	39.6	39.5	39.5	8.1	0.0	6.4	6.5	0.0	0.2
Prop In Lane	1.00		0.22	1.00		0.02	1.00		0.99	1.00		0.67
Lane Grp Cap(c), veh/h	72	1348	712	72	704	738	774	0	794	597	0	835
V/C Ratio(X)	0.11	1.11	1.12	3.17	1.00	1.00	0.25	0.00	0.23	0.00	0.00	0.01
Avail Cap(c_a), veh/h	72	1348	712	72	704	738	774	0	794	597	0	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.0	30.2	30.2	50.0	30.2	30.2	14.6	0.0	14.1	15.9	0.0	12.5
Incr Delay (d2), s/veh	3.1	60.0	72.8	1010.3	33.5	32.9	0.8	0.0	0.7	0.0	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(95%),veh/ln	0.5	37.8	43.2	39.6	30.5	31.7	4.7	0.0	4.3	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.1	90.2	103.0	1060.3	63.7	63.1	15.3	0.0	14.8	15.9	0.0	12.6
LnGrp LOS	D	F	F	F	E	E	B	A	B	B	A	B
Approach Vol, veh/h		2302			1668			372			8	
Approach Delay, s/veh		94.5			199.6			15.1			13.4	
Approach LOS		F			F			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.4		55.6		44.4		55.6				
Change Period (Y+Rc), s		* 4.8		5.6		* 4.8		5.6				
Max Green Setting (Gmax), s		* 40		50.0		* 40		50.0				
Max Q Clear Time (g_c+I1), s		41.6		8.5		41.6		10.1				
Green Ext Time (p_c), s		0.0		0.0		0.0		1.8				

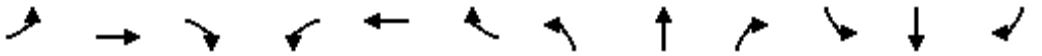
Intersection Summary		
HCM 6th Ctrl Delay		127.9
HCM 6th LOS		F

Notes

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

HCM 6th Signalized Intersection Summary
1: Winnetka & Ventura

10/19/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	344	1186	117	56	677	367	97	321	41	389	343	275
Future Volume (veh/h)	344	1186	117	56	677	367	97	321	41	389	343	275
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	374	1289	127	61	736	399	105	349	45	423	373	299
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	2111	655	226	1259	704	247	400	52	311	716	765
Arrive On Green	0.10	0.41	0.41	0.01	0.12	0.12	0.25	0.25	0.25	0.09	0.38	0.38
Sat Flow, veh/h	3456	5106	1585	1781	3554	1585	766	1623	209	3456	1870	1585
Grp Volume(v), veh/h	374	1289	127	61	736	399	105	0	394	423	373	299
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1781	1777	1585	766	0	1833	1728	1870	1585
Q Serve(g_s), s	10.0	19.8	5.1	2.2	19.6	20.9	12.3	0.0	20.6	9.0	15.4	12.0
Cycle Q Clear(g_c), s	10.0	19.8	5.1	2.2	19.6	20.9	14.0	0.0	20.6	9.0	15.4	12.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	346	2111	655	226	1259	704	247	0	452	311	716	765
V/C Ratio(X)	1.08	0.61	0.19	0.27	0.58	0.57	0.42	0.00	0.87	1.36	0.52	0.39
Avail Cap(c_a), veh/h	346	2111	655	243	1259	704	296	0	568	311	834	865
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	23.0	18.7	20.7	37.2	29.0	34.5	0.0	36.1	45.5	23.8	16.5
Incr Delay (d2), s/veh	72.2	1.3	0.7	0.6	2.0	3.3	1.2	0.0	11.7	181.5	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.6	12.6	3.5	1.7	14.8	14.4	4.2	0.0	15.8	19.1	11.0	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	117.2	24.3	19.4	21.3	39.2	32.3	35.6	0.0	47.8	227.0	24.4	16.8
LnGrp LOS	F	C	B	C	D	C	D	A	D	F	C	B
Approach Vol, veh/h		1790			1196			499			1095	
Approach Delay, s/veh		43.4			36.0			45.2			100.6	
Approach LOS		D			D			D			F	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	40.9		44.5	8.7	46.8	13.6	30.9				
Change Period (Y+Rc), s	4.6	* 5.5		6.2	4.6	* 5.5	4.6	6.2				
Max Green Setting (Gmax), s	10.0	* 29		44.6	5.0	* 34	9.0	31.0				
Max Q Clear Time (g_c+I1), s	12.0	22.9		17.4	4.2	21.8	11.0	22.6				
Green Ext Time (p_c), s	0.0	3.3		3.5	0.0	7.3	0.0	2.0				

Intersection Summary		
HCM 6th Ctrl Delay		55.3
HCM 6th LOS		E

Notes

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

User approved changes to right turn type.

Intersection	
Int Delay, s/veh	14.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1623	58	78	1130	31	144
Future Vol, veh/h	1623	58	78	1130	31	144
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	130	-	0	-
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	1764	63	85	1228	34	157

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1827	0	2580	914
Stage 1	-	-	-	-	1796	-
Stage 2	-	-	-	-	784	-
Critical Hdwy	-	-	5.34	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	3.12	-	3.67	3.92
Pot Cap-1 Maneuver	-	-	153	-	~ 31	237
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	399	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	153	-	~ 14	237
Mov Cap-2 Maneuver	-	-	-	-	55	-
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	177	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.5	224.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	149	-	-	153	-
HCM Lane V/C Ratio	1.277	-	-	0.554	-
HCM Control Delay (s)	224.6	-	-	54.4	-
HCM Lane LOS	F	-	-	F	-
HCM 95th %tile Q(veh)	11.4	-	-	2.8	-

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1515	126	90	983	8	139	1	163	19	2	11
Future Volume (veh/h)	22	1515	126	90	983	8	139	1	163	19	2	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	1647	137	98	1068	9	151	1	177	21	2	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	1902	158	90	1430	12	766	4	789	599	116	694
Arrive On Green	0.27	0.27	0.27	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	524	4804	399	266	3611	30	1400	9	1577	1206	231	1389
Grp Volume(v), veh/h	24	1167	617	98	525	552	151	0	178	21	0	14
Grp Sat Flow(s),veh/h/ln	524	1702	1799	266	1777	1865	1400	0	1586	1206	0	1620
Q Serve(g_s), s	4.3	32.7	32.8	6.8	25.4	25.4	6.1	0.0	6.3	1.0	0.0	0.4
Cycle Q Clear(g_c), s	29.6	32.7	32.8	39.6	25.4	25.4	6.5	0.0	6.3	7.3	0.0	0.4
Prop In Lane	1.00		0.22	1.00		0.02	1.00		0.99	1.00		0.86
Lane Grp Cap(c), veh/h	147	1348	712	90	704	738	766	0	793	599	0	810
V/C Ratio(X)	0.16	0.87	0.87	1.09	0.75	0.75	0.20	0.00	0.22	0.04	0.00	0.02
Avail Cap(c_a), veh/h	147	1348	712	90	704	738	766	0	793	599	0	810
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	34.2	34.2	49.3	25.9	25.9	14.3	0.0	14.1	16.1	0.0	12.6
Incr Delay (d2), s/veh	2.4	7.6	13.5	120.2	7.1	6.8	0.6	0.0	0.7	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(95%),veh/ln	1.2	21.8	24.3	9.4	17.4	18.0	3.6	0.0	4.2	0.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.3	41.8	47.7	169.5	33.0	32.7	14.8	0.0	14.7	16.2	0.0	12.6
LnGrp LOS	D	D	D	F	C	C	B	A	B	B	A	B
Approach Vol, veh/h		1808			1175			329			35	
Approach Delay, s/veh		43.9			44.2			14.8			14.8	
Approach LOS		D			D			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.4		55.6		44.4		55.6				
Change Period (Y+Rc), s		* 4.8		5.6		* 4.8		5.6				
Max Green Setting (Gmax), s		* 40		50.0		* 40		50.0				
Max Q Clear Time (g_c+I1), s		41.6		9.3		34.8		8.5				
Green Ext Time (p_c), s		0.0		0.1		4.6		1.7				

Intersection Summary		
HCM 6th Ctrl Delay		40.8
HCM 6th LOS		D

Notes

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1408	21	9	1052	0	8
Future Vol, veh/h	1408	21	9	1052	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1530	23	10	1143	0	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1553	0	-	777
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	5.34	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.12	-	-	3.92
Pot Cap-1 Maneuver	-	-	210	-	0	291
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	210	-	-	291
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	17.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	291	-	-	210	-
HCM Lane V/C Ratio	0.03	-	-	0.047	-
HCM Control Delay (s)	17.8	-	-	23	1.5
HCM Lane LOS	C	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↱
Traffic Vol, veh/h	0	0	0	0	0	20
Future Vol, veh/h	0	0	0	0	0	20
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	0	0	0	0	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	0	0	1084
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	1084
HCM Lane V/C Ratio	-	-	0.02
HCM Control Delay (s)	-	-	8.4
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1553	15	7	1053	0	6
Future Vol, veh/h	1553	15	7	1053	0	6
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	1688	16	8	1145	0	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1704	0	-	852
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	5.34	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.12	-	-	3.92
Pot Cap-1 Maneuver	-	-	176	-	0	260
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	176	-	-	260
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	19.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	260	-	-	176	-
HCM Lane V/C Ratio	0.025	-	-	0.043	-
HCM Control Delay (s)	19.2	-	-	26.4	1.6
HCM Lane LOS	C	-	-	D	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↱
Traffic Vol, veh/h	0	0	0	0	0	15
Future Vol, veh/h	0	0	0	0	0	15
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	0	0	0	0	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	0	0	1084
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	1084
HCM Lane V/C Ratio	-	-	0.015
HCM Control Delay (s)	-	-	8.4
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1451	21	9	1084	0	8
Future Vol, veh/h	1451	21	9	1084	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1577	23	10	1178	0	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1600	0	-	800
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	5.34	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.12	-	-	3.92
Pot Cap-1 Maneuver	-	-	199	-	0	281
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	199	-	-	281
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	18.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	281	-	-	199	-
HCM Lane V/C Ratio	0.031	-	-	0.049	-
HCM Control Delay (s)	18.2	-	-	24	1.7
HCM Lane LOS	C	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	0.2	-

Intersection	
Int Delay, s/veh	8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↱
Traffic Vol, veh/h	0	0	0	0	0	20
Future Vol, veh/h	0	0	0	0	0	20
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	0	0	0	0	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	0	0	1084
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	1084
HCM Lane V/C Ratio	-	-	0.02
HCM Control Delay (s)	-	-	8.4
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1600	15	7	1085	0	6
Future Vol, veh/h	1600	15	7	1085	0	6
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	1739	16	8	1179	0	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1755	0	-	878
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	5.34	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.12	-	-	3.92
Pot Cap-1 Maneuver	-	-	166	-	0	250
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	166	-	-	250
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	19.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	250	-	-	166	-
HCM Lane V/C Ratio	0.026	-	-	0.046	-
HCM Control Delay (s)	19.8	-	-	27.7	1.9
HCM Lane LOS	C	-	-	D	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↱
Traffic Vol, veh/h	0	0	0	0	0	15
Future Vol, veh/h	0	0	0	0	0	15
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	0	0	0	0	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	0	0	1084
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	1084
HCM Lane V/C Ratio	-	-	0.015
HCM Control Delay (s)	-	-	8.4
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Attachment D

Queuing Surveys

Original Tommy's World Famous Hamburgers
Drive-through Queue Survey

Location: 14601 Victory Blvd, Van Nuys, CA 91411

Date: Tuesday, June 21, 2022

	Total Vehicles Entering Queue	Max Vehicles in Queue
11:00	4	3
11:15	5	6
11:30	3	2
11:45	3	2
12:00	7	7
12:15	7	5
12:30	7	8
12:45	3	3
13:00	3	3
13:15	2	3
13:30	1	1
13:45	2	2
14:00	2	3
14:15	1	1
14:30	1	1
14:45	1	1
15:00	3	2
15:15	0	0
15:30	1	1
15:45	2	1
16:00	1	1
16:15	1	1
16:30	2	1
16:45	0	0
17:00	1	1
17:15	2	1
17:30	0	1
17:45	2	1
18:00	4	3
18:15	3	2
18:30	1	2
18:45	1	1
19:00	6	3
19:15	4	4
19:30	3	4
19:45	3	3
20:00	4	2
20:15	1	2
20:30	3	2
20:45	4	3
21:00	0	3
21:15	4	2
21:30	5	3
21:45	7	6

Total	120

Date: Saturday, June 25, 2022

	Total Vehicles Entering Queue	Max Vehicles in Queue
11:00	1	1
11:15	2	2
11:30	4	3
11:45	3	3
12:00	4	3
12:15	3	2
12:30	5	4
12:45	2	1
13:00	3	2
13:15	1	1
13:30	1	1
13:45	2	1
14:00	5	4
14:15	3	3
14:30	2	2
14:45	5	3
15:00	2	2
15:15	3	3
15:30	2	1
15:45	4	2
16:00	2	1
16:15	3	2
16:30	0	0
16:45	1	1
17:00	0	0
17:15	0	0
17:30	0	0
17:45	3	2
18:00	4	2
18:15	2	2
18:30	1	1
18:45	2	1
19:00	5	3
19:15	4	3
19:30	1	1
19:45	2	1
20:00	2	2
20:15	1	1
20:30	1	1
20:45	3	2
21:00	3	3
21:15	2	2
21:30	2	2
21:45	5	4

Total	106

Original Tommy's World Famous Hamburgers
Drive-through Queue Survey

Location: 15745 Roscoe Blvd, North Hills, CA 91343

Date: Tuesday, June 21, 2022

	Total Vehicles Entering Queue	Max Vehicles in Queue
11:00	5	4
11:15	8	6
11:30	10	6
11:45	5	7
12:00	6	5
12:15	8	5
12:30	4	5
12:45	10	7
13:00	6	8
13:15	8	5
13:30	5	5
13:45	4	2
14:00	7	4
14:15	6	4
14:30	3	3
14:45	6	5
15:00	6	3
15:15	6	3
15:30	4	3
15:45	9	6
16:00	5	5
16:15	8	5
16:30	4	5
16:45	3	1
17:00	3	1
17:15	4	1
17:30	10	5
17:45	3	5
18:00	3	3
18:15	8	4
18:30	5	3
18:45	4	2
19:00	5	3
19:15	4	3
19:30	2	2
19:45	2	2
20:00	2	2
20:15	6	3
20:30	8	5
20:45	10	6
21:00	5	6
21:15	3	6
21:30	5	3
21:45	9	6

Total	247

Date: Saturday, June 25, 2022

	Total Vehicles Entering Queue	Max Vehicles in Queue
11:00	6	4
11:15	4	3
11:30	7	4
11:45	4	4
12:00	9	6
12:15	7	5
12:30	8	5
12:45	7	5
13:00	5	3
13:15	8	5
13:30	8	8
13:45	4	8
14:00	6	7
14:15	4	8
14:30	3	7
14:45	6	5
15:00	3	6
15:15	8	7
15:30	6	7
15:45	6	8
16:00	4	6
16:15	3	3
16:30	9	4
16:45	7	3
17:00	8	5
17:15	7	5
17:30	4	4
17:45	4	3
18:00	4	3
18:15	5	3
18:30	4	3
18:45	4	3
19:00	6	4
19:15	7	5
19:30	4	4
19:45	9	7
20:00	8	9
20:15	5	8
20:30	6	7
20:45	8	10
21:00	11	8
21:15	8	9
21:30	7	7
21:45	6	4

Total	267

Original Tommy's World Famous Hamburgers
Drive-through Queue Survey

Location: 7240 Topanga Canyon Blvd, Canoga Park, CA 91303

Date: Tuesday, June 21, 2022

	Total Vehicles Entering Queue	Max Vehicles in Queue
11:00	2	2
11:15	4	3
11:30	1	1
11:45	7	3
12:00	3	2
12:15	2	2
12:30	7	5
12:45	3	3
13:00	4	3
13:15	1	1
13:30	1	1
13:45	0	0
14:00	5	3
14:15	1	2
14:30	3	2
14:45	5	3
15:00	1	2
15:15	0	0
15:30	3	2
15:45	2	2
16:00	1	1
16:15	5	3
16:30	3	3
16:45	6	3
17:00	1	2
17:15	3	2
17:30	2	1
17:45	5	4
18:00	4	2
18:15	1	1
18:30	2	2
18:45	5	3
19:00	2	3
19:15	2	3
19:30	5	5
19:45	3	5
20:00	7	5
20:15	7	6
20:30	5	5
20:45	7	6
21:00	1	4
21:15	1	2
21:30	1	1
21:45	0	0

Total	134

Date: Saturday, June 25, 2022

	Total Vehicles Entering Queue	Max Vehicles in Queue
11:00	4	3
11:15	5	6
11:30	4	4
11:45	4	2
12:00	3	2
12:15	5	2
12:30	3	3
12:45	2	2
13:00	4	2
13:15	3	3
13:30	5	3
13:45	6	4
14:00	1	4
14:15	3	2
14:30	4	2
14:45	4	3
15:00	3	3
15:15	2	3
15:30	6	4
15:45	2	4
16:00	5	4
16:15	3	4
16:30	3	2
16:45	0	2
17:00	3	2
17:15	5	2
17:30	7	4
17:45	5	4
18:00	1	3
18:15	2	2
18:30	2	2
18:45	4	3
19:00	2	2
19:15	1	1
19:30	5	5
19:45	6	5
20:00	2	3
20:15	5	3
20:30	4	4
20:45	2	2
21:00	3	3
21:15	4	2
21:30	6	3
21:45	4	3

Total	157