# Appendix E Traffic Study

*This page intentionally left blank.*

June 2020 | Traffic Impact Analysis

# WILSON MIDDLE SCHOOL MULTI-PURPOSE FIELD PROJECT TRAFFIC IMPACT ANALYSIS

*Prepared for:*

**City of Glendale**
Contact: Peter Vierheilig, Project Manager
613 East Broadway
Glendale, California 91206
818.548.2000

*Prepared by:*

**PlaceWorks**
Contact: Fernando Sotelo, PE, PTP, Senior Associate
3 MacArthur Place, Suite 1100
Santa Ana, California 92707
714.966.9220
info@placeworks.com
www.placeworks.com

PLACEWORKS

# Table of Contents

**Section** **Page**

**1. INTRODUCTION ..... 1**
1.1 PROJECT OVERVIEW ..... 1
1.2 METHODOLOGY ..... 2
1.2.1 Intersection LOS ..... 2
1.2.2 Neighborhood Street Segment Analysis ..... 3
1.2.3 Parking Analysis ..... 3
1.2.4 Thresholds of Significance ..... 4
**2. EXISTING CONDITIONS ..... 11**
2.1 STUDY AREA ROADWAY NETWORK ..... 11
2.1.1 Surrounding Street System ..... 11
2.1.2 Study Area Intersections ..... 11
2.1.3 Neighborhood Street Segments ..... 12
2.1.4 Study Area Parking Locations ..... 12
2.2 EXISTING OPERATIONS ..... 13
2.2.1 Existing Conditions Intersection Analysis ..... 14
2.2.2 Neighborhood Street Segment Analysis ..... 21
2.2.3 Existing Internal Circulation ..... 21
2.2.4 Existing Parking Options Serving the Project Site ..... 21
**3. MULTIPURPOSE FIELD TRAFFIC ANALYSIS ..... 23**
3.1 TRIP GENERATION ..... 23
3.2 TRIP DISTRIBUTION AND ASSIGNMENT ..... 25
3.3 EXISTING WITH PROJECT TRAFFIC CONDITIONS ..... 25
3.3.1 Intersection Level of Service ..... 25
3.3.2 Neighborhood Street Segment Analysis ..... 31
3.4 FUTURE TRAFFIC CONDITIONS ..... 31
3.4.1 Opening Year Without Project Traffic Conditions ..... 32
3.4.2 Opening Year With Project Traffic Conditions ..... 35
**4. NONMOTORIZED TRAVEL ..... 37**
**5. PARKING ANALYSIS ..... 39**
5.1 PARKING GENERATION ..... 39
5.2 PROJECT-RELATED PARKING IMPACTS ..... 39
**6. CONCLUSION ..... 41**
6.1 TRAFFIC IMPACTS ..... 41
6.2 PARKING IMPACTS ..... 41
**7. REFERENCES ..... 43**

# Table of Contents

**APPENDICES**

Appendix A. Memorandum of Understanding
Appendix B. Traffic Counts
Appendix C. Intersection Turn Movement Volumes and LOS Worksheets, Existing Conditions
Appendix D. Parking Counts and Worksheets
Appendix E. Intersection Turn Movement Volumes and LOS Worksheets, Existing With Project Conditions
Appendix F. Cumulative Projects Trip Generation and Volume Development
Appendix G. Intersection Turn Movement Volumes and LOS Worksheets, Opening Year Without Project Conditions
Appendix H. Intersection Turn Movement Volumes and LOS Worksheets, Opening Year With Project Conditions

# Table of Contents

## *List of Figures*

**Figure** **Page**

Figure 1 Local Vicinity Map ..... 5
Figure 2 Aerial Photography ..... 7
Figure 3 Site Plan ..... 9
Figure 4 City of Glendale Street Classification Map ..... 15
Figure 5 Study Area Roadway Network and Intersections ..... 17
Figure 6 Off-Site Parking Locations ..... 19
Figure 7 Project Trip Distribution, Inbound ..... 27
Figure 8 Project Trip Distribution, Outbound ..... 29
Figure 9 Cumulative Developments Location Map ..... 33

## *List of Tables*

**Table** **Page**

Table 1 Intersection Level of Service Descriptions ..... 3
Table 2 Existing Intersection Levels of Service, Weekday PM Peak Hour ..... 14
Table 3 Existing Street Segment Volumes ..... 21
Table 4 Existing Parking Occupancy ..... 22
Table 5 ITE Trip Generation Rates for Soccer Complex ..... 23
Table 6 ITE Trip Generation Estimates for Soccer Complex ..... 24
Table 7 Trip Generation Rates Based on Usage Estimates ..... 24
Table 8 Project Trip Generation Based on Usage Estimates ..... 25
Table 9 Existing With Project Intersection LOS, Weekday PM Peak Hour ..... 26
Table 10 Existing With Project Street Segment Volumes ..... 31
Table 11 Opening Year Without Project Intersection LOS, Weekday PM Peak Hour ..... 32
Table 12 Opening Year Without Project Street Segment Analysis ..... 35
Table 13 Opening Year With Project Intersection LOS, Weekday PM Peak Hour ..... 35
Table 14 Opening Year With Project Street Segment Volumes ..... 36
Table 15 Parking Demand in Terms of Available Parking ..... 39

# Table of Contents

*This page intentionally left blank.*

# 1. Introduction

## 1.1 PROJECT OVERVIEW

The City of Glendale Community Services and Parks Department (City or Glendale) has partnered with the Glendale Unified School District (GUSD) to develop a multipurpose field with sports field lighting on the campus of Wilson Middle School (Wilson MS) at 1221 Monterey Road in the northeast part of Glendale. Figure 1, *Local Vicinity,* and Figure 2, *Aerial Photograph,* depict the area surrounding the school.

Figure 3, *Site Plan,* shows the proposed Project improvements. The existing grass field and paved basketball courts will be redeveloped with a joint-use multipurpose field with soccer and lacrosse markings, a surrounding rubberized surface jogging track, and sports field lighting. The Project site is currently utilized by Wilson MS for physical education purposes and school sports programs. In addition to Wilson MS uses, outside sporting groups have been individually permitted by Glendale Unified School District (GUSD) to use the practice field on weekends generally between the hours of 8:30 a.m. and 6:00 p.m. on Saturdays and 8:00 a.m. and 6:00 p.m. on Sundays.

The proposed field lighting is necessary for evening use on both weeknights and extend use of the field into evening hours on the weekends. The proposed Project will also include the addition of fitness equipment, a perimeter security fence, seating, restroom and storage/maintenance building(s), walkways, landscaping, irrigation, and regrading of the existing basketball court surface. No permanent seating or bleachers are proposed. Wilson Middle School will access the proposed field during school hours, and the City's use of the proposed field would be from 5:00 p.m. to 10:00 p.m. Monday through Friday, and 8:00 a.m. to 10:00 p.m. on Saturday and Sunday.

The Wilson MS Multipurpose Field Project (proposed Project) would disturb approximately 3.85 acres—consisting of the existing athletic field and basketball courts—along the northern portion of the Wilson MS campus and would not impact other areas of the campus. This 3.85 acres will be referred to as the "project site." The Wilson MS campus is in a medium-density residential community and bordered by Glenoaks Boulevard to the north, Monterey Road to the south, Verdugo Road to the east, and Adams Street to west. The project site is currently used by Wilson MS for physical education purposes and middle school sports programs.

The proposed Project would not expand the school's enrollment capacity, but is expected to increase traffic and parking demand around the project site due to new public use and city programming on weeknights. Regional access to the Wilson MS campus is State Route (SR) 134, approximately 0.13 mile to the south. Main vehicular access to the Wilson MS campus is provided along Monterey Road, including the student drop-off/pick-up zone and faculty/visitor parking located along Monterey Road. Limited parking is provided along the western perimeter of the campus, adjacent the classroom buildings located west of the project site. Street parking is available on Verdugo Road, Monterey Road and Adams Street. The proposed Project would make use of existing street and on-site parking, and no change in site access or parking would occur.

## 1.2 METHODOLOGY

This study was prepared in conformance with the Los Angeles County Congestion Management Plan (CMP) Transportation Impact Analysis Guidelines, City of Glendale's General Plan Circulation Element LOS standards, and based on the anticipated level of traffic from full-capacity athletic events at the project site. A memorandum of understanding (MOU or scoping agreement) was submitted to the City of Glendale Public Works Department on May 12, 2017. The MOU included the methodologies that would be used in the project traffic impact analysis, including trip generation estimates, trip distribution, a list of study area intersections to be evaluated, identification of an ambient growth rate and scenarios to be evaluated, criteria to evaluate levels of service, and thresholds of significance. The City of Glendale traffic engineer reviewed the memorandum of understanding and provided comments on May 19, 2017 (see Appendix A). This traffic impact analysis is consistent with the methodologies and assumptions in the MOU. In 2019, changes of the lane configuration at one of the study intersections occurred. The City of Glendale traffic engineer requested this study be updated to reflect these lane changes and to update the study with more recent traffic and parking counts taken in the fall of 2019. As a result, this study was updated in December 2019 with new traffic counts, parking counts, and cumulative projects.

### 1.2.1 Intersection LOS

Roadway capacity is generally limited by the ability to move vehicles through intersections. A level of service is a standard performance measurement to describe the operating characteristics of a street system in terms of the level of congestion or delay experienced by motorists. Service levels range from A through F, that is, from the best traffic conditions (uncongested, free-flowing conditions) to the worst (total breakdown with stop-and-go operation). Table 1 describes the level of service concept and the operating conditions expected under each level of service for signalized and unsignalized intersections.

The Intersection Capacity Utilization (ICU) method is used to calculate levels of service (LOS) for signalized intersections in the City of Glendale. The ICU signalized intersection methodology presents LOS in terms of volume to capacity ratio. Signalized intersections under the California Department of Transportation (Caltrans) jurisdiction are evaluated using delay-based methodology consistent with the procedures outlined in the Highway Capacity Manual 6$^{th}$ Edition (HCM)

For unsignalized intersections, the Highway Capacity Manual (HCM) methodology is used to calculate LOS. The HCM unsignalized intersection methodology presents LOS in terms of control delay (in seconds per vehicle). Vistro software was used to determine the LOS at the study area intersections.

The intersection LOS analysis uses traffic volumes observed during the peak hour conditions. The peak hours selected for the analysis are the highest volumes that occur in four consecutive 15-minute periods from 4:00 PM to 6:00 PM on weekday evenings.

**Table 1 Intersection Level of Service Descriptions**

| LOS | Description | ICU Methodology (Signalized) V/C Ratio | HCM Methodology (Signalized) Delay (seconds) | HCM Methodology (Unsignalized) Delay (seconds) |
|---|---|---|---|---|
| A | Level of Service A occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay. | 0.000–0.600 | ≤ 10.00 | ≤ 10.00 |
| B | Level of Service B generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing higher levels of average total delay. | 0.601–0.700 | > 10 – 20 | >10 to 15 |
| C | Level of Service C generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping. | 0.701–0.800 | > 20 – 35 | >15 to 25 |
| D | Level of Service D generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. | 0.801–0.900 | > 35 – 55 | >25 to 35 |
| E | Level of Service E is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent occurrences. | 0.901–1.000 | > 55 - 80 | >35 to 50 |
| F | Level of Service F is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume to capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels. | Over 1.000 | > 80 | >50 |

Source: HCM 6th Edition, and 2010 Congestion Management Program for Los Angeles County.

## 1.2.2 Neighborhood Street Segment Analysis

The street segment level of service analysis was conducted by calculating the daily volume-to-capacity (V/C) ratio for each study roadway segment. Traffic volumes were calculated based on turn movement counts at intersections converted to 2-way roadway traffic volumes and applying a typical a peak to daily factor of 10. The environmental capacity for each roadway segment was obtained from the City of Glendale Circulation Plan according to the functional roadway classification and their characteristics. The LOS letter grade was assigned using the corresponding V/C values shown in Table 1.

## 1.2.3 Parking Analysis

A parking analysis was prepared to review the parking conditions in the vicinity of the school and to estimate the parking impacts from the project. Parking counts were taken at the school parking lots and along 26 roadway segments on a weekday evening and on a Saturday.

Parking demand was based on published parking generation rates for a soccer complex. To calculate the expected project-related parking demand, the ITE Parking Generation rates for soccer complexes were

multiplied by the anticipated number of fields. Further details are provided in the Parking Analysis included in Section 5 of this report.

### 1.2.4 Thresholds of Significance

The study area includes intersections under the jurisdictions of the City of Glendale, and the California Department of Transportation (Caltrans).

#### City of Glendale Intersections

According to the City's Circulation Element, the City evaluates zoning in the commercial and industrial areas of the City and establishes floor area ratios based on the availability of existing or proposed street capacity to accommodate future growth. A minimum desired level of service is "D" during afternoon peak hours, except at intersections along major arterials, where a minimum desired level of service is "E".

In the City of Glendale, impacts at signalized intersections are considered significant if the project-related increase in the volume-to-capacity (V/C) ratio equals or exceeds 0.02 at intersections that have LOS D or worse. For unsignalized intersections, the impact is considered significant if the project-related increase in the delay equals or exceeds 3 seconds at intersections that have LOS D, or worse.

#### Caltrans Intersections

Caltrans traffic impact analysis guidelines do not explicitly define a significant impact in terms of existing level of service and change in that level of service. For intersections under Caltrans' jurisdiction, a significant impact would occur at a signalized study intersection when the project-related traffic causes:

- An intersection to degrade from an acceptable LOS to an unacceptable LOS[1]; or
- Any increase in delay for intersections already operating at an unacceptable LOS.

#### Neighborhood Street Segments

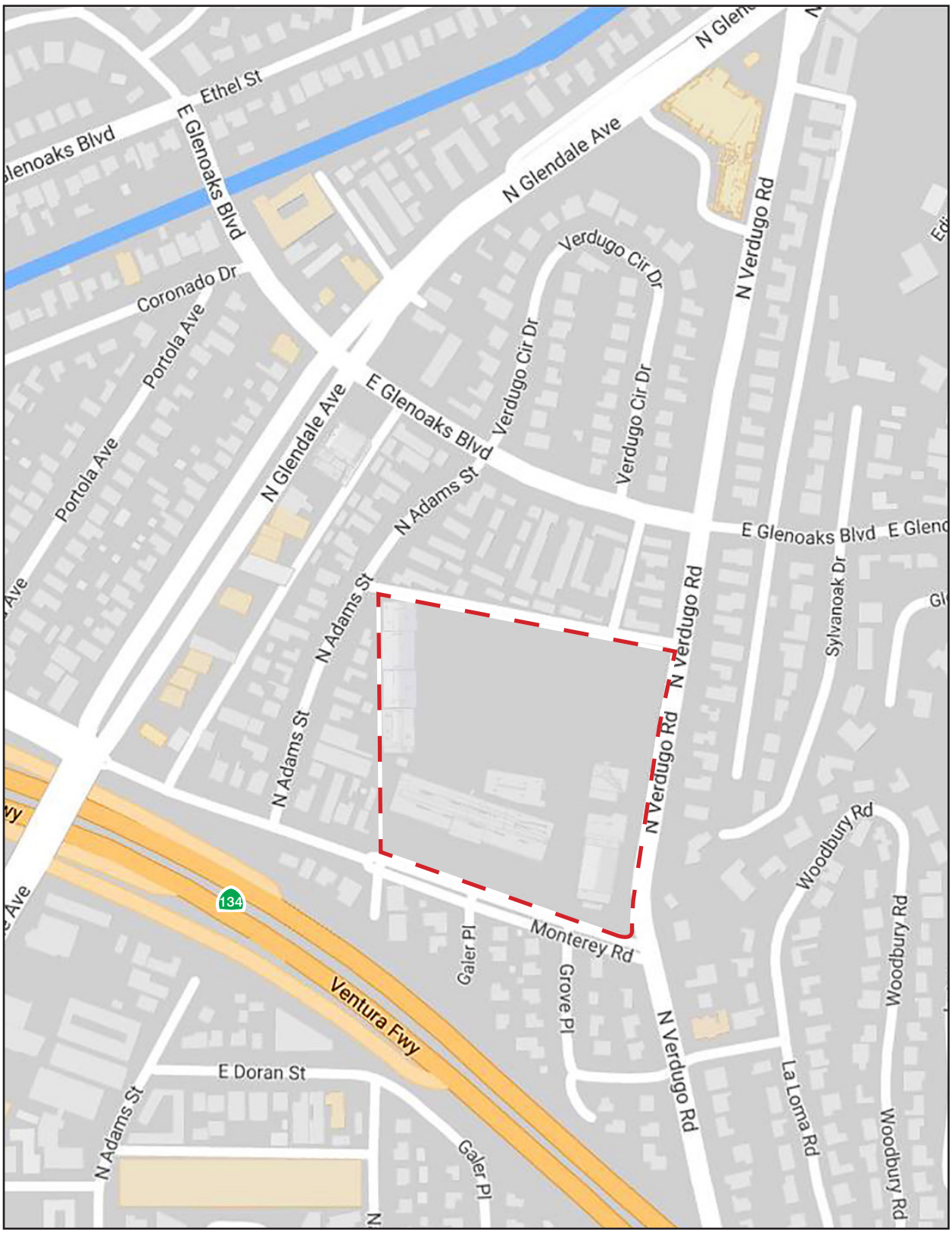
As discussed above, LOS D is the minimum desired level of service. The City of Glendale Circulation Element identifies two conditions that typically apply when evaluating local collector street impacts:

- If the addition of Project average daily trips (ADTs) to a residential street does not cause the street's capacity to be exceeded (regardless of how great an increase), the Project would result in no impacts.

- If the street's capacity is exceeded with or without the Project, no impacts occur if the Project increases the existing conditions ADT by less than 10 percent.

[1] The Caltrans Transportation Concept Report states that Caltrans strives for LOS C/D, but generally accepts up to LOS E in urban environments.

# Figure 1 - Local Vicinity




Project Site

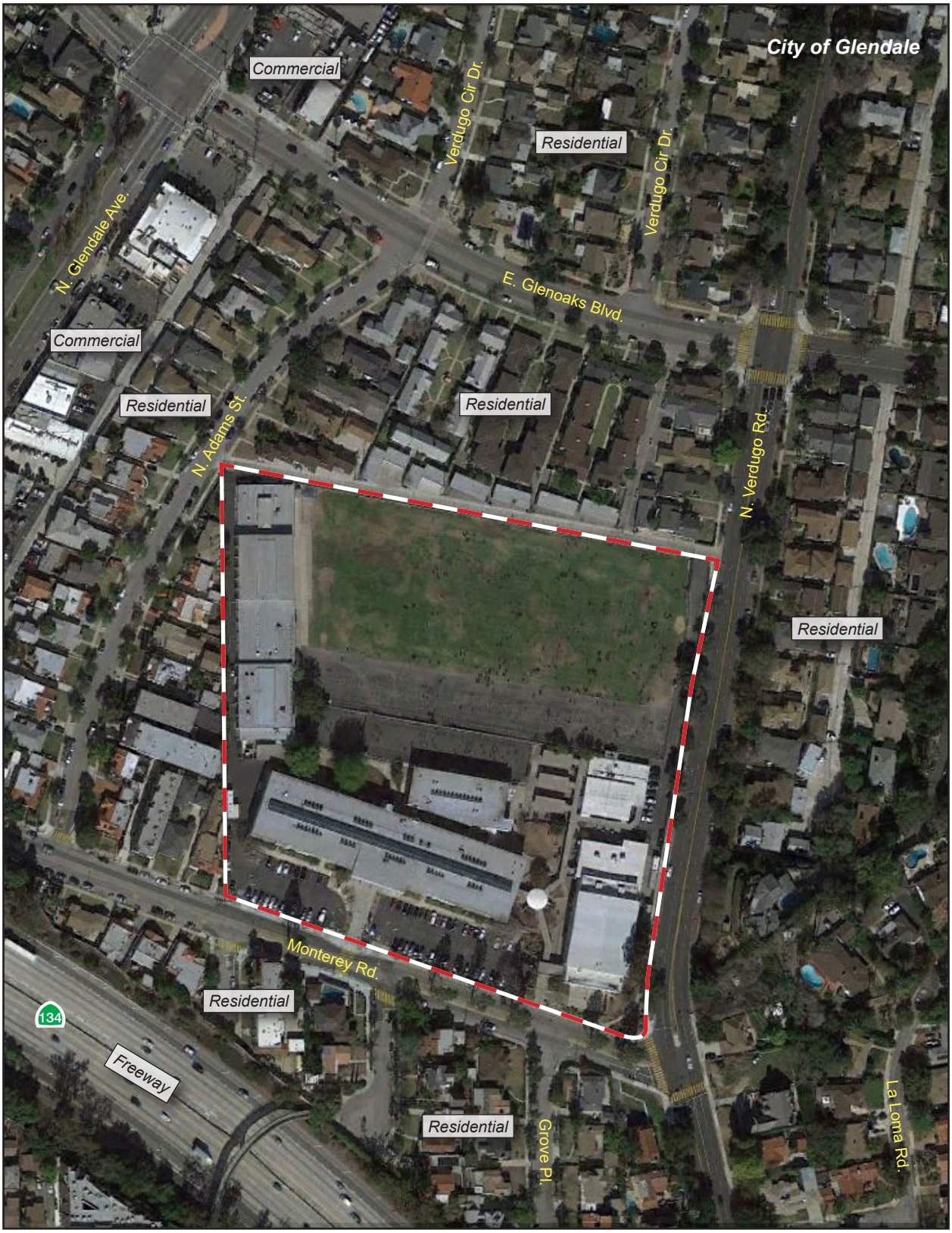
0 300
Scale (Feet)

*Source: Google Maps, 2017*

# 1. Introduction

*This page intentionally left blank.*

# Figure 2 - Aerial Photograph




Project Site

0 300
Scale (Feet)

*Source: Google Maps, 2017*

# 1. Introduction

*This page intentionally left blank.*

# Figure 3 - Site Plan

Project Site

Lighting Locations (6)

0 125
Scale (Feet)

*Source: Google Earth Pro, 2017*

# 1. Introduction

*This page intentionally left blank.*

# 2. Existing Conditions

## 2.1 STUDY AREA ROADWAY NETWORK

The study-area roadways discussed below are based on the City of Glendale General Plan Circulation Element (1998). Exhibit 2-2 of the Circulation Plan, Street Classifications and Characteristics, shows the roadways and classifications in the city. The following describes the surrounding street system based on field observations and according to the roadway functional classifications in the City of Glendale General Plan Circulation Element, shown on Figure 4, *City of Glendale Street Classification Map*.

### 2.1.1 Surrounding Street System

**State Route 134 (SR-134).** SR-134, also known as Ventura Freeway is a ten-lane east-west freeway that provides regional access to the project site via the on/off ramps at Monterrey Avenue and Glendale Avenue. SR-134 is a part of the Congestion Management Program (CMP) highway network.

**Glendale Avenue.** This north-south roadway has 6 lanes at the segment nearest to the project site. Glendale Avenue is classified as a Major Arterial in the City's General Plan Circulation Element.

**Glenoaks Boulevard.** This east-west roadway has 2 lanes at the segment nearest to the project site. In the vicinity of the site it is classified as a Minor Arterial.

**Monterey Road.** This east-west roadway is the southern boundary of the Wilson MS property, and provides the primary site access to the campus. At the segment nearest to the project site, this roadway varies from 1 to 2 lanes in each direction. Between Verdugo and Glendale Avenue it is classified as an Urban Collector.

**Verdugo Road.** This north-south roadway is the eastern boundary of Wilson MS. This roadway has 4 lanes at the segment nearest to the project site, and is classified as a Major Arterial.

**Adams Street.** This north-south roadway has 2 lanes at the segment nearest to the project site. It is classified as a Local Street.

**Verdugo Circle Drive.** This short 2-lane Local Street extends from Adams Street, and creates a loop road north of Glenoaks Boulevard that provides access to residences.

### 2.1.2 Study Area Intersections

The study area was defined based on the calculated project trip generation and distribution and in consultation with City of Glendale Transportation Engineering Division staff. The following eight intersections are analyzed in this study. All but two intersections are under the City of Glendale jurisdiction. The two intersections along

the Ventura Freeway Ramps at Monterey Road and Glendale Avenue are under Caltrans' jurisdiction. The following intersections were analyzed:

1. WB Ventura Freeway (SR-134) Ramps at Monterey Road
2. Glendale Avenue at EB Ventura Freeway (SR-134) Ramps
3. Glendale Avenue at Monterey Road
4. Glendale Avenue at Glenoaks Boulevard
5. Adams Street at Monterey Road
6. Adams Street at Glenoaks Boulevard
7. Verdugo Road at Monterey Road
8. Verdugo Road at Glenoaks Boulevard

Figure 5, *Study Area Roadway Network and Intersections,* shows the study area intersections and the number of through lanes for roadways for the study area.

### 2.1.3 Neighborhood Street Segments

Neighborhood street segment analysis has been conducted on the following roadway segments to evaluate environmental capacity:

1. Monterey Road between Glendale Avenue and Verdugo Road
2. Adams Street between Glenoaks Boulevard and Monterey Road

### 2.1.4 Study Area Parking Locations

In addition to the on-site parking lot off Monterey Road, off-site parking is available on public streets in the vicinity of the school. The parking demand along the following 26 roadway segments are analyzed in this study:

1. Briarwood Lane north of Glenoaks Boulevard
2. Glenoaks Boulevard from Briarwood Land to Sylvanoak Drive
3. Glenoaks Boulevard from Sylvanoak Drive to Glendale Avenue
4. Glenvista Drive south of Glenoaks Boulevard
5. Glenvista Drive north of Glenoaks Boulevard
6. Sylvanoak Drive south of Glenoaks Boulevard
7. Sylvanoak Drive north of Glenoaks Boulevard
8. Verdugo Road from Glendale Avenue to south edge of lot
9. Verdugo Circle Drive north of Glenoaks Boulevard
10. Glendale Avenue from Verdugo Road to Monterey Road
11. Monterey Road from Glendale Avenue to Cordova Avenue
12. Monterey Road from Verdugo Road to Glendale Avenue

13. Woodbury Road from Grove Place to La Loma Road
14. Grove Place south of Monterey Road
15. Galer Place south of Monterey Road
16. Naranja Drive south of Monterey Road
17. Adams Street from Glenoaks Boulevard to Monterey Road
18. Portola Avenue from Monterey Road to Coronado Drive
19. Glenoaks Boulevard from Coronado Drive to Glendale Avenue
20. Doran Street from Glendale Avenue to Adams Street (accessible by bridge over SR-134)
21. Adams Street north of Lexington Drive (accessible by bridge over SR-134)
22. Doran Street from Adams Street to Galer Place (accessible by bridge over SR-134)
23. Naranja Drive from Doran Street to Lexington Drive (accessible by bridge over SR-134)
24. Galer Place from Naranja Drive to Richard Place (accessible by bridge over SR-134)
25. Richard Place from Naranja Drive to Grove Place (accessible by bridge over SR-134)
26. Grove Place north of Lexington Drive (accessible by bridge over SR-134)

Figure 6, *Off-Site Parking Locations,* shows the study area parking locations evaluated in this study.

## 2.2 EXISTING OPERATIONS

Currently, the project site is used on the weekends by American Youth Soccer Organization (AYSO) from 8:00 a.m. to 6:00 p.m. on Saturdays, and 10:00 a.m. to 6:00 p.m. on Sundays. The proposed Project would not increase capacity of the existing Wilson MS field for AYSO use, rather, the proposed Project would allow for evening uses of the field. As such, the proposed Project would not change the number of vehicle trips during the Saturday mid-day peak period. Therefore, and the project would not add trips during the Saturday midday peak hours and is not further evaluated in this analysis. Parking counts were conducted on a typical Saturday to determine if existing use of the fields on weekends currently cause a shortage of parking in the vicinity of the school during the daytime, and if the parking supply can accommodate a potential increase in parking demand due to the project in the evenings on weekdays.

Turn movement volumes for weekday PM peak hour were collected at all the study area intersections. These counts were obtained on Tuesday, October 8, 2019. The turn movement volumes for the study area intersections are provided in Appendix B. Additionally, parking counts were analyzed at the school parking lots and along all off-site parking locations. Parking counts were taken in 30-minute intervals on Saturday, October 5, 2019, 8 AM to 10 PM, and on Tuesday October 8, between 5 PM to 10 PM. All counts occurred on typical weekdays while the school was in session, in the AYSO soccer fall season, and outside holidays and major events.

# 2. Existing Conditions

## 2.2.1 Existing Conditions Intersection Analysis

The weekday PM peak hour intersection operations analysis results for all study area intersections are summarized in Table 2. Intersection turn movement volumes and LOS worksheets for existing conditions are included in Appendix C.

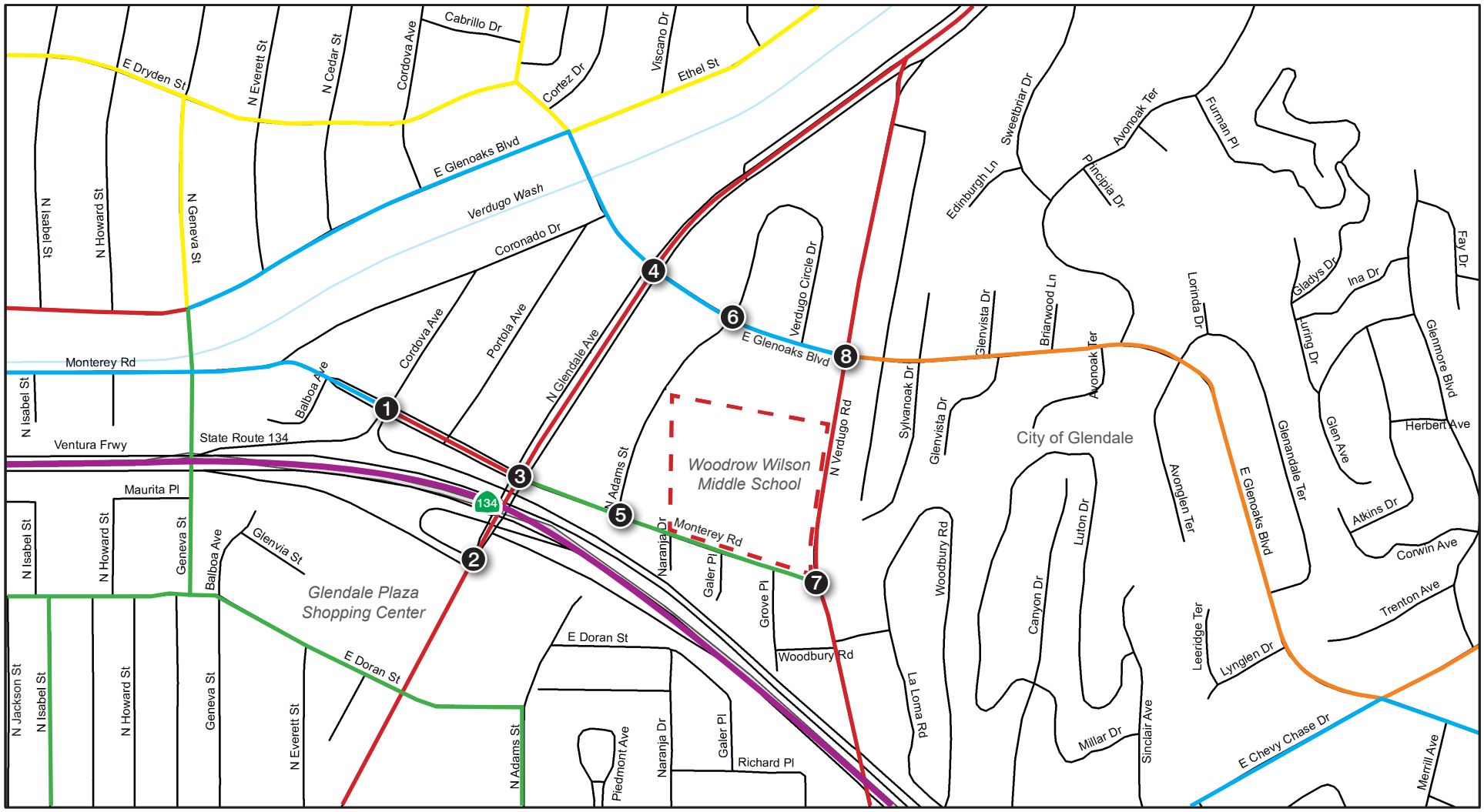
**Table 2 Existing Intersection Levels of Service, Weekday PM Peak Hour**

| Intersection | Intersection Control | Acceptable LOS | Weekday PM Peak Hour | |
|---|---|---|---|---|
| | | | ICU (V/C) or Average Delay (sec/veh) | LOS |
| 1. WB Ventura Freeway Ramps at Monterey Road | Signal | E | 0.849 | D |
| 2. Glendale Avenue at EB Ventura Freeway Ramps | Signal | E | 0.675 | B |
| 3. Glendale Avenue at Monterey Road | Signal | E | 0.876 | D |
| 4. Glendale Avenue at Glenoaks Boulevard | Signal | E | 0.757 | C |
| 5. Adams Street at Monterey Road | CCS | D | 14.28 | B |
| 6. Adams Street at Glenoaks Boulevard | CCS | D | 12.79 | B |
| 7. Verdugo Road at Monterey Road | Signal | E | 0.614 | B |
| 8. Verdugo Road at Glenoaks Boulevard | Signal | E | 0.511 | A |

Notes: CSS = Cross-Street Stop.
LOS worksheets are included in Appendix C.

For all study intersections, a minimum desired level of service is "D" during afternoon peak hours is acceptable, except at intersections along major arterials (Glendale Avenue, Verdugo Road), where a minimum desired level of service is "E" is acceptable. As shown on Table 2, all study intersections currently operate at acceptable LOS during the Weekday PM Peak hour.

# Figure 4 - City of Glendale Street Classification Map

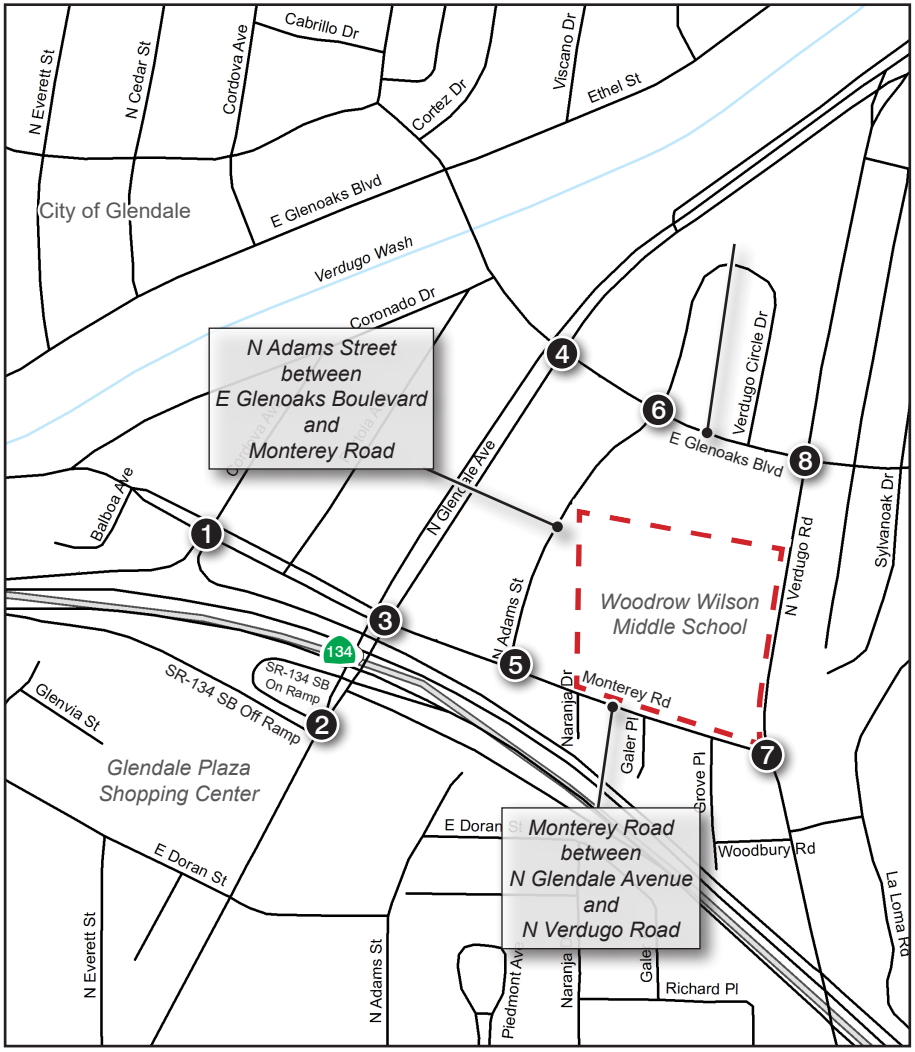


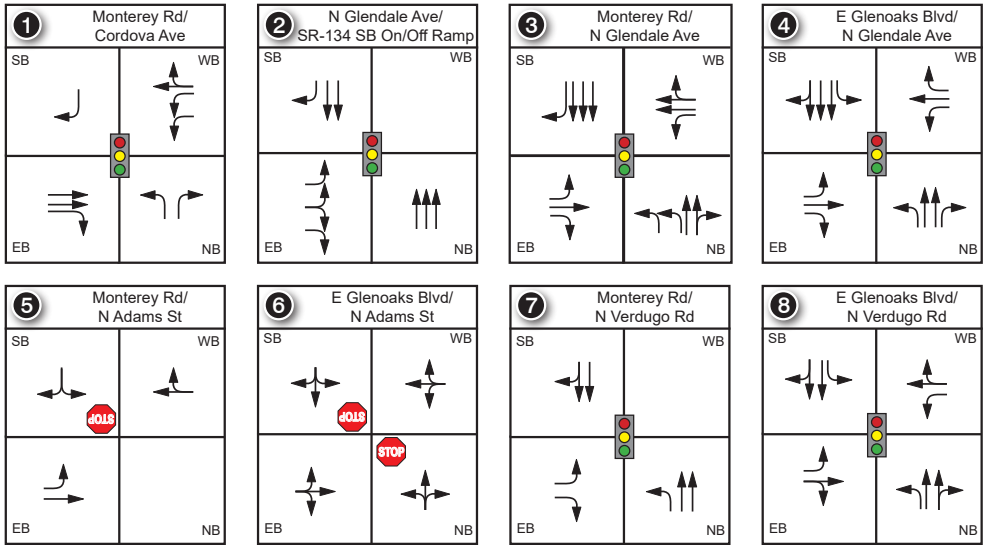

*Source: ESRI, 2017; City of Glendale Planning & Public Works Division*

# 2. Existing Conditions

*This page intentionally left blank.*

# Figure 5 - Study Area Roadway Network and Intersections




Project Boundary

Study Intersections (8)

One-Way Stop Intersection

Traffic Signal

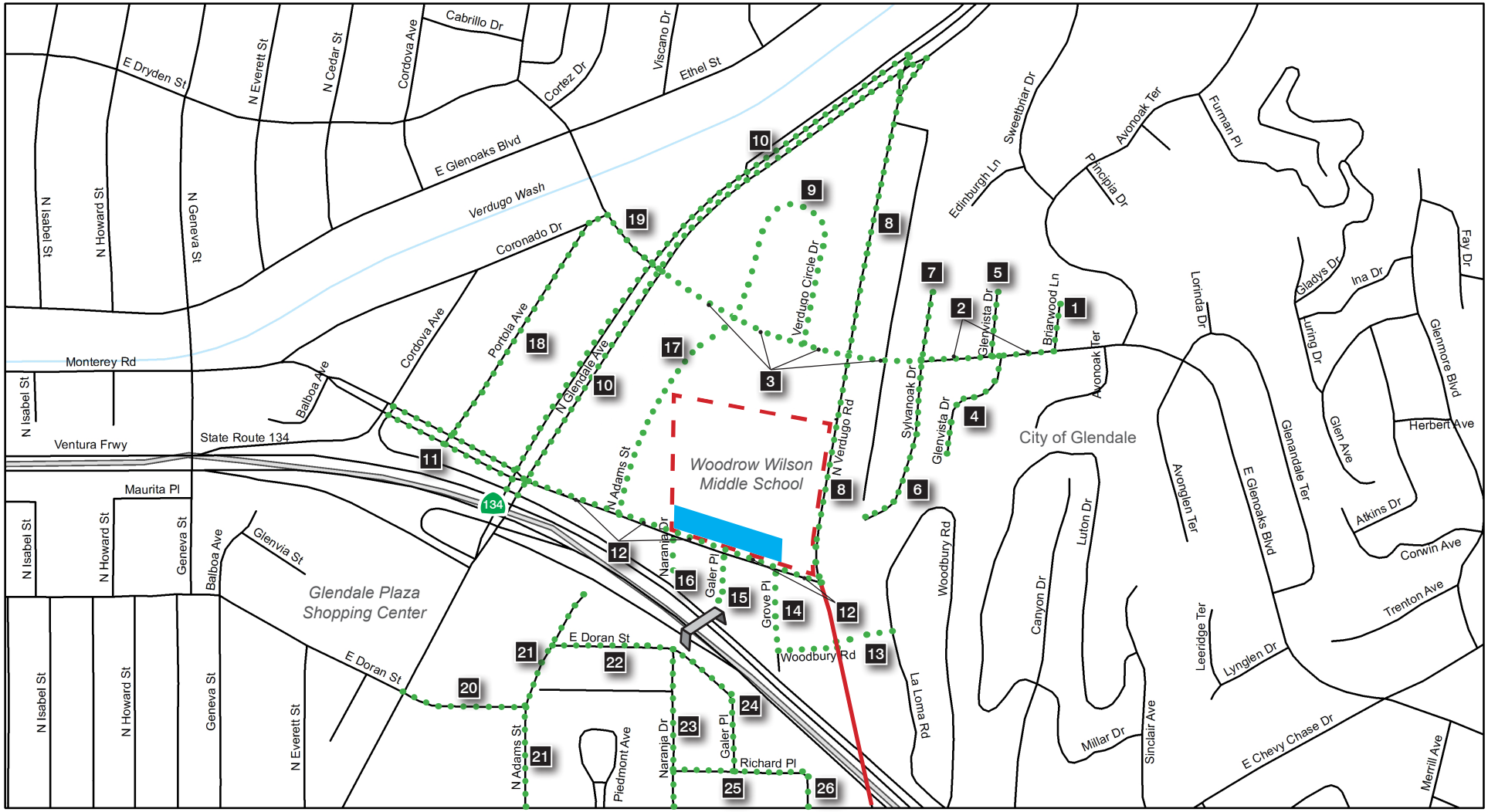
0 800
Scale (Feet)

Source: ESRI, 2017

# 2. Existing Conditions

*This page intentionally left blank.*

# Figure 6 - Off-Site Parking Locations




Source: ESRI, 2017

# 2. Existing Conditions

*This page intentionally left blank.*

### 2.2.2 Neighborhood Street Segment Analysis

A neighborhood street segment analysis for existing conditions along two study area roadways is presented in Table 3. The daily volumes were calculated based on the intersection PM peak hour turn movement volumes using a peak to daily factor of 10. As shown in Table 3, all study segments operate with volumes well below their daily capacity, with a corresponding LOS A and B, which are acceptable.

**Table 3 Existing Street Segment Volumes**

| Street Segment | Functional Classification | Street Layout | Environmental Capacity (vehicles/day)[1] | Day | ADT | V/C | LOS |
|---|---|---|---|---|---|---|---|
| Monterey Road (Glendale Av to Verdugo Rd) | Urban Collector | 2U | 10,000 | Weekday | 6,020 | 0.602 | B |
| Adams Street (Glenoaks Blvd to Monterey Rd) | Local | 2D | 2,500 | Weekday | 560 | 0.224 | A |

[1] 2U= 2-lane undivided road, 2D= 2-lane divided road.
[2] Functional Classifications and Environmental Capacity daily volumes obtained from the City of Glendale General Plan Circulation Element.

### 2.2.3 Existing Internal Circulation

Wilson Middle School has two parking lots along Monterey Road. The two parking lots are separated by a walkway that leads to a crosswalk that crosses Monterey Road. Each parking lot has two entrances/exits that allow two-way flow. School staff controls onsite circulation with traffic cones, usually restricting the parking lots to one-way circulation (i.e., enter near the crosswalk, exit on the opposite end), which facilitates onsite circulation, especially during peak periods.

### 2.2.4 Existing Parking Options Serving the Project Site

Parking supply was determined by reviewing the linear feet of curb at each road assuming 25 feet per vehicle. Driveways and areas where parking is prohibited such as red curbs were not included as parking supply. Parking counts were taken on weekday evenings from 5 to 10 PM in 30-minute intervals and between 8 AM to 10 PM on Saturdays. The parking counts were taken at the school parking lots and along both sides of the previously mentioned off-site parking locations, as shown in Figure 6. The parking survey results are included in Appendix D.

Table 4 shows the parking occupancy on weekday and on Saturdays at the hours of lowest occupancy and highest occupancy. On weekdays, the period in which the highest overall occupancy was observed started at 10 PM, and the lowest occupancy period started at 5PM. On a Saturday, the period in which the highest overall occupancy was observed started at 8:30 AM, and the lowest occupancy period started at 6:00 PM. As shown on Table 4 the overall parking occupancy ranges from 59 percent to 75 percent. The school lot has plenty of parking available on weekdays after 5PM and on weekends. In addition, there is unused parking available in several public streets in the vicinity of the school.

# 2. Existing Conditions

**Table 4 Existing Parking Occupancy**

| | Parking Locations | Weekday | | Saturday | |
|---|---|---|---|---|---|
| | | Highest Occupancy (10PM) | Lowest Occupancy (5PM) | Highest Occupancy (6 PM) | Lowest Occupancy (12:30 PM) |
| 1 | Briarwood Lane north of Glenoaks Boulevard | 36% | 45% | 36% | 64% |
| 2 | Glenoaks Boulevard from Briarwood Land to Sylvanoak Drive | 20% | 7% | 50% | 20% |
| 3 | Glenoaks Boulevard from Sylvanoak Drive to Glendale Avenue | 84% | 57% | 93% | 80% |
| 4 | Glenvista Drive south of Glenoaks Boulevard | 13% | 13% | 17% | 17% |
| 5 | Glenvista Drive north of Glenoaks Boulevard | 43% | 21% | 64% | 57% |
| 6 | Sylvanoak Drive south of Glenoaks Boulevard | 35% | 30% | 39% | 39% |
| 7 | Sylvanoak Drive north of Glenoaks Boulevard | 53% | 32% | 42% | 47% |
| 8 | Verdugo Road from Glendale Avenue to south edge of lot | 94% | 66% | 99% | 87% |
| 9 | Verdugo Circle Drive north of Glenoaks Boulevard | 74% | 62% | 76% | 58% |
| 10 | Glendale Avenue from Verdugo Road to Monterey Road | 43% | 37% | 51% | 46% |
| 11 | Monterey Road from Glendale Avenue to Cordova Avenue | 40% | 20% | 30% | 40% |
| 12 | Monterey Road from Verdugo Road to Glendale Avenue | 40% | 40% | 44% | 40% |
| 13 | Woodbury Road from Grove Place to Woodbury Road | 72% | 61% | 72% | 94% |
| 14 | Grove Place south of Monterey Road | 50% | 38% | 50% | 38% |
| 15 | Galer Place south of Monterey Road | 53% | 35% | 18% | 35% |
| 16 | Naranja Drive south of Monterey Road | 71% | 14% | 71% | 29% |
| 17 | Adams Street from Glenoaks Boulevard to Monterey Road | 97% | 71% | 97% | 92% |
| 18 | Portola Avenue from Monterey Road to Cordova Avenue | 100% | 69% | 83% | 87% |
| 19 | Glenoaks Boulevard from Cordova Avenue to Glendale Avenue | 100% | 67% | 83% | 83% |
| 20 | Doran Street from Glendale Avenue to Adams Street | 80% | 77% | 80% | 83% |
| 21 | Adams Street north of Lexington Drive | 88% | 82% | 89% | 92% |
| 22 | Doran Street from Adams Street to Galer Place | 97% | 61% | 76% | 74% |
| 23 | Naranja Drive from Doran Street to Lexington Drive | 96% | 78% | 98% | 76% |
| 24 | Galer Place from Naranja Drive to Richard Place | 34% | 13% | 21% | 23% |
| 25 | Richard Place from Naranja Drive to Grove Place | 87% | 55% | 74% | 87% |
| 26 | Grove Place north of Lexington Drive | 83% | 58% | 63% | 92% |
| 27 | School Campus Lot | 4% | 47% | 42% | 7% |
| Overall Occupancy | | 71% | 71% | 59% | 75% |

# 3. Multipurpose Field Traffic Analysis

An analysis of potential traffic impacts are provided for these scenarios:

- Existing With Project
- Opening Year Without project
- Opening Year With project

The following presents the trip generation and trip distribution from the project, and presents the results of the impact analysis to study intersections and roadway segments.

## 3.1 TRIP GENERATION

The proposed Project would not expand the school's enrollment capacity, but is expected to increase traffic and parking demand around the project site due to new public use and city programming on weekday evenings. Currently, the project site is used on the weekends by AYSO from 8:00 a.m. to 6:00 p.m. on Saturdays, and 10:00 a.m. to 6:00 p.m. on Sundays. The proposed Project would not increase capacity of the existing Wilson MS field for AYSO use, rather, the proposed Project would allow for evening uses of the field. As such, the proposed Project would not change the number of vehicle trips during the Saturday mid-day peak period. Therefore, and the proposed Project would not add trips during the Saturday midday peak hours and it is not further evaluated in this analysis. The trip generation rates for soccer fields during the weekday AM and PM peak hours were obtained from the latest version of the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition. The ITE Trip Generation Manual is the most widely recognized resource for estimating the number of trips generated by a land use or project type. The manual provides peak hour and daily rates on weekdays under land use code 488, Soccer Complex. Table 5 summarizes the trip generation rates from the ITE manual and presents both the average rates and the high end of the statistical sample for each period.

**Table 5 ITE Trip Generation Rates for Soccer Complex**

| | Weekday | | | | | | |
|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | | PM Peak Hour | | |
| Rate Type | Daily | In | Out | Total | In | Out | Total |
| Average Rate | 71.33 | 0.60 | 0.39 | 0.99 | 10.84 | 5.59 | 16.43 |
| Highest Rate | 90.81 | 1.07 | 0.81 | 1.88 | 16.67 | 8.20 | 24.88 |

Notes: Trip Generation rates per field.
Trip generation rates are based on the ITE Trip Generation Manual (10th edition) for the Soccer Complex Land Use (ITE Code 488).

To calculate the expected project-related trip generation, the rates shown above are multiplied by the anticipated number of fields. The proposed Project includes development of two fields, and estimated project-related trips are shown in Table 6. Using the average rates, the project would generate 2 trips in the AM peak hour and33

# 3. Multipurpose Field Traffic Analysis

trips in the PM peak hour. Using the highest rates, the project would generate 4 trips in the AM peak hour and 49 trips in the PM peak hour. As shown in Table 7, the project would generate a negligible number of trips in the weekday AM peak hour. In addition, public use of the fields would not be allowed on weekdays in the AM peak hour. Therefore, the AM peak hour traffic will not be further evaluated in this analysis.

**Table 6 ITE Trip Generation Estimates for Soccer Complex**

| | Weekday | | | | | | |
|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | | PM Peak Hour | | |
| Rate Type | Daily | In | Out | Total | In | Out | Total |
| Average Rate | 143 | 1 | 1 | 2 | 22 | 11 | 33 |
| Highest Rate | 182 | 2 | 2 | 4 | 33 | 16 | 49 |

Trip generation rates for peak hour of adjacent streets, based on Soccer Complex Land Use (ITE Code 488) per the ITE Trip Generation Manual, 10th edition.

The sample size to support these rates is relatively small—less than 10 samples. Therefore, PlaceWorks also reviewed the proposed use of the fields to calculate vehicular trips based on estimates for players, spectators, and supporting personnel (coaches, referees, etc.). PlaceWorks consulted with the City of Glendale Parks and Recreation Department to obtain anticipated usage estimates. To verify the trip generation based on ITE trip rates, trip generation was also calculated based on usage estimates assuming a number of players, coaches, and referees at the soccer fields for adult soccer and youth soccer. The estimates were provided for both adult and youth because of different ridership characteristics and because they have different team sizes. Table 7 shows the trip generation rates per player/coach/referee, and Table 8 shows the estimated project trip generation for the proposed 2 fields based on usage estimates. It should be noted that under the usage estimate methodology, a 20 percent trip reduction was applied to account for carpool and walk/bike/transit modes. The project trip generation based on usage estimates is highest for youth games. As shown on Table 8, the highest trip generation would occur at 2 youth games occurring concurrently. This would result in 40 peak hour trips in the weekday PM peak hour.

**Table 7 Trip Generation Rates Based on Usage Estimates**

| | | Trip Generation-PM Peak Hour | | |
|---|---|---|---|---|
| Land Use | Variable Type | In | Out | Total |
| **Youth Game** | **Youth Players** | 1 | 0.5 | 1.5 |
| | **Coach/Referee** | 1 | 0 | 1 |
| **Adult Game** | **Players** | 1 | 0 | 1 |
| | **Coach/Referee** | 1 | 0 | 1 |

[1] Assumes 50% of parents drop off children and leave the soccer fields.
[2] Assumes all adults driving own cars and parking.

**Table 8 Project Trip Generation Based on Usage Estimates**

| Land Use | Variable Type | Players/Referee/Coaches | Fields | Trip Generation-PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | | | | In | Out | Total |
| Youth Game | Youth Players | 16 | 2 | 26 | 13 | 39 |
| | Referee | 1 | 1 | 1 | 0 | 1 |
| | **Total** | **17** | **3** | **27** | **13** | **40** |
| Adult Game | Players | 22 | 2 | 35 | 0 | 35 |
| | Referees | 3 | 1 | 2 | 0 | 2 |
| | **Total** | **25** | **3** | **37** | **0** | **37** |

[1] For Youth Games it is assumed that each team has 8 players. Each coach is also a parent that has a child in the team.
[2] For Adult Games it is assumed that each team has 11 players.
[3] Referees are needed only in one field, as one of the fields is for practices only.

In conclusion, the ITE Trip Rates using the high range provide a reasonable and technically defensible estimate to calculate trip generation for the project. Therefore, **for the purpose of this analysis, the project would generate 4 trips in the AM peak hour and 49 trips in the PM peak hour.**

## 3.2 TRIP DISTRIBUTION AND ASSIGNMENT

Traffic distribution determines the directional orientation of project traffic. Trip distribution maps are presented in Figures 7 and 8 for inbound and outbound traffic, respectively. Trip distribution patterns are influenced by the location of the project, type and intensity of proposed land uses, the circulation network, and location of employment and commercial centers. Traffic assignment is the determination of specific trip routes given the previously developed traffic distribution pattern. The project's trip distribution is based on a review of the study area arterial roadways and freeways, a review of land uses in the area, the traffic patterns, locations of residences, and traffic counts taken in the project area.

The trip distribution percentages are applied to the project trip generation to determine the traffic volumes forecast to be added at each intersection (i.e., trip assignment).

## 3.3 EXISTING WITH PROJECT TRAFFIC CONDITIONS

### 3.3.1 Intersection Level of Service

To assess Existing Year With Project traffic conditions, project traffic is added to the existing traffic levels. LOS for these conditions is summarized in Tables 9.

# 3. Multipurpose Field Traffic Analysis

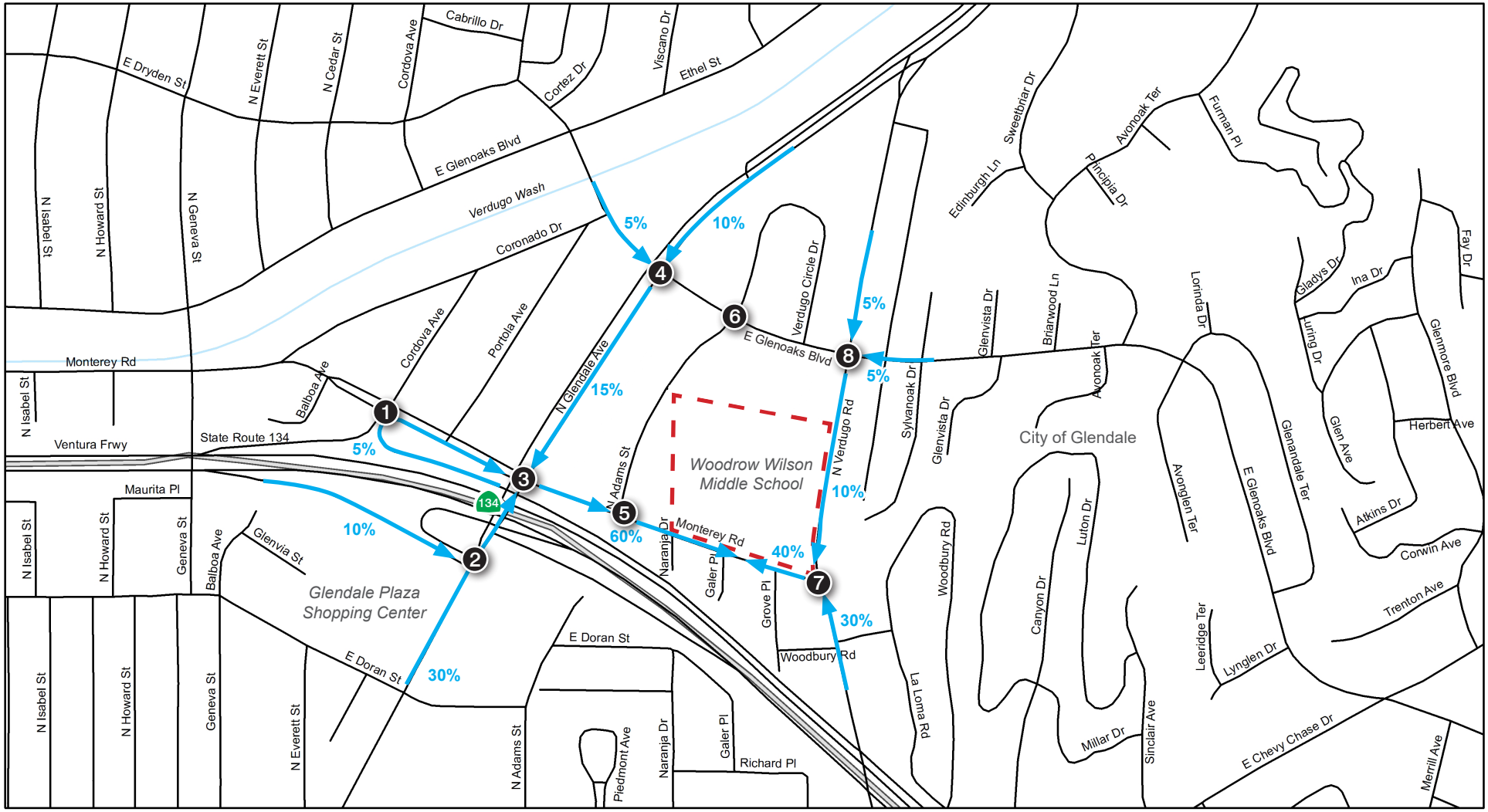
**Table 9 Existing With Project Intersection LOS, Weekday PM Peak Hour**

| Intersection | Traffic Control | Without Project | | With Project | | Change | Significant? |
|---|---|---|---|---|---|---|---|
| | | ICU / Delay | LOS | ICU / Delay | LOS | | |
| 1. WB Ventura Freeway Ramps at Monterey Road | Signal | 0.849 | D | 0.850 | D | 0.001 | No |
| 2. Glendale Avenue at EB Ventura Freeway Ramps | Signal | 0.675 | B | 0.678 | B | 0.003 | No |
| 3. Glendale Avenue at Monterey Road | Signal | 0.876 | D | 0.882 | D | 0.006 | No |
| 4. Glendale Avenue at Glenoaks Boulevard | Signal | 0.757 | C | 0.758 | C | 0.001 | No |
| 5. Adams Street at Monterey Road | CCS | 14.28 | B | 14.69 | B | 0.410 | No |
| 6. Adams Street at Glenoaks Boulevard | CCS | 12.79 | B | 12.79 | B | 0.000 | No |
| 7. Verdugo Road at Monterey Road | Signal | 0.614 | B | 0.625 | B | 0.011 | No |
| 8. Verdugo Road at Glenoaks Boulevard | Signal | 0.511 | A | 0.513 | A | 0.002 | No |

Notes: CSS = Cross-Street Stop
**Bold** show intersections operating at unacceptable LOS.
Intersection volumes, Delay and LOS worksheets are included in Appendix E.

As shown in Tables 9, all study intersections operate at acceptable LOS during the Weekday PM Peak hour for the Existing With Project traffic conditions.

# Figure 7 - Project Trip Distribution (Inbound)



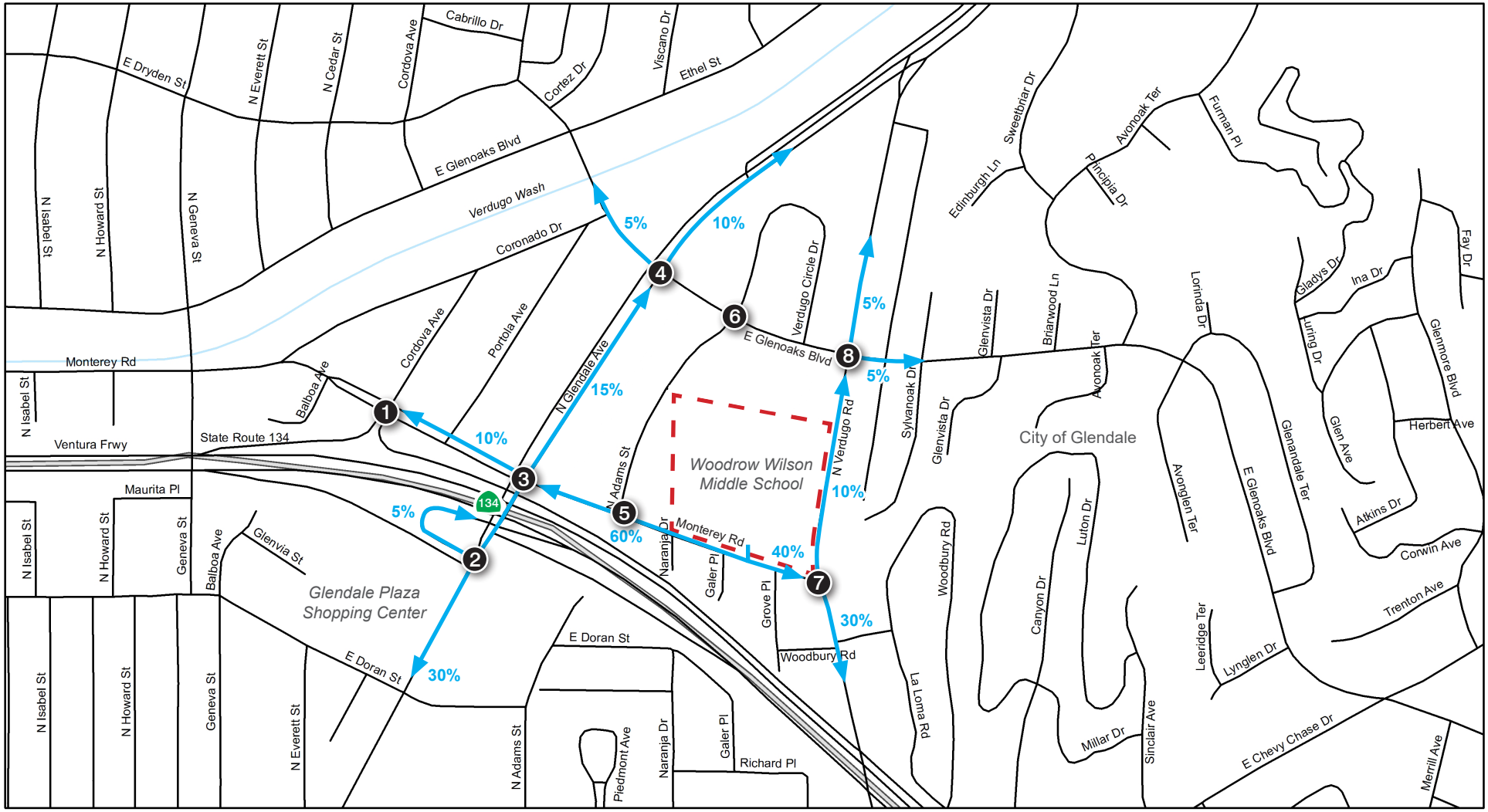

Project Boundary | Route to Project | XX% % from Project | # Study Intersections (8) | 0 800 Scale (Feet)

Source: ESRI, 2017

# 3. Multipurpose Field Traffic Analysis

*This page intentionally left blank.*

# Figure 8 - Project Trip Distribution (Outbound)




Source: ESRI, 2017

# 3. Multipurpose Field Traffic Analysis

*This page intentionally left blank.*

### 3.3.2 Neighborhood Street Segment Analysis

To assess Existing Year With Project traffic conditions, project traffic is added to the existing traffic levels along two project study area roadways. LOS for these conditions are summarized in Table 10. As shown in Table 10, all study segments operate with volumes well below their daily capacity, with a corresponding LOS A and B, which is acceptable.

**Table 10 Existing With Project Street Segment Volumes**

| Street Segment | Functional Classification | Street Layout | Environmental Capacity (vehicles/day)[1] | Day | Without Project | | | With Project | | | Significant? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ADT | V/C | LOS | ADT | V/C | LOS | |
| Monterey Road (Glendale Av to Verdugo Rd) | Urban Collector | 2U | 10,000 | Weekday | 6,020 | 0.602 | B | 6,410 | 0.641 | B | No |
| Adams Street (Glenoaks Blvd to Monterey Rd) | Local | 2D | 2,500 | Weekday | 560 | 0.224 | A | 570 | 0.228 | A | No |

[1] 2U= 2-lane undivided road, 2D= 2-lane divided road.
[2] Functional Classifications and Environmental Capacity daily volumes obtained from the City of Glendale General Plan Circulation Element.

## 3.4 FUTURE TRAFFIC CONDITIONS

The Los Angeles County Guidelines for CMP Transportation Impact Analysis includes ambient growth rates for the City of Glendale in 5-year increments. To estimate future traffic conditions, opening year scenarios are based on the year 2021 traffic growth factor of 1.027 percent over a 5-year period. To conservatively estimate future year buildout conditions, this analysis used a total ambient growth of 2 percent over the 2-year period from 2019 to 2021.

Cumulative traffic is the traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by the City. Sixty-five projects were provided for consideration to be included in the traffic forecasts by the City of Glendale Planning Department. The list of cumulative projects screened to have a potential to affect traffic volumes in the vicinity of the school are included in Appendix F. For these cumulative projects, trip generation values were extracted from the ITE Trip Generation Manual. Based on a review of the circulation system, the trip generation, location, and land use type, the cumulative projects shown on Figure 9, *Cumulative Developments Location Map,* would have the potential for directly adding measurable traffic to the study area street system. The cumulative development projects assumed in this traffic analysis are estimated to generate 41,183 average daily trips (ADT) on weekdays, 1,670 trips during the weekday AM peak hour, and 1,586 trips during the weekday PM peak hour.

This traffic impact analysis assumes that all of the cumulative projects are developed and operational at the buildout of the proposed Project. This is the most conservative, worst-case approach, since it is possible that not all of these projects will be operational when the proposed Project begins operations. In addition, impacts for these cumulative projects would likely be subject to mitigation measures, which could reduce potential impacts. Under this analysis, however, those future mitigation measures are not considered.

# 3. Multipurpose Field Traffic Analysis

## 3.4.1 Opening Year Without Project Traffic Conditions

### Intersection Level of Service

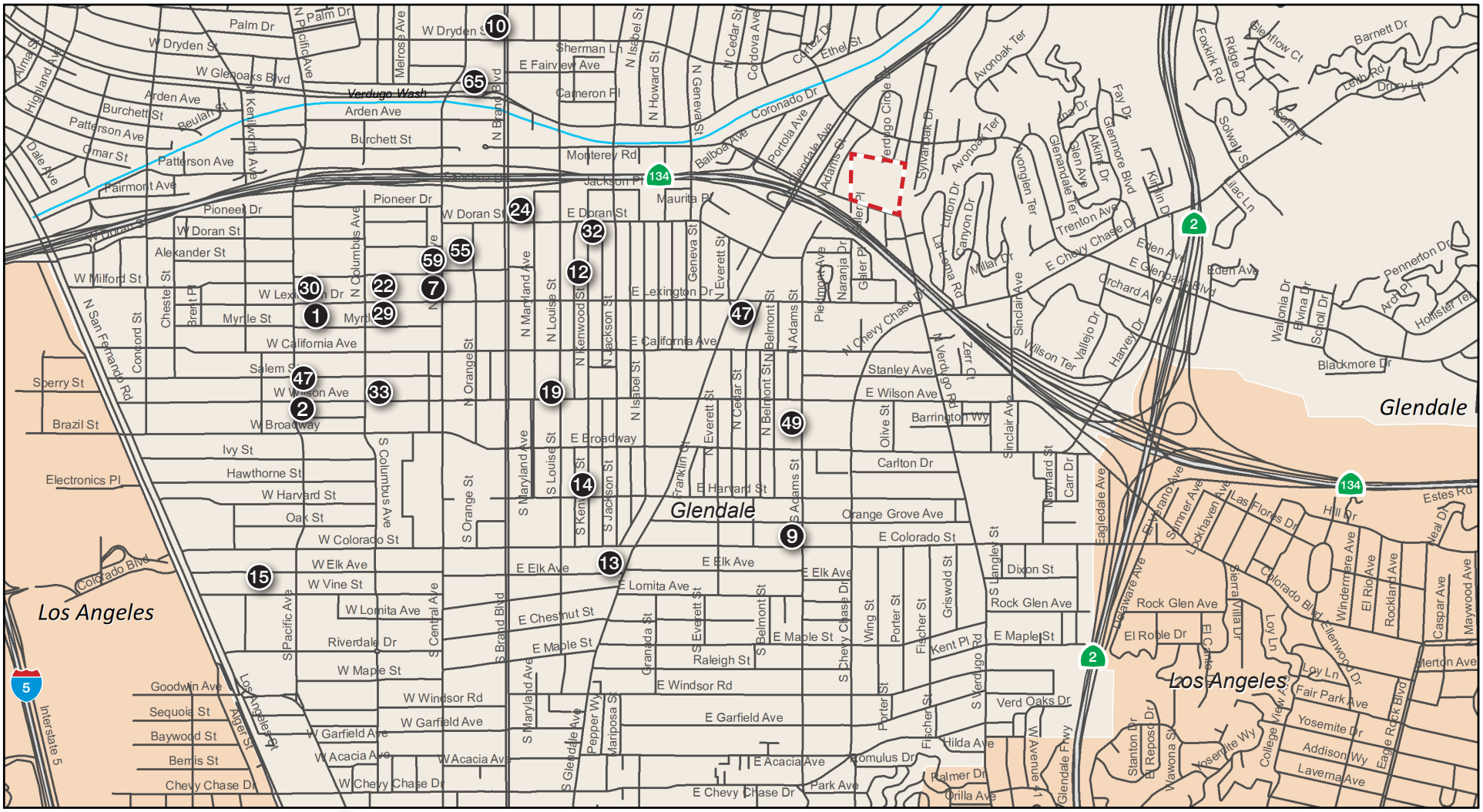
To assess Opening Year No Project traffic conditions, existing traffic is combined with ambient growth and cumulative traffic. The intersection operations for the No Project traffic conditions are shown in Tables 11. Intersection volumes, Delay, and LOS worksheets are included in Appendix G. All intersections are forecast to operate at acceptable LOS under Opening Year Without Project conditions on Weekday PM.

**Table 11 Opening Year Without Project Intersection LOS, Weekday PM Peak Hour**

| Intersection | Intersection Control | Acceptable LOS | Weekday PM Peak Hour | |
|---|---|---|---|---|
| | | | ICU (V/C) or Average Delay (sec/veh) | LOS |
| 1. WB Ventura Freeway Ramps at Monterey Road | Signal | E | 0.884 | D |
| 2. Glendale Avenue at EB Ventura Freeway Ramps | Signal | E | 0.689 | B |
| 3. Glendale Avenue at Monterey Road | Signal | E | 0.902 | E |
| 4. Glendale Avenue at Glenoaks Boulevard | Signal | E | 0.775 | C |
| 5. Adams Street at Monterey Road | CCS | D | 14.71 | B |
| 6. Adams Street at Glenoaks Boulevard | CCS | D | 12.93 | B |
| 7. Verdugo Road at Monterey Road | Signal | E | 0.615 | B |
| 8. Verdugo Road at Glenoaks Boulevard | Signal | E | 0.516 | A |

Notes: CSS = Cross-Street Stop.
**Bold** show intersections operating at unacceptable LOS.
Intersection volumes, Delay and LOS worksheets are included in Appendix G.

# Figure 9 - Cumulative Projects Map




Source: ESRI, 2017

# 3. Multipurpose Field Traffic Analysis

*This page intentionally left blank.*

### Neighborhood Street Segment Analysis

To assess Opening Year Without Project traffic conditions, cumulative project traffic and ambient growth is added onto the existing traffic levels along two project study area roadways. LOS for these conditions are summarized in Table 12. As shown in Table 12, all study segments operate with volumes well below their daily capacity, with a corresponding LOS A and B, which is acceptable.

**Table 12 Opening Year Without Project Street Segment Analysis**

| Street Segment | Functional Classification | Street Layout | Environmental Capacity (vehicles/day)[1] | ADT | V/C | LOS |
|---|---|---|---|---|---|---|
| Monterey Road (Glendale Av to Verdugo Rd) | Urban Collector | 2U | 10,000 | 6,200 | 0.620 | B |
| Adams Street (Glenoaks Blvd to Monterey Rd) | Local | 2D | 2,500 | 570 | 0.228 | A |

[1] 2U= 2-lane undivided road, 2D= 2-lane divided road.
[2] Functional Classifications and Environmental Capacity daily volumes obtained from the City of Glendale General Plan Circulation Element.

## 3.4.2 Opening Year With Project Traffic Conditions

To assess Opening Year With Project traffic conditions, existing traffic is combined with ambient growth, cumulative, and project traffic.

### Intersection Level of Service

The intersection operations for the With Project traffic conditions are shown in Tables 13. Under With Project conditions, all intersections would operate at acceptable LOS.

**Table 13 Opening Year With Project Intersection LOS, Weekday PM Peak Hour**

| Intersection | Traffic Control | Without Project | | With Project | | Change | Significant? |
|---|---|---|---|---|---|---|---|
| | | ICU / Delay | LOS | ICU / Delay | LOS | | |
| 1. WB Ventura Freeway Ramps at Monterey Road | Signal | 0.884 | D | 0.886 | D | 0.002 | No |
| 2. Glendale Avenue at EB Ventura Freeway Ramps | Signal | 0.689 | B | 0.692 | B | 0.003 | No |
| 3. Glendale Avenue at Monterey Road | Signal | 0.902 | E | 0.909 | E | 0.007 | No |
| 4. Glendale Avenue at Glenoaks Boulevard | Signal | 0.775 | C | 0.776 | C | 0.001 | No |
| 5. Adams Street at Monterey Road | CCS | 14.71 | B | 15.13 | C | 0.42 | No |
| 6. Adams Street at Glenoaks Boulevard | CCS | 12.93 | B | 12.93 | B | 0 | No |
| 7. Verdugo Road at Monterey Road | Signal | 0.615 | B | 0.625 | B | 0.01 | No |
| 8. Verdugo Road at Glenoaks Boulevard | Signal | 0.516 | A | 0.518 | A | 0.002 | No |

Notes: CSS = Cross-Street Stop
**Bold** show intersections operating at unacceptable LOS.
Intersection volumes, Delay and LOS worksheets are included in Appendix E.

# 3. Multipurpose Field Traffic Analysis

In summary, under the proposed Project, traffic related to stadium events would not cause any intersections to deteriorate to an unacceptable LOS during the Weekday PM peak hour.

## Neighborhood Street Segment Analysis

To assess Opening Year With Project traffic conditions, cumulative project traffic, ambient growth, and project trip generation is added to the existing traffic levels along two project study area roadways. LOS for these conditions are summarized in Table 14. As shown, with the addition of project traffic there would be a minimal increase in the V/C ratio for each study segment. All study segments would operate with volumes well below their daily capacity with a corresponding LOS A and B, which is acceptable.

**Table 14 Opening Year With Project Street Segment Volumes**

| Street Segment | Functional Classification | Street Layout | Environmental Capacity (vehicles/day)[1] | Day | Without Project | | | With Project | | | Significant? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ADT | V/C | LOS | ADT | V/C | LOS | |
| Monterey Road (Glendale Av to Verdugo Rd) | Urban Collector | 2U | 10,000 | Weekday | 6,200 | 0.620 | B | 6,410 | 0.641 | B | No |
| Adams Street (Glenoaks Blvd to Monterey Rd) | Local | 2D | 2,500 | Weekday | 570 | 0.228 | A | 570 | 0.228 | A | No |

[1] 2U= 2-lane undivided road, 2D= 2-lane divided road.
[2] Functional Classifications and Environmental Capacity daily volumes obtained from the City of Glendale General Plan Circulation Element.

# 4. Nonmotorized Travel

All roads in the vicinity of the school have paved sidewalks on both sides of the street. In addition, crosswalks are painted on all major intersections in the study area such as intersections along Glendale Avenue and Verdugo Road. Signalized intersections include actuated pedestrian signal heads. There are no market bicycle lanes in the study area. However, the existing sidewalk and crosswalks would provide adequate pedestrian travel in the area for accessing the site on foot or parking on public streets and walking to the school.

# 4. Nonmotorized Travel

*This page intentionally left blank.*

# 5. Parking Analysis

## 5.1 PARKING GENERATION

Parking demand for the proposed Project is based on ITE's Parking Generation Manual 4th Edition for a "soccer complex" (ITE land use code 488. According to ITE's Parking Manual, the peak parking rate per soccer complex field during the weekday is 38.3.

To calculate the expected project-related parking demand, the rates shown above are multiplied by the anticipated number of fields, which is two. The peak parking demand for the proposed two fields would be 77 during the weekday. As discussed previously, the project site is currently used on the weekends by AYSO from 8:00 a.m. to 6:00 p.m. on Saturdays, and 10:00 a.m. to 6:00 p.m. on Sundays. The proposed Project would not increase capacity of the existing Wilson MS field for AYSO use, rather, the proposed Project would allow for evening uses of the field. As such, the proposed Project would not change parking demand during the Saturday mid-day peak period and it is not further evaluated in this analysis.

## 5.2 PROJECT-RELATED PARKING IMPACTS

The proposed Project will increase parking demand around the project vicinity during use of the multipurpose field for non-school use on weekdays after 5PM. There would be no increase in parking demand with the project during the daytime on weekdays and weekends, as the fields and courts are already in use during those times. There are parking spots available at the school parking lot off Monterey Road and off-site along the public streets. The highest increase in parking demand with the project would occur on weekday evenings. Table 15 shows the anticipated parking demand during the weekday PM peak hour. Parking counts were conducted along the roadways mentioned in Section 2.2.4.

**Table 15 Parking Demand in Terms of Available Parking**

| | Weekday PM Peak Hour |
|---|---|
| Parking Demand Estimate | 77 |
| Available On-site Parking | 66 |
| Available Off-site Parking | 308 |
| **Total Available Parking** | **374** |
| **Available minus Demand** | **297** |

Table 15 presents a worst-case scenario for a weekday, where the peak parking demand for the project would coincide with the least amount of parking supply that was observed at any time during the field surveys at the school lot and along public streets. As shown in Table 15, on weekdays there is expected to be approximately 66 available spaces at the school lot and an additional 308 curbside spaces on public streets. The available supply of 374 spaces in the study area will be able to absorb the anticipated parking demand of 77 spaces.

# 5. Parking Analysis

Therefore, the parking demand from the project can be absorbed by the available parking supply at the school lot and on public streets and will not cause an impact to the area from a parking standpoint.

# 6. Conclusion

## 6.1 TRAFFIC IMPACTS

The City's General Plan Circulation Element has LOS policies to maintain acceptable operations during weekday peak hours. On all analyzed study area intersection and study area roadway segments, the proposed Project traffic would not degrade the operation of the circulation system on weekdays during the weekday PM. The City's LOS policies try to maintain the continuous performance of the circulation system and to work toward the mobility goals in the general plan. The level of congestion that is anticipated to occur prior to a full-capacity event at the proposed field would not affect the typical weekday commuter peak hours. Opening Year With Project traffic conditions will operate well within the designed capacity for all analyzed study area intersection and study area roadway segments. The proposed Project will not degrade existing traffic conditions, and is therefore impacts are considered less than significant.

## 6.2 PARKING IMPACTS

The proposed Project will increase parking demand around the project vicinity during use of the multipurpose field for non-school use on weekdays after 5 PM. No increase in parking demand would occur during the day on weekdays and weekends with the project. There are parking spots available at the school parking lot off Monterey Road and off-site along the public streets. On weekdays, the available supply of 374 spaces in the study area will be able to absorb the anticipated parking demand of 77 spaces. The parking demand from the project can be absorbed by the available parking supply at the school lot and on public streets, and impacts would be less than significant.

# 6. Conclusion

*This page intentionally left blank.*

# 7. References

California Department of Transportation. 2014. *California Manual of Uniform Traffic Control Devices*.

City of Glendale. General Plan Circulation Element.

Los Angeles County Metropolitan Transportation Authority. 2010 Congestion Management Program for Los Angeles County.

Institute of Transportation Engineers. 2010. *Parking Generation*. 4th edition.

Institute of Transportation Engineers. 2017. *Trip Generation*. 10th edition.

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

# 7. References

*This page intentionally left blank.*

# Appendix A. Memorandum of Understanding

# Appendices

*This page intentionally left blank.*

## Fernando Sotelo

**From:** Casanova, Pastor <PCasanova@Glendaleca.gov>
**Sent:** Monday, November 18, 2019 12:05 PM
**To:** Vierheilig, Peter; Fernando Sotelo
**Cc:** Julian Capata; Alexander Kessel
**Subject:** RE: Wilson Traffic Study

Peter / Fernando,

As indicated by Fernando, there is no change in the methodology. They will be updating traffic counts, using latest HCM, and incorporating current lane geometries, in particular at Glendale/Monterey intersection.

The study should also update the cumulative/related projects.

Fernando's approach is ok.

Thank You,

Pastor E. Casanova, T.E., Principal Traffic Engineer ● City of Glendale ● Public Works Department, Engineering Division/Traffic
633 E. Broadway, Room 205● Glendale, CA 91206 ● (818) 548-3945 ● PCasanova@glendaleca.gov

---

**From:** Vierheilig, Peter
**Sent:** Wednesday, November 13, 2019 8:43 AM
**To:** 'Fernando Sotelo'; Casanova, Pastor
**Cc:** Julian Capata; Alexander Kessel
**Subject:** RE: Wilson Traffic Study

Fernando,

I have emailed planning to see if your list of cumulative projects is current.

Pastor, please let us know if the traffic and parking methodology (below) is ok.

Thanks!

Peter Vierheilig, PLA, Project Manager ● (818) 548-2057 ●

---

**From:** Fernando Sotelo [mailto:fsotelo@placeworks.com]
**Sent:** Tuesday, November 12, 2019 4:34 PM
**To:** Vierheilig, Peter; Casanova, Pastor
**Cc:** Julian Capata; Alexander Kessel
**Subject:** RE: Wilson Traffic Study

CAUTION: This email was delivered from the Internet. Do not click links, open attachments, or reply if you are unsure as to the sender.

Hi Peter and Pastor,

We received updated traffic and parking counts to update our traffic and parking study completed in 2018. I just want to go over a few key assumptions and requests to revise the study properly.

Project Description

Has the project description and anticipated use changed since the NOP in 2017?

Cumulative Projects

Could you request planning to review and provide us a list of cumulative projects to include in the study? Below is the table of cumulative projects we included in the 2018 study that would affect the study area:

**Cumulative Projects Trip Generation**

| ID | Address | Land Use | ITE Code | Unit Amount | Unit | Weekday Daily | PM In |
|---|---|---|---|---|---|---|---|
| 1 | 534 N Kenwood Street | Apartment | 220 | 11 | DU | 73 | 4 |
| 2 | 429 N Kenwood Street | Apartment | 220 | 21 | DU | 140 | 8 |
| 3 | 528 N Maryland Avenue | Apartment | 220 | 5 | DU | 33 | 2 |
| 4 | 1128 Stanley Avenue | Apartment | 220 | 4 | DU | 27 | 2 |
| 5 | 818 E Colorado Street | Specialty Retail Center | 826 | 10 | TSF | 443 | 12 |

[1] Trip Generation Rates from ITE Trip Generation Manual 10th Edition

Traffic and Parking Study area and Methodology

We won't e changing the methodology, except for using the latest Highway Capacity Methodology for unsignalized intersections (HCM 6th Edition) where applicable. Everything else will be consistent with the 2018 traffic study. We will review the study area again to identify changes to the network and parking conditions, in particular to the intersection of Monterey at Glendale. Basically we are updating the study with 20189 counts, with updated cumulative projects and the latest network lane geometries and parking configurations.

P

Let me know if you agree or if we should send a formal MOU similar to what we did in 2017.

Thanks

**FERNANDO SOTELO, PE, PTP**
**Senior Associate**

## Fernando Sotelo

**From:** Casanova, Pastor <PCasanova@Glendaleca.gov>
**Sent:** Friday, May 19, 2017 5:04 PM
**To:** Fernando Sotelo; Vierheilig, Peter
**Cc:** Julian Capata; Ambayec, Dennis; Vartanian, Sevak; Dombroski, Tad; Brown, Jeff
**Subject:** RE: Wilson MS Multi-purpose Field: EIR - traffic counts Who does consultant talk to to determine study intersections and other study requirements?

Good afternoon Fernando,

We reviewed the Wilson MS Multi-purpose Field MOE and offer the following comments related to the Traffic Study:

- Add the following intersections to your proposed intersection study list:
  - Adams St and Glenoaks Blvd
  - Adams St and Monterey Rd
  - Monterey Rd and Ventura Fwy WB Ramps
- Add a neighborhood street segment analysis component to the traffic study (to evaluate Environmental capacity) that includes the following street segments:
  - Monterey Rd between Glendale Ave and Verdugo Rd
  - Adams St between Glenoaks Blvd and Monterey Rd
- Provide trip distributions assumptions for trips "to" the project.
- Revise trip distribution exhibits to include additional study intersections

The following are comments related to the Parking analysis:

- Revise parking analysis assumptions per comments shown in red (and underlined) below:

A parking analysis will be prepared to estimate the project-related parking impacts in the vicinity of the school. Parking counts will be taken on a weekday evening from 5 to 10 PM in 30 minute intervals and between ~~10 AM to 12PM~~ 8am to 10pm on a Saturday. The parking counts will be taken at the school parking lots and along both sides of the following roadway segments, as shown in Figure 2:

- Verdugo Road from Monterey Road to north of Glenoaks Boulevard
- Glenoaks Boulevard from Adams Street to east of Verdugo Road
- Adams Street between Monterey Road and Glenoaks Boulevard
- Monterey Road from Verdugo Road to west of Adams Street
- Grove Place between Monterey Road and Woodbury Road
- Woodbury Road between Grove Place and La Loma Road

Exhibit B proposes the installation of Solar Array just east of the alley between N. Adams Street and North Verdugo Road. This area may be an additional parking alternative that would significantly increase parking options for this project.

You may proceed with scheduling the traffic counts based on our comments. However, please revise and resubmit the project MOE for confirmation. You may contact me directly if you have any questions.

Thank You,

Pastor E. Casanova, T.E., Traffic Engineer II ● City of Glendale ● Public Works Department, Engineering Division/Traffic
633 E. Broadway, Room 205● Glendale, CA 91206 ● (818) 937-8324 ● pcasanova@glendaleca.gov

---

**From:** Fernando Sotelo [mailto:fsotelo@placeworks.com]
**Sent:** Friday, May 12, 2017 11:51 AM
**To:** Vierheilig, Peter; Casanova, Pastor
**Cc:** Julian Capata
**Subject:** RE: Wilson MS Multi-purpose Field: EIR - traffic counts Who does consultant talk to to determine study intersections and other study requirements?

Hello Pastor,

We prepared this memorandum of understanding to outline key assumptions and methodologies to be used for the traffic and parking study for the Wilson Field. Please review the MOU as soon as possible so we can setup traffic and parking counts, we would like to have counts taken before the memorial day weekend.

In summary, we propose traffic counts during the weekday PM peak hour and midday on Saturday at the following intersections:

1. Glendale Avenue at Glenoaks Boulevard
2. Glendale Avenue at Monterey Road
3. Glendale Avenue at EB Ventura Freeway
4. Verdugo Road at Glenoaks Boulevard
5. Verdugo Road at Monterey Road

And parking counts would be taken on a weekday evening from 5 to 10 PM in 30 minute intervals and between 10 AM to 12PM on a Saturday. The parking counts will be taken at the school parking lots and along the following roadway segments, as shown in Figure 2 of the MOU:

- Verdugo Road from Monterey Road to north of Glenoaks Boulevard
- Glenoaks Boulevard from Adams Street to east of Verdugo Road
- Adams Street between Monterey Road and Glenoaks Boulevard
- Monterey Road from Verdugo Road to west of Adams Street
- Grove Place between Monterey Road and Woodbury Road
- Woodbury Road between Grove Place and La Loma Road

Please review the attached MOU and let me know if you agree with our approach and the count locations and periods. Don't hesitate to contact me if you have questions or would like to discuss. Thanks

**FERNANDO SOTELO**, PE, PTP

**Senior Associate**

3 MacArthur Place, Suite 1100 | Santa Ana, California 92707
714.966.9220 | fsotelo@placeworks.com | placeworks.com

---

**From:** Julian Capata
**Sent:** Wednesday, May 03, 2017 2:47 PM
**To:** Vierheilig, Peter; Casanova, Pastor; Fernando Sotelo
**Subject:** RE: Wilson MS Multi-purpose Field: EIR - traffic counts Who does consultant talk to to determine study intersections and other study requirements?

Pastor,

Thank you for your time regarding this project. I have copied Fernando Sotelo, PlaceWorks' traffic engineer so that he can reach out to you and ensure that our traffic study meets the City's standards and project needs.

Thank you,

Julian

**JULIAN F. CAPATA**
**Senior Associate**

700 S. Flower Street, Suite 600, Los Angeles, CA 90017
213.623.1443 | jcapata@placeworks.com | placeworks.com

---

**From:** Vierheilig, Peter [mailto:PVierheilig@Glendaleca.gov]
**Sent:** Wednesday, May 3, 2017 2:31 PM
**To:** Casanova, Pastor <PCasanova@Glendaleca.gov>
**Cc:** Julian Capata <jcapata@placeworks.com>
**Subject:** RE: Wilson MS Multi-purpose Field: EIR - traffic counts Who does consultant talk to to determine study intersections and other study requirements?

Hello Pastor,

Julian Capata, from our consultant PlaceWorks, wants to contact you to discuss the traffic study they will be preforming around the Wilson Middle School site for our Multi-Purpose Sports Field project. I am copying him on this email, so he can reach you.

**JULIAN F. CAPATA**
**Senior Associate**

700 S. Flower Street, Suite 600, Los Angeles, CA 90017
213.623.1443 | jcapata@placeworks.com | placeworks.com

Julian, Pastor's phone number is (818) 937-8324.

Thank you!

Peter Vierheilig, PLA, Project Manager ● (818) 937-8263 ●

---

**From:** Ambayec, Dennis
**Sent:** Wednesday, May 03, 2017 2:25 PM
**To:** Vierheilig, Peter
**Cc:** Casanova, Pastor
**Subject:** RE: Wilson MS Multi-purpose Field: EIR - traffic counts Who does consultant talk to to determine study intersections and other study requirements?

Peter,

Please work with Pastor. Thanks.

Dennis H. Ambayec, P.E., Deputy Director of Public Works/City Engineer ● City of Glendale ● Public Works Engineering
633 E. Broadway Rm 204 ● Glendale, CA 91206 ● (818) 548-3945 ● Dambayec@glendaleca.gov

---

**From:** Vierheilig, Peter
**Sent:** Wednesday, May 03, 2017 1:28 PM
**To:** Ambayec, Dennis
**Subject:** RE: Wilson MS Multi-purpose Field: EIR - traffic counts Who does consultant talk to to determine study intersections and other study requirements?

Hello Dennis,

In Wayne Ko's absence, can Pastor confer with my EIR consultant's traffic sub-consultant with regards to the traffic study required for the Wilson Middle School Multi-Purpose Field EIR – or has someone else been assigned Wayne's duties?

Thanks,

Peter Vierheilig, PLA, Project Manager ● (818) 937-8263 ●

May 11, 2017

City of Glendale Public Works Department
Pastor Casanova
613 East Broadway, Room 120
Glendale, CA 91206
pcasanova@glendaleca.gov

Subject: Memorandum of Understanding (MOU) for the Traffic Impact Analysis for the Multi-Purpose Field Development at Wilson Middle School

Dear Mr. Casanova:

PlaceWorks is preparing a traffic study and processing CEQA environmental documents for the development of a multi-purpose field with sports field lighting on the campus of Wilson Middle School, at 1221 Monterey Road in Glendale. The City has determined that an EIR will be required to analyze project impacts on the physical environment, including a Traffic and Parking Study. This memorandum of understanding (MOU) describes the project and outlines the proposed methodologies and basic assumptions for the traffic and parking impact analysis for the project. This has been prepared for The City of Glendale for review and comment to ensure that the study uses appropriate assumptions to evaluate potential traffic and parking impacts from the project. The MOU includes a description of the project, trip generation estimates for the project, trip distribution, a list of study area intersections to be evaluated, and identification of an ambient growth rate, scenarios to be evaluated, criteria to evaluate levels of service and to determine thresholds of significance. In addition, the proposed parking survey and parking study area are included in this memo.

## Project Description

The project includes the development of a multi-purpose field on the campus of Wilson Middle School. In addition to an artificial turf multi-purpose field with soccer and lacrosse markings, the proposed amenities include rubberized surface jogging track, fitness equipment, seating, restroom and storage/maintenance building(s), walkways, re-grading of the existing basketball court surface, and sports field lighting. The school playing field areas would remain "open" for public use and for city programming. Wilson Middle School would access the field during school hours, and the city would access the field during the hours of 5 p.m. to 10 p.m. Monday through Friday, and 8 a.m. to 10 p.m. Saturday and Sunday.

The project site is within a medium-density residential community. The location of the fields is bordered to the east by Verdugo Road and to the north by residential uses. The facility will make use of existing street and on-site parking. Primary site access would be the main school parking lot on Monterey Road; curbside parking is allowed on the roadways in the vicinity of the school including Verdugo Road, Monterey Road, and Adams Street.

## Trip Generation and Distribution

The proposed project would not expand the school's enrollment capacity, but is expected to increase traffic and parking demand around the project site due to new public use and city programming on weekday evenings and weekends.

The trip generation rates for soccer fields were obtained from ITE's Trip Generation Manual. The manual provides peak hour and daily rates on weekdays and weekends under land use code 488, Soccer Complex. Table 1 summarizes the trip generation rates obtained from the ITE Trip Generation Manual, and presents both the average rates and the high end of the statistical sample for each period.

Table 1 ITE Trip Generation Rates For Soccer Complex

| Rate Type | Weekday | | | | | | | Saturday | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Daily | AM Peak Hour | | | PM Peak Hour | | | Daily | Peak Hour | | |
| | | In | Out | Total | In | Out | Total | | In | Out | Total |
| Average Rate | 71.33 | 0.64 | 0.48 | 1.12 | 11.86 | 5.84 | 17.70 | 117.43 | 14.56 | 15.78 | 30.34 |
| Highest Rate | 90.81 | 1.10 | 0.81 | 1.88 | 16.67 | 8.20 | 24.88 | 117.43 | 16.42 | 17.78 | 34.20 |

1 Trip Generation rates per field.
2 Trip generation rates are based on the ITE Trip Generation Manual 9th Edition for the Soccer Complex Land Use (ITE Code 488).
3 Peak hour of the generator is not defined in the ITE Manual. For the purpose of this analysis it is assumed to overlap with the traffic peak hour on weekends during midday.

To calculate the expected project-related trip generation, the rates shown above are to be multiplied by the anticipated number of fields. The proposed project includes the development of two fields; estimated project-related trips are shown in Table 2. Utilizing the average rates, the project would generate 2 trips in the weekday AM peak hour, 36 trips in the weekday PM peak hour, and 61 trips in on weekend peak hours. As shown on Table 2, based on ITE's Trip Generation Manual rates using the highest rates, the project would generate 4 trips in the weekday AM peak hour, 49 trips in the weekday PM peak hour and 69 trips in on weekend peak hours. The weekend peak hour normally occurs between 11 AM to 2 PM. As shown in Table 2, the project would generate negligible trips in the weekday AM peak hour. In addition, public use of the fields would not be allowed on weekdays in the AM peak hour. Therefore, AM peak hour traffic will not be further evaluated in this analysis.

Table 2 Project Trip Generation, ITE Rates

| Rate Type | Weekday | | | | | | | Saturday | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Daily | AM Peak Hour | | | PM Peak Hour | | | Daily | Peak Hour of Generator | | |
| | | In | Out | Total | In | Out | Total | | In | Out | Total |
| Average Rate | 143 | 1 | 1 | 2 | 24 | 12 | 36 | 235 | 29 | 32 | 61 |
| Highest Rate | 182 | 2 | 2 | 4 | 33 | 16 | 49 | 235 | 33 | 36 | 69 |

Trip generation rates for peak hour of adjacent streets, based on Soccer Complex Land Use (ITE Code 488) per the ITE Trip Generation Manual 9th Edition.

The sample size to support these rates is relatively small with less than 10 samples. To verify the trip generation based on ITE trip rates, we will also review the proposed use of the fields to calculate vehicular trips based on estimates for players, spectators and supporting personnel (coaches, referees, etc.). PlaceWorks consulted with the City of Glendale Parks and Recreation Department to obtain anticipated usage estimates. The estimates were provided for both adult and youth because of different ridership characteristics and different team sizes. Table 3 shows the trip generation rates per player/coach/referee and Table 4 shows the project trip generation for the proposed 2 fields based on usage estimates. It shall be noted that a 20% trip reduction was applied to account for carpool and walk/bike/transit modes. The project trip generation based on usage estimates is highest for youth games. As shown on Table 4, the highest trip generation would occur at 2 youth games occurring concurrently. This would result in 40 peak hour trips in the weekday PM peak hour and 78 peak hour trips in the weekend.

Table 3 Trip Generation Rates Based on Usage Estimates

| Land Use | Variable type | PM Peak Hour | | | Weekend Peak Hour | | |
|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total |
| Youth Game | Youth Players | 1 | 0.5 | 1.5 | 1.5 | 1.5 | 3 |
| | Coach/Referee | 1 | 0 | 1 | 1 | 1 | 2 |
| Adult Game | Players | 1 | 0 | 1 | 1 | 1 | 2 |
| | Coach/Referee | 1 | 0 | 1 | 1 | 1 | 2 |

1 Assumes 50% of parents drop-off children and leave the soccer fields.

2 Assumes all adults driving own cars and parking.

Table 4 Project Trip Generation Based on Usage Estimates

| Land Use | Variable type | Players/ Referee/ Coaches | Fields | Trip Generation | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | PM Peak Hour | | | Weekend Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| Youth Game | Youth Players | 16 | 2 | 26 | 13 | 39 | 38 | 38 | 76 |
| | Referee | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 2 |
| | TOTAL | 17 | 3 | 27 | 13 | 40 | 39 | 39 | 78 |
| Adult Game | Players | 22 | 2 | 35 | 0 | 35 | 35 | 35 | 70 |
| | Referees | 3 | 1 | 2 | 0 | 2 | 2 | 2 | 4 |
| | TOTAL | 25 | 3 | 37 | 0 | 37 | 37 | 37 | 74 |

1 For Youth Games it is assumed that each team has 8 players. Each coach is also a parent that has a child in the team.

2 For Adult Games it is assumed that each team has 11 players.

3 Referees are needed only in one field, as one of the fields is for practices only.

In conclusion, the ITE Trip Rates using the high range provide a reasonable and technically defensible estimate to calculate trip generation for the project. Therefore, for the purpose of this analysis, the project would generate 4 trips in the AM peak hour, 49 trips in the PM peak hour and 69 trips in on weekend peak hours.

## Study Area Intersections, Roadways and Scenarios

Based on the calculated project trip generation and distribution, the following intersections will be analyzed during weekday PM peak hours and Saturday midday (11 AM to 2 PM):

1. Glendale Avenue at Glenoaks Boulevard
2. Glendale Avenue at Monterey Road
3. Glendale Avenue at EB Ventura Freeway
4. Verdugo Road at Glenoaks Boulevard
5. Verdugo Road at Monterey Road

Figure 1 shows the estimated trip distribution around the project study area and the intersection study locations. The trip distribution is based on a review of the study area circulation network, city boundaries, the existing sports fields utilized for the City's Park and Recreation Programs, and a review of residential land uses in the area.

## Traffic Study Scenarios

The traffic study will analyze multiple scenarios based on the anticipated project buildout. The following analysis scenarios will be provided:

- Existing Conditions
- Existing Conditions with Project
- Opening Year with Cumulative Developments without Project
- Opening Year with Cumulative Developments with Project

The Los Angeles County Guidelines for CMP Transportation Impact Analysis includes ambient growth rates for the City of Glendale in 5-year increments. To estimate future traffic conditions, opening year scenarios will use the year 2020 traffic growth rate factor of 1.027%. A list of cumulative projects to be fully operational by project opening year, as provided by the city, will also be included to the background traffic conditions. Trip generation and trip distribution for the cumulative developments will be estimated for inclusion in the background traffic conditions at project opening year.

## LOS Criteria and Threshold of Significance

The 2010 Congestion Management Plan (CMP) for Los Angeles County requires use of the Intersection Capacity Utilization (ICU) method to calculate levels of service (LOS) for signalized intersections. The Highway Capacity Manual (HCM) 2010 methodology will be used to calculate LOS at unsignalized intersections.

In the City of Glendale, impacts are considered significant if the project-related increase in the volume-to-capacity (V/C) ratio equals or exceeds 0.02 that have LOS D or worse. The impact is considered significant for unsignalized intersections if the project-related increase in the delay equals or exceeds 3 seconds that have LOS D, or worse.

## Parking

A parking analysis will be prepared to estimate the project-related parking impacts in the vicinity of the school. Parking counts will be taken on a weekday evening from 5 to 10 PM in 30 minute intervals and between 10 AM to 12PM on a Saturday. The parking counts will be taken at the school parking lots and along the following roadway segments, as shown in Figure 2:

- Verdugo Road from Monterey Road to north of Glenoaks Boulevard
- Glenoaks Boulevard from Adams Street to east of Verdugo Road
- Adams Street between Monterey Road and Glenoaks Boulevard
- Monterey Road from Verdugo Road to west of Adams Street
- Grove Place between Monterey Road and Woodbury Road
- Woodbury Road between Grove Place and La Loma Road

Parking demand will be based on ITE's Parking Generation manual for a "soccer complex" (ITE land use code 488), as shown in Table 5.

Table 5 Parking Demand Rates for Soccer Complex

| Weekday Peak Hour | Saturday Peak Hour |
|---|---|
| 38.3 | 58.8 |
| Parking Demand based on the average rates for the Soccer Complex Land Use (ITE Code 488) per the ITE Parking Generation Manual 4th Edition. | |

To calculate the expected project-related parking demand, the rates shown above are to be multiplied by the anticipated number of fields. The calculated parking demand is summarized in Table 6.

Table 6 Parking Demand Estimates for Soccer Complex

| Weekday Peak Hour | Saturday Peak Hour |
|---|---|
| 77 | 118 |
| Parking Demand based on the average rates Soccer Complex Land Use (ITE Code 488) per the ITE Parking Generation Manual 4th Edition. | |

Please review the following assumptions and let us know if we can schedule traffic and parking counts as proposed in this MOU. Or feel free to call if you have any questions or would like to discuss.

Respectfully submitted,

**FERNANDO SOTELO, PE, PTP**
**Senior Associate**

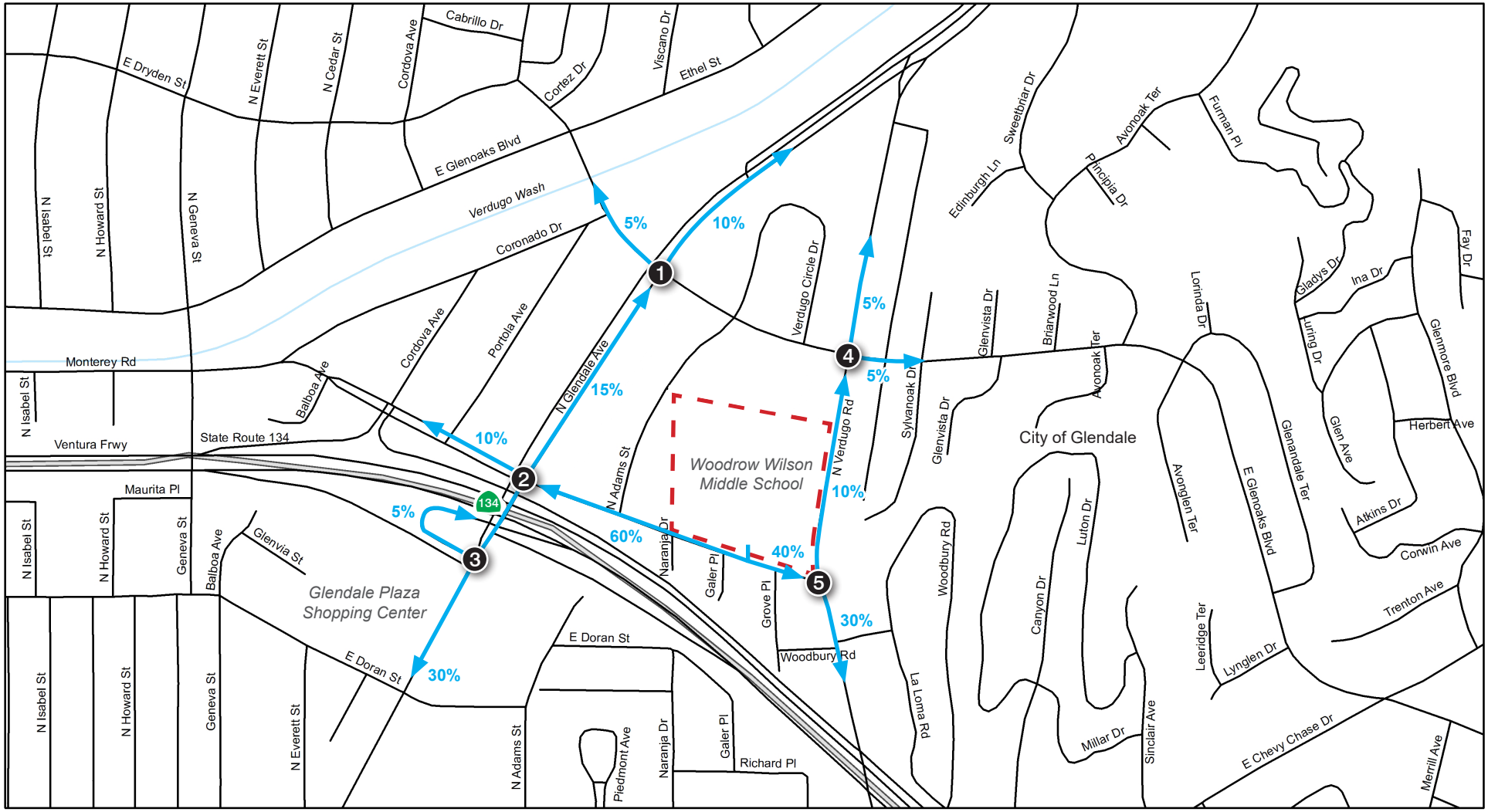
PLACEWORKS

3 MacArthur Place, Suite 1100 | Santa Ana, California 92707
714.966.9220 | fsotelo@placeworks.com | placeworks.com

Attachment A.

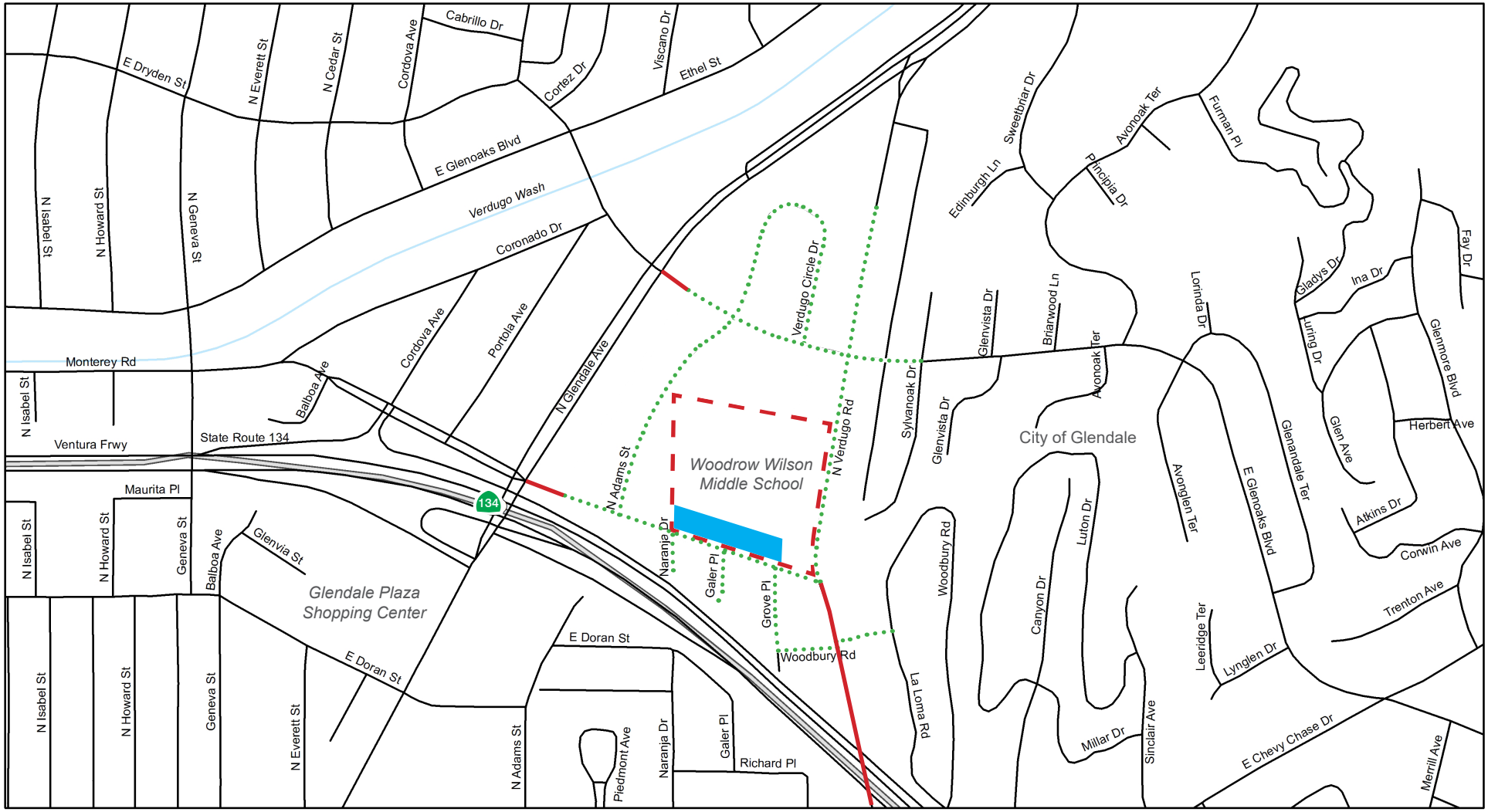
- Proposed Trip Distribution Map and Intersection Study Locations
- Parking Counts Locations
- Proposed Site Plan

# Figure 1 - Project Trip Distribution




*Base Map Source: ESRI, USGS, NOAA, 2017*

# Figure 2 - Off-Site Parking Locations




Project Boundary | Anticipated Off-Site Parking | No Curbside Parking Allowed | On-Site Parking Lot

0 800
Scale (Feet)

*Base Map Source: ESRI, USGS, NOAA, 2017*

EXHIBIT B

# Wilson Middle School Multi-Purpose Field

# Proposed Development Plan

# Appendix B. Traffic Counts

# Appendices

*This page intentionally left blank.*

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: SR-134W Ramps/Cordova Avenue
E/W: Monterey Road
Weather: Clear

File Name : 01_GDE_134W_Monterey Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 1

Groups Printed- Total Volume

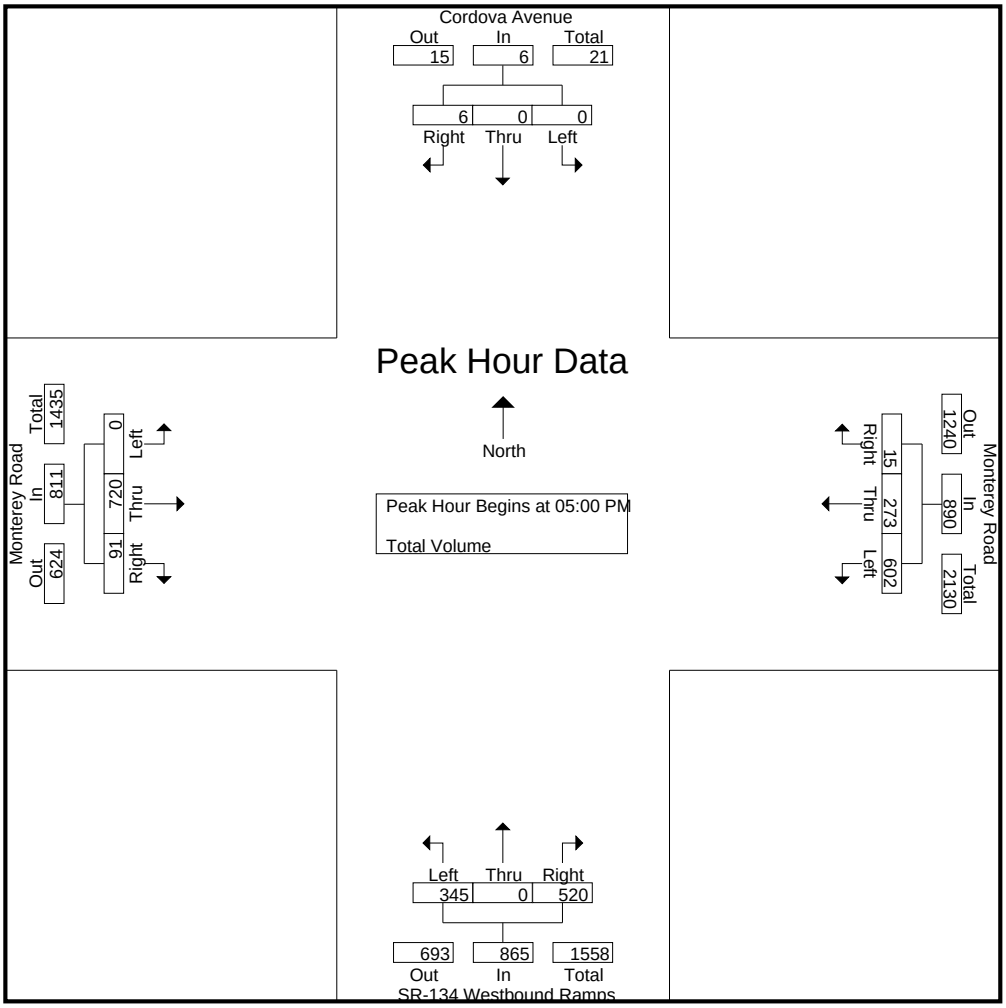
| | Cordova Avenue Southbound | | | | Monterey Road Westbound | | | | SR-134 Westbound Ramps Northbound | | | | Monterey Road Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 04:00 PM | 0 | 0 | 0 | 0 | 156 | 61 | 2 | 219 | 43 | 0 | 113 | 156 | 0 | 145 | 20 | 165 | 540 |
| 04:15 PM | 0 | 0 | 1 | 1 | 142 | 51 | 1 | 194 | 70 | 0 | 114 | 184 | 0 | 150 | 29 | 179 | 558 |
| 04:30 PM | 0 | 0 | 0 | 0 | 138 | 59 | 1 | 198 | 65 | 0 | 112 | 177 | 0 | 149 | 28 | 177 | 552 |
| 04:45 PM | 0 | 0 | 0 | 0 | 145 | 63 | 3 | 211 | 73 | 0 | 103 | 176 | 0 | 152 | 20 | 172 | 559 |
| Total | 0 | 0 | 1 | 1 | 581 | 234 | 7 | 822 | 251 | 0 | 442 | 693 | 0 | 596 | 97 | 693 | 2209 |
| 05:00 PM | 0 | 0 | 3 | 3 | 168 | 72 | 4 | 244 | 79 | 0 | 131 | 210 | 0 | 160 | 21 | 181 | 638 |
| 05:15 PM | 0 | 0 | 1 | 1 | 153 | 68 | 5 | 226 | 93 | 0 | 111 | 204 | 0 | 185 | 20 | 205 | 636 |
| 05:30 PM | 0 | 0 | 1 | 1 | 155 | 75 | 4 | 234 | 84 | 0 | 145 | 229 | 0 | 202 | 30 | 232 | 696 |
| 05:45 PM | 0 | 0 | 1 | 1 | 126 | 58 | 2 | 186 | 89 | 0 | 133 | 222 | 0 | 173 | 20 | 193 | 602 |
| Total | 0 | 0 | 6 | 6 | 602 | 273 | 15 | 890 | 345 | 0 | 520 | 865 | 0 | 720 | 91 | 811 | 2572 |
| Grand Total | 0 | 0 | 7 | 7 | 1183 | 507 | 22 | 1712 | 596 | 0 | 962 | 1558 | 0 | 1316 | 188 | 1504 | 4781 |
| Apprch % | 0 | 0 | 100 | | 69.1 | 29.6 | 1.3 | | 38.3 | 0 | 61.7 | | 0 | 87.5 | 12.5 | | |
| Total % | 0 | 0 | 0.1 | 0.1 | 24.7 | 10.6 | 0.5 | 35.8 | 12.5 | 0 | 20.1 | 32.6 | 0 | 27.5 | 3.9 | 31.5 | |

| | Cordova Avenue Southbound | | | | Monterey Road Westbound | | | | SR-134 Westbound Ramps Northbound | | | | Monterey Road 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 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | | | | | | | | |
| 05:00 PM | 0 | 0 | **3** | **3** | **168** | 72 | 4 | **244** | 79 | 0 | 131 | 210 | 0 | 160 | 21 | 181 | 638 |
| 05:15 PM | 0 | 0 | 1 | 1 | 153 | 68 | **5** | 226 | **93** | 0 | 111 | 204 | 0 | 185 | 20 | 205 | 636 |
| 05:30 PM | 0 | 0 | 1 | 1 | 155 | **75** | 4 | 234 | 84 | 0 | **145** | **229** | 0 | **202** | **30** | **232** | **696** |
| 05:45 PM | 0 | 0 | 1 | 1 | 126 | 58 | 2 | 186 | 89 | 0 | 133 | 222 | 0 | 173 | 20 | 193 | 602 |
| Total Volume | 0 | 0 | 6 | 6 | 602 | 273 | 15 | 890 | 345 | 0 | 520 | 865 | 0 | 720 | 91 | 811 | 2572 |
| % App. Total | 0 | 0 | 100 | | 67.6 | 30.7 | 1.7 | | 39.9 | 0 | 60.1 | | 0 | 88.8 | 11.2 | | |
| PHF | .000 | .000 | .500 | .500 | .896 | .910 | .750 | .912 | .927 | .000 | .897 | .944 | .000 | .891 | .758 | .874 | .924 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: SR-134W Ramps/Cordova Avenue
E/W: Monterey Road
Weather: Clear

File Name : 01_GDE_134W_Monterey Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 2




Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 05:00 PM | | | | 04:45 PM | | | | 05:00 PM | | | | 05:00 PM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 0 | 0 | **3** | **3** | 145 | 63 | 3 | 211 | 79 | 0 | 131 | 210 | 0 | 160 | 21 | 181 |
| +15 mins. | 0 | 0 | 1 | 1 | **168** | 72 | 4 | **244** | **93** | 0 | 111 | 204 | 0 | 185 | 20 | 205 |
| +30 mins. | 0 | 0 | 1 | 1 | 153 | 68 | **5** | 226 | 84 | 0 | **145** | **229** | 0 | **202** | **30** | **232** |
| +45 mins. | 0 | 0 | 1 | 1 | 155 | **75** | 4 | 234 | 89 | 0 | 133 | 222 | 0 | 173 | 20 | 193 |
| Total Volume | 0 | 0 | 6 | 6 | 621 | 278 | 16 | 915 | 345 | 0 | 520 | 865 | 0 | 720 | 91 | 811 |
| % App. Total | 0 | 0 | 100 | | 67.9 | 30.4 | 1.7 | | 39.9 | 0 | 60.1 | | 0 | 88.8 | 11.2 | |
| PHF | .000 | .000 | .500 | .500 | .924 | .927 | .800 | .938 | .927 | .000 | .897 | .944 | .000 | .891 | .758 | .874 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Glendale Avenue
E/W: SR-134 Eastbound Ramps
Weather: Clear

File Name : 02_GDE_Glendale_134E Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 1

Groups Printed- Total Volume

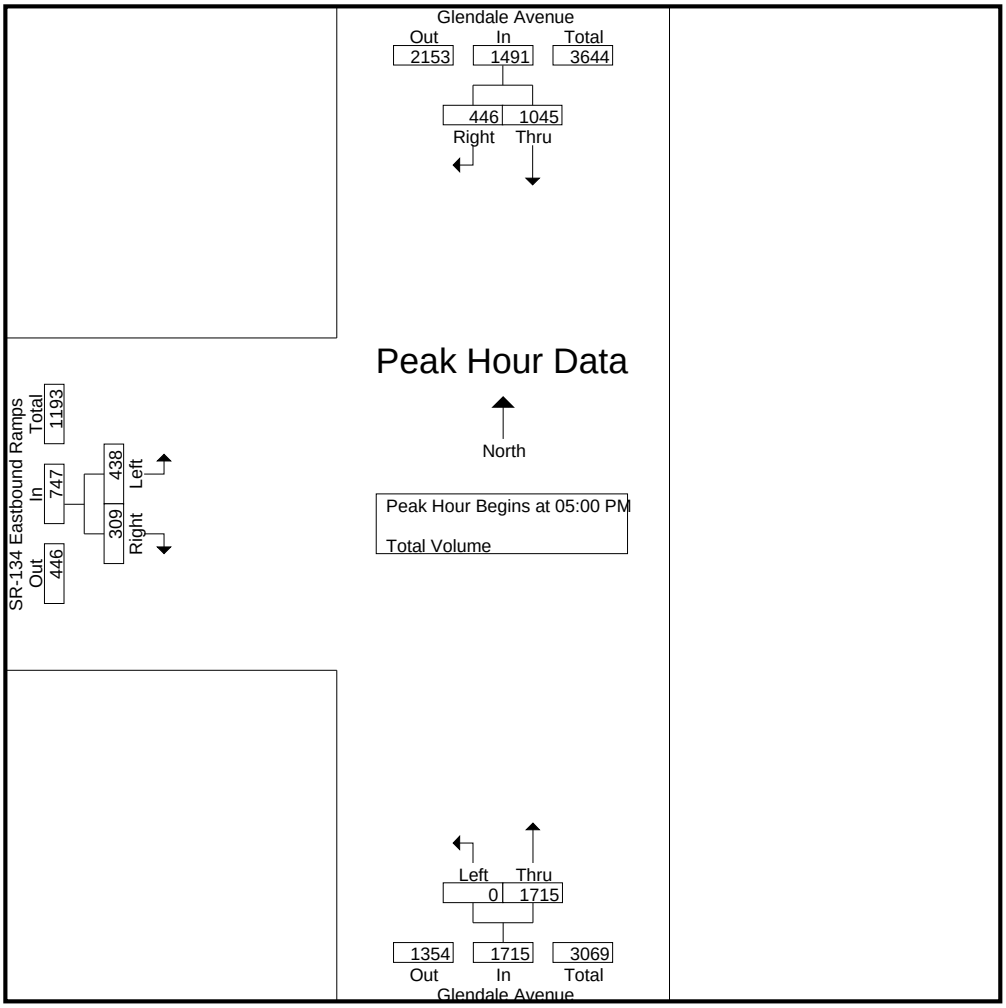
| | Glendale Avenue Southbound | | | Glendale Avenue Northbound | | | SR-134 Eastbound Ramps Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Thru | Right | App. Total | Left | Thru | App. Total | Left | Right | App. Total | Int. Total |
| 04:00 PM | 237 | 94 | 331 | 0 | 443 | 443 | 93 | 99 | 192 | 966 |
| 04:15 PM | 201 | 102 | 303 | 0 | 381 | 381 | 98 | 92 | 190 | 874 |
| 04:30 PM | 212 | 110 | 322 | 0 | 392 | 392 | 119 | 74 | 193 | 907 |
| 04:45 PM | 226 | 112 | 338 | 0 | 468 | 468 | 80 | 72 | 152 | 958 |
| Total | 876 | 418 | 1294 | 0 | 1684 | 1684 | 390 | 337 | 727 | 3705 |
| 05:00 PM | 262 | 100 | 362 | 0 | 426 | 426 | 106 | 60 | 166 | 954 |
| 05:15 PM | 251 | 137 | 388 | 0 | 474 | 474 | 100 | 69 | 169 | 1031 |
| 05:30 PM | 262 | 113 | 375 | 0 | 400 | 400 | 126 | 95 | 221 | 996 |
| 05:45 PM | 270 | 96 | 366 | 0 | 415 | 415 | 106 | 85 | 191 | 972 |
| Total | 1045 | 446 | 1491 | 0 | 1715 | 1715 | 438 | 309 | 747 | 3953 |
| Grand Total | 1921 | 864 | 2785 | 0 | 3399 | 3399 | 828 | 646 | 1474 | 7658 |
| Apprch % | 69 | 31 | | 0 | 100 | | 56.2 | 43.8 | | |
| Total % | 25.1 | 11.3 | 36.4 | 0 | 44.4 | 44.4 | 10.8 | 8.4 | 19.2 | |

| | Glendale Avenue Southbound | | | Glendale Avenue Northbound | | | SR-134 Eastbound Ramps Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Thru | Right | App. Total | Left | Thru | App. Total | Left | Right | App. Total | Int. Total |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | |
| 05:00 PM | 262 | 100 | 362 | 0 | 426 | 426 | 106 | 60 | 166 | 954 |
| 05:15 PM | 251 | **137** | **388** | 0 | **474** | **474** | 100 | 69 | 169 | **1031** |
| 05:30 PM | 262 | 113 | 375 | 0 | 400 | 400 | **126** | **95** | **221** | 996 |
| 05:45 PM | **270** | 96 | 366 | 0 | 415 | 415 | 106 | 85 | 191 | 972 |
| Total Volume | 1045 | 446 | 1491 | 0 | 1715 | 1715 | 438 | 309 | 747 | 3953 |
| % App. Total | 70.1 | 29.9 | | 0 | 100 | | 58.6 | 41.4 | | |
| PHF | .968 | .814 | .961 | .000 | .905 | .905 | .869 | .813 | .845 | .959 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Glendale Avenue
E/W: SR-134 Eastbound Ramps
Weather: Clear

File Name : 02_GDE_Glendale_134E Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 2




Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 05:00 PM | | | 04:45 PM | | | 05:00 PM | | |
|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 262 | 100 | 362 | 0 | 468 | 468 | 106 | 60 | 166 |
| +15 mins. | 251 | **137** | **388** | 0 | 426 | 426 | 100 | 69 | 169 |
| +30 mins. | 262 | 113 | 375 | 0 | **474** | **474** | **126** | **95** | **221** |
| +45 mins. | **270** | 96 | 366 | 0 | 400 | 400 | 106 | 85 | 191 |
| Total Volume | 1045 | 446 | 1491 | 0 | 1768 | 1768 | 438 | 309 | 747 |
| % App. Total | 70.1 | 29.9 | | 0 | 100 | | 58.6 | 41.4 | |
| PHF | .968 | .814 | .961 | .000 | .932 | .932 | .869 | .813 | .845 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Glendale Avenue
E/W: Monterey Road
Weather: Clear

File Name : 03_GDE_Glendale_Monterey Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 1

Groups Printed- Total Volume

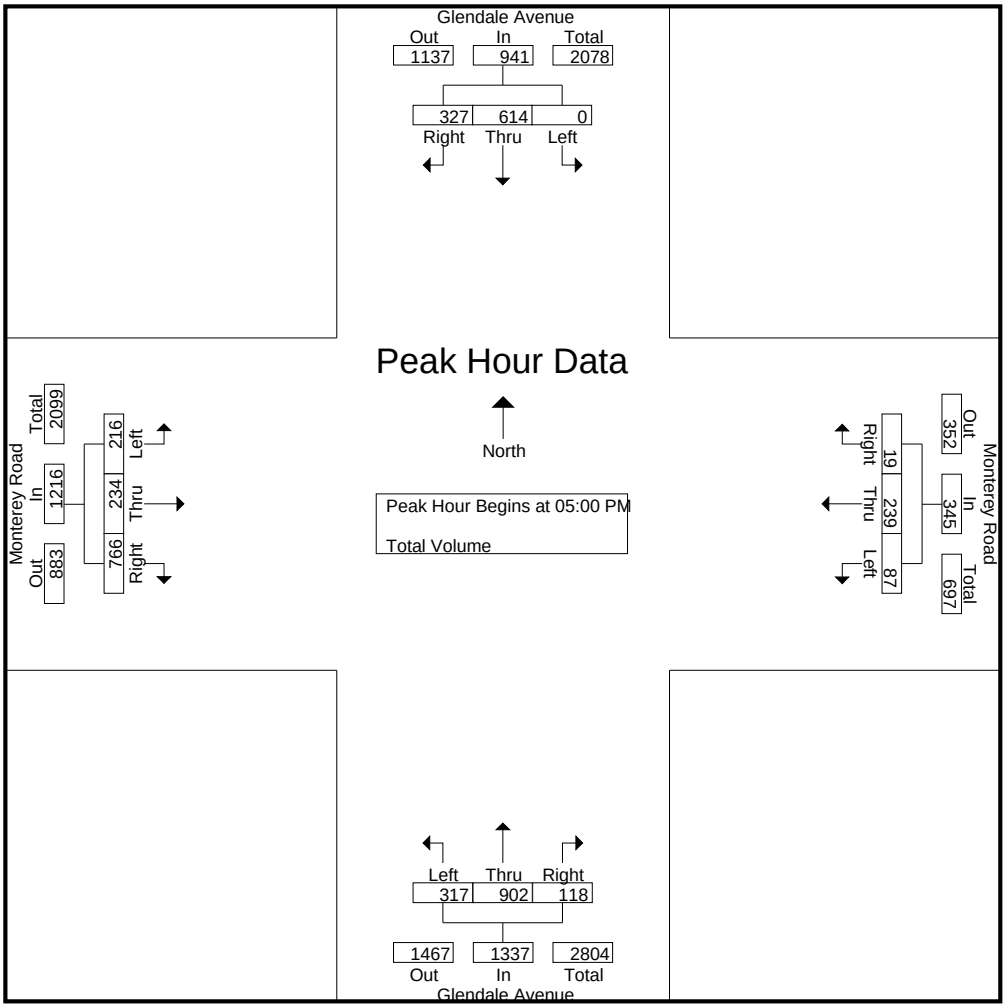
| | Glendale Avenue Southbound | | | | Monterey Road Westbound | | | | Glendale Avenue Northbound | | | | Monterey Road Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 04:00 PM | 0 | 118 | 76 | 194 | 16 | 46 | 13 | 75 | 104 | 180 | 23 | 307 | 28 | 45 | 182 | 255 | 831 |
| 04:15 PM | 0 | 105 | 74 | 179 | 28 | 47 | 5 | 80 | 75 | 188 | 19 | 282 | 43 | 55 | 176 | 274 | 815 |
| 04:30 PM | 0 | 141 | 79 | 220 | 12 | 45 | 5 | 62 | 83 | 209 | 27 | 319 | 45 | 28 | 179 | 252 | 853 |
| 04:45 PM | 0 | 138 | 79 | 217 | 10 | 47 | 6 | 63 | 89 | 229 | 28 | 346 | 39 | 44 | 183 | 266 | 892 |
| Total | 0 | 502 | 308 | 810 | 66 | 185 | 29 | 280 | 351 | 806 | 97 | 1254 | 155 | 172 | 720 | 1047 | 3391 |
| 05:00 PM | 0 | 158 | 94 | 252 | 21 | 53 | 6 | 80 | 93 | 225 | 31 | 349 | 44 | 48 | 181 | 273 | 954 |
| 05:15 PM | 0 | 161 | 74 | 235 | 28 | 74 | 7 | 109 | 80 | 231 | 28 | 339 | 55 | 52 | 191 | 298 | 981 |
| 05:30 PM | 0 | 152 | 86 | 238 | 17 | 70 | 4 | 91 | 77 | 234 | 25 | 336 | 60 | 73 | 194 | 327 | 992 |
| 05:45 PM | 0 | 143 | 73 | 216 | 21 | 42 | 2 | 65 | 67 | 212 | 34 | 313 | 57 | 61 | 200 | 318 | 912 |
| Total | 0 | 614 | 327 | 941 | 87 | 239 | 19 | 345 | 317 | 902 | 118 | 1337 | 216 | 234 | 766 | 1216 | 3839 |
| Grand Total | 0 | 1116 | 635 | 1751 | 153 | 424 | 48 | 625 | 668 | 1708 | 215 | 2591 | 371 | 406 | 1486 | 2263 | 7230 |
| Apprch % | 0 | 63.7 | 36.3 | | 24.5 | 67.8 | 7.7 | | 25.8 | 65.9 | 8.3 | | 16.4 | 17.9 | 65.7 | | |
| Total % | 0 | 15.4 | 8.8 | 24.2 | 2.1 | 5.9 | 0.7 | 8.6 | 9.2 | 23.6 | 3 | 35.8 | 5.1 | 5.6 | 20.6 | 31.3 | |

| | Glendale Avenue Southbound | | | | Monterey Road Westbound | | | | Glendale Avenue Northbound | | | | Monterey Road 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 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | | | | | | | | |
| 05:00 PM | 0 | 158 | **94** | **252** | 21 | 53 | 6 | 80 | **93** | 225 | 31 | **349** | 44 | 48 | 181 | 273 | 954 |
| 05:15 PM | 0 | **161** | 74 | 235 | **28** | **74** | **7** | **109** | 80 | 231 | 28 | 339 | 55 | 52 | 191 | 298 | 981 |
| 05:30 PM | 0 | 152 | 86 | 238 | 17 | 70 | 4 | 91 | 77 | **234** | 25 | 336 | **60** | **73** | 194 | **327** | **992** |
| 05:45 PM | 0 | 143 | 73 | 216 | 21 | 42 | 2 | 65 | 67 | 212 | **34** | 313 | 57 | 61 | **200** | 318 | 912 |
| Total Volume | 0 | 614 | 327 | 941 | 87 | 239 | 19 | 345 | 317 | 902 | 118 | 1337 | 216 | 234 | 766 | 1216 | 3839 |
| % App. Total | 0 | 65.2 | 34.8 | | 25.2 | 69.3 | 5.5 | | 23.7 | 67.5 | 8.8 | | 17.8 | 19.2 | 63 | | |
| PHF | .000 | .953 | .870 | .934 | .777 | .807 | .679 | .791 | .852 | .964 | .868 | .958 | .900 | .801 | .958 | .930 | .967 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Glendale Avenue
E/W: Monterey Road
Weather: Clear

File Name : 03_GDE_Glendale_Monterey Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 2




Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 04:45 PM | | | | 05:00 PM | | | | 04:45 PM | | | | 05:00 PM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 0 | 138 | 79 | 217 | 21 | 53 | 6 | 80 | 89 | 229 | 28 | 346 | 44 | 48 | 181 | 273 |
| +15 mins. | 0 | 158 | **94** | **252** | **28** | **74** | **7** | **109** | **93** | 225 | **31** | **349** | 55 | 52 | 191 | 298 |
| +30 mins. | 0 | **161** | 74 | 235 | 17 | 70 | 4 | 91 | 80 | 231 | 28 | 339 | **60** | **73** | 194 | **327** |
| +45 mins. | 0 | 152 | 86 | 238 | 21 | 42 | 2 | 65 | 77 | **234** | 25 | 336 | 57 | 61 | **200** | 318 |
| Total Volume | 0 | 609 | 333 | 942 | 87 | 239 | 19 | 345 | 339 | 919 | 112 | 1370 | 216 | 234 | 766 | 1216 |
| % App. Total | 0 | 64.6 | 35.4 | | 25.2 | 69.3 | 5.5 | | 24.7 | 67.1 | 8.2 | | 17.8 | 19.2 | 63 | |
| PHF | .000 | .946 | .886 | .935 | .777 | .807 | .679 | .791 | .911 | .982 | .903 | .981 | .900 | .801 | .958 | .930 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Glendale Avenue
E/W: Glenoaks Boulevard
Weather: Clear

File Name : 04_GDE_Glendale_Glenoaks Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 1

Groups Printed- Total Volume

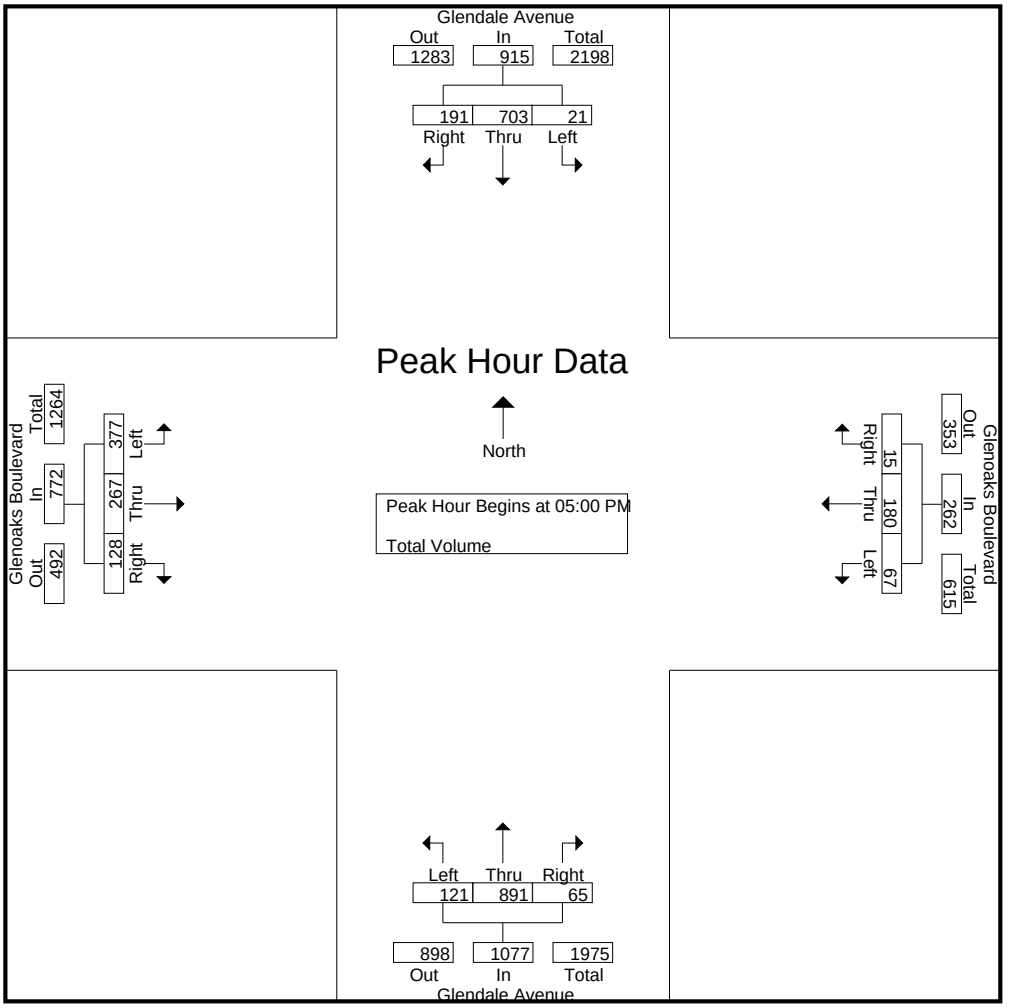
| | Glendale Avenue Southbound | | | | Glenoaks Boulevard Westbound | | | | Glendale Avenue Northbound | | | | Glenoaks Boulevard Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 04:00 PM | 1 | 142 | 39 | 182 | 17 | 30 | 4 | 51 | 37 | 188 | 11 | 236 | 80 | 47 | 24 | 151 | 620 |
| 04:15 PM | 4 | 180 | 52 | 236 | 14 | 24 | 3 | 41 | 24 | 186 | 22 | 232 | 75 | 33 | 29 | 137 | 646 |
| 04:30 PM | 5 | 150 | 38 | 193 | 20 | 30 | 4 | 54 | 31 | 219 | 14 | 264 | 88 | 52 | 35 | 175 | 686 |
| 04:45 PM | 11 | 133 | 39 | 183 | 12 | 32 | 6 | 50 | 30 | 225 | 18 | 273 | 81 | 50 | 32 | 163 | 669 |
| Total | 21 | 605 | 168 | 794 | 63 | 116 | 17 | 196 | 122 | 818 | 65 | 1005 | 324 | 182 | 120 | 626 | 2621 |
| 05:00 PM | 4 | 190 | 53 | 247 | 11 | 50 | 5 | 66 | 29 | 241 | 18 | 288 | 88 | 73 | 33 | 194 | 795 |
| 05:15 PM | 6 | 176 | 52 | 234 | 19 | 46 | 3 | 68 | 25 | 222 | 18 | 265 | 96 | 69 | 32 | 197 | 764 |
| 05:30 PM | 4 | 160 | 45 | 209 | 19 | 50 | 4 | 73 | 37 | 207 | 14 | 258 | 102 | 60 | 31 | 193 | 733 |
| 05:45 PM | 7 | 177 | 41 | 225 | 18 | 34 | 3 | 55 | 30 | 221 | 15 | 266 | 91 | 65 | 32 | 188 | 734 |
| Total | 21 | 703 | 191 | 915 | 67 | 180 | 15 | 262 | 121 | 891 | 65 | 1077 | 377 | 267 | 128 | 772 | 3026 |
| Grand Total | 42 | 1308 | 359 | 1709 | 130 | 296 | 32 | 458 | 243 | 1709 | 130 | 2082 | 701 | 449 | 248 | 1398 | 5647 |
| Apprch % | 2.5 | 76.5 | 21 | | 28.4 | 64.6 | 7 | | 11.7 | 82.1 | 6.2 | | 50.1 | 32.1 | 17.7 | | |
| Total % | 0.7 | 23.2 | 6.4 | 30.3 | 2.3 | 5.2 | 0.6 | 8.1 | 4.3 | 30.3 | 2.3 | 36.9 | 12.4 | 8 | 4.4 | 24.8 | |

| | Glendale Avenue Southbound | | | | Glenoaks Boulevard Westbound | | | | Glendale Avenue Northbound | | | | Glenoaks Boulevard 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 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | | | | | | | | |
| 05:00 PM | 4 | **190** | **53** | **247** | 11 | **50** | **5** | 66 | 29 | **241** | **18** | **288** | 88 | **73** | **33** | 194 | **795** |
| 05:15 PM | 6 | 176 | 52 | 234 | **19** | 46 | 3 | 68 | 25 | 222 | 18 | 265 | 96 | 69 | 32 | **197** | 764 |
| 05:30 PM | 4 | 160 | 45 | 209 | 19 | 50 | 4 | **73** | **37** | 207 | 14 | 258 | **102** | 60 | 31 | 193 | 733 |
| 05:45 PM | **7** | 177 | 41 | 225 | 18 | 34 | 3 | 55 | 30 | 221 | 15 | 266 | 91 | 65 | 32 | 188 | 734 |
| Total Volume | 21 | 703 | 191 | 915 | 67 | 180 | 15 | 262 | 121 | 891 | 65 | 1077 | 377 | 267 | 128 | 772 | 3026 |
| % App. Total | 2.3 | 76.8 | 20.9 | | 25.6 | 68.7 | 5.7 | | 11.2 | 82.7 | 6 | | 48.8 | 34.6 | 16.6 | | |
| PHF | .750 | .925 | .901 | .926 | .882 | .900 | .750 | .897 | .818 | .924 | .903 | .935 | .924 | .914 | .970 | .980 | .952 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Glendale Avenue
E/W: Glenoaks Boulevard
Weather: Clear

File Name : 04_GDE_Glendale_Glenoaks Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 2




Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 05:00 PM | | | | 05:00 PM | | | | 04:30 PM | | | | 05:00 PM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 4 | **190** | **53** | **247** | 11 | **50** | **5** | 66 | **31** | 219 | 14 | 264 | 88 | **73** | **33** | 194 |
| +15 mins. | 6 | 176 | 52 | 234 | **19** | 46 | 3 | 68 | 30 | 225 | **18** | 273 | 96 | 69 | 32 | **197** |
| +30 mins. | 4 | 160 | 45 | 209 | 19 | 50 | 4 | **73** | 29 | **241** | 18 | **288** | **102** | 60 | 31 | 193 |
| +45 mins. | **7** | 177 | 41 | 225 | 18 | 34 | 3 | 55 | 25 | 222 | 18 | 265 | 91 | 65 | 32 | 188 |
| Total Volume | 21 | 703 | 191 | 915 | 67 | 180 | 15 | 262 | 115 | 907 | 68 | 1090 | 377 | 267 | 128 | 772 |
| % App. Total | 2.3 | 76.8 | 20.9 | | 25.6 | 68.7 | 5.7 | | 10.6 | 83.2 | 6.2 | | 48.8 | 34.6 | 16.6 | |
| PHF | .750 | .925 | .901 | .926 | .882 | .900 | .750 | .897 | .927 | .941 | .944 | .946 | .924 | .914 | .970 | .980 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Adams Street
E/W: Monterey Road
Weather: Clear

File Name : 05_GDE_Adams_Monterey Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 1

Groups Printed- Total Volume

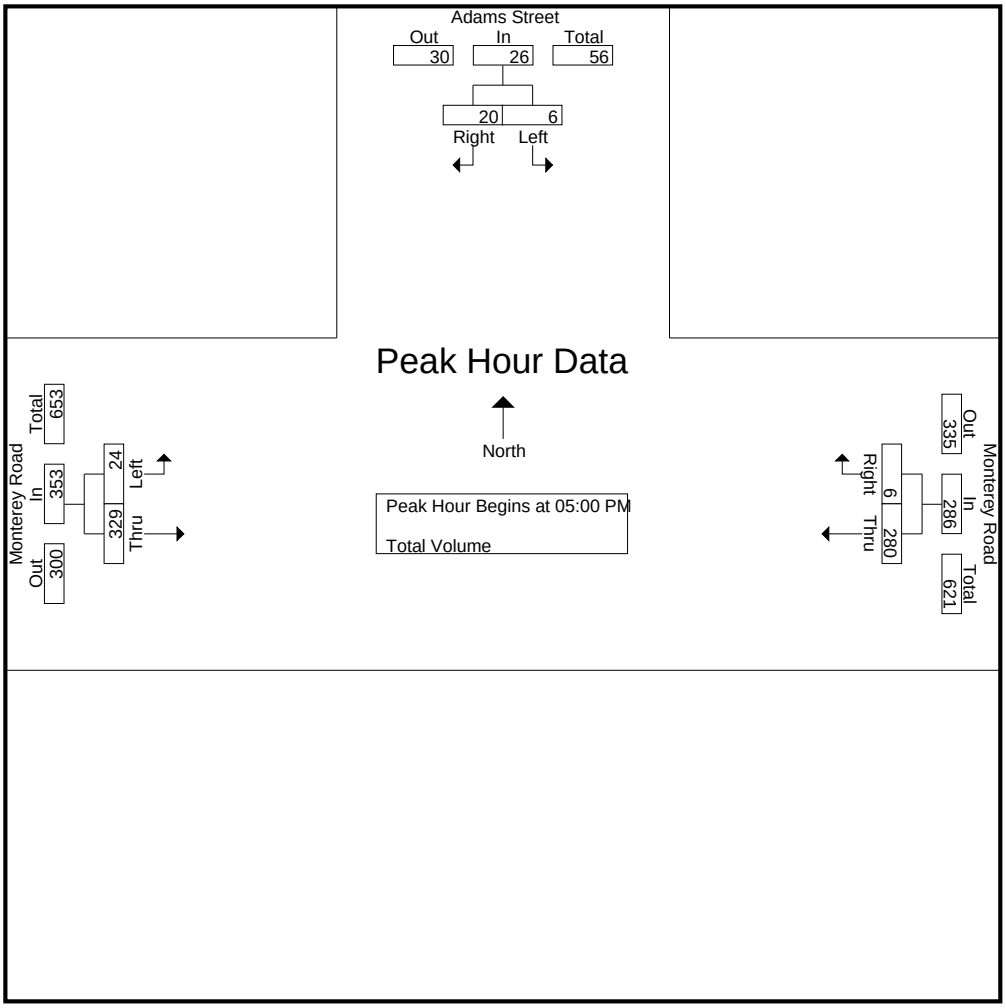
| | Adams Street Southbound | | | Monterey Road Westbound | | | Monterey Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Right | App. Total | Thru | Right | App. Total | Left | Thru | App. Total | Int. Total |
| 04:00 PM | 2 | 3 | 5 | 68 | 4 | 72 | 5 | 63 | 68 | 145 |
| 04:15 PM | 2 | 1 | 3 | 60 | 5 | 65 | 2 | 74 | 76 | 144 |
| 04:30 PM | 2 | 6 | 8 | 57 | 2 | 59 | 3 | 51 | 54 | 121 |
| 04:45 PM | 2 | 5 | 7 | 50 | 2 | 52 | 5 | 67 | 72 | 131 |
| Total | 8 | 15 | 23 | 235 | 13 | 248 | 15 | 255 | 270 | 541 |
| 05:00 PM | 3 | 4 | 7 | 71 | 2 | 73 | 9 | 70 | 79 | 159 |
| 05:15 PM | 1 | 8 | 9 | 89 | 1 | 90 | 5 | 75 | 80 | 179 |
| 05:30 PM | 2 | 4 | 6 | 74 | 3 | 77 | 5 | 98 | 103 | 186 |
| 05:45 PM | 0 | 4 | 4 | 46 | 0 | 46 | 5 | 86 | 91 | 141 |
| Total | 6 | 20 | 26 | 280 | 6 | 286 | 24 | 329 | 353 | 665 |
| Grand Total | 14 | 35 | 49 | 515 | 19 | 534 | 39 | 584 | 623 | 1206 |
| Apprch % | 28.6 | 71.4 | | 96.4 | 3.6 | | 6.3 | 93.7 | | |
| Total % | 1.2 | 2.9 | 4.1 | 42.7 | 1.6 | 44.3 | 3.2 | 48.4 | 51.7 | |

| | Adams Street Southbound | | | Monterey Road Westbound | | | Monterey Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Right | App. Total | Thru | Right | App. Total | Left | Thru | App. Total | Int. Total |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | |
| 05:00 PM | **3** | 4 | 7 | 71 | 2 | 73 | **9** | 70 | 79 | 159 |
| 05:15 PM | 1 | **8** | **9** | **89** | 1 | **90** | 5 | 75 | 80 | 179 |
| 05:30 PM | 2 | 4 | 6 | 74 | **3** | 77 | 5 | **98** | **103** | **186** |
| 05:45 PM | 0 | 4 | 4 | 46 | 0 | 46 | 5 | 86 | 91 | 141 |
| Total Volume | 6 | 20 | 26 | 280 | 6 | 286 | 24 | 329 | 353 | 665 |
| % App. Total | 23.1 | 76.9 | | 97.9 | 2.1 | | 6.8 | 93.2 | | |
| PHF | .500 | .625 | .722 | .787 | .500 | .794 | .667 | .839 | .857 | .894 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Adams Street
E/W: Monterey Road
Weather: Clear

File Name : 05_GDE_Adams_Monterey Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 2




Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 04:30 PM | | | 04:45 PM | | | 05:00 PM | | |
|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 2 | 6 | 8 | 50 | 2 | 52 | **9** | 70 | 79 |
| +15 mins. | 2 | 5 | 7 | 71 | 2 | 73 | 5 | 75 | 80 |
| +30 mins. | **3** | 4 | 7 | **89** | 1 | **90** | 5 | **98** | **103** |
| +45 mins. | 1 | **8** | **9** | 74 | **3** | 77 | 5 | 86 | 91 |
| Total Volume | 8 | 23 | 31 | 284 | 8 | 292 | 24 | 329 | 353 |
| % App. Total | 25.8 | 74.2 | | 97.3 | 2.7 | | 6.8 | 93.2 | |
| PHF | .667 | .719 | .861 | .798 | .667 | .811 | .667 | .839 | .857 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Verdugo Circle Drive/Adams Street
E/W: Glenoaks Boulevard
Weather: Clear

File Name : 06_GDE_Adams_Glenoaks Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 1

Groups Printed- Total Volume

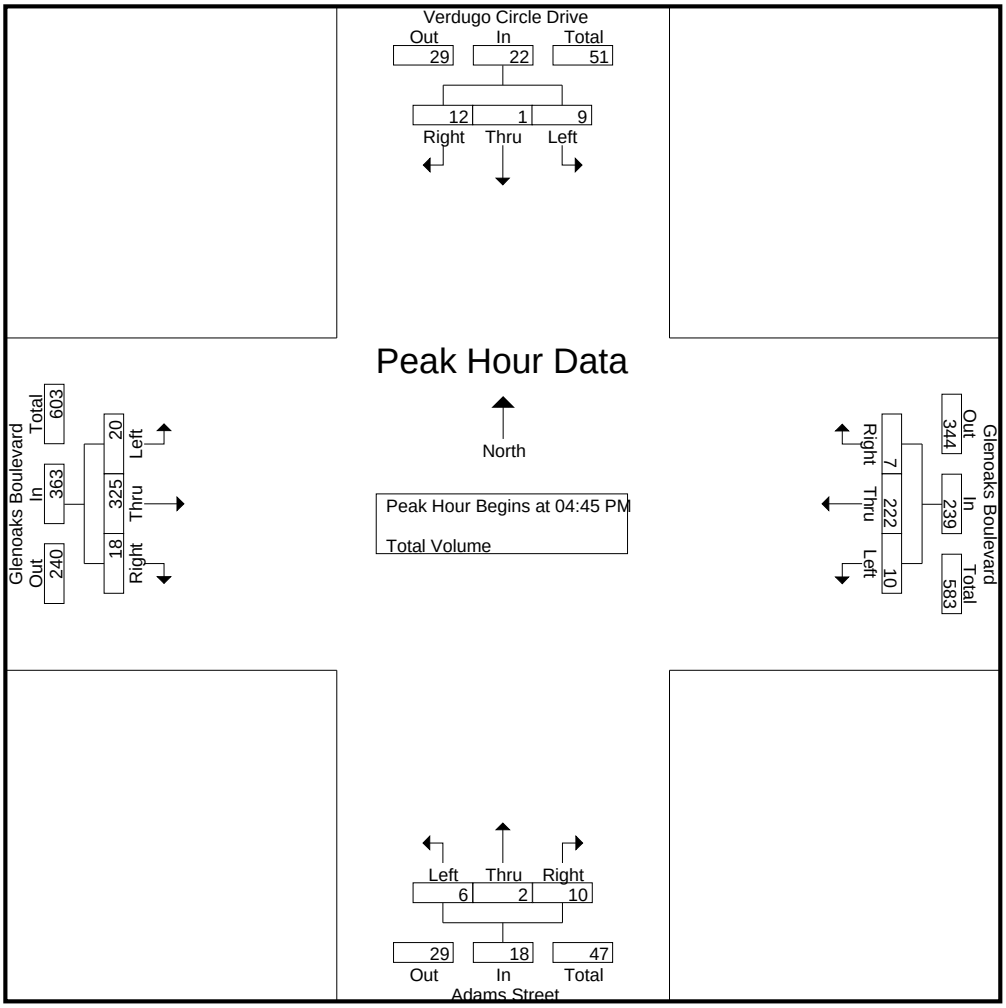
| | Verdugo Circle Drive Southbound | | | | Glenoaks Boulevard Westbound | | | | Adams Street Northbound | | | | Glenoaks Boulevard Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 04:00 PM | 1 | 0 | 2 | 3 | 1 | 51 | 0 | 52 | 1 | 0 | 3 | 4 | 4 | 35 | 2 | 41 | 100 |
| 04:15 PM | 1 | 0 | 2 | 3 | 3 | 48 | 1 | 52 | 2 | 0 | 3 | 5 | 2 | 44 | 2 | 48 | 108 |
| 04:30 PM | 1 | 0 | 2 | 3 | 3 | 50 | 0 | 53 | 1 | 0 | 2 | 3 | 1 | 54 | 3 | 58 | 117 |
| 04:45 PM | 1 | 0 | 0 | 1 | 0 | 57 | 3 | 60 | 0 | 0 | 2 | 2 | 7 | 75 | 6 | 88 | 151 |
| Total | 4 | 0 | 6 | 10 | 7 | 206 | 4 | 217 | 4 | 0 | 10 | 14 | 14 | 208 | 13 | 235 | 476 |
| 05:00 PM | 4 | 1 | 5 | 10 | 2 | 60 | 1 | 63 | 1 | 1 | 6 | 8 | 7 | 70 | 3 | 80 | 161 |
| 05:15 PM | 2 | 0 | 7 | 9 | 2 | 56 | 1 | 59 | 3 | 1 | 1 | 5 | 5 | 93 | 5 | 103 | 176 |
| 05:30 PM | 2 | 0 | 0 | 2 | 6 | 49 | 2 | 57 | 2 | 0 | 1 | 3 | 1 | 87 | 4 | 92 | 154 |
| 05:45 PM | 0 | 0 | 2 | 2 | 0 | 45 | 0 | 45 | 3 | 0 | 2 | 5 | 1 | 73 | 2 | 76 | 128 |
| Total | 8 | 1 | 14 | 23 | 10 | 210 | 4 | 224 | 9 | 2 | 10 | 21 | 14 | 323 | 14 | 351 | 619 |
| Grand Total | 12 | 1 | 20 | 33 | 17 | 416 | 8 | 441 | 13 | 2 | 20 | 35 | 28 | 531 | 27 | 586 | 1095 |
| Apprch % | 36.4 | 3 | 60.6 | | 3.9 | 94.3 | 1.8 | | 37.1 | 5.7 | 57.1 | | 4.8 | 90.6 | 4.6 | | |
| Total % | 1.1 | 0.1 | 1.8 | 3 | 1.6 | 38 | 0.7 | 40.3 | 1.2 | 0.2 | 1.8 | 3.2 | 2.6 | 48.5 | 2.5 | 53.5 | |

| | Verdugo Circle Drive Southbound | | | | Glenoaks Boulevard Westbound | | | | Adams Street Northbound | | | | Glenoaks Boulevard 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 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:45 PM | | | | | | | | | | | | | | | | | |
| 04:45 PM | 1 | 0 | 0 | 1 | 0 | 57 | **3** | 60 | 0 | 0 | 2 | 2 | **7** | 75 | **6** | 88 | 151 |
| 05:00 PM | **4** | **1** | 5 | **10** | 2 | **60** | 1 | **63** | 1 | **1** | **6** | **8** | 7 | 70 | 3 | 80 | 161 |
| 05:15 PM | 2 | 0 | **7** | 9 | 2 | 56 | 1 | 59 | **3** | 1 | 1 | 5 | 5 | **93** | 5 | **103** | **176** |
| 05:30 PM | 2 | 0 | 0 | 2 | **6** | 49 | 2 | 57 | 2 | 0 | 1 | 3 | 1 | 87 | 4 | 92 | 154 |
| Total Volume | 9 | 1 | 12 | 22 | 10 | 222 | 7 | 239 | 6 | 2 | 10 | 18 | 20 | 325 | 18 | 363 | 642 |
| % App. Total | 40.9 | 4.5 | 54.5 | | 4.2 | 92.9 | 2.9 | | 33.3 | 11.1 | 55.6 | | 5.5 | 89.5 | 5 | | |
| PHF | .563 | .250 | .429 | .550 | .417 | .925 | .583 | .948 | .500 | .500 | .417 | .563 | .714 | .874 | .750 | .881 | .912 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Verdugo Circle Drive/Adams Street
E/W: Glenoaks Boulevard
Weather: Clear

File Name : 06_GDE_Adams_Glenoaks Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 2




Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 04:30 PM | | | | 04:45 PM | | | | 05:00 PM | | | | 04:45 PM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 1 | 0 | 2 | 3 | 0 | 57 | **3** | 60 | 1 | **1** | **6** | **8** | **7** | 75 | **6** | 88 |
| +15 mins. | 1 | 0 | 0 | 1 | 2 | **60** | 1 | **63** | **3** | 1 | 1 | 5 | 7 | 70 | 3 | 80 |
| +30 mins. | **4** | **1** | 5 | **10** | 2 | 56 | 1 | 59 | 2 | 0 | 1 | 3 | 5 | **93** | 5 | **103** |
| +45 mins. | 2 | 0 | **7** | 9 | **6** | 49 | 2 | 57 | 3 | 0 | 2 | 5 | 1 | 87 | 4 | 92 |
| Total Volume | 8 | 1 | 14 | 23 | 10 | 222 | 7 | 239 | 9 | 2 | 10 | 21 | 20 | 325 | 18 | 363 |
| % App. Total | 34.8 | 4.3 | 60.9 | | 4.2 | 92.9 | 2.9 | | 42.9 | 9.5 | 47.6 | | 5.5 | 89.5 | 5 | |
| PHF | .500 | .250 | .500 | .575 | .417 | .925 | .583 | .948 | .750 | .500 | .417 | .656 | .714 | .874 | .750 | .881 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Verdugo Road
E/W: Monterey Road
Weather: Clear

File Name : 07_GDE_Verdugo_Monterey Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 1

Groups Printed- Total Volume

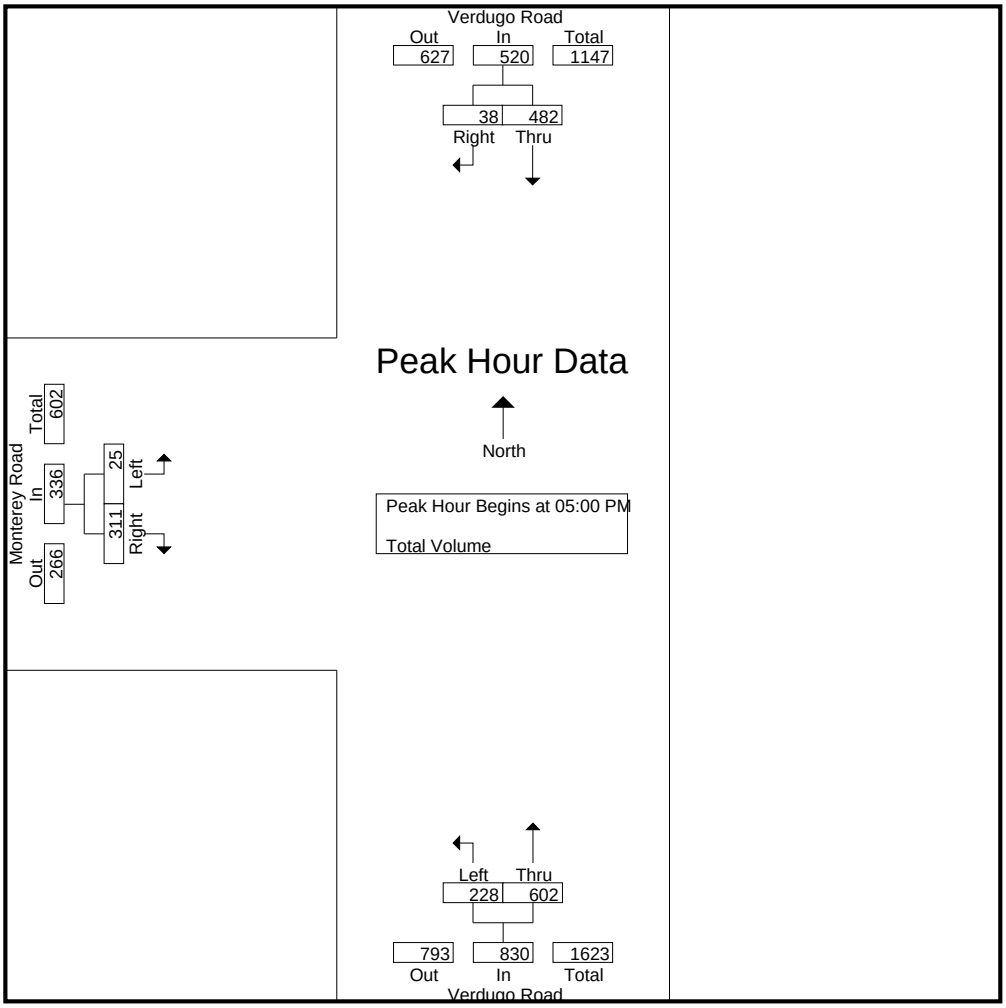
| | Verdugo Road Southbound | | | Verdugo Road Northbound | | | Monterey Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Thru | Right | App. Total | Left | Thru | App. Total | Left | Right | App. Total | Int. Total |
| 04:00 PM | 98 | 9 | 107 | 45 | 106 | 151 | 5 | 59 | 64 | 322 |
| 04:15 PM | 97 | 16 | 113 | 45 | 144 | 189 | 5 | 68 | 73 | 375 |
| 04:30 PM | 121 | 3 | 124 | 54 | 114 | 168 | 5 | 51 | 56 | 348 |
| 04:45 PM | 97 | 11 | 108 | 42 | 165 | 207 | 8 | 60 | 68 | 383 |
| Total | 413 | 39 | 452 | 186 | 529 | 715 | 23 | 238 | 261 | 1428 |
| 05:00 PM | 133 | 10 | 143 | 61 | 172 | 233 | 3 | 60 | 63 | 439 |
| 05:15 PM | 113 | 14 | 127 | 66 | 141 | 207 | 12 | 77 | 89 | 423 |
| 05:30 PM | 114 | 7 | 121 | 60 | 135 | 195 | 5 | 84 | 89 | 405 |
| 05:45 PM | 122 | 7 | 129 | 41 | 154 | 195 | 5 | 90 | 95 | 419 |
| Total | 482 | 38 | 520 | 228 | 602 | 830 | 25 | 311 | 336 | 1686 |
| Grand Total | 895 | 77 | 972 | 414 | 1131 | 1545 | 48 | 549 | 597 | 3114 |
| Apprch % | 92.1 | 7.9 | | 26.8 | 73.2 | | 8 | 92 | | |
| Total % | 28.7 | 2.5 | 31.2 | 13.3 | 36.3 | 49.6 | 1.5 | 17.6 | 19.2 | |

| | Verdugo Road Southbound | | | Verdugo Road Northbound | | | Monterey Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Thru | Right | App. Total | Left | Thru | App. Total | Left | Right | App. Total | Int. Total |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | |
| 05:00 PM | **133** | 10 | **143** | 61 | **172** | **233** | 3 | 60 | 63 | **439** |
| 05:15 PM | 113 | **14** | 127 | **66** | 141 | 207 | **12** | 77 | 89 | 423 |
| 05:30 PM | 114 | 7 | 121 | 60 | 135 | 195 | 5 | 84 | 89 | 405 |
| 05:45 PM | 122 | 7 | 129 | 41 | 154 | 195 | 5 | **90** | **95** | 419 |
| Total Volume | 482 | 38 | 520 | 228 | 602 | 830 | 25 | 311 | 336 | 1686 |
| % App. Total | 92.7 | 7.3 | | 27.5 | 72.5 | | 7.4 | 92.6 | | |
| PHF | .906 | .679 | .909 | .864 | .875 | .891 | .521 | .864 | .884 | .960 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Verdugo Road
E/W: Monterey Road
Weather: Clear

File Name : 07_GDE_Verdugo_Monterey Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 2




Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 05:00 PM | | | 04:45 PM | | | 05:00 PM | | |
|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | **133** | 10 | **143** | 42 | 165 | 207 | 3 | 60 | 63 |
| +15 mins. | 113 | **14** | 127 | 61 | **172** | **233** | **12** | 77 | 89 |
| +30 mins. | 114 | 7 | 121 | **66** | 141 | 207 | 5 | 84 | 89 |
| +45 mins. | 122 | 7 | 129 | 60 | 135 | 195 | 5 | **90** | **95** |
| Total Volume | 482 | 38 | 520 | 229 | 613 | 842 | 25 | 311 | 336 |
| % App. Total | 92.7 | 7.3 | | 27.2 | 72.8 | | 7.4 | 92.6 | |
| PHF | .906 | .679 | .909 | .867 | .891 | .903 | .521 | .864 | .884 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Verdugo Road
E/W: Glenoaks Boulevard
Weather: Clear

File Name : 08_GDE_Verdugo_Glenoaks Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 1

Groups Printed- Total Volume

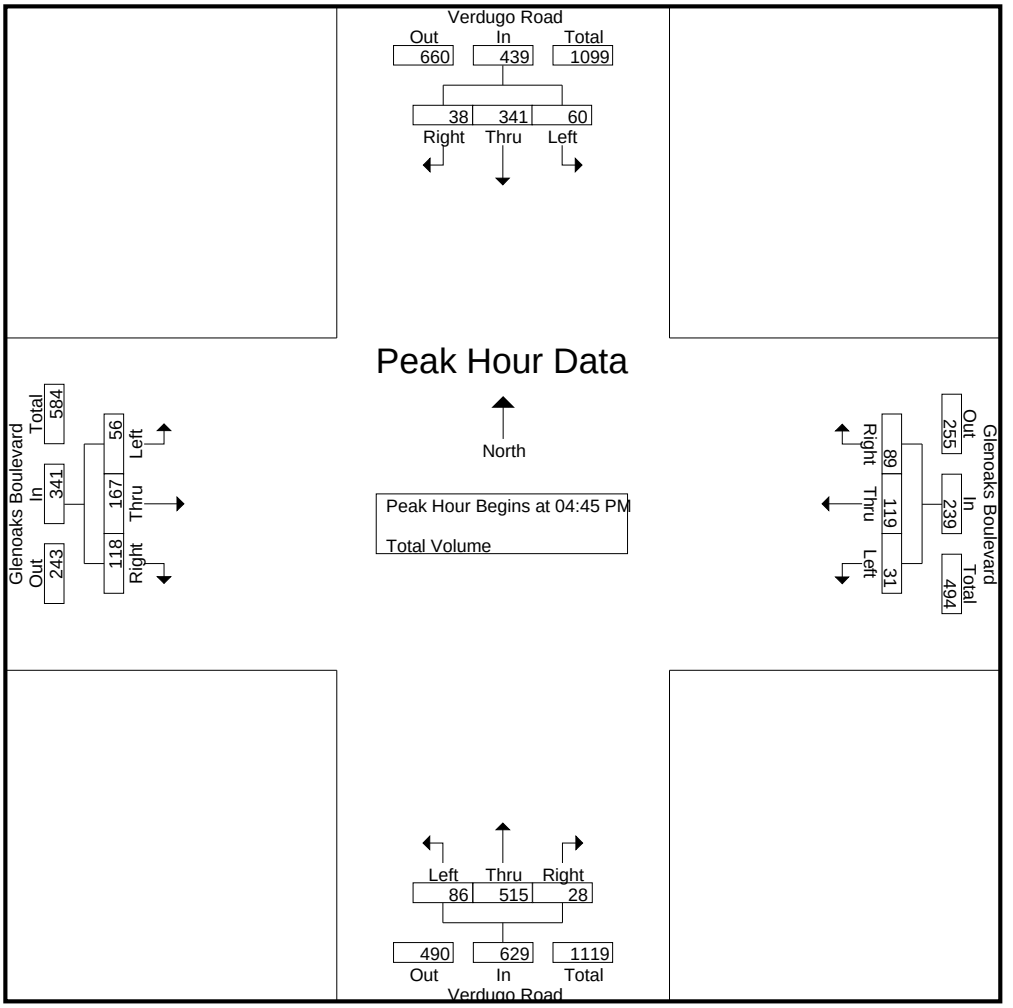
| | Verdugo Road Southbound | | | | Glenoaks Boulevard Westbound | | | | Verdugo Road Northbound | | | | Glenoaks Boulevard Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 04:00 PM | 14 | 76 | 12 | 102 | 4 | 25 | 18 | 47 | 18 | 72 | 11 | 101 | 2 | 19 | 20 | 41 | 291 |
| 04:15 PM | 7 | 86 | 15 | 108 | 3 | 29 | 16 | 48 | 21 | 118 | 6 | 145 | 4 | 25 | 20 | 49 | 350 |
| 04:30 PM | 17 | 102 | 10 | 129 | 5 | 23 | 20 | 48 | 14 | 100 | 7 | 121 | 5 | 19 | 20 | 44 | 342 |
| 04:45 PM | 11 | 82 | 9 | 102 | 9 | 31 | 16 | 56 | 22 | 137 | 7 | 166 | 5 | 48 | 22 | 75 | 399 |
| Total | 49 | 346 | 46 | 441 | 21 | 108 | 70 | 199 | 75 | 427 | 31 | 533 | 16 | 111 | 82 | 209 | 1382 |
| 05:00 PM | 9 | 94 | 10 | 113 | 9 | 36 | 23 | 68 | 21 | 147 | 6 | 174 | 11 | 39 | 27 | 77 | 432 |
| 05:15 PM | 20 | 86 | 6 | 112 | 6 | 27 | 21 | 54 | 27 | 118 | 7 | 152 | 24 | 39 | 35 | 98 | 416 |
| 05:30 PM | 20 | 79 | 13 | 112 | 7 | 25 | 29 | 61 | 16 | 113 | 8 | 137 | 16 | 41 | 34 | 91 | 401 |
| 05:45 PM | 13 | 91 | 10 | 114 | 7 | 16 | 4 | 27 | 19 | 127 | 10 | 156 | 6 | 41 | 28 | 75 | 372 |
| Total | 62 | 350 | 39 | 451 | 29 | 104 | 77 | 210 | 83 | 505 | 31 | 619 | 57 | 160 | 124 | 341 | 1621 |
| Grand Total | 111 | 696 | 85 | 892 | 50 | 212 | 147 | 409 | 158 | 932 | 62 | 1152 | 73 | 271 | 206 | 550 | 3003 |
| Apprch % | 12.4 | 78 | 9.5 | | 12.2 | 51.8 | 35.9 | | 13.7 | 80.9 | 5.4 | | 13.3 | 49.3 | 37.5 | | |
| Total % | 3.7 | 23.2 | 2.8 | 29.7 | 1.7 | 7.1 | 4.9 | 13.6 | 5.3 | 31 | 2.1 | 38.4 | 2.4 | 9 | 6.9 | 18.3 | |

| | Verdugo Road Southbound | | | | Glenoaks Boulevard Westbound | | | | Verdugo Road Northbound | | | | Glenoaks Boulevard 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 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:45 PM | | | | | | | | | | | | | | | | | |
| 04:45 PM | 11 | 82 | 9 | 102 | **9** | 31 | 16 | 56 | 22 | 137 | 7 | 166 | 5 | **48** | 22 | 75 | 399 |
| 05:00 PM | 9 | **94** | 10 | **113** | 9 | **36** | 23 | **68** | 21 | **147** | 6 | **174** | 11 | 39 | 27 | 77 | **432** |
| 05:15 PM | **20** | 86 | 6 | 112 | 6 | 27 | 21 | 54 | **27** | 118 | 7 | 152 | **24** | 39 | **35** | **98** | 416 |
| 05:30 PM | 20 | 79 | **13** | 112 | 7 | 25 | **29** | 61 | 16 | 113 | **8** | 137 | 16 | 41 | 34 | 91 | 401 |
| Total Volume | 60 | 341 | 38 | 439 | 31 | 119 | 89 | 239 | 86 | 515 | 28 | 629 | 56 | 167 | 118 | 341 | 1648 |
| % App. Total | 13.7 | 77.7 | 8.7 | | 13 | 49.8 | 37.2 | | 13.7 | 81.9 | 4.5 | | 16.4 | 49 | 34.6 | | |
| PHF | .750 | .907 | .731 | .971 | .861 | .826 | .767 | .879 | .796 | .876 | .875 | .904 | .583 | .870 | .843 | .870 | .954 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Glendale
N/S: Verdugo Road
E/W: Glenoaks Boulevard
Weather: Clear

File Name : 08_GDE_Verdugo_Glenoaks Tues PM
Site Code : 22119656
Start Date : 10/8/2019
Page No : 2




Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 04:30 PM | | | | 04:45 PM | | | | 04:45 PM | | | | 04:45 PM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 17 | **102** | **10** | **129** | **9** | 31 | 16 | 56 | 22 | 137 | 7 | 166 | 5 | **48** | 22 | 75 |
| +15 mins. | 11 | 82 | 9 | 102 | 9 | **36** | 23 | **68** | 21 | **147** | 6 | **174** | 11 | 39 | 27 | 77 |
| +30 mins. | 9 | 94 | 10 | 113 | 6 | 27 | 21 | 54 | **27** | 118 | 7 | 152 | **24** | 39 | **35** | **98** |
| +45 mins. | **20** | 86 | 6 | 112 | 7 | 25 | **29** | 61 | 16 | 113 | **8** | 137 | 16 | 41 | 34 | 91 |
| Total Volume | 57 | 364 | 35 | 456 | 31 | 119 | 89 | 239 | 86 | 515 | 28 | 629 | 56 | 167 | 118 | 341 |
| % App. Total | 12.5 | 79.8 | 7.7 | | 13 | 49.8 | 37.2 | | 13.7 | 81.9 | 4.5 | | 16.4 | 49 | 34.6 | |
| PHF | .713 | .892 | .875 | .884 | .861 | .826 | .767 | .879 | .796 | .876 | .875 | .904 | .583 | .870 | .843 | .870 |

# Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Glendale
Adams Street
B/ Glenoaks Boulevard - Monterey Road
24 Hour Directional Volume Count

GDE002
Site Code: 221-19656

| Start Time | 08-Oct-19 Tue | Northbound Morning | Northbound Afternoon | Hour Totals Morning | Hour Totals Afternoon | Southbound Morning | Southbound Afternoon | Hour Totals Morning | Hour Totals Afternoon | Combined Totals Morning | Combined Totals Afternoon |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 | | 2 | 5 | | | 1 | 4 | | | | |
| 12:15 | | 1 | 2 | | | 0 | 4 | | | | |
| 12:30 | | 0 | 1 | | | 1 | 4 | | | | |
| 12:45 | | 0 | 2 | 3 | 10 | 0 | 8 | 2 | 20 | 5 | 30 |
| 01:00 | | 2 | 3 | | | 2 | 7 | | | | |
| 01:15 | | 0 | 1 | | | 0 | 9 | | | | |
| 01:30 | | 0 | 4 | | | 0 | 6 | | | | |
| 01:45 | | 1 | 5 | 3 | 13 | 0 | 5 | 2 | 27 | 5 | 40 |
| 02:00 | | 1 | 1 | | | 1 | 5 | | | | |
| 02:15 | | 0 | **8** | | | 0 | **4** | | | | |
| 02:30 | | 0 | **18** | | | 0 | **8** | | | | |
| 02:45 | | 1 | **57** | 2 | 84 | 0 | **38** | 1 | 55 | 3 | 139 |
| 03:00 | | 0 | **14** | | | 0 | **10** | | | | |
| 03:15 | | 1 | 6 | | | 1 | 4 | | | | |
| 03:30 | | 0 | 3 | | | 0 | 6 | | | | |
| 03:45 | | 2 | 2 | 3 | 25 | 0 | 7 | 1 | 27 | 4 | 52 |
| 04:00 | | 0 | 9 | | | 0 | 4 | | | | |
| 04:15 | | 0 | 6 | | | 1 | 2 | | | | |
| 04:30 | | 0 | 3 | | | 0 | 7 | | | | |
| 04:45 | | 0 | 7 | 0 | 25 | 0 | 6 | 1 | 19 | 1 | 44 |
| 05:00 | | 1 | 12 | | | 0 | 6 | | | | |
| 05:15 | | 1 | 4 | | | 0 | 10 | | | | |
| 05:30 | | 2 | 5 | | | 1 | 5 | | | | |
| 05:45 | | 0 | 4 | 4 | 25 | 2 | 3 | 3 | 24 | 7 | 49 |
| 06:00 | | 2 | 4 | | | 1 | 4 | | | | |
| 06:15 | | 0 | 10 | | | 3 | 3 | | | | |
| 06:30 | | 5 | 4 | | | 3 | 7 | | | | |
| 06:45 | | 10 | 3 | 17 | 21 | 8 | 3 | 15 | 17 | 32 | 38 |
| 07:00 | | 0 | 4 | | | **8** | 5 | | | | |
| 07:15 | | **8** | 7 | | | **2** | 2 | | | | |
| 07:30 | | **36** | 3 | | | **26** | 6 | | | | |
| 07:45 | | **52** | 5 | 96 | 19 | **30** | 2 | 66 | 15 | 162 | 34 |
| 08:00 | | **5** | 6 | | | 3 | 5 | | | | |
| 08:15 | | 3 | 3 | | | 5 | 0 | | | | |
| 08:30 | | 1 | 3 | | | 3 | 2 | | | | |
| 08:45 | | 0 | 5 | 9 | 17 | 10 | 2 | 21 | 9 | 30 | 26 |
| 09:00 | | 2 | 1 | | | 7 | 3 | | | | |
| 09:15 | | 3 | 3 | | | 5 | 2 | | | | |
| 09:30 | | 5 | 2 | | | 5 | 2 | | | | |
| 09:45 | | 0 | 2 | 10 | 8 | 2 | 3 | 19 | 10 | 29 | 18 |
| 10:00 | | 2 | 3 | | | 2 | 2 | | | | |
| 10:15 | | 4 | 4 | | | 2 | 1 | | | | |
| 10:30 | | 1 | 1 | | | 0 | 3 | | | | |
| 10:45 | | 2 | 2 | 9 | 10 | 5 | 3 | 9 | 9 | 18 | 19 |
| 11:00 | | 1 | 1 | | | 9 | 1 | | | | |
| 11:15 | | 2 | 3 | | | 4 | 0 | | | | |
| 11:30 | | 0 | 0 | | | 4 | 0 | | | | |
| 11:45 | | 5 | 0 | 8 | 4 | 3 | 0 | 20 | 1 | 28 | 5 |
| Total | | 164 | 261 | 164 | 261 | 160 | 233 | 160 | 233 | 324 | 494 |
| Combined Total | | 425 | | 425 | | 393 | | 393 | | 818 | |
| AM Peak | - | 07:15 | - | - | - | 07:00 | - | - | - | - | - |
| Vol. | - | 101 | - | - | - | 66 | - | - | - | - | - |
| P.H.F. | | 0.486 | | | | 0.550 | | | | | |
| PM Peak | - | - | 02:15 | - | - | - | 02:15 | - | - | - | - |
| Vol. | - | - | 97 | - | - | - | 60 | - | - | - | - |
| P.H.F. | | | 0.425 | | | | 0.395 | | | | |
| Percentage | | 38.6% | 61.4% | | | 40.7% | 59.3% | | | | |
| ADT/AADT | | ADT 818 | | AADT 818 | | | | | | | |

# Appendix C. Intersection Turn Movement Volumes and LOS Worksheets, Existing Conditions

# Appendices

*This page intentionally left blank.*

Wilson Middle School

Vistro File: Y:\...\Nov_2019_WilsonMS.vistro
Report File: Y:\...\Existing_PM.pdf

Scenario 1 Existing Weekday PM
12/4/2019

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | SR-134 WB Ramps at Monterey Road | Signalized | ICU 1 | NB Right | 0.849 | - | D |
| 2 | Glendale Avenue at SR-134 EB Ramps | Signalized | ICU 1 | NEB Thru | 0.675 | - | B |
| 3 | Glendale Avenue at Monterey Road | Signalized | ICU 1 | EB Right | 0.876 | - | D |
| 4 | Glendale Avenue at Glenoaks Boulevard | Signalized | ICU 1 | NEB Thru | 0.757 | - | C |
| 5 | Adams Street at Monterey Road | Two-way stop | HCM 6th Edition | SB Left | 0.062 | 15.4 | C |
| 6 | Adams Street at Glenoaks Boulevard | Two-way stop | HCM 6th Edition | SB Left | 0.028 | 15.6 | C |
| 7 | Verdugo Road at Monterey Road | Signalized | ICU 1 | EB Right | 0.614 | - | B |
| 8 | Verdugo Road at Glenoaks Boulevard | Signalized | ICU 1 | EB Thru | 0.511 | - | A |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: SR-134 WB Ramps at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.849 |

**Intersection Setup**

| Name | SR-134 WB Ramps | | | Cordova Avenue | | | | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | SR-134 WB Ramps | | | Cordova Avenue | | | | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 345 | 0 | 520 | 0 | 0 | 6 | 0 | 720 | 91 | 602 | 273 | 15 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0300 | 1.0000 | 1.0300 | 1.0300 | 1.0000 | 1.0300 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 355 | 0 | 520 | 0 | 0 | 6 | 0 | 742 | 94 | 602 | 281 | 15 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 89 | 0 | 130 | 0 | 0 | 2 | 0 | 186 | 24 | 151 | 70 | 4 |
| Total Analysis Volume [veh/h] | 355 | 0 | 520 | 0 | 0 | 6 | 0 | 742 | 94 | 602 | 281 | 15 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Overlap | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 0 | 2 | 0 | 0 | 6 | 0 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | 2 | | | | | | | | | |
| Lead / Lag | Lead | - | - | - | - | - | - | - | - | Lead | - | - |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.22 | 0.00 | 0.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.23 | 0.06 | 0.19 | 0.19 | 0.19 |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.849 | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 2: Glendale Avenue at SR-134 EB Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.675 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Southeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 1882 | 1037 | 504 | 440 | 359 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 1938 | 1068 | 519 | 453 | 370 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 485 | 267 | 130 | 113 | 93 |
| Total Analysis Volume [veh/h] | 0 | 1938 | 1068 | 519 | 453 | 370 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| | | | | | | |
|---|---|---|---|---|---|---|
| Control Type | Permissive | Permissive | Permissive | Overlap | Permissive | Permissive |
| Signal Group | 0 | 2 | 6 | 6 | 3 | 0 |
| Auxiliary Signal Groups | | | | 6 | | |
| Lead / Lag | - | - | - | - | Lead | - |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.40 | 0.33 | 0.32 | 0.14 | 0.17 |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.675 | | | | | |

**Intersection Level Of Service Report**
**Intersection 3: Glendale Avenue at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.876 |

**Intersection Setup**

| Name | | | | Glendale Avenue | | | Monterey Road | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | | | | Glendale Avenue | | | Monterey Road | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 317 | 902 | 118 | 0 | 614 | 327 | 216 | 234 | 766 | 87 | 239 | 19 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0300 | 1.0300 | 1.0000 | 1.0300 | 1.0000 | 1.0000 | 1.0000 | 1.0300 | 1.0300 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 327 | 929 | 122 | 0 | 632 | 327 | 216 | 234 | 789 | 90 | 239 | 19 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 82 | 232 | 31 | 0 | 158 | 82 | 54 | 59 | 197 | 23 | 60 | 5 |
| Total Analysis Volume [veh/h] | 327 | 929 | 122 | 0 | 632 | 327 | 216 | 234 | 789 | 90 | 239 | 19 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Overlap | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 0 | 0 | 6 | 0 | 0 | 4 | 4 | 0 | 8 | 0 |
| Auxiliary Signal Groups | | | | | | | | | 4,5 | | | |
| Lead / Lag | Lead | - | - | - | - | - | - | - | - | - | - | - |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.10 | 0.33 | 0.33 | 0.00 | 0.13 | 0.20 | 0.14 | 0.15 | 0.39 | 0.06 | 0.08 | 0.08 |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.876 | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Glendale Avenue at Glenoaks Boulevard**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.757 |

**Intersection Setup**

| Name | Glendale Avenue | | | Glendale Avenue | | | Glenoaks Blvd | | | Glenoaks Blvd | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left2 | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Glendale Avenue | | | Glendale Avenue | | | Glenoaks Blvd | | | Glenoaks Blvd | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 121 | 971 | 65 | 22 | 727 | 172 | 67 | 180 | 14 | 338 | 267 | 128 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0300 | 1.0000 | 1.0300 | 1.0300 | 1.0300 | 1.0000 | 1.0000 | 1.0300 | 1.0300 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 121 | 1000 | 65 | 23 | 749 | 177 | 67 | 180 | 14 | 348 | 267 | 128 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 30 | 250 | 16 | 6 | 187 | 44 | 17 | 45 | 4 | 87 | 67 | 32 |
| Total Analysis Volume [veh/h] | 121 | 1000 | 65 | 23 | 749 | 177 | 67 | 180 | 14 | 348 | 267 | 128 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | ProtPer | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 0 | 1 | 6 | 0 | 0 | 4 | 0 | 3 | 8 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | Lead | - | - | - | - | - | Lead | - | - |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.08 | 0.31 | 0.04 | 0.01 | 0.19 | 0.19 | 0.04 | 0.11 | 0.01 | 0.22 | 0.17 | 0.08 |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.757 | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Adams Street at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 15.4 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.062 |

**Intersection Setup**

| Name | Adams Street | | Monterey Road | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | Adams Street | | Monterey Road | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 20 | 6 | 24 | 329 | 280 | 6 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0000 | 1.0000 | 1.0300 | 1.0300 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 21 | 6 | 24 | 339 | 288 | 6 |
| Peak Hour Factor | 0.9050 | 0.9050 | 0.9050 | 0.9050 | 0.9050 | 0.9050 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 6 | 2 | 7 | 94 | 80 | 2 |
| Total Analysis Volume [veh/h] | 23 | 7 | 27 | 375 | 318 | 7 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.06 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 15.38 | 10.67 | 7.98 | 0.00 | 0.00 | 0.00 |
| Movement LOS | C | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.23 | 0.23 | 0.07 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 5.78 | 5.78 | 1.68 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 14.28 | | 0.54 | | 0.00 | |
| Approach LOS | B | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.85 | | | | | |
| Intersection LOS | C | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Adams Street at Glenoaks Boulevard**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 15.6 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.028 |

**Intersection Setup**

| Name | Adams Street | | | Verdugo Circle Drive | | | Glenoaks Blvd | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Adams Street | | | Verdugo Circle Drive | | | Glenoaks Blvd | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 6 | 2 | 10 | 9 | 1 | 12 | 20 | 325 | 18 | 10 | 222 | 7 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 6 | 2 | 10 | 9 | 1 | 12 | 20 | 325 | 18 | 10 | 222 | 7 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 2 | 1 | 3 | 2 | 0 | 3 | 5 | 88 | 5 | 3 | 60 | 2 |
| Total Analysis Volume [veh/h] | 7 | 2 | 11 | 10 | 1 | 13 | 22 | 353 | 20 | 11 | 241 | 8 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | |
|---|---|---|---|---|
| Priority Scheme | Stop | Stop | Free | Free |
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.02 | 0.01 | 0.02 | 0.03 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 15.53 | 15.26 | 10.60 | 15.59 | 15.37 | 9.89 | 7.78 | 0.00 | 0.00 | 8.07 | 0.00 | 0.00 |
| Movement LOS | C | C | B | C | C | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.13 | 0.13 | 0.13 | 0.15 | 0.15 | 0.15 | 0.05 | 0.05 | 0.05 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 3.24 | 3.24 | 3.24 | 3.74 | 3.74 | 3.74 | 1.27 | 1.27 | 1.27 | 0.70 | 0.70 | 0.70 |
| d_A, Approach Delay [s/veh] | 12.79 | | | 12.50 | | | 0.43 | | | 0.34 | | |
| Approach LOS | B | | | B | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.17 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 7: Verdugo Road at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.614 |

**Intersection Setup**

| Name | | | Verdugo Road | | | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Eastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | | | Verdugo Road | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 228 | 602 | 482 | 38 | 25 | 311 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 235 | 620 | 496 | 39 | 26 | 320 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 59 | 155 | 124 | 10 | 7 | 80 |
| Total Analysis Volume [veh/h] | 235 | 620 | 496 | 39 | 26 | 320 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | ProtPerm | Permissive | Permissive | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 6 | 0 | 3 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | Lead | - |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.15 | 0.19 | 0.17 | 0.17 | 0.02 | 0.20 |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.614 | | | | | |

**Intersection Level Of Service Report**
**Intersection 8: Verdugo Road at Glenoaks Boulevard**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.511 |

**Intersection Setup**

| Name | Verdugo Road | | | | | | Glenoaks Boulevard | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Verdugo Road | | | | | | Glenoaks Boulevard | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 86 | 515 | 28 | 60 | 341 | 38 | 56 | 167 | 118 | 31 | 119 | 89 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0300 | 1.0000 | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 86 | 530 | 28 | 62 | 351 | 39 | 58 | 167 | 118 | 31 | 119 | 92 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 22 | 133 | 7 | 16 | 88 | 10 | 15 | 42 | 30 | 8 | 30 | 23 |
| Total Analysis Volume [veh/h] | 86 | 530 | 28 | 62 | 351 | 39 | 58 | 167 | 118 | 31 | 119 | 92 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

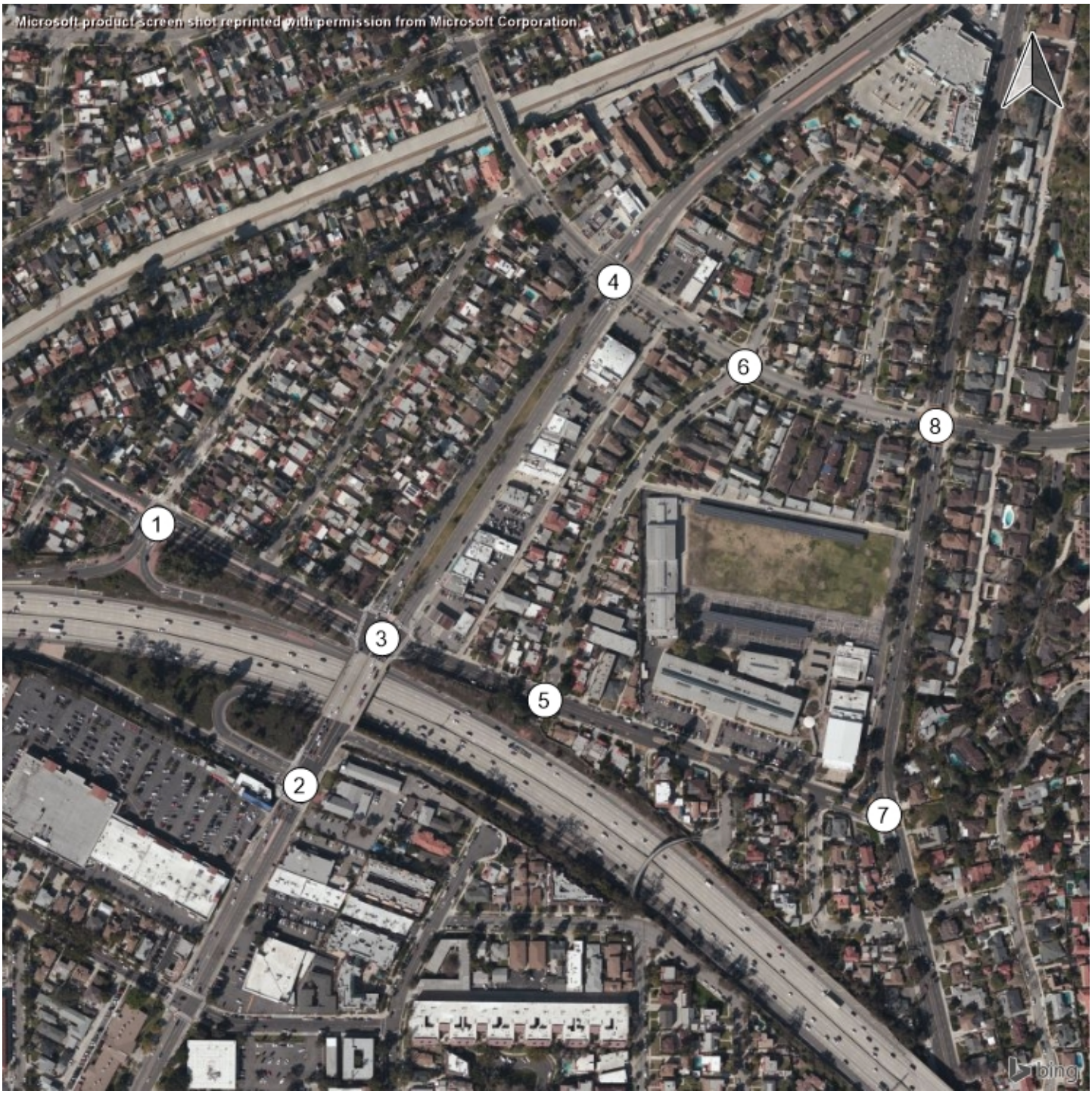
**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 2 | 0 | 0 | 6 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |

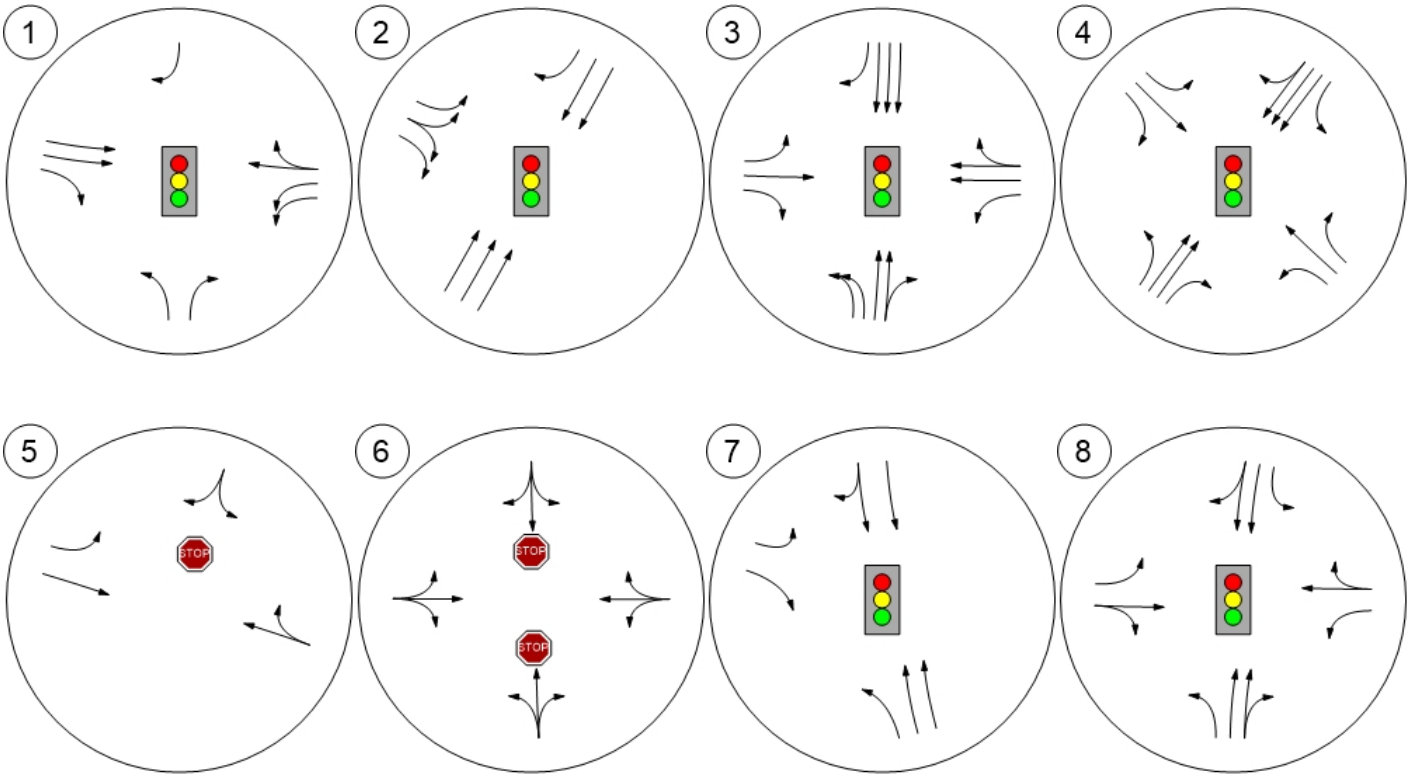
**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.05 | 0.17 | 0.17 | 0.04 | 0.12 | 0.12 | 0.04 | 0.18 | 0.18 | 0.02 | 0.13 | 0.13 |
| Intersection LOS | A | | | | | | | | | | | |
| Intersection V/C | 0.511 | | | | | | | | | | | |

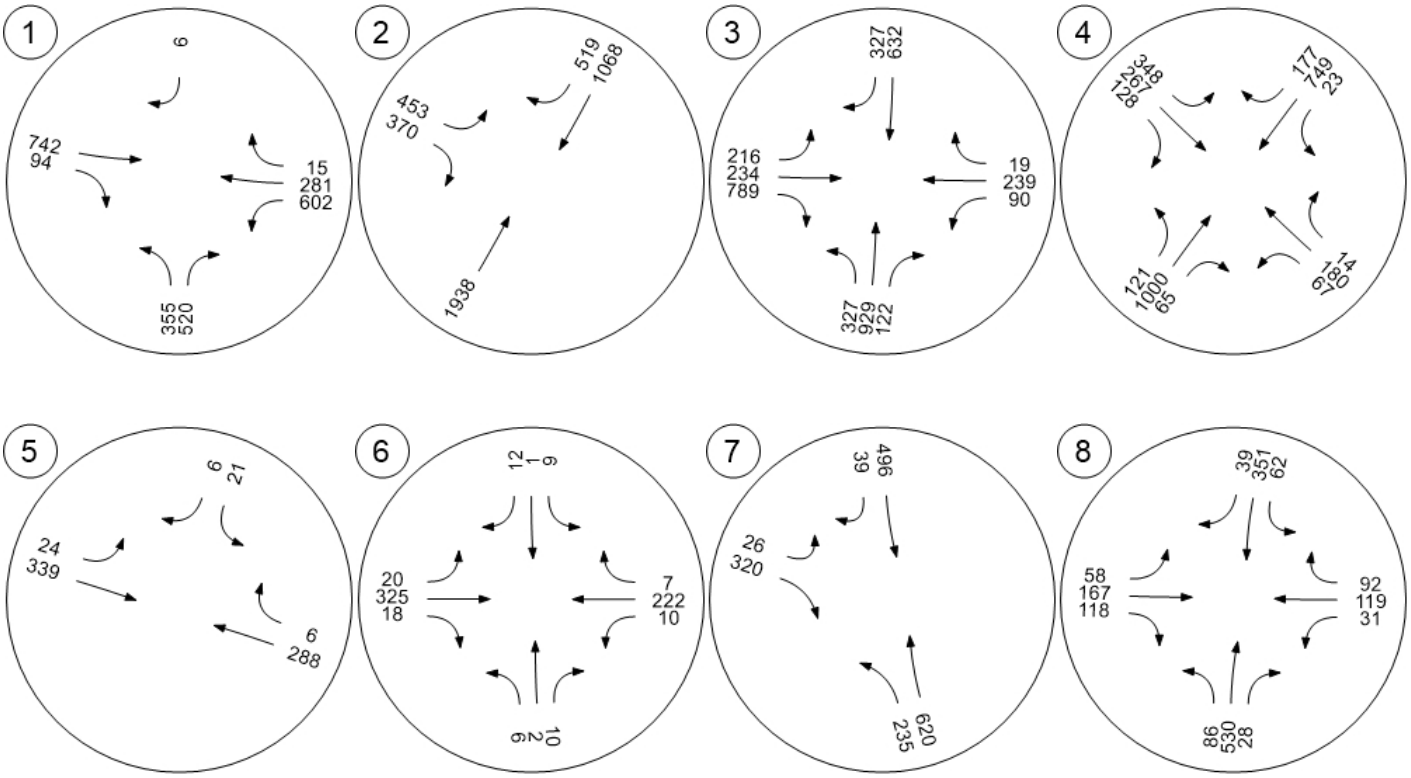
## Study Intersections



## Lane Configuration and Traffic Control



## Traffic Volume - Future Total Volume



# Appendix D. Parking Counts and Worksheets

# Appendices

*This page intentionally left blank.*

**Project Title - Woodrow Wilson Middle School - Glendale, CA**

Parking Occupancy Survey

Location: Woodrow Wilson Middle School

Date: Saturday, October 5th, 2019

| Parking Lot | Inv | 8:00 AM | 8:30 AM | 9:00 AM | 9:30 AM | 10:00 AM | 10:30 AM | 11:00 AM | 11:30 AM | 12:00 PM | 12:30 PM | 1:00 PM | 1:30 PM | 2:00 PM | 2:30 PM | 3:00 PM | 3:30 PM | 4:00 PM | 4:30 PM | 5:00 PM | 5:30 PM | 6:00 PM | 6:30 PM | 7:00 PM | 7:30 PM | 8:00 PM | 8:30 PM | 9:00 PM | 9:30 PM | 10:00 PM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unmarked Stall | 65 | 26 | 30 | 29 | 38 | 43 | 37 | 37 | 24 | 24 | 24 | 20 | 31 | 25 | 22 | 33 | 22 | 23 | 24 | 23 | 22 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 |
| Handicapped | 4 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Occupancy | 69 | 26 | 31 | 30 | 39 | 44 | 38 | 38 | 25 | 25 | 25 | 20 | 31 | 25 | 22 | 33 | 23 | 23 | 24 | 23 | 22 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 |
| Total Percent | - | *38%* | *45%* | *43%* | *57%* | *64%* | *55%* | *55%* | *36%* | *36%* | *36%* | *29%* | *45%* | *36%* | *32%* | *48%* | *33%* | *33%* | *35%* | *33%* | *32%* | *7%* | *6%* | *6%* | *6%* | *6%* | *6%* | *6%* | *7%* | *7%* |

| Street Parking | 8:00 AM | 8:30 AM | 9:00 AM | 9:30 AM | 10:00 AM | 10:30 AM | 11:00 AM | 11:30 AM | 12:00 PM | 12:30 PM | 1:00 PM | 1:30 PM | 2:00 PM | 2:30 PM | 3:00 PM | 3:30 PM | 4:00 PM | 4:30 PM | 5:00 PM | 5:30 PM | 6:00 PM | 6:30 PM | 7:00 PM | 7:30 PM | 8:00 PM | 8:30 PM | 9:00 PM | 9:30 PM | 10:00 PM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Briarwood Lane | 5 | 4 | 4 | 4 | 4 | 6 | 6 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 9 | 7 | 7 | 6 | 6 | 6 | 6 | 6 | 5 | 5 | 5 | 5 |
| E Glenoaks Blvd (E) | 12 | 15 | 13 | 14 | 10 | 7 | 7 | 10 | 9 | 10 | 8 | 6 | 7 | 7 | 8 | 7 | 7 | 5 | 6 | 6 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 |
| E Glenoaks Blvd (C) | 66 | 65 | 64 | 58 | 57 | 48 | 51 | 57 | 59 | 58 | 58 | 63 | 53 | 56 | 60 | 56 | 59 | 58 | 55 | 56 | 53 | 53 | 55 | 54 | 52 | 51 | 49 | 49 | 49 |
| Glenvista Drive (S) | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| Glenvista Drive (N) | 7 | 9 | 9 | 9 | 9 | 9 | 7 | 7 | 5 | 8 | 6 | 8 | 9 | 10 | 11 | 11 | 9 | 9 | 10 | 8 | 7 | 7 | 7 | 7 | 8 | 10 | 11 | 10 | 10 |
| Sylvanoak Drive (S) | 17 | 18 | 18 | 17 | 16 | 15 | 16 | 13 | 9 | 10 | 12 | 12 | 12 | 12 | 12 | 12 | 13 | 15 | 19 | 18 | 17 | 18 | 19 | 19 | 19 | 19 | 19 | 18 | 18 |
| Sylvanoak Drive (N) | 8 | 8 | 6 | 5 | 7 | 8 | 8 | 8 | 8 | 8 | 9 | 11 | 11 | 10 | 11 | 11 | 10 | 9 | 9 | 9 | 9 | 10 | 11 | 10 | 10 | 9 | 9 | 9 | 9 |
| N Verdugo Rd | 117 | 117 | 118 | 118 | 118 | 103 | 108 | 111 | 109 | 115 | 112 | 111 | 110 | 108 | 103 | 102 | 103 | 105 | 105 | 103 | 82 | 79 | 81 | 87 | 89 | 91 | 93 | 96 | 99 |
| Verdugo Circle | 63 | 64 | 67 | 62 | 65 | 62 | 64 | 65 | 70 | 78 | 77 | 71 | 60 | 52 | 52 | 52 | 53 | 57 | 54 | 49 | 50 | 51 | 53 | 56 | 55 | 55 | 54 | 58 | 60 |
| N Glendale Avenue | 32 | 36 | 36 | 35 | 35 | 37 | 46 | 41 | 46 | 46 | 49 | 41 | 50 | 48 | 45 | 43 | 41 | 36 | 36 | 32 | 30 | 33 | 29 | 26 | 26 | 28 | 31 | 30 | 22 |
| Monterey Road (W) | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 4 | 4 | 4 | 5 | 5 | 5 | 5 |
| Monterey Road (E) | 30 | 30 | 29 | 31 | 28 | 28 | 30 | 31 | 29 | 29 | 31 | 31 | 31 | 30 | 29 | 28 | 27 | 27 | 27 | 27 | 27 | 30 | 28 | 26 | 26 | 28 | 27 | 26 | 26 |
| Woodbury Road | 17 | 16 | 16 | 15 | 15 | 14 | 12 | 13 | 13 | 15 | 16 | 13 | 12 | 13 | 14 | 19 | 20 | 21 | 22 | 20 | 20 | 19 | 19 | 19 | 18 | 17 | 15 | 16 | 18 |
| Grove Place (N) | 6 | 8 | 11 | 12 | 11 | 7 | 7 | 6 | 6 | 6 | 6 | 6 | 10 | 8 | 8 | 6 | 6 | 5 | 4 | 6 | 6 | 6 | 5 | 5 | 5 | 5 | 5 | 6 | 4 |
| Galer Place (N) | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 4 | 4 | 4 | 6 | 6 | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 6 | 7 | 10 | 12 | 16 | 17 | 17 | 16 |
| Naranja Drive (N) | 4 | 5 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 |
| N Adams St (N) | 63 | 63 | 61 | 57 | 60 | 59 | 57 | 61 | 60 | 58 | 57 | 58 | 57 | 57 | 58 | 58 | 58 | 60 | 60 | 60 | 58 | 59 | 54 | 56 | 57 | 58 | 59 | 60 | 60 |
| Portola Avenue | 50 | 49 | 48 | 50 | 50 | 46 | 45 | 46 | 42 | 45 | 45 | 43 | 47 | 49 | 47 | 47 | 50 | 52 | 53 | 52 | 51 | 47 | 46 | 45 | 45 | 45 | 47 | 48 | 50 |
| E Glenoaks Blvd (W) | 6 | 6 | 7 | 7 | 6 | 6 | 6 | 6 | 6 | 7 | 6 | 8 | 8 | 9 | 8 | 7 | 7 | 6 | 6 | 6 | 5 | 6 | 6 | 7 | 7 | 7 | 6 | 7 | 7 |
| E Doran Street (W) | 23 | 24 | 25 | 24 | 21 | 22 | 22 | 21 | 23 | 23 | 23 | 21 | 26 | 24 | 22 | 22 | 24 | 22 | 24 | 25 | 24 | 24 | 23 | 23 | 23 | 24 | 25 | 25 | 25 |
| N Adams St (S) | 58 | 58 | 57 | 56 | 58 | 58 | 58 | 57 | 54 | 63 | 60 | 64 | 60 | 60 | 59 | 64 | 61 | 59 | 63 | 60 | 59 | 62 | 64 | 63 | 66 | 66 | 65 | 64 | 59 |
| E Doran Street (E) | 47 | 46 | 47 | 43 | 44 | 43 | 41 | 40 | 40 | 38 | 35 | 37 | 40 | 39 | 42 | 39 | 39 | 41 | 44 | 45 | 49 | 46 | 43 | 47 | 51 | 51 | 52 | 50 | 50 |
| Naranja Drive (S) | 48 | 49 | 45 | 43 | 40 | 41 | 40 | 38 | 39 | 39 | 36 | 37 | 33 | 36 | 38 | 37 | 38 | 41 | 41 | 38 | 40 | 41 | 42 | 43 | 46 | 46 | 47 | 47 | 48 |
| Galer Place (S) | 13 | 10 | 10 | 9 | 9 | 9 | 12 | 12 | 13 | 13 | 13 | 13 | 13 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 13 | 13 | 13 | 13 |
| Richard Place | 29 | 28 | 28 | 27 | 28 | 24 | 24 | 24 | 25 | 24 | 27 | 27 | 25 | 25 | 28 | 28 | 31 | 30 | 30 | 33 | 33 | 31 | 32 | 33 | 30 | 30 | 29 | 29 | 31 |
| Grove Place (S) | 15 | 15 | 16 | 15 | 17 | 17 | 18 | 19 | 22 | 22 | 21 | 21 | 21 | 21 | 22 | 22 | 22 | 21 | 22 | 22 | 21 | 22 | 21 | 20 | 20 | 20 | 21 | 19 | 18 |
| Total Occupancy | 748 | 754 | 750 | 726 | 724 | 684 | 698 | 704 | 707 | 733 | 725 | 720 | 715 | 706 | 711 | 706 | 714 | 716 | 724 | 710 | 678 | 684 | 679 | 691 | 700 | 713 | 718 | 722 | 717 |

**Project Title - Woodrow Wilson Middle School - Glendale, CA**

Parking Occupancy Survey

Location: Woodrow Wilson Middle School

Date: Tuesday, October 8th, 2019

| Parking Lot | Inv | 5:00 PM | 5:30 PM | 6:00 PM | 6:30 PM | 7:00 PM | 7:30 PM | 8:00 PM | 8:30 PM | 9:00 PM | 9:30 PM | 10:00 PM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unmarked Stall | 65 | 33 | 17 | 9 | 15 | 24 | 23 | 9 | 9 | 10 | 4 | 3 |
| Handicapped | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Occupancy | 69 | 34 | 17 | 9 | 15 | 24 | 23 | 9 | 9 | 10 | 4 | 3 |
| Total Percent | - | *49%* | *25%* | *13%* | *22%* | *35%* | *33%* | *13%* | *13%* | *14%* | *6%* | *4%* |

| Street Parking | 5:00 PM | 5:30 PM | 6:00 PM | 6:30 PM | 7:00 PM | 7:30 PM | 8:00 PM | 8:30 PM | 9:00 PM | 9:30 PM | 10:00 PM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Briarwood Lane | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 7 | 7 | 5 | 4 |
| E Glenoaks Blvd (E) | 2 | 3 | 3 | 4 | 5 | 6 | 6 | 6 | 8 | 8 | 6 |
| E Glenoaks Blvd (C) | 40 | 42 | 47 | 53 | 55 | 55 | 54 | 57 | 59 | 59 | 59 |
| Glenvista Drive (S) | 4 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 4 |
| Glenvista Drive (N) | 3 | 2 | 3 | 6 | 6 | 7 | 7 | 6 | 7 | 6 | 6 |
| Sylvanoak Drive (S) | 14 | 13 | 13 | 15 | 15 | 16 | 16 | 18 | 18 | 16 | 16 |
| Sylvanoak Drive (N) | 6 | 7 | 9 | 6 | 7 | 7 | 8 | 9 | 9 | 10 | 10 |
| N Verdugo Rd | 78 | 75 | 87 | 86 | 93 | 100 | 99 | 100 | 103 | 104 | 110 |
| Verdugo Circle | 52 | 47 | 46 | 49 | 49 | 51 | 52 | 53 | 58 | 61 | 62 |
| N Glendale Avenue | 26 | 30 | 29 | 31 | 27 | 28 | 28 | 29 | 29 | 31 | 30 |
| Monterey Road (W) | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| Monterey Road (E) | 27 | 27 | 28 | 29 | 28 | 26 | 24 | 24 | 27 | 27 | 27 |
| Woodbury Road | 13 | 14 | 15 | 15 | 14 | 14 | 14 | 14 | 14 | 15 | 16 |
| Grove Place (N) | 6 | 4 | 5 | 6 | 7 | 8 | 8 | 9 | 9 | 7 | 8 |
| Galer Place (N) | 6 | 4 | 6 | 6 | 10 | 11 | 9 | 11 | 11 | 9 | 9 |
| Naranja Drive (N) | 1 | 3 | 3 | 4 | 4 | 3 | 5 | 5 | 5 | 6 | 5 |
| N Adams St (N) | 46 | 48 | 53 | 61 | 59 | 62 | 62 | 63 | 63 | 63 | 63 |
| Portola Avenue | 41 | 44 | 45 | 48 | 49 | 50 | 52 | 55 | 58 | 57 | 59 |
| E Glenoaks Blvd (W) | 5 | 6 | 8 | 5 | 6 | 7 | 7 | 7 | 7 | 8 | 8 |
| E Doran Street (W) | 23 | 24 | 22 | 24 | 23 | 24 | 25 | 24 | 25 | 26 | 24 |
| N Adams St (S) | 53 | 55 | 58 | 61 | 56 | 56 | 59 | 58 | 58 | 58 | 57 |
| E Doran Street (E) | 37 | 43 | 49 | 48 | 47 | 53 | 55 | 57 | 60 | 59 | 59 |
| Naranja Drive (S) | 39 | 42 | 44 | 46 | 45 | 47 | 47 | 47 | 48 | 49 | 48 |
| Galer Place (S) | 6 | 6 | 7 | 7 | 8 | 11 | 11 | 11 | 11 | 13 | 16 |
| Richard Place | 21 | 22 | 24 | 25 | 26 | 25 | 26 | 28 | 29 | 31 | 33 |
| Grove Place (S) | 14 | 15 | 14 | 16 | 16 | 13 | 14 | 16 | 18 | 19 | 20 |
| Total Occupancy | 570 | 587 | 630 | 664 | 669 | 696 | 705 | 723 | 750 | 756 | 763 |

# Appendix E. Intersection Turn Movement Volumes and LOS Worksheets, Existing With Project Conditions

# Appendices

*This page intentionally left blank.*

Wilson Middle School

Vistro File: Y:\...\Nov_2019_WilsonMS.vistro
Report File: Y:\...\E+P_PM.pdf

Scenario 7 E+P Weekday PM
12/4/2019

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | SR-134 WB Ramps at Monterey Road | Signalized | ICU 1 | NB Right | 0.850 | - | D |
| 2 | Glendale Avenue at SR-134 EB Ramps | Signalized | ICU 1 | NEB Thru | 0.678 | - | B |
| 3 | Glendale Avenue at Monterey Road | Signalized | ICU 1 | EB Right | 0.984 | - | E |
| 4 | Glendale Avenue at Glenoaks Boulevard | Signalized | ICU 1 | NEB Thru | 0.758 | - | C |
| 5 | Adams Street at Monterey Road | Two-way stop | HCM 6th Edition | SB Left | 0.065 | 15.9 | C |
| 6 | Adams Street at Glenoaks Boulevard | Two-way stop | HCM 6th Edition | SB Left | 0.028 | 15.6 | C |
| 7 | Verdugo Road at Monterey Road | Signalized | ICU 1 | EB Right | 0.625 | - | B |
| 8 | Verdugo Road at Glenoaks Boulevard | Signalized | ICU 1 | EB Thru | 0.513 | - | A |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: SR-134 WB Ramps at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.850 |

**Intersection Setup**

| Name | SR-134 WB Ramps | | | Cordova Avenue | | | | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | SR-134 WB Ramps | | | Cordova Avenue | | | | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 345 | 0 | 520 | 0 | 0 | 6 | 0 | 720 | 91 | 602 | 273 | 15 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0300 | 1.0000 | 1.0300 | 1.0300 | 1.0000 | 1.0300 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 355 | 0 | 522 | 0 | 0 | 6 | 0 | 742 | 94 | 602 | 283 | 15 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 89 | 0 | 131 | 0 | 0 | 2 | 0 | 186 | 24 | 151 | 71 | 4 |
| Total Analysis Volume [veh/h] | 355 | 0 | 522 | 0 | 0 | 6 | 0 | 742 | 94 | 602 | 283 | 15 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Control Type | Permiss | Permiss | Overlap | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss |
| Signal Group | 5 | 0 | 2 | 0 | 0 | 6 | 0 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | 2 | | | | | | | | | |
| Lead / Lag | Lead | - | - | - | - | - | - | - | - | Lead | - | - |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.22 | 0.00 | 0.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.23 | 0.06 | 0.19 | 0.19 | 0.19 |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.850 | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 2: Glendale Avenue at SR-134 EB Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.678 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Southeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 1882 | 1037 | 504 | 440 | 359 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 10 | 3 | 1 | 3 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 1948 | 1071 | 520 | 456 | 370 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 487 | 268 | 130 | 114 | 93 |
| Total Analysis Volume [veh/h] | 0 | 1948 | 1071 | 520 | 456 | 370 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| | | | | | | |
|---|---|---|---|---|---|---|
| Control Type | Permissive | Permissive | Permissive | Overlap | Permissive | Permissive |
| Signal Group | 0 | 2 | 6 | 6 | 3 | 0 |
| Auxiliary Signal Groups | | | | 6 | | |
| Lead / Lag | - | - | - | - | Lead | - |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.41 | 0.33 | 0.33 | 0.14 | 0.17 |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.678 | | | | | |

**Intersection Level Of Service Report**
**Intersection 3: Glendale Avenue at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.882 |

**Intersection Setup**

| Name | | | | Glendale Avenue | | | Monterey Road | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | | | | Glendale Avenue | | | Monterey Road | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 317 | 902 | 118 | 0 | 614 | 327 | 216 | 234 | 766 | 87 | 239 | 19 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0300 | 1.0300 | 1.0000 | 1.0300 | 1.0000 | 1.0000 | 1.0000 | 1.0300 | 1.0300 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 13 | 5 | 0 | 0 | 0 | 2 | 0 | 4 | 2 | 3 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 327 | 929 | 135 | 5 | 632 | 327 | 216 | 236 | 789 | 94 | 241 | 22 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 82 | 232 | 34 | 1 | 158 | 82 | 54 | 59 | 197 | 24 | 60 | 6 |
| Total Analysis Volume [veh/h] | 327 | 929 | 135 | 5 | 632 | 327 | 216 | 236 | 789 | 94 | 241 | 22 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Overlap | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 0 | 0 | 6 | 0 | 0 | 4 | 4 | 0 | 8 | 0 |
| Auxiliary Signal Groups | | | | | | | | | 4,5 | | | |
| Lead / Lag | Lead | - | - | - | - | - | - | - | - | - | - | - |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.10 | 0.33 | 0.33 | 0.00 | 0.13 | 0.20 | 0.14 | 0.15 | 0.39 | 0.06 | 0.08 | 0.08 |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.882 | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Glendale Avenue at Glenoaks Boulevard**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.758 |

**Intersection Setup**

| Name | Glendale Avenue | | | Glendale Avenue | | | Glenoaks Blvd | | | Glenoaks Blvd | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left2 | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Glendale Avenue | | | Glendale Avenue | | | Glenoaks Blvd | | | Glenoaks Blvd | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 121 | 971 | 65 | 22 | 727 | 172 | 67 | 180 | 14 | 338 | 267 | 128 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0300 | 1.0000 | 1.0300 | 1.0300 | 1.0300 | 1.0000 | 1.0000 | 1.0300 | 1.0300 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 122 | 1002 | 65 | 23 | 752 | 177 | 67 | 180 | 14 | 348 | 267 | 130 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 31 | 251 | 16 | 6 | 188 | 44 | 17 | 45 | 4 | 87 | 67 | 33 |
| Total Analysis Volume [veh/h] | 122 | 1002 | 65 | 23 | 752 | 177 | 67 | 180 | 14 | 348 | 267 | 130 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Control Type | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | ProtPer | Permiss | Permiss |
| Signal Group | 5 | 2 | 0 | 1 | 6 | 0 | 0 | 4 | 0 | 3 | 8 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | Lead | - | - | - | - | - | Lead | - | - |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.08 | 0.31 | 0.04 | 0.01 | 0.19 | 0.19 | 0.04 | 0.11 | 0.01 | 0.22 | 0.17 | 0.08 |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.758 | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Adams Street at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 15.9 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.065 |

**Intersection Setup**

| Name | Adams Street | | Monterey Road | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | Adams Street | | Monterey Road | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 20 | 6 | 24 | 329 | 280 | 6 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0000 | 1.0000 | 1.0300 | 1.0300 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 20 | 9 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 21 | 6 | 24 | 359 | 297 | 6 |
| Peak Hour Factor | 0.9050 | 0.9050 | 0.9050 | 0.9050 | 0.9050 | 0.9050 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 6 | 2 | 7 | 99 | 82 | 2 |
| Total Analysis Volume [veh/h] | 23 | 7 | 27 | 397 | 328 | 7 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.06 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 15.87 | 10.79 | 8.01 | 0.00 | 0.00 | 0.00 |
| Movement LOS | C | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.24 | 0.24 | 0.07 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 6.02 | 6.02 | 1.69 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 14.69 | | 0.51 | | 0.00 | |
| Approach LOS | B | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.83 | | | | | |
| Intersection LOS | C | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Adams Street at Glenoaks Boulevard**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 15.6 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.028 |

**Intersection Setup**

| Name | Adams Street | | | Verdugo Circle Drive | | | Glenoaks Blvd | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Adams Street | | | Verdugo Circle Drive | | | Glenoaks Blvd | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 6 | 2 | 10 | 9 | 1 | 12 | 20 | 325 | 18 | 10 | 222 | 7 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 6 | 2 | 10 | 9 | 1 | 12 | 20 | 325 | 18 | 10 | 222 | 7 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 2 | 1 | 3 | 2 | 0 | 3 | 5 | 88 | 5 | 3 | 60 | 2 |
| Total Analysis Volume [veh/h] | 7 | 2 | 11 | 10 | 1 | 13 | 22 | 353 | 20 | 11 | 241 | 8 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | |
|---|---|---|---|---|
| Priority Scheme | Stop | Stop | Free | Free |
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.02 | 0.01 | 0.02 | 0.03 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 15.53 | 15.26 | 10.60 | 15.59 | 15.37 | 9.89 | 7.78 | 0.00 | 0.00 | 8.07 | 0.00 | 0.00 |
| Movement LOS | C | C | B | C | C | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.13 | 0.13 | 0.13 | 0.15 | 0.15 | 0.15 | 0.05 | 0.05 | 0.05 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 3.24 | 3.24 | 3.24 | 3.74 | 3.74 | 3.74 | 1.27 | 1.27 | 1.27 | 0.70 | 0.70 | 0.70 |
| d_A, Approach Delay [s/veh] | 12.79 | | | 12.50 | | | 0.43 | | | 0.34 | | |
| Approach LOS | B | | | B | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.17 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 7: Verdugo Road at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.625 |

**Intersection Setup**

| Name | | | Verdugo Road | | | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Eastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | | | Verdugo Road | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 228 | 602 | 482 | 38 | 25 | 311 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 10 | 0 | 0 | 4 | 2 | 5 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 245 | 620 | 496 | 43 | 28 | 325 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 61 | 155 | 124 | 11 | 7 | 81 |
| Total Analysis Volume [veh/h] | 245 | 620 | 496 | 43 | 28 | 325 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| | | | | | | |
|---|---|---|---|---|---|---|
| Control Type | ProtPerm | Permissive | Permissive | Permissive | Split | Split |
| Signal Group | 5 | 2 | 6 | 0 | 3 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | Lead | - |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.15 | 0.19 | 0.17 | 0.17 | 0.02 | 0.20 |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.625 | | | | | |

**Intersection Level Of Service Report**
**Intersection 8: Verdugo Road at Glenoaks Boulevard**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.513 |

**Intersection Setup**

| Name | Verdugo Road | | | | | | Glenoaks Boulevard | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Verdugo Road | | | | | | Glenoaks Boulevard | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 86 | 515 | 28 | 60 | 341 | 38 | 56 | 167 | 118 | 31 | 119 | 89 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0300 | 1.0000 | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 86 | 531 | 29 | 62 | 353 | 39 | 58 | 167 | 118 | 33 | 119 | 92 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 22 | 133 | 7 | 16 | 88 | 10 | 15 | 42 | 30 | 8 | 30 | 23 |
| Total Analysis Volume [veh/h] | 86 | 531 | 29 | 62 | 353 | 39 | 58 | 167 | 118 | 33 | 119 | 92 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

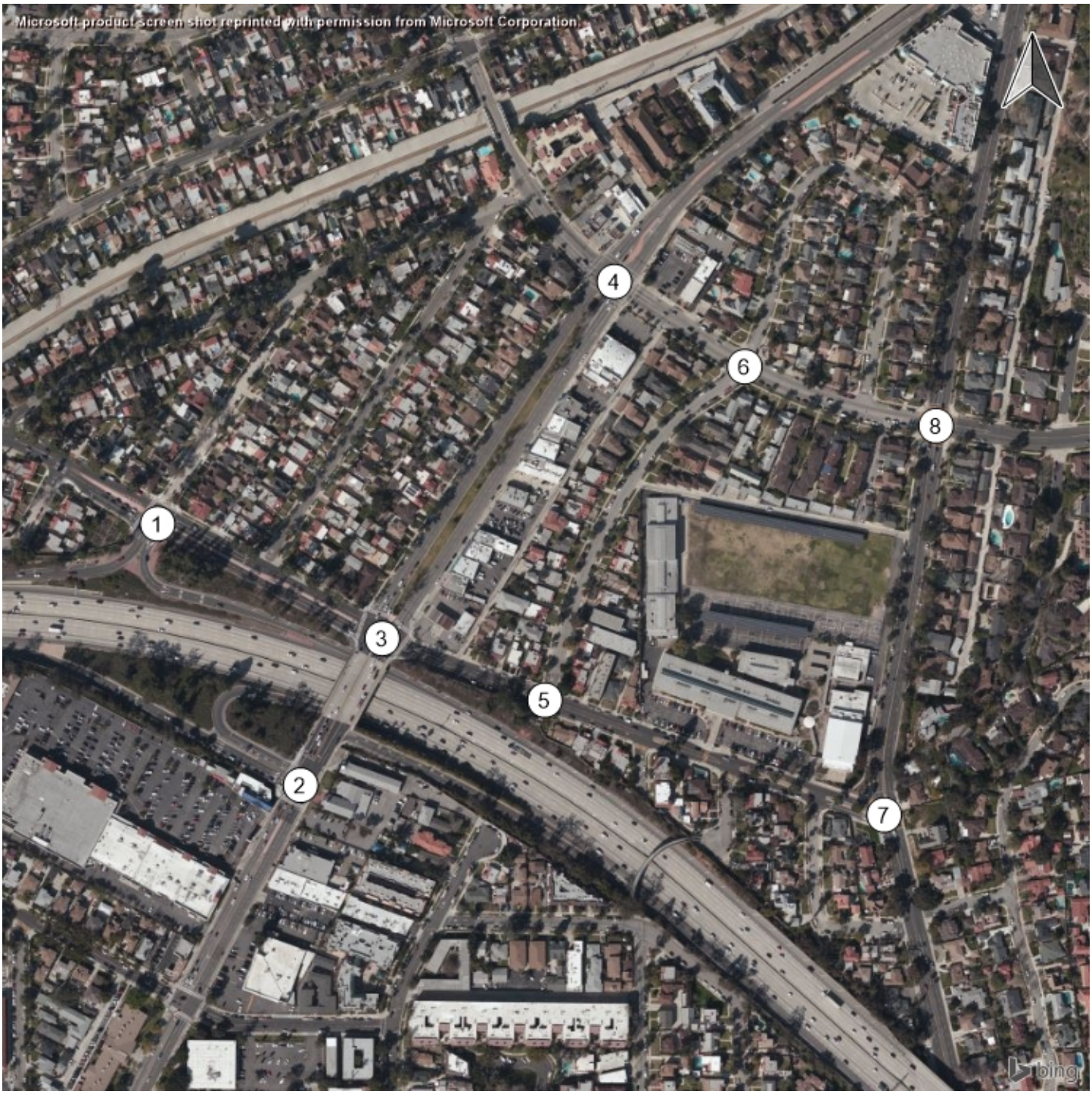
**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 2 | 0 | 0 | 6 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |

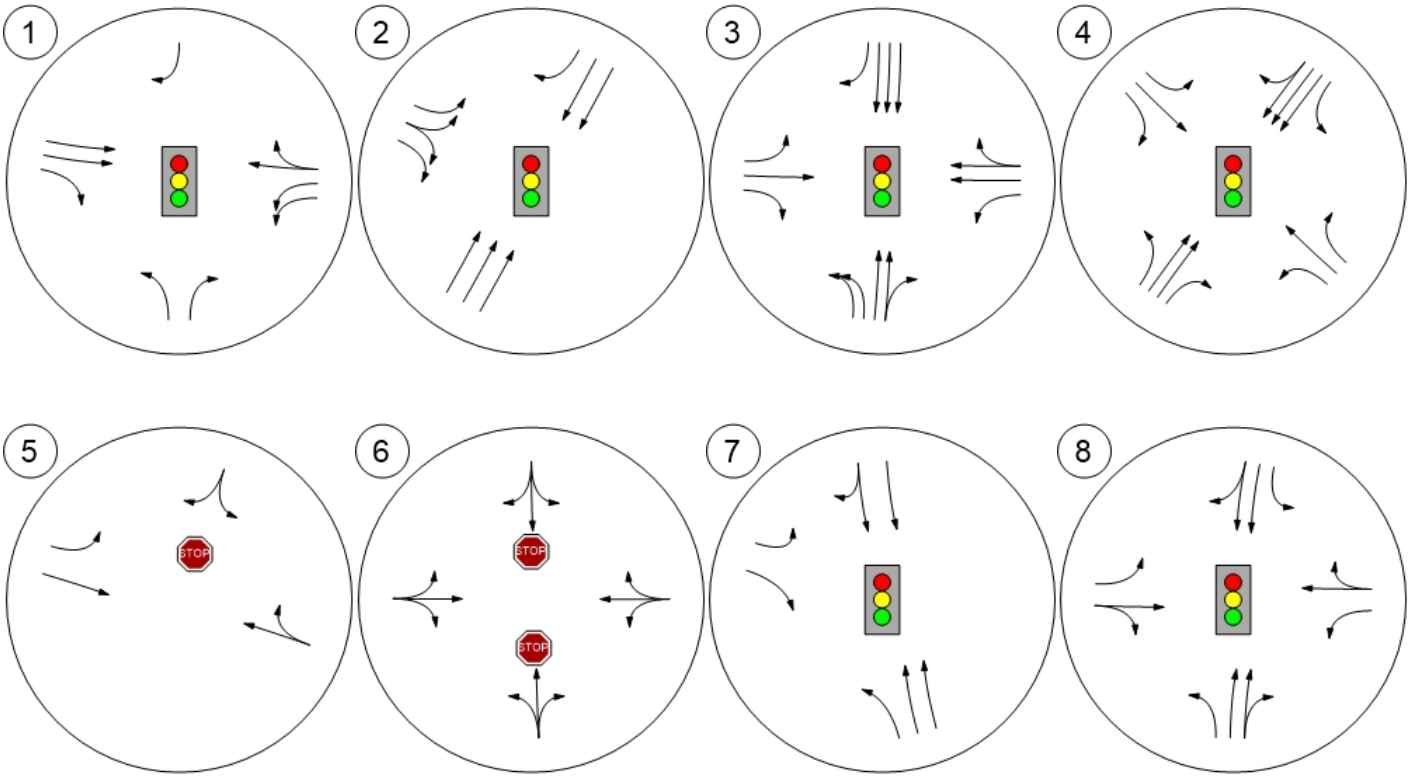
**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.05 | 0.18 | 0.18 | 0.04 | 0.12 | 0.12 | 0.04 | 0.18 | 0.18 | 0.02 | 0.13 | 0.13 |
| Intersection LOS | A | | | | | | | | | | | |
| Intersection V/C | 0.513 | | | | | | | | | | | |

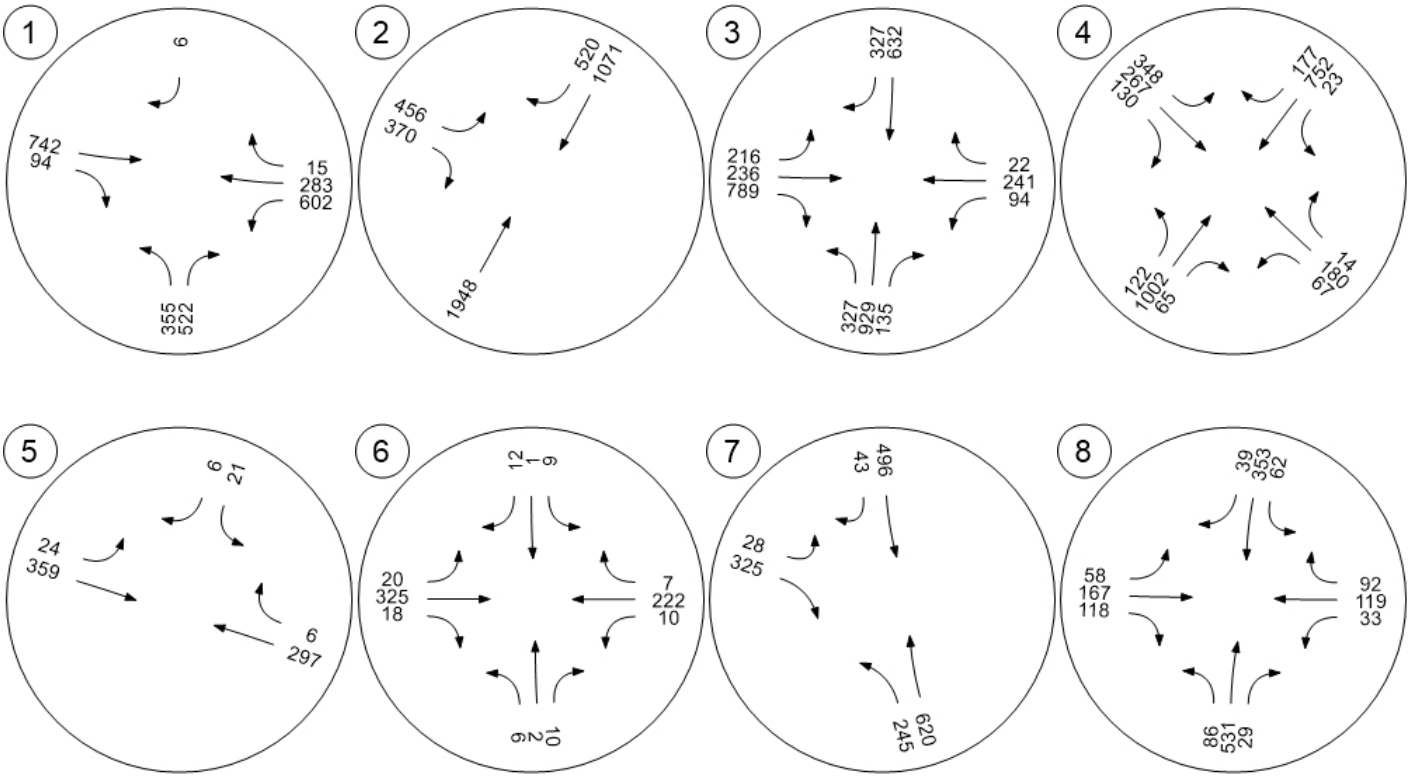
## Study Intersections



## Lane Configuration and Traffic Control



## Traffic Volume - Future Total Volume



# Appendix F. Cumulative Projects Trip Generation and Volume Development

# Appendices

*This page intentionally left blank.*

## List of Related Projects – November 2019

| Project Name | Location | Land Use | Size | Unit | Status |
|---|---|---|---|---|---|
| 1. Next on Lex | 210 W. Lexington and 418 N. Central Ave. | Multi-Family | 464 | du | Under Construction |
| | | Live/Work | 25 | du | |
| | | Commercial | 8,140 | sf | |
| 2. Central + Wilson | 130 N. Central Ave. | Multi-Family | 153 | du | Approved |
| | | Commercial (Option A) | 4,900 | sf | |
| | | Live/Work (Option B) | 5 | du | |
| 3. The Link | 3901-3915 San Fernando Rd. | Multi-Family | 142 | du | Under Construction |
| | | Commercial | 11,600 | sf | |
| | | Studio | 5,000 | sf | |
| 4. Enclave | 525 W. Elk Ave. | Congregate Care | 101 | beds | Under Construction |
| 5. Mixed-Use Project | 507-525 W. Colorado St. | Multi-Family | 90 | du | Under Construction |
| | | Medical Office | 18,000 | sf | |
| | | Commercial | 1,000 | sf | |
| 6. Broadway & Pacific | 525 W. Broadway | Multi-Family | 176 | du | Under Construction |
| | | Live/Work | 4 | du | |
| | | Commercial | 18,200 | sf | |
| 7. Orange/Milford Project | 413 N. Brand Blvd. | Multi-Family | 228 | du | Approved |
| | | Commercial | 5,000 | sf | |
| 8. | 1407 W. Glenoaks Blvd. | Multi-Family | 55 | du | Under Construction |
| 9. Holiday Inn Suites | 1001 E. Colorado St. | Hotel | 134 | rm | Under Construction |
| 10. Aloft Hotel | 1100-1108 N. Brand Blvd. | Hotel | 85 | rm | Under Construction |
| 11. | 2612 Honolulu Ave. | Multi-Family | 28 | du | Approved |
| 12. | 429-503 N. Kenwood St. | Multi-Family | 21 | du | Approved |

| Project Name | Location | Land Use | Size | Unit | Status |
|---|---|---|---|---|---|
| 13. | 500 E. Colorado St. | Medical Office | 30,800 | sf | Under Construction |
| | | Retail | 8,230 | sf | |
| 14. | 126-132 S. Kenwood St. | Multi-Family | 44 | du | Proposed |
| 15. | 800 W. Doran St. | Multi-Family | 52 | du | Proposed |
| 16. | 1838 S. Brand Blvd. | Multi-Family | 80 | du | Under Construction |
| 17. | 1815-1821 S. Brand Blvd. | Multi-Family | 38 | du | Approved |
| | | Commercial/Office | 950 | sf | |
| 18. | 4201 Pennsylvania Ave. | Multi-Family | 30 | du | Under Construction |
| 19. Hotel Louise | 145 N. Louise St. | Hotel | 147 | rm | Under Construction |
| 20. AC Hotel | 120 W. Colorado | Hotel | 131 | rm | Approved |
| 21. | 1820 S. Brand Blvd. | Live/Work | 28 | du | Approved |
| 22. | 352-358 W. Milford St. | Affordable Multi-Family | 32 | du | Under Construction |
| 23. Meta Housing | 1412-1422 5th St. & 1116 Sonora Ave. | Affordable Senior | 66 | du | Under Construction |
| 24. | 610 N. Brand Blvd. | Multi-family | 240 | du | Proposed |
| 25. | 601-611 N. Brand Blvd. | Hotel | 857 | rm | Proposed |
| | | Commercial | 7,500 | sf | |
| 26. | 401-409 Hawthorne St. | Multi-family | 23 | du | Proposed |
| 27. | 206 W. Chevy Chase | Medical Office | 21,124 | sf | Approved |
| 28. | 129 W. Los Feliz | Congregate care facility | 80 | rms | Proposed |
| 29. | 361 Myrtle St. | Condominium | 15 | du | Proposed |
| 30. Affordable Housing | 452 W. Milford | Multi-Family | 15 | du | Approved |
| 31. | 130 W. Eulalia | Medical Office | 4,074 | sf | Proposed |
| 32. | 534 N. Kenwood St. | Multi-Family | 11 | du | Proposed |
| 33. | 350 Salem St. | Condominium | 12 | du | Approved |
| 34. | 532 W. Elk Ave. | Condominium | 6 | du | Approved |

| Project Name | Location | Land Use | Size | Unit | Status |
|---|---|---|---|---|---|
| 35. | 712 S. Louise St. | Multi-Family | 10 | du | Approved |
| 36. | 611 E. Acacia Ave. | Multi-Family | 14 | du | Proposed |
| 37. | 722 E. Acacia Ave. | Multi-Family | 14 | du | Approved |
| 38. | 913 S. Adams St. | Multi-Family | 18 | du | Approved |
| 39. | 1017 San Rafael Ave. | Condominium | 5 | du | Under Construction |
| 40. | 1058 Ruberta Ave. | Congregate Care Facility | 5,533 | sf | Under Construction |
| 41. | 373 W. Doran St. | Multi-Family | 5 | du | Under Construction |
| 42. | 700 E. Lomita Ave. | Multi-Family | 6 | du | Under Construction |
| 43. | 463 Salem St. | Multi-Family | 10 | du | Under Construction |
| 44. | 344 W. Milford St. | Multi-Family | 6 | du | Under Construction |
| 45. | 512 W. Doran St. | Multi-Family | 4 | du | Approved |
| 46. | 400 W. Colorado St. | Medical Office | 2,239 | sf | Under Construction |
| | | General Office | 4,697 | sf | |
| 47. | 337 N. Cedar St. | Multi-Family | 4 | du | Approved |
| 48. | 708 E. Palmer | Multi-Family | 2 | du | Under Construction |
| 49. | 115 N. Adams St. | Multi-Family | 4 | du | Under Construction |
| 50. | 518-520 E. Windsor | Multi-Family | 34 | du | Under Construction |
| 51. | 600 W. Wilson Ave. | Multi-Family | 3 | du | Under Construction |
| 52. | 518 Glenwood Rd. | Multi-Family | 6 | du | Under Construction |
| 53. Affordable Housing | 238 Concord St. | Multi-Family | 13 | du | Proposed |
| 54. 604-610 W. Broadway | | Medical Office Retail | 1,394 | sf | |
| 55. 520 N. Central | | Multi-Family | 99 | du | Approved |
| 56. Armenian American Museum | 151 E. Colorado - Central Park | Museum | 59,800 | sf | Approved |
| 57. 2817 Montrose Ave. | | Multi-Family | 38 | du | Proposed |

| Project Name | Location | Land Use | Size | Unit | Status |
|---|---|---|---|---|---|
| 58. | 340 N. Central Ave. | General Office | 14,229 | sf | Proposed |
| 59. | 515-523 N. Central Ave. | Hotel | 142 | rms | Proposed |
| 60. Affordable Housing | 3950 Foothill Blvd. | Multi-Family | 34 | du | Proposed |
| | | General Office | 1,000 | sf | |
| | | Retail | 2,473 | sf | |
| | | Restaurant | 1,000 | sf | |
| 61. Affordable Housing | 2941 Honolulu Ave. | Multi-Family | 18 | du | Proposed |
| 62. 1260 S. Brand Blvd. | | Addition to Existing Auto Dealership | 9,950 | sf | Proposed |
| 63. 423 Oak St. | | Multi-Family | 18 | du | Proposed |
| 64. 1809 Verdugo Rd. | | Residential congregate living, medical facility | 79 | bed | Proposed |
| 65. 135 W. Glenoaks Blvd. | | Hotel | 219 | rms | Proposed |

*Source: City of Glendale, November 2019*

*du = dwelling units; s f = square feet; rm = rooms*

| Cumulative Projects Trip Generation | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Trip Generation[1] | | | | | | |
| | | | | | | | | AM Peak Hour | | | PM Peak Hour | | |
| Group | Project Number | Project Name/ Address | Land Use | ITE Code | Size | Unit | Daily | In | Out | Total | In | Out | Total |
| A | 9 | Holiday Inn Suites - 1001 E. Colorado St. | Hotel | 310 | 134 | rms | 1120 | 37 | 26 | 63 | 41 | 39 | 80 |
| | 47 | 337 N. Cedar St | Residential | 220 | 4 | du | 29 | 0 | 1 | 1 | 1 | 1 | 2 |
| | 49 | 115 N. Adams St. | Residential | 220 | 4 | du | 29 | 0 | 1 | 1 | 1 | 1 | 2 |
| | | | | | | | **1178** | **37** | **28** | **65** | **43** | **41** | **84** |
| B | | | Residential | 220 | 228 | du | 1669 | 24 | 81 | 105 | 80 | 47 | 127 |
| | 7 | 413 N. Brand Blvd. | Commercial | 820 | 5000 | sf | 189 | 3 | 2 | 5 | 9 | 10 | 19 |
| | 12 | 429-503 N. Kenwood St. | Residential | 220 | 12 | du | 88 | 1 | 4 | 5 | 4 | 2 | 6 |
| | 24 | 610 N. Brand Blvd | Residential | 220 | 240 | du | 1757 | 25 | 85 | 110 | 85 | 50 | 135 |
| | 32 | 534 N. Kenwood St. | Residential | 220 | 11 | du | 81 | 1 | 4 | 5 | 4 | 2 | 6 |
| | | | | | | | **3784** | **54** | **176** | **230** | **182** | **111** | **293** |
| C | | | Residential | 220 | 489 | du | 3543 | 51 | 171 | 222 | 171 | 100 | 271 |
| | 1 | Next on Lex - 210 W. Lexington and 418 N. Central Ave | Commerical | 820 | 8140 | sf | 307 | 5 | 3 | 8 | 15 | 16 | 31 |
| | | | Residential | 220 | 158 | du | 1157 | 17 | 56 | 73 | 56 | 33 | 89 |
| | 2 | Central + Wilson - 130 N. Central Ave | Commercial | 820 | 4900 | sf | 189 | 3 | 2 | 5 | 9 | 10 | 19 |
| | 22 | 352-358 W. Milford St | Residential | 220 | 32 | du | 234 | 3 | 11 | 14 | 11 | 7 | 18 |
| | 29 | 361 Myrtle St | Residential | 220 | 15 | du | 110 | 2 | 5 | 7 | 5 | 3 | 8 |
| | 30 | 452 W. Milford | Residential | 220 | 15 | du | 110 | 2 | 5 | 7 | 5 | 3 | 8 |
| | 33 | 350 Salem St | Residential | 220 | 30 | du | 88 | 1 | 4 | 5 | 4 | 2 | 6 |
| | 55 | 520 N. Central | Residential | 220 | 99 | du | 725 | 10 | 35 | 45 | 35 | 21 | 56 |
| | 59 | 515-523 N. Central Ave | Hotel | 310 | 142 | rms | 1176 | 39 | 27 | 66 | 41 | 39 | 80 |
| | | | | | | | **7639** | **133** | **319** | **452** | **352** | **234** | **586** |
| D | 10 | Aloft Hotel - 1100-1108 N. Brand Blvd. | Hotel | 310 | 85 | rms | 711 | 24 | 16 | 40 | 26 | 25 | 51 |
| | 65 | 135-190 W. Glenoaks Blvd | Hotel | 310 | 219 | rms | 1831 | 61 | 42 | 103 | 67 | 64 | 131 |
| | | | | | | | 2542 | **85** | **58** | **143** | **93** | **89** | **182** |
| E | 64 | 1809 Verdugo Rd. | Assisted Living | 254 | 79 | beds | 205 | 9 | 6 | 15 | 8 | 13 | 21 |
| | | | | | | | **205** | **9** | **6** | **15** | **8** | **13** | **21** |
| F | | | Medical Office | 720 | 30800 | sf | 1072 | 67 | 19 | 86 | 30 | 77 | 107 |
| | 13 | 500 E. Colorado St. | Commercial | 820 | 8,230 | sf | 311 | 5 | 3 | 8 | 15 | 16 | 31 |
| | 14 | 126-132 S. Kenwood St. | Residential | 220 | 44 | du | 322 | 5 | 16 | 21 | 16 | 9 | 25 |
| | 19 | Hotel Louise - 145 N. Louise St. | Hotel | 310 | 147 | rms | 1233 | 40 | 28 | 68 | 43 | 41 | 84 |
| | | | | | | | **2938** | **117** | **66** | **183** | **104** | **143** | **247** |
| | | **Total** | | | | | **36572** | **435** | **653** | **1,088** | **782** | **632** | **1,414** |

**BOLD =** Total

# Appendix G. Intersection Turn Movement Volumes and LOS Worksheets, Opening Year Without Project Conditions

# Appendices

*This page intentionally left blank.*

Wilson Middle School

Vistro File: Y:\...\Nov_2019_WilsonMS.vistro
Report File: Y:\...\OY_NP_PM.pdf

Scenario 3 3 2021 NP Weekday PM
12/4/2019

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | SR-134 WB Ramps at Monterey Road | Signalized | ICU 1 | NB Right | 0.884 | - | D |
| 2 | Glendale Avenue at SR-134 EB Ramps | Signalized | ICU 1 | NEB Thru | 0.689 | - | B |
| 3 | Glendale Avenue at Monterey Road | Signalized | ICU 1 | EB Right | 1.006 | - | F |
| 4 | Glendale Avenue at Glenoaks Boulevard | Signalized | ICU 1 | NEB Thru | 0.775 | - | C |
| 5 | Adams Street at Monterey Road | Two-way stop | HCM 6th Edition | SB Left | 0.065 | 15.9 | C |
| 6 | Adams Street at Glenoaks Boulevard | Two-way stop | HCM 6th Edition | SB Left | 0.029 | 15.8 | C |
| 7 | Verdugo Road at Monterey Road | Signalized | ICU 1 | EB Right | 0.615 | - | B |
| 8 | Verdugo Road at Glenoaks Boulevard | Signalized | ICU 1 | EB Thru | 0.516 | - | A |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: SR-134 WB Ramps at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.884 |

**Intersection Setup**

| Name | SR-134 WB Ramps | | | Cordova Avenue | | | | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | SR-134 WB Ramps | | | Cordova Avenue | | | | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 345 | 0 | 520 | 0 | 0 | 6 | 0 | 720 | 91 | 602 | 273 | 15 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0000 | 1.0200 | 1.0000 | 1.0000 | 1.0300 | 1.0000 | 1.0300 | 1.0300 | 1.0200 | 1.0300 | 1.0200 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 28 | 0 | 6 | 43 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 355 | 0 | 554 | 0 | 0 | 6 | 0 | 770 | 94 | 620 | 324 | 15 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 89 | 0 | 139 | 0 | 0 | 2 | 0 | 193 | 24 | 155 | 81 | 4 |
| Total Analysis Volume [veh/h] | 355 | 0 | 554 | 0 | 0 | 6 | 0 | 770 | 94 | 620 | 324 | 15 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Overlap | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 0 | 2 | 0 | 0 | 6 | 0 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | 2 | | | | | | | | | |
| Lead / Lag | Lead | - | - | - | - | - | - | - | - | Lead | - | - |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.22 | 0.00 | 0.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.24 | 0.06 | 0.19 | 0.21 | 0.21 |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.884 | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 2: Glendale Avenue at SR-134 EB Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.689 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Southeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 1882 | 1037 | 504 | 440 | 359 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 62 | 53 | 0 | 0 | 6 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 2000 | 1121 | 519 | 453 | 376 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 500 | 280 | 130 | 113 | 94 |
| Total Analysis Volume [veh/h] | 0 | 2000 | 1121 | 519 | 453 | 376 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| | | | | | | |
|---|---|---|---|---|---|---|
| Control Type | Permissive | Permissive | Permissive | Overlap | Permissive | Permissive |
| Signal Group | 0 | 2 | 6 | 6 | 3 | 0 |
| Auxiliary Signal Groups | | | | 6 | | |
| Lead / Lag | - | - | - | - | Lead | - |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.42 | 0.35 | 0.32 | 0.14 | 0.17 |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.689 | | | | | |

**Intersection Level Of Service Report**
**Intersection 3: Glendale Avenue at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.902 |

**Intersection Setup**

| Name | | | | Glendale Avenue | | | Monterey Road | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | | | | Glendale Avenue | | | Monterey Road | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 317 | 902 | 118 | 0 | 614 | 327 | 216 | 234 | 766 | 87 | 239 | 19 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0300 | 1.0300 | 1.0000 | 1.0300 | 1.0200 | 1.0200 | 1.0200 | 1.0300 | 1.0300 | 1.0200 | 1.0200 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 6 | 36 | 3 | 0 | 27 | 28 | 19 | 9 | 24 | 2 | 15 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 333 | 965 | 125 | 0 | 659 | 362 | 239 | 248 | 813 | 92 | 259 | 19 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 83 | 241 | 31 | 0 | 165 | 91 | 60 | 62 | 203 | 23 | 65 | 5 |
| Total Analysis Volume [veh/h] | 333 | 965 | 125 | 0 | 659 | 362 | 239 | 248 | 813 | 92 | 259 | 19 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Overlap | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 0 | 0 | 6 | 0 | 0 | 4 | 4 | 0 | 8 | 0 |
| Auxiliary Signal Groups | | | | | | | | | 4,5 | | | |
| Lead / Lag | Lead | - | - | - | - | - | - | - | - | - | - | - |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.10 | 0.34 | 0.34 | 0.00 | 0.14 | 0.23 | 0.15 | 0.16 | 0.40 | 0.06 | 0.09 | 0.09 |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.902 | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Glendale Avenue at Glenoaks Boulevard**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.775 |

**Intersection Setup**

| Name | Glendale Avenue | | | Glendale Avenue | | | Glenoaks Blvd | | | Glenoaks Blvd | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left2 | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Glendale Avenue | | | Glendale Avenue | | | Glenoaks Blvd | | | Glenoaks Blvd | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 121 | 971 | 65 | 22 | 727 | 172 | 67 | 180 | 14 | 338 | 267 | 128 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0200 | 1.0300 | 1.0200 | 1.0300 | 1.0300 | 1.0300 | 1.0200 | 1.0200 | 1.0300 | 1.0300 | 1.0200 | 1.0200 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 4 | 51 | 0 | 0 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 127 | 1051 | 66 | 23 | 801 | 177 | 68 | 184 | 14 | 348 | 272 | 134 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 32 | 263 | 17 | 6 | 200 | 44 | 17 | 46 | 4 | 87 | 68 | 34 |
| Total Analysis Volume [veh/h] | 127 | 1051 | 66 | 23 | 801 | 177 | 68 | 184 | 14 | 348 | 272 | 134 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | ProtPer | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 0 | 1 | 6 | 0 | 0 | 4 | 0 | 3 | 8 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | Lead | - | - | - | - | - | Lead | - | - |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.08 | 0.33 | 0.04 | 0.01 | 0.20 | 0.20 | 0.04 | 0.12 | 0.01 | 0.22 | 0.17 | 0.08 |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.775 | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Adams Street at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 15.9 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.065 |

**Intersection Setup**

| Name | Adams Street | | Monterey Road | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | Adams Street | | Monterey Road | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 20 | 6 | 24 | 329 | 280 | 6 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0200 | 1.0200 | 1.0300 | 1.0300 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 12 | 17 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 21 | 6 | 24 | 351 | 305 | 6 |
| Peak Hour Factor | 0.9050 | 0.9050 | 0.9050 | 0.9050 | 0.9050 | 0.9050 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 6 | 2 | 7 | 97 | 84 | 2 |
| Total Analysis Volume [veh/h] | 23 | 7 | 27 | 388 | 337 | 7 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.06 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 15.88 | 10.85 | 8.03 | 0.00 | 0.00 | 0.00 |
| Movement LOS | C | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.24 | 0.24 | 0.07 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 6.04 | 6.04 | 1.70 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 14.71 | | 0.52 | | 0.00 | |
| Approach LOS | B | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.83 | | | | | |
| Intersection LOS | C | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Adams Street at Glenoaks Boulevard**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 15.8 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.029 |

**Intersection Setup**

| Name | Adams Street | | | Verdugo Circle Drive | | | Glenoaks Blvd | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Adams Street | | | Verdugo Circle Drive | | | Glenoaks Blvd | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 6 | 2 | 10 | 9 | 1 | 12 | 20 | 325 | 18 | 10 | 222 | 7 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 6 | 2 | 10 | 9 | 1 | 12 | 20 | 332 | 18 | 10 | 226 | 7 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 2 | 1 | 3 | 2 | 0 | 3 | 5 | 90 | 5 | 3 | 61 | 2 |
| Total Analysis Volume [veh/h] | 7 | 2 | 11 | 10 | 1 | 13 | 22 | 361 | 20 | 11 | 246 | 8 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | |
|---|---|---|---|---|
| Priority Scheme | Stop | Stop | Free | Free |
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.02 | 0.01 | 0.02 | 0.03 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 15.76 | 15.45 | 10.67 | 15.82 | 15.56 | 9.93 | 7.79 | 0.00 | 0.00 | 8.09 | 0.00 | 0.00 |
| Movement LOS | C | C | B | C | C | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.13 | 0.13 | 0.13 | 0.15 | 0.15 | 0.15 | 0.05 | 0.05 | 0.05 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 3.30 | 3.30 | 3.30 | 3.80 | 3.80 | 3.80 | 1.28 | 1.28 | 1.28 | 0.71 | 0.71 | 0.71 |
| d_A, Approach Delay [s/veh] | 12.93 | | | 12.62 | | | 0.43 | | | 0.34 | | |
| Approach LOS | B | | | B | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.15 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 7: Verdugo Road at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.615 |

**Intersection Setup**

| Name | | | Verdugo Road | | | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Eastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | | | Verdugo Road | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 228 | 602 | 482 | 38 | 25 | 311 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 2 | 2 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 235 | 622 | 498 | 39 | 26 | 320 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 59 | 156 | 125 | 10 | 7 | 80 |
| Total Analysis Volume [veh/h] | 235 | 622 | 498 | 39 | 26 | 320 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | ProtPerm | Permissive | Permissive | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 6 | 0 | 3 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | Lead | - |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.15 | 0.19 | 0.17 | 0.17 | 0.02 | 0.20 |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.615 | | | | | |

**Intersection Level Of Service Report**
**Intersection 8: Verdugo Road at Glenoaks Boulevard**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.516 |

**Intersection Setup**

| Name | Verdugo Road | | | | | | Glenoaks Boulevard | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Verdugo Road | | | | | | Glenoaks Boulevard | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 86 | 515 | 28 | 60 | 341 | 38 | 56 | 167 | 118 | 31 | 119 | 89 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0200 | 1.0300 | 1.0200 | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 88 | 532 | 29 | 63 | 353 | 39 | 58 | 170 | 120 | 32 | 121 | 93 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 22 | 133 | 7 | 16 | 88 | 10 | 15 | 43 | 30 | 8 | 30 | 23 |
| Total Analysis Volume [veh/h] | 88 | 532 | 29 | 63 | 353 | 39 | 58 | 170 | 120 | 32 | 121 | 93 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

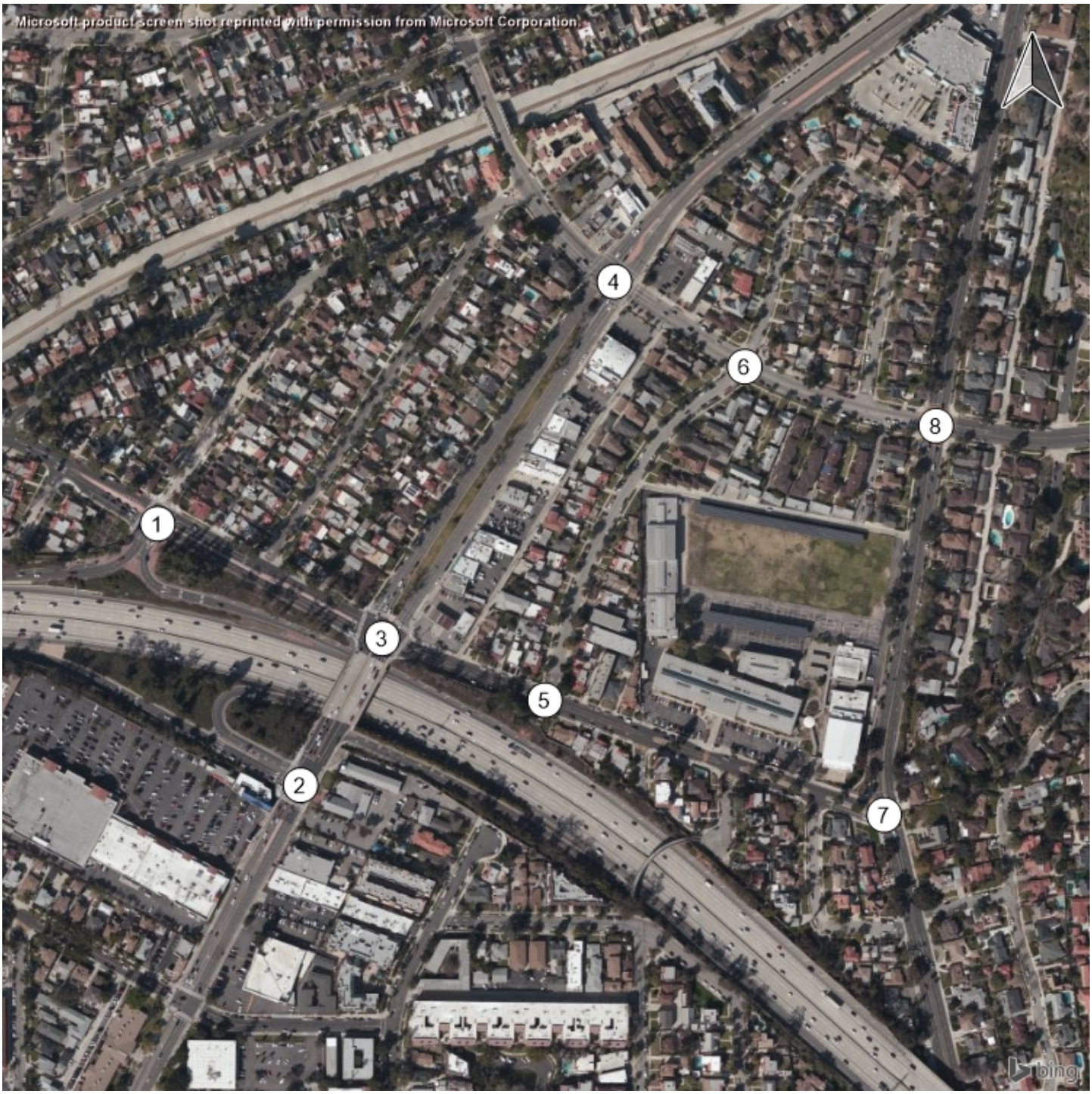
**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 2 | 0 | 0 | 6 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |

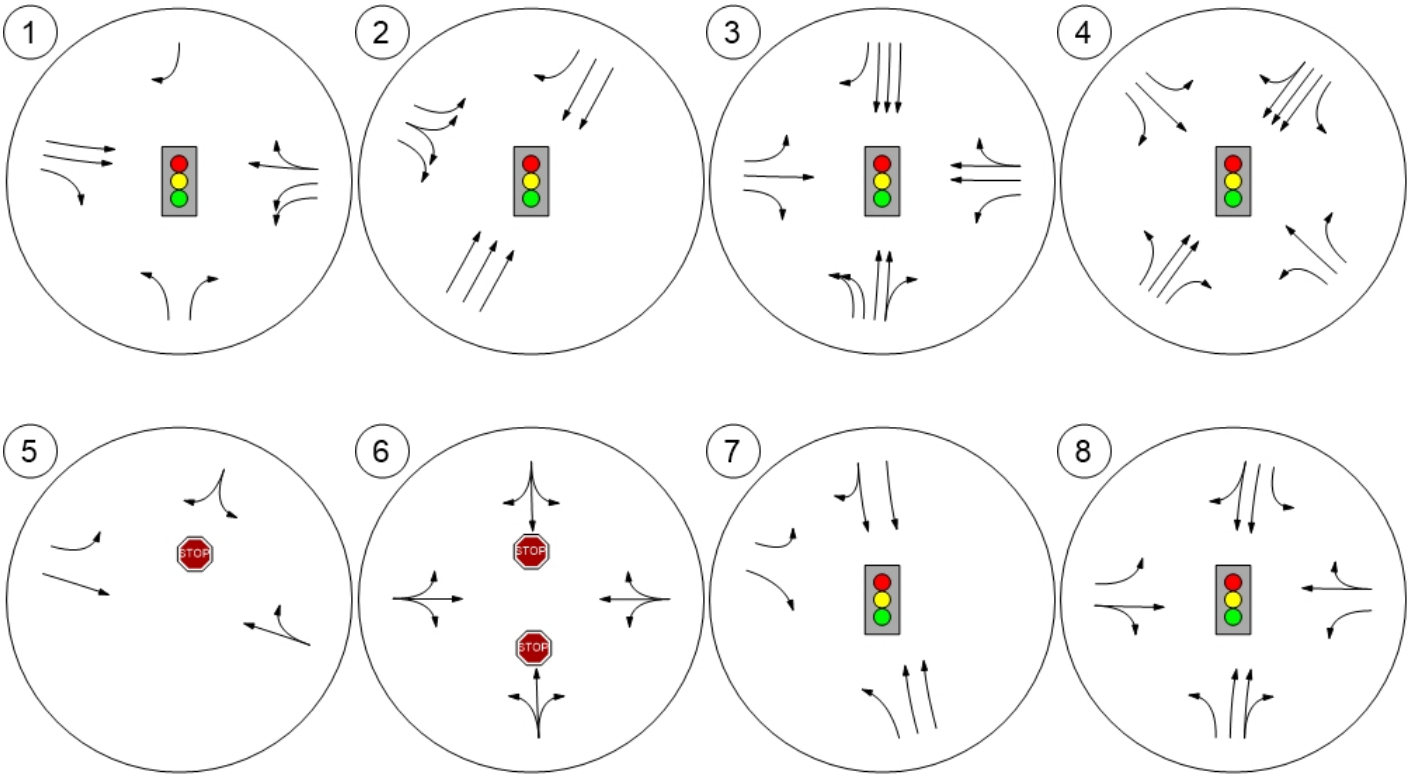
**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.06 | 0.18 | 0.18 | 0.04 | 0.12 | 0.12 | 0.04 | 0.18 | 0.18 | 0.02 | 0.13 | 0.13 |
| Intersection LOS | A | | | | | | | | | | | |
| Intersection V/C | 0.516 | | | | | | | | | | | |

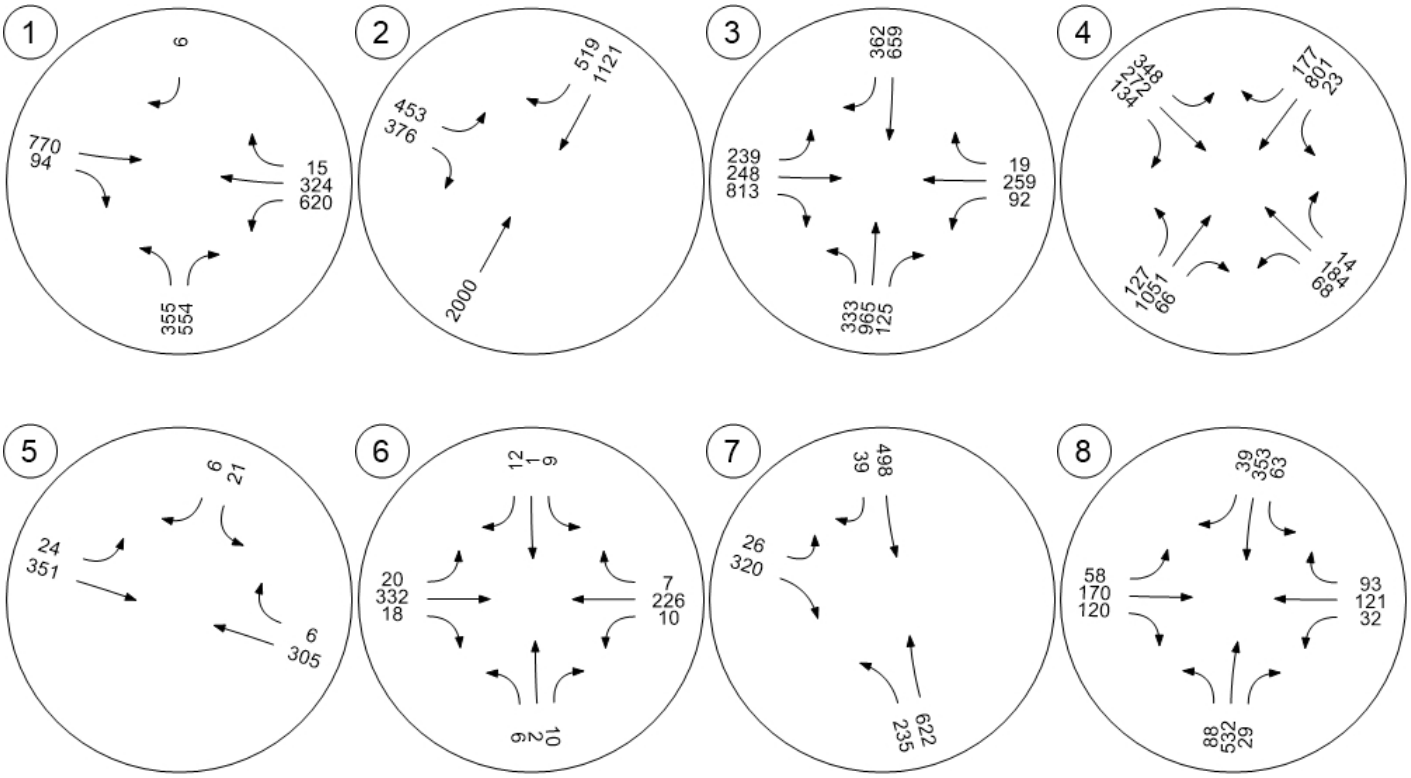
## Study Intersections



## Lane Configuration and Traffic Control



## Traffic Volume - Future Total Volume



# Appendix H. Intersection Turn Movement Volumes and LOS Worksheets, Opening Year With Project Conditions

# Appendices

*This page intentionally left blank.*

Wilson Middle School

Vistro File: Y:\...\Nov_2019_WilsonMS.vistro
Report File: Y:\...\OY_WP_PM.pdf

Scenario 5 5 2021 WP Weekday PM
12/4/2019

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | SR-134 WB Ramps at Monterey Road | Signalized | ICU 1 | NB Right | 0.886 | - | D |
| 2 | Glendale Avenue at SR-134 EB Ramps | Signalized | ICU 1 | NEB Thru | 0.692 | - | B |
| 3 | Glendale Avenue at Monterey Road | Signalized | ICU 1 | EB Right | 1.013 | - | F |
| 4 | Glendale Avenue at Glenoaks Boulevard | Signalized | ICU 1 | NEB Thru | 0.776 | - | C |
| 5 | Adams Street at Monterey Road | Two-way stop | HCM 6th Edition | SB Left | 0.068 | 16.4 | C |
| 6 | Adams Street at Glenoaks Boulevard | Two-way stop | HCM 6th Edition | SB Left | 0.029 | 15.8 | C |
| 7 | Verdugo Road at Monterey Road | Signalized | ICU 1 | EB Right | 0.625 | - | B |
| 8 | Verdugo Road at Glenoaks Boulevard | Signalized | ICU 1 | EB Thru | 0.518 | - | A |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: SR-134 WB Ramps at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.886 |

**Intersection Setup**

| Name | SR-134 WB Ramps | | | Cordova Avenue | | | | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | SR-134 WB Ramps | | | Cordova Avenue | | | | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 345 | 0 | 520 | 0 | 0 | 6 | 0 | 720 | 91 | 602 | 273 | 15 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0000 | 1.0200 | 1.0000 | 1.0000 | 1.0300 | 1.0000 | 1.0300 | 1.0300 | 1.0200 | 1.0300 | 1.0200 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 28 | 0 | 6 | 45 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 355 | 0 | 556 | 0 | 0 | 6 | 0 | 770 | 94 | 620 | 326 | 15 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 89 | 0 | 139 | 0 | 0 | 2 | 0 | 193 | 24 | 155 | 82 | 4 |
| Total Analysis Volume [veh/h] | 355 | 0 | 556 | 0 | 0 | 6 | 0 | 770 | 94 | 620 | 326 | 15 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Overlap | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 0 | 2 | 0 | 0 | 6 | 0 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | 2 | | | | | | | | | |
| Lead / Lag | Lead | - | - | - | - | - | - | - | - | Lead | - | - |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.22 | 0.00 | 0.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.24 | 0.06 | 0.19 | 0.21 | 0.21 |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.886 | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 2: Glendale Avenue at SR-134 EB Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.692 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Southeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 1882 | 1037 | 504 | 440 | 359 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 72 | 56 | 1 | 3 | 6 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 2010 | 1124 | 520 | 456 | 376 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 503 | 281 | 130 | 114 | 94 |
| Total Analysis Volume [veh/h] | 0 | 2010 | 1124 | 520 | 456 | 376 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| | | | | | | |
|---|---|---|---|---|---|---|
| Control Type | Permissive | Permissive | Permissive | Overlap | Permissive | Permissive |
| Signal Group | 0 | 2 | 6 | 6 | 3 | 0 |
| Auxiliary Signal Groups | | | | 6 | | |
| Lead / Lag | - | - | - | - | Lead | - |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.42 | 0.35 | 0.33 | 0.14 | 0.17 |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.692 | | | | | |

**Intersection Level Of Service Report**
**Intersection 3: Glendale Avenue at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.909 |

**Intersection Setup**

| Name | | | | Glendale Avenue | | | Monterey Road | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | | | | Glendale Avenue | | | Monterey Road | | | Monterey Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 317 | 902 | 118 | 0 | 614 | 327 | 216 | 234 | 766 | 87 | 239 | 19 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0300 | 1.0300 | 1.0000 | 1.0300 | 1.0200 | 1.0200 | 1.0200 | 1.0300 | 1.0300 | 1.0200 | 1.0200 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 6 | 36 | 16 | 5 | 27 | 28 | 19 | 11 | 24 | 6 | 17 | 3 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 333 | 965 | 138 | 5 | 659 | 362 | 239 | 250 | 813 | 96 | 261 | 22 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 83 | 241 | 35 | 1 | 165 | 91 | 60 | 63 | 203 | 24 | 65 | 6 |
| Total Analysis Volume [veh/h] | 333 | 965 | 138 | 5 | 659 | 362 | 239 | 250 | 813 | 96 | 261 | 22 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Overlap | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 0 | 0 | 6 | 0 | 0 | 4 | 4 | 0 | 8 | 0 |
| Auxiliary Signal Groups | | | | | | | | | 4,5 | | | |
| Lead / Lag | Lead | - | - | - | - | - | - | - | - | - | - | - |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.10 | 0.34 | 0.34 | 0.00 | 0.14 | 0.23 | 0.15 | 0.16 | 0.40 | 0.06 | 0.09 | 0.09 |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.909 | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Glendale Avenue at Glenoaks Boulevard**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.776 |

**Intersection Setup**

| Name | Glendale Avenue | | | Glendale Avenue | | | Glenoaks Blvd | | | Glenoaks Blvd | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left2 | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Glendale Avenue | | | Glendale Avenue | | | Glenoaks Blvd | | | Glenoaks Blvd | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 121 | 971 | 65 | 22 | 727 | 172 | 67 | 180 | 14 | 338 | 267 | 128 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0200 | 1.0300 | 1.0200 | 1.0300 | 1.0300 | 1.0300 | 1.0200 | 1.0200 | 1.0300 | 1.0300 | 1.0200 | 1.0200 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 5 | 53 | 0 | 0 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 128 | 1053 | 66 | 23 | 804 | 177 | 68 | 184 | 14 | 348 | 272 | 136 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 32 | 263 | 17 | 6 | 201 | 44 | 17 | 46 | 4 | 87 | 68 | 34 |
| Total Analysis Volume [veh/h] | 128 | 1053 | 66 | 23 | 804 | 177 | 68 | 184 | 14 | 348 | 272 | 136 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | ProtPer | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 0 | 1 | 6 | 0 | 0 | 4 | 0 | 3 | 8 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | Lead | - | - | - | - | - | Lead | - | - |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.08 | 0.33 | 0.04 | 0.01 | 0.20 | 0.20 | 0.04 | 0.12 | 0.01 | 0.22 | 0.17 | 0.09 |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.776 | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Adams Street at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 16.4 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.068 |

**Intersection Setup**

| Name | Adams Street | | Monterey Road | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | Adams Street | | Monterey Road | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 20 | 6 | 24 | 329 | 280 | 6 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0200 | 1.0200 | 1.0300 | 1.0300 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 32 | 26 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 21 | 6 | 24 | 371 | 314 | 6 |
| Peak Hour Factor | 0.9050 | 0.9050 | 0.9050 | 0.9050 | 0.9050 | 0.9050 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 6 | 2 | 7 | 102 | 87 | 2 |
| Total Analysis Volume [veh/h] | 23 | 7 | 27 | 410 | 347 | 7 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.07 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 16.39 | 10.98 | 8.06 | 0.00 | 0.00 | 0.00 |
| Movement LOS | C | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.25 | 0.25 | 0.07 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 6.30 | 6.30 | 1.72 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 15.13 | | 0.50 | | 0.00 | |
| Approach LOS | C | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.82 | | | | | |
| Intersection LOS | C | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Adams Street at Glenoaks Boulevard**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 15.8 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.029 |

**Intersection Setup**

| Name | Adams Street | | | Verdugo Circle Drive | | | Glenoaks Blvd | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Adams Street | | | Verdugo Circle Drive | | | Glenoaks Blvd | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 6 | 2 | 10 | 9 | 1 | 12 | 20 | 325 | 18 | 10 | 222 | 7 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0200 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 6 | 2 | 10 | 9 | 1 | 12 | 20 | 332 | 18 | 10 | 226 | 7 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 2 | 1 | 3 | 2 | 0 | 3 | 5 | 90 | 5 | 3 | 61 | 2 |
| Total Analysis Volume [veh/h] | 7 | 2 | 11 | 10 | 1 | 13 | 22 | 361 | 20 | 11 | 246 | 8 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | |
|---|---|---|---|---|
| Priority Scheme | Stop | Stop | Free | Free |
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.02 | 0.01 | 0.02 | 0.03 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 15.76 | 15.45 | 10.67 | 15.82 | 15.56 | 9.93 | 7.79 | 0.00 | 0.00 | 8.09 | 0.00 | 0.00 |
| Movement LOS | C | C | B | C | C | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.13 | 0.13 | 0.13 | 0.15 | 0.15 | 0.15 | 0.05 | 0.05 | 0.05 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 3.30 | 3.30 | 3.30 | 3.80 | 3.80 | 3.80 | 1.28 | 1.28 | 1.28 | 0.71 | 0.71 | 0.71 |
| d_A, Approach Delay [s/veh] | 12.93 | | | 12.62 | | | 0.43 | | | 0.34 | | |
| Approach LOS | B | | | B | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.15 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 7: Verdugo Road at Monterey Road**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.625 |

**Intersection Setup**

| Name | | | Verdugo Road | | | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Eastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | | | Verdugo Road | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 228 | 602 | 482 | 38 | 25 | 311 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 10 | 2 | 2 | 4 | 2 | 5 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 245 | 622 | 498 | 43 | 28 | 325 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 61 | 156 | 125 | 11 | 7 | 81 |
| Total Analysis Volume [veh/h] | 245 | 622 | 498 | 43 | 28 | 325 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | ProtPerm | Permissive | Permissive | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 6 | 0 | 3 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | Lead | - |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.15 | 0.19 | 0.17 | 0.17 | 0.02 | 0.20 |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.625 | | | | | |

**Intersection Level Of Service Report**
**Intersection 8: Verdugo Road at Glenoaks Boulevard**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | - |
| Analysis Method: | ICU 1 | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.518 |

**Intersection Setup**

| Name | Verdugo Road | | | | | | Glenoaks Boulevard | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Verdugo Road | | | | | | Glenoaks Boulevard | | | Glenoaks Boulevard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 86 | 515 | 28 | 60 | 341 | 38 | 56 | 167 | 118 | 31 | 119 | 89 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0200 | 1.0300 | 1.0200 | 1.0300 | 1.0300 | 1.0300 | 1.0300 | 1.0200 | 1.0200 | 1.0200 | 1.0200 | 1.0300 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 3 | 1 | 1 | 4 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 88 | 533 | 30 | 63 | 355 | 39 | 58 | 170 | 120 | 34 | 121 | 93 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 22 | 133 | 8 | 16 | 89 | 10 | 15 | 43 | 30 | 9 | 30 | 23 |
| Total Analysis Volume [veh/h] | 88 | 533 | 30 | 63 | 355 | 39 | 58 | 170 | 120 | 34 | 121 | 93 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Cycle Length [s] | 100 |
| Lost time [s] | 10.00 |

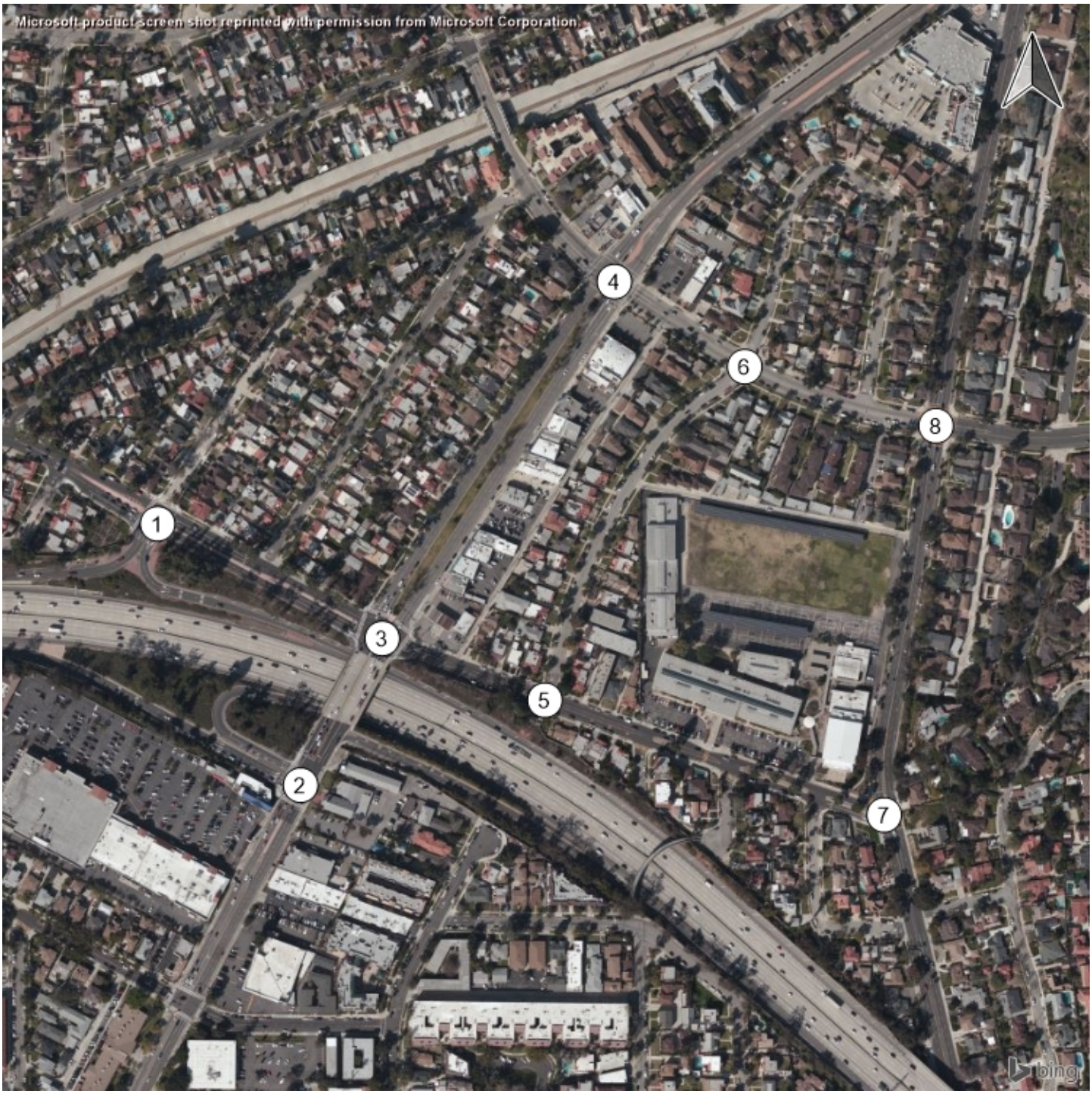
**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 2 | 0 | 0 | 6 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |

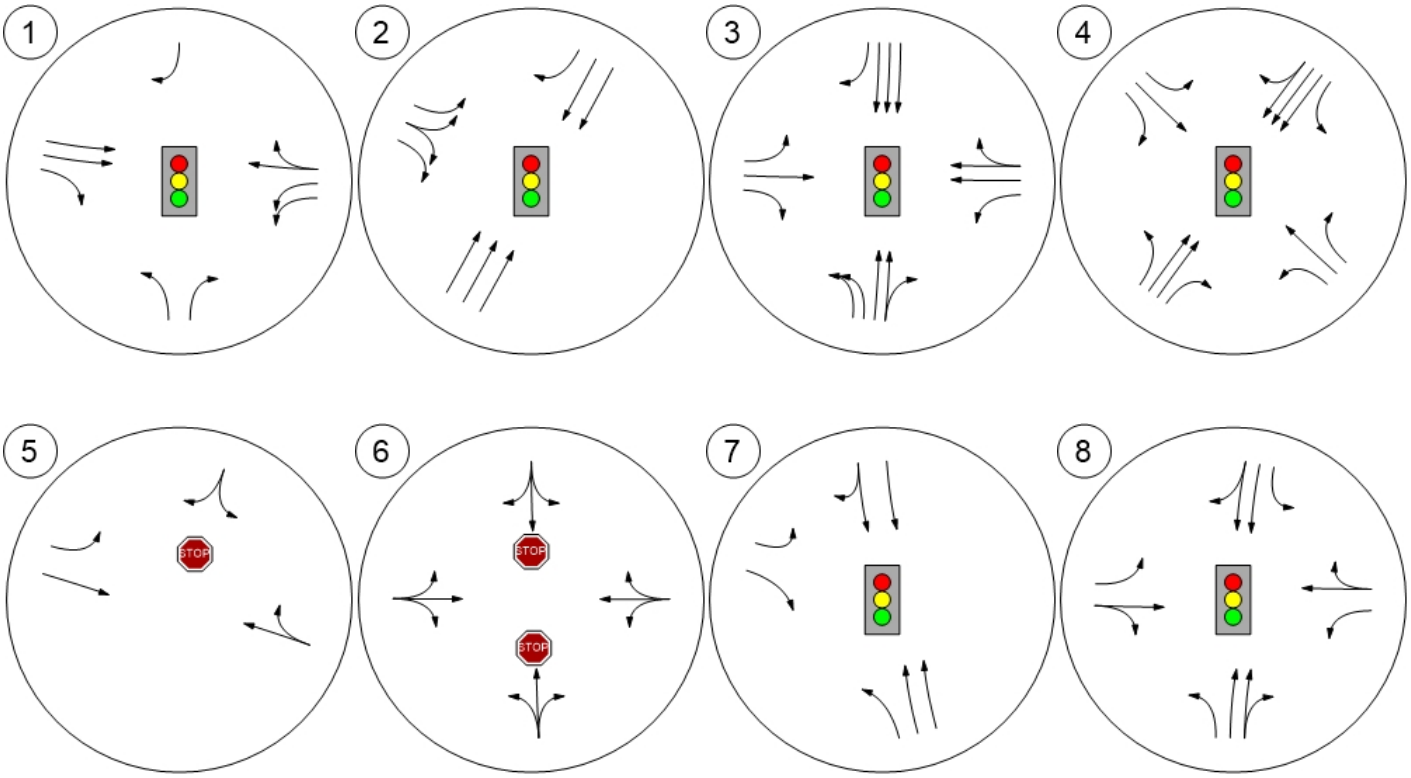
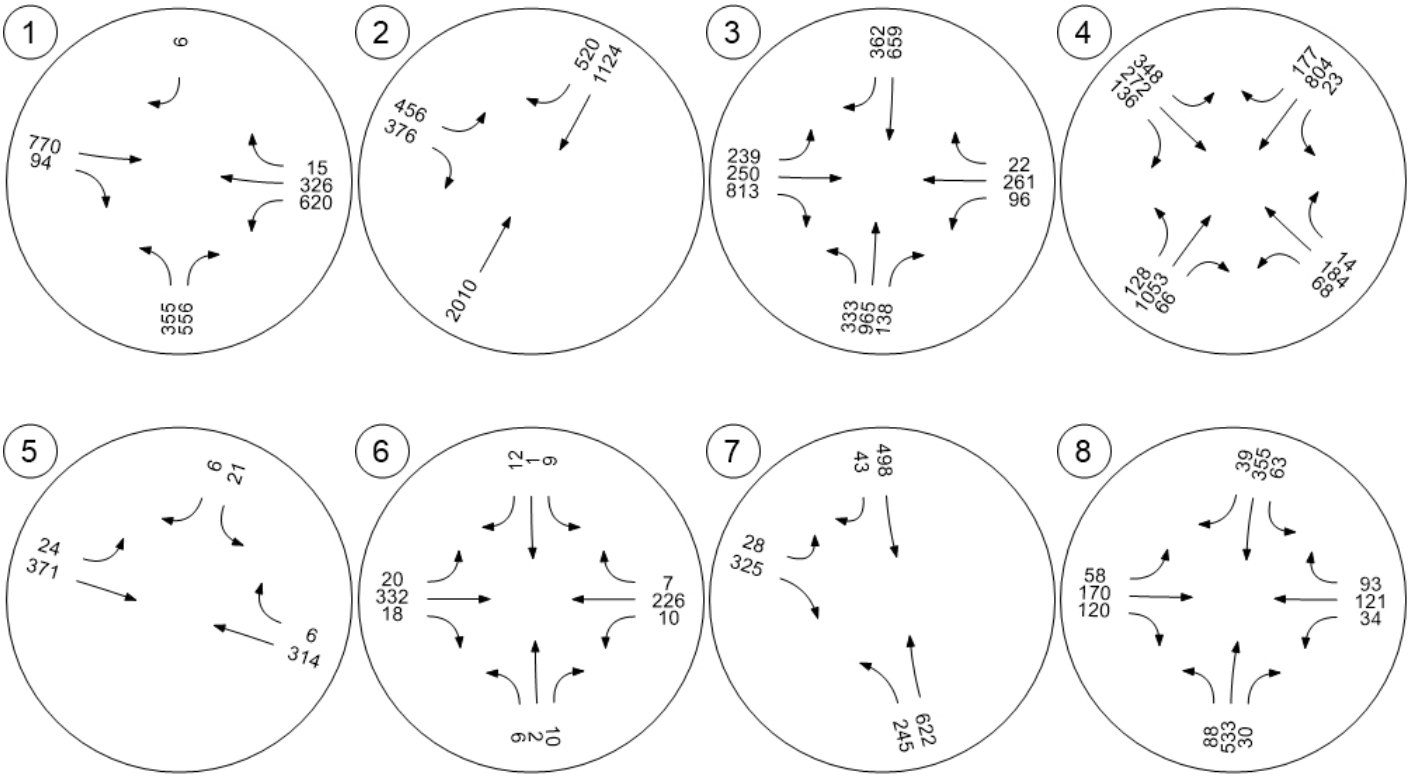
**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.06 | 0.18 | 0.18 | 0.04 | 0.12 | 0.12 | 0.04 | 0.18 | 0.18 | 0.02 | 0.13 | 0.13 |
| Intersection LOS | A | | | | | | | | | | | |
| Intersection V/C | 0.518 | | | | | | | | | | | |

## Study Intersections



## Lane Configuration and Traffic Control



## Traffic Volume - Future Total Volume