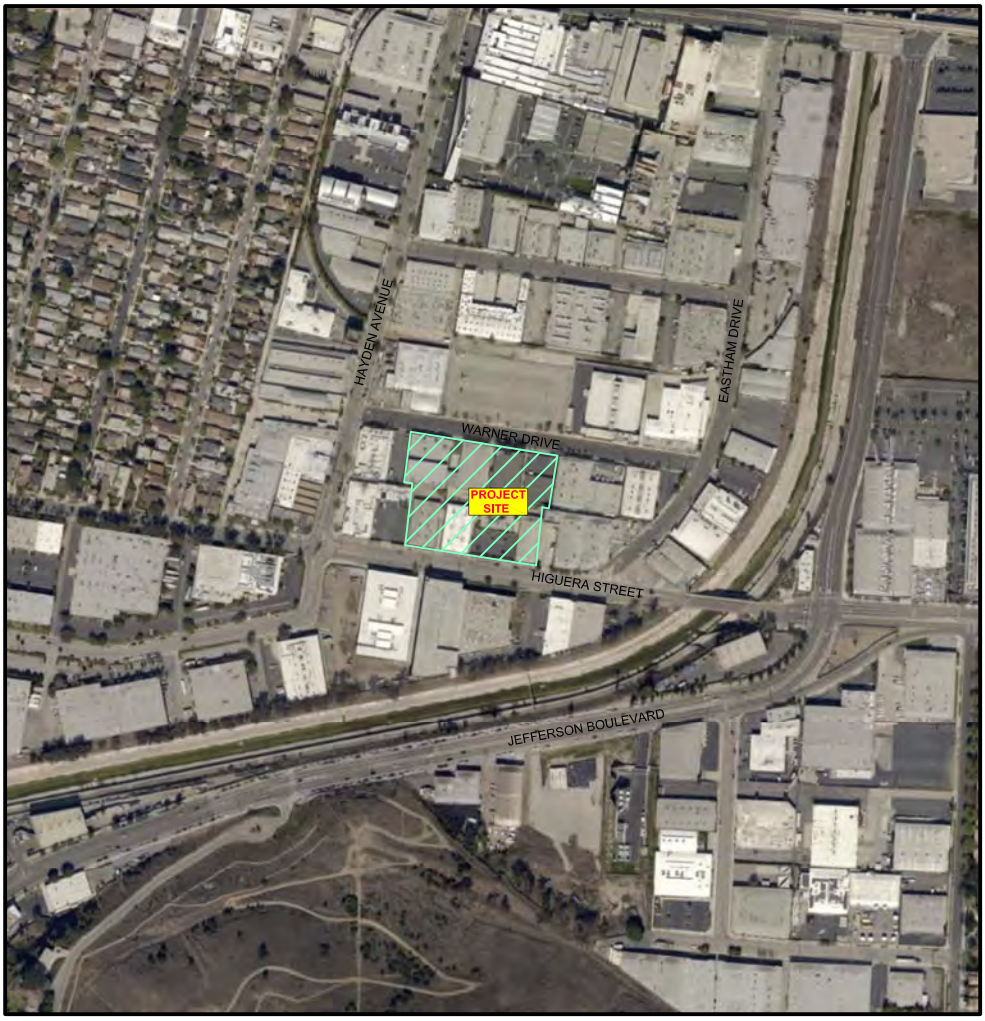
Overland Traffic Consultants, Inc.

ATTACHMENT NO. 8

TRAFFIC IMPACT ANALYSIS FOR THE WILLOWS COMMUNITY SCHOOL

Located at 8509 Higuera Street in the City of Culver City



Prepared for:
THE WILLOWS COMMUNITY SCHOOL

Prepared by:
Overland Traffic Consultants, Inc.
24325 Main Street, #202
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October 2018

TRAFFIC IMPACT ANALYSIS FOR THE WILLOWS COMMUNITY SCHOOL

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In the City of Culver City

Prepared by:

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EXECUTIVE SUMMARY

The approved Willows Community School (WCS) Master Plan allowed for the redesign of the campus space to provide flexibility to incorporate future expansion opportunities for the campus by property acquisition, added school facility improvements and allowed a 150 - student increase from 425 to 575 students in three (3) phases. No significant traffic impacts were identified in the prior study approved by the City of Culver City in 2012 (Resolution No. 2012-P006). The WCS is in the Hayden Tract at 8509 Higuera Street in the City of Culver City, as shown in Figure 1, aerial photograph.

Purpose of Study

Phase 1 has been completed and resulted in a 50 - student increase from 425 to 475 students. This report updates the traffic data (existing and future) and documents the potential traffic impacts created by the proposed development of Phases 2 and 3 of the WCS Master Plan.

The study includes information on Phases 2 and 3, but only the increase of 75 students associated with Phase 2 is being requested at this time. The future Phase 3 enrollment increase will remain at 25 students as currently allowed in the approved WCS Master Plan and will be applied for at a later time under a separate approval - informational data for Phase 3 is included in Appendix L (Phases 2 & 3 Traffic Impact Information).

Project Description

Changes to the WCS Master Plan Phase 2 consists of modifications to an existing 10,000 square foot building for flexible instructional space - including 6 new classrooms and office space, and the removal of a recently acquired building on the west side of the campus fronting Higuera Street for the construction of a new 20,000 square foot multi - purpose play field. The modified Phase 2 program includes an enrollment increase of 75 students to 550 students which is consistent with the approved enrollment increase for Phase 2.

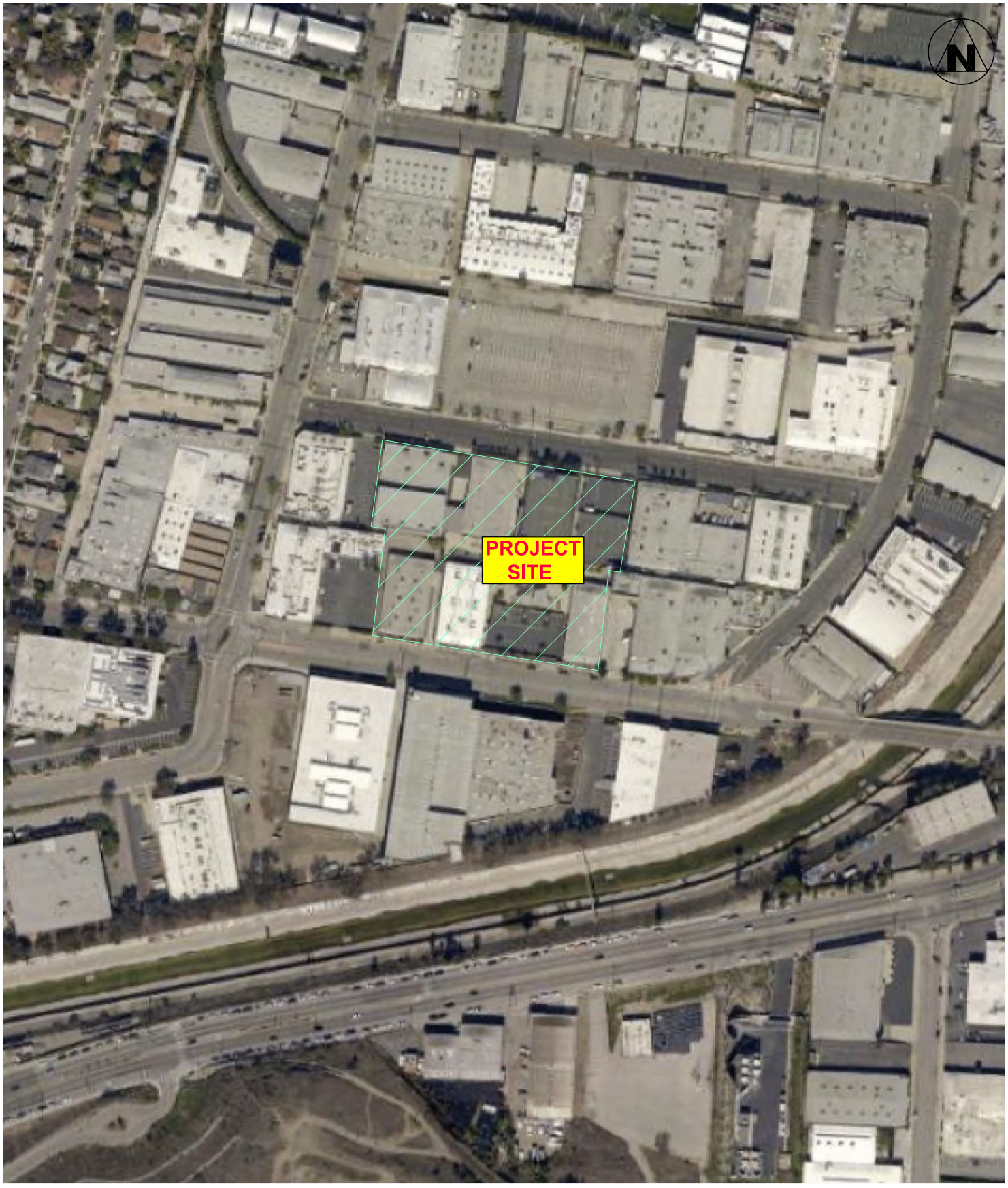

FIGURE 1

4/2018

THE WILLOW COMMUNITY SCHOOL
8509 HIGUERA STREET

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Project Parking

No changes are proposed to the on - site WCS parking which provides 54 full time parking spaces. These parking spaces will continue to be provided in two separate parking lots as approved in Phase 1: (1) The existing Higuera Street parking lot with 33 parking spaces for employees / visitors, and (2) an employee - only parking lot located off Warner Drive which accommodates 21 daily - use parking spaces.

When necessary during school events, the Warner Drive parking lot's southerly play area can be used to park approximately 32 vehicles. In addition, 55 off - site parking spaces for full - time and part - time employees will continue to be available to WCS in the parking lot located at 8511 Warner Drive (Samitaur Lot), directly across the street from the WCS.

Total daytime parking available for WCS is 109 parking spaces (54 on - site and 55 off – site) with 32 additional spaces available during school events for a total of 141 spaces.

The parking requirement for Phase 1 is 82 parking spaces, as shown below.

Use	Quantity	Rate	Subtotal
Classrooms	28[a]	1.5 spaces/classroom	42
Assembly (gymnasium)	8,064 sf	1 space/200 sf	40
		Total Requirement	82 spaces

[a] *Phase 1 of the Master Plan permitted the reconfiguration/expansion of the WCS's existing classrooms, including a potential increase from 28 to 33 classrooms. However, following completion of Phase 1, only 28 classrooms continue to exist at WCS.*

The future parking requirement for Phase 2 is 91 parking spaces, as shown below.

Use	Quantity	Rate	Subtotal
Classrooms	34[a]	1.5 spaces/classroom	51
Assembly (gymnasium)	8,064 sf	1 space/200 sf	40
		Total Requirement	91 spaces

[a] *The proposed WCS Modified Phase 2 plan would include the creation of 6 new classrooms.*

Project Access

Three existing driveways are available for WCS vehicular access. On Higuera Street, two one - way driveways serve the school's drop - off and pick - up function and access to the day - time visitor parking lot. This access pattern will remain one - way with a counterclockwise flow (i.e., inbound from the easterly Higuera Street driveway and outbound from the westerly Higuera Street driveway). It is recommended that the Higuera Street exit be right - turn only during student drop - off and pick - up periods to facilitate safe and orderly traffic flow. This turn restriction will be enforced by the installation of a no left-turn sign and made a part of the WCS student drop-off and pick-up program.

The Warner Drive parking lot is not used for student drop - off or pick - up and used only for employee parking. The parking lot is gated with one two - way driveway on Warner Drive.

Student Drop - off and Pick - up

The WCS will continue to stagger the start and end times for various grade levels to minimize localize traffic congestion at and near the school.

Four staggered school days are conducted with instruction occurring between 8:00 am to 3:20 pm with student drop - off activities starting at 7:45 am. A 20 - minute separation between grade levels facilitates the spreading of vehicle arrivals and departures for student drop - off and pick - up. Parking solely for the purposes of loading and unloading of students is not allowed in the Higuera Street parking lot from 7:30 am to 8:30 am and from 2:30 pm to 3:00 pm on school days. The 9:00 am start time for DK & K students allows parents to park in the Higuera Street lot and walk the younger students to class. Five times per year there are "late start" days with drop - off beginning at 9 am with the last pick - up at 3:05 pm. As part of the TDM program, WCS will continue to provide before and after school care for any student to spread the student arrivals and departures time periods.

The school schedules for Monday, Tuesday, Thursday and Friday are listed below:

- School instruction for 5th - 8th grades begins at 8:00 am and ends at 2:50 pm;
- Classes for 3rd & 4th grades begins at 8:20 am and ends at 3:05 pm;
- Classes for 1st & 2nd grades begins at 8:40 am and ends at 3:20 pm, and
- DK & K instruction starts at 9:00 am and ends at 2:30 pm.

Wednesday start times are the same but instruction ends earlier for all but 6th thru 8th grades:

- No changes to 6th – 8th grades;
- School for 5th grade begins at the same time but ends at 2:20 pm, a half hour early;
- School for 3rd and 4th grades begins at the same time but ends at 2:20 pm, 45-minutes early;
- School for 1st and 2nd grades begins at the same time but ends at 2:00 pm, 1 hour and 20 minutes early;
- DK & K instruction starts at 9:00 am and ends at 1:40 pm, 50 minutes sooner.

The Higuera Street parking lot can provide up to a 12 - vehicle storage in a 2- line queue for loading and unloading with the front 2 vehicle positions assigned for assisted unloading and loading of students with parents remaining in the vehicles. All student loading and unloading is supervised during the peak morning arrival and afternoon departure periods.

It has been observed that afternoon pick - up periods have the greatest traffic queueing due to early arrivals. WCS should continue to notify parents not to arrive earlier than their designated pick - up times to lessen the on - street queuing. No entrance prior to assigned times should be allowed without prior clearance.

Estimated Traffic Generation

Estimates of the traffic generated by the proposed project were calculated using the industry standard traffic generation rates developed by the Institute of Transportation Engineers (ITE) 10th Edition for private schools.

Using the ITE trip rates per student, the 75 new students in Phase 2 could be expected to generate an average of 308 new vehicle trips per weekday with 68 morning peak hour trips, 47 afternoon school - peak hour and 20 afternoon street - peak hour trips. The additional 25 students in Phase 3 would add another 103 new vehicle trips per weekday with 23 morning peak hour trips, 15 afternoon school - peak hour and 6 afternoon street - peak hour trips. Combined, Phases 2 and 3 would add 411 daily weekday trips with 91 morning trips, 62 afternoon school - peak hour trips and 26 afternoon street - peak hour trips.

To validate the ITE traffic generation rates, traffic counts were collected at the Higuera Street driveways on May 2nd and 3rd, 2018 (both weekdays when school was in session). The data shows that the WCS generated 0.836 vehicle trips per student during the morning peak hour which occurred between 7:45 - 8:45 am which is lower than the ITE rate of 0.910 vehicle trips per student. For the PM school peak hour (dismissal period), the WCS survey again showed a lower ITE trip rate, the WCS afternoon traffic rate was 0.509 vehicle trips per student vs the ITE rate of 0.620 vehicle trips per student. The higher ITE rates have been used in this evaluation of traffic impacts for purposes of a conservative analysis. See Appendix E (ITE 10th Edition Trip generation data) and Appendix F (WCS Trip Generation Survey data).

Project's Potential Traffic Impacts

The focus of this traffic study is to evaluate the potential traffic impact created by the WCS Master Plan proposed modifications. This traffic study provides two baseline scenarios to evaluate the project's traffic impacts: (1) existing (2018) traffic conditions plus the project traffic volume ("Existing + Project") and (2) future 2020 cumulative traffic conditions plus the project traffic ("Future 2020 Cumulative + Project").

Using criteria adopted by the City of Culver City and the City of Los Angeles for those intersections in the City of Los Angeles, it has been determined that the change in traffic flow generated by the proposed enrollment increase of 75 students will not significantly impact any of the nine study intersections or street segments during the three study periods. Furthermore, no significant traffic impacts were identified for the combined

enrollment increase of 100 students (representing Phases 2 and 3 combined) in the future 2020 - year analysis, see Appendix L (Phases 2 & 3 Traffic Impact Information) for impact summary

Hayden Avenue and Warner Drive

Traffic conditions at the intersection of Hayden Avenue and Warner Drive have been reviewed for the feasibility of added traffic controls, e.g., the installation of all - way stop signs or a new traffic signal. Currently, Warner Drive is controlled by a stop sign with the opposing commercial driveway also yielding the right - of - way to Hayden Avenue traffic.

It is our opinion that the installation of an all – way stop, or a traffic signal would have secondary traffic impacts to the neighborhood streets of Higuera Street and Lucerne Avenue. The added traffic controls would reduce vehicle delays at the Hayden Avenue and Warner Drive intersection which would promote more traffic to circumvent the Higuera /Hayden diverter installed to mitigate cut – through traffic. It is counterintuitive to install additional traffic controls to encourage this redirected traffic using Warner Drive.

Based on the efforts by the City of Culver City to mitigate cut - through traffic on Higuera Street, it is our opinion that westbound left - turns on Warner Drive at Hayden Avenue during the morning peak hours should be prohibited. Not allowing vehicles to turn left from Warner Drive at Hayden Avenue during the morning commute period would reduce the traffic circumventing the Higuera / Hayden diverter. For these reasons we do not recommend an all – way stop control or a traffic signal at Hayden Avenue and Warner Drive until other traffic control measures are tested.

Residential Neighborhood Traffic Management Program (NTMP) - It should be noted that although the project does not have a significant traffic impact on any residential street, the project has contributed to mitigate the cumulative traffic growth on near - by neighborhood streets, e.g., commercial studios and other Washington Boulevard development continue to have a cumulative effect on neighborhood streets e.g., Lucerne Avenue and Higuera Street. Pursuant to condition #28 of Resolution No. 2012-

P006, WCS has made a “Traffic Contribution” of $25,000 toward traffic calming measures on Higuera Street. However, WCS will work with the City of Culver City to implement measures to further improve traffic flow near and around the WCS campus.

The City has developed several preliminary concepts to convert Higuera Street to one - way traffic towards Lucerne Avenue to significantly reduce the amount of traffic on Higuera Street or construct back-to-back cul - de - sacs on Higuera Street west of Hayden Avenue. It is our understanding that other development projects have agreed to make voluntary contributions towards the cost of Higuera Street modifications. The City may move ahead with these modifications pending the various development projects moving forward and after receiving the approval of the affected community.

Conclusions

No significant project - related traffic impacts for WCS Phase 2 (75 student increase) were identified on any of the study intersections or any nearby neighborhood streets. In addition, the future WCS Phase 3 enrollment increase will remain at 25 students as currently allowed in the approved WCS Master Plan and will be applied for at a later time under a separate approval. Informational data for WCS Phases 2 and 3 combined (100 students) is included in Appendix L (Phases 2 & 3 Traffic Impact Information). This supplemental analysis for WCS Phases 2 and 3 also shows no significant project traffic impacts were identified for the enrollment increase of 100 students total.

However, to ensure no future traffic impacts occur, WCS will work with the City of Culver City to implement measures to further improve traffic flow near and around the WCS campus.

Recommended Project Traffic Mitigation Measures

1. Transportation Demand Management Program (TDM) – Develop a TDM plan for dissemination to all new school families upon entry. The TDM plan will be updated on an annual basis and disseminated to all returning school families at the beginning of each new school calendar year. The plan will include a traffic / parking circulation plan which explains vehicular ingress / egress and parking, vehicle queuing instructions

and student drop - off and pick - up instructions. A draft plan is provided in Appendix K (TDM Plan & Drop – Off and Pick – Up Information).

2. Promote School – Based Education and Awareness Programs – It is recommended that WCS promote and provide educational bike and pedestrian programs in their curriculum to teach students about safety and environmental / health benefits of multimodal transportation, such as biking and walking. Instructional classes on understanding rules of the road, the proper use of bikes around motor vehicles and pedestrians and teaching basic biking skills will help students better understand bicyclists rights and responsibilities.

3. On - Street Parking Removal and Right - Turn Only Exit - With the increase in enrollment, it is estimated that the afternoon vehicle queue could increase by 5 vehicles during the pick - up period. This estimate is based on 22 additional trips generated in the pm school peak period (Table 4, page 16) arriving in 4 pick - up periods.

   To mitigate the additional vehicle queue and improve the sight line for exiting traffic, it is recommended that signage be posted restricting the driveway exit to right - turns only. This turn restriction will be enforced by the installation of a no left - turn sign and made a part of the WCS student drop - off and pick - up program.

   In addition, the City has ordered the following signing and curb markings:

   1. Install signs, ”No Stopping 7:30 to 9:00 AM and 2:30 to 3:45 PM School Days” between WCS’s two Higuera Street driveways. The parking restrictions will affect 85’ between the two driveways adjacent to WCS during the pick - up and drop - off periods.

   2. Paint five feet of red curb on the west side of the WCS’s westerly driveway, and five feet of red curb on the east side of the WCS’s easterly driveway.

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CHAPTER 1 INTRODUCTION

The focus of this traffic study is to evaluate the potential traffic impact created by the development of the Willows Community School Master Plan (WCS) project. This traffic study follows the City of Culver City traffic study guidelines and is consistent with other recent traffic studies prepared for this area. Meetings were held with City staff and the City's traffic consultant, Barry Kurtz prior to the development of the study to determine the parameters to be used in this evaluation. The scope of the traffic impact analysis was summarized in a Memorandum of Understanding (MOU), attached in Appendix A (Traffic Study Memorandum of Understanding).

Potential traffic impacts caused by a development project that exceed limits established by the City of Culver City or the City of Los Angeles (some of the study locations are within the City of Los Angeles' jurisdiction) would be deemed significant traffic impacts. All significantly impacted locations would then be evaluated for possible traffic mitigation measures.

The traffic impact has been evaluated using the Intersection Capacity Utilization (ICU) method for signalized intersections and Highway Capacity Manual (HCM) delay methodologies for un - signalized intersections.

The ICU analysis method quantifies the operating conditions of an intersection using a ratio of peak hour traffic volume to intersection capacity. Two un - signalized intersections were also evaluated using the Highway Capacity Manual (HCM) vehicle delay method for stop sign controlled intersections. Any change to the intersection's peak hour operating condition caused by an increase / decrease in traffic volume (i.e., traffic impact) can be quantified using these analysis methods.

Pursuant to the City of Culver City traffic impact guidelines, the following steps have been taken to evaluate the project's traffic impact.

(a) Evaluate existing traffic volumes;

(b) Existing traffic volume + project traffic;

(c) Base year 2018 traffic volume were increased by an additional ambient growth factor using the 1 % per year growth rate to the future 2020 study year;

(d) Traffic in (c) was increased by traffic generated by other development projects (future "without project" scenario);

(e) Traffic in (d) was increased by traffic generated by the proposed project (future "with project" scenario); and

(f) Traffic in (b or e) plus traffic mitigation, if necessary.

The future cumulative (d) analysis includes other nearby development projects that are either under construction or planned that may have the potential to change traffic conditions in the study area. As part of this cumulative analysis, 42 other projects were identified and reviewed for the future study year.

An intersection capacity analysis of the existing baseline and future traffic conditions has been completed at those locations expected to have the highest potential for significant traffic impacts. Weekday morning school arrival, mid - day afternoon school dismissal and afternoon street peak hour conditions have been evaluated at nine key intersections selected for review. Low volume intersections or intersections with minimal project traffic are not included in this analysis.

The study intersections are:

1. National Boulevard and Washington Boulevard (Culver City traffic signal);
2. National Boulevard and Hayden Avenue (Culver City traffic signal);
3. National Boulevard and Eastham Drive (Culver City traffic signal);
4. National Boulevard and Jefferson Boulevard (City of Los Angeles traffic signal);
5. Robertson Boulevard / Higuera Street and Washington Boulevard (Culver City traffic signal);
6. Warner Drive and Hayden Avenue (Culver City stop sign controlled);
7. Higuera Street and Hayden Avenue (Culver City stop sign controlled);
8. Higuera Street and Eastham Drive (Culver City traffic signal); and,
9. Jefferson Boulevard and Rodeo Road (City of Los Angeles traffic signal).

In addition, the study evaluated the potential for traffic impacts on 6 street segments selected by City staff. The six street segments analyzed are:

1. Schaefer Street between Higuera Street and National Boulevard
2. Helms Avenue between Higuera Street and National Boulevard
3. Wesley Street between Higuera Street and National Boulevard
4. Lucerne Avenue between Higuera Street and Ince Boulevard
5. Higuera Street between Lucerne Avenue and Wesley Street
6. Higuera Street between Hayden Avenue and Eastham Drive

Figure 2 illustrates the project location and study locations.

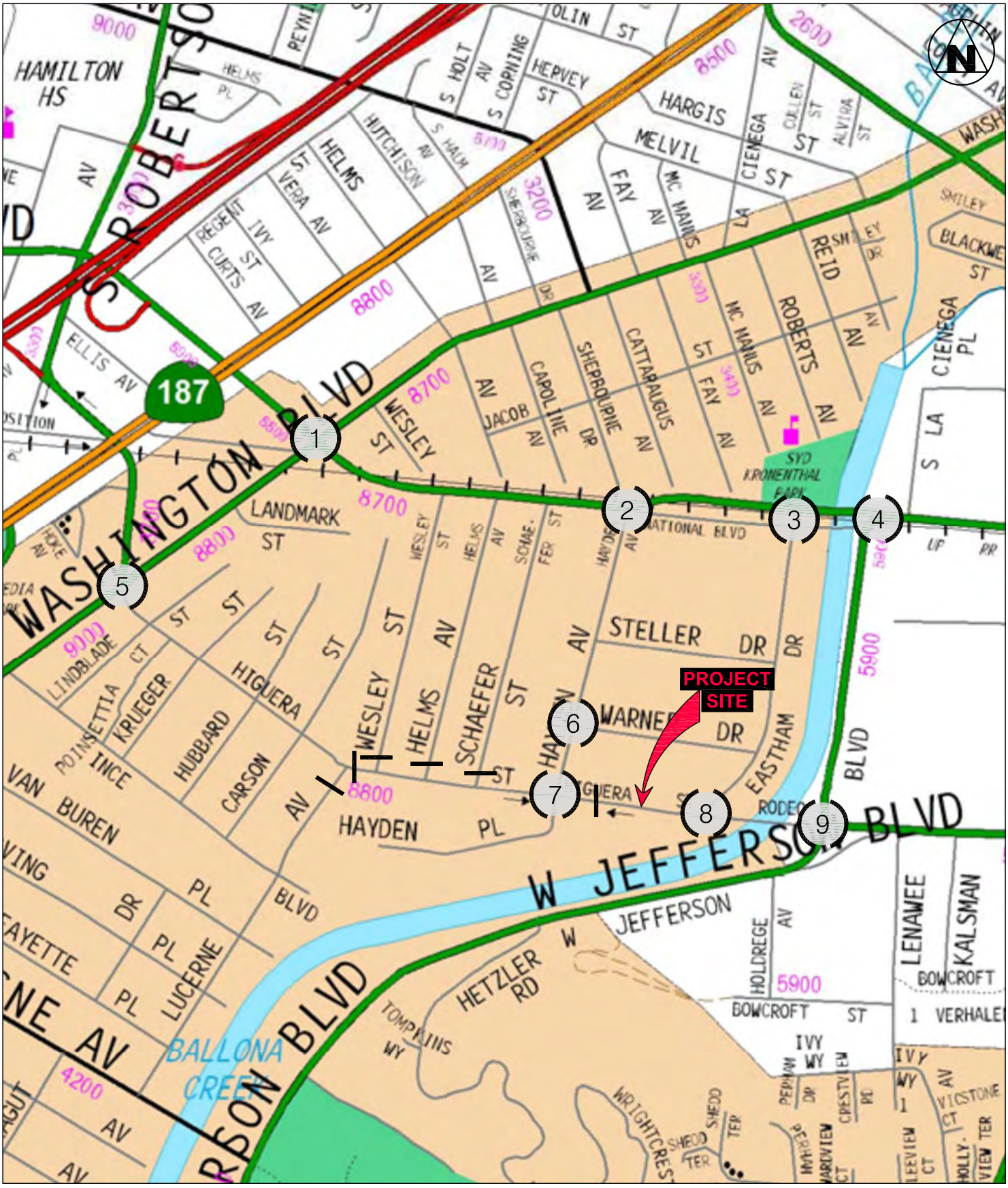

FIGURE 2

4/2018

STUDY AREA
INTERSECTON LOCATIONS
AND LOCAL STREET SEGMENTS

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CHAPTER 2 PROJECT DESCRIPTION

The approved WCS Master Plan allowed for the redesign of the campus space to provide flexibility to incorporate future expansion opportunities for the campus by property acquisition, added school facility improvements and allowed a 150 - student increase from 425 to 575 students in three (3) phases.

Phase 1 has been completed and resulted in a 50 - student increase from 425 to 475 students. The current project being analyzed is the proposed Phase 2 student enrollment for 75 students to 550 students which is consistent with the approved enrollment increase for Phase 2 of WCS Master Plan. The Phase 3 increase of 25 students will be applied for at a later time - informational data for Phases 2 and 3 combined is included in Appendix L (Phases 2 & 3 Traffic Impact Information).

Project Description Phase 2 - Changes to the WCS Master Plan Phase 2 consists of modifications to an existing 10,000 square foot building for flexible instructional space - including 6 new classrooms and office space, and the removal of a recently acquired building on the west side of the campus fronting Higuera Street for the construction of a new 20,000 square foot multi - purpose play field. The modified Phase 2 program includes an enrollment increase of 75 students to 550 students which is consistent with the approved enrollment increase for Phase 2.

Project Parking

No changes are proposed to the on - site WCS parking which provides 54 full time parking spaces. These parking spaces will continue to be provided in two separate parking lots as approved in Phase 1: (1) The existing Higuera Street parking lot with 33 parking spaces for employees / visitors, and (2) an employee - only parking lot located off Warner Drive which accommodates 21 daily - use parking spaces.

When necessary during school events, the Warner Drive parking lot's southerly play area can be used to park approximately 32 vehicles. In addition, 55 off - site parking spaces for full - time and part - time employees will continue to be available to WCS in the parking lot located at 8511 Warner Drive (Samitaur Lot), directly across the street from the WCS.

Total daytime parking available for WCS is 109 parking spaces (54 on - site and 55 off – site) with 32 additional spaces available during school events for a total of 141 spaces. The parking requirement for Phase 1 is 82 parking spaces as shown below.

Table 1
Existing Phase 1 Parking Requirement

Use	Quantity	Rate	Subtotal
Classrooms	28[a]	1.5 spaces/classroom	42
Assembly (gymnasium)	8,064 sf	1 space/200 sf	40
		Total Requirement	82 spaces

[a] *Phase 1 of the Master Plan permitted the reconfiguration/expansion of the WCS's existing classrooms, including a potential increase from 28 to 33 classrooms. However, following completion of Phase 1, only 28 classrooms continue to exist at WCS.*

The future parking requirement for Phase 2 is 91 parking spaces as shown below.

Table 2
Phase 2 Parking Requirement

Use	Quantity	Rate	Subtotal
Classrooms	34[a]	1.5 spaces/classroom	51
Assembly (gymnasium)	8,064 sf	1 space/200 sf	40
		Total Requirement	91 spaces

[a] *The proposed WCS Modified Phase 2 plan would include the creation of 6 new classrooms.*

Project Access

Three existing driveways are available for WCS vehicular access. On Higuera Street, two one - way driveways serve the school's drop - off and pick - up function and access to the day - time visitor parking lot. This access pattern will remain one - way with a counterclockwise flow (i.e., inbound from the easterly Higuera Street driveway and outbound from the westerly Higuera Street driveway). It is recommended that the Higuera Street exit be right - turn only during student drop - off and pick - up periods to facilitate safe and orderly traffic flow. This turn restriction will be enforced by the installation of a no left-turn sign and made a part of the WCS student drop-off and pick-up program.

The Warner Drive parking lot is not used for student drop - off or pick - up and used only for employee parking. The parking lot is gated with one two - way driveway on Warner Drive.

Student Drop - off and Pick - up

The WCS will continue to stagger the start and end times for various grade levels to minimize localize traffic congestion at and near the school.

Four staggered school days are conducted with instruction occurring between 8:00 am to 3:20 pm with student drop - off activities starting at 7:45 am. A 20 - minute separation between grade levels facilitates the spreading of vehicle arrivals and departures for student drop - off and pick - up. Parking solely for the purposes of loading and unloading of students is not allowed in the Higuera Street parking lot from 7:30 am to 8:30 am and from 2:30 pm to 3:00 pm on school days. The 9:00 am start time for DK & K students allows parents to park in the Higuera Street lot and walk the younger students to class. Five times per year there are "late start" days with drop - off beginning at 9 am with the last pick - up at 3:05 pm. As part of the TDM program, WCS will continue to provide before and after school care for any student to spread the student arrivals and departures time periods.

The school schedules for Monday, Tuesday, Thursday and Friday are listed below:

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- DK & K instruction starts at 9:00 am and ends at 2:30 pm.

Wednesday start times are the same but instruction ends earlier for all but 6th thru 8th grades:

- No changes to 6th – 8th grades;
- School for 5th grade begins at the same time but ends at 2:20 pm, a half hour early;
- School for 3rd and 4th grades begins at the same time but ends at 2:20 pm, 45-minutes early;
- School for 1st and 2nd grades begins at the same time but ends at 2:00 pm, 1 hour and 20 minutes early;
- DK & K instruction starts at 9:00 am and ends at 1:40 pm, 50 minutes sooner.

The Higuera Street parking lot can provide up to a 12 - vehicle storage in a 2-line queue for loading and unloading with the front 2 vehicle positions assigned for assisted unloading and loading of students with parents remaining in the vehicles. All student loading and unloading is supervised during the peak morning arrival and afternoon departure periods. See Appendix K (TDM Plan and Drop – Off and Pick – Up Information) for Higuera Street parking lot on - site queue illustration.

It has been observed that afternoon pick - up periods have the greatest traffic queueing due to early arrivals. WCS should continue to notify parents not to arrive earlier than their designated pick - up times to lessen the on - street queuing. No entrance prior to assigned times should be allowed without prior clearance.

Figures 3A and B show the existing and future WCS campus for the WCS Master Plan Phase 2 Modifications.

FIGURE 3A

8/2018

THE WILLOWS COMMUNITY SCHOOL
EXISTING CAMPUS (2018)

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FIGURE 3B

8/2018

THE WILLOWS COMMUNITY SCHOOL
PROPOSED CAMPUS (2020)

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CHAPTER 3 ENVIRONMENTAL SETTING

Land Use

The project is in the Hayden Tract on the east side of the City of Culver City adjacent to the City of Los Angeles. The predominant land uses in the area are a mix of media, advertising, industrial, technology and entertainment businesses. Located to the north is the Exposition Light Rail Transit line adjacent to National Boulevard. The Expo Light rail line runs from downtown Los Angeles to Santa Monica with nearby stations located at Washington Boulevard and National Boulevard in Culver City, and La Cienega Boulevard and Jefferson Boulevard in the City of Los Angeles. The Culver City General Plan Land Use Element and adjacent City of Los Angeles Community Plan land use map are included in Appendix B (Land Use Information) of this report for general reference.

Transportation Network

A brief description of the nearby freeway and roadways is provided below.

Santa Monica Freeway (Interstate 10) is located approximately 1-mile northwest of the project site. This east - west freeway provides four mixed - flow lanes plus auxiliary lanes between ramp connections in each direction near study area. Freeway access is provided from National Boulevard, Robertson Boulevard, Washington Boulevard, Fairfax Avenue, Venice Boulevard and La Cienega Boulevard.

Robertson Boulevard is a primary arterial roadway that traverses the cities of Culver City, Los Angeles and Beverly Hills. Robertson Boulevard provides for 2 lanes in each direction, access to the Santa Monica Freeway and on-street parking. Robertson Boulevard turns into Higuera Street south of Washington Boulevard.

Washington Boulevard is a primary arterial roadway that traverses the cities of Culver City and Los Angeles. Two lanes in each direction are provided in the project vicinity with additional turn lanes at major intersections and on - street parking.

National Boulevard is an arterial between Jefferson Boulevard and Bundy Drive. Two lanes in each direction are provided with left - turn channelization at intersecting streets. No parking is allowed on National Boulevard in the study area.

Jefferson Boulevard is an arterial near the project site. Jefferson Boulevard provides two lanes in each direction plus a median left - turn lane.

Rodeo Road is an arterial between the Jefferson Boulevard and Martin Luther King Jr. Boulevard. Three lanes in each direction plus left - turn lanes are provided.

Eastham Drive is a local roadway east of the Willows School. The roadway provides one lane in each direction with angle parking along the east side and parallel parking along the west side of the roadway. North of Steller Drive, Eastham Drive is a private roadway connecting to National Boulevard.

Warner Drive is a local street between Hayden Avenue and Eastham Drive. The road provides one lane in each direction with on - street angle on the south side and parallel parking on the north side of the roadway. Warner Drive provides direct access to The Willow Community School on the north side of the campus.

Higuera Street is a neighborhood feeder street between Washington Boulevard and Hayden Avenue and a secondary arterial between Hayden Avenue and Jefferson Boulevard. The road provides one lane in each direction south of Washington Boulevard and 2 lanes in each direction from east of Hayden Avenue to Jefferson Boulevard. Traffic calming measures to discourage through traffic have been implemented along Higuera Street between Hayden Avenue and Washington Boulevard. East - west traffic on Higuera Street from east of Hayden Avenue to Washington Boulevard is prohibited by raised medians installed within the intersection of Higuera Street and Hayden Avenue. Higuera Street provides direct access to WCS and provides on - street parking along the north side of the roadway adjacent to WCS.

Transit Information

Public transportation near the project site is provided by the City of Culver City and Metro. The Culver City Bus operates route 5 along Higuera Street and Warner Drive near the project with an eastbound stop at the intersection of Hayden Avenue and Warner Drive, and westbound stops at the intersections of Higuera Street and Eastham Drive and at Hayden Avenue and Warner Drive. All Culver City Buses are equipped with bike racks and they are available on a first-come, first-serve basis. If the bike rack is full, users must wait for the next bus.

Metro operates the Expo Line from Downtown Los Angeles to Santa Monica. The Expo Line stretching 8.5 miles from 7th St./Metro to Culver City Station which opened in April 2012, connecting Downtown L.A. with Culver City. The 6.6 - miles extension from Culver City to the City of Santa Monica opened on May 20, 2016 and added seven stations.

The transit line information is provided in Appendix C (Transit Information).

City of Culver City Bicycle and Pedestrian Master Plan (BPMP)

The Bicycle and Pedestrian Master Plan (BPMP) 2010 was adopted as a comprehensive plan developed to provide a network system that is safe and efficient that embraces the complete street principles for integrating multi - mode transportation networks. The BPMP has mapped out the existing and potential future bike facilities and the pedestrian facilities most appropriate for pedestrian improvements. A brief definition of the bicycle facilities is provided below:

Bicycle Path (Class I Bikeway) – A bicycle path is facility that is separated from the vehicular traffic for the exclusive use of the cyclist (although sometimes combined with a pedestrian lane). The designated path can be completely separated from vehicular traffic or cross the vehicular traffic with right - of - way assigned through signals or stop signs. Bike paths near the WCS include the Ballona Creek Bike Path and the National Boulevard

Bike Path. A public works project is in place to construct bike access to/from Higuera Street to the Ballona Creek Bike Path.

Bicycle Lane (Class II Bikeway) – A bicycle lane is typically provided on street with a designated lane stripped on the street for the exclusive use of the cyclist. The bicycle lanes are occasionally curbside, outside the parking lane, or along a right turn lane at intersections. Bike lanes near WCS include Jefferson Boulevard from Duquesne Avenue to National Boulevard, and Duquesne Avenue from south of Jefferson Boulevard to Culver Boulevard.

Bicycle Route (Class III Bikeway) – A bicycle route is a designated route in a cycling system where the cyclist shares the lane with the vehicle. Cyclist would follow the route and share the right - of - way with the vehicle. Bike routes in the study area are located on: Wesley Street from Higuera Street to National Boulevard, Lucerne Avenue from Higuera Street to Duquesne Avenue, Irving Place from Lucerne Avenue to Culver Boulevard, Van Buren Place from A Street to Lucerne Avenue, and Higuera Street from Lucerne Avenue to Wesley Street. Pursuant to the BPMP, Higuera Street between Jefferson Boulevard and Washington Boulevard is designated as a future bike route.

The Bicycle and Pedestrian Network maps are provided in Appendix D (Culver City Bicycle & Pedestrian (BPMP) Information).

CHAPTER 4 PROJECT TRAFFIC CHARACTERISTICS

Project Traffic Generation

Traffic - generating characteristics of private schools have been studied by the Institute of Transportation Engineers (ITE). The results of these traffic generation studies have been published in Trip Generation, 10th Edition handbook and has become the industry standard for estimating traffic generation for different land uses.

The ITE trip generation data indicates that private schools with grades K thru 8th grade generally exhibit the trip - making characteristics per student as shown by the trip rates presented in Table 3. Using these traffic generation rates, estimates of the project's traffic volume were calculated for the morning peak hour student arrivals, the afternoon peak hour of student dismissals and the peak afternoon commute hour of the adjacent street traffic flow.

Table 3
Project Trip Generation Rates
(Per Student)

			AM Peak Hour			PM School Peak Hour		
Land Use	ITE Code	Daily	Total	In	Out	Total	In	Out
Private School (K-8)	534	4.11	0.910	55%	45%	0.620	47%	53%

PM Street Peak Hour		
Total	In	Out
0.260	46%	54%

A trip generation count was conducted at WCS on May 2nd and 3rd, 2018 to test the validity of the ITE private school rates. The results show that WCS generated 0.836 vehicle trips per student during the morning peak hour which occurred between 7:45 - 8:45 am. As shown in Table 1 above, the ITE trip morning trip rate is slightly lower at 0.910 vehicle trips per student. For the PM school peak hour, the WCS survey again shows a lower than ITE rate, 0,509

vehicle trips per student vs the ITE rate of 0.62 vehicle trips per student. The higher ITE rates have been used in this evaluation for purposes of a conservative analysis, see Appendix E (ITE 10th Edition Trip Rates). The WCS traffic data for elementary schools is present in Appendix F (WCS Trip Generation Survey).

As shown in Table 4, the Phase 2 enrollment increase of 75 students could be expected to generate an average of 308 new vehicle trips per weekday with 68 morning peak hour trips, 47 afternoon school - peak and 20 afternoon street - peak hour trips.

Table 4
Project Trip Generation

			AM Peak Hour			PM School Peak Hour		
Land Use	Size	Daily	Total	In	Out	Total	In	Out
Private School	75 students	308	68	37	31	47	22	25

PM Street Peak Hour		
Total	In	Out
20	9	11

The additional 25 students in Phase 3 would add another 103 new vehicle trips per weekday with 23 morning peak hour trips, 15 afternoon school-peak hour and 6 afternoon street-peak hour trips. Combined, Phases 2 and 3 would add 411 daily weekday trips with 91 morning trips, 62 afternoon school-peak hour trips and 26 afternoon street-peak hour trips. Trip Generation for the combined enrollment increase of 100 students (Phases 2 & 3 combined) is provided in Appendix L (Phases 2 & 3 Traffic Impact Information).

Trip Distribution and Assignment of Project Traffic

A primary factor affecting trip direction is the distribution of the student population which would generate project trip origins and destinations. A review of the zip code data for the current student population was conducted to develop the trip distribution. See Appendix G (Student Zip Code Information) for the zip code data. The estimated project directional traffic distribution is also based on the roadway network, existing traffic flow patterns and site access. Figure 4 illustrates the estimated traffic distribution percentages approved for use in the study.

The traffic assignment percentages at each study intersection is depicted on Figure 5. Using the traffic assignment at each intersection and the estimated peak hour traffic volume as provided in the Table 4, peak hour traffic volumes at each study location have been calculated. The project peak hour traffic volumes at each intersection are illustrated in Figures 6a, b and c for the morning, school afternoon and street afternoon peak hours. This assignment of site generated traffic provides the level of detail necessary to analyze the potential traffic impacts created by the project at all the study locations.

Driveway Queuing Review

The objective of the driveway queuing review is to assist in the development of the school arrival / pick - up program, to minimize on - street queuing and provide enough capacity for a safe and efficient student loading / unloading procedure.

The morning school trips do not typically present as large of a concern as the afternoon pick - up event. The afternoon pick - up event attracts parents trying to “get in line first” and leave the queue as soon as possible upon the release of the students from school. It has been observed that early arrivals for pick - up have had a negative effect on the WCS staggered start / end program with spill over onto Higuera Street. Therefore, WCS parents should not arrive earlier than their designated pick - up times. Penalties for non - compliance could be implemented by the WCS.

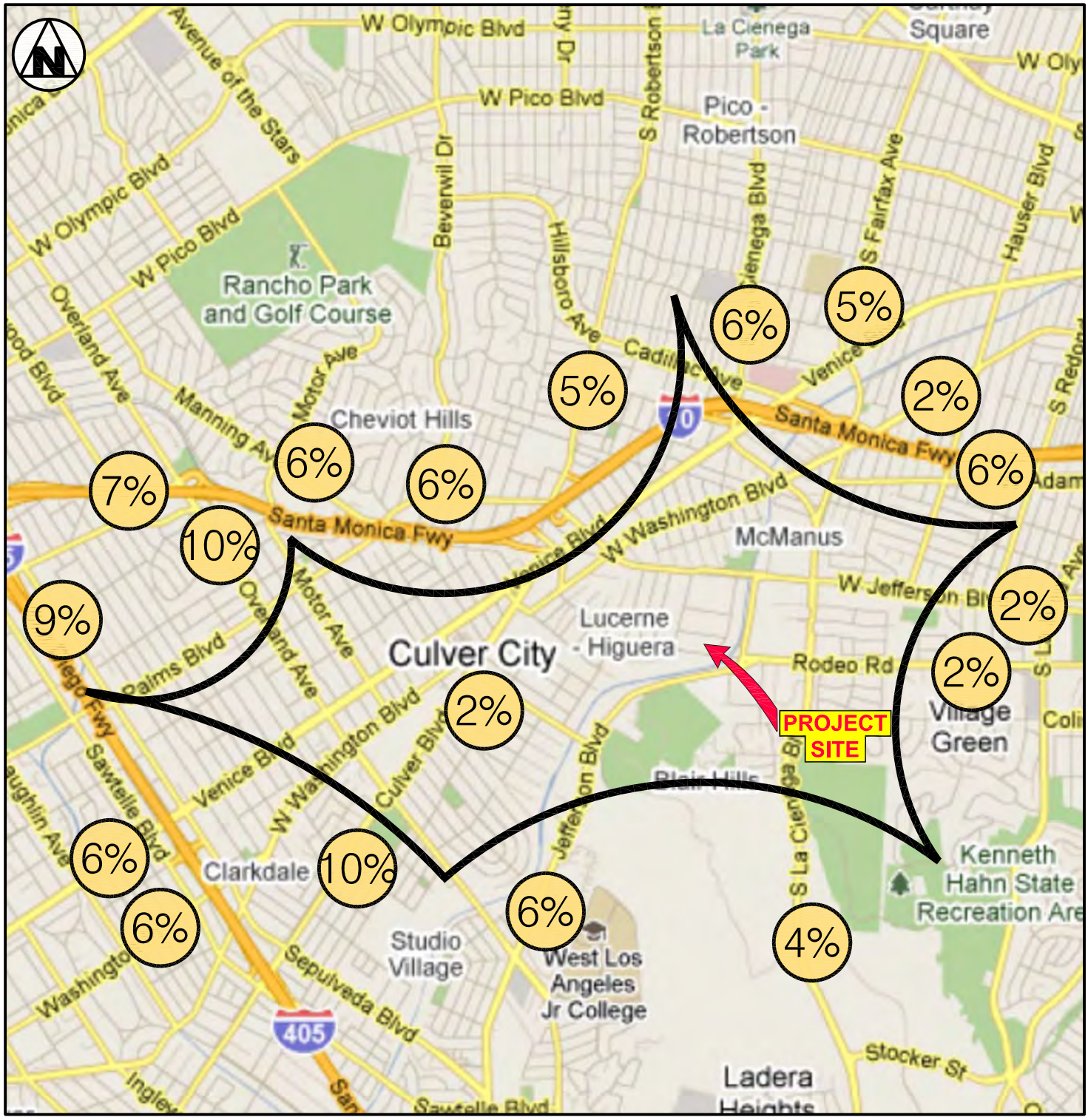

FIGURE 4

4/2018

DISTRIBUTION ASSIGNMENT OF ZIP CODES

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24325 Main Street #202, Santa Clarita, CA 91321
(661) 799 - 8423, OTC@overlandtraffic.com

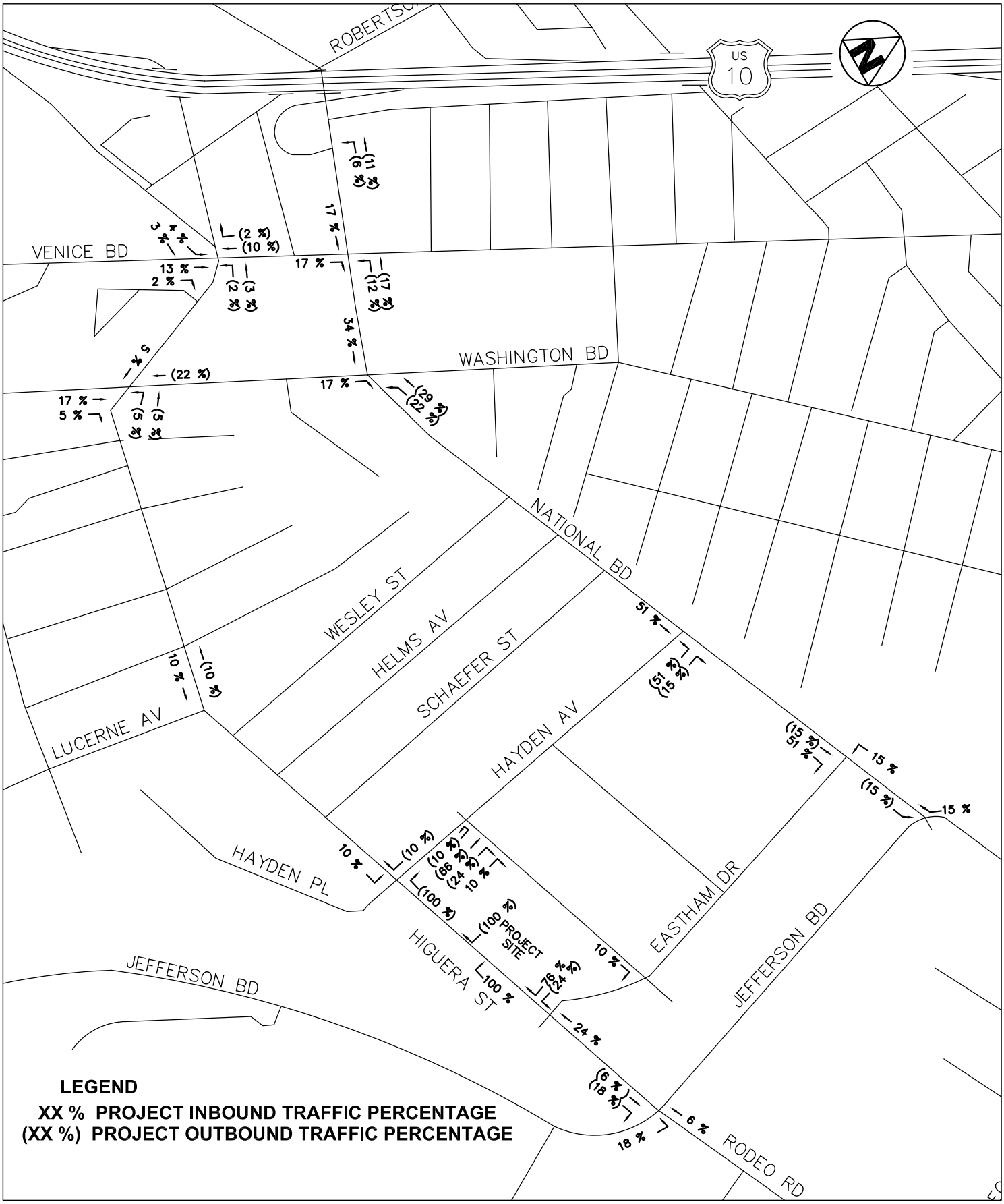

FIGURE 5

9/2018

THE WILLOWS COMMUNITY SCHOOL
TRAFFIC ASSIGNMENT PERCENTAGES

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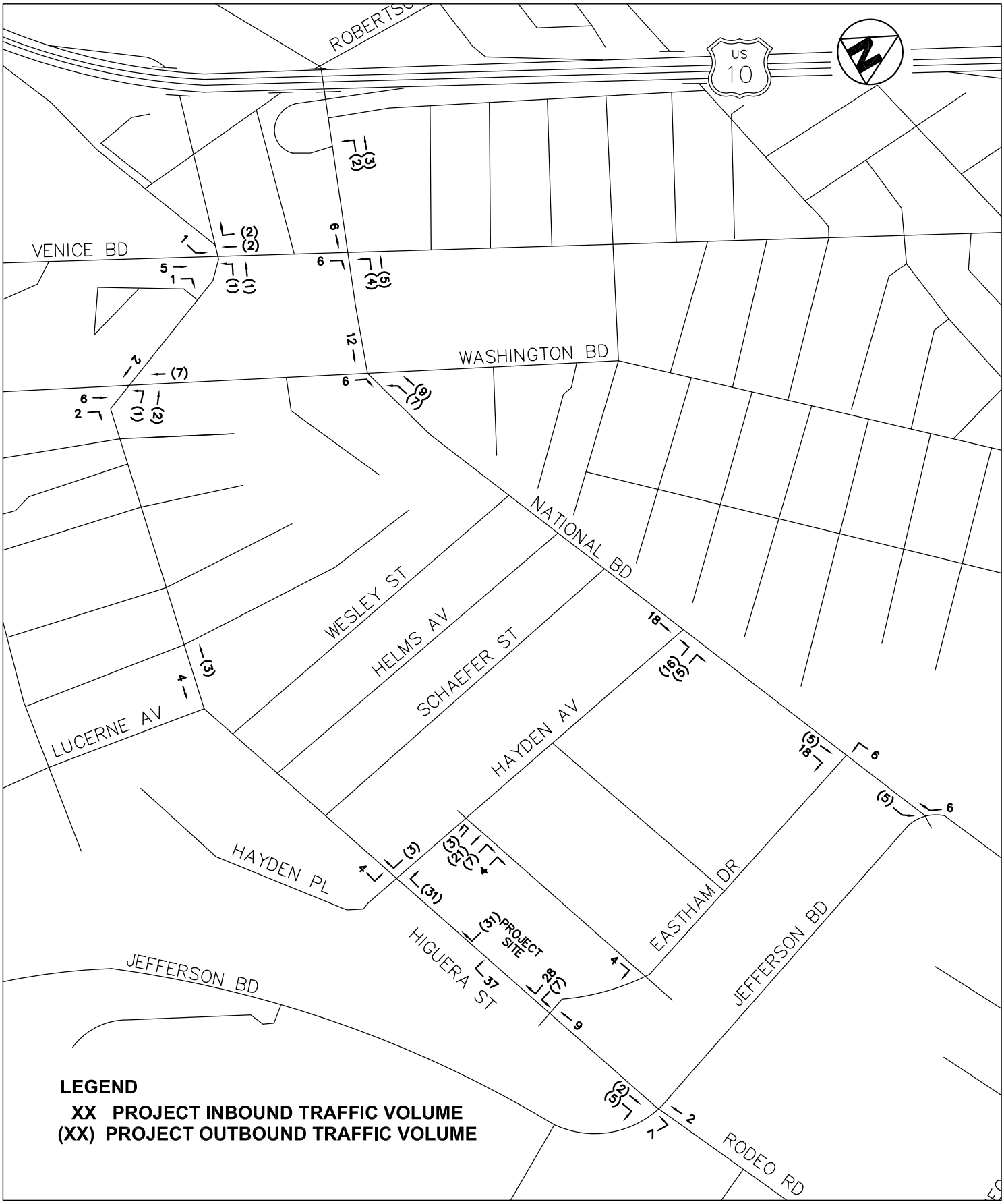

FIGURE 6A

9/2018

THE WILLOWS COMMUNITY SCHOOL
AM PEAK HOUR PROJECT TRAFFIC VOLUME

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24325 Main Street, #202, Santa Clarita, CA 91321
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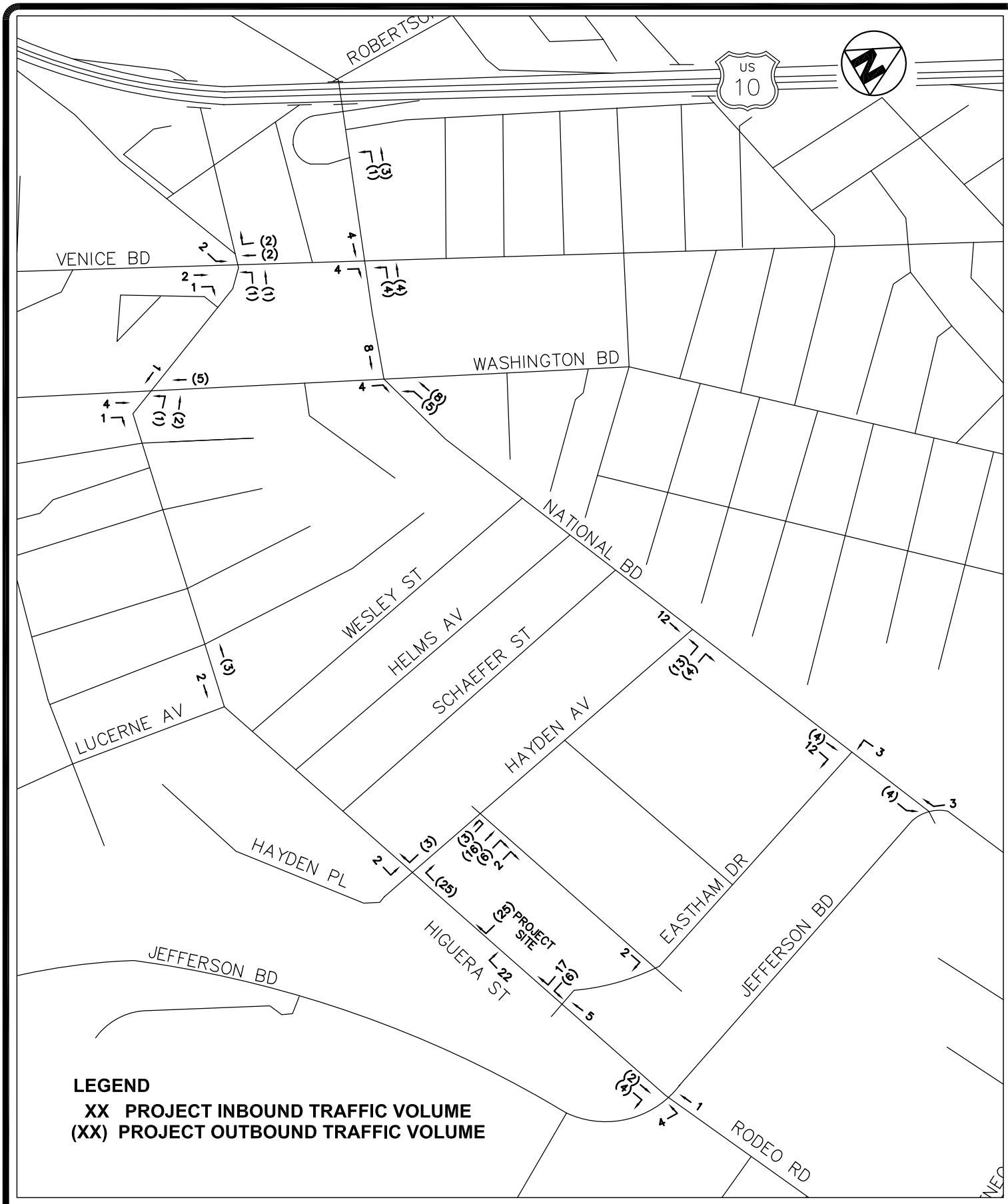

FIGURE 6B

9/2018

THE WILLOWS COMMUNITY SCHOOL
PM SCHOOL PEAK HOUR PROJECT TRAFFIC VOLUME

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24325 Main Street, #202, Santa Clarita, CA 91321
(661) 799 - 8423, OTC@overlandtraffic.com

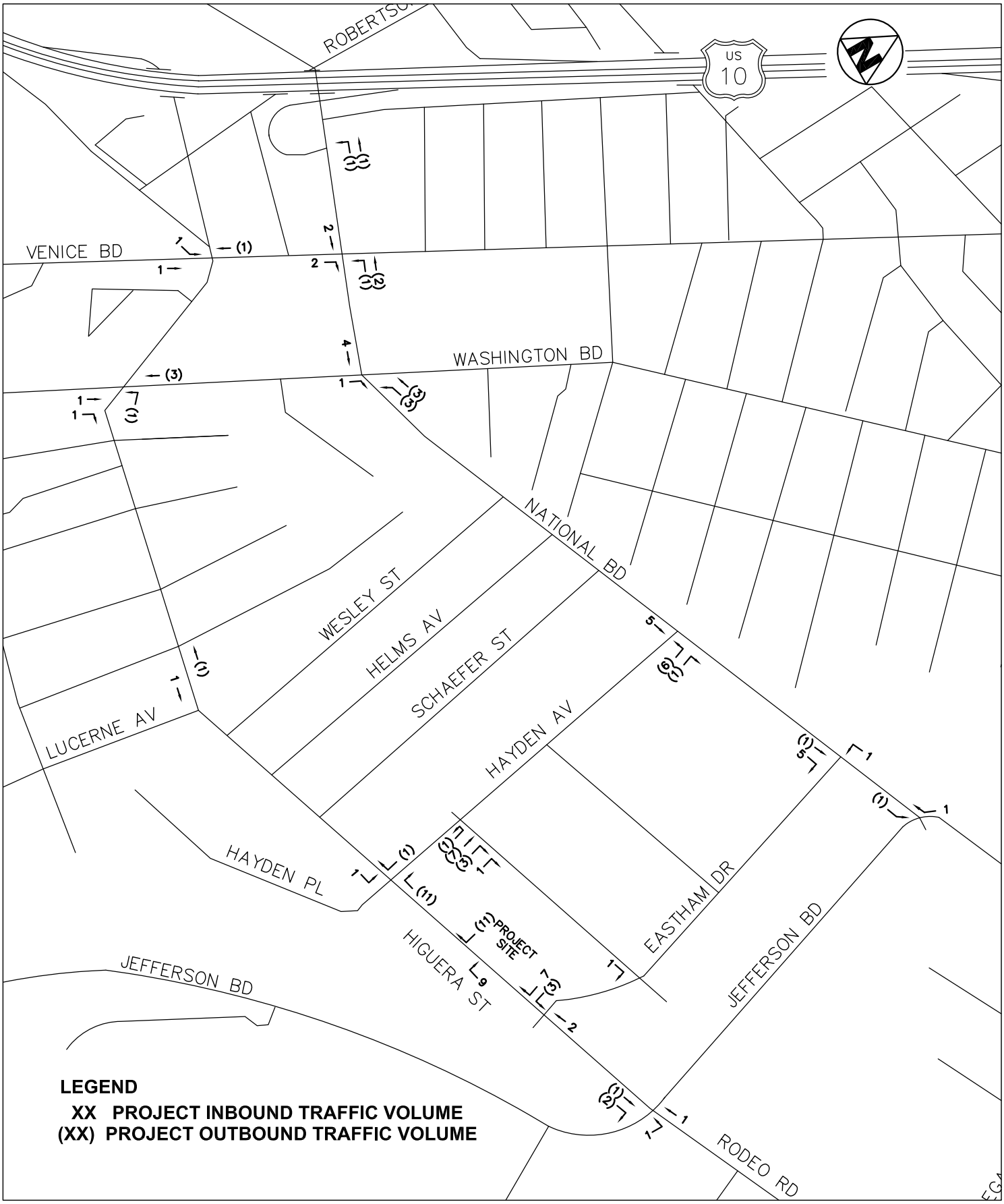

FIGURE 6C

9/2018

THE WILLOWS COMMUNITY SCHOOL
PM STREET PEAK HOUR PROJECT TRAFFIC VOLUME

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Although each school is unique, studies conducted by the State of North Carolina Department of Transportation and the state of Texas have provided a guideline that can be used to estimate the vehicle queuing and stacking length for schools. Using these rule - of - thumb numbers (6% of the student population for the morning demand and 10% for the afternoon demand), the existing enrollment of 475 students at WCS would create a 29 - vehicle am queue and a 48 - vehicle pm queue without a staggered start / end program.

Observations indicate that the WCS staggered start / end program significantly reduces these numbers. The Higuera Street parking lot can provide up to a 12 - vehicle storage for loading and unloading with the front 2 vehicle positions assigned for assisted unloading and loading of students with parents remaining in the vehicles. All student loading and unloading is supervised during the peak morning arrival and afternoon departure periods.

On – street queueing data collected on May 2nd and 3rd show a peak morning street queue of 7 vehicles with an 11 - vehicle street queue in the afternoon during student pick - up period which demonstrate that the staggered start / end time program has been effective.

With the increase in enrollment, it is estimated that the afternoon vehicle queue could increase by 5 vehicles during the pick - up period. This estimate is based on 22 additional trips generated in the pm school peak period (Table 4, page 16) arriving in 4 pick - up periods.

To mitigate the additional vehicle queue and improve the sight line for exiting traffic, it is recommended that signage be posted restricting the driveway exit to right - turns only. In addition, the City has ordered the following signing and curb markings:

1. Install signs, ”No Stopping 7:30 to 9:00 AM and 2:30 to 3:45 PM School Days” between WCS’s two Higuera Street driveways. The parking restrictions will affect 85’ between the two driveways adjacent to WCS during the pick - up and drop - off periods. and
2. Paint five feet of red curb on the west side of the WCS’s westerly driveway, and five feet of red curb on the east side of the WCS’s easterly driveway.

CHAPTER 5 TRAFFIC CONDITIONS ANALYSIS

The focus of this traffic study is to evaluate the potential traffic impact created by the WCS Master Plan proposed modifications. This traffic study provides two baseline scenarios to evaluate the project's traffic impacts: (1) existing (2018) traffic conditions plus the project traffic volume ("Existing + Project") and (2) future (2020) cumulative traffic conditions plus the project traffic ("Future Cumulative + Project").

The following steps have been taken to develop the traffic volume estimates:

(a) Existing traffic conditions analysis

(b) Existing traffic conditions + project

(c) Future traffic conditions: Existing + ambient growth (1% per year) + related project's traffic (Without Project);

(d) Traffic in (c) + project traffic (With Project)

(e) Traffic in (b or d) + the proposed traffic mitigation, if necessary.

The traffic conditions analysis was conducted using the Intersection Capacity Utilization (ICU) method for the study intersections. The ICU procedure adds the highest combination of conflicting traffic volume (V) at an intersection and divides the sum by the intersection capacity value for a V/C ratio. Intersection capacity (C) represents the maximum volume of vehicles which has a reasonable expectation of passing through an intersection in one hour under typical traffic flow conditions. For example, if an intersection has a V/C value of 0.70, the intersection is operating at 70% capacity with 30% unused capacity. The V/C ratios provide an appropriate means for quantifying intersection operating characteristics for planning purposes.

Peak hour traffic counts were collected along with intersection geometrics and traffic controls to determine the intersection's typical weekday peak hour operating conditions. Traffic counts were collected in May 2018 for the morning street peak period from 6:30 am - 9 am and between 2:00 pm - 6:00 pm for the afternoon school and street peak traffic flows

Traffic counts were conducted by counting the number of vehicles at each of the nine study intersections making each movement. The peak hour volume for each intersection

was then determined by finding the four highest consecutive 15-minute volumes for all movements. In addition, pedestrian and bike volume were also collected. Nearby roadways were counted during a 24 - hour period to monitor hourly fluctuations in traffic. The street segment counts were conducted by utilizing automated counting machines. See Appendix H (Traffic Volume Data) for the traffic count information.

Once the volume - to - capacity ratio has been calculated, operating characteristics are assigned a level of service grade (A through F) to estimate the level of congestion and stability of the traffic flow. The term "Level of Service" (LOS) is used by traffic engineers to estimate the level of congestion generally accepted by drivers and to describe and grade the stability of traffic flow. Level of Service standard D is generally considered the design capacity of arterial intersections and is thereby often set as the performance standard. Definitions of the LOS grades are shown in Table 5.

Table 5
Level of Service Definitions – Signalized Intersections

Level of Service	Definition	Equivalent V/C
A	EXCELLENT - Free flow conditions with low traffic density.	0.000 - 0.600
B	VERY GOOD - A stable flow of traffic.	0.601 - 0.700
C	GOOD - Light congestion but stable, occasional backups behind left-turning vehicles.	0.701 - 0.800
D	FAIR - Approaching instability, drivers are restricted in freely changing lanes. Vehicles may be required to wait through more than one cycle.	0.801 - 0.900
E	POOR - At or near capacity with some long lines for left-turning vehicles. Blockage of intersection may occur if traffic signal does not provide for protected turning movements.	0.901 - 1.000
F	FAILURE - Jammed conditions with stoppages of long duration and long queues.	> 1.000

The LOS thresholds for stop sign - controlled intersections differ from signalized intersections to reflect different driver expectations. The expectation is that a signalized intersection is designed to carry higher traffic volumes than a stop - controlled intersection. For the un - signalized intersections, a vehicle delay - based metric has been conducted using procedures based on the Highway Capacity Manual, (HCM). This procedure calculates the control delay as the total elapsed time from the time a vehicle stops at the end of the queue to the time the vehicle departs from the intersection. Using this procedure, the LOS is evaluated based on the total delay per vehicle for selected movements (in seconds per vehicle).

The HCM procedures estimate the average number of seconds of delay experienced by motorists for each approach to an intersection. The highest approach delay for the intersection has been recorded for the two stop - sign controlled intersection of Hayden Avenue and Warner Drive whereas the total intersection vehicle delay has been reported for the intersection for Higuera Street and Hayden Avenue, an all – way stop controlled intersection. Definitions of the LOS grades for stop - controlled intersections as defined by the Transportation Research Board are shown in Table 6.

Table 6
Level of Service Definitions – Stop - Controlled Intersections

Level of Service	Average Control Delay (sec)
A	Less than or equal to 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50

Analysis of Existing (2018) Traffic Conditions

By applying the ICU and HCM procedures, the V/C ratios, delay values and the corresponding LOS for existing traffic conditions and traffic controls were determined for each intersection. The existing V/C ratios, delay values and the corresponding LOS values are summarized in Table 7.

Table 7
Level of Service for Existing (2018) Traffic Conditions

		AM Peak		PM School Peak		PM Street Peak	
No.	Intersection	V/C Delay	LOS	V/C Delay	LOS	V/C Delay	LOS
1.	National Bd. & Washington Bd.	0.579	A	0.660	B	0.738	C
2.	National Bd. & Hayden Ave.	0.440	A	0.397	A	0.473	A
3.	National Bd. & Eastham Dr.	0.346	A	0.351	A	0.340	A
4.	National Bd. & Jefferson Bd. (LA)	0.866	D	0.527	A	0.511	A
5.	Washington Bd. & Robertson/Higuera	0.636	B	0.526	A	0.608	B
6.	Warner Dr. & Hayden Ave.	WB 161.5 “ 0.634	F B	WB 17.4 ” 0.357	C A	WB 25.4 ” 0.459	D A
7.	Higuera St. & Hayden Ave.	24.5 ” 0.711	C C	11.5 ” 0.492	B A	17.8 ” 0.629	C B
8.	Higuera St. & Eastham Dr.	0.616	B	0.353	A	0.497	A
9.	Jefferson Bd. & Rodeo Rd. (LA)	0.708	C	0.644	B	0.728	C

Existing peak hour traffic volume at each study intersection are illustrated in Figure 7 for the morning street peak hour, Figure 8 for the afternoon school peak hour and Figure 9 for the afternoon street peak hour. In addition to collecting traffic volume data, field surveys were conducted to determine the roadway and intersection geometry and traffic signal operations. Figure 10 illustrates the study intersections, type of traffic control and lane configurations. Traffic volume data is provided in Appendix H (Traffic Volume Data) with supporting capacity worksheets contained in Appendix I (Level of Service and Delay Worksheets).

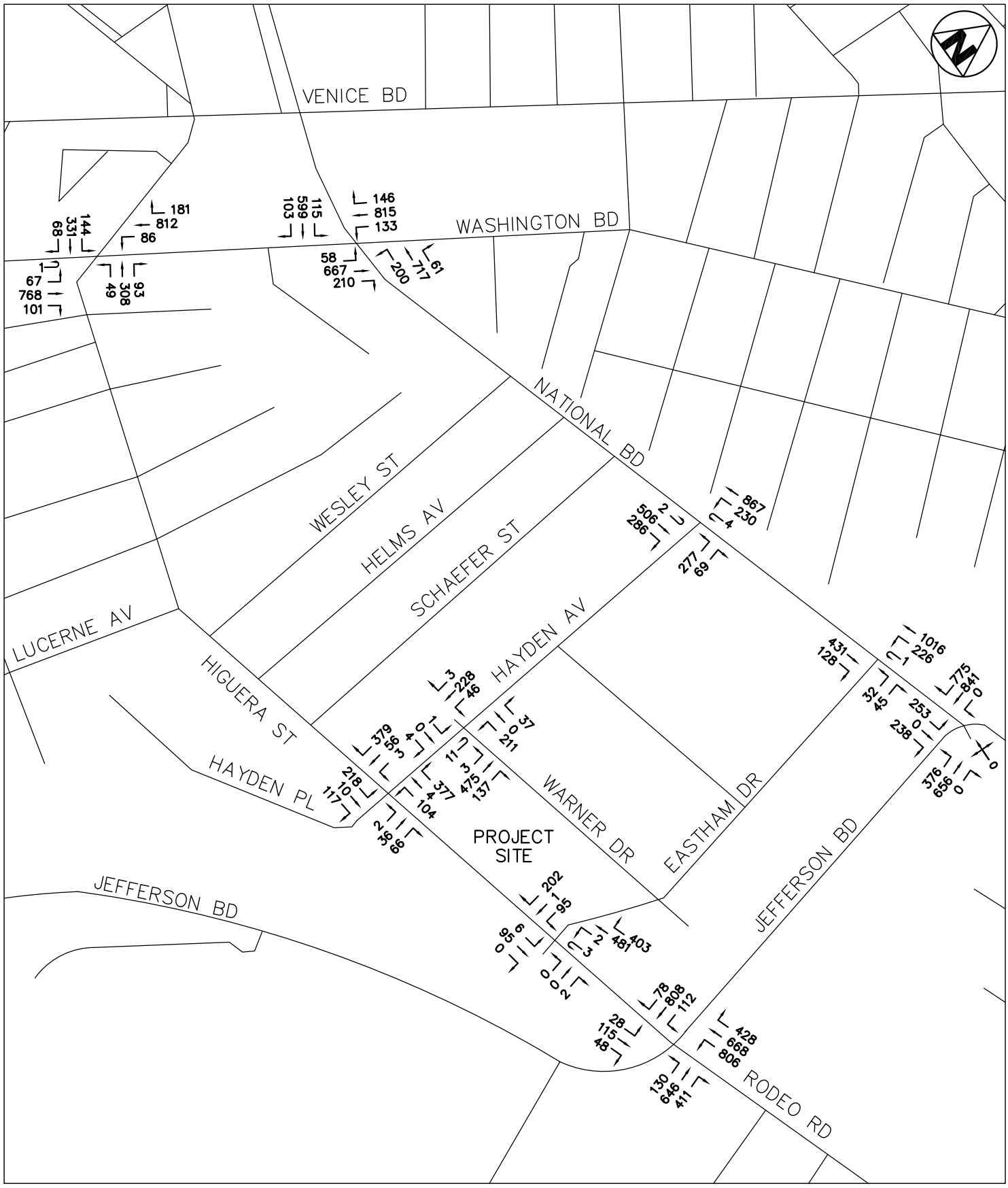

FIGURE 7

5/2018

EXISTING (2018) TRAFFIC VOLUME
AM PEAK HOUR

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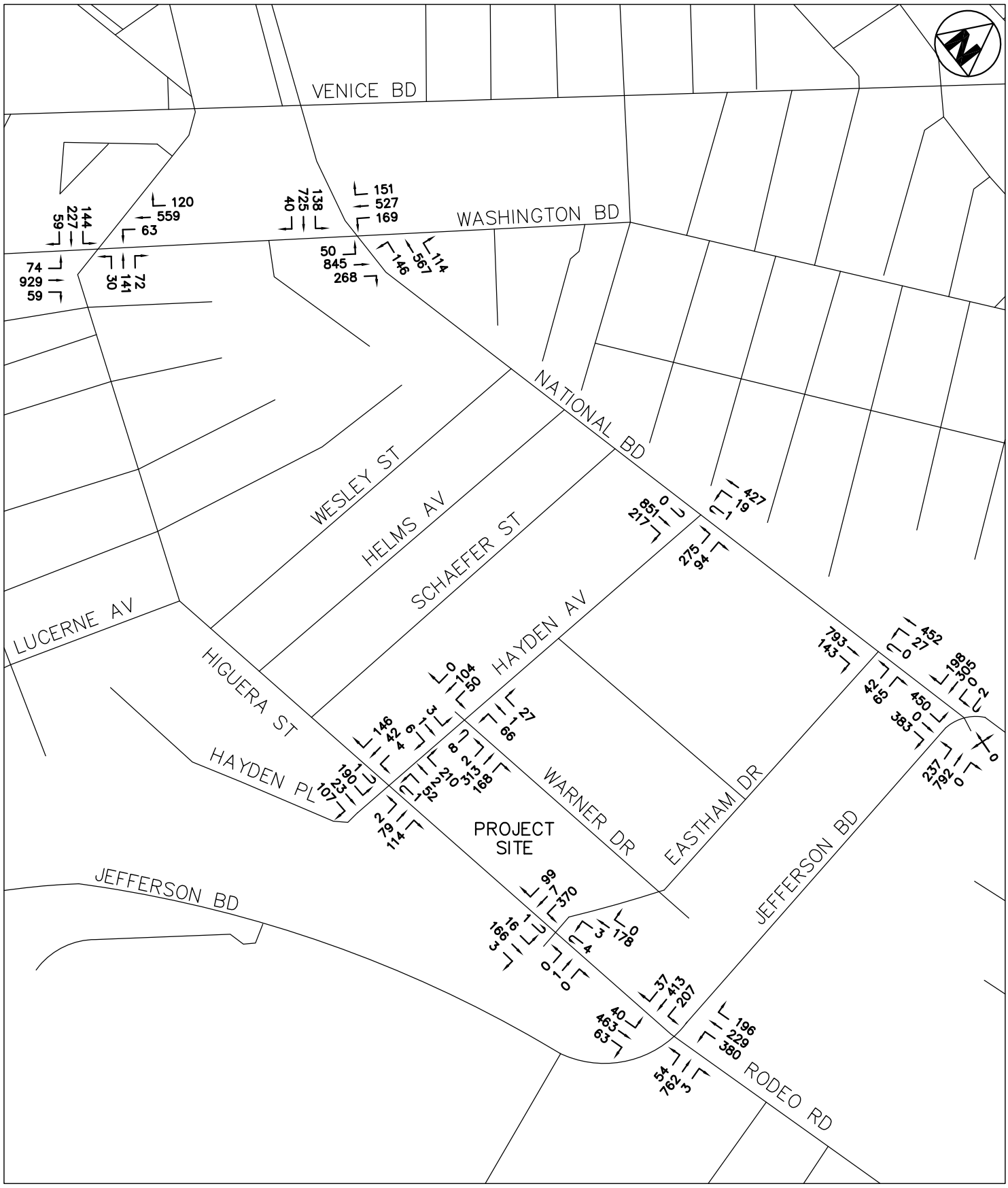

FIGURE 8

5/2018

EXISTING (2018) TRAFFIC VOLUME
SCHOOL PM PEAK HOUR

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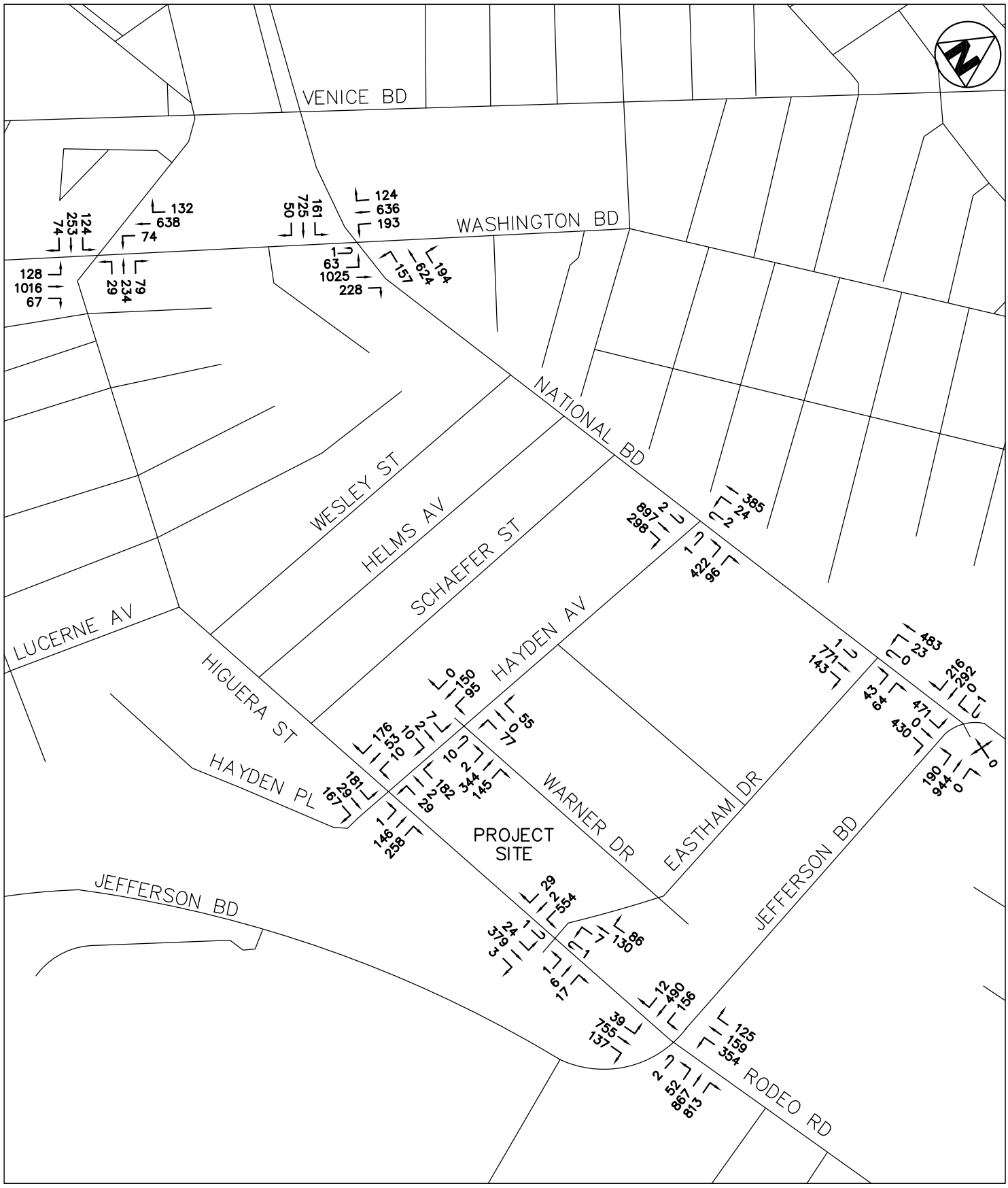

FIGURE 9

5/2018

EXISTING (2018) TRAFFIC VOLUME
STREET PM PEAK HOUR

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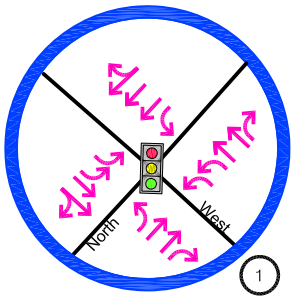
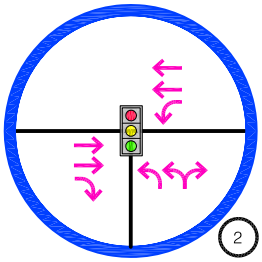
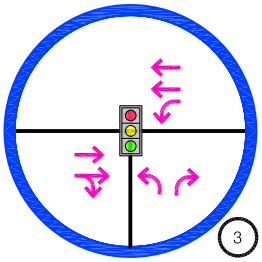
(661) 799 - 8423, OTC@overlandtraffic.com



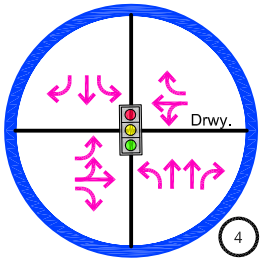
NATIONAL BLVD. &
WASHINGTON BLVD.



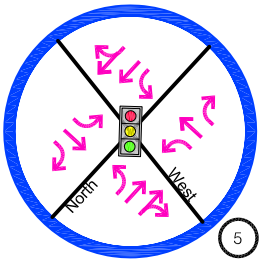
NATIONAL BLVD. &
HAYDEN AVE.



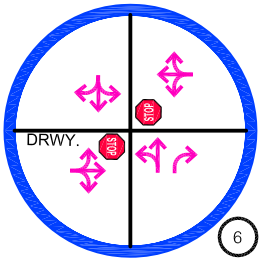
NATIONAL BLVD. &
EASTHAM DR.



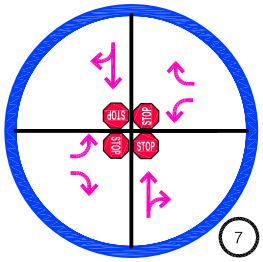
NATIONAL BLVD. &
JEFFERSON BLVD.



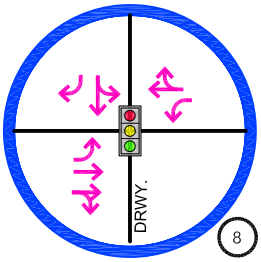
ROBERTSON BLVD. / HIGUERA ST. &
WASHINGTON BLVD.



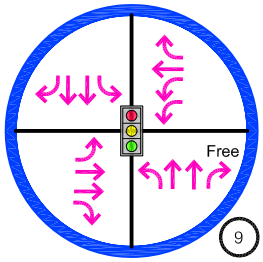
WARNER DR. &
HAYDEN AVE.



HIGUERA ST. &
HAYDEN AVE.



HIGUERA ST. &
EASTHAM DR.



RODEO RD. &
JEFFERSON BLVD.

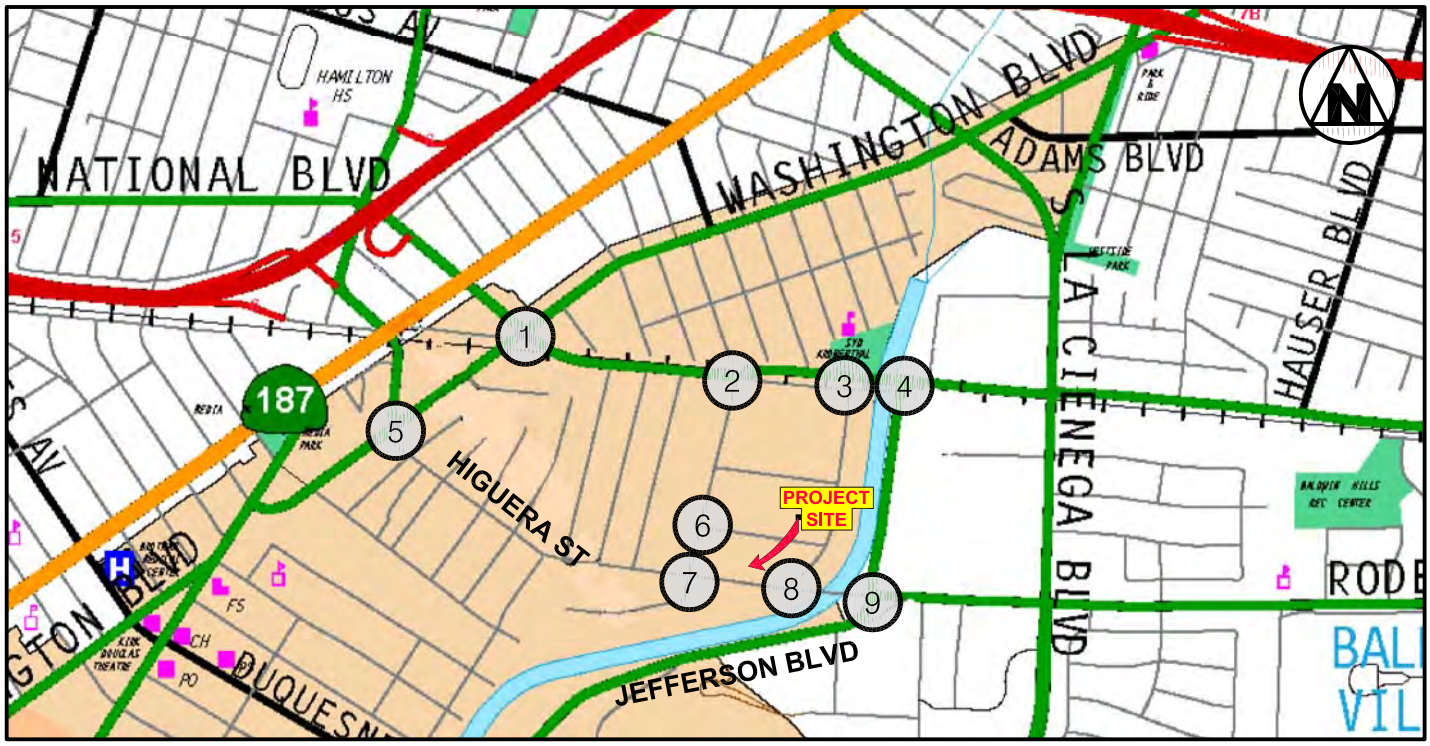


FIGURE 10

6/2018

STUDY INTERSECTION LANE CONFIGURATION AND TRAFFIC CONTROL

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27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

Analysis of Existing + Project Traffic Conditions

Traffic volume projections have been developed to analyze the existing traffic conditions after completion of the proposed project. Comparing the changes in the traffic conditions between the without and with project traffic volume provides the data to determine if the project traffic creates a significant traffic impact. Although the project is entirely within the City of Culver City, several of the intersections evaluated are within the jurisdiction of Los Angeles. Therefore, the significant impact criteria for Los Angeles have been applied to the LA intersections.

According to the standards adopted by Culver City and Los Angeles, a traffic impact is considered significant if the related increase in the V/C value equals or exceeds the thresholds as shown in Tables 8a and b below. Per the City of Culver City Traffic Study Criteria 2012, the ICU method may be used to calculate the project impact for un-signalized intersections and that if a project adds a significant volume of traffic a traffic signal or stop sign warrant study may be required.

Table 8a
Culver City Significant Impact Criteria

LOS	Final V/C Value	Increase in V/C Value
A or B	0.000 - 0.700	No Significant Impact
C	0.701 - 0.800	+ 0.050
D	0.801 - 0.900	+ 0.040
E - F	≥ 0.90	+ 0.020 or more

Table 8b
Los Angeles Significant Impact Criteria

LOS	Final V/C Value	Increase in V/C Value
A or B	0.000 - 0.700	No Significant Impact
C	0.701 - 0.800	+ 0.040
D	0.801 - 0.900	+ 0.020
E & F	> 0.901	+ 0.010 or more

The existing + project traffic V/C ratios, delay values and the corresponding LOS values are summarized in Table 9. As shown in Table 9 below, no significant project traffic impacts were identified.

Table 9
Level of Service for Existing + Project Traffic Conditions

No.	Intersection	Peak Hour	Existing V/C - Delay	LOS	Existing + Project V/C - Delay	LOS	Impact
1.	National Bd. &	AM	0.579	A	0.582	A	+ 0.003
	Washington Bd.	PM School	0.660	B	0.665	B	+ 0.005
		PM Street	0.738	C	0.739	C	+ 0.001
2.	National Bd. &	AM	0.440	A	0.447	A	+ 0.007
	Hayden Ave.	PM School	0.397	A	0.406	A	+ 0.009
		PM Street	0.473	A	0.478	A	+ 0.005
3.	National Bd. &	AM	0.346	A	0.356	A	+ 0.010
	Eastham Dr.	PM School	0.351	A	0.358	A	+ 0.007
		PM Street	0.340	A	0.343	A	+ 0.003
4.	National Bd. &	AM	0.866	D	0.869	D	+ 0.003
	Jefferson Bd. (City of LA)	PM School	0.527	A	0.528	A	+ 0.001
		PM Street	0.511	A	0.511	A	+ 0.000
5.	Washington Bd. &	AM	0.636	B	0.640	B	+ 0.004
	Robertson / Higuera	PM School	0.526	A	0.528	A	+ 0.002
		PM Street	0.608	B	0.609	B	+ 0.001
6.	Warner Dr. &	AM	0.634	B	0.649	B	+ 0.015
			WB 161.5”	F	WB 186.4 “	F	+ 24.9 “
	Hayden Ave.	PM School	0.357	A	0.369	A	+ 0.012
			WB 17.4 “	C	WB 18.1 “	C	+ 0.7 “
		PM Street	0.459	A	0.464	A	+ 0.005
			WB 25.4 “	D	WB 26.0 “	D	+ 0.6 “
7.	Higuera St. &	AM	0.711	C	0.735	C	+ 0.024
			24.5 ”	C	28.6 “	D	+ 4.1 “
	Hayden Ave.	PM School	0.492	A	0.512	A	+ 0.020
			11.5 “	B	11.9 “	B	+ 0.4 ”
		PM Street	0.629	B	0.638	B	+ 0.009
			17.8 “	C	18.2 “	C	+ 0.4 “
8.	Higuera St. &	AM	0.616	B	0.626	B	+ 0.010
	Eastham Dr.	PM School	0.353	A	0.360	A	+ 0.007
		PM Street	0.497	A	0.500	A	+ 0.003
9.	Jefferson Bd. &	AM	0.708	C	0.709	C	+ 0.001
	Rodeo Rd. (City of LA)	PM School	0.644	B	0.644	B	+ 0.000
		PM Street	0.728	C	0.728	C	+0.000

Note that V/C ratios for Hayden Avenue and Warner Drive (#6) and Hayden Avenue and Higuera Street (#7) have been included to show the impacts using the ICU method per the Culver City guidelines, page 14 of guidelines. "Existing + project" peak hour traffic volumes at the study intersections are illustrated in Figure 11 for the morning peak hour, Figure 12 for the school afternoon peak hour and Figure 13 for the street afternoon peak hour.

Analysis of Future (2020) Traffic Conditions

Future (2020) traffic volume projections have been developed to analyze the traffic conditions after completion of other planned land developments including the proposed project.

The future cumulative analysis includes other development projects located within the study area that are either under construction or planned. As part of this analysis, development lists were obtained from the City of Culver City and the City of Los Angeles. These lists were reviewed to identify those projects that could produce additional traffic at the study intersections by the future study year. A total of 42 related projects were identified and listed in Table 10. Table 11 provides the ITE traffic volumes estimates for these other projects. Note that the afternoon traffic growth estimates for the related projects were used for both the school and street peak periods. Figure 14 shows the related project locations.

Future cumulative traffic conditions "without the project" are shown in Table 12. Future (2020) traffic volume estimates for the peak hours "without project" are illustrated in Figures 15, 16 and 17 for the morning, afternoon school and afternoon street peak hours, respectively.

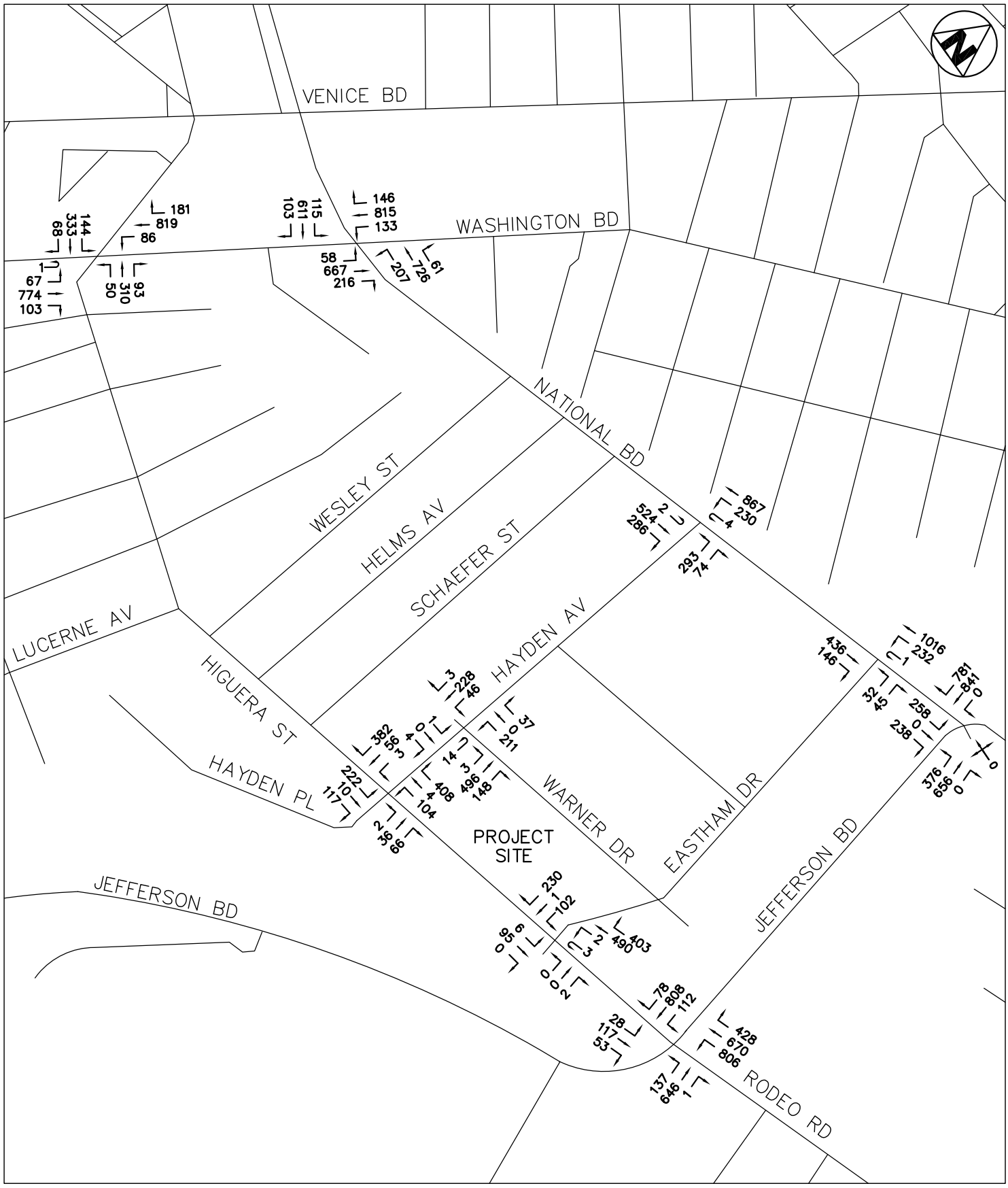

FIGURE 11

9/2018

EXISTING + PROJECT
TRAFFIC VOLUME
AM PEAK HOUR

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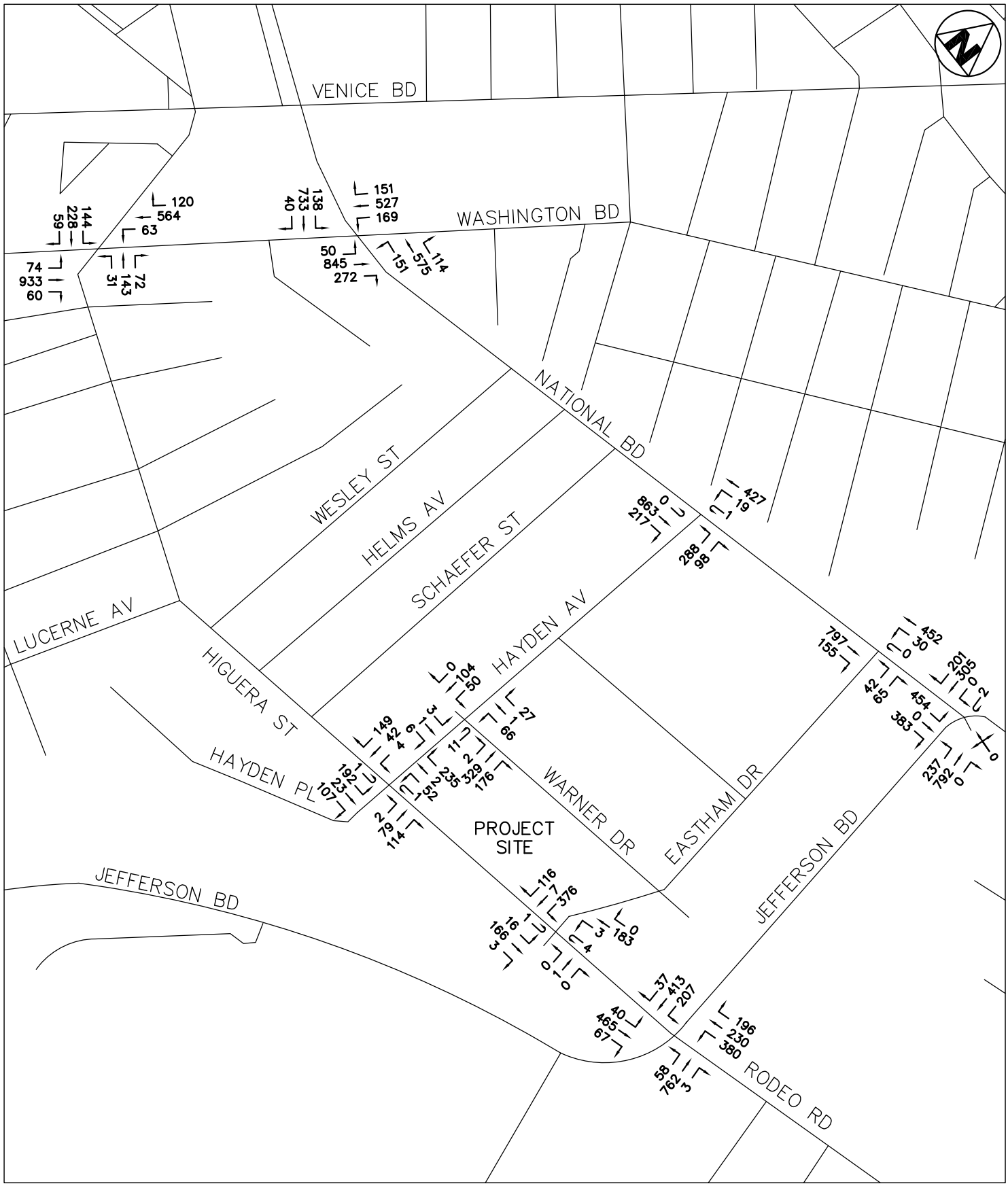

FIGURE 12

9/2018

EXISTING + PROJECT
TRAFFIC VOLUME
SCHOOL PM PEAK HOUR

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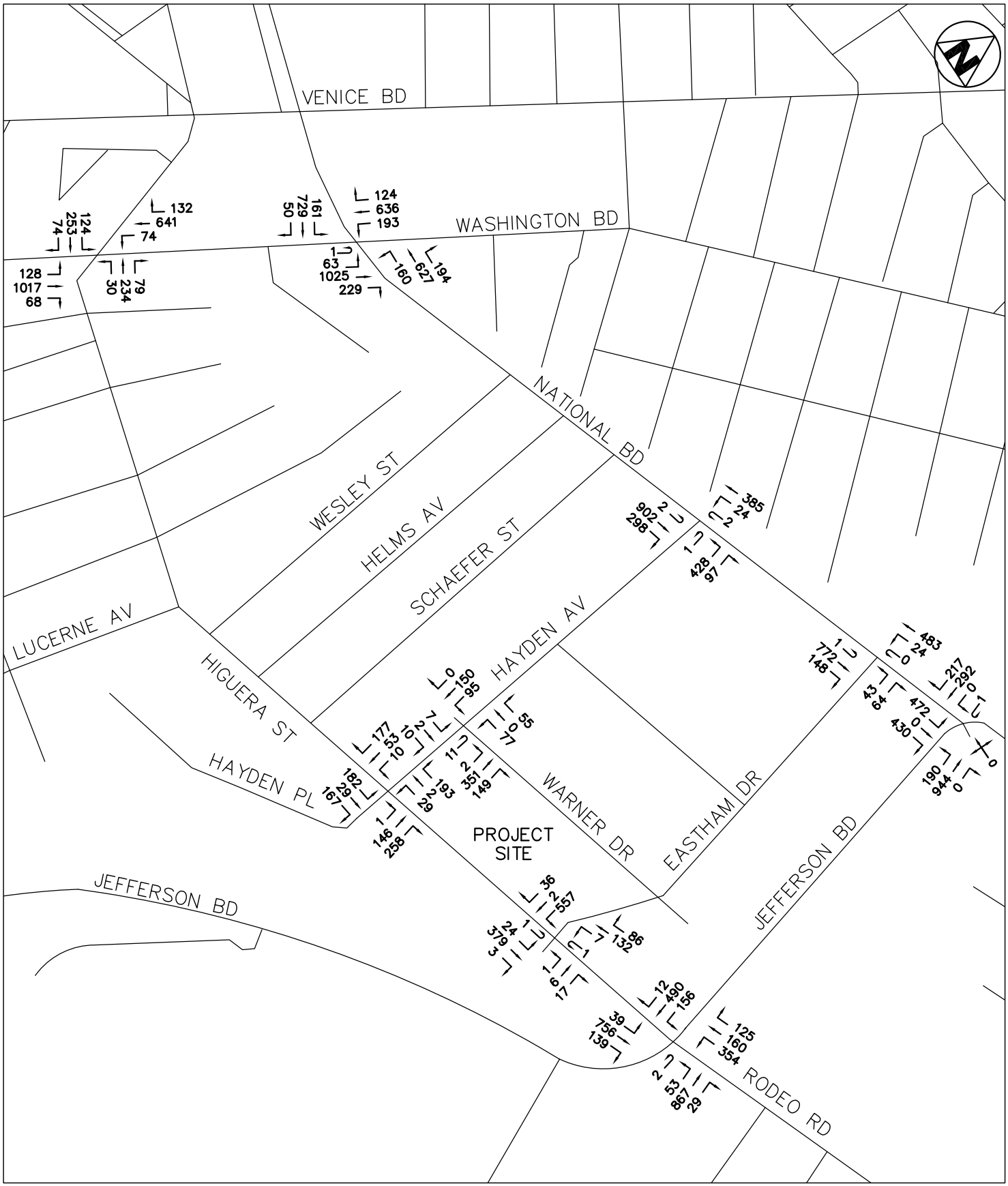

FIGURE 13

9/2018

EXISTING + PROJECT
TRAFFIC VOLUME
STREET PM PEAK HOUR

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Table 10
Listing of Related Projects

No.	Project	Size		Location
	City of Los Angeles			
1	Apartments	40	units	3833 S. Dunn Drive
2	Apartments	86	units	3822 S. Dunn Drive
3	Apartments	126	units	10601 Washington Boulevard (LA)
	Office	23,000	sf	
	Retail	9,000	sf	
	Restaurant	9,000	sf	
	Less office	10,100	sf	
4	Apartments	1,218	units	3221 La Cienega Boulevard
	Office	200,000	sf	
	Supermarket	50,000	sf	
	Retail	30,000	sf	
	Restaurant	20,000	sf	
5	Office	150,761	sf	5790 W. Jefferson Boulevard
6	Condominium	108	units	10375 Washington Boulevard
	Retail	3,600	sf	
7	Office	64,000	sf	5950 W. Jefferson Boulevard
	Retail	2,000	sf	
	Restaurant	4,000	sf	
8	Corp Office	90,054	sf	6034 W. Jefferson Boulevard
	Coffee Shop	2,200	sf	
	Manufacturing	49,540	sf	
	Warehouse	49,540	sf	
42	Office	14,400	sf	6050 - 6056 Jefferson Boulevard
	City of Culver City			
9	Condominium	2 (net)	units	3837 Bentley Avenue
10	Condominium	2 (net)	units	4241 Bentley Avenue
11	Condominium	3 (net)	units	4034 La Salle Avenue
12	Condominium	2 (net)	units	3961 Tilden Avenue
13	Retail	1,250	sf	3030 La Cienega Boulevard
14	Retail/Restaurant	8,424	sf	10000 Washington Boulevard
	Fitness	3,687	sf	
15	Office R&D	62,558	sf	9919 Jefferson Boulevard
16	WLA Community College	18,904	students	Overland and Stocker
17	Convenience Market	2,285	sf	11224 Venice Boulevard
	Car Wash	864	sf	
18	Condominium	2 (net)	units	3873 Bentley Avenue
19	Condominium	3 (net)	units	3832 Bentley Avenue

Table 10 (cont'd)
Listing of Related Projects

No.	Project	Size		Location
20	Office	74,600	sf	9300 Culver Boulevard
	Retail	21,700	sf	
	Restaurant	21,700	sf	
21	Single Family	8	du	3814 Lenawee Avenue
	Assisted Living	110	beds	
22	Office	128,000	sf	8777 Washington Boulevard
	Restaurant	4,500	sf	
23	Single Family	10	du	4044 Globe Avenue
24	Condominium	3 (net)	units	4180 Duquesne Avenue
25	Apartments	15	units	3434 Wesley Avenue
	Office	14,237	sf	
26	Office	59,325	sf	8888 Washington Boulevard
	Retail	2,878	sf	
	Restaurant	3,184	sf	
27	Apartments	5 (net)	units	4227 Ince Boulevard
28	Office	3,246	sf	6066 Washington Boulevard
29	Automotive Repair	4	bays	2926 La Cienega Boulevard
30	Medical Office	38,172	sf	5645 Sepulveda Boulevard
	Retail	3,193	sf	
31	Apartments	8	units	3727 Robertson Boulevard
	Retail	8,135	sf	
32	Quality Restaurant	10,000	sf	8511 Warner Drive
	Retail	41,520	sf	
33	Production Studio	413,127	sf	9336 Washington Boulevard
34	Office	55,477	sf	9735 Washington Boulevard
	Retail	12,249	sf	
	Restaurant	4,147	sf	
35	Condominium	3 (net)	units	4051 Jackson Avenue
36	Performance Theater	200	seat	9814 Washington Boulevard
	Bakery/café	7,500	sf	
37	Hotel	183	rooms	11469 Jefferson Boulevard
	demo shopping center	12,958	sf	
38	Private School	50	students	3939 Landmark Street
39	Apartments	199	units	8700 - 8750 Washington Boulevard
	Office	17,250	sf	
	Restaurant	5,000	sf	
	Retail	17,750	sf	
40	Apartments	141	units	3710 - 3750 Robertson Boulevard
	Office	64,200	sf	
	Retail	30,042	sf	
41	Apartments	200	units	8824 National Boulevard
	Retail	24,000	sf	Ivy Station
	Office	201,000	sf	
	Hotel	148	rooms	
	Restaurant	20,000	sf	

Table 11
Estimated Traffic Generation for Related Projects

No.	Location	Daily Traffic	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	Afternoon Peak Hours In	Afternoon Peak Hours Out	Afternoon Peak Hours Total
	City of Los Angeles							
1	3833 S. Dunn Drive	266	4	16	20	16	9	25
2	3822 S. Dunn Drive	543	9	33	42	32	18	50
3	10601 Washington Boulevard (LA)	1,802	51	72	123	96	71	167
4	3221 La Cienega Boulevard	10,136	319	419	738	467	382	849
5	5790 W. Jefferson Boulevard	1,794	234	32	266	42	206	247
6	10375 Washington Boulevard	579	-3	35	32	31	11	42
7	5950 W. Jefferson Boulevard	716	65	13	78	23	58	81
8	6034 W. Jefferson Boulevard	1,721	133	51	184	34	101	135
42	6050 - 6056 Jefferson Boulevard	159	20	3	23	4	18	22
	City of Culver City							
9	3837 Bentley Avenue	12	0	1	1	1	0	1
10	4241 Bentley Avenue	12	0	1	1	1	0	1
11	4034 La Salle Avenue	17	0	1	1	1	1	2
12	3961 Tilden Avenue	12	0	1	1	1	0	1
13	3030 La Cienega Boulevard	55	0	0	0	1	2	3
14	10000 Washington Boulevard	517	7	4	11	22	23	45
15	9919 Jefferson Boulevard	507	63	13	76	10	57	67
16	Overland and Stocker	9,735	628	62	690	428	193	621
17	11224 Venice Boulevard	1,686	30	30	60	24	23	47
18	3873 Bentley Avenue	12	0	1	1	1	0	1
19	3832 Bentley Avenue	17	0	1	1	1	1	2
20	9300 Culver Boulevard	3,702	124	31	155	167	188	355
21	3814 Lenawee Avenue	369	12	10	22	16	17	33
22	8777 Washington Boulevard	30	123	-3	120	-23	92	69
23	4044 Globe Avenue	95	2	6	8	6	4	10
24	4180 Duquesne Avenue	17	0	1	1	1	1	2
25	3434 Wesley Avenue	257	22	9	31	10	21	31
26	8888 Washington Boulevard	1,146	82	18	100	33	91	124
27	4227 Ince Boulevard	33	1	2	3	2	1	3
28	6066 Washington Boulevard	36	4	1	5	1	4	5
29	2926 La Cienega Boulevard	50	4	2	6	5	4	9
30	5645 Sepulveda Boulevard	1,535	75	20	95	45	106	151
31	3727 Robertson Boulevard	400	6	6	12	17	18	35
32	8511 Warner Drive	2,673	29	19	48	124	105	229
33	9336 Washington Boulevard	4,562	433	58	491	131	337	468
34	9735 Washington Boulevard	1,588	96	25	121	59	106	165
35	4051 Jackson Avenue	17	0	1	1	1	1	2
36	9814 Washington Boulevard	954	45	36	81	44	30	74
37	11469 Jefferson Boulevard	942	50	35	85	33	29	62
38	3939 Landmark Street	206	25	21	46	6	7	13
39	8700 - 8750 Washington Boulevard	2,721	55	91	146	141	111	252
40	3710 - 3750 Robertson Boulevard	1,980	2	65	67	105	62	167
41	8824 National Boulevard	4,124	173	83	256	127	174	301

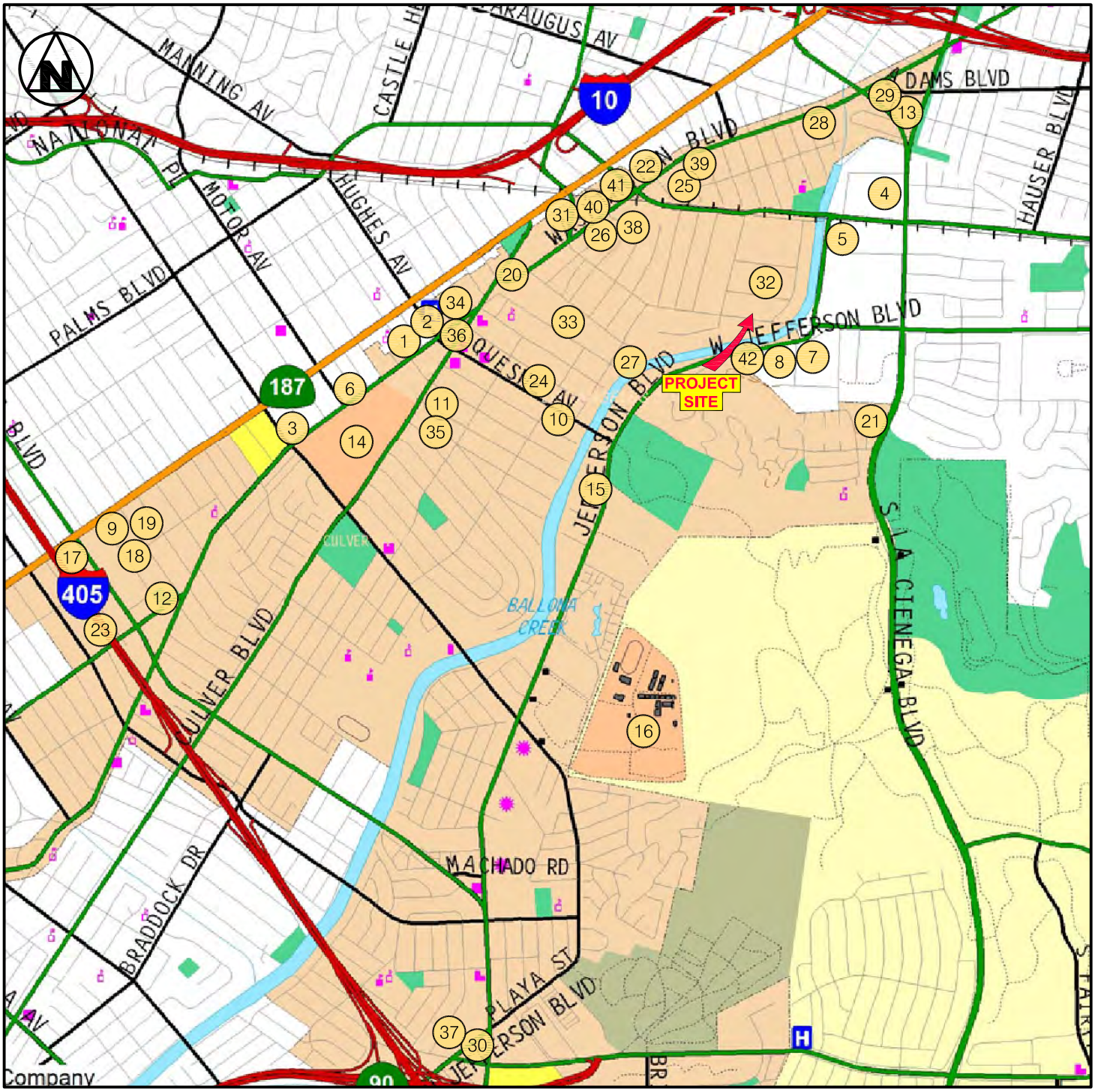

FIGURE 14

6/2018

RELATED PROJECT LOCATIONS

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Table 12
Future (2020) Traffic Conditions Without Project

No.	Intersection	Peak Hour	Existing ICU-Delay	LOS	Future Without Project ICU-Delay	LOS	Growth
1.	National Bd. &	AM	0.579	A	0.799	C	+ 0.220
	Washington Bd.	PM School	0.660	B	0.895	D	+ 0.235
		PM Street	0.738	C	0.975	E	+ 0.237
2.	National Bd. &	AM	0.440	A	0.527	A	+ 0.087
	Hayden Ave.	PM School	0.397	A	0.509	A	+ 0.112
		PM Street	0.473	A	0.591	A	+ 0.118
3.	National Bd. &	AM	0.346	A	0.456	A	+ 0.110
	Eastham Dr.	PM School	0.351	A	0.481	A	+ 0.130
		PM Street	0.340	A	0.470	A	+ 0.130
4.	National Bd. &	AM	0.866	D	1.120	F	+ 0.254
	Jefferson Bd. (City of LA)	PM School	0.527	A	0.874	D	+ 0.347
		PM Street	0.511	A	0.768	C	+ 0.257
5.	Washington Bd. &	AM	0.636	B	0.874	D	+ 0.238
	Robertson / Higuera	PM School	0.526	A	0.658	B	+ 0.132
		PM Street	0.608	B	0.762	C	+ 0.154
6.	Warner Dr. &	AM	0.634	B	0.651	B	+ 0.017
			WB 161.5”	F	199.7 “	F	+ 38.2 “
	Hayden Ave.	PM School	0.357	A	0.384	A	+ 0.027
			WB 17.4 “	C	18.2 “	C	+ 0.8 “
		PM Street	0.459	A	0.488	A	+ 0.029
			WB 25.4 “	D	28.2 “	D	+ 2.8 “
7.	Higuera St. &	AM	0.711	C	0.724	C	+0.013
			24.5 ”	C	28.6 “	D	+ 4.1 “
	Hayden Ave.	PM School	0.492	A	0.502	A	+ 0.010
			11.5 “	B	12.0 “	B	+ 0.5 ”
		PM Street	0.629	B	0.641	B	+ 0.012
			17.8 “	C	20.0 “	C	+ 2.2 “
8.	Higuera St. &	AM	0.616	B	0.664	B	+ 0.048
	Eastham Dr.	PM School	0.353	A	0.427	A	+ 0.074
		PM Street	0.497	A	0.574	A	+ 0.077
9.	Jefferson Bd. &	AM	0.708	C	0.789	C	+ 0.081
	Rodeo Rd. (City of LA)	PM School	0.644	B	0.773	C	+ 0.129
		PM Street	0.728	C	0.859	D	+0.131

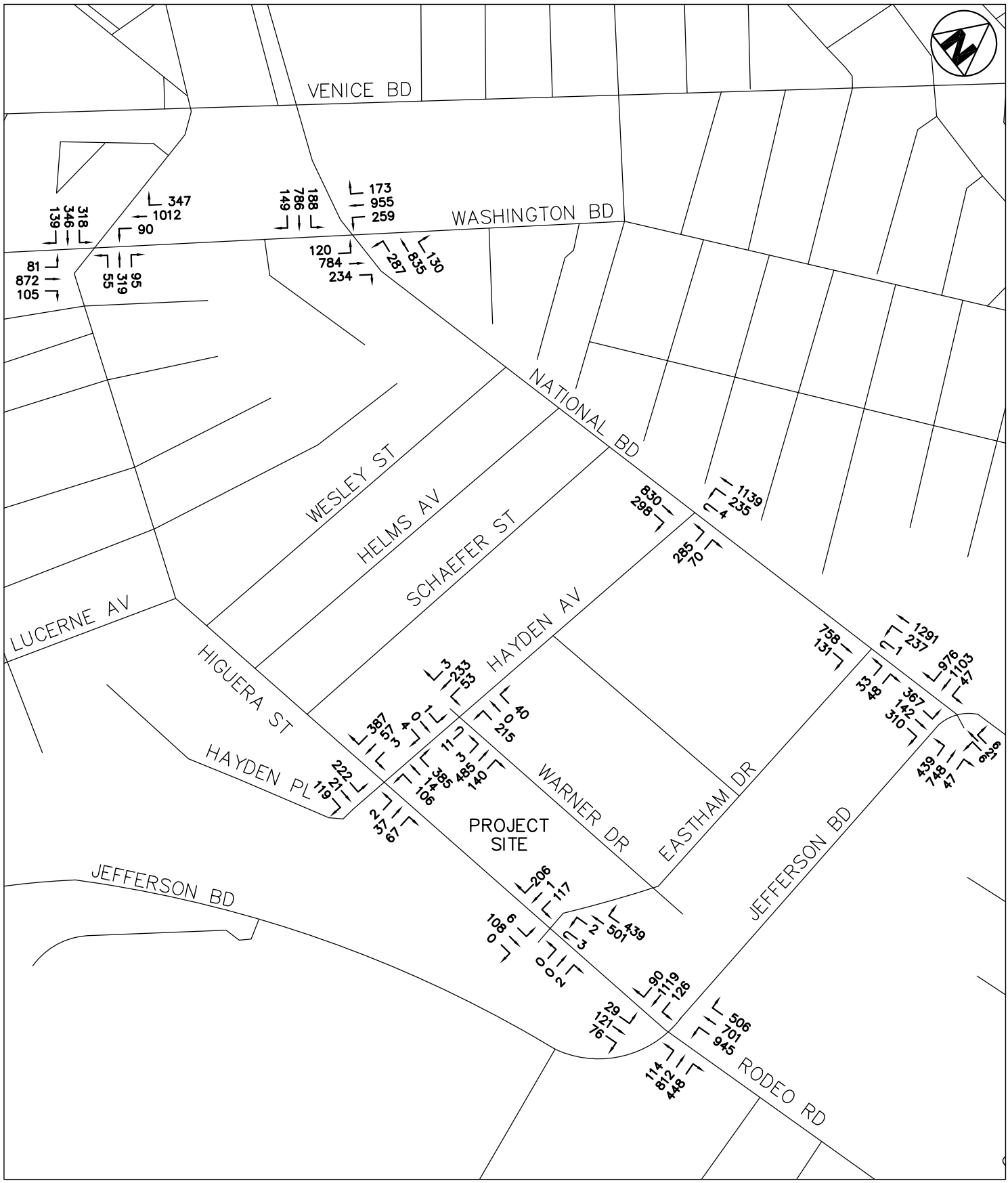

FIGURE 15

6/2018

FUTURE (2020) TRAFFIC VOLUME
WITHOUT PROJECT
AM PEAK HOUR

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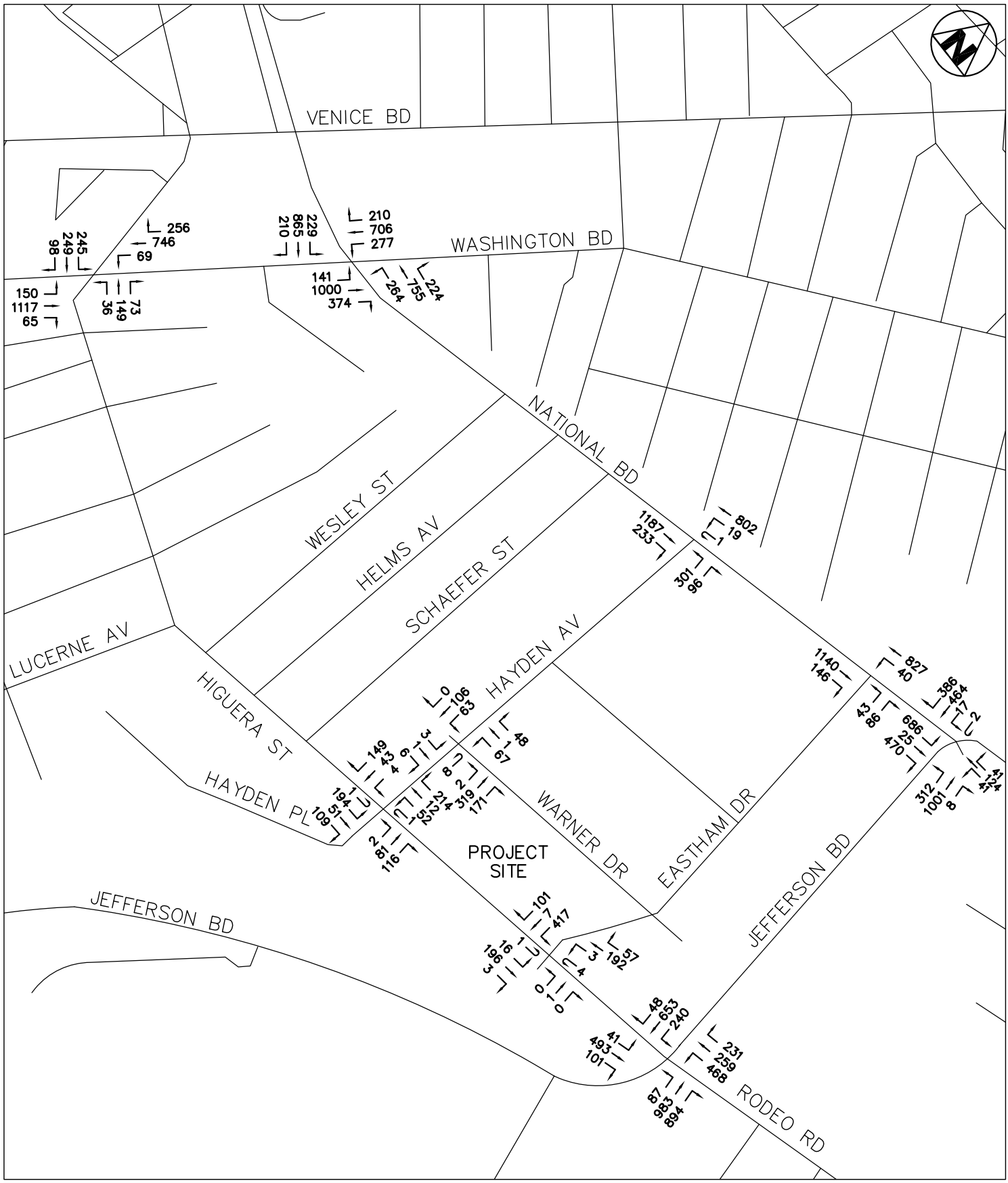

FIGURE 16

6/2018

FUTURE (2020) TRAFFIC VOLUME
WITHOUT PROJECT
PM SCHOOL PEAK HOUR

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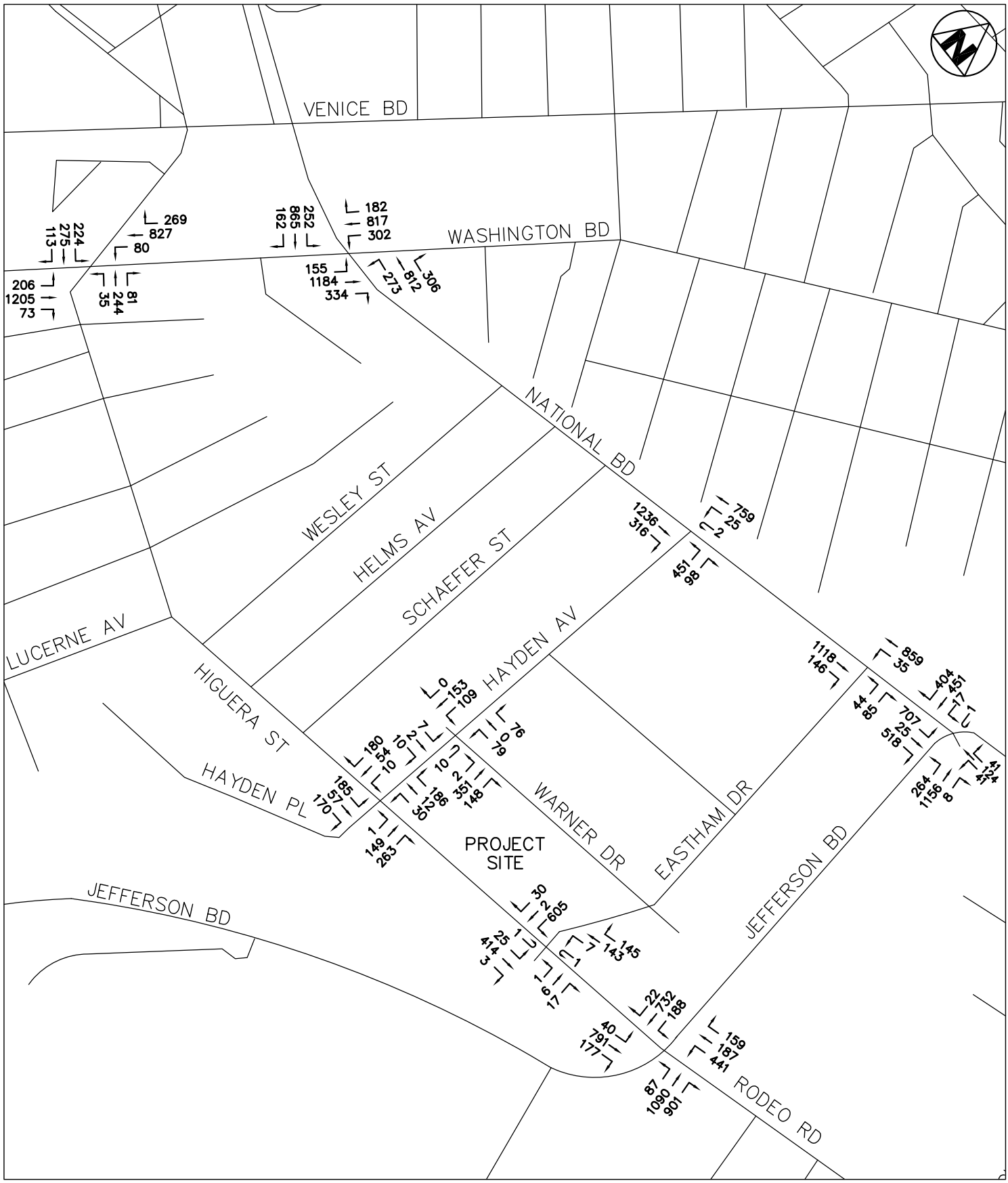

FIGURE 17

6/2018

FUTURE (2020) TRAFFIC VOLUME
WITHOUT PROJECT
PM STREET PEAK HOUR

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No significant project traffic impacts were identified as shown below in Table 13. Figures 18 - 20 illustrate the "with project" traffic volumes for the peak hour impact analysis.

Table 13
Future (2020) Traffic Conditions With Project

No.	Intersection	Peak Hour	Future Without ICU-Delay	LOS	Future With Project ICU-Delay	LOS	Impact
1.	National Bd. & Washington Bd.	AM	0.799	C	0.802	D	+ 0.003
		PM School	0.895	D	0.898	D	+ 0.003
		PM Street	0.975	E	0.976	E	+ 0.001
2.	National Bd. & Hayden Ave.	AM	0.527	A	0.539	A	+ 0.012
		PM School	0.509	A	0.519	A	+ 0.010
		PM Street	0.591	A	0.596	A	+ 0.005
3.	National Bd. & Eastham Dr.	AM	0.456	A	0.467	A	+ 0.011
		PM School	0.481	A	0.488	A	+ 0.007
		PM Street	0.470	A	0.473	A	+ 0.003
4.	National Bd. & Jefferson Bd. (City of LA)	AM	1.120	F	1.122	F	+ 0.002
		PM School	0.874	D	0.876	D	+ 0.002
		PM Street	0.768	C	0.768	C	+ 0.000
5.	Washington Bd. & Robertson / Higuera	AM	0.874	D	0.878	D	+ 0.004
		PM School	0.658	B	0.661	B	+ 0.003
		PM Street	0.762	C	0.763	C	+ 0.001
6.	Warner Dr. & Hayden Ave.	AM	0.651 WB 199.7"	B F	0.666 WB 227.3 "	B F	+ 0.015 + 27.6 "
		PM School	0.384 WB 18.2 "	A C	0.396 WB 18.9 "	A C	+ 0.012 + 0.7 "
		PM Street	0.488 WB 28.2 "	A D	0.493 WB 28.9 "	A D	+ 0.005 + 0.7 "
7.	Higuera St. & Hayden Ave.	AM	0.724 28.6 "	C D	0.748 33.6 "	C D	+ 0.024 + 5.0"
		PM School	0.502 12.0 "	A B	0.521 12.4 "	A B	+ 0.019 + 0.4 "
		PM Street	0.641 20.0 "	B C	0.650 20.5 "	B C	+ 0.009 + 0.5 "
8.	Higuera St. & Eastham Dr.	AM	0.664	B	0.674	B	+ 0.010
		PM School	0.427	A	0.434	A	+ 0.007
		PM Street	0.574	A	0.577	A	+ 0.003
9.	Jefferson Bd. & Rodeo Rd. (City of LA)	AM	0.789	C	0.791	C	+ 0.002
		PM School	0.773	C	0.774	C	+ 0.001
		PM Street	0.859	D	0.860	D	+0.001

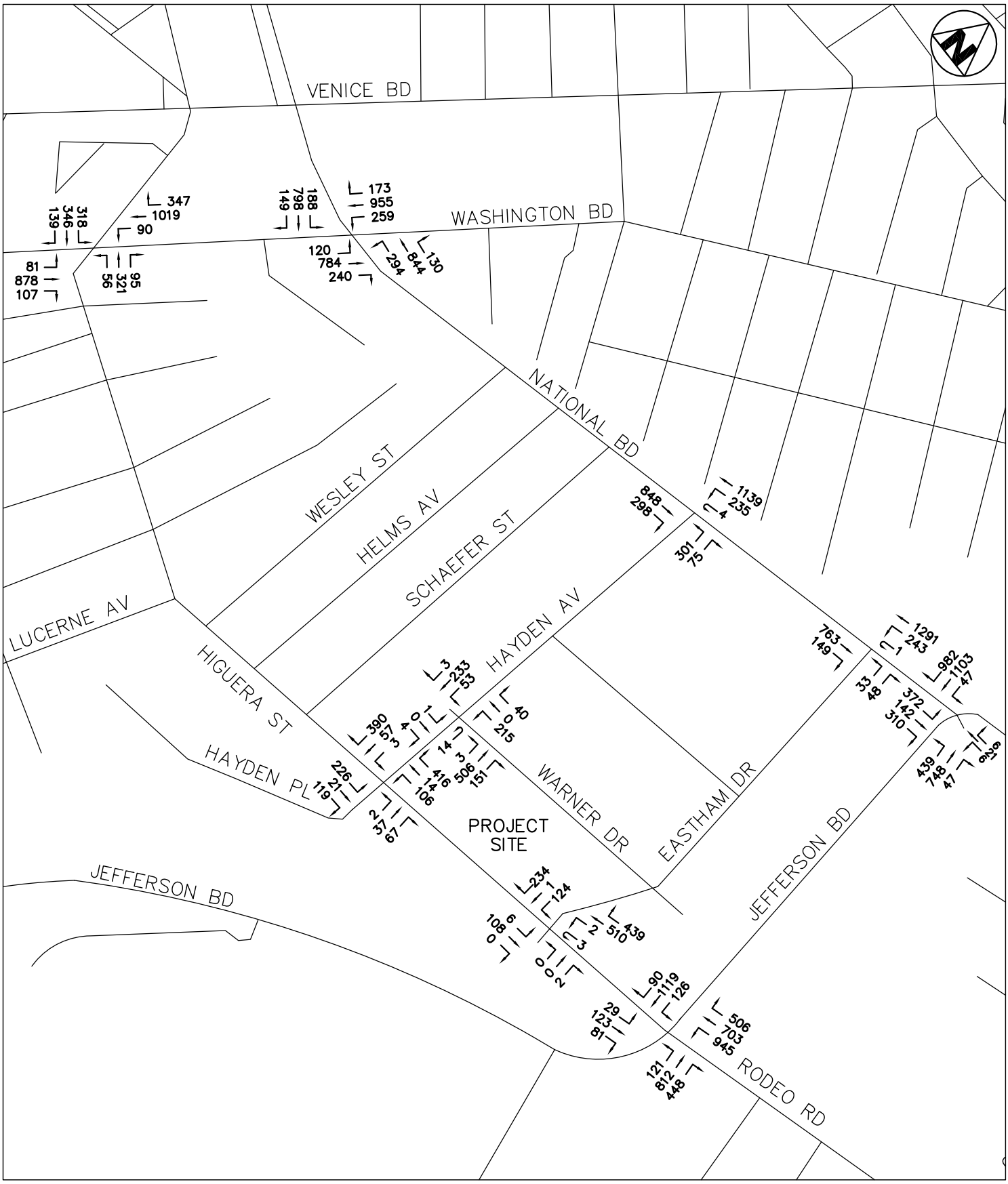

FIGURE 18

9/2018

FUTURE (2020) TRAFFIC VOLUME
WITH PROJECT
AM PEAK HOUR

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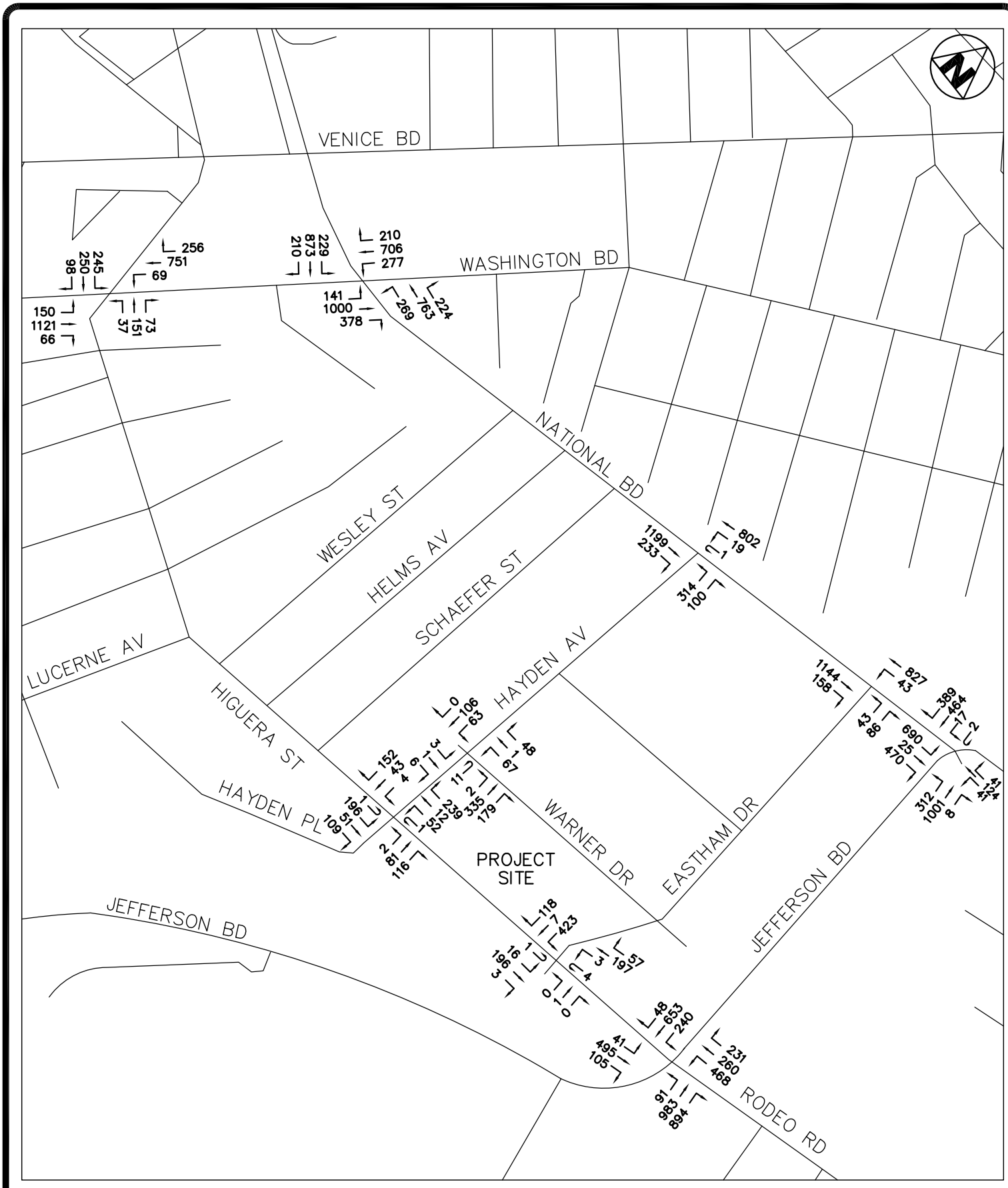

FIGURE 19

9/2018

FUTURE (2020) TRAFFIC VOLUME
WITH PROJECT
PM SCHOOL PEAK HOUR

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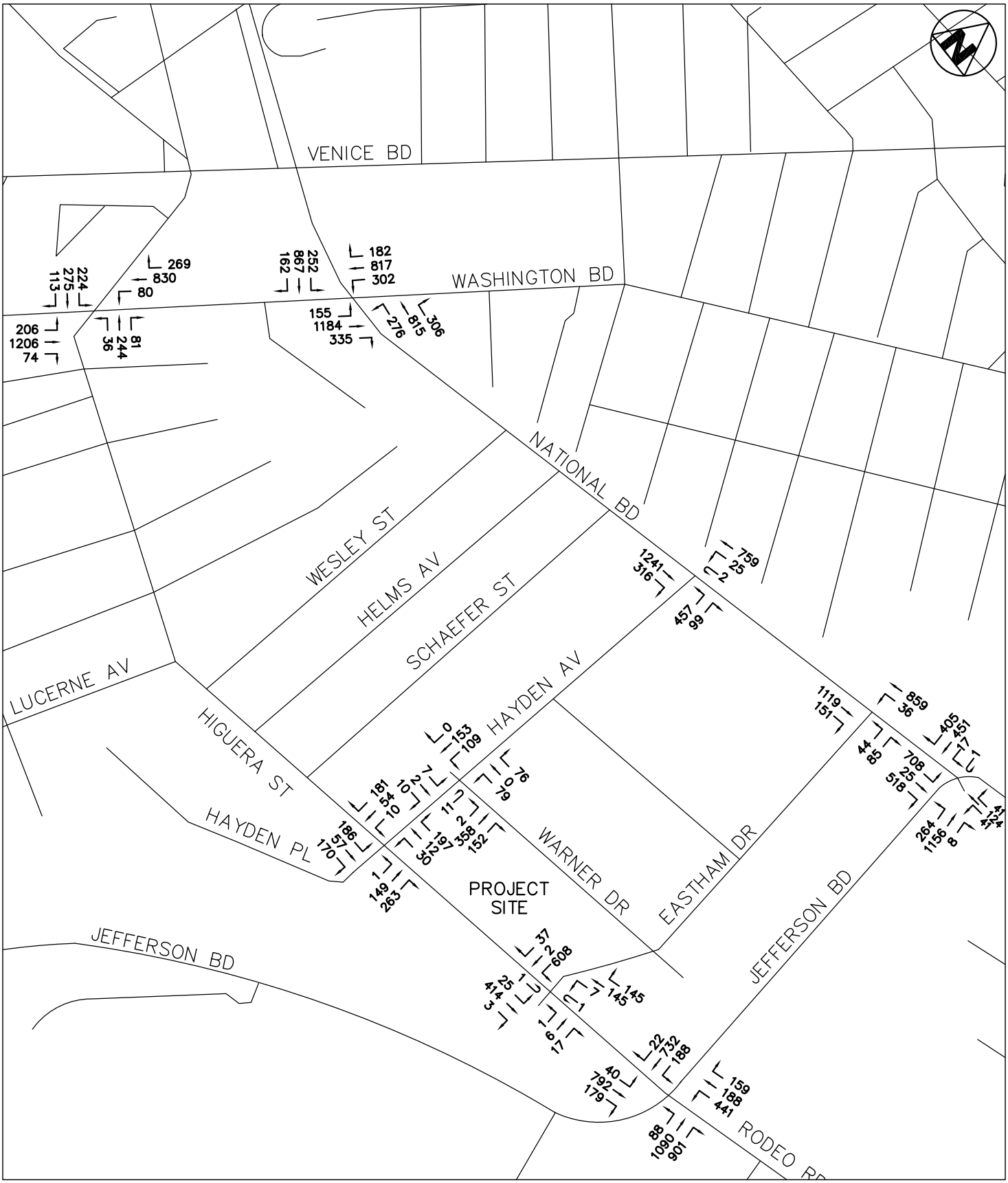

FIGURE 20

9/2018

FUTURE (2020) TRAFFIC VOLUME
WITH PROJECT
PM STREET PEAK HOUR

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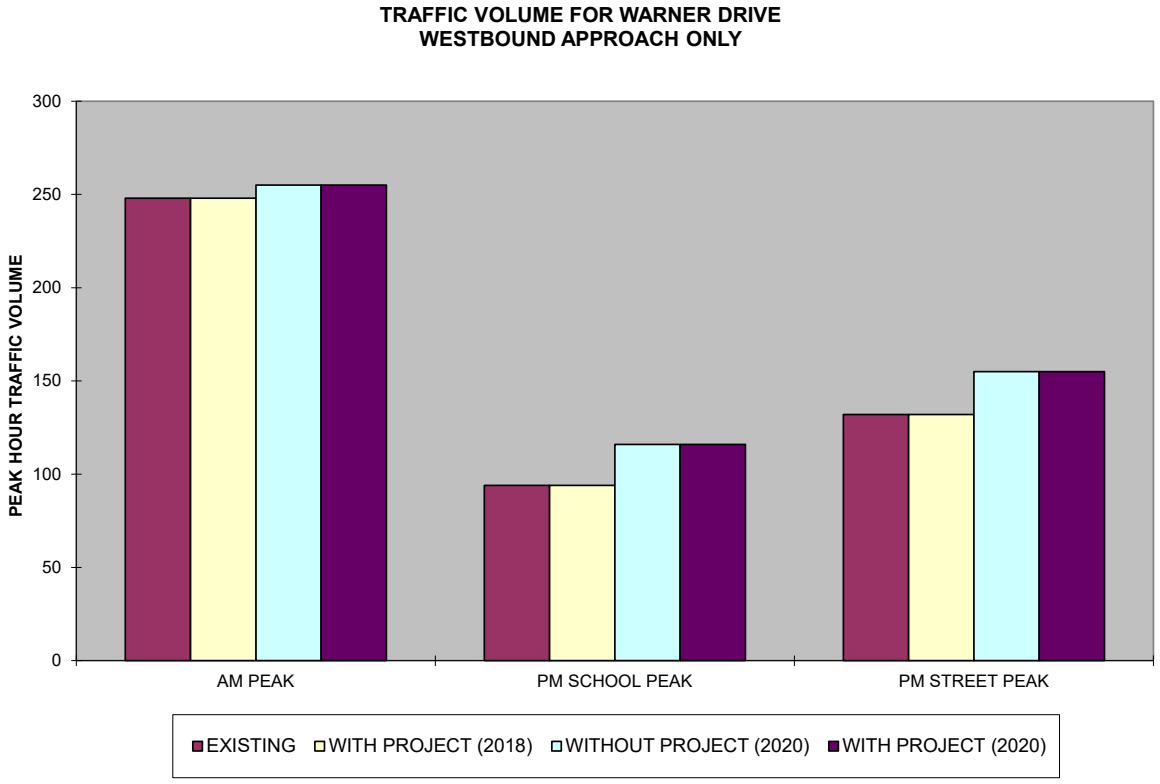
Hayden Avenue and Warner Drive Review

Traffic conditions at the intersection of Hayden Avenue and Warner Drive have been reviewed for added traffic controls, e.g., the installation of all - way stop signs or a new traffic signal. Currently, Warner Drive is controlled by a stop sign with the opposing commercial driveway also yielding the right - of - way to Hayden Avenue traffic.

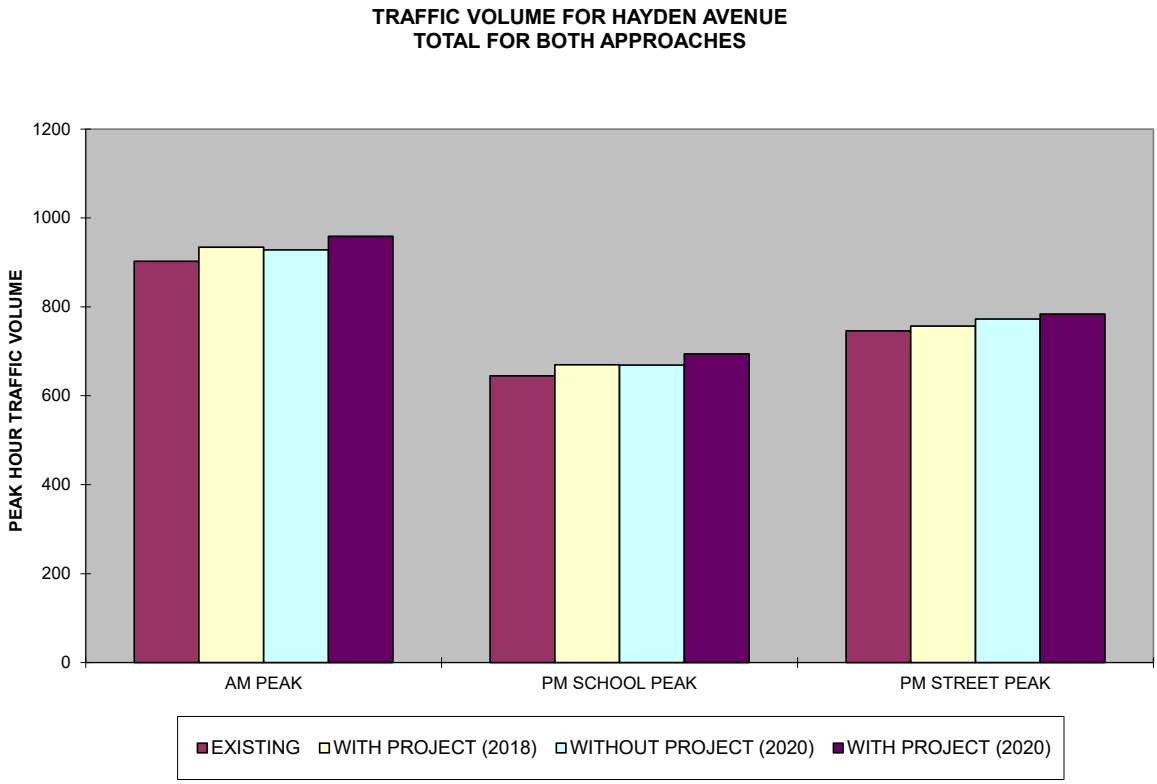
1. All - Way Stop Review

All - way stop sign guidelines recommend a minimum of 300 vehicles per hour on the major street (Hayden Avenue) with a minimum of 200 vehicles per hour on the minor street (Warner Drive) for 8 hours per day. See Appendix J (All-Way Stop Warrant Information).

As shown in the chart below for the different study scenarios, Warner Drive falls short of the 200 vehicles per hour except during the am traffic commute period. This higher volume on Warner Drive during the morning peak period is attributed to vehicles circumventing the Higuera Avenue / Hayden Avenue diverter by using Warner Drive rather than Higuera Avenue.



The traffic volume on Hayden Avenue, the major street, far exceeds the minimum 300 vehicles per hour warrant for all traffic volume study periods, as shown in the chart below.



The existing pedestrian volume at the intersection is approximately 40 per hour in the morning with 80 per hour during the mid - day and evening peak hours. The highest volume pedestrian crossing occurs on the west leg of the Warner Drive intersection (westbound approach) with 10 during the morning and mid - day and 17 during the evening peak hour with approximately 5 bikes per hour cross through the intersection.

The all - way stop sign warrant also suggests a maximum delay of 30 seconds per vehicle for the Hayden Avenue northbound approach. The vehicle delays associated with the existing 2 - way stop control at Hayden Avenue and Warner Drive show a vehicle delay much greater than 30 seconds for the Warner Drive westbound left - turn movement during the morning commute period (LOS F), but all other movements during all other time periods are less than the 30 second vehicle delay value.

Installing an all – way stop at the Hayden Avenue and Warner Drive intersection would reduce the Warner Drive westbound left turn to 15.1“ (LOS C) with an overall intersection delay of 23.3 “ (LOS C) during the am peak hour. Considering that the Higuera Street and Hayden Avenue diverter was installed to mitigate cut - through traffic impacts on the residential segment of Higuera Street between Washington Boulevard and Jefferson Boulevard, it would seem counterintuitive to install additional traffic controls to encourage this redirected traffic flow.

Based on the efforts by the City of Culver City to mitigate cut - through traffic on Higuera Street, it is our opinion that westbound left - turns on Warner Drive at Hayden Avenue during the morning peak hours should be prohibited. Not allowing vehicles to turn left from Warner Drive at Hayden Avenue during the morning commute period would reduce the traffic circumventing the Higuera / Hayden diverter. For these reasons we do not recommend an all – way stop control or a traffic signal at Hayden Avenue and Warner Drive until other traffic control measures are tested.

2. Traffic Signal Review

The criterion for installing a traffic signal is partially dependent on the capacity of the roadway / intersection (i.e., one - lane approaches or two - lane approaches). The one - lane approach criterion has been used for the existing condition.

The 2018 am peak hour is the peak hour of traffic during the day with 1,156 total vehicles per hour (vph) passing through the intersection with 903 vph on Hayden Avenue, 248 vph per hour on Warner Drive with 5 vph from the opposing driveway.

Pursuant to the California Department of Transportation (Caltrans) guidelines for the installation of traffic signals, it has been determined that the 2018 traffic volume at the intersection of Hayden Avenue and Warner Drive does satisfy the minimum peak hour requirements necessary for a new traffic signal without and with the WCS increase in enrollment. The Caltrans peak hour traffic volume requirements are shown in Appendix J (Traffic Signal Warrant Information). As shown, the existing am peak hour traffic volume at this intersection is above the minimum requirements for a traffic signal.

But for the same reason an all – way stop control was not recommended, a traffic signal at Hayden Avenue and Warner Drive would promote and encourage more traffic to use Warner Drive to circumvent the Hayden / Higuera diverter. The benefit of the reduced vehicle delay would be realized by the cut – through traffic that should not be traveling through this intersection.

To check for potential queuing caused by a future traffic signal, a capacity calculation was conducted using the HCS software. The 2020 analysis with the project traffic shows the maximum northbound queue at 11 vehicles which can be accommodated on Hayden Avenue between Higuera Street and Warner Drive. Approximately 17 vehicles can be stored within this block before backing into the Hayden Avenue and Higuera Street intersection. The analysis and queuing graphic are provided in Appendix J (Hayden Avenue Vehicle Queue Exhibit) after the Hayden Avenue and Warner Drive traffic signal information.

For these reasons, a traffic signal is also not recommended because it would have secondary traffic impacts to the residential neighborhood streets i.e., Higuera Street and Lucerne Avenue. Other traffic control measures should be considered before installing a traffic signal, such as prohibiting the morning left - turns from Warner Drive at Hayden Avenue.

Impacts on Residential Neighborhood Streets

This study also analyzed the potential impacts of traffic on the residential streets near the project site, as shown in Figure 21. At the request of City staff, Higuera Street between Hayden Avenue and Eastham Drive has been added to this analysis notwithstanding it is not a residential street subject to a neighborhood impact analysis. The street segments analyzed include:

1. Schaefer Street between Higuera Street and National Boulevard;
2. Helms Avenue between Higuera Street and National Boulevard;
3. Wesley Street between Higuera Street and National Boulevard;
4. Lucerne Avenue between Higuera Street and Ince Boulevard;
5. Higuera Street between Lucerne Avenue and Wesley Street; and
6. Higuera Street between Hayden Avenue and Eastham Drive.

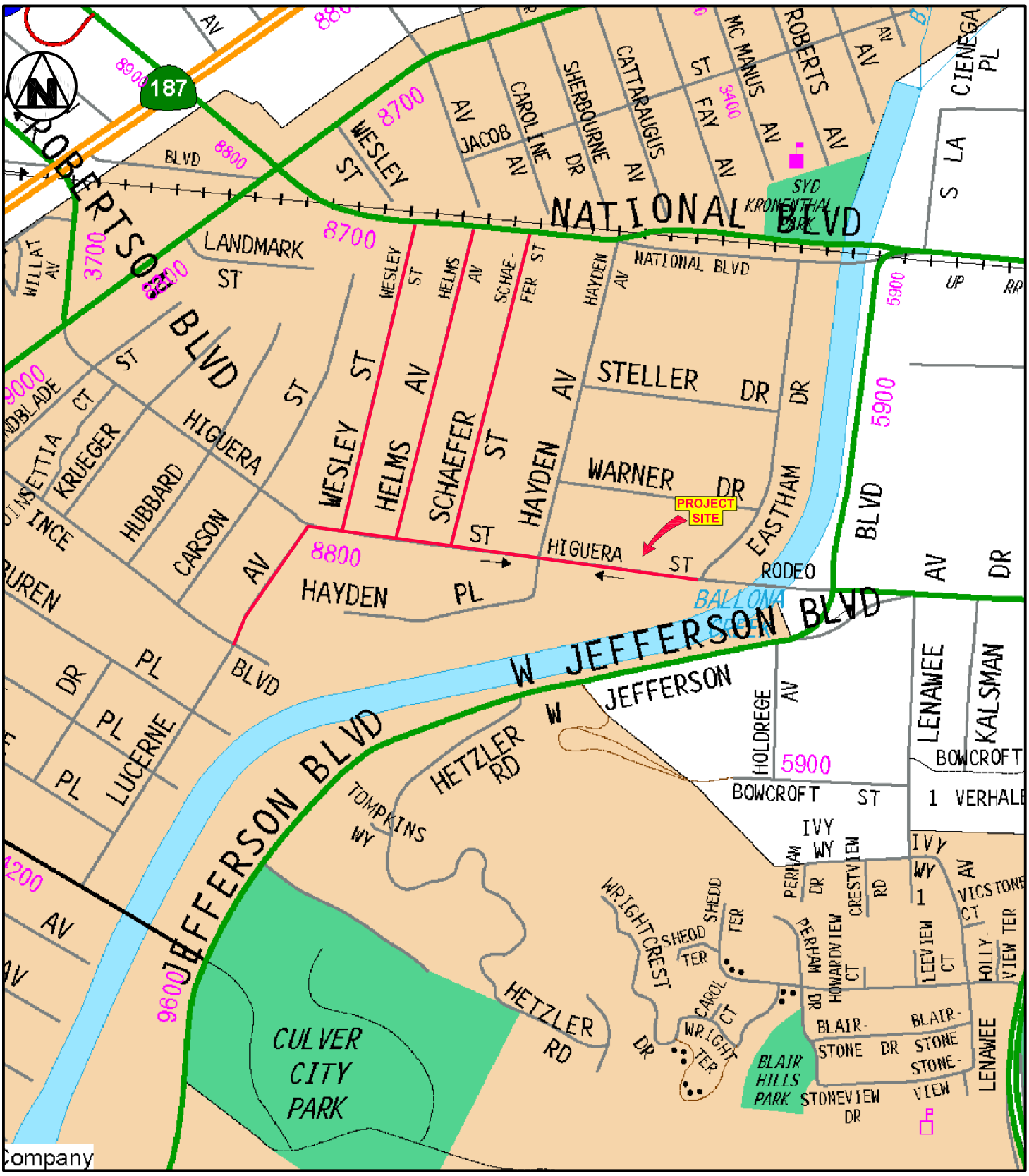


FIGURE 21

6/2018

NEIGHBORHOOD STREET LOCATIONS

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The methodology for determining neighborhood impacts is based on a comparison of the future without and future with project conditions. A significant traffic impact for a residential street occurs if the thresholds as shown in Table 14 below are satisfied:

Table 14
Significant Impact Threshold on Residential Streets

Volume	% Increase in Final ADT
0 to 999 VPD	120 or more
1,000 to 1,999 VPD	12% or more of final ADT
2,000 to 2,999 VPD	10% or more of final ADT
3,000 or more VPD	8% or more of final ADT

ADT – Vehicles Per Day

Recent 24 - hour traffic counts on the study street segments were conducted (Wednesday, May 2nd and Thursday May 3rd, 2018) to determine the amount of existing traffic currently utilizing the roadways. The highest of the 2 – day count 2018 traffic volumes were factored up by 1 % per year to reflect potential traffic growth by study year 2020.

Using 10 % of the project's trip generation as the assignment of daily trips to the Higuera Street to Washington Boulevard route, the amount of daily project - related trips along the residential street was estimated. As shown in Table 15, the new traffic generated by the proposed project would not exceed neighborhood traffic impact significance thresholds at any study area residential street segments. Daily traffic counts are provided in Appendix H (Traffic Volume Data).

Table 15
Neighborhood Traffic Impact Analysis

Location	2018 Daily Traffic	2020 Without Project	Daily Project Traffic	2020 With Project	Significance Threshold	Project Impact
Schaefer St. btwn. Higuera St. & National Bd.	797	813	0	813	120	0
Helms Ave. btwn. Higuera St. & National Bd.	873	890	0	890	120	0
Wesley St. btwn. Higuera St. & National Bd.	1,348	1,375	0	1,375	12 %	0
Lucerne Ave. btwn. Ince Bd. & Higuera St.	6,231	6,356	0	6,356	8 %	0
Higuera St. btwn. Lucerne Ave. & Wesley St.	8,662	8,835	31	8,866	8 %	0.3 %
Higuera St. btwn. Hayden Ave. & Eastham Dr.	5,946	6,065	308	6,373	8 %	4.8 %

Impacts on Regional Transportation System

The Congestion Management Program (CMP) was adopted to regulate and monitor regional traffic growth and transportation improvement programs. Pursuant to the Los Angeles County CMP; "The CMP Land Use Analysis Program" ensures that local jurisdictions consider the regional transportation impacts that may result from major development project through the local land use approval process. The Land Use Analysis Program is designed to facilitate local control and implementation of this state mandated requirement." (Section 5.1.2 Los Angeles 2010 CMP). The intent of the CMP is to provide information to assist decision makers in the allocation of transportation funds through the State Transportation Improvement Program (STIP) process.

CMP Arterial Roadways - An analysis is required at all CMP monitoring intersections where the land development project would add 50 or more peak hour trips. The nearest CMP monitoring locations are at La Cienega Boulevard and Jefferson Boulevard (CMP #46) and at Venice Boulevard and Overland Avenue (CMP #15). Figures 6a - c demonstrate that the project will not generate over 50 peak hour trips through these CMP intersections. In fact, significantly less than the 50 peak hour trips will pass through any CMP monitoring station. Therefore, traffic generated by the proposed project would not significantly affect any CMP arterial roadway segments.

CMP Freeway Mainline - A CMP traffic impact analysis is also required if a project adds 150 or more peak hour trips to a freeway segment in either direction during either the am or pm weekday peak hour. Two CMP freeway monitoring stations are identified on the Santa Monica Freeway (east of Overland Avenue, CMP #1011 and east of La Brea Avenue, CMP #1012) with two stations located on the San Diego Freeway (north of Venice Boulevard, CMP #1070 and north of La Tijera Boulevard, CMP #1069). The WCS project does not generate 150 additional peak hour trips. Therefore, traffic generated by the proposed project would not significantly affect any CMP freeway segments.

Using criteria adopted by the City of Culver City and the City of Los Angeles, it has been determined that the WCS Master Plan proposed modifications will not significantly impact any of the nine study intersections or street segments during the three study periods.

Notwithstanding that no significant project traffic impacts were identified, to ensure no future traffic impacts occur, WCS will work with the City of Culver City to implement measures to further improve traffic flow near and around the WCS campus;

1. Transportation Demand Management Program (TDM) – Develop a TDM plan for dissemination to all new school families upon entry. The TDM plan will be updated on an annual basis and disseminated to all returning school families at the beginning of each new school calendar year. The plan will include a traffic / parking circulation plan which explains vehicular ingress / egress and parking, vehicle queuing instructions and student drop - off and pick - up instructions. A draft plan is provided in Appendix K (TDM Plan and Drop – Off and Pick - Up Information).

2. Promote School – Based Education and Awareness Programs – It is recommended that WCS promote and provide educational bike and pedestrian programs in their curriculum to teach students about safety and environmental / health benefits of multimodal transportation, such as biking and walking. Instructional classes on understanding rules of the road, the proper use of bikes around motor vehicles and pedestrians and teaching basic biking skills will help students better understand bicyclists rights and responsibilities.

4. On - Street Parking Removal and Right - Turn Only Exit - With the increase in enrollment, it is estimated that the afternoon vehicle queue could increase by 5 vehicles during the pick - up period. This estimate is based on 22 additional trips generated in the pm school peak period (Table 4, page 16) arriving in 4 pick - up periods.

   To mitigate the additional vehicle queue and improve the sight line for exiting traffic, it is recommended that the driveway exit be restricted to right – turns only. This turn

restriction will be enforced by the installation of a no left - turn sign and made a part of the WCS student drop - off and pick - up program.

In addition, the City has ordered the following signing and curb markings:

1. Install signs, ”No Stopping 7:30 to 9:00 AM and 2:30 to 3:45 PM School Days” between WCS’s two Higuera Street driveways. The parking restrictions will affect 85’ between the two driveways adjacent to WCS during the pick - up and drop - off periods.
2. Paint five feet of red curb on the west side of the WCS’s westerly driveway, and five feet of red curb on the east side of the WCS’s easterly driveway.

As previously noted, pursuant to condition #28 of Resolution No. 2012-P006, WCS has made a “Traffic Contribution” of $25,000 toward traffic calming measures on Higuera Street. However, WCS will work with the City of Culver City to implement measures to further improve traffic flow near and around the WCS campus. No additional contributions are necessary.

APPENDIX A

TRAFFIC STUDY MEMORANDUM OF UNDERSTANDING (MOU)

TRAFFIC STUDY - MEMORANDUM OF UNDERSTANDING (MOU)

This Memorandum of Understanding (MOU) acknowledges the traffic study requirements for the Willows Community School Second CUP Modification.

Project Name: The Willows Community School (K-8th grade)

Project Address: 8509 Higuera Street, Culver City

Project Description: Increase student enrollment of 75 students from current 475 students to 550 students

Geographic Distribution: N 47 % S 10 % E 12 % W 31 %

- Trip Generation Rate(s): ITE 10th Edition / Other ITE Code 534 (attached)

	IN	OUT	TOTAL
AM School Trips	37	31	68
PM School Trips	22	25	47
PM Street Trips	9	11	20

- Project Buildout Year: 2020 Ambient or CMP Growth Rate: 1 % per year

Study Intersections

1. National Boulevard and Washington Boulevard (Culver City traffic signal);
2. National Boulevard and Hayden Avenue (Culver City traffic signal);
3. National Boulevard and Eastham Drive (future Culver City traffic signal);
4. National Boulevard and Jefferson Boulevard (City of Los Angeles traffic signal);
5. Robertson Boulevard / Higuera Street and Washington Boulevard (Culver City traffic signal);
6. Warner Drive and Hayden Avenue (Culver City stop sign controlled);
7. Higuera Street and Hayden Avenue (Culver City stop sign controlled);
8. Higuera Street and Eastham Drive (Culver City traffic signal); and,
9. Higuera Street and Rodeo Road (City of Los Angeles traffic signal).

Local Residential Street Segments

1. Schaefer Street between Higuera Street and National Boulevard;
2. Helms Avenue between Higuera Street and National Boulevard;
3. Wesley Street between Higuera Street and National Boulevard;
4. Lucerne Avenue between Higuera Street and Ince Boulevard;
5. Higuera Street between Lucerne Avenue and Wesley Street; and
6. Higuera Street between Hayden Avenue and Eastham Drive

- Trip Adjustment Programs: Transportation Demand Management
- Related Project list and map attached
- Project Trip Distribution developed by student zip code (attached)
- Project Trip Assignment (attached)
- Discuss Higuera bridge replacement program and it's effect on project traffic
- Prepare queuing analysis for project driveway
- Provide entry management plan
- Prepare traffic signal and all-way warrant study for Hayden Avenue and Warner Drive
- Discuss potential on – street parking restrictions
- Discuss the bypass issue on Higuera Street and community requests for traffic calming on Higuera Street

	Consultant	Culver City	Los Angeles
Company	Overland Traffic Consultants		
Name	Jerry Overland		
Address	24325 Main St		
	Santa Clarita, CA 91321		
Phone No	310.930.3303		
E-Mail	jerry@overlandtraffic.com		
Approved			7/3/18
	Consultant's Representative Date	Culver City Representative Date 7.3.2018	LADOT Representative Date

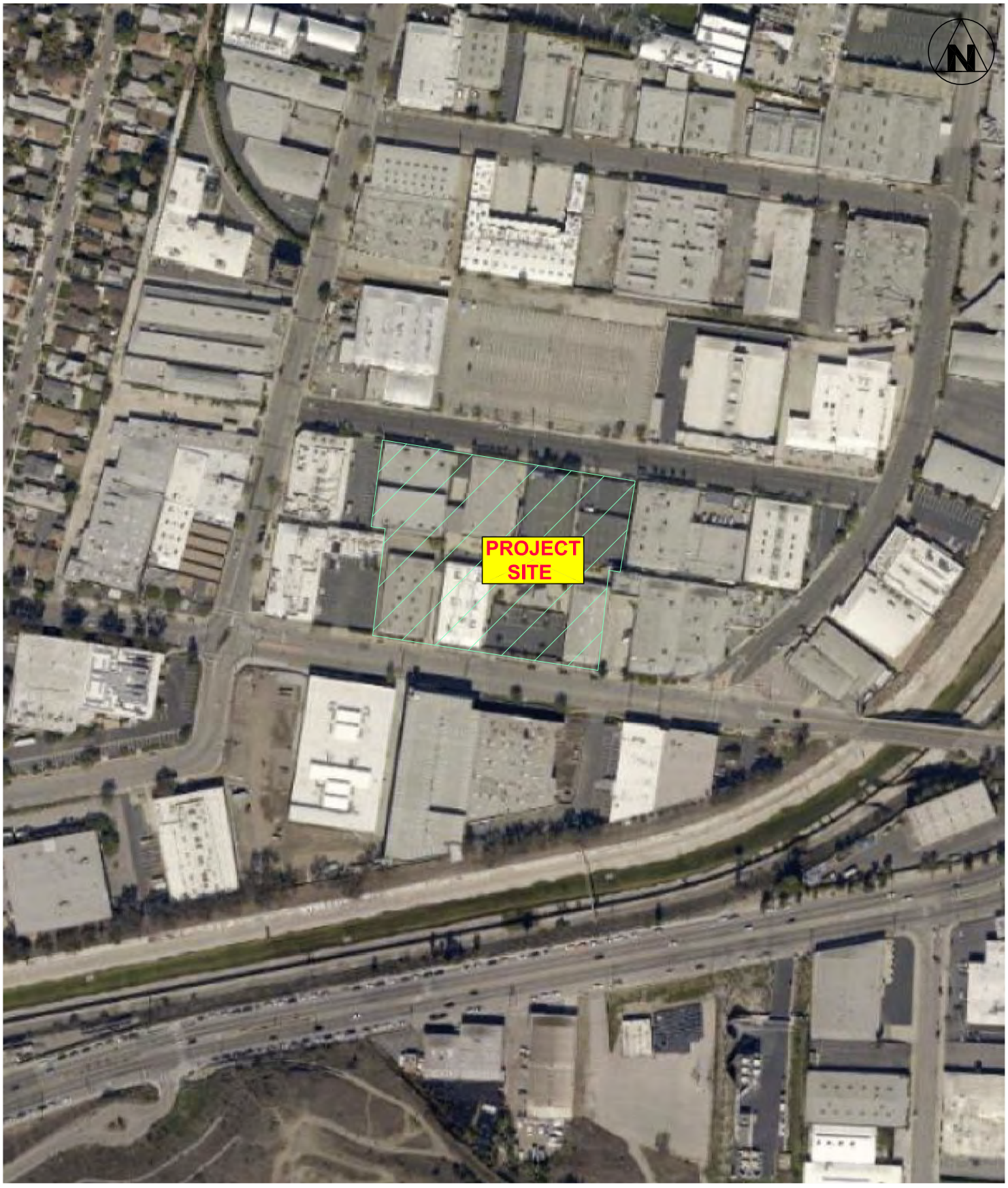

FIGURE 1

4/2018

THE WILLOW COMMUNITY SCHOOL
8509 HIGUERA STREET

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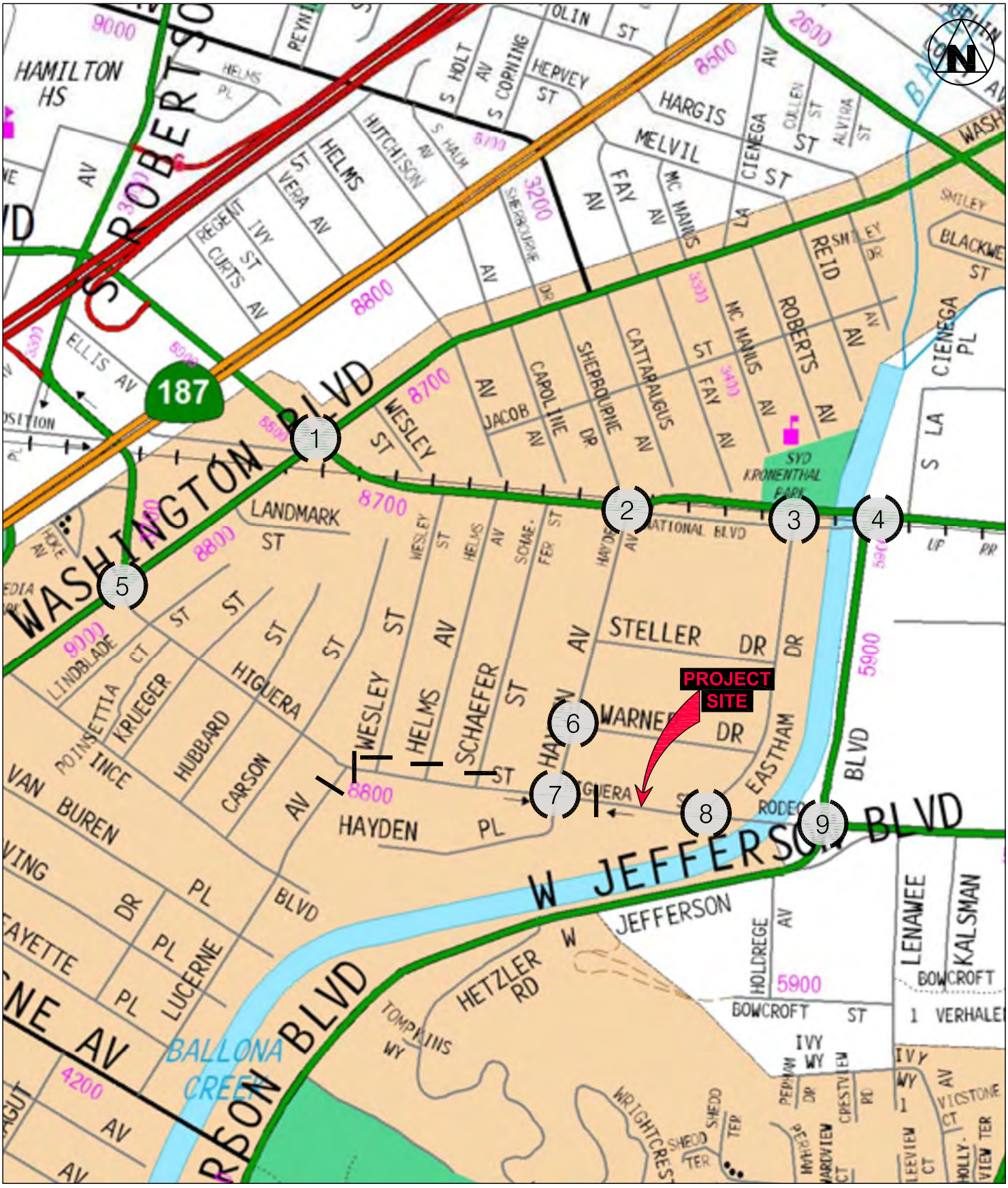

FIGURE 2

4/2018

STUDY AREA
INTERSECTON LOCATIONS
AND LOCAL STREET SEGMENTS

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Project Traffic Generation

Traffic - generating characteristics of private schools have been studied by the Institute of Transportation Engineers (ITE). The results of the traffic generation studies have been published in Trip Generation, 10th Edition handbook. This publication of traffic generation data has become the industry standard for estimating traffic generation for different land uses.

The ITE trip generation data indicates that private schools with grades K thru 8th grade generally exhibits the trip-making characteristics per student as shown by the trip rates presented in Table 1. Using these traffic generation rates, estimates of the project's traffic volume were calculated for the morning student arrivals, the afternoon student dismissals and during the peak afternoon commute hour of the adjacent street traffic flow.

Table 1
Project Trip Generation Rates
(Per Student)

			AM Peak Hour			PM School Peak Hour		
Land Use	ITE Code	Daily	Total	In	Out	Total	In	Out
Private School (K-8)	534	4.11	0.910	55%	45%	0.62	47%	53%

PM Street Peak Hour		
Total	In	Out
0.260	46%	54%

As shown in Table 2, the 75 new students could be expected to generate an average of 308 new vehicle trips per weekday with 68 morning peak hour trips, 47 afternoon school-peak and 20 afternoon street-peak hour trips.

Table 2
Project Trip Generation

			AM Peak Hour			PM School Peak Hour		
Land Use	Size	Daily	Total	In	Out	Total	In	Out
Private School (K-8)	75 students	308	68	37	31	47	22	25

PM Street Peak Hour		
Total	In	Out
20	9	11

FIGURE 3A

4/2018

THE WILLOWS COMMUNITY SCHOOL
EXISTING SITE PLAN (2018)

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FIGURE 3B

4/2018

THE WILLOWS COMMUNITY SCHOOL
FUTURE SITE PLAN (2020)

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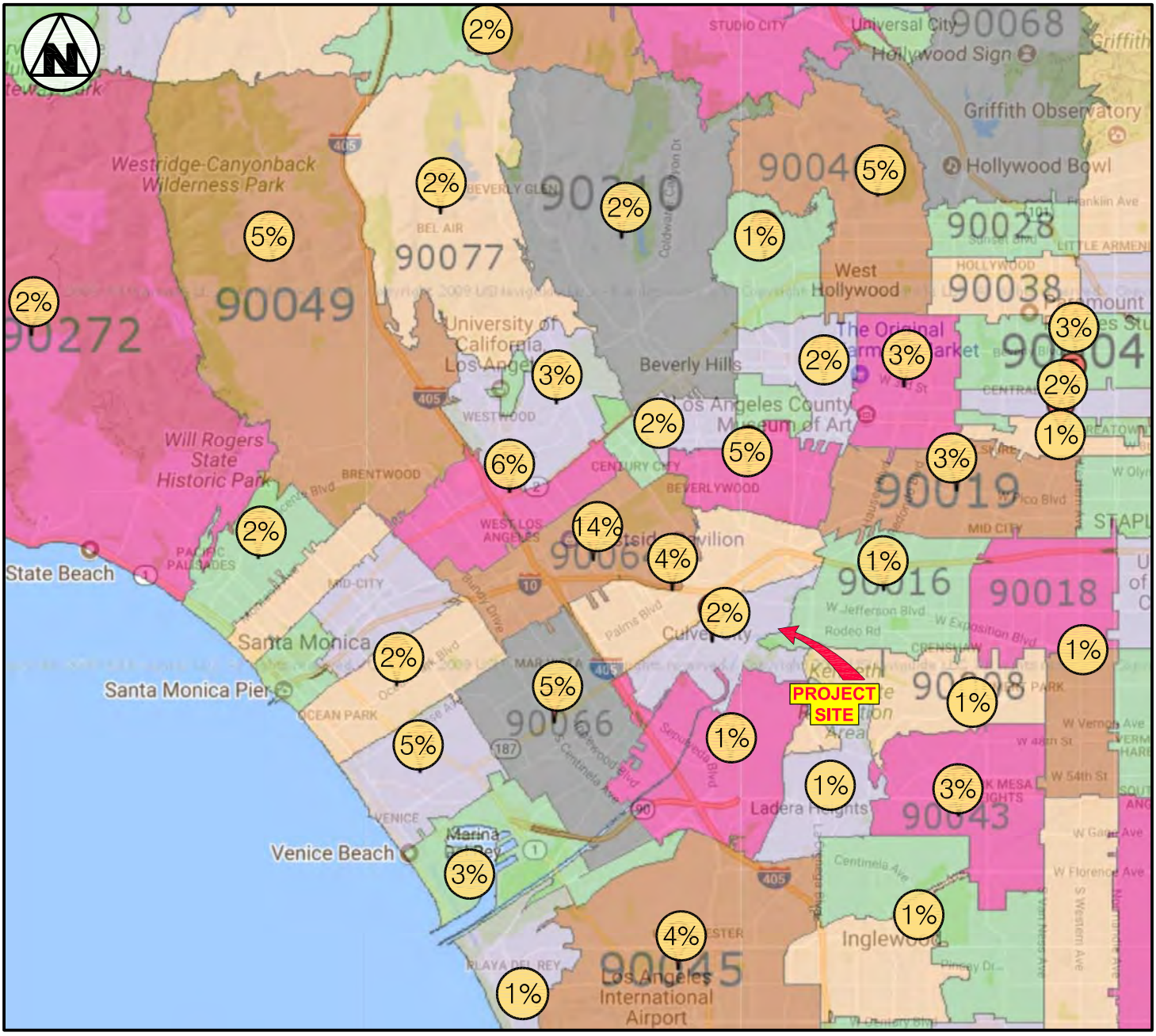

4/2018

STUDENT LOCATION PERCENTAGE BY ZIP CODE (2017 - 2018 DATA)

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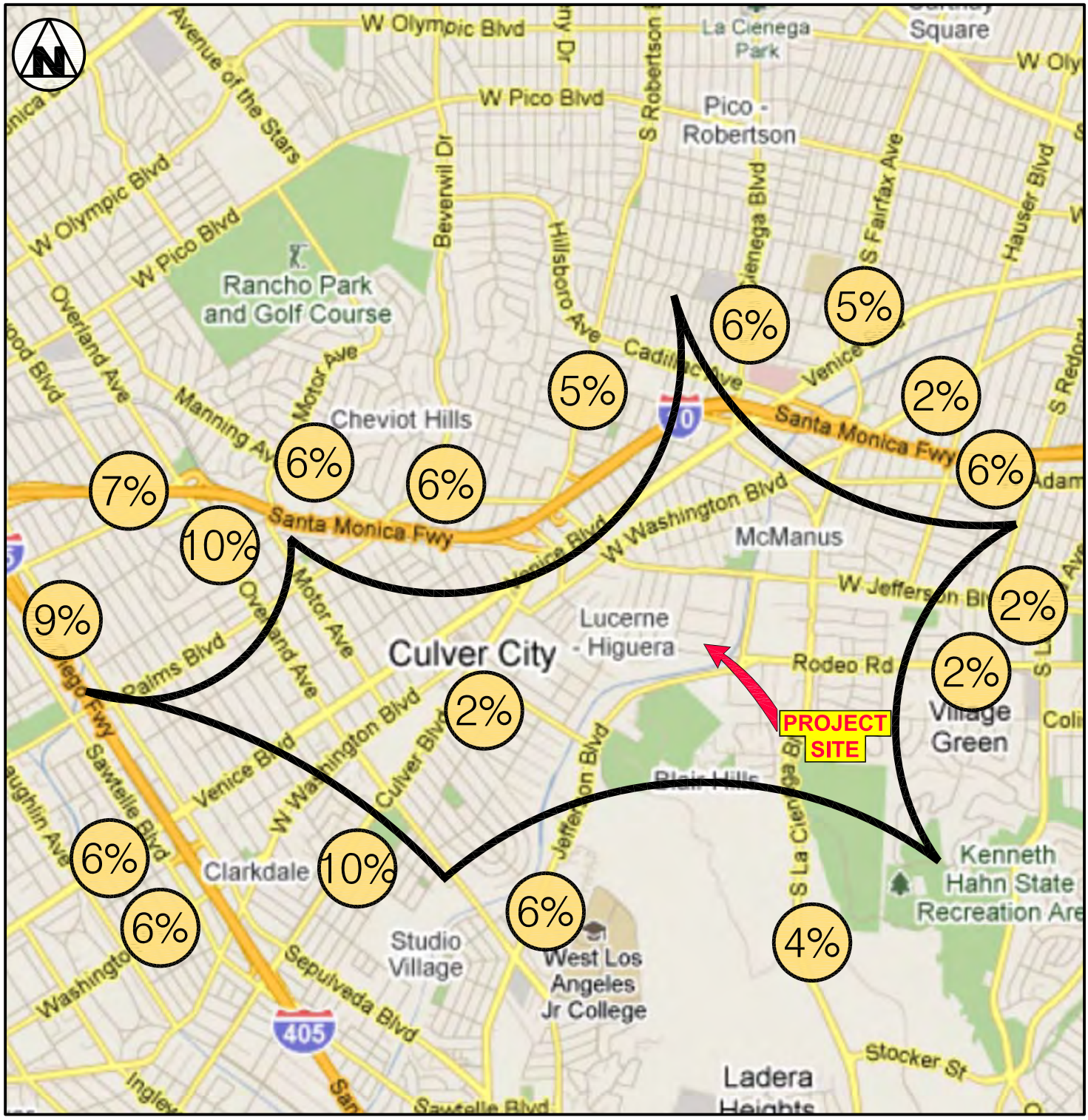

FIGURE 4

4/2018

DISTRIBUTION ASSIGNMENT OF ZIP CODES

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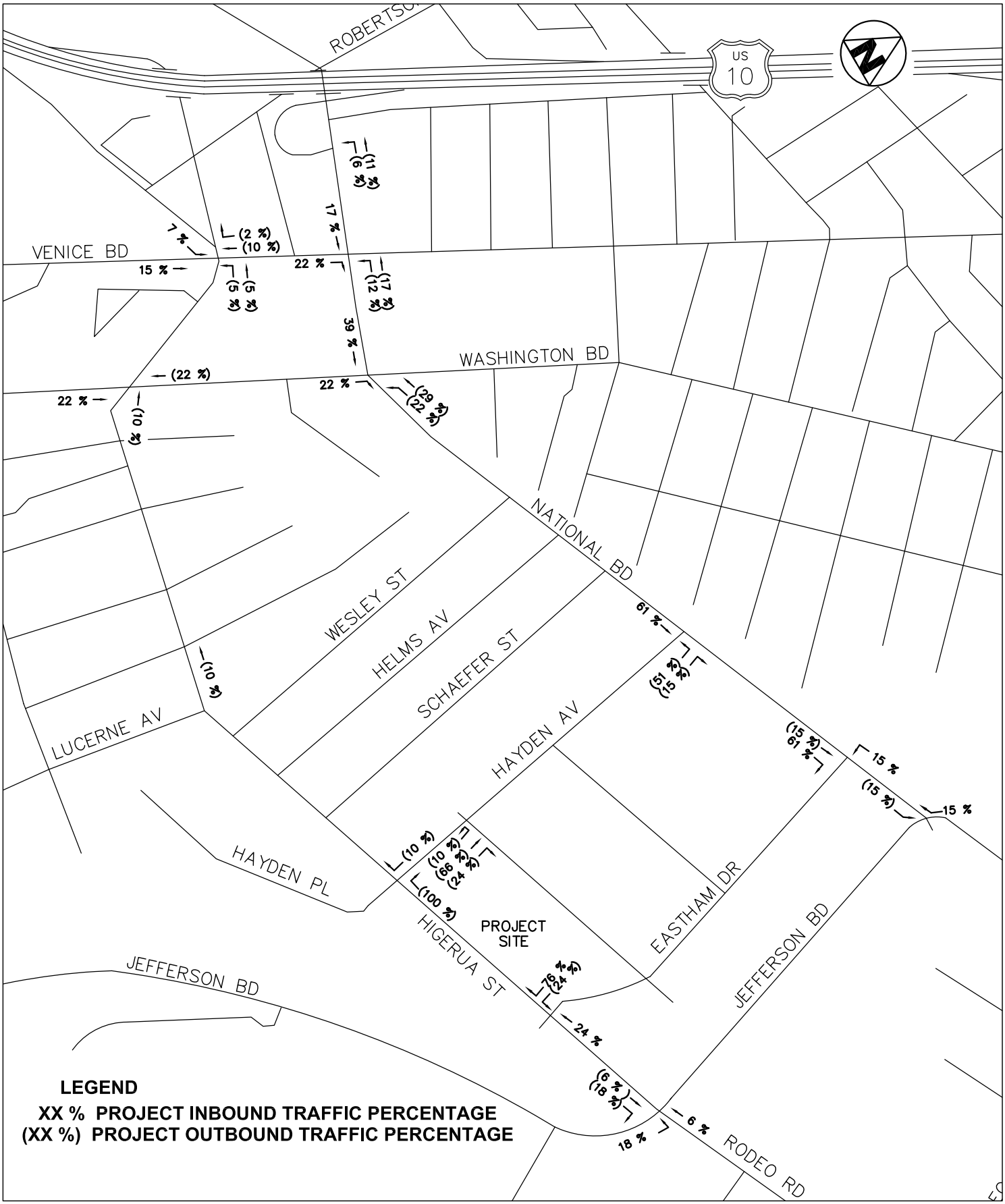

FIGURE 5

6/2018

THE WILLOWS COMMUNITY SCHOOL
TRAFFIC ASSIGNMENT PERCENTAGES

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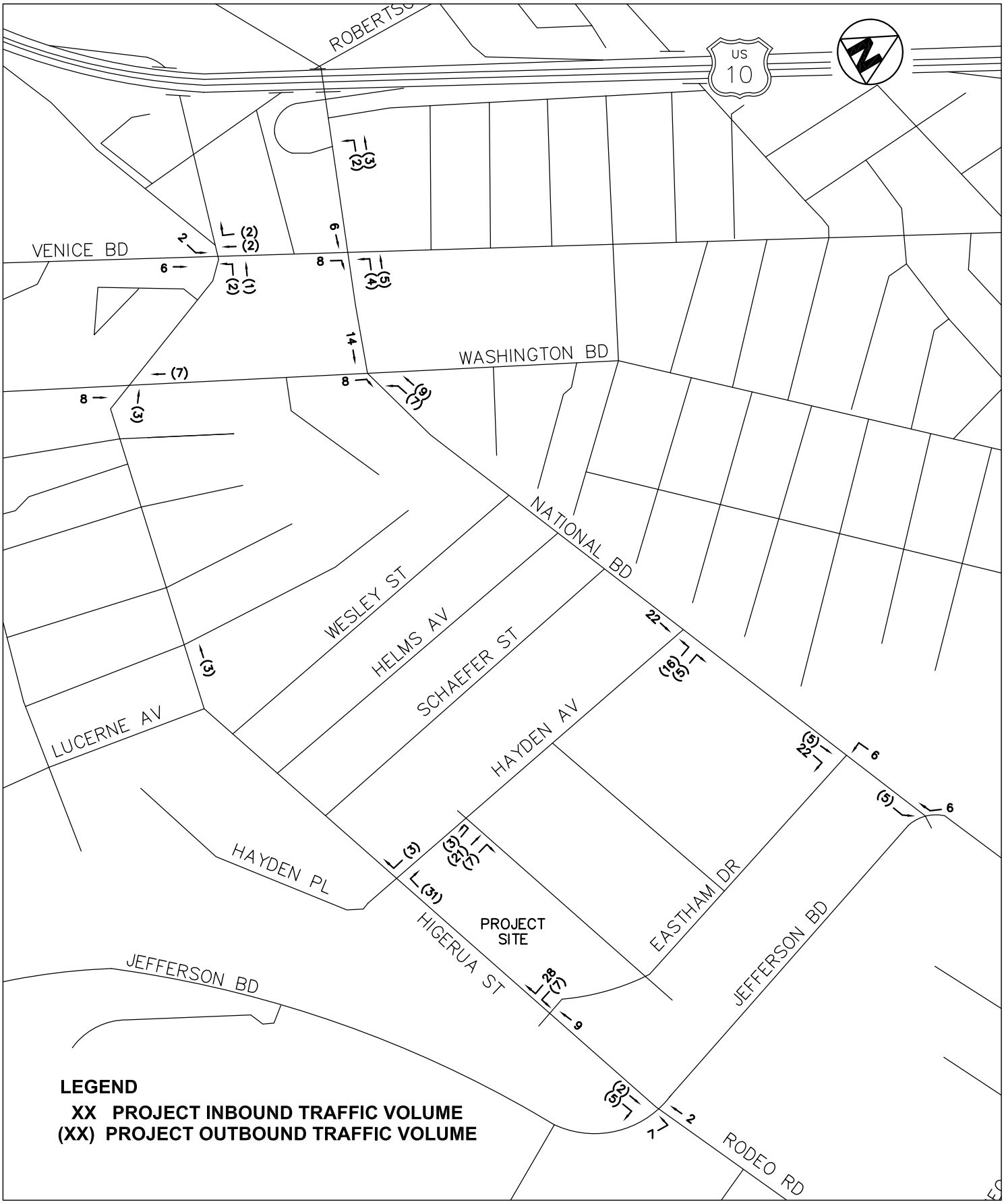

FIGURE 6A

6/2018

THE WILLOWS COMMUNITY SCHOOL
AM PEAK HOUR PROJECT TRAFFIC VOLUME

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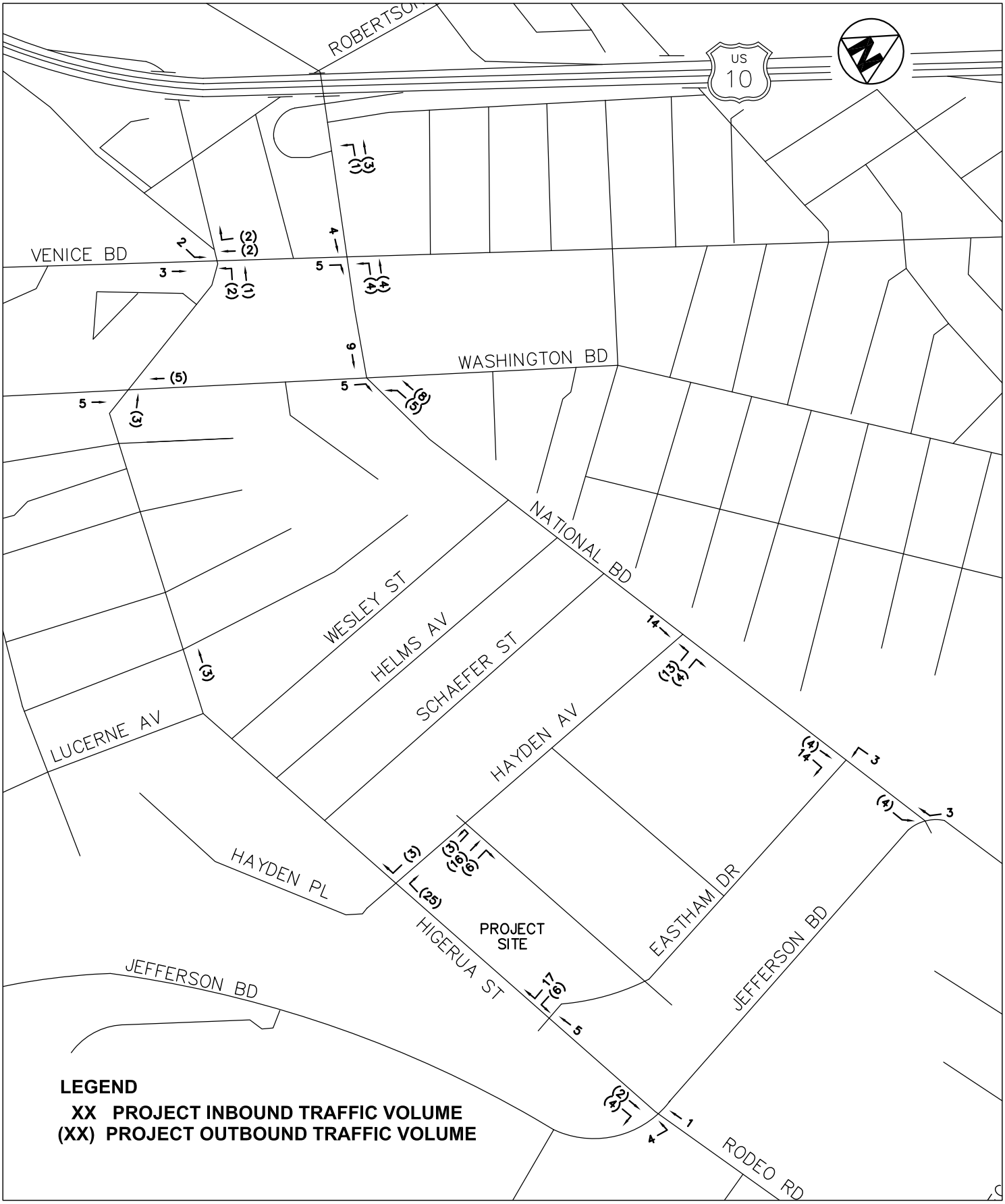

FIGURE 6B

6/2018

THE WILLOWS COMMUNITY SCHOOL
PM SCHOOL PEAK HOUR PROJECT TRAFFIC VOLUME

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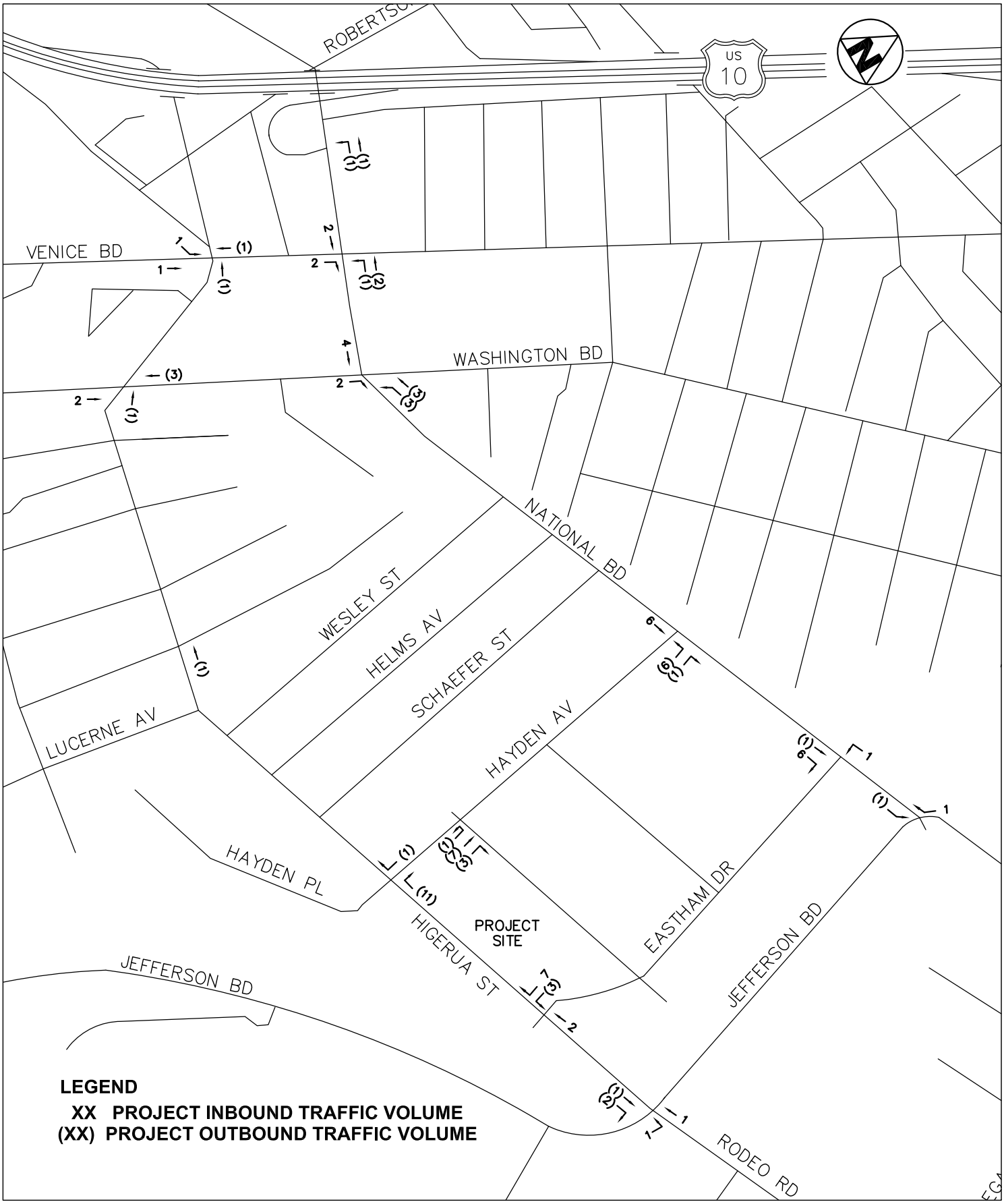

FIGURE 6C

6/2018

THE WILLOWS COMMUNITY SCHOOL
PM STREET PEAK HOUR PROJECT TRAFFIC VOLUME

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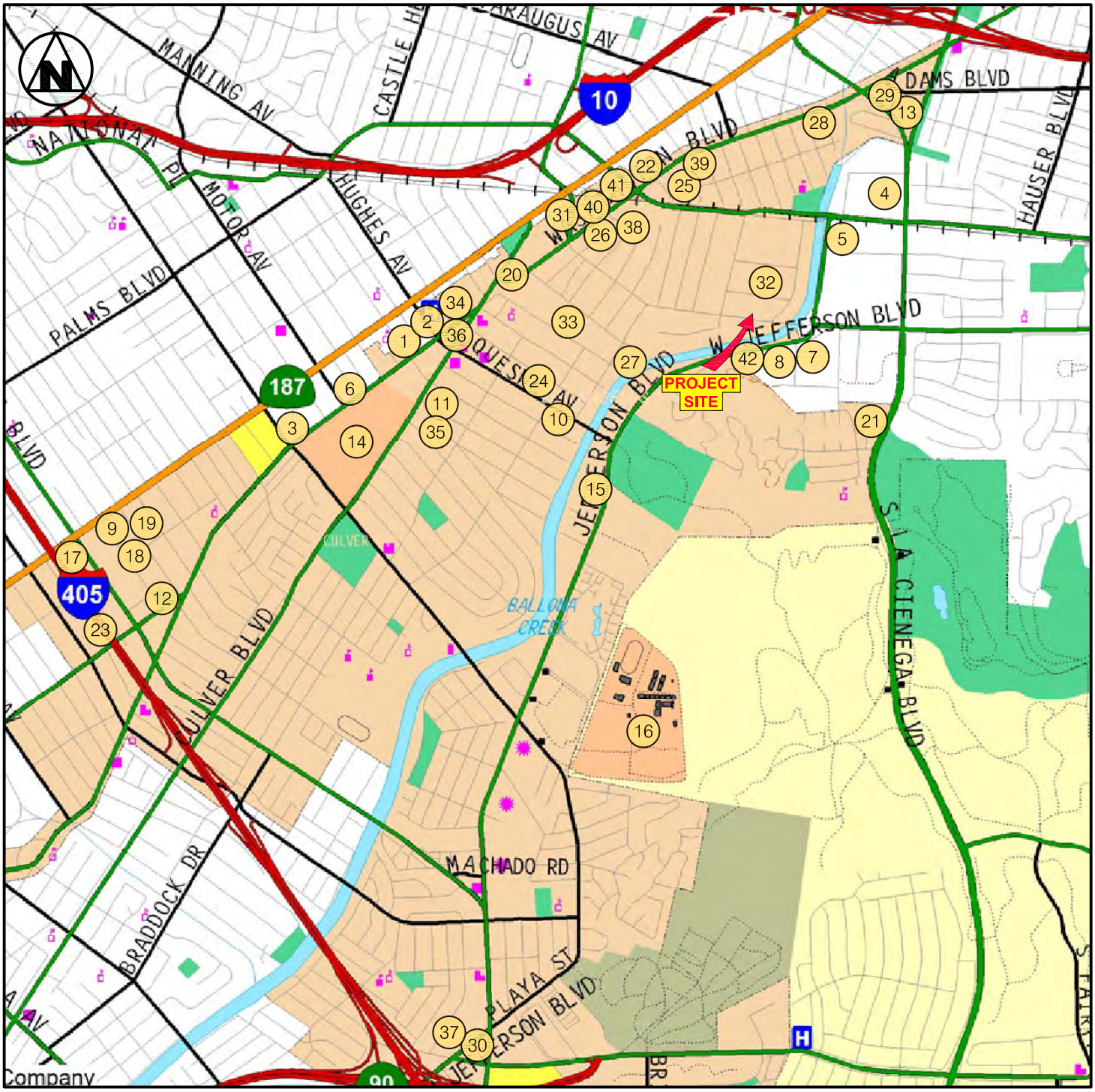


FIGURE 14

6/2018

RELATED PROJECT LOCATIONS

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799 - 8423, OTC@overlandtraffic.com

RELATED PROJECTS
(July 2018)

No.	Project	Size	Location
	City of Los Angeles		
1	Apartments	40 units	3833 S. Dunn Drive
2	Apartments	86 units	3822 S. Dunn Drive
3	Apartments	126 units	10601 Washington Boulevard (LA)
	Office	23,000 sf	
	Retail	9,000 sf	
	Restaurant	9,000 sf	
	Less office	10,100 sf	
4	Apartments	1,218 units	3221 La Cienega Boulevard
	Office	200,000 sf	
	Supermarket	50,000 sf	
	Retail	30,000 sf	
	Restaurant	20,000 sf	
5	Office	150,761 sf	5790 W. Jefferson Boulevard
6	Condominium	108 units	10375 Washington Boulevard
	Retail	3,600 sf	
7	Office	64,000 sf	5950 W. Jefferson Boulevard
	Retail	2,000 sf	
	Restaurant	4,000 sf	
8	Corp Office	90,054 sf	6034 W. Jefferson Boulevard
	Coffee Shop	2,200 sf	
	Manufacturing	49,540 sf	
	Warehouse	49,540 sf	
42	Office	14,400 sf	6050 - 6056 Jefferson Boulevard
	City of Culver City		
9	Condominium	2 (net) units	3837 Bentley Avenue
10	Condominium	2 (net) units	4241 Bentley Avenue
11	Condominium	3 (net) units	4034 La Salle Avenue
12	Condominium	2 (net) units	3961 Tilden Avenue
13	Retail	1,250 sf	3030 La Cienega Boulevard
14	Retail/Restaurant	8,424 sf	10000 Washington Boulevard
	Fitness	3,687 sf	
15	Office R&D	62,558 sf	9919 Jefferson Boulevard
16	WLA Community College	18,904 students	Overland and Stocker
17	Convenience Market	2,285 sf	11224 Venice Boulevard
	Car Wash	864 sf	
18	Condominium	2 (net) units	3873 Bentley Avenue
19	Condominium	3 (net) units	3832 Bentley Avenue

RELATED PROJECTS
(July 2018)

No.	Project	Size		Location
	City of Culver City			
20	Office	74,600	sf	9300 Culver Boulevard
	Retail	21,700	sf	
	Restaurant	21,700	sf	
21	Single Family	8	du	3814 Lenawee Avenue
	Assisted Living	110	beds	
22	Office	128,000	sf	8777 Washington Boulevard
	Restaurant	4,500	sf	
23	Single Family	10	du	4044 Globe Avenue
24	Condominium	3 (net)	units	4180 Duquesne Avenue
25	Apartments	15	units	3434 Wesley Avenue
	Office	14,237	sf	
26	Office	59,325	sf	8888 Washington Boulevard
	Retail	2,878	sf	
	Restaurant	3,184	sf	
27	Apartments	5 (net)	units	4227 Ince Boulevard
28	Office	3,246	sf	6066 Washington Boulevard
29	Automotive Repair	4	bays	2926 La Cienega Boulevard
30	Medical Office	38,172	sf	5645 Sepulveda Boulevard
	Retail	3,193	sf	
31	Apartments	8	units	3727 Robertson Boulevard
	Retail	8,135	sf	
32	Quality Restaurant	10,000	sf	8511 Warner Drive
	Retail	41,520	sf	
33	Production Studio	413,127	sf	9336 Washington Boulevard
34	Office	55,477	sf	9735 Washington Boulevard
	Retail	12,249	sf	
	Restaurant	4,147	sf	
35	Condominium	3 (net)	units	4051 Jackson Avenue
36	Performance Theater	200	seat	9814 Washington Boulevard
	Bakery/café	7,500	sf	
37	Hotel	183	rooms	11469 Jefferson Boulevard
	demo shopping center	12,958	sf	
38	Private School	50	students	3939 Landmark Street
39	Apartments	199	units	8700 - 8750 Washington Boulevard
	Office	17,250	sf	
	Restaurant	5,000	sf	
	Retail	17,750	sf	
40	Apartments	141	units	3710 - 3750 Robertson Boulevard
	Office	64,200	sf	
	Retail	30,042	sf	
41	Apartments	200	units	8824 National Boulevard
	Retail	24,000	sf	Ivy Station
	Office	201,000	sf	
	Hotel	148	rooms	
	Restaurant	20,000	sf	

Land Use: 534
Private School (K-8)

Description

A private school (K-8) primarily serves students attending kindergarten through the eighth grade but may also include students beginning with pre–K classes. These schools may also offer extended care and day care. Students may travel a long distance to get to private schools. Elementary school (Land Use 520), middle school/junior high school (Land Use 522), high school (Land Use 530), private school (K-12) (Land Use 536), and charter elementary school (Land Use 537) are related uses.

Additional Data

The sites were surveyed in the 1990s, the 2000s, and the 2010s in Arizona, Florida, Maryland, Oregon, Pennsylvania, and Texas.

Source Numbers

355, 444, 516, 536, 634, 905, 940

Private School (K-8)
(534)

Vehicle Trip Ends vs: **Students**
On a: **Weekday**

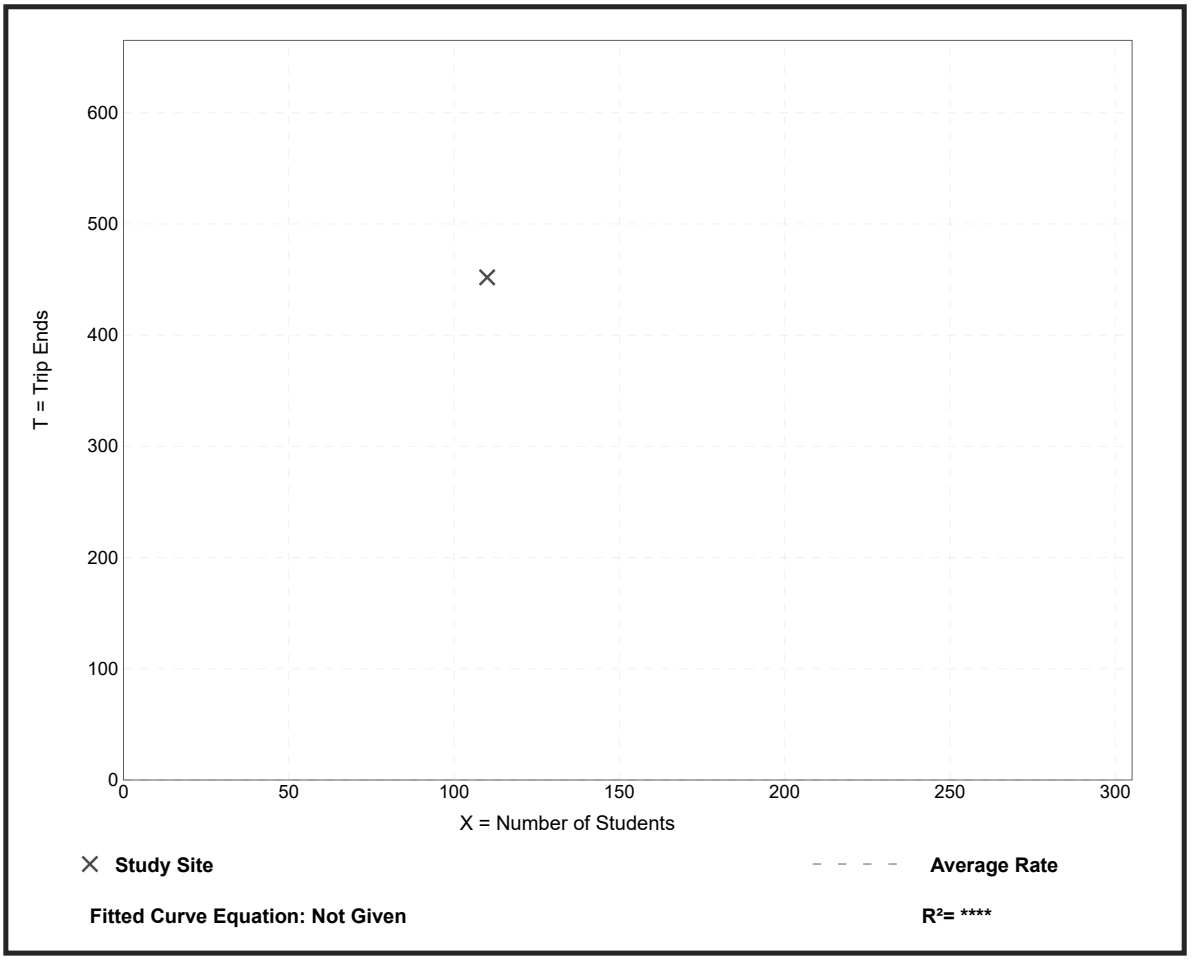
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
Avg. Num. of Students: 110
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
4.11	4.11 - 4.11	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

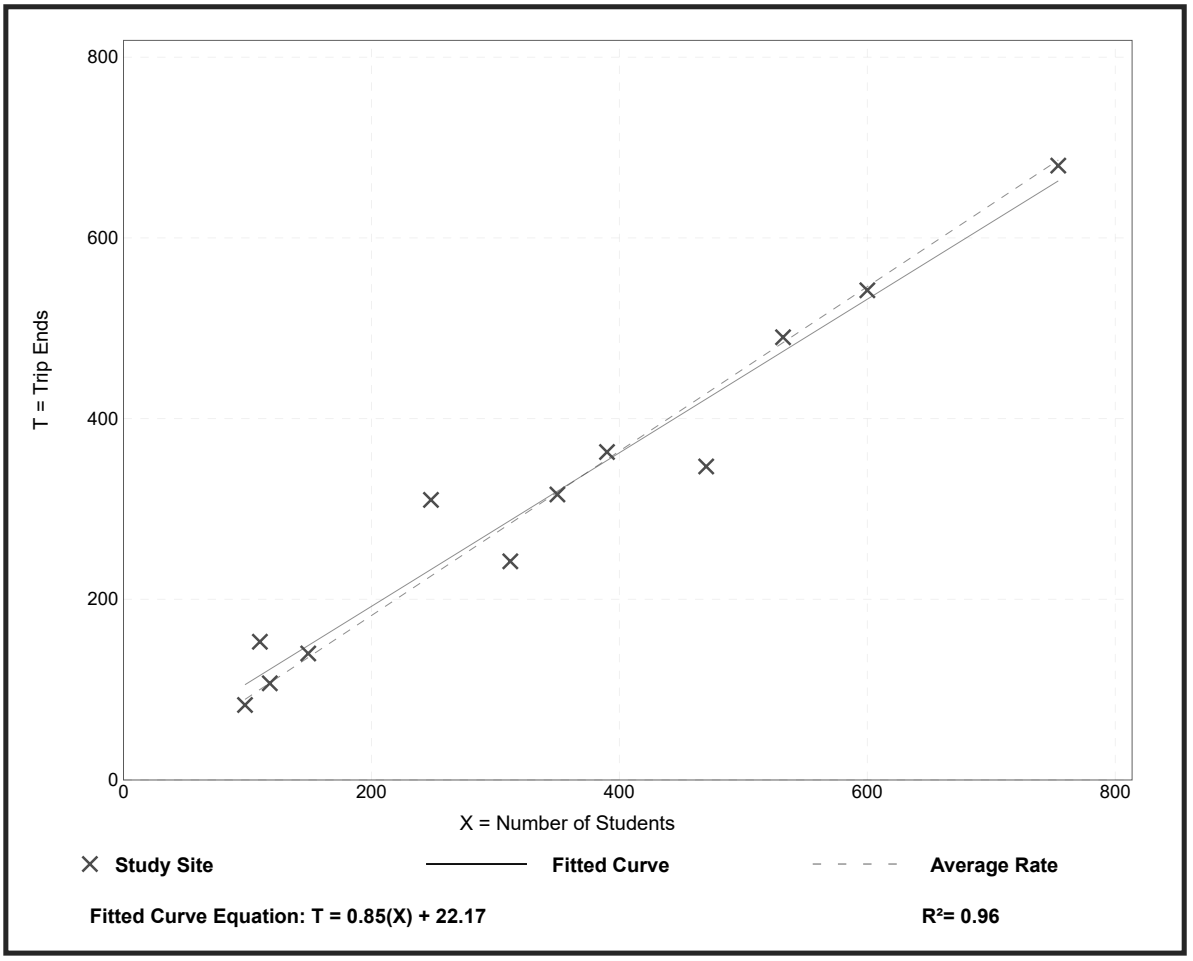
Private School (K-8)
(534)

Vehicle Trip Ends vs:	**Students**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	12
Avg. Num. of Students:	344
Directional Distribution:	55% entering, 45% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.91	0.74 - 1.39	0.14

Data Plot and Equation



Fitted Curve Equation: T = 0.85(X) + 22.17

R^2= 0.96

Private School (K-8)
(534)

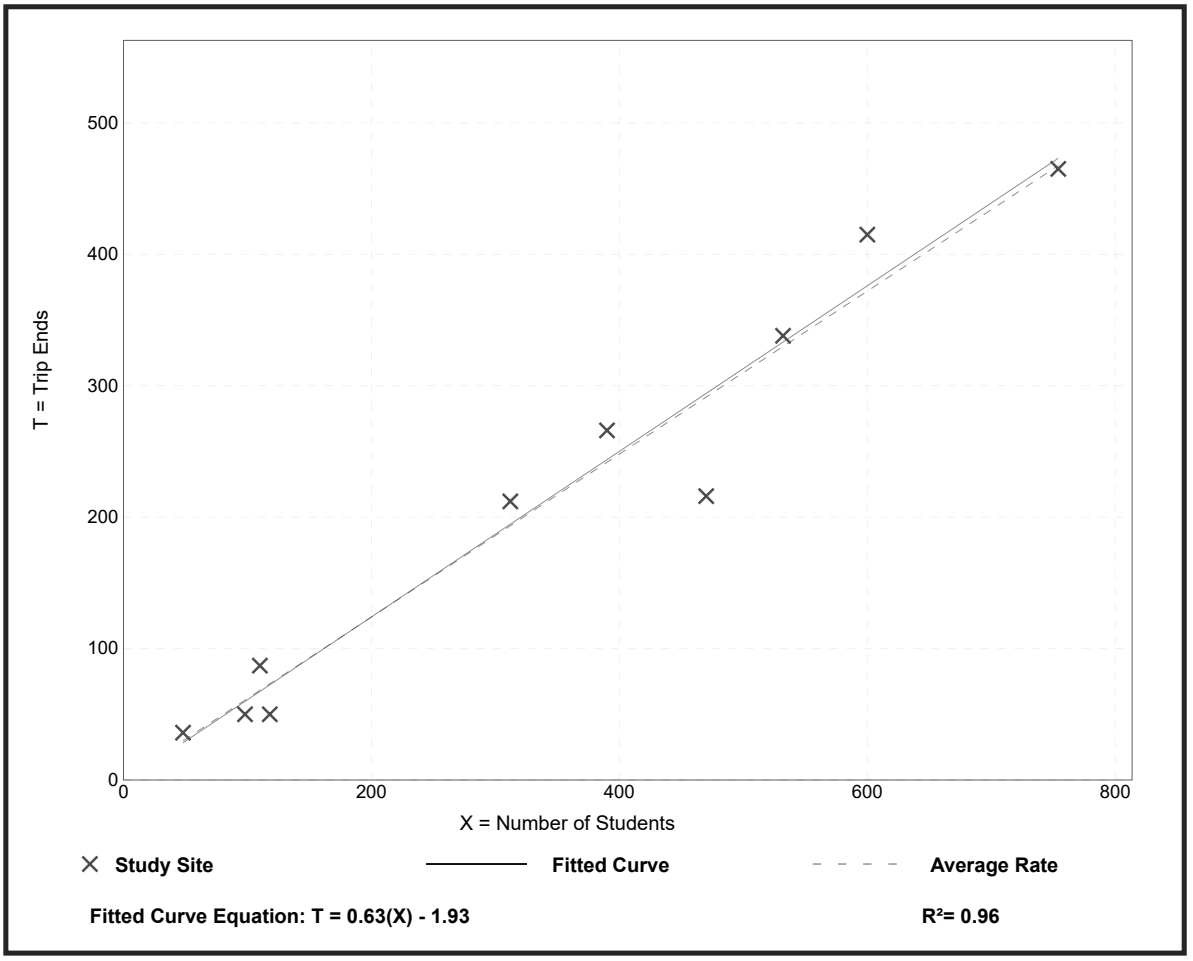
Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 10
Avg. Num. of Students: 343
Directional Distribution: 47% entering, 53% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.62	0.42 - 0.79	0.09

Data Plot and Equation



Fitted Curve Equation: T = 0.63(X) - 1.93

R^2= 0.96

Private School (K-8)
(534)

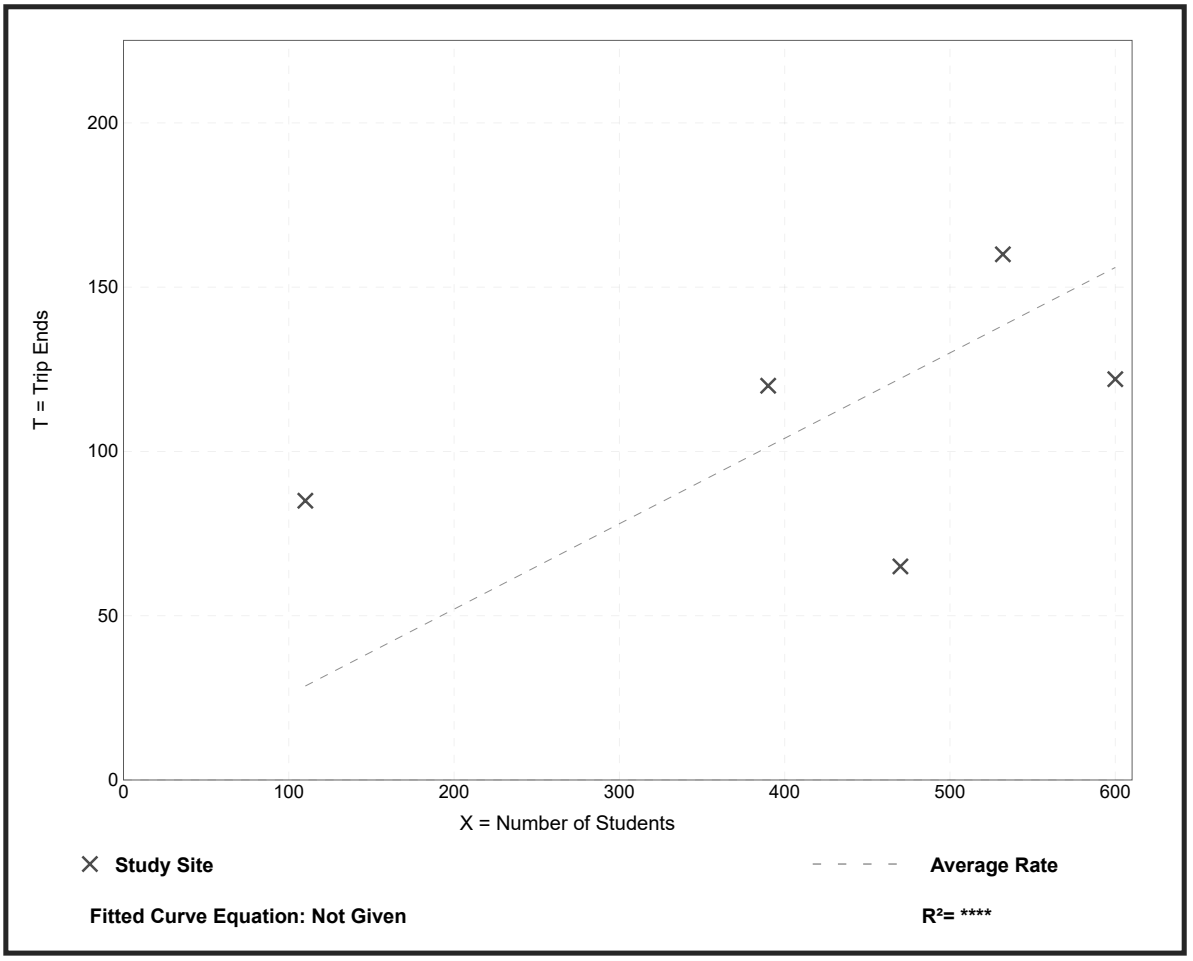
Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. Num. of Students: 420
Directional Distribution: 46% entering, 54% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.26	0.14 - 0.77	0.15

Data Plot and Equation

Caution – Small Sample Size



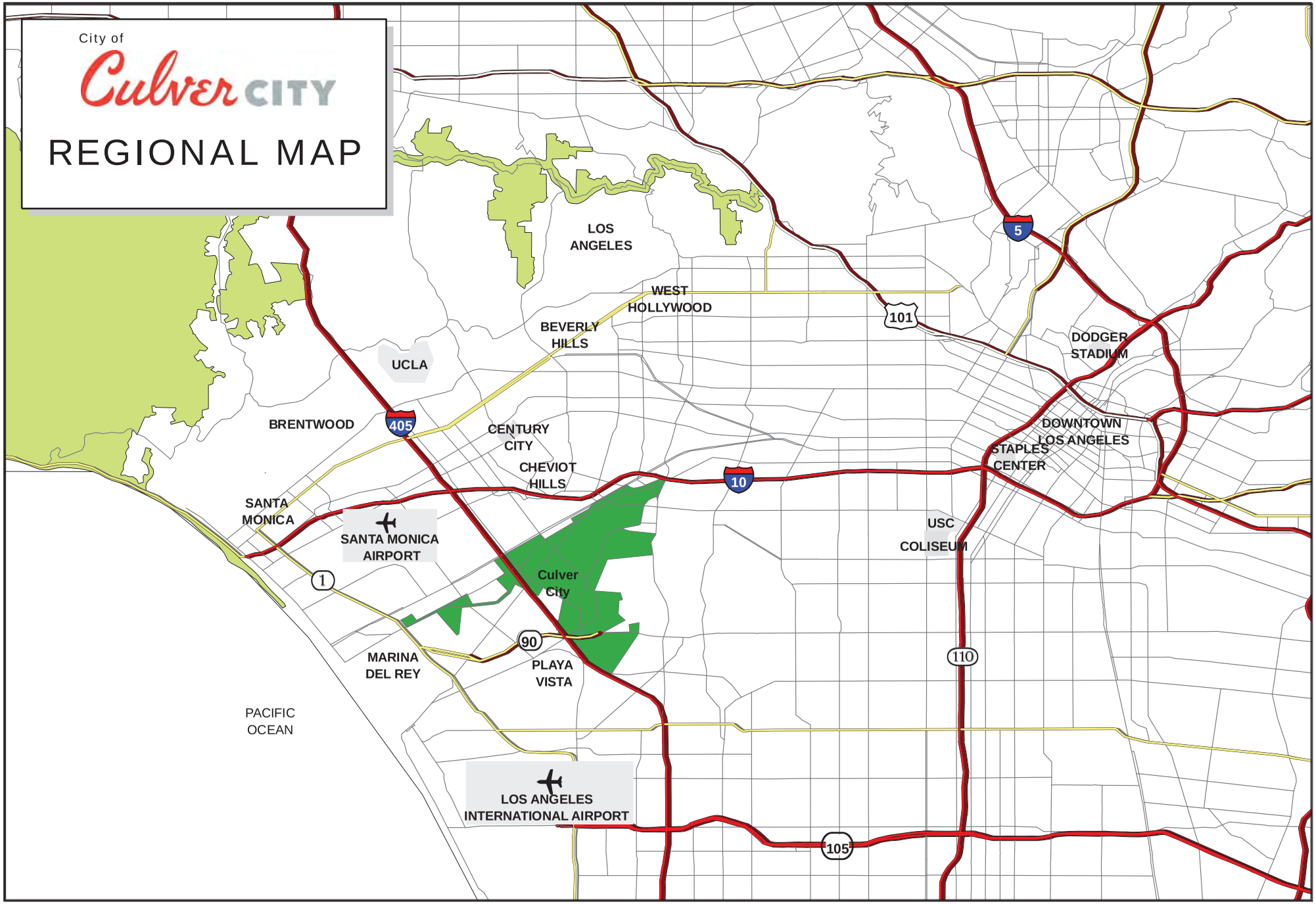
Fitted Curve Equation: Not Given

R^2= ****

Trip Generation Manual, 10th Edition ● Institute of Transportation Engineers

APPENDIX B

LAND USE INFORMATION



Legend

City of Culver City | Major Parks | Urban Area

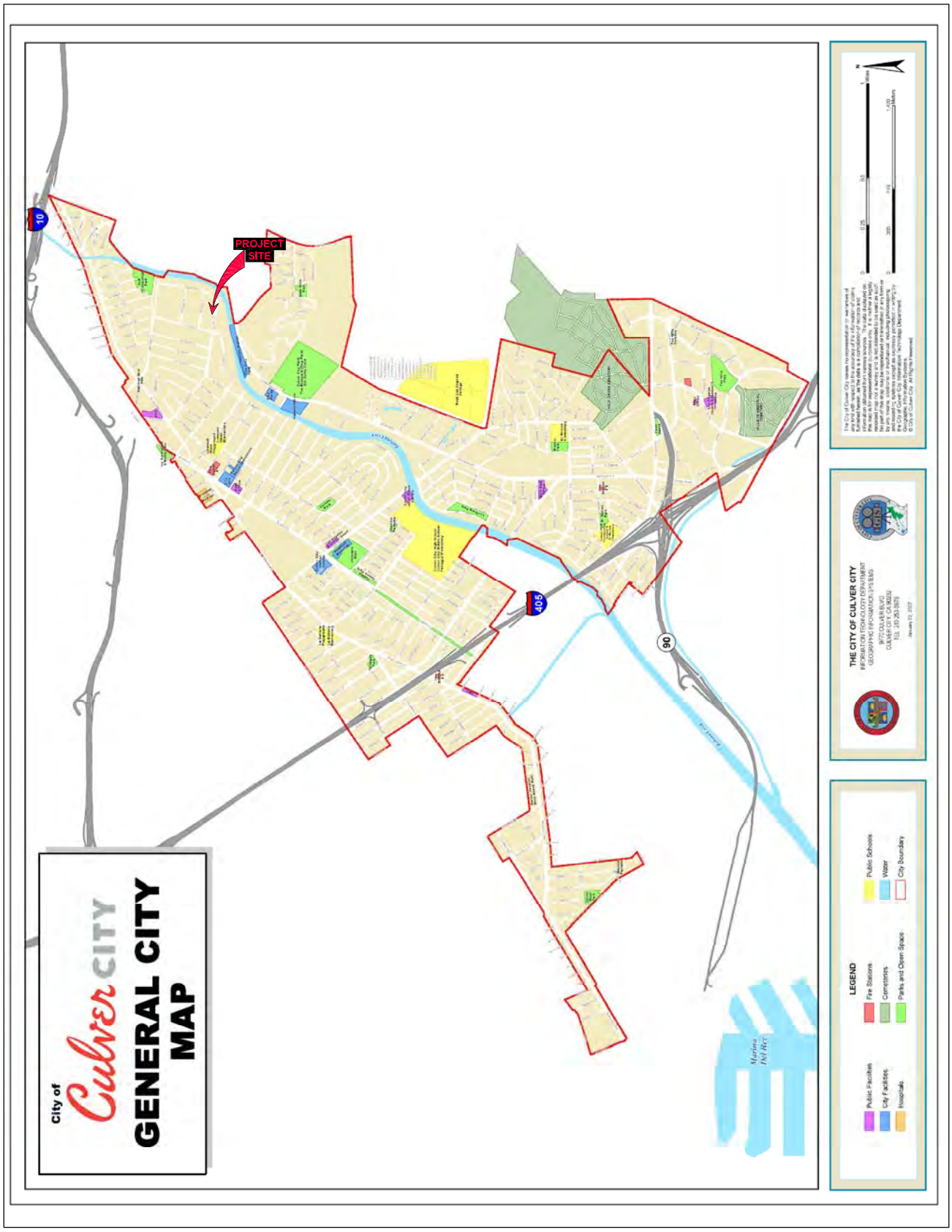
THE CITY OF CULVER CITY
INFORMATION TECHNOLOGY DEPARTMENT
GEOGRAPHIC INFORMATION SYSTEMS
9770 CULVER BLVD
CULVER CITY, CA 90232
TEL: 310-253-5976

January 31, 2007

0 1 2 4 Miles

0 2,250 4,500 9,000 Meters

N



5/2018

PROJECT LOCATION

Overland Traffic Consultants, Inc.
24325 Main Street, #202, Santa Clarita, CA 91321
(661) 799 - 8423, OTC@overlandtraffic.com

City of

Culver CITY

GENERAL PLAN LAND USE ELEMENT MAP

Residential

- Low Density Single Family
- Low Density Two Family
- Low Density Three Family
- Low Density Multiple Family
- Medium Density Multiple Family
- Planned Residential Development

Commercial

- Neighborhood Serving Corridor
- General Corridor
- Downtown
- Community Serving Center
- Regional Center

Industrial

- Light Industrial
- Industrial Park
- Industrial

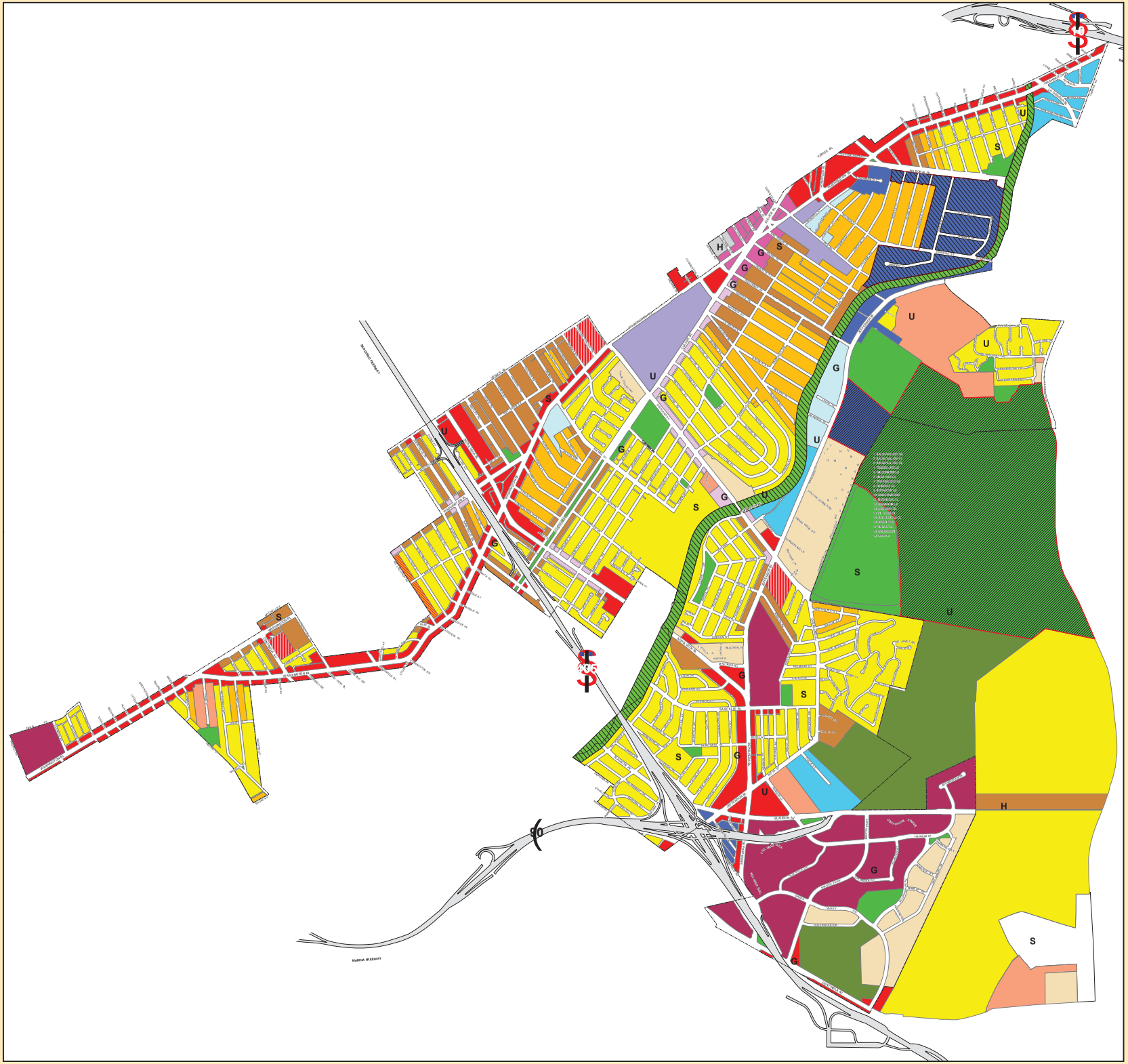
Focused Special Studies Area

- Hayden Industrial Tract
- Blair Hills / Baldwin Hills
- Ballona Creek

Other

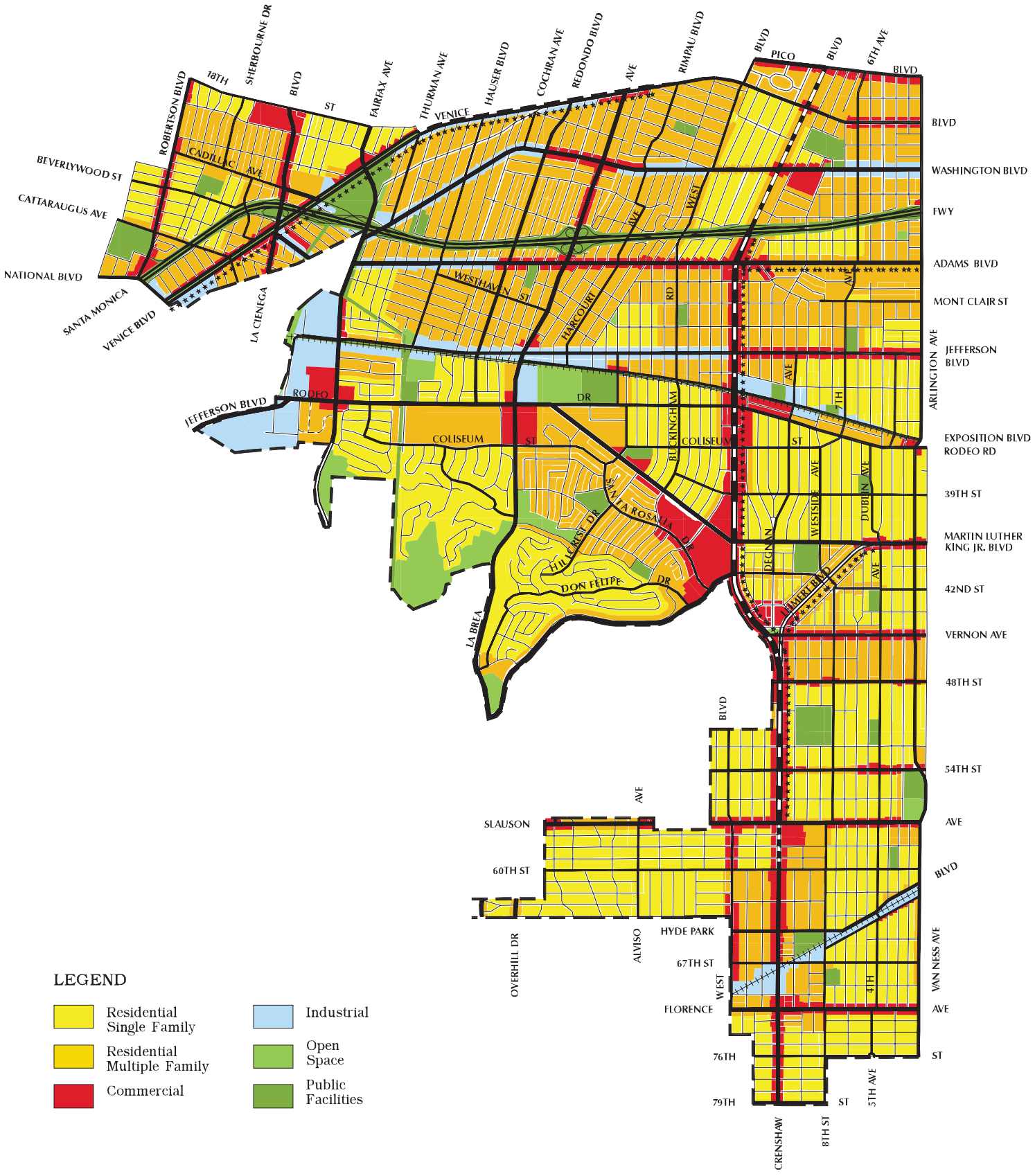
- Studio
- Cemetery
- Open Space
- Institutional
- School
- City Boundary
- Freeway

G Government
S School
U Utility
H Health Center



INFORMATION TECHNOLOGY DEPARTMENT
GEOGRAPHIC INFORMATION SYSTEMS
9770 CULVER BLVD
CULVER CITY, CA 90232
TEL: 310-253-5950

August 28, 2007

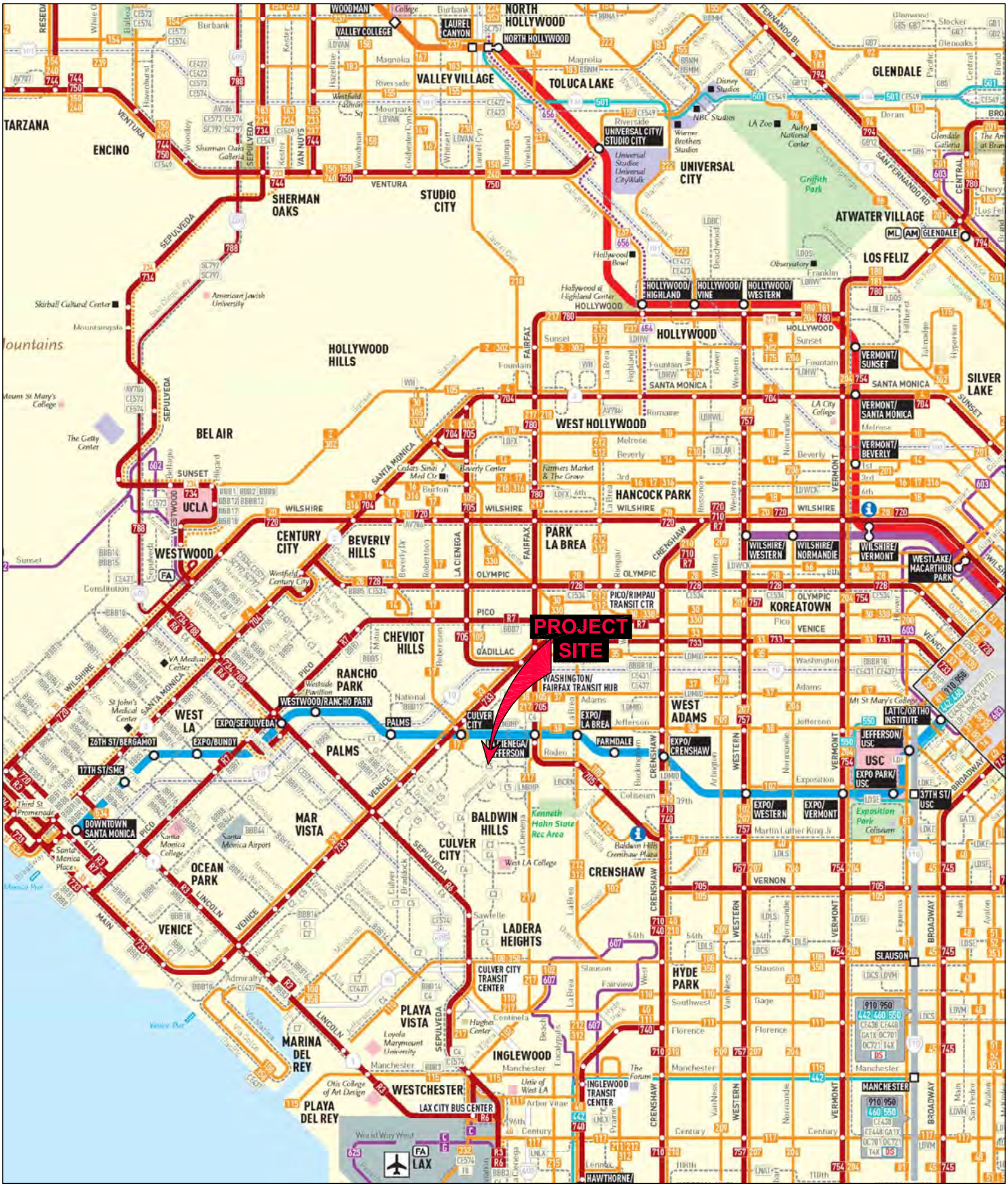


GENERALIZED LAND USE

WEST ADAMS - BALDWIN HILLS - LEIMERT

APPENDIX C

TRANSIT INFORMATION

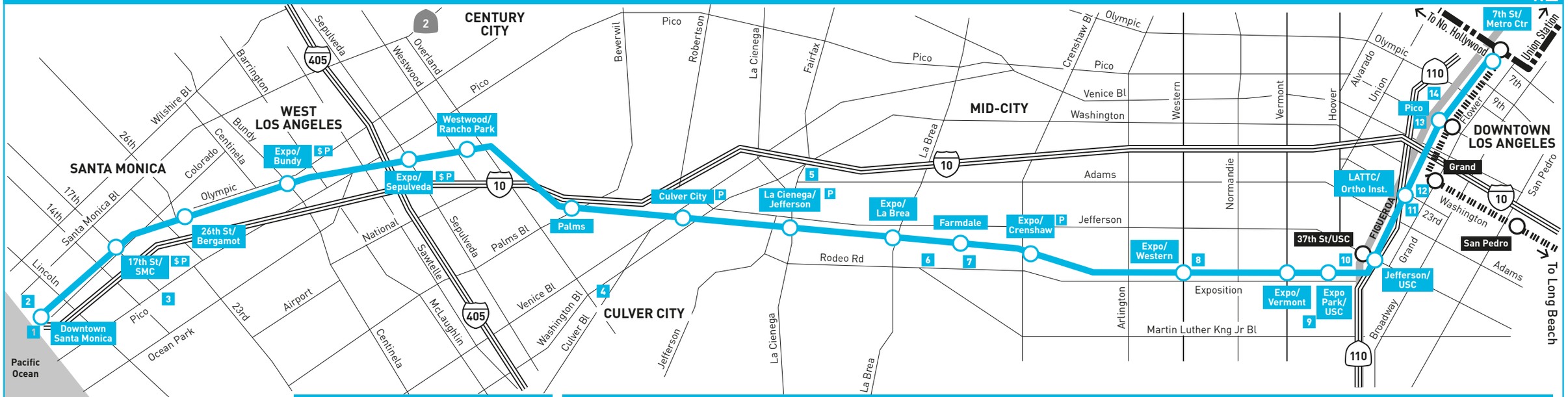


5/2018

PROJECT LOCATION

Overland Traffic Consultants, Inc.
24325 Main Street, #202, Santa Clarita, CA 91321
(661) 799 - 8423, OTC@overlandtraffic.com

ROUTE MAP



MAP NOTES

1. **Santa Monica Pier & Esplanade**
2. **Third Street Promenade**
3. **Santa Monica College**
4. **Downtown Culver City/ Sony Studios**
5. **Washington/Fairfax Transit Hub**
6. **Rancho Cienega Sports Complex**
7. **Dorsey High School**
8. **Foshay Learning Center**
9. **LA Memorial Coliseum, California Science Center, Natural History Museum**
10. **Galen Center/USC**
11. **Orthopaedic Hospital**
12. **LA Trade Tech College**
13. **LA Convention Center**
14. **STAPLES Center/L.A. LIVE**

LEGEND

- Metro Expo Line & Stations
- Metro Blue Line
- Metro Red/Purple Line
- Metro Silver Line
- Metro Rail Stations
- # Map Note (see insert)
- Freeway
- P Free Parking
- $P Paid Parking
- AVTA Antelope Valley Transit Authority
- BBB Santa Monica Big Blue Bus
- C Culver City Bus
- CE LADOT Commuter Express
- LD LADOT DASH
- M Montebello
- OCTA Orange County Transportation Authority
- SC Santa Clarita Transit
- T Torrance Transit

STATIONS/CONNECTIONS

Downtown Santa Monica
Metro Local 4, 534; **Metro Rapid** 704, 720; **BBB Local** 1, 2, 3, 7, 8, 9, 18; **BBB Rapid** 7, 10

17th St/SMC **PAID PARKING**
BBB 41, 42, 44

26th St/Bergamot
BBB 5, 16, 43

Bundy **PAID PARKING**
BBB Local 5, 7; **BBB Rapid** 7, 10, 14, 15

Expo/Sepulveda **PAID PARKING**
Metro Local 234; **Metro Rapid** 734; **Metro Express** 788; **BBB Local** 7, 17; **BBB Rapid** 7; **C Local** 6; **C Rapid** 6

Westwood/Rancho Park
BBB 8, 12; **C**3

Palms
BBB 5, 17

Culver City **FREE PARKING**
Metro Local 17, 33; **Metro Rapid** 733; **BBB Local** 12; **BBB Rapid** 12; **C**1, 7; **CE** 437

La Cienega/ Jefferson **FREE PARKING**
Metro Local 38, 105, 217; **Metro Rapid** 705; **C**4; Baldwin Hills Parklands Shuttle "The Link"

Expo/La Brea
Metro Local 38, 212, 312; **LD** Crenshaw

Farmdale
Metro Local 38

Expo/Crenshaw **FREE PARKING**
Metro Local 38, 210; **Metro Rapid** 710, 740; **LD** Midtown

Expo/Western
Metro Local 102, 207; **Metro Rapid** 757

Expo/Vermont
Metro Local 102, 204; **Metro Rapid** 754; **Metro Express** 550; **LD** F

Expo Park/USC
Metro Local 81, 102, 200; **Metro Express** 442, 460, 550, 910/950X; **CE** 438, 448; **LD** F, King East Southeast; **OCTA** 701, 721; **T**4 Express

Jefferson/USC
Metro Local 38, 81, 102, 200, **Metro Express** 442; **LD** F, King-East

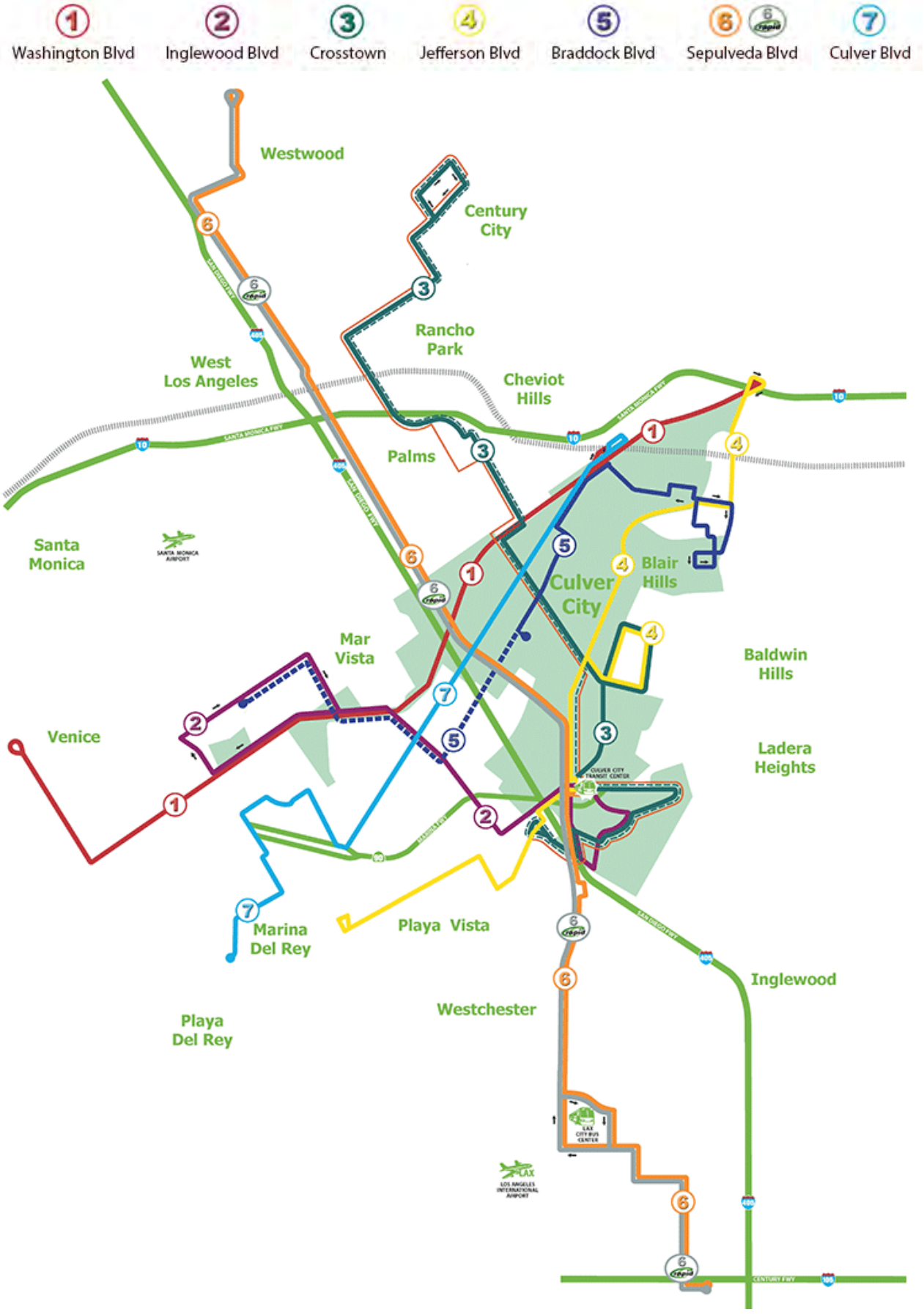
LATTC/Ortho Institute
Metro Silver Line; **Metro Local** 37, 38, 55, 81, 355, 603; **Metro Express** 460; **LD** F, King-East; **OCTA** 701, 724; **T**4

Pico
Metro Rail Blue Line; **Metro** Silver Line; **Metro Local** 30, 81, 330; **Metro Express** 442, 460; **LD** F; **CE** 419, 422, 423, 438, 448; **OCTA** 701, 721; **T**4

7th Street/ Metro Center
Metro Rail Red Line, Purple Line, Blue Line; **Metro** Silver Line; **Metro Local** 14, 16, 17, 18, 20, 37, 51, 52, 53, 55, 60, 62, 66, 70, 71, 76, 78, 79, 81, 316, 351, 355, 378; **Metro Rapid** 720, 760, 770; **Metro Express** 442, 460, 487, 489; **AVTA** 785; **BBB** 10; **CE** 409, 422, 423, 431, 437, 438, 448, 534; **FT** Silver Streak, 493, 497, 498, 499, 699; **LD** A, B, E, F; **M** 40, 50, 341, 342; **OCTA** 701, 721; **SCT** 799; **T**4

189396

MAPS, BUS STOPS & SCHEDULES



When getting onto a Culver CityBus, please have the exact fare ready.

5 Braddock Dr.
Monday - Friday Lunes - Viernes

Only Operates when School is in Session.
Solamente Funciona cuando La Escuela está en Sesión.

Westbound Oeste

La Cienega & Rodeo	Washington & Main	Braddock & Overland	Culver City Schools	Washington & Inglewood
7:15AM	7:28AM	7:38AM	7:44AM	–

Eastbound Este

Venice High School	Washington & Inglewood	Culver City Schools	Braddock & Overland	Washington & Main	La Cienega & Rodeo
–	–	2:45	2:47	2:52	3:02
3:30PM	3:39PM	–	3:50	3:55	4:05

Service Available on School Days Only.
Servicio Disponible en Días de Escuela Solamente.

See Line 7 for Alternate Service.
Vea La Línea 7 para Servicio Alterno.

Times are approximate and may vary due to traffic and weather conditions. Times shown are subject to change without notice. Los tiempos son aproximados y pueden variar debido a tráfico y condiciones de clima. Los tiempos demostrados son conforme a cambio sin aviso.

LINE 5 - BUS STOP LOCATIONS - EASTBOUND

STOP#	LOCATION	ADDRESS/NEAR	DIRECTION	DISTANCE
1	VENICE HIGH SCHOOL/ VENICE BLVD	(in front of school A/F Maplewood)	IF	
2	VENICE BLVD / WADE ST		SW	0.3
3	VENICE BLVD / CENTINELA AVE	Nearside corner of Centinela	SW	0.2
4	WASHINGTON BLVD / CENTINELA AVE	(ARCO 12300 Block)	SE	0.4
5	WASHINGTON BLVD / GRAND VIEW BLVD	(12200 Block Culver del Rey Dental)	SW	0.1
6	WASHINGTON BLVD / INGLEWOOD BLVD	(I/F Burger Place)	SW	0.2
7	INGLEWOOD BLVD / CULVER BLVD	(Parking lot A/F ARCO)	NW	0.3
8	BRADDOCK DR / INGLEWOOD BLVD	(11860 Block)	SE	0.2
9	BRADDOCK DR / MARIONWOOD DR	(11770 Block A/F school)	SW	0.1
10	BRADDOCK DR / SLAUSON AVE	(11600 Block)	SW	0.1
11	BRADDOCK DR / BERRYMAN AVE	(11400 Block)	SE	0.2
12	BRADDOCK DR / HUNTLEY AVE	(11200 Block)	SW	0.2
13	BRADDOCK DR / SEPULVEDA BLVD	(11204 Block Tanning Salon)	SW	0.1
14	BRADDOCK DR / HARTER AVE	(11100 Block)	SW	0.2
15	BRADDOCK DR / HURON AVE	(11006 Block)	SW	0.1
16	BRADDOCK DR / ELENDA ST*	(10900 Block)*	SW	0.1
17	BRADDOCK DR / OVERLAND AVE	(Caprice Furniture)	SE	0.3
18	BRADDOCK DR / LE BOURGET AVE	(A/F Carlson Park)	SW	0.2
19	BRADDOCK DR / JACKSON AVE	(10200 Block)	SW	0.2
20	BRADDOCK DR / MADISON AVE	(10000/9900 Block)	SW	0.1
21	MADISON AVE / CULVER BLVD	(4000 Block)	SE	0.2
22	CULVER BLVD / LAFAYETTE PL	(Culver City Hall)	SW	0.3
23	CULVER BLVD / MAIN ST	(Culver Hotel)	SW	0.2
24	WASHINGTON BLVD / HIGUERA ST	(I/F of Rapt Studio LA)	SE	0.3
25	HIGUERA ST / HELMS AVE	(8635 Block)	SE	0.4

STOP#	LOCATION	ADDRESS/NEAR	DIRECTION	DISTANCE
26	HAYDEN AVE / WARNER DR	(3600 Block)	SE	0.2
27	RODEO RD / KALSMAN DR	(Cameo Woods 5800 Block)	SW	0.5
28	LA CIENEGA BLVD / RODEO RD	(Mini Mart/Check Cashing)	SW	0.1

LINE 5 - BUS STOP LOCATIONS - WESTBOUND

STOP#	LOCATION	ADDRESS/NEAR	DIRECTION	DISTANCE
1	LA CIENEGA BLVD / RODEO RD	(I/F Check Cashing Store)	SW	----
2	STONEVIEW DR / WRIGHTCREST DR	(near Blair Hills Park)	SW	0.6
3	LENAWEE AVE / WRIGHTCREST DR	(Stonehenge Apts.)	SE	0.3
4	HOLDREGE AVE / JEFFERSON BLVD	(A/F Victor Wire & Cable)	SW	0.5
5	HIGUERA ST / EASTHAM DR	(3652 Block - Colourcraft Printing)	NE	0.2
6	HAYDEN AVE / WARNER DR	(3600 Block)	NW	0.3
7	HIGUERA ST / HELMS AVE	(8600 Block)	SE	0.2
8	HIGUERA ST / WASHINGTON BLVD	(3900 Block)	SE	0.4
9	WASHINGTON BLVD / ROBERTSON AVE	(Mike Miller)	NW	0.3
10	CULVER BLVD / MAIN ST	(Menchie's Frozen Yogurt)	NW	0.1
11	CULVER BLVD / DUQUESNE AVE	(Sony Studios)	NW	0.1
12	MADISON AVE / CULVER BLVD		NW	0.1
13	MADISON AVE / BRADDOCK DR	(4079 Block)	NW	0.1
14	BRADDOCK DR / JACKSON AVE	(4000 Block)	NE	0.1
15	BRADDOCK DR / LE BOURGET AVE	(A/F Carlson Park)	NE	0.2
16	BRADDOCK DR / OVERLAND AVE	(Mini Mart)	NW	0.2
17	BRADDOCK DR / ELENDA ST	(I/F Culver City High School)	NE	0.2

4 Jefferson Blvd.

Monday - Friday Lunes - Viernes

EFFECTIVE FEBRUARY 5, 2018

Westbound Oeste

West L.A. Transit Center	La Cienega & Rodeo	West L.A. College Spring Primavera	Culver City Transit Center	Jefferson & E.A. Way	West L.A. College Spring Primavera	Culver City Transit Center	Jefferson & E.A. Way
		Mon-Thurs Lunes - Jueves			Friday Viernes		
6:00AM	6:04AM	–	6:21AM	6:36AM	–	6:21AM	6:36AM
6:28	6:32	–	6:49	7:04	–	6:49	7:04
7:00	7:04	7:20AM	7:33	7:48	7:20AM	7:33	7:48
7:43	7:50	8:05	8:18	8:35	8:05	8:18	8:35
8:23	8:30	8:45	8:58	9:15	8:45	8:58	9:15
9:03	9:10	9:25	9:38	9:55	9:25	9:38	9:55
9:44	9:49	–	10:07	10:23	–	10:07	10:23
10:25	10:30	10:45	10:58	11:14	10:45	10:58	11:14
11:06	11:11	–	11:30	11:46	–	11:30	11:46
11:46	11:51	12:06PM	12:19PM	12:35PM	12:06PM	12:19PM	12:35PM
12:27PM	12:32PM	12:47	1:00	1:17	–	12:54	1:11
1:08	1:15	1:30	1:44	2:01	1:30	1:44	2:01
1:51	1:58	–	2:20	2:37	–	2:20	2:37
2:34	2:41	2:56	3:10	3:27	–	3:03	3:20
3:16	3:23	–	3:45	4:02	–	3:45	4:02
3:58	4:07	4:21	4:35	4:52	–	4:29	4:46
4:42	4:51	–	5:13	5:30	–	5:13	5:30
5:26	5:35	5:49	6:03	6:20	–	5:55	6:12
6:10	6:19	–	6:39	6:56	–	6:39	6:56
6:55	7:02	–	7:22	7:35	–	7:22	7:35
7:40	7:47	–	8:07	8:20	–	8:07	8:20
8:20	8:25	–	8:41	8:54	–	8:41	8:54
–	–	–	–	–	–	–	–

Eastbound Este

Jefferson & E.A. Way	Culver City Transit Center	West L.A. College Spring Primavera	La Cienega & Rodeo	West L.A. Transit Center	West L.A. College Spring Primavera	La Cienega & Rodeo	West L.A. Transit Center
		Mon-Thurs Lunes - Jueves			Friday Viernes		
5:37AM	5:51AM	–	6:06AM	6:15AM	–	6:06AM	6:15AM
6:12	6:26	–	6:41	6:50	–	6:41	6:50
6:45	6:59	7:10AM	7:23	7:32	7:10AM	7:23	7:32
7:25	7:39	7:50	8:03	8:12	7:50	8:03	8:12
8:05	8:19	8:30	8:43	8:52	8:30	8:43	8:52
8:47	9:01	–	9:19	9:28	–	9:19	9:28
9:25	9:39	9:50	10:03	10:12	9:50	10:03	10:12
10:05	10:19	–	10:36	10:45	–	10:36	10:45
10:45	10:59	11:10	11:23	11:32	11:10	11:23	11:32
11:25	11:39	11:51	12:05PM	12:14PM	–	11:56	12:05PM
12:05PM	12:19PM	12:31PM	12:45	12:54	12:31PM	12:45PM	12:54
12:47	1:01	1:13	1:28	1:37	1:13	1:28	1:37
1:29	1:43	1:55	2:10	2:19	1:55	2:10	2:19
2:11	2:25	–	2:44	2:53	–	2:44	2:53
2:53	3:07	3:19	3:35	3:45	–	3:27	3:37
3:35	3:49	–	4:09	4:19	–	4:09	4:19
4:17	4:31	4:43	4:59	5:09	–	4:51	5:01
5:02	5:16	5:30	5:48	6:00	–	5:38	5:50
5:46	6:00	–	6:21	6:32	–	6:21	6:32
6:26	6:40	–	7:01	7:12	–	7:01	7:12
7:12	7:26	–	7:43	7:52	–	7:43	7:52
7:52	8:06	–	8:23	8:32	–	8:23	8:32
8:32	8:46	–	9:01	9:10	–	9:01	9:10

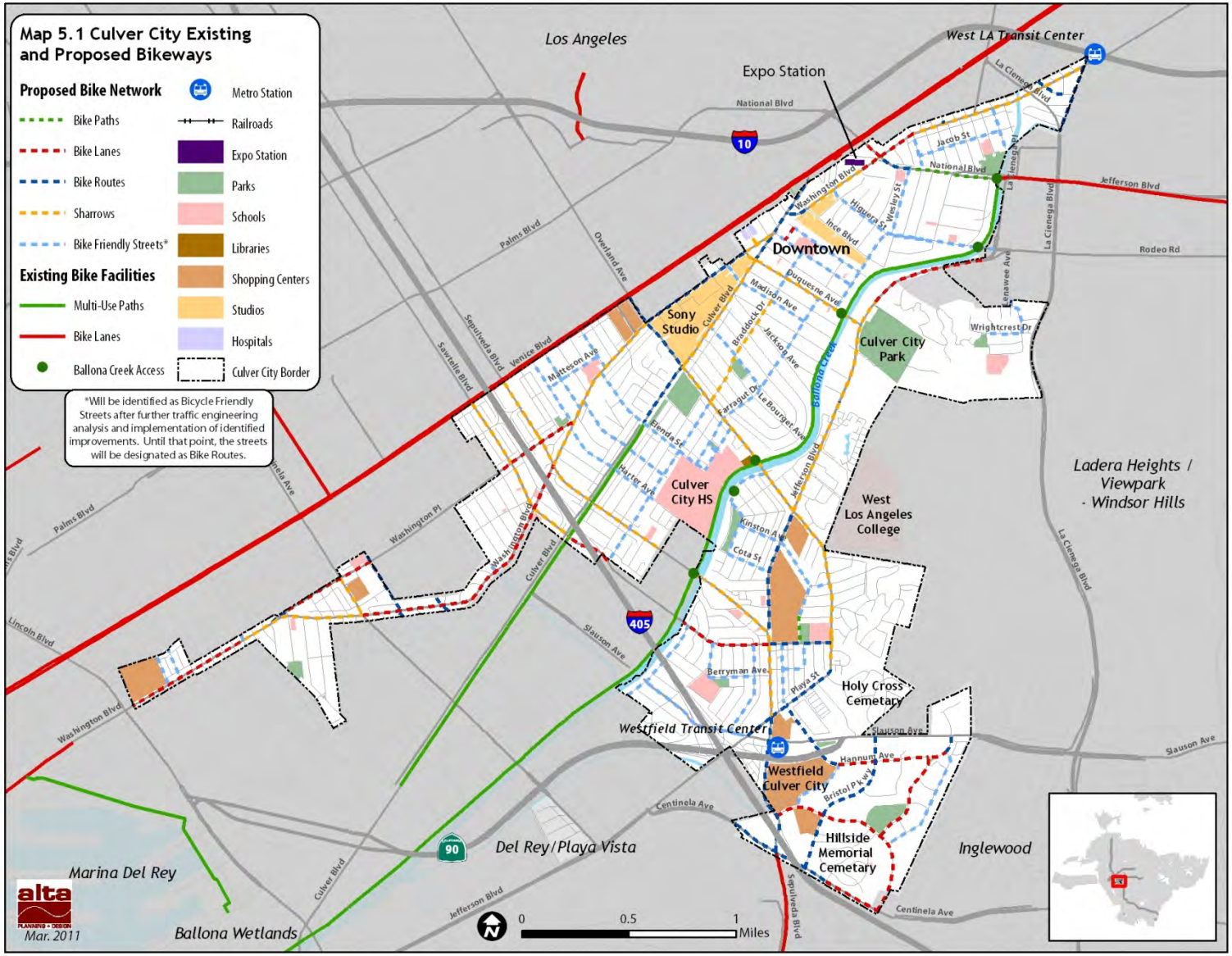
Sorry, no Sunday or holiday service.
Lo sentimos, no hay servicio el domingo o días festivos.

Signs on buses going into West Los Angeles College will display "West L.A. College."
Anuncios en los autobuses que entran a West Los Angeles College exhibirán "West L.A. College."

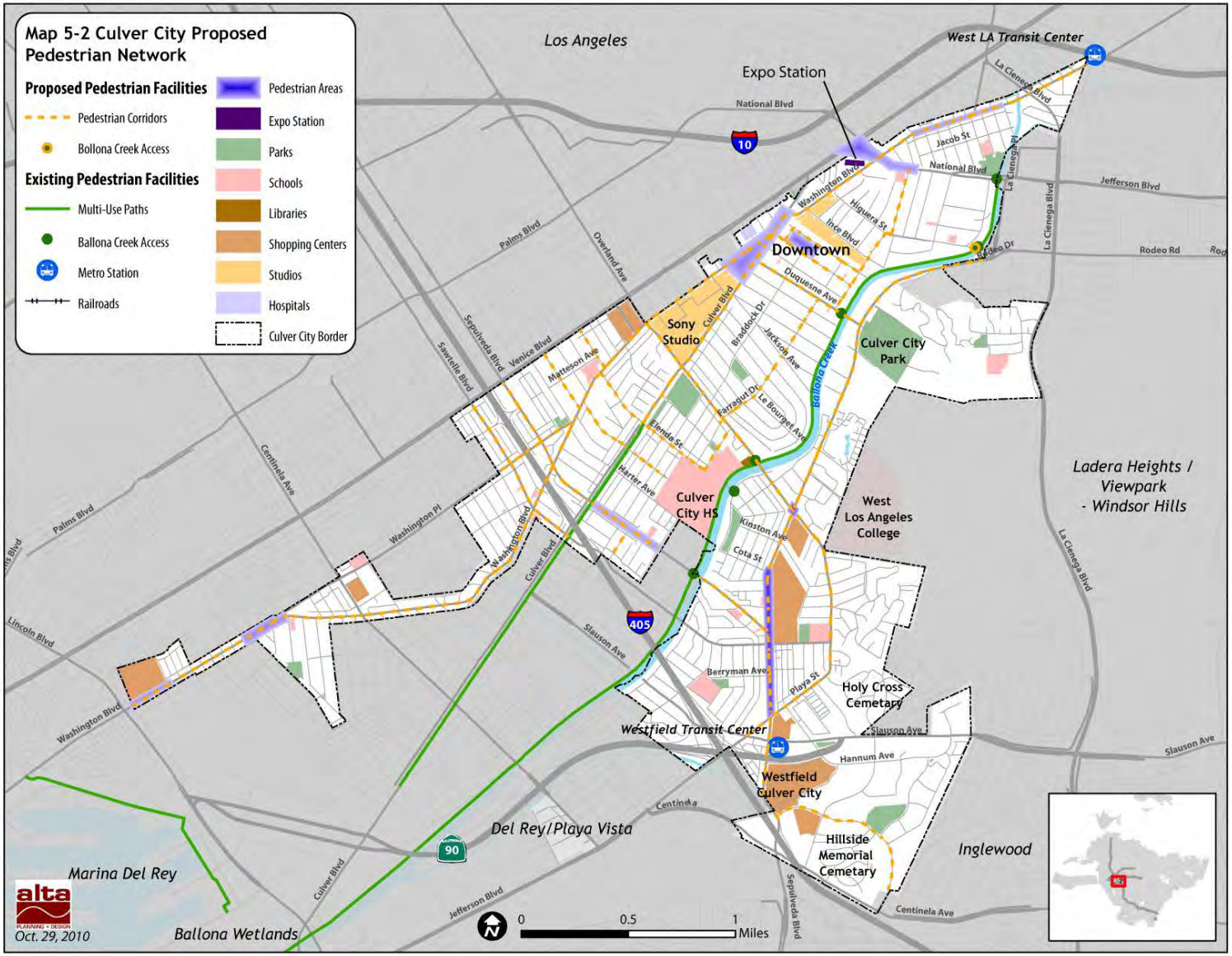
Times are approximate and may vary due to traffic and weather conditions. Times shown are subject to change without notice.
Los tiempos son aproximados y pueden variar debido a tráfico y condiciones de clima. Los tiempos demostrados son conforme a cambio sin aviso.

APPENDIX D

CULVER CITY BICYCLE & PEDESTRIAN (BPMP) INFORMATION



Map 5-1 Proposed Bicycle Network



Map 5-2 Proposed Pedestrian Network

APPENDIX E

ITE 10th EDITION TRIP RATES

Land Use: 534
Private School (K-8)

Description

A private school (K-8) primarily serves students attending kindergarten through the eighth grade but may also include students beginning with pre–K classes. These schools may also offer extended care and day care. Students may travel a long distance to get to private schools. Elementary school (Land Use 520), middle school/junior high school (Land Use 522), high school (Land Use 530), private school (K-12) (Land Use 536), and charter elementary school (Land Use 537) are related uses.

Additional Data

The sites were surveyed in the 1990s, the 2000s, and the 2010s in Arizona, Florida, Maryland, Oregon, Pennsylvania, and Texas.

Source Numbers

355, 444, 516, 536, 634, 905, 940

Private School (K-8)
(534)

Vehicle Trip Ends vs: **Students**
On a: **Weekday**

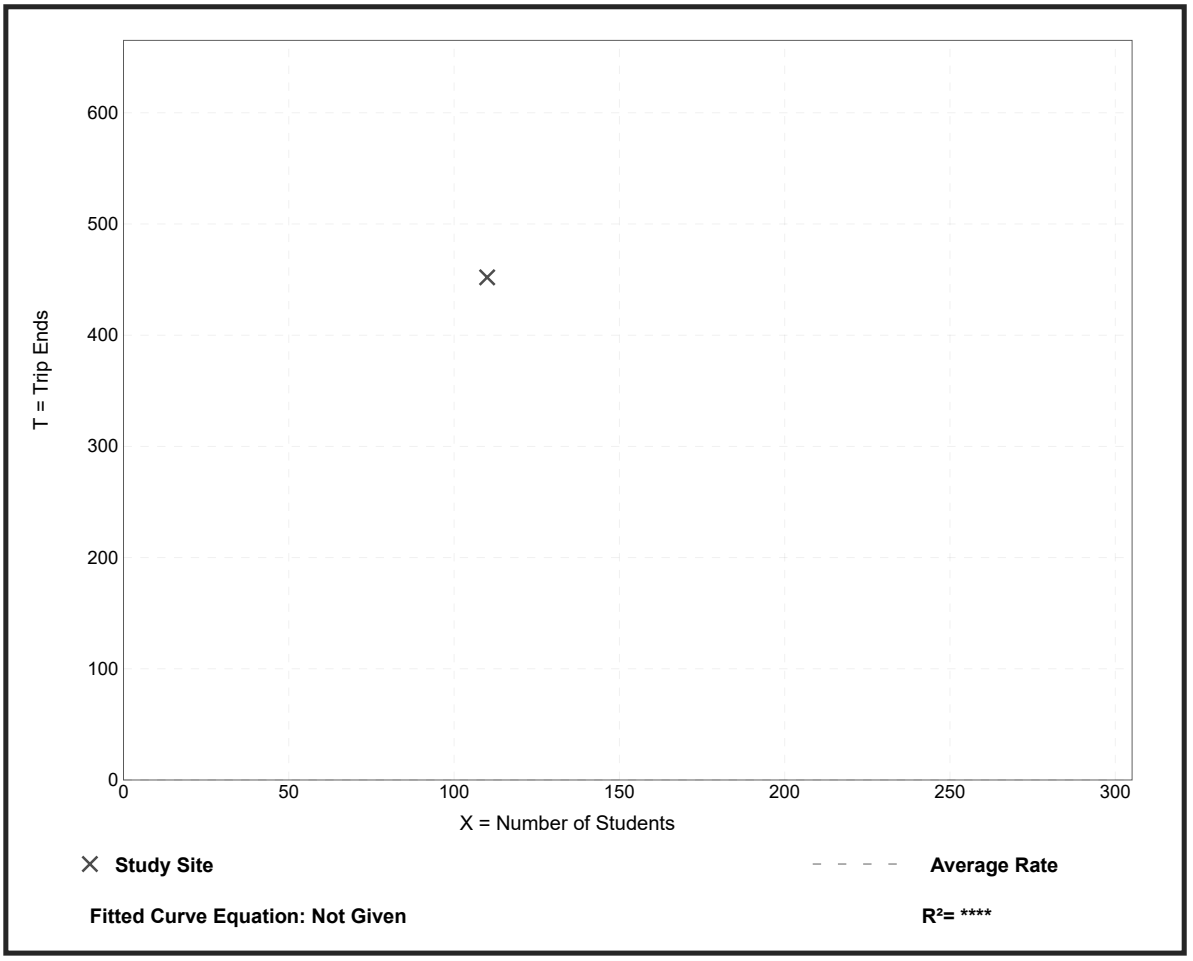
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
Avg. Num. of Students: 110
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
4.11	4.11 - 4.11	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

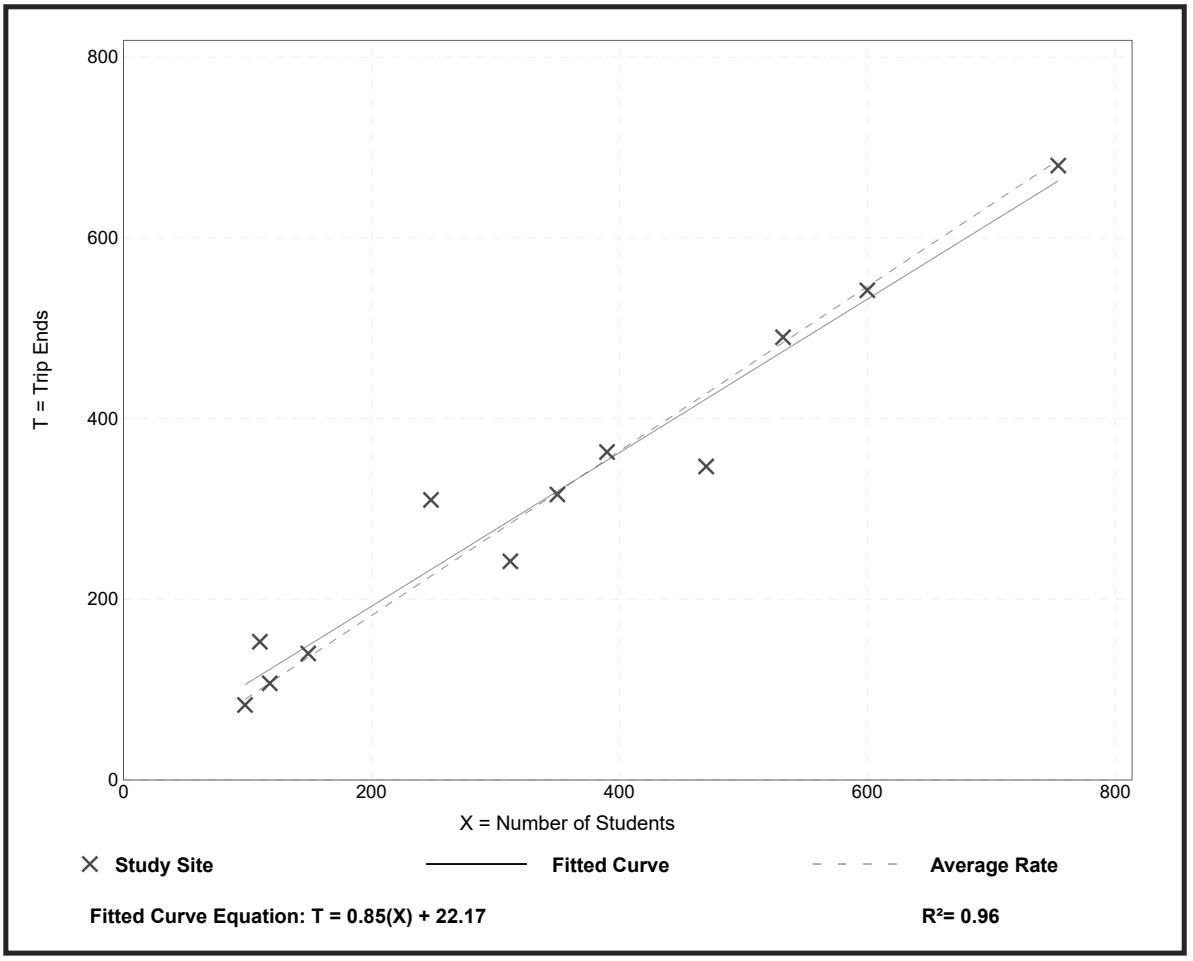
Private School (K-8)
(534)

Vehicle Trip Ends vs:	**Students**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	12
Avg. Num. of Students:	344
Directional Distribution:	55% entering, 45% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.91	0.74 - 1.39	0.14

Data Plot and Equation



Fitted Curve Equation: T = 0.85(X) + 22.17

R^2= 0.96

Private School (K-8)
(534)

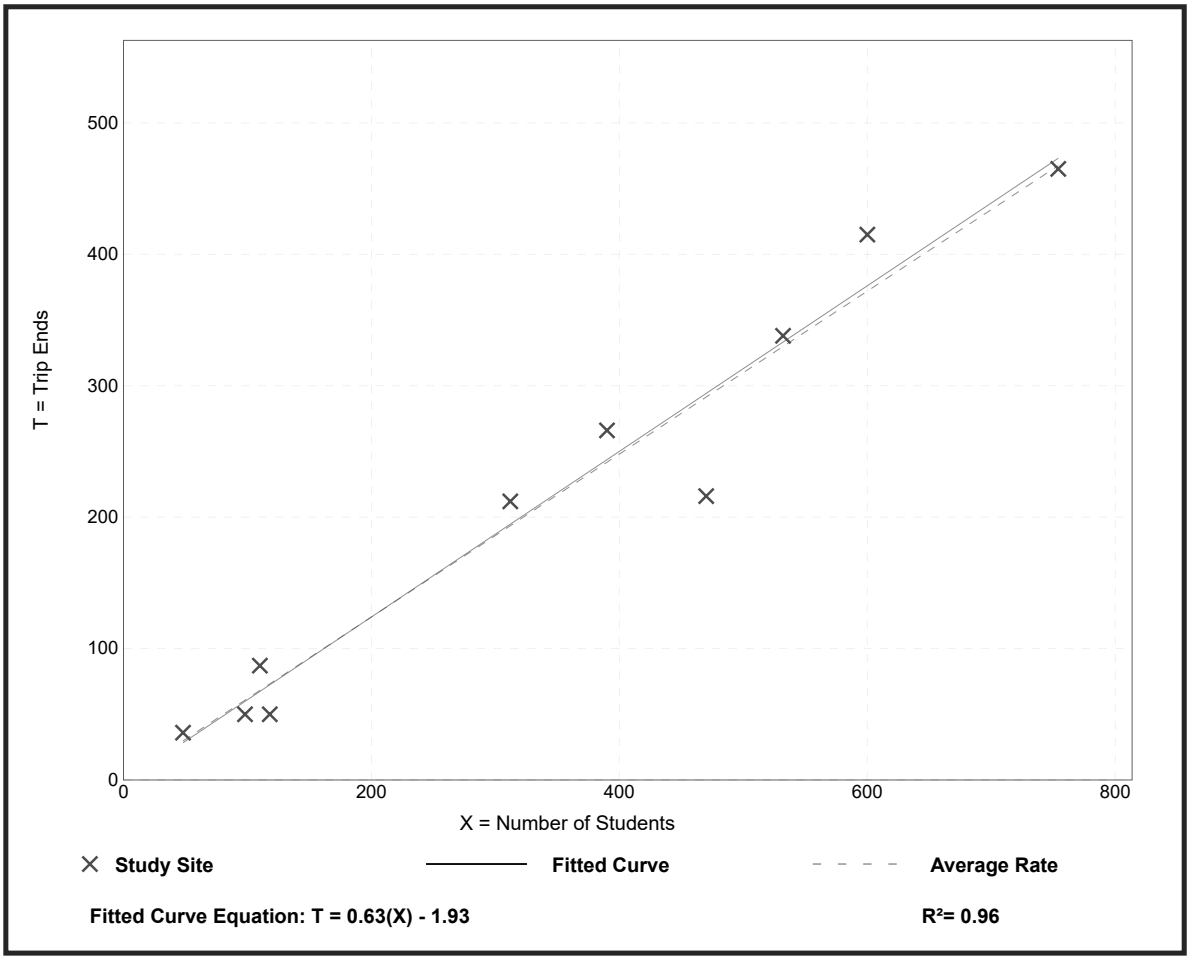
Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 10
Avg. Num. of Students: 343
Directional Distribution: 47% entering, 53% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.62	0.42 - 0.79	0.09

Data Plot and Equation



Fitted Curve Equation: T = 0.63(X) - 1.93

R^2= 0.96

Private School (K-8)
(534)

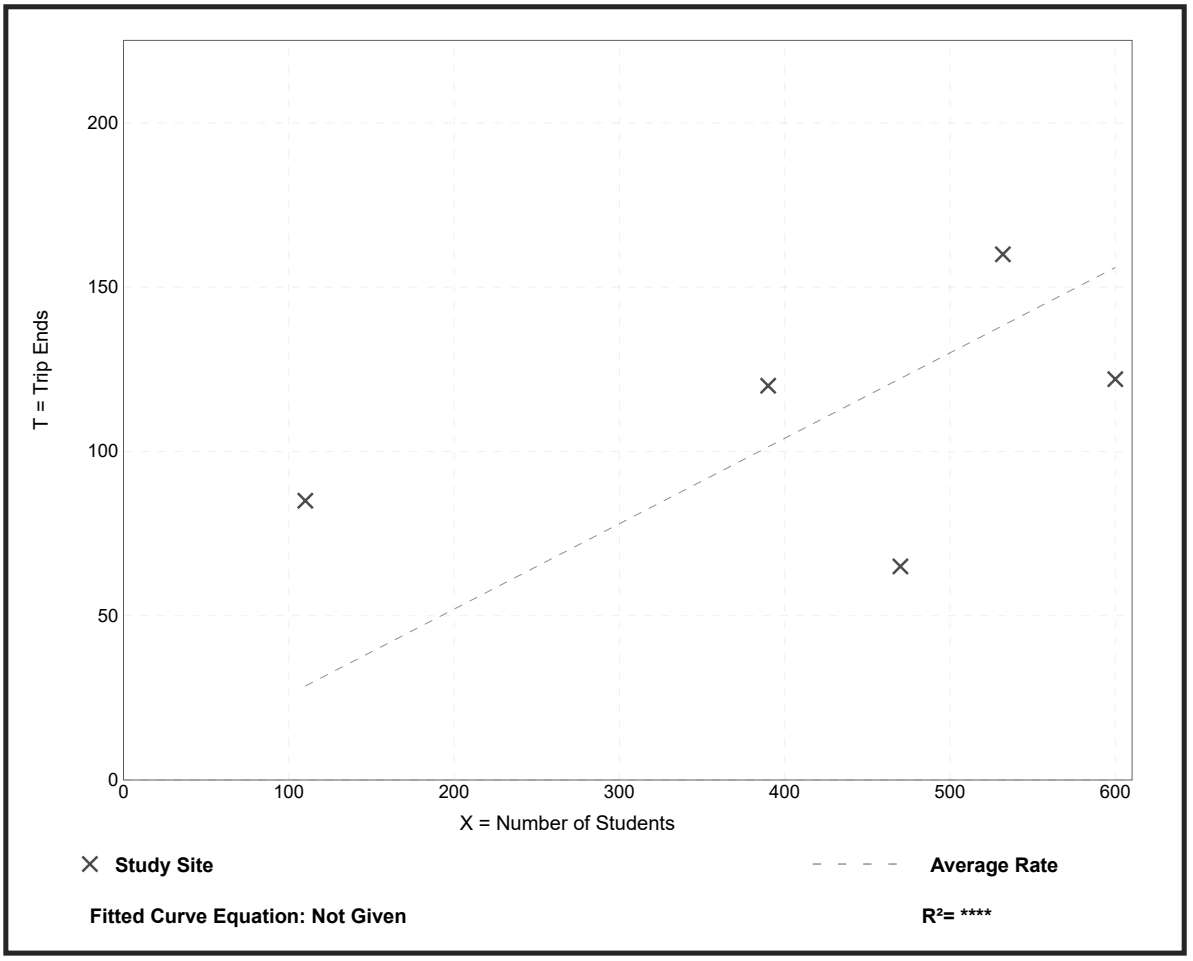
Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. Num. of Students: 420
Directional Distribution: 46% entering, 54% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.26	0.14 - 0.77	0.15

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ****

Trip Generation Manual, 10th Edition ● Institute of Transportation Engineers

APPENDIX F

WCS TRIP GENERATION SURVEY DATA

Prepared by National Data & Surveying Services

Driveway Study

Location: Willows Community School Dwy at 8509 Higuera
Date: 5/2/2018
City: Culver City
Day: Wednesday

START TIME	IN		OUT		
	EL	WR	SL	SR	TOTAL
7:30 AM	0	28	5	15	48
7:45 AM	0	72	26	49	147
8:00 AM	0	50	11	35	96
8:15 AM	0	43	15	29	87
8:30 AM	1	33	7	26	67
8:45 AM	0	29	8	13	50
9:00 AM	0	9	6	9	24
9:15 AM	0	0	0	1	1
AM TOTALS	1	264	78	177	520
HOURLY					
7:30 - 8:30 AM	0	193	57	128	378
7:45 - 8:45 AM	1	198	59	139	397
8:00 - 9:00 AM	1	155	41	103	300
8:15 - 9:15 AM	1	114	36	77	228
8:30 - 9:30 AM	1	71	21	49	142
PEAK					
7:45 - 8:45 AM	6	204	66	121	**397**
RATE FOR 475 STUDENTS					**0.836**
ITE RATE					**ITE = 0.91**
1:30 PM	0	7	2	6	*15*
1:45 PM	0	14	0	2	*16*
2:00 PM	0	28	6	23	*57*
2:15 PM	0	17	2	20	*39*
2:30 PM	0	26	5	14	*45*
2:45 PM	2	46	12	34	*94*
3:00 PM	0	29	12	23	*64*
3:15 PM	0	9	4	4	*17*
PM TOTALS	2	176	43	126	347
HOURLY					
1:30 - 2:30 PM	0	66	10	51	127
1:45 - 2:45 PM	0	85	13	59	157
2:00 - 3:00 PM	2	117	25	91	235
2:15 - 3:15 PM	2	118	31	91	242
2:30 - 3:30 PM	2	110	33	75	220
PEAK					
2:15 - 3:15 PM	2	118	31	91	**242**
RATE FOR 475 STUDENTS					**0.509**
ITE RATE					**ITE = 0.62**

Prepared by National Data & Surveying Services

Driveway Study

Location: Willows Community School Dwy at 8509 Higuera
City: Culver City

Date: 5/3/2018
Day: Thursday

START TIME	IN		OUT		
	EL	WR	SL	SR	TOTAL
7:30 AM	0	15	5	6	26
7:45 AM	2	67	13	42	124
8:00 AM	0	63	25	32	120
8:15 AM	2	43	19	27	91
8:30 AM	2	31	9	20	62
8:45 AM	1	25	14	17	57
9:00 AM	1	11	1	16	29
9:15 AM	1	7	2	1	11
AM TOTALS	9	262	88	161	520
HOURLY					
7:30 - 8:30 AM	4	188	62	107	361
7:45 - 8:45 AM	6	204	66	121	397
8:00 - 9:00 AM	5	162	67	96	330
8:15 - 9:15 AM	6	110	43	80	239
8:30 - 9:30 AM	5	74	26	54	159
PEAK					
7:45 - 8:45 AM	6	204	66	121	**397**
RATE FOR 475 STUDENTS					**0.836**
ITE RATE					**ITE = 0.91**
1:30 PM	0	1	0	1	2
1:45 PM	0	2	2	1	5
2:00 PM	0	3	2	1	6
2:15 PM	1	10	1	2	14
2:30 PM	0	20	7	14	41
2:45 PM	0	31	8	18	57
3:00 PM	0	30	8	21	59
3:15 PM	0	40	5	25	70
PM TOTALS	1	137	33	83	254
HOURLY					
1:30 - 2:30 PM	1	16	5	5	27
1:45 - 2:45 PM	1	35	12	18	66
2:00 - 3:00 PM	1	64	18	35	118
2:15 - 3:15 PM	1	91	24	55	171
2:30 - 3:30 PM	0	121	28	78	227
PEAK					
2:30 - 3:30 PM	0	121	28	78	**227**
RATE FOR 475 STUDENTS					**0.478**
ITE RATE					**ITE = 0.62**

Prepared by National Data & Surveying Services

MAX QUEUE

Location: Willows Community School Dwys at 8509 Higuera S
City: Culver City, CA

Day: Wednesday
Date: 5/2/2018

TIME	MAX QUEUE
	Cars queued for school
7:30 AM	0
7:35 AM	0
7:40 AM	0
7:45 AM	0
7:50 AM	0
7:55 AM	0
8:00 AM	0
8:05 AM	0
8:10 AM	0
8:15 AM	0
8:20 AM	0
8:25 AM	2
8:30 AM	0
8:35 AM	0
8:40 AM	0
8:45 AM	0
8:50 AM	2
8:55 AM	1
9:00 AM	0
9:05 AM	0
9:10 AM	0
9:15 AM	0
9:20 AM	0
9:25 AM	0

TIME	MAX QUEUE
	Cars queued for school
1:30 PM	0
1:35 PM	0
1:40 PM	0
1:45 PM	0
1:50 PM	0
1:55 PM	2
2:00 PM	4
2:05 PM	2
2:10 PM	2
2:15 PM	0
2:20 PM	0
2:25 PM	0
2:30 PM	0
2:35 PM	2
2:40 PM	9
2:45 PM	11
2:50 PM	8
2:55 PM	3
3:00 PM	6
3:05 PM	4
3:10 PM	0
3:15 PM	0
3:20 PM	0
3:25 PM	0

Location: Willows Community School Dwys at 8509 Higuera St
City: Culver City, CA

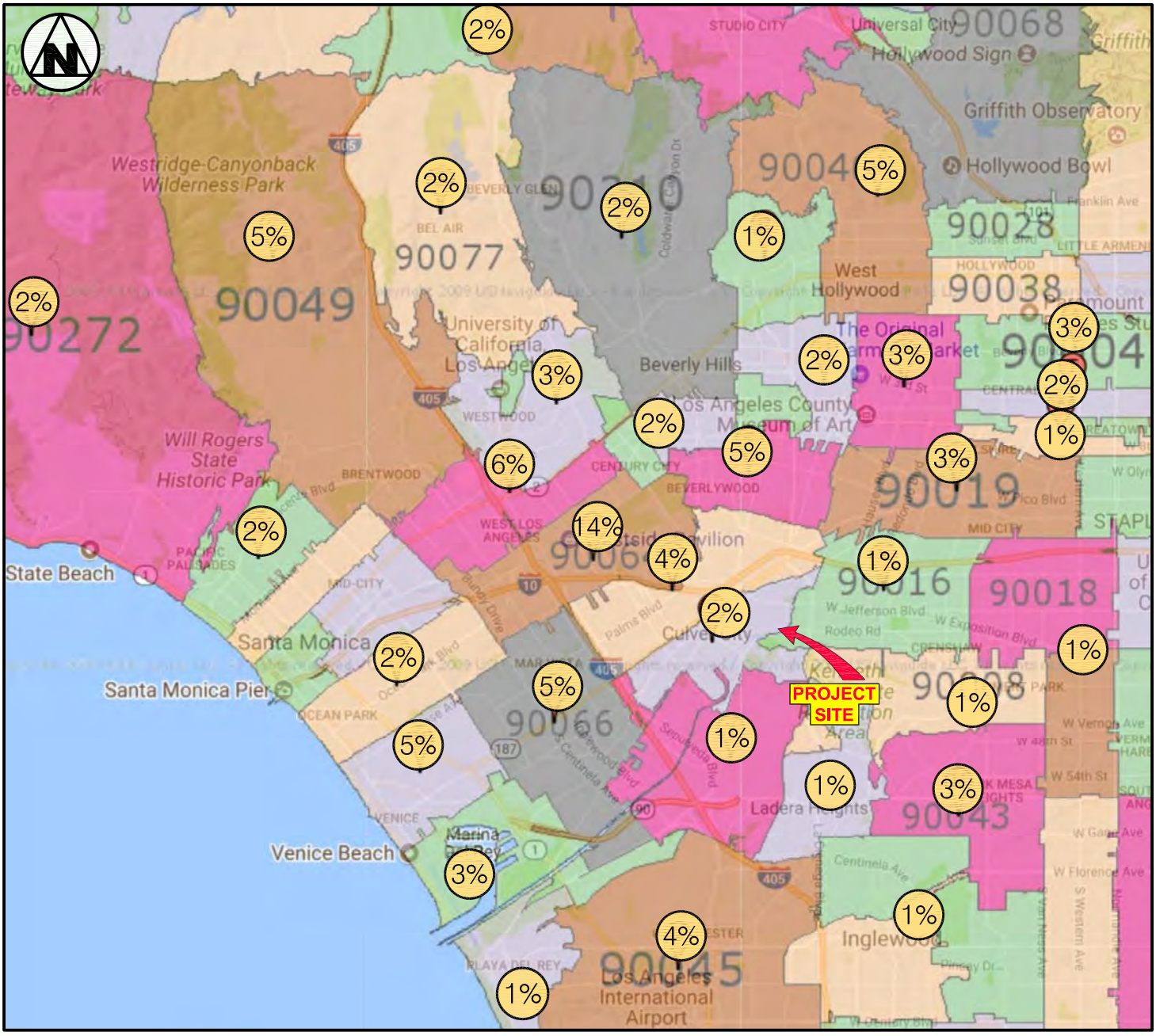
Day: Thursday
Date: 5/3/2018

TIME	MAX QUEUE
	Cars queued for school
7:30 AM	0
7:35 AM	0
7:40 AM	0
7:45 AM	0
7:50 AM	7
7:55 AM	7
8:00 AM	4
8:05 AM	5
8:10 AM	0
8:15 AM	3
8:20 AM	1
8:25 AM	0
8:30 AM	0
8:35 AM	0
8:40 AM	0
8:45 AM	0
8:50 AM	0
8:55 AM	0
9:00 AM	0
9:05 AM	0
9:10 AM	0
9:15 AM	0
9:20 AM	0
9:25 AM	0

TIME	MAX QUEUE
	Cars queued for school
1:30 PM	0
1:35 PM	0
1:40 PM	0
1:45 PM	0
1:50 PM	0
1:55 PM	0
2:00 PM	0
2:05 PM	0
2:10 PM	0
2:15 PM	0
2:20 PM	0
2:25 PM	0
2:30 PM	0
2:35 PM	0
2:40 PM	1
2:45 PM	2
2:50 PM	0
2:55 PM	5
3:00 PM	1
3:05 PM	2
3:10 PM	0
3:15 PM	1
3:20 PM	7
3:25 PM	10
3:30 PM	8

APPENDIX G

STUDENT ZIP CODE INFORMATION



4/2018

STUDENT LOCATION PERCENTAGE BY ZIP CODE (2017 - 2018 DATA)

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799 - 8423, OTC@overlandtraffic.com

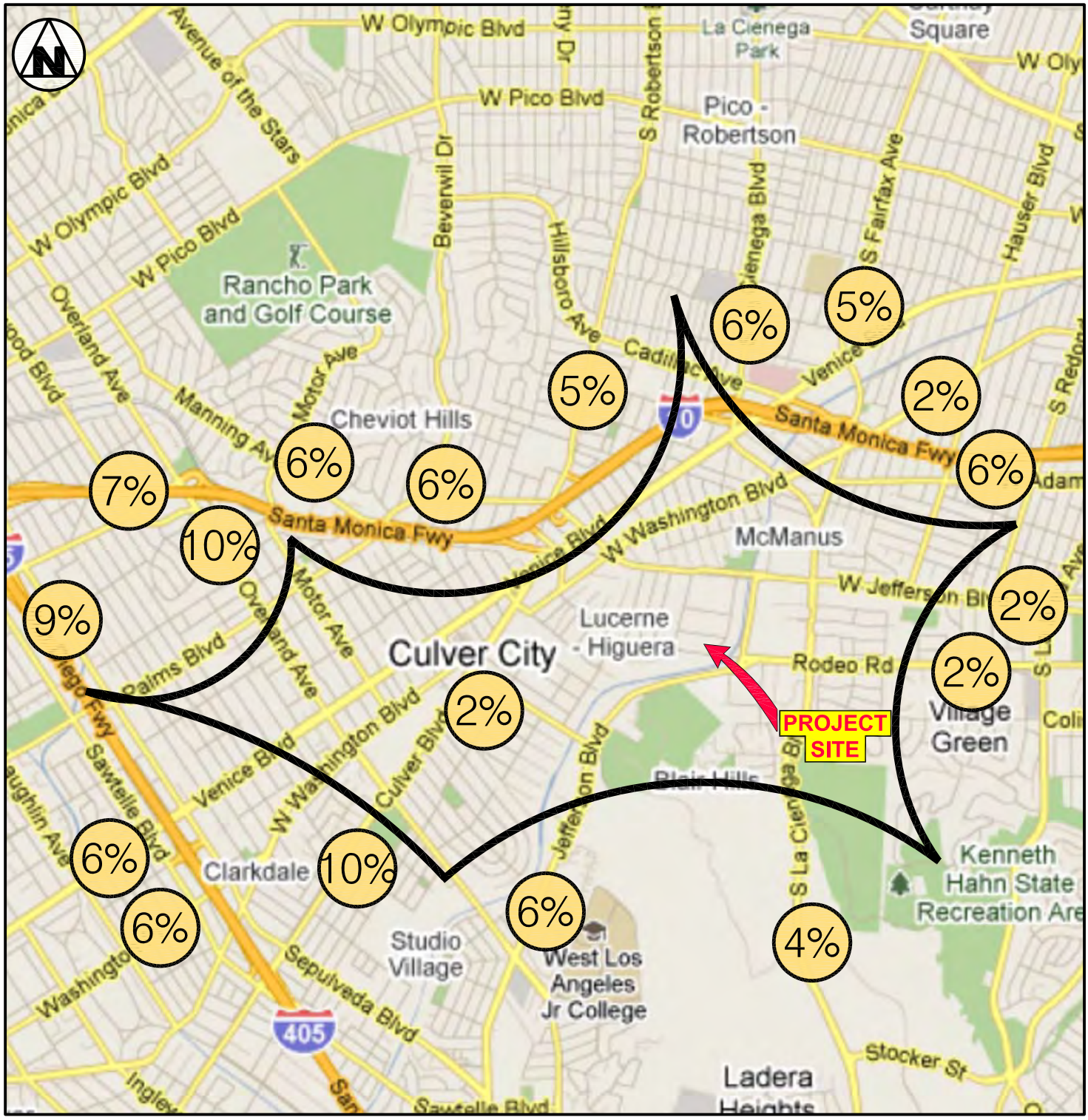


FIGURE 4

4/2018

DISTRIBUTION ASSIGNMENT OF ZIP CODES

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799 - 8423, OTC@overlandtraffic.com

The Willows Community School Student Enrollment 2018

Zip Code	# Students	Percent	Direction
90004	12	2.6%	North
90005	6	1.3%	North
90008	3	0.7%	East
90015	2	0.4%	East
90016	6	1.3%	East
90018	2	0.4%	East
90019	14	3.1%	North
90020	7	1.5%	North
90024	15	3.3%	North
90025	26	5.7%	North
90027	3	0.7%	North
90029	2	0.4%	East
90034	16	3.5%	North
90035	24	5.2%	North
90036	12	2.6%	North
90038	1	0.2%	North
90039	3	0.7%	North
90043	12	2.6%	East
90044	2	0.4%	East
90045	17	3.7%	South
90046	21	4.6%	North
90048	7	1.5%	North
90049	23	5.0%	North
90056	3	0.7%	East
90062	2	0.4%	East
90064	62	13.5%	North
90066	23	5.0%	West
90067	3	0.7%	North
90068	4	0.9%	North
90069	9	2.0%	North
90077	8	1.7%	North
90094	2	0.4%	West
90210	10	2.2%	North
90212	4	0.9%	North
90230	6	1.3%	North
90231	1	0.2%	North
90232	6	1.3%	North
90250	3	0.7%	South
90266	2	0.4%	South
90272	10	2.2%	West
90291	21	4.6%	West
90292	13	2.8%	South
90293	1	0.2%	South
90295	1	0.2%	West
90301	1	0.2%	South
90302	2	0.4%	South
90303	1	0.2%	South
90305	3	0.7%	South
90402	9	2.0%	West
90403	1	0.2%	West
90405	7	1.5%	West
90802	1	0.2%	West
91352	1	0.2%	North
91403	1	0.2%	South
91436	1	0.2%	North

APPENDIX H

TRAFFIC VOLUME DATA

Prepared by National Data & Surveying Services

Washington Blvd & National Blvd

Peak Hour Turning Movement Count

ID: 18-05277-001
City: Culver City

Day: Wednesday
Date: 05/02/2018

PEAK HOURS	
AM	08:00 AM - 09:00 AM
MID	02:30 PM - 03:30 PM
PM	05:00 PM - 06:00 PM

COUNT PERIODS

Washington Blvd — SOUTHBOUND

	Right	Thru	Left	U-Turn	Exiting
AM	146	815	133	0	843
MID	151	527	169	0	1097
PM	124	636	193	0	1380
Lanes	0.5	2.5	1	0	

National Blvd — EASTBOUND

	AM	MID	PM	Lanes
Exiting	921	768	811	
U-Turn	0	0	0	0
Left	115	138	161	2
Thru	599	725	725	2
Right	103	40	50	0

National Blvd — WESTBOUND

	Lanes	PM	MID	AM
Right	1	194	114	61
Thru	2	624	567	717
Left	2	157	146	200
U-Turn	0	0	0	0
Exiting		1146	1162	942

CONTROL

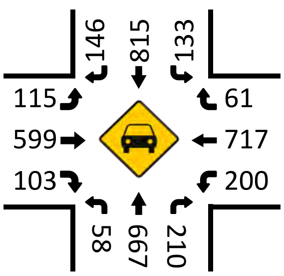
Signalized

	AM	NOON	PM
TEV	3824	3740	4181
PHF	0.94		0.98

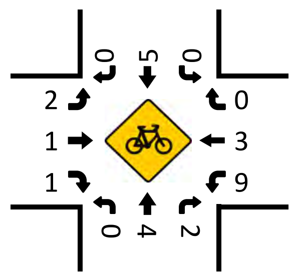
Washington Blvd — NORTHBOUND

	Exiting	U-Turn	Left	Thru	Right
Lanes		0	1	2	1
PM	844	1	63	1025	228
MID	713	0	50	845	268
AM	1118	0	58	667	210

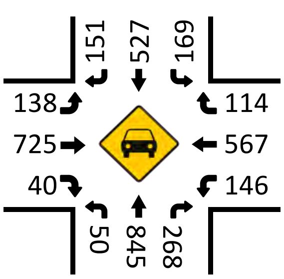
Total Vehicles (AM)



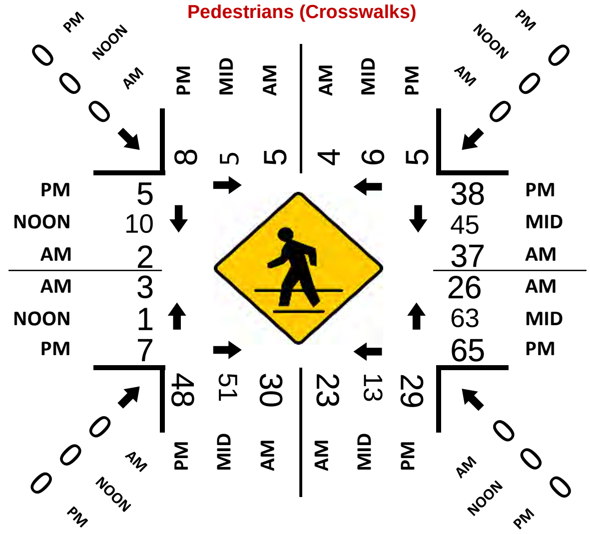
Bikes (AM)



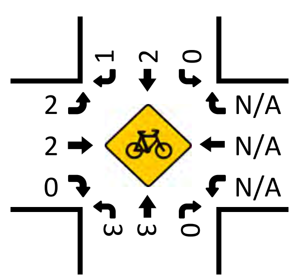
Total Vehicles (MID)



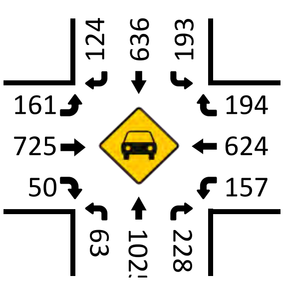
Pedestrians (Crosswalks)



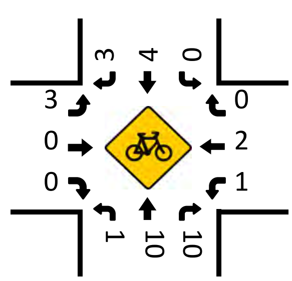
Bikes (MID



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Washington Blvd & National Blvd
City: Culver City
Control: Signalized

Project ID: 18-05277-001
Date: 5/2/2018

Total

NS/EW Streets:	Washington Blvd				Washington Blvd				National Blvd				National Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2.5	0.5	0	2	2	0	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	5	51	8	0	9	140	51	0	5	37	10	0	38	245	4	0	603
6:45 AM	5	76	12	0	21	242	81	0	6	44	9	0	32	219	7	0	754
7:00 AM	6	85	16	1	14	206	93	0	15	57	11	0	37	201	15	0	757
7:15 AM	22	148	15	0	10	228	82	0	25	71	14	0	28	206	8	0	857
7:30 AM	17	125	34	0	27	233	55	0	15	103	13	0	38	216	16	0	892
7:45 AM	15	152	50	0	20	249	41	0	14	129	15	0	30	182	13	0	910
8:00 AM	14	180	45	0	34	181	30	0	35	173	32	0	63	209	17	0	1013
8:15 AM	23	158	57	0	39	218	32	0	31	133	19	0	36	164	16	0	926
8:30 AM	16	167	41	0	33	205	38	0	24	157	19	0	53	168	12	0	933
8:45 AM	5	162	67	0	27	211	46	0	25	136	33	0	48	176	16	0	952
9:00 AM	18	146	48	0	26	206	42	0	22	144	20	0	55	194	29	0	950
9:15 AM	11	139	43	1	34	225	30	0	19	123	14	0	53	168	14	0	874
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	157	1589	436	2	294	2544	621	0	236	1307	209	0	511	2348	167	0	10421
APPROACH %'s :	7.19%	72.76%	19.96%	0.09%	8.50%	73.55%	17.95%	0.00%	13.47%	74.60%	11.93%	0.00%	16.89%	77.59%	5.52%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	58	667	210	0	133	815	146	0	115	599	103	0	200	717	61	0	3824
PEAK HR FACTOR :	0.630	0.926	0.784	0.000	0.853	0.935	0.793	0.000	0.821	0.866	0.780	0.000	0.794	0.858	0.897	0.000	0.944
		0.978				0.946				0.851				0.846			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2.5	0.5	0	2	2	0	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	10	172	57	0	26	92	32	0	22	167	15	0	43	122	26	0	784
2:15 PM	17	162	67	0	32	113	38	0	21	165	9	0	33	111	22	0	790
2:30 PM	10	124	47	0	40	136	27	0	30	181	15	0	46	157	33	0	846
2:45 PM	11	201	54	0	47	135	42	0	33	168	9	0	34	142	16	0	892
3:00 PM	22	204	68	0	43	137	44	0	34	181	14	0	31	170	30	0	978
3:15 PM	6	205	90	0	36	121	32	0	40	198	7	0	46	145	35	0	961
3:30 PM	11	235	56	0	43	134	33	0	31	178	10	0	35	110	33	0	909
3:45 PM	11	213	60	0	53	145	38	0	61	196	12	0	38	122	31	0	980
4:00 PM	21	264	58	0	59	154	39	0	44	193	8	0	17	141	35	0	1033
4:15 PM	10	252	68	0	63	121	23	0	45	194	10	0	44	168	38	0	1036
4:30 PM	12	272	57	0	47	170	31	0	46	174	6	0	32	146	41	0	1034
4:45 PM	10	249	51	0	54	134	28	0	40	195	4	0	45	127	40	0	977
5:00 PM	15	273	73	0	34	182	42	0	25	168	11	0	39	148	54	0	1064
5:15 PM	13	234	43	0	56	142	33	0	41	190	16	0	44	164	55	0	1031
5:30 PM	21	281	54	0	43	175	22	0	44	169	11	0	37	154	47	0	1058
5:45 PM	14	237	58	1	60	137	27	0	51	198	12	0	37	158	38	0	1028
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	214	3578	961	1	736	2228	531	0	608	2915	169	0	601	2285	574	0	15401
APPROACH %'s :	4.50%	75.26%	20.21%	0.02%	21.06%	63.75%	15.19%	0.00%	16.47%	78.95%	4.58%	0.00%	17.37%	66.04%	16.59%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	63	1025	228	1	193	636	124	0	161	725	50	0	157	624	194	0	4181
PEAK HR FACTOR :	0.750	0.912	0.781	0.250	0.804	0.874	0.738	0.000	0.789	0.915	0.781	0.000	0.892	0.951	0.882	0.000	0.982
		0.912				0.923				0.897				0.927			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Washington Blvd & National Blvd
City: Culver City
Control: Signalized

Project ID: 18-05277-001
Date: 5/2/2018

Bikes

NS/EW Streets:	Washington Blvd				Washington Blvd				National Blvd				National Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2.5	0.5	0	2	2	0	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
6:45 AM	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	3
7:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	3
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	3	3	0	0	7
7:30 AM	0	2	1	0	0	2	3	0	0	1	0	0	0	1	0	0	10
7:45 AM	0	0	0	0	0	1	2	0	0	0	0	0	4	1	0	0	8
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	3
8:15 AM	0	2	1	0	0	0	0	0	0	0	1	0	2	1	0	0	7
8:30 AM	0	2	1	0	0	2	0	0	1	0	0	0	3	1	0	0	10
8:45 AM	0	0	0	0	0	3	0	0	1	0	0	0	2	1	0	0	7
9:00 AM	0	0	4	0	0	2	0	0	0	0	0	0	0	2	0	0	8
9:15 AM	0	5	1	0	0	1	2	0	0	0	0	0	2	1	0	0	12
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	12	8	0	0	13	8	0	3	2	1	0	20	12	0	0	79
APPROACH %'s :	0.00%	60.00%	40.00%	0.00%	0.00%	61.90%	38.10%	0.00%	50.00%	33.33%	16.67%	0.00%	62.50%	37.50%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	4	2	0	0	5	0	0	2	1	1	0	9	3	0	0	27
PEAK HR FACTOR :	0.000	0.500	0.500	0.000	0.000	0.417	0.000	0.000	0.500	0.250	0.250	0.000	0.750	0.750	0.000	0.000	0.675
		0.500				0.417				1.000				0.750			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2.5	0.5	0	2	2	0	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	1	2	0	1	1	0	0	0	0	0	0	0	0	0	0	5
2:15 PM	0	0	2	0	0	1	1	0	0	0	0	0	1	0	0	0	5
2:30 PM	0	0	2	0	0	0	0	0	1	0	0	0	1	2	0	0	6
2:45 PM	0	0	1	0	0	1	1	0	1	1	0	0	1	1	0	0	7
3:00 PM	0	1	0	0	0	1	0	0	0	1	0	0	1	0	1	0	5
3:15 PM	0	2	2	0	0	0	0	0	1	0	0	0	2	0	0	0	7
3:30 PM	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	3
3:45 PM	0	1	1	0	0	1	0	0	1	0	0	0	0	0	0	0	4
4:00 PM	0	2	0	0	0	2	0	0	1	0	0	0	0	0	0	0	5
4:15 PM	0	1	0	0	0	0	0	0	1	1	0	0	3	1	0	0	7
4:30 PM	0	2	1	0	0	0	0	0	0	0	0	0	0	2	0	0	5
4:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	3	0	0	0	5
5:00 PM	1	3	2	0	0	2	1	0	1	0	0	0	1	0	0	0	11
5:15 PM	0	2	3	0	0	0	0	0	1	0	0	0	0	1	0	0	7
5:30 PM	0	1	3	0	0	2	1	0	0	0	0	0	0	0	0	0	7
5:45 PM	0	4	2	0	0	0	1	0	1	0	0	0	0	1	0	0	9
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	21	22	0	1	12	6	0	10	3	0	0	13	8	1	0	98
APPROACH %'s :	2.27%	47.73%	50.00%	0.00%	5.26%	63.16%	31.58%	0.00%	76.92%	23.08%	0.00%	0.00%	59.09%	36.36%	4.55%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	10	10	0	0	4	3	0	3	0	0	0	1	2	0	0	34
PEAK HR FACTOR :	0.25	0.625	0.833	0.000	0.000	0.500	0.750	0.000	0.750	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.773
		0.875				0.583				0.750				0.750			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Washington Blvd & National Blvd
City: Culver City

Project ID: 18-05277-001
Date: 5/2/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Washington Blvd		Washington Blvd		National Blvd		National Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:30 AM	0	0	2	4	2	4	0	0	12
6:45 AM	0	0	0	2	0	4	1	0	7
7:00 AM	0	0	4	5	1	6	0	0	16
7:15 AM	0	0	6	4	5	5	0	0	20
7:30 AM	1	2	6	6	4	8	1	1	29
7:45 AM	0	0	3	8	7	14	2	0	34
8:00 AM	1	3	5	6	4	12	1	0	32
8:15 AM	1	0	4	5	4	5	0	0	19
8:30 AM	3	1	12	9	11	12	2	2	52
8:45 AM	0	0	9	3	7	8	0	0	27
9:00 AM	3	2	9	7	7	16	0	1	45
9:15 AM	1	0	7	10	9	15	1	0	43
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	10	8	67	69	61	109	8	4	336
APPROACH %'s :	55.56%	44.44%	49.26%	50.74%	35.88%	64.12%	66.67%	33.33%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	5	4	30	23	26	37	3	2	130
PEAK HR FACTOR :	0.417	0.333	0.625	0.639	0.591	0.771	0.375	0.250	0.625
	0.563		0.631		0.685		0.313		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
2:00 PM	1	1	7	1	18	7	0	1	36
2:15 PM	2	0	5	3	3	11	1	0	25
2:30 PM	2	4	15	5	17	15	1	1	60
2:45 PM	2	0	16	0	14	7	0	6	45
3:00 PM	0	1	8	1	21	9	0	1	41
3:15 PM	1	1	12	7	11	14	0	2	48
3:30 PM	1	0	8	1	9	6	0	0	25
3:45 PM	2	0	7	3	9	7	2	2	32
4:00 PM	1	0	4	4	10	11	1	3	34
4:15 PM	2	1	3	8	5	7	1	0	27
4:30 PM	5	3	1	5	8	5	1	2	30
4:45 PM	2	0	9	3	5	8	0	2	29
5:00 PM	3	1	15	12	20	8	3	2	64
5:15 PM	2	1	7	6	12	9	2	1	40
5:30 PM	3	3	7	7	5	13	2	2	42
5:45 PM	0	0	19	4	28	8	0	0	59
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	29	16	143	70	195	145	14	25	637
APPROACH %'s :	64.44%	35.56%	67.14%	32.86%	57.35%	42.65%	35.90%	64.10%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	8	5	48	29	65	38	7	5	205
PEAK HR FACTOR :	0.667	0.417	0.632	0.604	0.580	0.731	0.583	0.625	0.801
	0.542		0.713		0.715		0.600		

Prepared by National Data & Surveying Services

Hayden Ave & National Blvd

Peak Hour Turning Movement Count

ID: 18-05277-002
City: Culver City

Day: Wednesday
Date: 05/02/2018

PEAK HOURS	
AM	08:30 AM - 09:30 AM
MID	02:30 PM - 03:30 PM
PM	04:00 PM - 05:00 PM

COUNT PERIODS

Hayden Ave — SOUTHBOUND

	Right	Thru	Left	U-Turn	Exit
AM	0	0	0	0	0
MID	0	0	0	0	0
PM	0	0	0	0	0
Lanes	0	0	0	0	

National Blvd — EASTBOUND

	AM	MID	PM	Lanes
Exit	1146	702	809	
U-Turn	2	0	2	0
Left	0	0	0	0
Thru	506	851	897	2
Right	286	217	298	1

National Blvd — WESTBOUND

	Lanes	PM	MID	AM
Right	0	0	0	0
Thru	2	385	427	867
Left	1	24	19	230
U-Turn	0	2	1	4
Exit		995	946	579

CONTROL

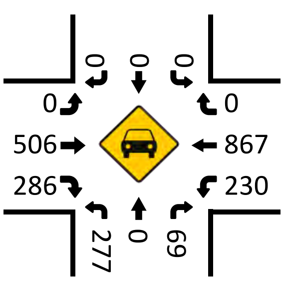
Signalized

	AM	NOON	PM
TEV	2241	1884	2127
PHF	0.92		0.94

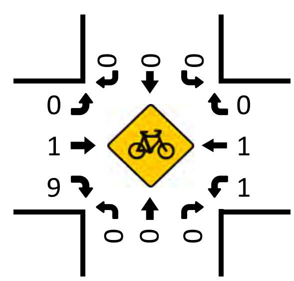
Hayden Ave — NORTHBOUND

	Exit	U-Turn	Left	Thru	Right
Lanes		0	1.5	0	0.5
PM	323	1	422	0	96
MID	236	0	275	0	94
AM	516	0	277	0	69

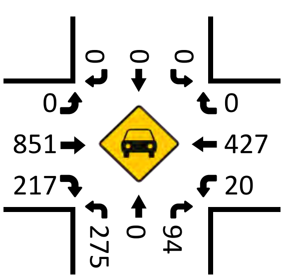
Total Vehicles (AM)



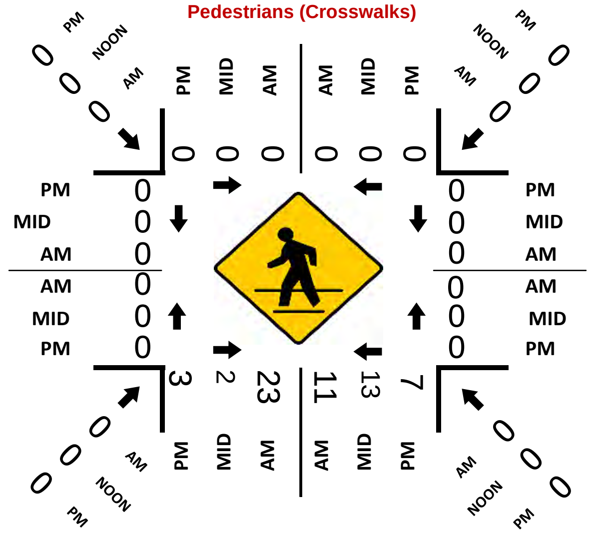
Bikes (AM)



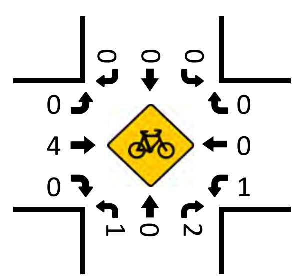
Total Vehicles (MID)



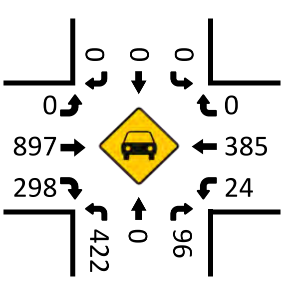
Pedestrians (Crosswalks)



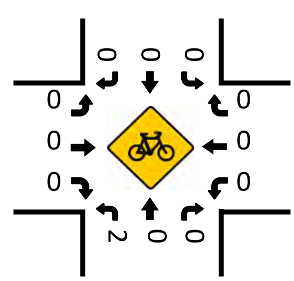
Bikes (MID



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Hayden Ave & National Blvd
City: Culver City
Control: Signalized

Project ID: 18-05277-002
Date: 5/2/2018

Total

NS/EW Streets:	Hayden Ave				Hayden Ave				National Blvd				National Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0	0.5	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	40	0	6	0	0	0	0	0	0	30	18	0	14	269	0	0	377
6:45 AM	49	0	1	0	0	0	0	0	0	46	43	0	34	213	0	0	386
7:00 AM	47	0	4	0	0	0	0	0	0	45	29	0	36	195	0	0	356
7:15 AM	58	0	4	0	0	0	0	0	0	77	25	0	34	212	0	0	410
7:30 AM	52	0	5	0	0	0	0	0	0	90	19	0	35	236	0	1	438
7:45 AM	84	0	9	0	0	0	0	0	0	115	51	0	34	241	0	0	534
8:00 AM	84	0	11	0	0	0	0	0	0	135	34	0	41	196	0	0	501
8:15 AM	65	0	11	0	0	0	0	0	0	148	49	0	37	149	0	0	459
8:30 AM	74	0	20	0	0	0	0	0	0	136	44	0	61	193	0	1	529
8:45 AM	81	0	20	0	0	0	0	0	0	138	73	1	53	206	0	1	573
9:00 AM	77	0	12	0	0	0	0	0	0	109	87	0	67	255	0	1	608
9:15 AM	45	0	17	0	0	0	0	0	0	123	82	1	49	213	0	1	531
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	756	0	120	0	0	0	0	0	0	1192	554	2	495	2578	0	5	5702
APPROACH %'s :	86.30%	0.00%	13.70%	0.00%					0.00%	68.19%	31.69%	0.11%	16.08%	83.76%	0.00%	0.16%	
PEAK HR :	08:30 AM - 09:30 AM																TOTAL
PEAK HR VOL :	277	0	69	0	0	0	0	0	0	506	286	2	230	867	0	4	2241
PEAK HR FACTOR :	0.855	0.000	0.863	0.000	0.000	0.000	0.000	0.000	0.000	0.917	0.822	0.500	0.858	0.850	0.000	1.000	0.921
	0.856								0.936				0.852				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0	0.5	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	70	0	23	0	0	0	0	0	0	193	41	0	8	100	0	0	435
2:15 PM	60	0	23	0	0	0	0	0	0	214	48	0	5	127	0	0	477
2:30 PM	77	0	23	0	0	0	0	0	0	198	40	0	14	124	0	0	476
2:45 PM	73	0	24	0	0	0	0	0	0	203	50	0	7	121	0	0	478
3:00 PM	66	0	23	0	0	0	0	0	0	209	43	0	4	125	0	0	470
3:15 PM	50	0	31	0	0	0	0	0	0	230	62	0	4	90	0	0	467
3:30 PM	86	0	16	0	0	0	0	0	0	209	62	0	4	91	0	1	469
3:45 PM	69	0	24	0	0	0	0	0	0	227	70	0	4	79	0	1	474
4:00 PM	116	0	25	0	0	0	0	0	0	238	80	0	8	100	0	1	568
4:15 PM	103	0	21	1	0	0	0	0	0	240	79	1	2	93	0	0	540
4:30 PM	105	0	27	0	0	0	0	0	0	212	61	1	6	96	0	1	509
4:45 PM	98	0	23	0	0	0	0	0	0	207	78	0	8	96	0	0	510
5:00 PM	120	0	11	0	0	0	0	0	0	166	102	0	11	103	0	0	513
5:15 PM	120	0	30	0	0	0	0	0	0	160	109	0	4	101	0	0	524
5:30 PM	100	0	18	0	0	0	0	0	0	173	79	0	4	117	0	0	491
5:45 PM	115	0	28	0	0	0	0	0	0	220	80	0	2	97	0	0	542
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1428	0	370	1	0	0	0	0	0	3299	1084	2	95	1660	0	4	7943
APPROACH %'s :	79.38%	0.00%	20.57%	0.06%					0.00%	75.23%	24.72%	0.05%	5.40%	94.37%	0.00%	0.23%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	422	0	96	1	0	0	0	0	0	897	298	2	24	385	0	2	2127
PEAK HR FACTOR :	0.909	0.000	0.889	0.250	0.000	0.000	0.000	0.000	0.000	0.934	0.931	0.500	0.750	0.963	0.000	0.500	0.936
	0.920								0.935				0.943				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hayden Ave & National Blvd
City: Culver City
Control: Signalized

Project ID: 18-05277-002
Date: 5/2/2018

Bikes

NS/EW Streets:	Hayden Ave				Hayden Ave				National Blvd				National Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0	0.5	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
9:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
9:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	0	0	0	0	0	0	0	0	2	10	0	1	1	0	0	15
APPROACH %'s :	100.00%	0.00%	0.00%	0.00%					0.00%	16.67%	83.33%	0.00%	50.00%	50.00%	0.00%	0.00%	
PEAK HR :	08:30 AM - 09:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	9	0	1	1	0	0	12
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.750	0.000	0.250	0.250	0.000	0.000	0.750
											0.833				0.500		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0	0.5	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
2:30 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2
2:45 PM	1	0	1	0	0	0	0	0	0	3	0	0	0	0	0	0	5
3:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	0	0	0	0	0	0	0	1	0	0	1	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	0	5	0	0	0	0	0	0	4	3	0	1	3	0	0	20
APPROACH %'s :	44.44%	0.00%	55.56%	0.00%					0.00%	57.14%	42.86%	0.00%	25.00%	75.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
			0.500														

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hayden Ave & National Blvd **Project ID:** 18-05277-002
City: Culver City **Date:** 5/2/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Hayden Ave		Hayden Ave		National Blvd		National Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:30 AM	0	0	1	0	0	0	0	0	1
6:45 AM	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	0	0	0	0	0	1
8:15 AM	0	0	2	1	0	0	0	0	3
8:30 AM	0	0	5	2	0	0	0	0	7
8:45 AM	0	0	6	6	0	0	0	0	12
9:00 AM	0	0	6	0	0	0	0	0	6
9:15 AM	0	0	6	3	0	0	0	0	9
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	29	12	0	0	0	0	41
APPROACH %'s :			70.73%	29.27%					
PEAK HR :	**08:30 AM - 09:30 AM**								TOTAL
PEAK HR VOL :	0	0	23	11	0	0	0	0	34
PEAK HR FACTOR :			0.958	0.458					0.708
			0.708						

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
2:00 PM	0	0	2	3	0	0	0	0	5
2:15 PM	0	0	7	0	0	0	0	0	7
2:30 PM	0	0	5	8	0	0	0	0	13
2:45 PM	0	0	3	1	0	0	0	0	4
3:00 PM	0	0	10	3	0	0	0	0	13
3:15 PM	0	0	5	1	0	0	0	0	6
3:30 PM	0	0	2	2	0	0	0	0	4
3:45 PM	0	0	5	0	0	0	0	0	5
4:00 PM	0	0	1	2	0	0	0	0	3
4:15 PM	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	2	4	0	0	0	0	6
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	2	7	0	0	0	0	9
5:15 PM	0	0	0	9	0	0	0	0	9
5:30 PM	0	0	1	4	0	0	0	0	5
5:45 PM	0	0	3	5	0	0	0	0	8
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	48	50	0	0	0	0	98
APPROACH %'s :			48.98%	51.02%					
PEAK HR :	**04:00 PM - 05:00 PM**								TOTAL
PEAK HR VOL :	0	0	3	7	0	0	0	0	10
PEAK HR FACTOR :			0.375	0.438					0.417
			0.417						

Prepared by National Data & Surveying Services

Eastham Dr & National Blvd

Peak Hour Turning Movement Count

ID: 18-05277-003
City: Culver City

Day: Wednesday
Date: 05/02/2018

PEAK HOURS

AM	08:30 AM - 09:30 AM
MID	02:30 PM - 03:30 PM
PM	02:15 PM - 03:15 PM

COUNT PERIODS

Eastham Dr — SOUTHBOUND

AM	0	0	0	0	0	AM
MID	0	0	0	0	0	MID
PM	0	0	0	0	0	PM

EASTBOUND (National Blvd)

AM	MID	PM	
1048	494	527	⇦
0	0	1	↶ 0
0	0	0	↱ 0
431	793	771	→ 2
128	143	143	↴ 0
AM	MID	PM	

WESTBOUND (National Blvd)

PM	MID	AM	
0	0	0	↰ 0
483	452	1016	← 2
23	27	226	↙ 1
0	0	1	↶ 0
835	858	477	⇨
PM	MID	AM	

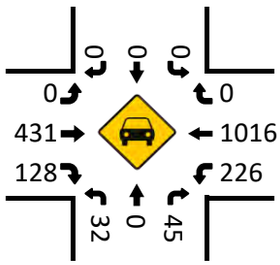
CONTROL: Signalized

TEV	1879 AM	1522 NOON	1528 PM
PHF	0.92		0.97

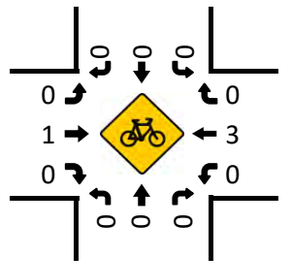
Eastham Dr — NORTHBOUND

PM	166	0	43	0	64	PM
MID	170	0	42	0	65	MID
AM	354	0	32	0	45	AM

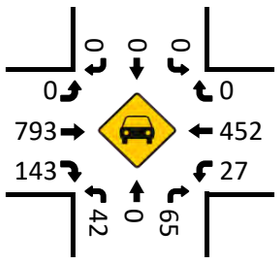
Total Vehicles (AM)



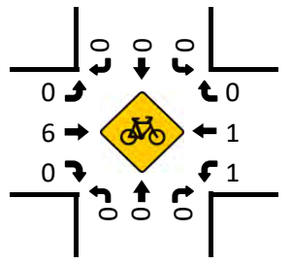
Bikes (AM)



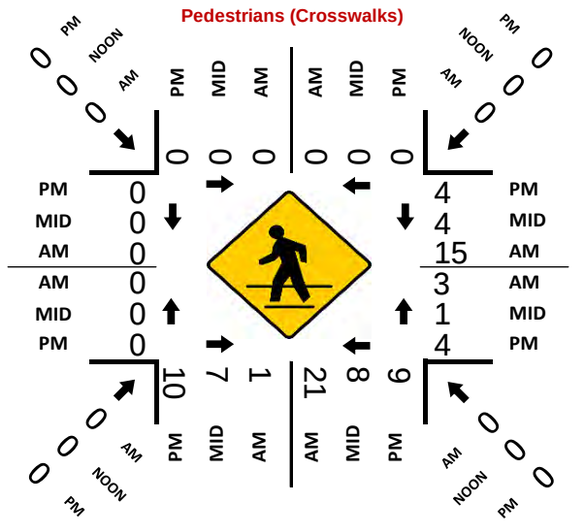
Total Vehicles (MID)



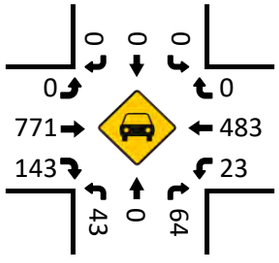
Bikes (MID)



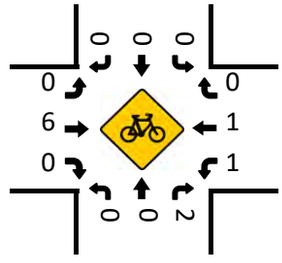
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Eastham Dr & National Blvd
City: Culver City
Control: Signalized

Project ID: 18-05277-003
Date: 5/2/2018

Total

NS/EW Streets:	Eastham Dr				Eastham Dr				National Blvd				National Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	9	0	0	0	0	0	0	0	0	33	3	1	9	265	0	0	320
6:45 AM	1	0	2	0	0	0	0	0	0	41	4	0	8	253	0	0	309
7:00 AM	6	0	1	0	0	0	0	0	0	44	5	0	6	233	0	0	295
7:15 AM	3	0	1	0	0	0	0	0	0	66	13	0	9	246	0	0	338
7:30 AM	10	0	1	0	0	0	0	0	0	73	23	0	25	246	0	0	378
7:45 AM	9	0	2	0	0	0	0	0	0	95	28	0	25	290	0	0	449
8:00 AM	8	0	7	0	0	0	0	0	0	103	42	0	51	257	0	0	468
8:15 AM	12	0	4	0	0	0	0	0	0	119	39	0	55	181	0	0	410
8:30 AM	3	0	9	0	0	0	0	0	0	115	36	0	71	202	0	0	436
8:45 AM	9	0	11	0	0	0	0	0	0	114	39	0	60	257	0	1	491
9:00 AM	10	0	16	0	0	0	0	0	0	92	27	0	62	305	0	0	512
9:15 AM	10	0	9	0	0	0	0	0	0	110	26	0	33	252	0	0	440
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	90	0	63	0	0	0	0	0	0	1005	285	1	414	2987	0	1	4846
APPROACH %'s :	58.82%	0.00%	41.18%	0.00%					0.00%	77.85%	22.08%	0.08%	12.17%	87.80%	0.00%	0.03%	
PEAK HR :	08:30 AM - 09:30 AM																TOTAL
PEAK HR VOL :	32	0	45	0	0	0	0	0	0	431	128	0	226	1016	0	1	1879
PEAK HR FACTOR :	0.800	0.000	0.703	0.000	0.000	0.000	0.000	0.000	0.000	0.937	0.821	0.000	0.796	0.833	0.000	0.250	0.917
	0.740								0.913				0.847				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	8	0	16	0	0	0	0	0	0	191	26	0	9	110	0	0	360
2:15 PM	10	0	10	0	0	0	0	0	0	198	37	1	7	122	0	0	385
2:30 PM	12	0	25	0	0	0	0	0	0	190	31	0	10	126	0	0	394
2:45 PM	10	0	17	0	0	0	0	0	0	186	43	0	3	117	0	0	376
3:00 PM	11	0	12	0	0	0	0	0	0	197	32	0	3	118	0	0	373
3:15 PM	9	0	11	0	0	0	0	0	0	220	37	0	11	91	0	0	379
3:30 PM	14	0	17	0	0	0	0	0	0	178	51	0	7	82	0	0	349
3:45 PM	11	0	16	0	0	0	0	0	0	213	38	0	4	88	0	0	370
4:00 PM	14	0	23	0	0	0	0	0	0	228	28	0	5	90	0	0	388
4:15 PM	9	0	16	0	0	0	0	0	0	238	31	1	8	88	0	0	391
4:30 PM	6	0	9	0	0	0	0	0	0	194	14	0	3	91	0	0	317
4:45 PM	20	0	21	0	0	0	0	0	0	183	29	2	4	83	0	0	342
5:00 PM	26	0	37	0	0	0	0	0	0	160	9	0	10	89	0	0	331
5:15 PM	31	0	29	0	0	0	0	0	0	173	25	0	12	76	0	0	346
5:30 PM	31	0	25	0	0	0	0	0	0	202	28	0	9	90	0	0	385
5:45 PM	27	0	35	0	0	0	0	0	0	206	19	0	5	73	0	0	365
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	249	0	319	0	0	0	0	0	0	3157	478	4	110	1534	0	0	5851
APPROACH %'s :	43.84%	0.00%	56.16%	0.00%					0.00%	86.75%	13.14%	0.11%	6.69%	93.31%	0.00%	0.00%	
PEAK HR :	02:15 PM - 03:15 PM																TOTAL
PEAK HR VOL :	43	0	64	0	0	0	0	0	0	771	143	1	23	483	0	0	1528
PEAK HR FACTOR :	0.896	0.000	0.640	0.000	0.000	0.000	0.000	0.000	0.000	0.973	0.831	0.250	0.575	0.958	0.000	0.000	0.970
	0.723								0.969				0.930				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Eastham Dr & National Blvd
City: Culver City
Control: Signalized

Project ID: 18-05277-003
Date: 5/2/2018

Bikes

NS/EW Streets:	Eastham Dr				Eastham Dr				National Blvd				National Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	1	0	0	0	0	0	0	2	0	0	5	5	0	0	13
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%					0.00%	100.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	
PEAK HR :	08:30 AM - 09:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.375	0.000	0.000	0.333
									0.250				0.375				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
2:30 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
2:45 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
3:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
4:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	11	0	0	0	0	0	0	9	0	0	3	4	0	0	27
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%					0.00%	100.00%	0.00%	0.00%	42.86%	57.14%	0.00%	0.00%	
PEAK HR :	02:15 PM - 03:15 PM																TOTAL
PEAK HR VOL :	0	0	2	0	0	0	0	0	0	6	0	0	1	1	0	0	10
PEAK HR FACTOR :	0.00	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.250	0.250	0.000	0.000	0.625
			0.500						0.375				0.500				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Eastham Dr & National Blvd
City: Culver City
Project ID: 18-05277-003
Date: 5/2/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Eastham Dr		Eastham Dr		National Blvd		National Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:30 AM	0	0	1	1	1	0	0	0	3
6:45 AM	0	0	0	1	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	1
7:30 AM	0	0	0	1	0	0	0	0	1
7:45 AM	0	0	0	1	0	0	0	0	1
8:00 AM	0	0	0	0	0	1	0	0	1
8:15 AM	0	0	2	1	0	0	0	0	3
8:30 AM	0	0	1	4	1	3	0	0	9
8:45 AM	0	0	0	8	2	7	0	0	17
9:00 AM	0	0	0	0	0	2	0	0	2
9:15 AM	0	0	0	9	0	3	0	0	12
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	4	26	5	16	0	0	51
APPROACH %'s :			13.33%	86.67%	23.81%	76.19%			
PEAK HR :	**08:30 AM - 09:30 AM**								TOTAL
PEAK HR VOL :	0	0	1	21	3	15	0	0	40
PEAK HR FACTOR :			0.250	0.583	0.375	0.536			0.588
			0.611		0.500				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
2:00 PM	0	0	2	3	0	3	0	0	8
2:15 PM	0	0	4	1	2	1	0	0	8
2:30 PM	0	0	3	2	1	0	0	0	6
2:45 PM	0	0	1	5	1	3	0	0	10
3:00 PM	0	0	2	1	0	0	0	0	3
3:15 PM	0	0	1	0	0	0	0	0	1
3:30 PM	0	0	3	2	0	1	0	0	6
3:45 PM	0	0	2	0	1	0	0	0	3
4:00 PM	0	0	2	1	0	0	0	0	3
4:15 PM	0	0	1	1	1	0	0	0	3
4:30 PM	0	0	2	0	1	2	0	0	5
4:45 PM	0	0	1	1	2	0	0	0	4
5:00 PM	0	0	6	1	2	0	0	0	9
5:15 PM	0	0	0	0	5	1	0	0	6
5:30 PM	0	0	1	1	1	0	0	0	3
5:45 PM	0	0	0	1	2	2	0	0	5
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	31	20	19	13	0	0	83
APPROACH %'s :			60.78%	39.22%	59.38%	40.63%			
PEAK HR :	**02:15 PM - 03:15 PM**								TOTAL
PEAK HR VOL :	0	0	10	9	4	4	0	0	27
PEAK HR FACTOR :			0.625	0.450	0.500	0.333			0.675
			0.792		0.500				

Prepared by National Data & Surveying Services

Jefferson Blvd & National Blvd

Peak Hour Turning Movement Count

ID: 18-05277-004
City: Culver City

Day: Wednesday
Date: 05/02/2018

PEAK HOURS

AM	08:00 AM - 09:00 AM
MID	02:30 PM - 03:30 PM
PM	04:00 PM - 05:00 PM

COUNT PERIODS

Jefferson Blvd

SOUTHBOUND

AM	775	841	0	0	909	AM
MID	198	305	0	2	1244	MID
PM	216	292	0	1	1416	PM

National Blvd

EASTBOUND

AM	MID	PM		
1151	435	406		
0	0	0	0	
253	450	471	1.5	
0	0	0	0.5	
238	383	430	1	
AM	MID	PM		

WESTBOUND

	PM	MID	AM
1	0	0	0
0.5	0	0	0
0.5	0	0	0
0	0	0	0
	0	0	0
	PM	MID	AM

National Blvd

CONTROL

Signalized

TEV	3139 AM	2367 NOON	2544 PM
PHF	0.95		0.95

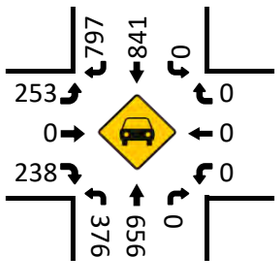
1	1	1	0	
	0	1	3	0

PM	722	0	190	944	0	PM
MID	688	0	237	792	0	MID
AM	1079	0	376	656	0	AM

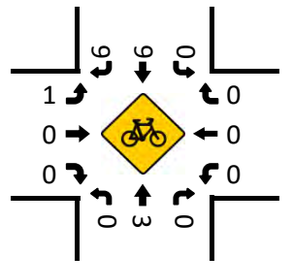
NORTHBOUND

Jefferson Blvd

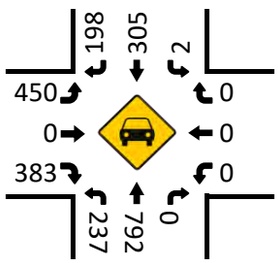
Total Vehicles (AM)



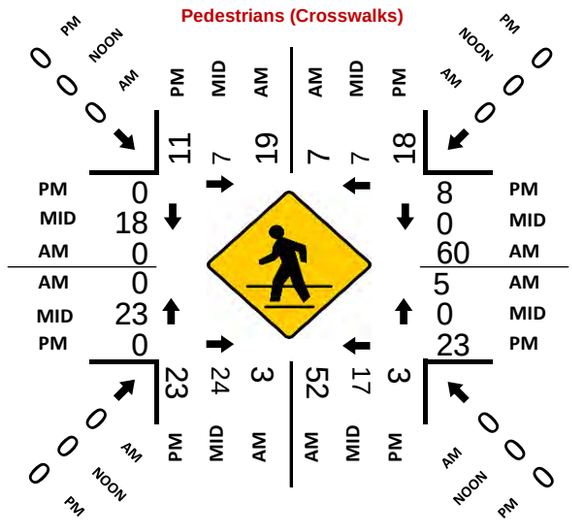
Bikes (AM)



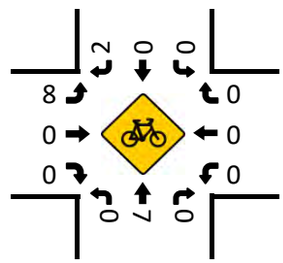
Total Vehicles (MID)



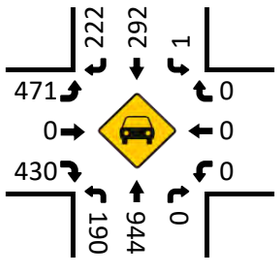
Pedestrians (Crosswalks)



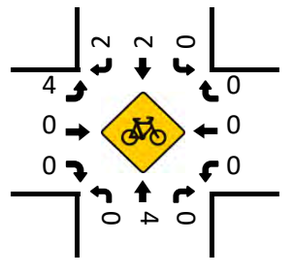
Bikes (MID)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Jefferson Blvd & National Blvd
City: Culver City
Control: Signalized

Project ID: 18-05277-004
Date: 5/2/2018

Total

NS/EW Streets:	Jefferson Blvd				Jefferson Blvd				National Blvd				National Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	1	1	0	1.5	0.5	1	0	0.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	141	123	0	0	0	154	134	0	14	0	23	0	0	0	0	0	589
6:45 AM	121	149	0	0	0	128	115	0	16	0	31	0	0	0	0	0	560
7:00 AM	126	171	0	0	0	177	142	0	17	0	29	0	0	0	0	0	662
7:15 AM	116	162	0	0	0	200	147	0	27	0	35	0	0	0	0	0	687
7:30 AM	122	144	0	0	0	175	142	0	36	0	44	0	0	0	0	0	663
7:45 AM	111	122	0	0	0	194	220	0	58	0	41	0	0	0	0	0	746
8:00 AM	91	156	0	0	0	207	179	0	62	0	54	0	0	0	0	0	749
8:15 AM	98	194	0	0	0	221	175	0	52	0	59	0	0	0	0	0	799
8:30 AM	88	149	0	0	0	213	174	0	77	0	66	0	0	0	0	0	767
8:45 AM	99	157	0	0	0	200	247	0	62	0	59	0	0	0	0	0	824
9:00 AM	114	134	0	0	0	157	229	0	37	0	68	0	0	0	0	0	739
9:15 AM	81	143	0	0	0	187	207	0	63	0	50	0	0	0	0	0	731
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1308	1804	0	0	0	2213	2111	0	521	0	559	0	0	0	0	0	8516
APPROACH %'s :	42.03%	57.97%	0.00%	0.00%	0.00%	51.18%	48.82%	0.00%	48.24%	0.00%	51.76%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	376	656	0	0	0	841	775	0	253	0	238	0	0	0	0	0	3139
PEAK HR FACTOR :	0.949	0.845	0.000	0.000	0.000	0.951	0.784	0.000	0.821	0.000	0.902	0.000	0.000	0.000	0.000	0.000	0.952
	0.884				0.904				0.858								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	1	1	0	1.5	0.5	1	0	0.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	63	174	0	0	0	87	47	0	97	0	107	0	0	0	0	0	575
2:15 PM	77	167	0	0	0	74	67	1	113	0	92	0	0	0	0	0	591
2:30 PM	55	178	0	0	0	80	67	0	132	0	102	0	0	0	0	0	614
2:45 PM	78	197	0	0	0	91	57	0	90	0	95	0	0	0	0	0	608
3:00 PM	68	196	0	0	0	71	43	0	131	0	83	0	0	0	0	0	592
3:15 PM	40	196	0	0	0	66	44	2	117	0	110	0	0	0	0	0	575
3:30 PM	51	203	0	0	0	77	54	0	112	0	95	0	0	0	0	0	592
3:45 PM	38	203	0	0	0	77	46	1	110	0	115	0	0	0	0	0	590
4:00 PM	49	224	0	0	0	61	56	1	132	0	121	0	0	0	0	0	644
4:15 PM	34	237	0	0	0	74	62	0	130	0	134	0	0	0	0	0	671
4:30 PM	57	269	0	0	0	83	47	0	102	0	75	0	0	0	0	0	633
4:45 PM	50	214	0	0	0	74	51	0	107	0	100	0	0	0	0	0	596
5:00 PM	39	235	0	0	0	70	56	0	118	0	74	0	0	0	0	0	592
5:15 PM	46	219	0	0	0	74	44	1	121	0	95	0	0	0	0	0	600
5:30 PM	45	234	0	0	0	87	45	0	123	0	121	0	0	0	0	0	655
5:45 PM	47	260	0	0	0	91	40	1	113	0	97	0	0	0	0	0	649
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	837	3406	0	0	0	1237	826	7	1848	0	1616	0	0	0	0	0	9777
APPROACH %'s :	19.73%	80.27%	0.00%	0.00%	0.00%	59.76%	39.90%	0.34%	53.35%	0.00%	46.65%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	190	944	0	0	0	292	216	1	471	0	430	0	0	0	0	0	2544
PEAK HR FACTOR :	0.833	0.877	0.000	0.000	0.000	0.880	0.871	0.250	0.892	0.000	0.802	0.000	0.000	0.000	0.000	0.000	0.948
	0.870				0.936				0.853								

National Data & Surveying Services

Intersection Turning Movement Count

Location: Jefferson Blvd & National Blvd
City: Culver City
Control: Signalized

Project ID: 18-05277-004
Date: 5/2/2018

Bikes

NS/EW Streets:	Jefferson Blvd				Jefferson Blvd				National Blvd				National Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	1	1	0	1.5	0.5	1	0	0.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6:45 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
7:00 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
7:15 AM	0	2	0	0	0	3	0	0	0	0	1	0	0	0	0	0	6
7:30 AM	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	1	0	0	0	1	1	0	1	0	0	0	0	0	0	0	4
8:00 AM	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	5
8:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	2	0	0	0	1	5	0	1	0	0	0	0	0	0	0	9
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	4
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	13	0	0	0	14	10	0	2	0	1	0	0	0	0	0	40
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	58.33%	41.67%	0.00%	66.67%	0.00%	33.33%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	3	0	0	0	6	6	0	1	0	0	0	0	0	0	0	16
PEAK HR FACTOR :	0.000	0.375	0.000	0.000	0.000	0.375	0.300	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.444
		0.375				0.500				0.250							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	1	1	0	1.5	0.5	1	0	0.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	3
2:15 PM	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3
2:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
2:45 PM	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4
3:00 PM	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	4
3:15 PM	0	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6
3:30 PM	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	3
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
4:30 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
4:45 PM	0	1	0	0	0	2	2	0	1	0	0	0	0	0	0	0	6
5:00 PM	0	2	0	0	0	1	1	0	2	0	0	0	0	0	0	0	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	1	0	0	0	1	1	0	3	0	0	0	0	0	0	0	6
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	17	0	0	0	6	7	0	20	0	0	0	0	0	0	0	50
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	46.15%	53.85%	0.00%	100.00%	0.00%	0.00%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	4	0	0	0	2	2	0	4	0	0	0	0	0	0	0	12
PEAK HR FACTOR :	0.00	0.500	0.000	0.000	0.000	0.250	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
		0.500				0.250				0.500							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Jefferson Blvd & National Blvd
City: Culver City
Project ID: 18-05277-004
Date: 5/2/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Jefferson Blvd		Jefferson Blvd		National Blvd		National Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:30 AM	0	1	1	4	2	6	0	0	14
6:45 AM	1	0	0	1	0	1	0	0	3
7:00 AM	0	0	0	0	0	2	0	0	2
7:15 AM	0	0	0	1	0	2	0	0	3
7:30 AM	1	2	0	4	0	7	0	0	14
7:45 AM	1	2	1	4	2	4	0	0	14
8:00 AM	6	2	1	5	1	8	0	0	23
8:15 AM	1	0	1	9	1	8	0	0	20
8:30 AM	6	1	1	20	1	23	0	0	52
8:45 AM	6	4	0	18	2	21	0	0	51
9:00 AM	9	1	0	9	0	10	0	0	29
9:15 AM	8	1	0	7	0	6	0	0	22
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	39	14	5	82	9	98	0	0	247
APPROACH %'s :	73.58%	26.42%	5.75%	94.25%	8.41%	91.59%			
PEAK HR :	**08:00 AM - 09:00 AM**								TOTAL
PEAK HR VOL :	19	7	3	52	5	60	0	0	146
PEAK HR FACTOR :	0.792	0.438	0.750	0.650	0.625	0.652			0.702
	0.650		0.655		0.677				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
2:00 PM	4	0	1	1	3	1	0	0	10
2:15 PM	1	1	3	2	2	2	0	0	11
2:30 PM	2	2	10	3	8	5	0	0	30
2:45 PM	3	2	6	10	6	8	0	0	35
3:00 PM	0	0	8	1	8	1	0	0	18
3:15 PM	2	3	0	3	1	4	0	0	13
3:30 PM	2	2	6	0	6	0	0	0	16
3:45 PM	4	3	5	4	5	1	0	0	22
4:00 PM	2	4	5	2	5	3	0	0	21
4:15 PM	2	2	1	0	1	2	0	0	8
4:30 PM	3	8	4	0	2	1	0	0	18
4:45 PM	4	4	13	1	15	2	0	0	39
5:00 PM	0	3	16	0	18	0	0	0	37
5:15 PM	1	6	0	1	4	1	0	0	13
5:30 PM	3	2	7	1	7	1	0	0	21
5:45 PM	7	9	4	1	6	3	0	0	30
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	40	51	89	30	97	35	0	0	342
APPROACH %'s :	43.96%	56.04%	74.79%	25.21%	73.48%	26.52%			
PEAK HR :	**04:00 PM - 05:00 PM**								TOTAL
PEAK HR VOL :	11	18	23	3	23	8	0	0	86
PEAK HR FACTOR :	0.688	0.563	0.442	0.375	0.383	0.667			0.551
	0.659		0.464		0.456				

Washington Blvd & Robertson Blvd/Higuera St

Peak Hour Turning Movement Count

ID: 18-05277-005
City: Culver City

Day: Wednesday
Date: 05/02/2018

PEAK HOURS
08:00 AM - 09:00 AM
02:30 PM - 03:30 PM
05:00 PM - 06:00 PM

COUNT PERIODS

Washington Blvd
SOUTHBOUND

AM	181	812	86	0	1005	AM
MID	120	559	63	0	1145	MID
PM	132	638	74	0	1219	PM

0.5 1.5 1 0

Robertson Blvd/Higuera St
EASTBOUND

AM	MID	PM		
556	335	494		
0	0	0	0	
144	144	124	1	
331	227	253	1	
68	59	74	1	
AM	MID	PM		

CONTROL
Signalized

TEV	3009	2477	2848
	AM	NOON	PM
PHF	0.93		0.97

WESTBOUND
Robertson Blvd/Higuera St

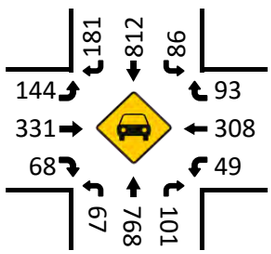
PM	MID	AM	
79	72	93	1
234	141	308	1
29	30	49	1
0	0	0	0
394	349	518	
PM	MID	AM	

0 1 2 0

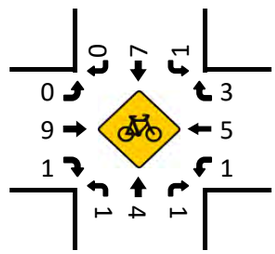
NORTHBOUND
Washington Blvd

PM	741	0	128	1016	67	PM
MID	648	0	74	929	59	MID
AM	930	1	67	768	101	AM

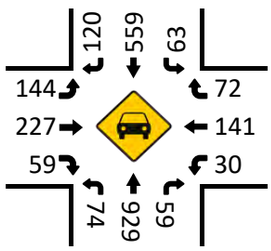
Total Vehicles (AM)



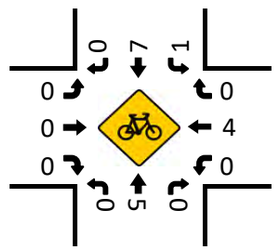
Bikes (AM)



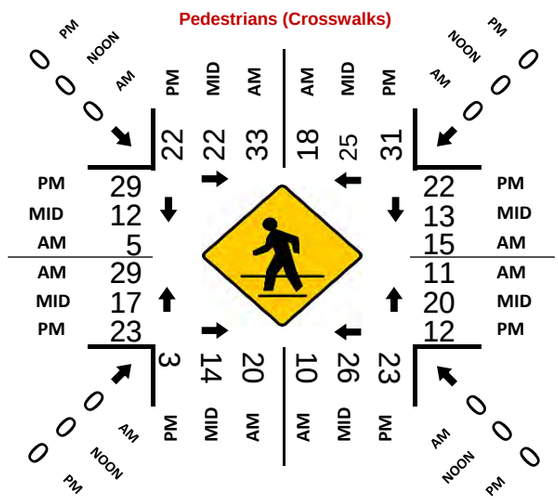
Total Vehicles (MID)



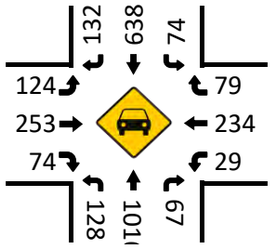
Bikes (MID)



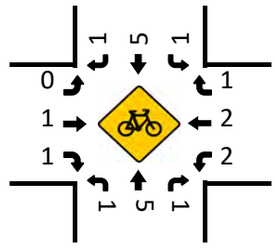
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Washington Blvd & Robertson Blvd/Higuera St
City: Culver City
Control: Signalized

Project ID: 18-05277-005
Date: 5/2/2018

Total

NS/EW Streets:	Washington Blvd				Washington Blvd				Robertson Blvd/Higuera St				Robertson Blvd/Higuera St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	1.5	0.5	0	1	1	1	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	13	61	7	0	5	157	38	0	15	23	13	0	7	37	10	0	386
6:45 AM	18	83	7	0	11	185	44	0	18	23	8	0	7	83	11	0	498
7:00 AM	13	109	11	0	7	200	38	0	17	28	4	0	6	96	14	0	543
7:15 AM	12	163	10	0	8	211	41	0	14	27	5	0	12	80	14	0	597
7:30 AM	16	173	15	0	8	229	47	0	16	52	8	0	13	107	21	0	705
7:45 AM	20	198	26	0	14	231	38	0	36	60	11	0	8	70	14	0	726
8:00 AM	13	202	16	0	19	197	56	0	44	83	15	0	10	79	24	0	758
8:15 AM	21	187	23	0	17	209	45	0	28	66	19	0	12	77	23	0	727
8:30 AM	16	179	18	0	22	188	40	0	40	76	19	0	10	89	20	0	717
8:45 AM	17	200	44	1	28	218	40	0	32	106	15	0	17	63	26	0	807
9:00 AM	11	139	16	0	20	202	45	0	43	109	24	0	13	74	34	0	730
9:15 AM	20	143	16	0	19	218	42	0	30	76	10	0	14	55	16	0	659
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	190	1837	209	1	178	2445	514	0	333	729	151	0	129	910	227	0	7853
APPROACH %'s :	8.49%	82.12%	9.34%	0.04%	5.67%	77.94%	16.39%	0.00%	27.45%	60.10%	12.45%	0.00%	10.19%	71.88%	17.93%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	67	768	101	1	86	812	181	0	144	331	68	0	49	308	93	0	3009
PEAK HR FACTOR :	0.798	0.950	0.574	0.250	0.768	0.931	0.808	0.000	0.818	0.781	0.895	0.000	0.721	0.865	0.894	0.000	0.932
	0.894				0.943				0.887				0.945				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	1.5	0.5	0	1	1	1	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	18	175	14	0	16	104	20	0	29	60	20	0	4	44	19	0	523
2:15 PM	14	166	10	0	8	125	22	0	38	41	12	0	8	39	19	0	502
2:30 PM	13	134	9	0	24	128	35	0	30	73	26	0	2	26	21	0	521
2:45 PM	12	200	10	0	14	132	34	0	44	49	21	0	9	32	21	0	578
3:00 PM	22	244	17	0	19	141	35	0	34	53	12	0	4	40	15	0	636
3:15 PM	17	232	9	0	13	136	27	0	32	62	18	0	8	31	18	0	603
3:30 PM	23	253	23	0	17	150	24	0	34	63	8	0	9	38	18	0	660
3:45 PM	22	237	19	0	33	147	24	0	37	66	20	0	10	44	15	0	674
4:00 PM	27	288	17	0	21	149	27	0	29	62	8	0	4	50	23	0	705
4:15 PM	17	254	24	0	21	124	20	0	38	67	12	0	7	34	16	0	634
4:30 PM	17	267	17	0	36	171	39	0	21	65	14	0	4	43	21	0	715
4:45 PM	25	251	12	0	26	133	29	0	25	71	15	0	8	36	21	0	652
5:00 PM	32	260	22	0	20	178	44	0	22	64	18	0	4	47	21	0	732
5:15 PM	33	242	14	0	21	152	37	0	38	68	19	0	10	60	25	0	719
5:30 PM	37	285	14	0	17	164	29	0	32	61	17	0	6	55	16	0	733
5:45 PM	26	229	17	0	16	144	22	0	32	60	20	0	9	72	17	0	664
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	355	3717	248	0	322	2278	468	0	515	985	260	0	106	691	306	0	10251
APPROACH %'s :	8.22%	86.04%	5.74%	0.00%	10.50%	74.25%	15.25%	0.00%	29.26%	55.97%	14.77%	0.00%	9.61%	62.65%	27.74%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	128	1016	67	0	74	638	132	0	124	253	74	0	29	234	79	0	2848
PEAK HR FACTOR :	0.865	0.891	0.761	0.000	0.881	0.896	0.750	0.000	0.816	0.930	0.925	0.000	0.725	0.813	0.790	0.000	0.971
	0.901				0.872				0.902				0.872				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Washington Blvd & Robertson Blvd/Higuera St
City: Culver City
Control: Signalized

Project ID: 18-05277-005
Date: 5/2/2018

Bikes

NS/EW Streets:	Washington Blvd				Washington Blvd				Robertson Blvd/Higuera St				Robertson Blvd/Higuera St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	1.5	0.5	0	1	1	1	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
7:15 AM	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
7:30 AM	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	4
7:45 AM	0	1	0	0	0	2	0	0	0	1	1	0	0	0	1	0	6
8:00 AM	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3
8:15 AM	0	2	0	0	0	2	0	0	0	0	0	0	0	2	2	0	8
8:30 AM	0	1	0	0	1	1	0	0	0	3	1	0	0	3	0	0	10
8:45 AM	0	1	1	0	0	3	0	0	0	5	0	0	1	0	1	0	12
9:00 AM	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4
9:15 AM	0	3	0	0	0	3	0	0	0	2	1	0	0	1	0	0	10
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	11	1	0	2	15	0	0	0	16	5	0	1	8	4	0	65
APPROACH %'s :	14.29%	78.57%	7.14%	0.00%	11.76%	88.24%	0.00%	0.00%	0.00%	76.19%	23.81%	0.00%	7.69%	61.54%	30.77%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	1	4	1	0	1	7	0	0	0	9	1	0	1	5	3	0	33
PEAK HR FACTOR :	0.250	0.500	0.250	0.000	0.250	0.583	0.000	0.000	0.000	0.450	0.250	0.000	0.250	0.417	0.375	0.000	0.688
	0.750				0.667				0.500				0.563				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	1.5	0.5	0	1	1	1	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	2	0	0	4
2:15 PM	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
2:30 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
2:45 PM	0	3	0	0	1	1	0	0	0	0	0	0	0	1	0	0	6
3:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	3
3:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
3:30 PM	0	1	0	0	0	3	0	0	0	0	0	0	0	1	0	0	5
3:45 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
4:00 PM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	3
4:30 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	3
4:45 PM	0	2	0	0	0	3	0	0	1	0	0	0	0	1	0	0	7
5:00 PM	0	1	0	0	0	2	0	0	0	1	0	0	2	0	1	0	7
5:15 PM	0	1	1	0	0	1	0	0	0	0	0	0	0	1	0	0	4
5:30 PM	1	1	0	0	1	1	0	0	0	0	0	0	0	1	0	0	5
5:45 PM	0	2	0	0	0	1	1	0	0	0	1	0	0	0	0	0	5
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	16	2	0	2	22	2	0	1	3	3	0	2	11	1	0	66
APPROACH %'s :	5.26%	84.21%	10.53%	0.00%	7.69%	84.62%	7.69%	0.00%	14.29%	42.86%	42.86%	0.00%	14.29%	78.57%	7.14%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	5	1	0	1	5	1	0	0	1	1	0	2	2	1	0	21
PEAK HR FACTOR :	0.25	0.625	0.250	0.000	0.250	0.625	0.250	0.000	0.000	0.250	0.250	0.000	0.250	0.500	0.250	0.000	0.750
	0.875				0.875				0.500				0.417				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Washington Blvd & Robertson Blvd/Higuera St **Project ID:** 18-05277-005
City: Culver City **Date:** 5/2/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Washington Blvd		Washington Blvd		Robertson Blvd/Higuera St		Robertson Blvd/Higuera St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:30 AM	1	3	2	0	0	0	0	2	8
6:45 AM	1	2	0	2	0	0	4	2	11
7:00 AM	4	3	5	2	0	0	3	5	22
7:15 AM	0	1	1	1	5	0	2	0	10
7:30 AM	6	1	5	1	5	1	1	4	24
7:45 AM	7	2	3	0	2	2	2	0	18
8:00 AM	4	5	5	2	3	3	5	1	28
8:15 AM	8	4	4	3	2	4	9	0	34
8:30 AM	8	7	3	5	1	2	8	3	37
8:45 AM	13	2	8	0	5	6	7	1	42
9:00 AM	2	7	7	2	4	3	6	3	34
9:15 AM	9	0	11	0	3	4	3	10	40
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	63	37	54	18	30	25	50	31	308
APPROACH %'s :	63.00%	37.00%	75.00%	25.00%	54.55%	45.45%	61.73%	38.27%	
PEAK HR :	**08:00 AM - 09:00 AM**								TOTAL
PEAK HR VOL :	33	18	20	10	11	15	29	5	141
PEAK HR FACTOR :	0.635	0.643	0.625	0.500	0.550	0.625	0.806	0.417	0.839
	0.850		0.938		0.591		0.773		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
2:00 PM	3	4	6	0	5	5	4	3	30
2:15 PM	3	6	0	4	7	2	4	5	31
2:30 PM	4	8	5	7	6	2	6	4	42
2:45 PM	9	6	3	10	2	4	7	2	43
3:00 PM	2	6	1	5	6	2	3	1	26
3:15 PM	7	5	5	4	3	4	4	6	38
3:30 PM	8	6	4	3	2	2	1	9	35
3:45 PM	2	7	2	7	4	3	2	2	29
4:00 PM	1	5	1	5	1	3	4	5	25
4:15 PM	2	6	4	1	4	4	4	4	29
4:30 PM	1	3	2	3	3	1	3	11	27
4:45 PM	2	7	4	1	5	3	2	10	34
5:00 PM	6	7	2	5	3	6	6	8	43
5:15 PM	9	8	0	7	5	6	5	5	45
5:30 PM	4	7	0	4	1	4	5	9	34
5:45 PM	3	9	1	7	3	6	7	7	43
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	66	100	40	73	60	57	67	91	554
APPROACH %'s :	39.76%	60.24%	35.40%	64.60%	51.28%	48.72%	42.41%	57.59%	
PEAK HR :	**05:00 PM - 06:00 PM**								TOTAL
PEAK HR VOL :	22	31	3	23	12	22	23	29	165
PEAK HR FACTOR :	0.611	0.861	0.375	0.821	0.600	0.917	0.821	0.806	0.917
	0.779		0.813		0.773		0.929		

Prepared by National Data & Surveying Services

Hayden Ave & Warner Dr

Peak Hour Turning Movement Count

ID: 18-05277-006
City: Culver City

Day: Wednesday
Date: 05/02/2018

PEAK HOURS

AM	08:00 AM - 09:00 AM
MID	02:15 PM - 03:15 PM
PM	05:15 PM - 06:15 PM

COUNT PERIODS

Hayden Ave

SOUTHBOUND

AM	3	228	46	0	513	AM
MID	0	104	50	0	343	MID
PM	0	150	95	0	406	PM

0 1 0 0

EASTBOUND (Warner Dr)

AM	MID	PM		
6	3	2		
0	0	0	0	
1	3	7	0	
0	1	2	1	
4	6	10	0	
AM	MID	PM		

WESTBOUND (Warner Dr)

	PM	MID	AM
0	55	27	37
1	0	1	0
0	77	66	211
0	0	0	0
	242	219	183
	PM	MID	AM

CONTROL

1-Way Stop(WB)

TEV	1156	749	897
	AM	NOON	PM
PHF	0.92	0.89	0.92

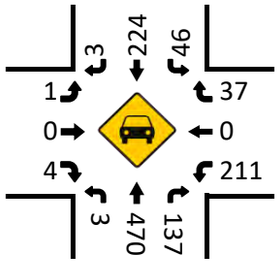
0 0 1 1

PM	247	10	2	344	145	PM
MID	184	8	2	313	168	MID
AM	454	11	3	475	137	AM

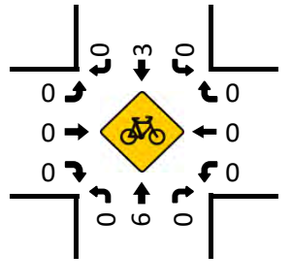
NORTHBOUND

Hayden Ave

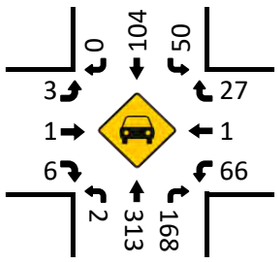
Total Vehicles (AM)



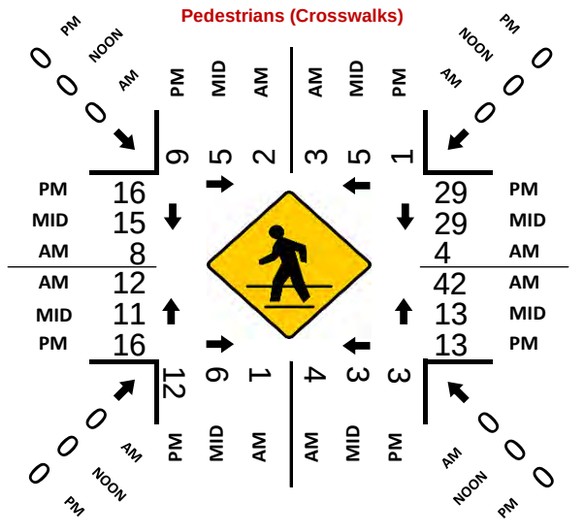
Bikes (AM)



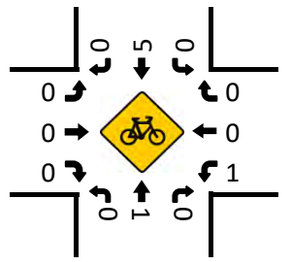
Total Vehicles (MID)



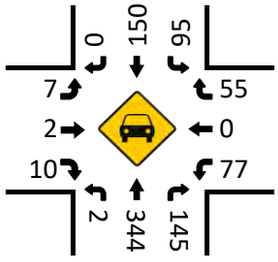
Pedestrians (Crosswalks)



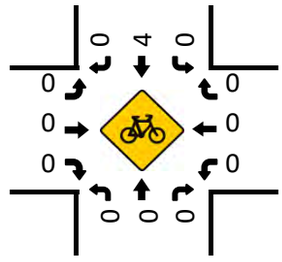
Bikes (MID)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Hayden Ave & Warner Dr
City: Culver City
Control: 1-Way Stop(WB)

Project ID: 18-05277-006
Date: 5/2/2018

Total

NS/EW Streets:	Hayden Ave				Hayden Ave				Warner Dr				Warner Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	25	3	0	3	6	1	0	1	0	0	0	7	0	2	0	48
6:15 AM	0	35	2	0	8	12	0	0	0	0	1	0	18	0	3	0	79
6:30 AM	0	39	9	0	5	13	0	0	0	0	0	0	31	0	1	0	98
6:45 AM	1	55	8	1	6	34	0	1	0	0	0	0	79	0	1	0	186
7:00 AM	2	64	11	0	8	38	1	0	0	0	1	0	81	0	4	0	210
7:15 AM	1	55	8	1	3	43	1	0	0	0	0	0	94	0	3	0	209
7:30 AM	0	61	17	2	7	38	1	0	1	1	1	0	114	0	5	0	248
7:45 AM	0	124	41	1	6	52	0	0	0	0	0	0	63	0	3	0	290
8:00 AM	0	112	33	4	7	51	0	0	0	0	1	0	60	0	9	0	277
8:15 AM	1	108	29	1	12	41	0	0	0	0	1	0	60	0	8	0	261
8:30 AM	0	129	25	5	15	65	2	0	1	0	2	0	51	0	9	0	304
8:45 AM	2	126	50	1	12	71	1	0	0	0	0	0	40	0	11	0	314
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	933	236	16	92	464	7	1	3	1	7	0	698	0	59	0	2524
APPROACH %'s :	0.59%	78.27%	19.80%	1.34%	16.31%	82.27%	1.24%	0.18%	27.27%	9.09%	63.64%	0.00%	92.21%	0.00%	7.79%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	3	475	137	11	46	228	3	0	1	0	4	0	211	0	37	0	1156
PEAK HR FACTOR :	0.375	0.921	0.685	0.550	0.767	0.803	0.375	0.000	0.250	0.000	0.500	0.000	0.879	0.000	0.841	0.000	0.920
	0.874				0.824				0.417				0.899				

NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
1:30 PM	0	69	18	0	6	24	0	1	1	1	1	0	11	0	5	0	137
1:45 PM	0	66	20	0	9	27	0	0	0	1	0	0	19	0	3	0	145
2:00 PM	0	72	26	1	8	17	0	1	0	0	0	0	16	0	5	0	146
2:15 PM	1	77	38	1	11	33	0	0	0	0	1	0	9	0	4	0	175
2:30 PM	0	72	39	2	13	25	0	0	1	1	4	0	16	0	8	0	181
2:45 PM	1	89	51	4	13	20	0	0	2	0	1	0	25	1	4	0	211
3:00 PM	0	75	40	1	13	26	0	0	0	0	0	0	16	0	11	0	182
3:15 PM	0	57	24	1	14	23	1	0	1	0	0	0	19	0	12	1	153
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	577	256	10	87	195	1	2	5	3	7	0	131	1	52	1	1330
APPROACH %'s :	0.24%	68.28%	30.30%	1.18%	30.53%	68.42%	0.35%	0.70%	33.33%	20.00%	46.67%	0.00%	70.81%	0.54%	28.11%	0.54%	
PEAK HR :	02:15 PM - 03:15 PM																TOTAL
PEAK HR VOL :	2	313	168	8	50	104	0	0	3	1	6	0	66	1	27	0	749
PEAK HR FACTOR :	0.500	0.879	0.824	0.500	0.962	0.788	0.000	0.000	0.375	0.250	0.375	0.000	0.660	0.250	0.614	0.000	0.887
	0.847				0.875				0.417				0.783				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	112	42	1	22	30	0	1	0	0	3	0	17	0	22	0	250
4:15 PM	1	91	41	0	17	30	2	0	0	0	1	0	11	0	5	0	199
4:30 PM	0	94	40	1	20	31	0	0	1	0	2	0	19	0	7	0	215
4:45 PM	0	78	45	4	13	27	0	0	1	0	2	0	18	0	6	0	194
5:00 PM	0	90	34	5	14	30	0	0	2	2	4	0	23	0	14	0	218
5:15 PM	1	88	37	1	41	38	0	0	1	0	3	0	12	0	19	0	241
5:30 PM	1	79	30	4	24	35	0	0	2	0	2	0	20	0	8	0	205
5:45 PM	0	85	33	3	15	25	0	0	3	1	3	0	27	0	13	0	208
6:00 PM	0	92	45	2	15	52	0	0	1	1	2	0	18	0	15	0	243
6:15 PM	0	76	33	3	21	40	0	0	1	1	1	0	25	0	10	0	211
6:30 PM	2	67	26	6	18	29	0	0	1	0	3	0	20	0	17	0	189
6:45 PM	0	81	43	0	22	31	0	0	0	0	0	0	18	0	4	0	199
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	5	1033	449	30	242	398	2	1	13	5	26	0	228	0	140	0	2572
APPROACH %'s :	0.33%	68.09%	29.60%	1.98%	37.64%	61.90%	0.31%	0.16%	29.55%	11.36%	59.09%	0.00%	61.96%	0.00%	38.04%	0.00%	
PEAK HR :	05:15 PM - 06:15 PM																TOTAL
PEAK HR VOL :	2	344	145	10	95	150	0	0	7	2	10	0	77	0	55	0	897
PEAK HR FACTOR :	0.500	0.935	0.806	0.625	0.579	0.721	0.000	0.000	0.583	0.500	0.833	0.000	0.713	0.000	0.724	0.000	0.923
	0.901				0.775				0.679				0.825				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hayden Ave & Warner Dr
City: Culver City
Control: 1-Way Stop(WB)

Project ID: 18-05277-006
Date: 5/2/2018

Bikes

NS/EW Streets:	Hayden Ave				Hayden Ave				Warner Dr				Warner Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	10	1	0	0	3	0	0	0	0	0	0	0	0	0	0	14
APPROACH %'s :	0.00%	90.91%	9.09%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	9	0	0	0	3	0	0	0	0	0	0	0	0	0	0	12
PEAK HR FACTOR :	0.000	0.375	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
	0.375				0.375												

NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15 PM	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4
2:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
3:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2	0	0	0	6	0	0	0	0	0	0	1	0	0	0	9
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%					100.00%	0.00%	0.00%	0.00%	
PEAK HR :	02:15 PM - 03:15 PM																TOTAL
PEAK HR VOL :	0	1	0	0	0	5	0	0	0	0	0	0	1	0	0	0	7
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.438
	0.250				0.417								0.250				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
6:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
6:15 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
6:30 PM	0	0	1	0	0	2	0	0	0	0	0	0	0	0	1	0	4
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	2	0	0	14	0	0	0	0	0	0	0	0	1	0	17
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	05:15 PM - 06:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000
					1.000												

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hayden Ave & Warner Dr
City: Culver City
Project ID: 18-05277-006
Date: 5/2/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Hayden Ave		Hayden Ave		Warner Dr		Warner Dr		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:00 AM	0	0	0	0	0	1	1	0	2
6:15 AM	0	0	0	2	0	1	1	0	4
6:30 AM	2	1	4	5	0	0	1	0	13
6:45 AM	1	2	0	1	0	0	0	0	4
7:00 AM	0	1	0	3	1	0	0	2	7
7:15 AM	0	0	0	3	0	0	1	0	4
7:30 AM	0	0	0	0	0	0	0	2	2
7:45 AM	0	1	0	4	1	0	1	0	7
8:00 AM	0	0	0	1	2	0	0	0	3
8:15 AM	0	0	0	0	7	0	0	2	9
8:30 AM	1	0	1	2	14	0	5	3	26
8:45 AM	1	3	0	1	19	4	7	3	38
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	5	8	5	22	44	6	17	12	119
APPROACH %'s :	38.46%	61.54%	18.52%	81.48%	88.00%	12.00%	58.62%	41.38%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	2	3	1	4	42	4	12	8	76
PEAK HR FACTOR :	0.500	0.250	0.250	0.500	0.553	0.250	0.429	0.667	0.500
	0.313		0.417		0.500		0.500		

NOON	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
1:30 PM	0	0	0	4	1	8	3	7	23
1:45 PM	0	0	1	0	10	6	6	1	24
2:00 PM	0	0	0	0	4	7	1	3	15
2:15 PM	0	1	0	0	2	7	2	1	13
2:30 PM	4	1	1	2	4	3	2	4	21
2:45 PM	0	1	4	0	4	7	2	4	22
3:00 PM	1	2	1	1	3	12	5	6	31
3:15 PM	0	0	1	3	5	2	2	3	16
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	5	5	8	10	33	52	23	29	165
APPROACH %'s :	50.00%	50.00%	44.44%	55.56%	38.82%	61.18%	44.23%	55.77%	
PEAK HR :	02:15 PM - 03:15 PM								TOTAL
PEAK HR VOL :	5	5	6	3	13	29	11	15	87
PEAK HR FACTOR :	0.313	0.625	0.375	0.375	0.813	0.604	0.550	0.625	0.702
	0.500		0.563		0.700		0.591		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	1	0	3	2	1	6	13
4:15 PM	0	0	0	2	0	1	2	2	7
4:30 PM	2	1	2	0	3	7	5	5	25
4:45 PM	1	0	2	0	1	7	2	2	15
5:00 PM	1	0	2	0	1	2	5	2	13
5:15 PM	3	1	4	0	3	4	3	4	22
5:30 PM	0	0	3	1	7	7	0	0	18
5:45 PM	1	0	1	0	2	10	3	5	22
6:00 PM	5	0	4	2	1	8	10	7	37
6:15 PM	1	0	1	1	1	8	6	2	20
6:30 PM	0	0	0	0	0	7	2	1	10
6:45 PM	0	2	1	1	2	4	2	8	20
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	14	4	21	7	24	67	41	44	222
APPROACH %'s :	77.78%	22.22%	75.00%	25.00%	26.37%	73.63%	48.24%	51.76%	
PEAK HR :	05:15 PM - 06:15 PM								TOTAL
PEAK HR VOL :	9	1	12	3	13	29	16	16	99
PEAK HR FACTOR :	0.450	0.250	0.750	0.375	0.464	0.725	0.400	0.571	0.669
	0.500		0.625		0.750		0.471		

Prepared by National Data & Surveying Services

Hayden Ave & Higuera St

Peak Hour Turning Movement Count

ID: 18-05277-007
City: Culver City

Day: Wednesday
Date: 05/02/2018

PEAK HOURS	
AM	08:15 AM - 09:15 AM
MID	02:30 PM - 03:30 PM
PM	05:00 PM - 06:00 PM

Hayden Ave – SOUTHBOUND

COUNT PERIODS	Right	Through	Left	U-Turn	Total Departing (Northbound direction)
AM	379	56	3	0	631
MID	146	42	4	0	479
PM	176	53	10	0	509
Lanes	0	1	0	0	

Higuera St – EASTBOUND

	AM	MID	PM	Lanes
Departing (Westbound direction)	385	151	179	
U-Turn	0	1	0	0
Left	218	190	181	1
Through	10	23	29	0
Right	117	107	167	1

Higuera St – WESTBOUND

	PM	MID	AM	Lanes
Right	182	210	377	1
Through	2	2	4	0
Left	29	52	104	1
U-Turn	0	1	0	0
Departing (Eastbound direction)	297	142	79	

Hayden Ave – NORTHBOUND

COUNT PERIODS	Total Departing (Southbound direction)	U-Turn	Left	Through	Right
Lanes		0	0	0.5	0.5
PM	249	0	1	146	258
MID	201	0	2	79	114
AM	277	0	2	36	66

CONTROL: Signalized

	AM	NOON	PM
TEV	1372	973	1234
PHF	0.90		0.97

Total Vehicles (AM)

Approach	Left	Through	Right	U-Turn
Southbound	3	56	379	
Eastbound	218	10	117	
Westbound	104	4	377	
Northbound	2	36	66	

Total Vehicles (MID)

Approach	Left	Through	Right
Southbound	4	42	146
Eastbound	191	23	107
Westbound	53	2	210
Northbound	2	79	114

Total Vehicles (PM)

Approach	Left	Through	Right
Southbound	10	53	176
Eastbound	181	29	167
Westbound	29	2	182
Northbound	1	146	258

Bikes (AM)

Approach	Left	Through	Right
Southbound	0	1	2
Eastbound	9	2	1
Westbound	0	2	0
Northbound	0	0	0

Bikes (MID)

Approach	Left	Through	Right
Southbound	0	0	4
Eastbound	1	4	0
Westbound	0	1	0
Northbound	0	0	0

Bikes (PM)

Approach	Left	Through	Right
Southbound	0	0	6
Eastbound	0	3	0
Westbound	0	1	0
Northbound	0	0	1

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	MID	PM
North	Eastbound	11	3	9
North	Westbound	18	2	6
West	Southbound	4	6	8
West	Northbound	5	8	7
East	Southbound	7	13	36
East	Northbound	49	13	6
South	Eastbound	9	9	12
South	Westbound	11	15	5
Diagonals (all corners)		0	0	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hayden Ave & Higuera St
City: Culver City
Control: Signalized

Project ID: 18-05277-007
Date: 5/2/2018

Total

NS/EW Streets:	Hayden Ave				Hayden Ave				Higuera St				Higuera St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	1	0	0	1	0	1	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	0	4	8	0	0	12	33	0	7	1	9	0	9	1	45	0	129
6:45 AM	0	3	3	0	1	18	84	0	10	0	10	0	19	0	60	0	208
7:00 AM	0	1	4	0	2	24	107	0	11	1	12	0	19	0	57	0	238
7:15 AM	0	4	13	0	0	14	120	0	13	0	7	0	8	1	55	0	235
7:30 AM	0	10	4	0	1	9	156	0	18	3	10	0	16	1	60	0	288
7:45 AM	0	8	12	0	0	6	120	0	44	1	12	0	22	4	108	0	337
8:00 AM	0	6	9	0	0	11	92	0	45	1	15	0	29	1	94	0	303
8:15 AM	0	7	17	0	0	3	104	0	49	1	24	0	21	1	88	0	315
8:30 AM	0	7	10	0	1	10	115	0	30	6	24	0	16	2	111	0	332
8:45 AM	2	10	13	0	2	14	94	0	78	2	32	0	38	1	95	0	381
9:00 AM	0	12	26	0	0	29	66	0	61	1	37	0	29	0	83	0	344
9:15 AM	0	17	18	0	1	14	70	0	46	0	36	0	25	1	73	0	301
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	89	137	0	8	164	1161	0	412	17	228	0	251	13	929	0	3411
APPROACH %'s :	0.88%	39.04%	60.09%	0.00%	0.60%	12.30%	87.10%	0.00%	62.71%	2.59%	34.70%	0.00%	21.04%	1.09%	77.87%	0.00%	
PEAK HR :	08:15 AM - 09:15 AM																TOTAL
PEAK HR VOL :	2	36	66	0	3	56	379	0	218	10	117	0	104	4	377	0	1372
PEAK HR FACTOR :	0.250	0.750	0.635	0.000	0.375	0.483	0.824	0.000	0.699	0.417	0.791	0.000	0.684	0.500	0.849	0.000	0.900
	0.684				0.869				0.770				0.905				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	1	0	0	1	0	1	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	19	22	0	0	18	22	0	27	2	18	0	13	0	54	0	195
2:15 PM	0	17	26	0	1	16	24	0	44	5	18	0	7	0	54	0	212
2:30 PM	0	19	21	0	0	12	31	0	41	7	18	0	9	2	54	0	214
2:45 PM	0	17	17	0	0	9	42	0	51	1	27	0	13	0	81	1	259
3:00 PM	0	9	23	0	1	10	38	0	45	5	23	0	11	2	56	0	223
3:15 PM	0	18	37	0	0	12	32	0	32	12	31	0	18	0	30	0	222
3:30 PM	2	35	37	0	3	11	34	0	62	5	26	1	10	0	43	0	269
3:45 PM	1	32	42	0	1	8	36	0	60	7	33	0	12	2	31	0	265
4:00 PM	1	41	45	0	1	15	33	0	42	7	38	0	12	0	64	1	300
4:15 PM	0	35	55	0	1	13	27	0	53	4	49	0	8	1	54	0	300
4:30 PM	0	53	41	0	2	16	33	0	50	8	36	0	10	0	27	0	276
4:45 PM	0	35	64	0	0	10	44	0	54	2	37	0	7	0	33	0	286
5:00 PM	0	42	67	0	4	17	45	0	45	3	36	0	6	0	53	0	318
5:15 PM	0	30	66	0	4	17	35	0	47	10	45	0	11	0	48	0	313
5:30 PM	0	35	67	0	1	11	46	0	45	5	37	0	8	1	39	0	295
5:45 PM	1	39	58	0	1	8	50	0	44	11	49	0	4	1	42	0	308
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	5	476	688	0	20	203	572	0	742	94	521	1	159	9	763	2	4255
APPROACH %'s :	0.43%	40.72%	58.85%	0.00%	2.52%	25.53%	71.95%	0.00%	54.64%	6.92%	38.37%	0.07%	17.04%	0.96%	81.78%	0.21%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	146	258	0	10	53	176	0	181	29	167	0	29	2	182	0	1234
PEAK HR FACTOR :	0.250	0.869	0.963	0.000	0.625	0.779	0.880	0.000	0.963	0.659	0.852	0.000	0.659	0.500	0.858	0.000	0.970
	0.929				0.905				0.906				0.903				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hayden Ave & Higuera St
City: Culver City
Control: Signalized

Project ID: 18-05277-007
Date: 5/2/2018

Bikes

NS/EW Streets:	Hayden Ave				Hayden Ave				Higuera St				Higuera St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	1	0	0	1	0	1	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0	0	4
8:15 AM	0	0	0	0	0	0	2	0	2	1	0	0	0	0	0	0	5
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	6	0	0	0	0	1	0	0	7
9:00 AM	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3
9:15 AM	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	1	2	0	12	5	2	0	0	5	1	0	29
APPROACH %'s :					25.00%	25.00%	50.00%	0.00%	63.16%	26.32%	10.53%	0.00%	0.00%	83.33%	16.67%	0.00%	
PEAK HR :	08:15 AM - 09:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	2	0	9	2	1	0	0	2	0	0	17
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.375	0.500	0.250	0.000	0.000	0.500	0.000	0.000	0.607
					0.375				0.500				0.500				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	1	0	0	1	0	1	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
2:15 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	4
2:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
2:45 PM	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	3
3:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	3
3:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
3:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	3
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	3
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	1	0	0	2	0	0	0	1	0	0	4
5:30 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2	1	0	1	0	16	0	2	10	0	0	0	3	1	0	36
APPROACH %'s :	0.00%	66.67%	33.33%	0.00%	5.88%	0.00%	94.12%	0.00%	16.67%	83.33%	0.00%	0.00%	0.00%	75.00%	25.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	1	0	0	0	6	0	0	3	0	0	0	1	0	0	11
PEAK HR FACTOR :	0.00	0.000	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.375	0.000	0.000	0.000	0.250	0.000	0.000	0.688
			0.250				0.500				0.375				0.250		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hayden Ave & Higuera St
City: Culver City
Project ID: 18-05277-007
Date: 5/2/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Hayden Ave		Hayden Ave		Higuera St		Higuera St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:30 AM	0	0	2	0	1	0	4	0	7
6:45 AM	0	0	0	1	0	0	0	0	1
7:00 AM	1	1	0	0	1	0	0	0	3
7:15 AM	0	1	0	3	1	0	1	0	6
7:30 AM	0	0	0	1	0	0	1	0	2
7:45 AM	2	0	2	1	3	0	1	0	9
8:00 AM	0	1	4	0	3	1	0	4	13
8:15 AM	1	1	0	1	5	0	0	0	8
8:30 AM	1	1	2	1	11	0	0	2	18
8:45 AM	6	5	4	5	16	4	1	2	43
9:00 AM	3	11	0	4	17	3	4	0	42
9:15 AM	2	6	1	3	9	1	2	1	25
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	16	27	15	20	67	9	14	9	177
APPROACH %'s :	37.21%	62.79%	42.86%	57.14%	88.16%	11.84%	60.87%	39.13%	
PEAK HR :	08:15 AM - 09:15 AM								TOTAL
PEAK HR VOL :	11	18	6	11	49	7	5	4	111
PEAK HR FACTOR :	0.458	0.409	0.375	0.550	0.721	0.438	0.313	0.500	0.645
	0.518		0.472		0.700		0.563		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
2:00 PM	3	6	8	1	4	5	0	1	28
2:15 PM	1	1	0	2	0	2	2	0	8
2:30 PM	1	0	1	0	6	1	2	2	13
2:45 PM	1	3	1	2	1	2	3	1	14
3:00 PM	2	9	0	0	4	3	2	2	22
3:15 PM	2	3	1	0	2	7	1	1	17
3:30 PM	4	5	0	0	2	0	1	0	12
3:45 PM	5	3	0	0	1	2	0	2	13
4:00 PM	1	2	2	0	0	1	1	1	8
4:15 PM	3	2	2	0	0	1	0	1	9
4:30 PM	0	1	1	1	0	3	1	0	7
4:45 PM	2	5	0	1	0	5	0	0	13
5:00 PM	3	2	3	1	2	8	2	1	22
5:15 PM	3	0	4	0	1	7	1	4	20
5:30 PM	2	1	2	3	1	10	3	2	24
5:45 PM	1	3	3	1	2	11	1	1	23
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	34	46	28	12	26	68	20	19	253
APPROACH %'s :	42.50%	57.50%	70.00%	30.00%	27.66%	72.34%	51.28%	48.72%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	9	6	12	5	6	36	7	8	89
PEAK HR FACTOR :	0.750	0.500	0.750	0.417	0.750	0.818	0.583	0.500	0.927
	0.750		0.850		0.808		0.750		

Prepared by National Data & Surveying Services

Eastham Dr & Higuera St

Peak Hour Turning Movement Count

ID: 18-05277-008
City: Culver City

Day: Wednesday
Date: 05/02/2018

PEAK HOURS

AM	08:15 AM - 09:15 AM
MID	02:30 PM - 03:30 PM
PM	05:00 PM - 06:00 PM

COUNT PERIODS

SOUTHBOUND — Eastham Dr

AM	202	1	95	0	409	AM
MID	99	7	370	0	17	MID
PM	29	2	554	0	116	PM

EASTBOUND — Higuera St

AM	MID	PM		
683	278	161	⇦	
0	1	1	↶	0
6	16	24	↱	1
95	166	379	→	2
0	3	3	↷	0
AM	MID	PM		

WESTBOUND — Higuera St

PM	MID	AM		
86	0	403	↷	0
130	178	481	←	1
7	3	2	↰	1
1	4	3	↶	0
951	540	195	⇨	
PM	MID	AM		

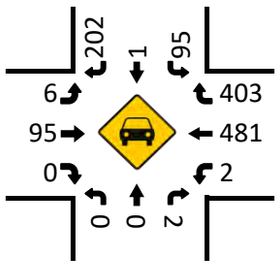
NORTHBOUND — Eastham Dr

PM	12	0	1	6	17	PM
MID	13	0	0	1	0	MID
AM	3	0	0	0	2	AM

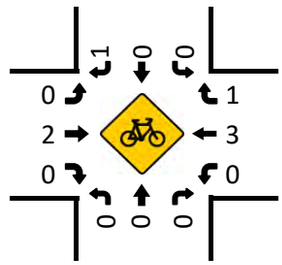
	1	0	1	0
	↶	←	↑	↱
	0	0	1	0

CONTROL			
Signalized			
TEV	1290 AM	848 NOON	1240 PM
PHF	0.90		0.94

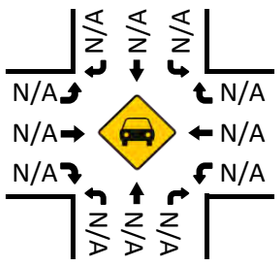
Total Vehicles (AM)



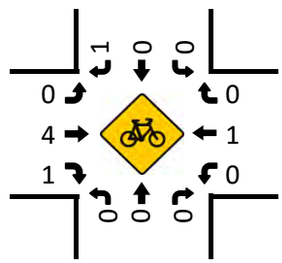
Bikes (AM)



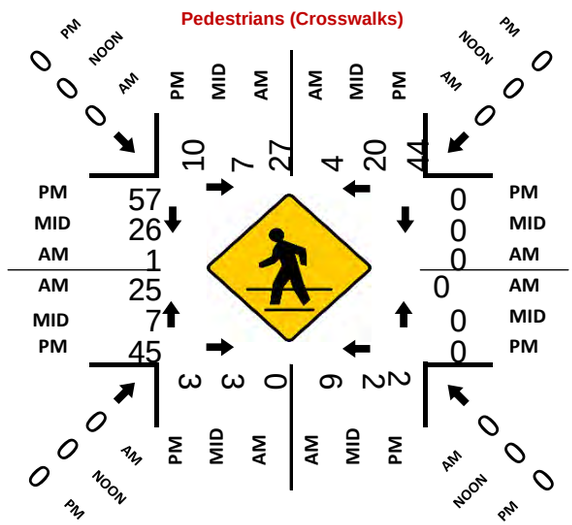
Total Vehicles (MID)



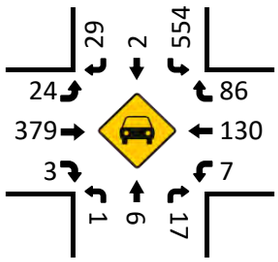
Bikes (MID)



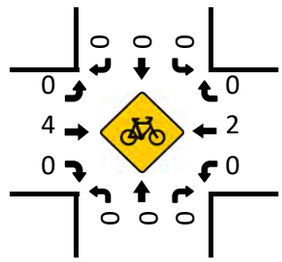
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Eastham Dr & Higuera St
City: Culver City
Control: Signalized

Project ID: 18-05277-008
Date: 5/2/2018

Total

NS/EW Streets:	Eastham Dr				Eastham Dr				Higuera St				Higuera St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	0	1	0	1	2	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	0	0	0	0	6	0	1	0	0	5	0	0	0	63	44	1	120
6:45 AM	0	0	0	0	8	0	4	0	0	5	0	0	0	69	89	0	175
7:00 AM	0	0	0	0	4	0	3	0	0	4	0	0	0	88	108	0	207
7:15 AM	0	0	0	0	10	0	5	0	1	10	0	0	0	64	94	0	184
7:30 AM	0	0	0	0	13	0	16	0	3	8	0	0	0	68	137	0	245
7:45 AM	0	0	0	0	20	0	57	0	2	29	0	0	0	103	102	0	313
8:00 AM	0	0	0	0	24	0	46	0	3	27	0	0	0	119	96	0	315
8:15 AM	0	0	0	0	22	0	58	0	1	26	0	0	0	95	99	1	302
8:30 AM	0	0	2	0	25	0	39	0	2	18	0	0	2	124	88	0	300
8:45 AM	0	0	0	0	23	1	67	0	1	19	0	0	0	124	121	1	357
9:00 AM	0	0	0	0	25	0	38	0	2	32	0	0	0	138	95	1	331
9:15 AM	0	0	1	0	18	0	22	0	2	14	0	0	1	113	74	0	245
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	3	0	198	1	356	0	17	197	0	0	3	1168	1147	4	3094
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	35.68%	0.18%	64.14%	0.00%	7.94%	92.06%	0.00%	0.00%	0.13%	50.30%	49.40%	0.17%	
PEAK HR :	08:15 AM - 09:15 AM																TOTAL
PEAK HR VOL :	0	0	2	0	95	1	202	0	6	95	0	0	2	481	403	3	1290
PEAK HR FACTOR :	0.000	0.000	0.250	0.000	0.950	0.250	0.754	0.000	0.750	0.742	0.000	0.000	0.250	0.871	0.833	0.750	0.903
	0.250				0.819				0.743				0.903				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	0	1	0	1	2	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	1	0	37	0	24	0	4	30	1	0	0	48	24	0	169
2:15 PM	0	0	0	0	65	0	24	0	2	30	0	0	1	38	25	1	186
2:30 PM	0	0	0	0	62	1	33	0	3	38	1	0	0	46	28	0	212
2:45 PM	0	1	0	0	74	2	35	0	4	27	0	0	1	57	32	0	233
3:00 PM	0	0	0	0	87	1	32	0	2	42	0	0	1	49	36	3	253
3:15 PM	0	0	0	0	84	1	12	0	4	48	1	0	0	29	30	0	209
3:30 PM	0	0	0	0	125	3	20	0	6	49	2	1	1	43	20	1	271
3:45 PM	0	0	1	0	140	2	15	0	3	53	0	0	4	38	26	0	282
4:00 PM	0	1	4	0	106	0	18	0	2	72	2	0	4	50	20	0	279
4:15 PM	0	0	0	0	154	2	16	0	3	63	0	1	1	39	14	0	293
4:30 PM	0	0	0	0	113	1	4	0	4	68	0	0	2	37	16	0	245
4:45 PM	0	0	2	0	108	1	12	0	3	67	2	0	4	32	19	0	250
5:00 PM	1	1	5	0	126	0	11	0	3	105	1	1	3	31	22	0	310
5:15 PM	0	0	3	0	147	0	5	0	6	99	1	0	0	39	21	0	321
5:30 PM	0	3	7	0	154	1	9	0	7	96	1	0	2	31	18	0	329
5:45 PM	0	2	2	0	127	1	4	0	8	79	0	0	2	29	25	1	280
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	8	25	0	1709	16	274	0	64	966	12	3	26	636	376	6	4122
APPROACH %'s :	2.94%	23.53%	73.53%	0.00%	85.49%	0.80%	13.71%	0.00%	6.12%	92.44%	1.15%	0.29%	2.49%	60.92%	36.02%	0.57%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	6	17	0	554	2	29	0	24	379	3	1	7	130	86	1	1240
PEAK HR FACTOR :	0.250	0.500	0.607	0.000	0.899	0.500	0.659	0.000	0.750	0.902	0.750	0.250	0.583	0.833	0.860	0.250	0.942
	0.600				0.892				0.925				0.933				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Eastham Dr & Higuera St
City: Culver City
Control: Signalized

Project ID: 18-05277-008
Date: 5/2/2018

Bikes

NS/EW Streets:	Eastham Dr				Eastham Dr				Higuera St				Higuera St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	0	1	0	1	2	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	3
9:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
9:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	2	0	0	4	0	0	0	8	2	0	16
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	80.00%	20.00%	0.00%	
PEAK HR :	08:15 AM - 09:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	0	2	0	0	0	3	1	0	7
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.375	0.250	0.000	0.583
							0.250				0.500				0.500		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	0	1	0	1	2	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	4
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
2:30 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
2:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
3:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	3
3:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	0	1	0	1	12	1	0	0	5	1	0	22
APPROACH %'s :					50.00%	0.00%	50.00%	0.00%	7.14%	85.71%	7.14%	0.00%	0.00%	83.33%	16.67%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	4	0	0	0	2	0	0	6
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.333	0.000	0.000	0.000	0.500	0.000	0.000	0.500
											0.333				0.500		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Eastham Dr & Higuera St
City: Culver City
Project ID: 18-05277-008
Date: 5/2/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Eastham Dr		Eastham Dr		Higuera St		Higuera St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:30 AM	1	0	2	0	0	0	0	0	3
6:45 AM	0	0	0	0	0	0	0	0	0
7:00 AM	0	1	0	0	0	0	0	0	1
7:15 AM	0	2	0	1	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	3	0	0	0	0	2	5
8:00 AM	0	0	0	0	0	1	0	0	1
8:15 AM	2	3	0	0	0	0	1	0	6
8:30 AM	8	0	0	1	0	0	8	0	17
8:45 AM	9	0	0	3	0	0	12	0	24
9:00 AM	8	1	0	2	0	0	4	1	16
9:15 AM	4	0	1	0	0	0	4	0	9
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	32	7	6	7	0	1	29	3	85
APPROACH %'s :	82.05%	17.95%	46.15%	53.85%	0.00%	100.00%	90.63%	9.38%	
PEAK HR :	08:15 AM - 09:15 AM								TOTAL
PEAK HR VOL :	27	4	0	6	0	0	25	1	63
PEAK HR FACTOR :	0.750	0.333		0.500			0.521	0.250	0.656
	0.861		0.500				0.542		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
2:00 PM	0	3	2	3	0	0	1	1	10
2:15 PM	3	0	0	2	0	0	0	0	5
2:30 PM	2	5	0	0	0	1	2	8	18
2:45 PM	0	5	1	2	0	0	2	9	19
3:00 PM	2	8	1	0	0	0	0	3	14
3:15 PM	3	2	1	0	0	0	3	6	15
3:30 PM	2	2	1	2	0	0	0	4	11
3:45 PM	3	3	3	4	1	0	5	24	43
4:00 PM	3	6	2	0	0	0	5	11	27
4:15 PM	0	3	1	0	0	0	0	5	9
4:30 PM	4	1	0	0	0	0	1	0	6
4:45 PM	1	8	2	0	0	0	0	14	25
5:00 PM	5	18	0	0	0	0	19	18	60
5:15 PM	0	7	2	0	0	0	0	10	19
5:30 PM	2	8	0	1	0	0	23	18	52
5:45 PM	3	11	1	1	0	0	3	11	30
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	33	90	17	15	1	1	64	142	363
APPROACH %'s :	26.83%	73.17%	53.13%	46.88%	50.00%	50.00%	31.07%	68.93%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	10	44	3	2	0	0	45	57	161
PEAK HR FACTOR :	0.500	0.611	0.375	0.500			0.489	0.792	0.671
	0.587		0.625				0.622		

Prepared by National Data & Surveying Services

Rodeo Dr/Jefferson Blvd & Rodeo Rd/Higuera St

Peak Hour Turning Movement Count

ID: 18-05277-009
City: Culver City

Day: Wednesday
Date: 05/02/2018

PEAK HOURS

AM	08:00 AM - 09:00 AM
MID	02:30 PM - 03:30 PM
PM	04:45 PM - 05:45 PM

COUNT PERIODS

SOUTHBOUND — Rodeo Dr/Jefferson Blvd

AM	78	808	112	0	1102	AM
MID	37	413	207	0	998	MID
PM	12	490	156	0	1031	PM

EASTBOUND — Rodeo Rd/Higuera St

AM	MID	PM		
876	320	223	⇦	
0	0	0	↶	0
28	40	39	↰	1
115	463	755	←	2
48	63	137	↲	1
AM	MID	PM		

WESTBOUND — Rodeo Rd/Higuera St

PM	MID	AM		
125	196	428	↰	1
159	229	668	←	1
354	380	806	↙	2
0	0	0	↶	0
940	673	228	⇨	
PM	MID	AM		

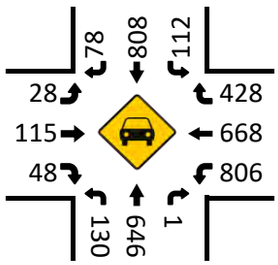
NORTHBOUND — Rodeo Dr/Jefferson Blvd

PM	983	2	52	867	29	PM
MID	856	0	54	762	3	MID
AM	1662	0	130	646	1	AM
		0	1	2	0	

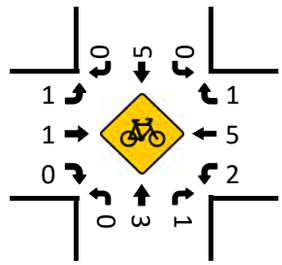
CONTROL: Signalized

TEV	3868 AM	2847 NOON	3177 PM
PHF	0.99		0.95

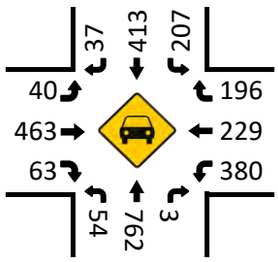
Total Vehicles (AM)



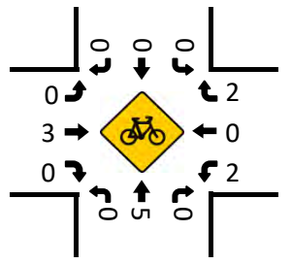
Bikes (AM)



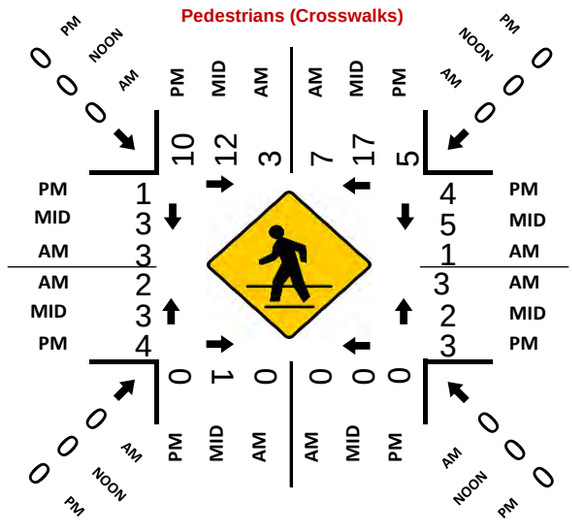
Total Vehicles (MID)



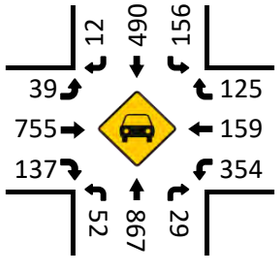
Bikes (MID)



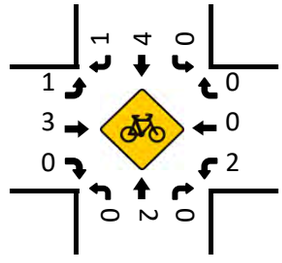
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Rodeo Dr/Jefferson Blvd & Rodeo Rd/Higuera St
City: Culver City
Control: Signalized

Project ID: 18-05277-009
Date: 5/2/2018

Total

NS/EW Streets:	Rodeo Dr/Jefferson Blvd					Rodeo Dr/Jefferson Blvd				Rodeo Rd/Higuera St				Rodeo Rd/Higuera St				
AM	NORTHBOUND					SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	1	3	0	0	1	2	1	0	2	1	1	0	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	6	96	0	0	30	9	109	8	0	1	9	4	0	131	108	143	0	654
6:45 AM	7	125	0	0	40	20	149	7	0	1	12	1	0	191	155	138	0	846
7:00 AM	15	186	0	0	55	24	133	6	0	0	8	3	0	225	167	117	0	939
7:15 AM	10	143	1	1	63	23	179	7	0	2	11	5	0	225	155	121	0	946
7:30 AM	22	161	0	0	79	24	194	7	0	2	18	3	0	286	173	117	0	1086
7:45 AM	18	116	0	0	86	34	164	11	0	5	33	9	0	232	180	131	0	1019
8:00 AM	30	157	0	0	99	20	205	18	0	12	33	12	0	195	165	113	0	1059
8:15 AM	33	167	1	0	100	29	208	15	0	5	31	11	0	222	152	106	0	1080
8:30 AM	32	167	0	0	112	27	192	16	0	3	28	11	0	206	179	102	0	1075
8:45 AM	35	155	0	0	99	36	203	29	0	8	23	14	0	183	172	107	0	1064
9:00 AM	37	155	0	1	119	24	139	22	0	9	32	15	0	194	170	120	0	1037
9:15 AM	42	164	0	0	102	32	153	9	0	2	24	12	0	171	122	102	0	935
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	287	1792	2	2	984	302	2028	155	0	50	262	100	0	2461	1898	1417	0	11740
APPROACH %'s :	9.36%	58.43%	0.07%	0.07%	32.08%	12.15%	81.61%	6.24%	0.00%	12.14%	63.59%	24.27%	0.00%	42.61%	32.86%	24.53%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																	TOTAL
PEAK HR VOL :	130	646	1	0	410	112	808	78	0	28	115	48	0	806	668	428	0	4278
PEAK HR FACTOR :	0.929	0.967	0.250	0.000	0.915	0.778	0.971	0.672	0.000	0.583	0.871	0.857	0.000	0.908	0.933	0.947	0.000	0.990
			0.954				0.931				0.838				0.976			

PM	NORTHBOUND					SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	1	3	0	0	1	2	1	0	2	1	1	0	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	6	159	0	0	195	52	96	7	0	9	50	12	0	111	52	49	0	798
2:15 PM	10	152	0	0	155	53	115	11	0	7	89	9	0	103	49	47	0	800
2:30 PM	8	175	4	0	215	60	97	6	0	7	75	12	0	92	60	56	0	867
2:45 PM	12	177	0	0	166	42	118	11	0	8	93	10	0	102	71	61	0	871
3:00 PM	15	178	0	0	218	53	105	11	0	8	112	12	0	104	68	50	0	934
3:15 PM	13	213	0	0	201	55	106	8	0	8	114	19	0	88	39	44	0	908
3:30 PM	14	194	3	0	218	57	84	7	0	16	144	22	0	86	51	41	0	937
3:45 PM	14	165	7	0	198	48	135	4	0	7	162	21	0	85	47	21	0	914
4:00 PM	12	206	3	0	197	54	106	3	0	13	140	30	0	66	54	35	0	919
4:15 PM	10	218	3	0	189	49	116	4	0	7	183	27	0	69	39	32	0	946
4:30 PM	12	238	16	0	168	32	124	2	0	5	146	20	0	89	41	35	0	928
4:45 PM	15	236	17	1	212	38	138	4	0	17	150	23	0	86	32	34	0	1003
5:00 PM	15	208	3	0	197	38	107	5	0	7	203	29	0	78	45	29	0	964
5:15 PM	14	201	2	1	179	43	107	2	0	6	200	42	0	93	37	23	0	950
5:30 PM	8	222	7	0	196	37	138	1	0	9	202	43	0	97	45	39	0	1044
5:45 PM	10	234	10	0	150	31	153	4	0	7	150	36	0	95	37	21	0	938
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	188	3176	75	2	3054	742	1845	90	0	141	2213	367	0	1444	767	617	0	14721
APPROACH %'s :	2.89%	48.90%	1.15%	0.03%	47.02%	27.72%	68.92%	3.36%	0.00%	5.18%	81.33%	13.49%	0.00%	51.06%	27.12%	21.82%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																	TOTAL
PEAK HR VOL :	52	867	29	2	784	156	490	12	0	39	755	137	0	354	159	125	0	3961
PEAK HR FACTOR :	0.867	0.918	0.426	0.500	0.925	0.907	0.888	0.600	0.000	0.574	0.930	0.797	0.000	0.912	0.883	0.801	0.000	0.949
			0.901				0.914				0.916				0.881			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Rodeo Dr/Jefferson Blvd & Rodeo Rd/Higuera St
City: Culver City
Control: Signalized

Project ID: 18-05277-009
Date: 5/2/2018

Bikes

NS/EW Streets:	Rodeo Dr/Jefferson Blvd					Rodeo Dr/Jefferson Blvd				Rodeo Rd/Higuera St				Rodeo Rd/Higuera St				
AM	NORTHBOUND					SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	1	3	0	0	1	2	1	0	2	1	1	0	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
7:15 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	4
7:30 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	3	0	0	0	5
7:45 AM	0	0	0	0	0	0	2	0	0	1	0	0	0	3	1	0	0	7
8:00 AM	0	1	0	0	0	0	3	0	0	0	1	0	0	0	2	0	0	7
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	4
8:30 AM	0	2	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	5
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	3
9:00 AM	0	1	0	0	0	0	0	0	0	0	0	1	0	2	1	0	0	5
9:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	2	0	5
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	8	1	0	0	0	12	0	0	2	1	1	0	12	10	3	0	50
APPROACH %'s :	0.00%	88.89%	11.11%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	50.00%	25.00%	25.00%	0.00%	48.00%	40.00%	12.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																	TOTAL
PEAK HR VOL :	0	3	1	0	0	0	5	0	0	1	1	0	0	2	5	1	0	19
PEAK HR FACTOR :	0.000	0.375	0.250	0.000	0.000	0.000	0.417	0.000	0.000	0.250	0.250	0.000	0.000	0.500	0.625	0.250	0.000	0.679
			0.500				0.417				0.500				0.667			

PM	NORTHBOUND					SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	1	3	0	0	1	2	1	0	2	1	1	0	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	1	0	0	0	0	0	1	0	0	1	0	0	1	2	0	0	6
2:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	3
2:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
2:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
3:00 PM	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	4
3:15 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
3:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	5
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
4:15 PM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	2	1	0	0	2	0	0	0	0	0	0	5
5:30 PM	0	0	0	0	0	0	2	0	0	1	1	0	0	2	0	0	0	6
5:45 PM	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	3
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	12	0	0	0	0	5	3	0	1	11	1	0	7	3	2	0	45
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	62.50%	37.50%	0.00%	7.69%	84.62%	7.69%	0.00%	58.33%	25.00%	16.67%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																	TOTAL
PEAK HR VOL :	0	2	0	0	0	0	4	1	0	1	3	0	0	2	0	0	0	13
PEAK HR FACTOR :	0.00	0.500	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.250	0.375	0.000	0.000	0.250	0.000	0.000	0.000	0.542
			0.500				0.417				0.500				0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Rodeo Dr/Jefferson Blvd & Rodeo Rd/Higuera St **Project ID:** 18-05277-009
City: Culver City **Date:** 5/2/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Rodeo Dr/Jefferson Blvd		Rodeo Dr/Jefferson Blvd		Rodeo Rd/Higuera St		Rodeo Rd/Higuera St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:30 AM	1	6	0	0	0	0	0	1	8
6:45 AM	0	0	0	0	0	2	0	0	2
7:00 AM	0	3	0	0	0	1	0	0	4
7:15 AM	0	1	0	0	0	2	0	0	3
7:30 AM	1	1	0	0	0	2	1	1	6
7:45 AM	2	0	0	0	1	1	1	0	5
8:00 AM	0	0	0	0	1	0	0	0	1
8:15 AM	2	2	0	0	0	0	1	1	6
8:30 AM	0	1	0	0	0	0	0	1	2
8:45 AM	1	4	0	0	2	1	1	1	10
9:00 AM	2	2	0	0	0	1	0	2	7
9:15 AM	1	0	0	0	0	0	1	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	10	20	0	0	4	10	5	7	56
APPROACH %'s :	33.33%	66.67%			28.57%	71.43%	41.67%	58.33%	
PEAK HR :	**08:00 AM - 09:00 AM**								TOTAL
PEAK HR VOL :	3	7	0	0	3	1	2	3	19
PEAK HR FACTOR :	0.375	0.438			0.375	0.250	0.500	0.750	0.475
	0.500				0.333		0.625		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
2:00 PM	0	2	1	0	1	0	0	1	5
2:15 PM	3	1	0	0	0	0	0	0	4
2:30 PM	1	4	0	0	0	0	1	0	6
2:45 PM	1	0	1	0	0	0	3	1	6
3:00 PM	3	5	0	0	0	0	0	1	9
3:15 PM	1	3	0	0	0	5	0	0	9
3:30 PM	2	4	1	0	2	0	1	2	12
3:45 PM	6	5	0	0	0	0	2	0	13
4:00 PM	5	0	0	0	1	2	1	0	9
4:15 PM	0	0	1	0	1	0	0	0	2
4:30 PM	3	2	0	0	0	0	0	0	5
4:45 PM	1	2	0	0	1	1	0	0	5
5:00 PM	5	1	0	0	1	1	3	1	12
5:15 PM	1	0	0	0	1	0	1	0	3
5:30 PM	3	2	0	0	0	2	0	0	7
5:45 PM	0	0	0	0	0	1	0	0	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	35	31	4	0	8	12	12	6	108
APPROACH %'s :	53.03%	46.97%	100.00%	0.00%	40.00%	60.00%	66.67%	33.33%	
PEAK HR :	**04:45 PM - 05:45 PM**								TOTAL
PEAK HR VOL :	10	5	0	0	3	4	4	1	27
PEAK HR FACTOR :	0.500	0.625			0.750	0.500	0.333	0.250	0.563
	0.625				0.875		0.313		

Prepared by NDS/ATD

VOLUME

Schaefer St Bet. Higuera St & National Blvd

Day: Wednesday
Date: 5/2/2018

City: Culver City
Project #: CA18_5278_001

DAILY TOTALS	NB	SB	EB	WB	Total
	311	456	0	0	767

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	1		2				3		12:00	10		3				13	
00:15	0		1				1		12:15	8		4				12	
00:30	0		0				0		12:30	7		6				13	
00:45	0	1	0	3			0	4	12:45	9	34	5	18			14	52
01:00	0		0				0		13:00	10		4				14	
01:15	0		0				0		13:15	9		2				11	
01:30	0		0				0		13:30	7		4				11	
01:45	1	1	0				1	1	13:45	9	35	3	13			12	48
02:00	0		0				0		14:00	10		4				14	
02:15	1		1				2		14:15	6		6				12	
02:30	0		0				0		14:30	8		3				11	
02:45	0	1	0	1			0	2	14:45	5	29	5	18			10	47
03:00	0		0				0		15:00	7		5				12	
03:15	0		0				0		15:15	3		1				4	
03:30	0		0				0		15:30	5		7				12	
03:45	1	1	2	2			3	3	15:45	4	19	5	18			9	37
04:00	0		0				0		16:00	3		4				7	
04:15	0		0				0		16:15	5		5				10	
04:30	0		0				0		16:30	6		5				11	
04:45	1	1	0				1	1	16:45	3	17	6	20			9	37
05:00	0		0				0		17:00	6		7				13	
05:15	0		0				0		17:15	4		6				10	
05:30	0		1				1		17:30	4		5				9	
05:45	3	3	2	3			5	6	17:45	6	20	8	26			14	46
06:00	0		4				4		18:00	3		12				15	
06:15	4		1				5		18:15	4		16				20	
06:30	1		1				2		18:30	3		5				8	
06:45	1	6	4	10			5	16	18:45	5	15	4	37			9	52
07:00	1		13				14		19:00	5		2				7	
07:15	2		13				15		19:15	5		6				11	
07:30	0		13				13		19:30	1		2				3	
07:45	4	7	19	58			23	65	19:45	5	16	2	12			7	28
08:00	4		14				18		20:00	2		4				6	
08:15	6		20				26		20:15	2		1				3	
08:30	4		22				26		20:30	1		2				3	
08:45	3	17	34	90			37	107	20:45	4	9	1	8			5	17
09:00	10		23				33		21:00	2		2				4	
09:15	5		7				12		21:15	1		2				3	
09:30	4		11				15		21:30	2		4				6	
09:45	5	24	5	46			10	70	21:45	0	5	1	9			1	14
10:00	6		5				11		22:00	3		2				5	
10:15	3		7				10		22:15	0		0				0	
10:30	3		5				8		22:30	2		2				4	
10:45	5	17	9	26			14	43	22:45	0	5	2	6			2	11
11:00	5		12				17		23:00	0		1				1	
11:15	8		8				16		23:15	2		0				2	
11:30	4		4				8		23:30	0		2				2	
11:45	9	26	5	29			14	55	23:45	0	2	0	3			0	5
TOTALS		105		268				373	TOTALS		206		188				394
SPLIT %		28.2%		71.8%				48.6%	SPLIT %		52.3%		47.7%				51.4%

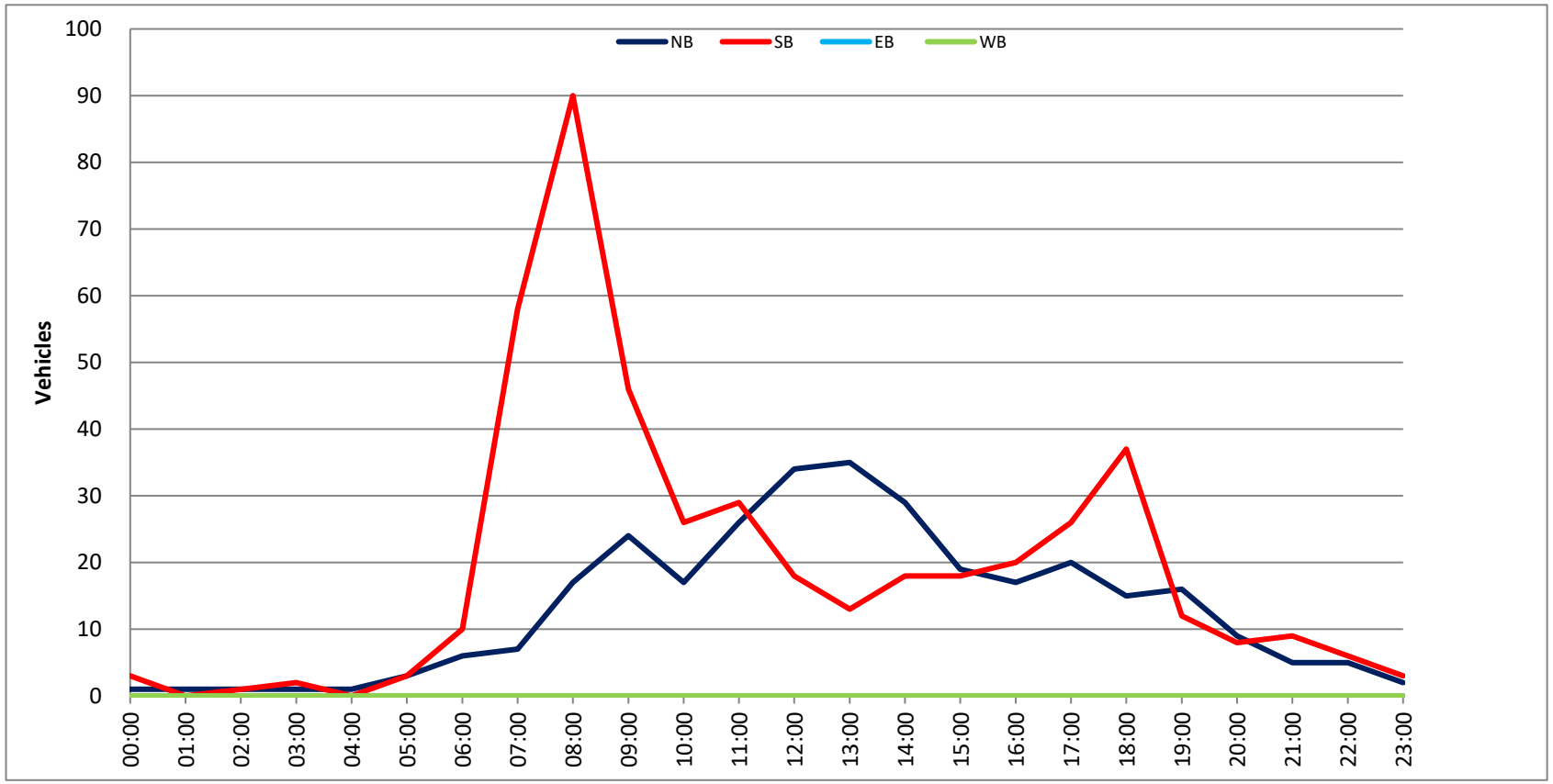
DAILY TOTALS	NB	SB	EB	WB	Total
	311	456	0	0	767

AM Peak Hour	11:45		08:15					08:15	PM Peak Hour	12:30		17:30					17:30
AM Pk Volume	34		99					122	PM Pk Volume	35		41					58
Pk Hr Factor	0.850		0.728					0.824	Pk Hr Factor	0.875		0.641					0.725
7 - 9 Volume	24		148		0	0		172	4 - 6 Volume	37		46		0	0		83
7 - 9 Peak Hour	07:45		08:00					08:00	4 - 6 Peak Hour	16:15		17:00					17:00
7 - 9 Pk Volume	18		90		0	0		107	4 - 6 Pk Volume	20		26		0	0		46
Pk Hr Factor	0.750		0.662		0.000	0.000		0.723	Pk Hr Factor	0.833		0.813		0.000	0.000		0.821

Prepared by NDS/ATD

Project #: CA18_5278_001 **City:** Culver City

Location: Schaefer St Bet. Higuera St & National Blvd **Date:** 5/2/2018



Prepared by NDS/ATD

VOLUME

Schaefer St Bet. Higuera St & National Blvd

Day: Thursday
Date: 5/3/2018

City: Culver City
Project #: CA18_5278_001

DAILY TOTALS	NB	SB	EB	WB	Total
	332	465	0	0	797

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	1		0				1		12:00	12		5				17	
00:15	1		1				2		12:15	9		4				13	
00:30	1		1				2		12:30	9		4				13	
00:45	0	3	1	3			1	6	12:45	6	36	8	21			14	57
01:00	0		0				0		13:00	5		5				10	
01:15	1		1				2		13:15	10		8				18	
01:30	0		0				0		13:30	11		15				26	
01:45	0	1	0	1			0	2	13:45	10	36	8	36			18	72
02:00	1		1				2		14:00	8		6				14	
02:15	0		0				0		14:15	5		4				9	
02:30	0		0				0		14:30	3		2				5	
02:45	0	1	0	1			0	2	14:45	1	17	9	21			10	38
03:00	0		0				0		15:00	9		5				14	
03:15	0		0				0		15:15	2		2				4	
03:30	0		0				0		15:30	2		5				7	
03:45	0		0				0		15:45	1	14	6	18			7	32
04:00	0		0				0		16:00	1		4				5	
04:15	0		0				0		16:15	7		2				9	
04:30	0		0				0		16:30	9		3				12	
04:45	1	1	0				1	1	16:45	5	22	3	12			8	34
05:00	0		0				0		17:00	5		4				9	
05:15	1		0				1		17:15	9		4				13	
05:30	1		1				2		17:30	3		4				7	
05:45	1	3	0	1			1	4	17:45	3	20	5	17			8	37
06:00	1		1				2		18:00	4		8				12	
06:15	1		7				8		18:15	4		13				17	
06:30	1		4				5		18:30	5		9				14	
06:45	1	4	6	18			7	22	18:45	1	14	6	36			7	50
07:00	2		5				7		19:00	5		7				12	
07:15	4		9				13		19:15	2		2				4	
07:30	4		11				15		19:30	7		2				9	
07:45	1	11	11	36			12	47	19:45	4	18	5	16			9	34
08:00	3		19				22		20:00	4		7				11	
08:15	9		18				27		20:15	5		5				10	
08:30	6		18				24		20:30	2		2				4	
08:45	6	24	9	64			15	88	20:45	0	11	1	15			1	26
09:00	10		21				31		21:00	0		3				3	
09:15	2		16				18		21:15	0		3				3	
09:30	3		14				17		21:30	6		3				9	
09:45	5	20	14	65			19	85	21:45	3	9	3	12			6	21
10:00	10		8				18		22:00	1		2				3	
10:15	7		8				15		22:15	2		3				5	
10:30	3		7				10		22:30	5		3				8	
10:45	8	28	8	31			16	59	22:45	0	8	1	9			1	17
11:00	8		9				17		23:00	0		1				1	
11:15	9		7				16		23:15	1		3				4	
11:30	4		9				13		23:30	0		0				0	
11:45	8	29	2	27			10	56	23:45	1	2	1	5			2	7
TOTALS		125		247				372	TOTALS		207		218				425
SPLIT %		33.6%		66.4%				46.7%	SPLIT %		48.7%		51.3%				53.3%

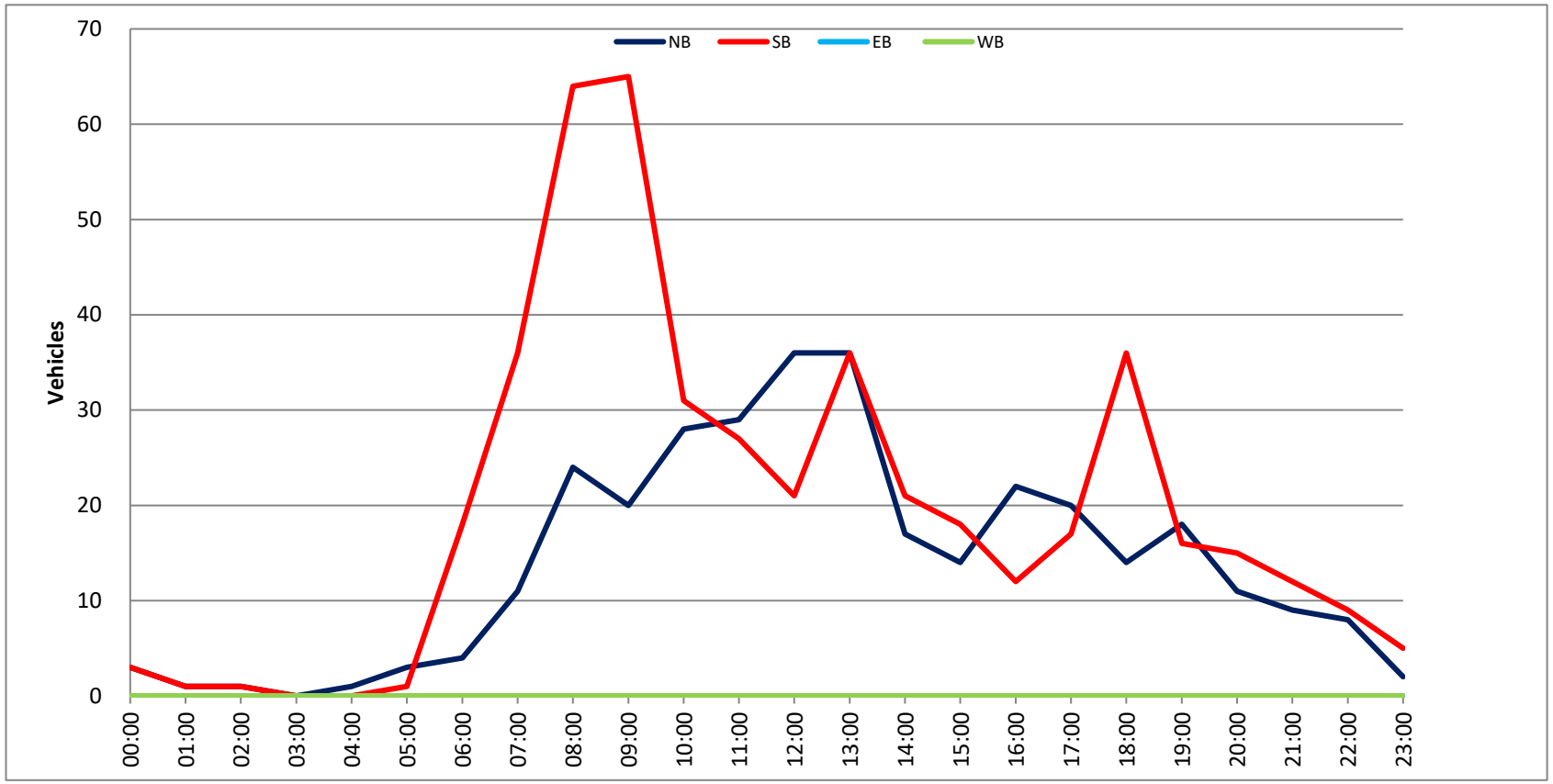
DAILY TOTALS	NB	SB	EB	WB	Total
	332	465	0	0	797

AM Peak Hour	11:45		07:45					08:15	PM Peak Hour	13:15		13:15					13:15
AM Pk Volume	38		66					97	PM Pk Volume	39		37					76
Pk Hr Factor	0.792		0.868					0.782	Pk Hr Factor	0.886		0.617					0.731
7 - 9 Volume	35		100		0	0		135	4 - 6 Volume	42		29		0	0		71
7 - 9 Peak Hour	08:00		07:45					08:00	4 - 6 Peak Hour	16:30		17:00					16:30
7 - 9 Pk Volume	24		66		0	0		88	4 - 6 Pk Volume	28		17		0	0		42
Pk Hr Factor	0.667		0.868		0.000	0.000		0.815	Pk Hr Factor	0.778		0.850		0.000	0.000		0.808

Prepared by NDS/ATD

Project #: CA18_5278_001 **City:** Culver City

Location: Schaefer St Bet. Higuera St & National Blvd **Date:** 5/3/2018



Prepared by NDS/ATD

VOLUME

Helms Ave Bet. Higuera St & National Blvd

Day: Wednesday
Date: 5/2/2018

City: Culver City
Project #: CA18_5278_002

DAILY TOTALS	NB	SB	EB	WB	Total
	244	629	0	0	873

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	0		0				0		12:00	3		10				13	
00:15	0		2				2		12:15	4		6				10	
00:30	2		0				2		12:30	6		4				10	
00:45	0	2	1	3			1	5	12:45	7	20	4	24			11	44
01:00	0		1				1		13:00	4		5				9	
01:15	0		1				1		13:15	9		4				13	
01:30	0		0				0		13:30	2		12				14	
01:45	0		0	2			0	2	13:45	6	21	4	25			10	46
02:00	1		0				1		14:00	2		9				11	
02:15	0		0				0		14:15	6		4				10	
02:30	0		0				0		14:30	3		6				9	
02:45	0	1	0				0	1	14:45	5	16	13	32			18	48
03:00	0		0				0		15:00	5		5				10	
03:15	0		1				1		15:15	3		10				13	
03:30	0		0				0		15:30	3		3				6	
03:45	0		0	1			0	1	15:45	5	16	4	22			9	38
04:00	0		0				0		16:00	4		5				9	
04:15	0		0				0		16:15	9		7				16	
04:30	1		0				1		16:30	9		6				15	
04:45	0	1	0				0	1	16:45	11	33	5	23			16	56
05:00	0		0				0		17:00	3		15				18	
05:15	0		1				1		17:15	4		8				12	
05:30	1		1				2		17:30	5		7				12	
05:45	1	2	4	6			5	8	17:45	10	22	4	34			14	56
06:00	0		2				2		18:00	7		8				15	
06:15	1		2				3		18:15	7		6				13	
06:30	0		0				0		18:30	7		5				12	
06:45	2	3	8	12			10	15	18:45	7	28	4	23			11	51
07:00	0		8				8		19:00	5		12				17	
07:15	2		10				12		19:15	4		2				6	
07:30	1		21				22		19:30	4		2				6	
07:45	2	5	44	83			46	88	19:45	2	15	7	23			9	38
08:00	2		41				43		20:00	3		2				5	
08:15	3		16				19		20:15	4		0				4	
08:30	1		28				29		20:30	5		2				7	
08:45	2	8	37	122			39	130	20:45	0	12	2	6			2	18
09:00	4		26				30		21:00	1		2				3	
09:15	3		40				43		21:15	5		1				6	
09:30	0		29				29		21:30	4		1				5	
09:45	0	7	21	116			21	123	21:45	3	13	2	6			5	19
10:00	2		15				17		22:00	1		2				3	
10:15	1		7				8		22:15	1		1				2	
10:30	1		5				6		22:30	4		1				5	
10:45	2	6	8	35			10	41	22:45	0	6	0	4			0	10
11:00	2		10				12		23:00	0		1				1	
11:15	1		4				5		23:15	1		1				2	
11:30	1		4				5		23:30	0		1				1	
11:45	2	6	5	23			7	29	23:45	0	1	1	4			1	5
TOTALS		41		403				444	TOTALS		203		226				429
SPLIT %		9.2%		90.8%				50.9%	SPLIT %		47.3%		52.7%				49.1%

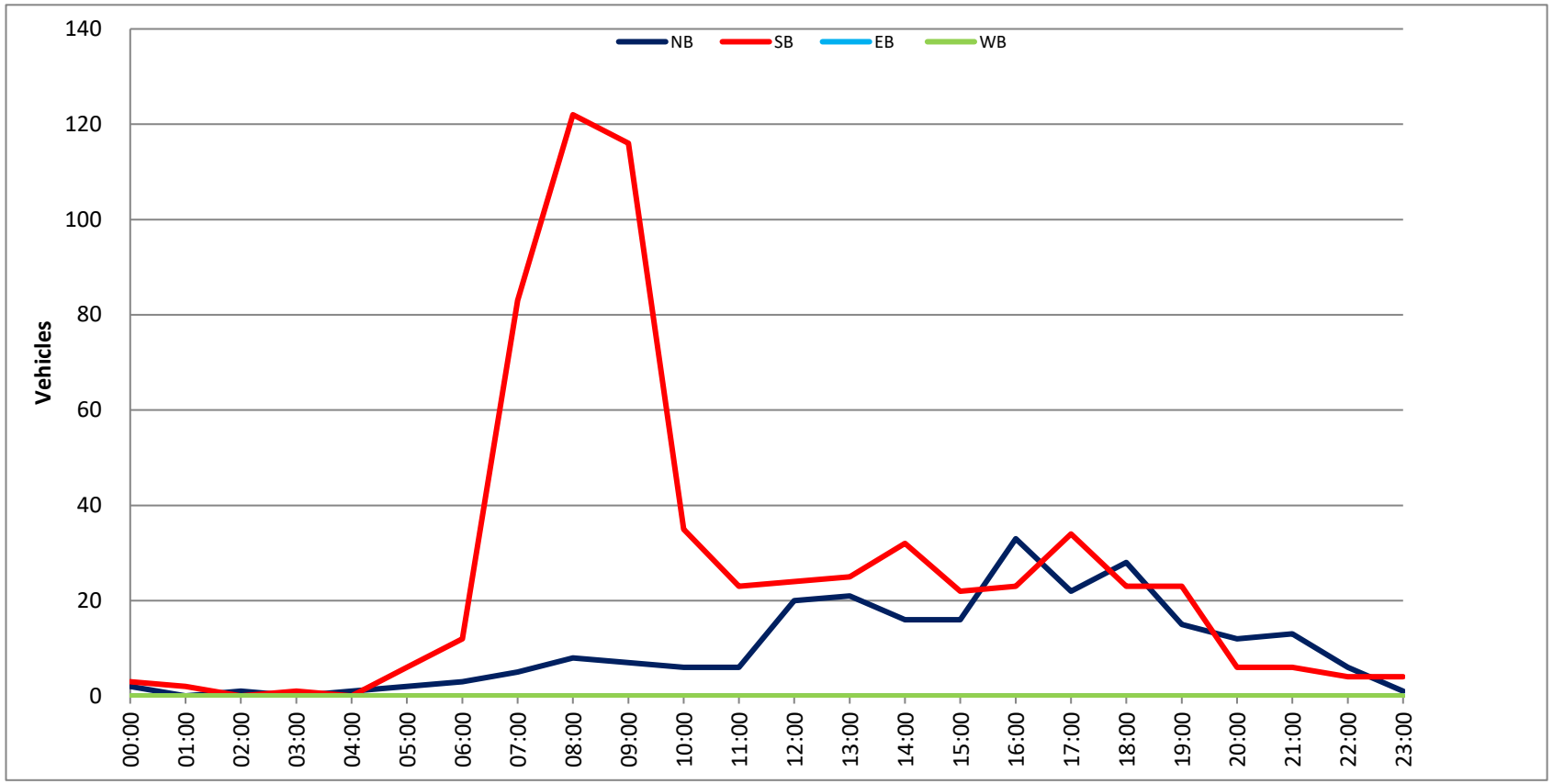
DAILY TOTALS	NB	SB	EB	WB	Total
	244	629	0	0	873

AM Peak Hour	11:45		08:45				08:30		PM Peak Hour	16:00		16:45				16:15	
AM Pk Volume	15		132				141		PM Pk Volume	33		35				65	
Pk Hr Factor	0.625		0.825				0.820		Pk Hr Factor	0.750		0.583				0.903	
7 - 9 Volume	13		205		0	0	218		4 - 6 Volume	55		57		0	0	112	
7 - 9 Peak Hour	07:30		07:45				07:45		4 - 6 Peak Hour	16:00		16:45				16:15	
7 - 9 Pk Volume	8		129		0	0	137		4 - 6 Pk Volume	33		35		0	0	65	
Pk Hr Factor	0.667		0.733		0.000	0.000	0.745		Pk Hr Factor	0.750		0.583		0.000	0.000	0.903	

Prepared by NDS/ATD

Project #: CA18_5278_002 **City:** Culver City

Location: Helms Ave Bet. Higuera St & National Blvd **Date:** 5/2/2018



Prepared by NDS/ATD

VOLUME

Helms Ave Bet. Higuera St & National Blvd

Day: Thursday
Date: 5/3/2018

City: Culver City
Project #: CA18_5278_002

DAILY TOTALS	NB	SB	EB	WB	Total
	300	546	0	0	846

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	0		0						0		12:00	4		6						10	
00:15	0		0						0		12:15	4		9						13	
00:30	0		0						0		12:30	4		5						9	
00:45	0		0						0		12:45	6	18	8	28					14	46
01:00	0		0						0		13:00	4		3						7	
01:15	0		0						0		13:15	2		10						12	
01:30	0		0						0		13:30	7		4						11	
01:45	0		0						0		13:45	3	16	2	19					5	35
02:00	0		0						0		14:00	8		2						10	
02:15	0		0						0		14:15	8		3						11	
02:30	0		0						0		14:30	8		5						13	
02:45	0		1	1					1	1	14:45	5	29	7	17					12	46
03:00	0		0						0		15:00	6		13						19	
03:15	0		0						0		15:15	7		8						15	
03:30	0		0						0		15:30	7		10						17	
03:45	0		0						0		15:45	7	27	5	36					12	63
04:00	0		0						0		16:00	8		6						14	
04:15	0		0						0		16:15	10		13						23	
04:30	0		0						0		16:30	7		7						14	
04:45	0		0						0		16:45	3	28	7	33					10	61
05:00	0		1						1		17:00	6		10						16	
05:15	0		1						1		17:15	8		8						16	
05:30	0		0						0		17:30	9		9						18	
05:45	1	1	2	4					3	5	17:45	7	30	8	35					15	65
06:00	0		0						0		18:00	4		7						11	
06:15	1		2						3		18:15	3		5						8	
06:30	1		2						3		18:30	5		4						9	
06:45	0	2	14	18					14	20	18:45	2	14	5	21					7	35
07:00	2		4						6		19:00	9		7						16	
07:15	2		6						8		19:15	6		7						13	
07:30	1		23						24		19:30	4		3						7	
07:45	3	8	37	70					40	78	19:45	8	27	1	18					9	45
08:00	6		19						25		20:00	3		2						5	
08:15	6		23						29		20:15	4		2						6	
08:30	1		20						21		20:30	3		4						7	
08:45	4	17	23	85					27	102	20:45	0	10	0	8					0	18
09:00	9		20						29		21:00	1		1						2	
09:15	7		26						33		21:15	4		0						4	
09:30	8		26						34		21:30	1		2						3	
09:45	6	30	19	91					25	121	21:45	3	9	1	4					4	13
10:00	4		23						27		22:00	2		0						2	
10:15	0		1						1		22:15	3		2						5	
10:30	3		7						10		22:30	1		1						2	
10:45	5	12	4	35					9	47	22:45	0	6	3	6					3	12
11:00	3		7						10		23:00	0		1						1	
11:15	5		3						8		23:15	0		0						0	
11:30	2		1						3		23:30	1		0						1	
11:45	5	15	4	15					9	30	23:45	0	1	1	2					1	3
TOTALS		85		319						404	TOTALS		215		227						442
SPLIT %		21.0%		79.0%						47.8%	SPLIT %		48.6%		51.4%						52.2%

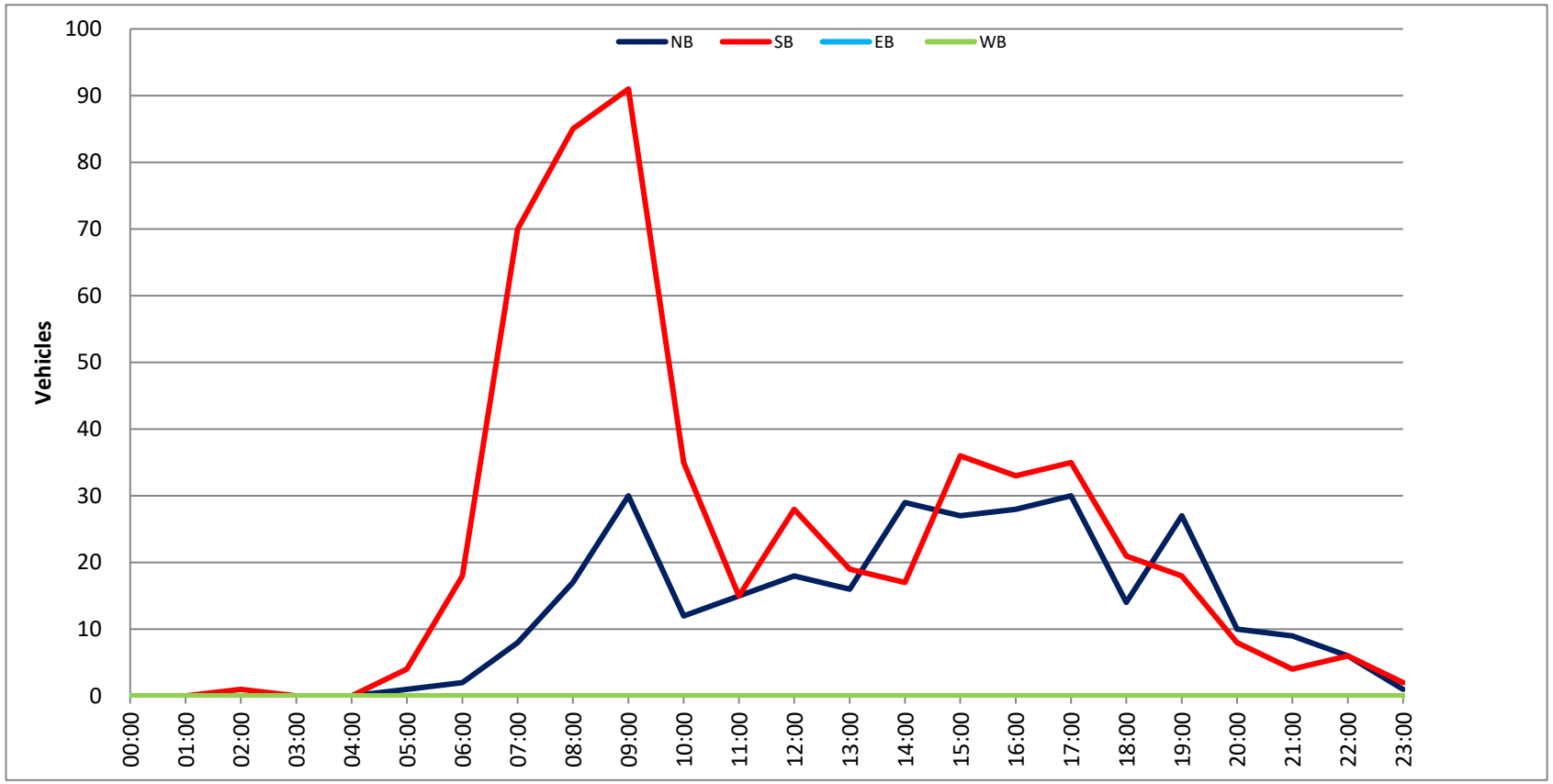
DAILY TOTALS	NB	SB	EB	WB	Total
	300	546	0	0	846

AM Peak Hour	09:00	07:30			08:45	PM Peak Hour	15:30	14:45			15:30
AM Pk Volume	30	102			123	PM Pk Volume	32	38			66
Pk Hr Factor	0.833	0.689			0.904	Pk Hr Factor	0.800	0.731			0.717
7 - 9 Volume	25	155	0	0	180	4 - 6 Volume	58	68	0	0	126
7 - 9 Peak Hour	08:00	07:30			07:30	4 - 6 Peak Hour	17:00	16:15			17:00
7 - 9 Pk Volume	17	102	0	0	118	4 - 6 Pk Volume	30	37	0	0	65
Pk Hr Factor	0.708	0.689	0.000	0.000	0.738	Pk Hr Factor	0.833	0.712	0.000	0.000	0.903

Prepared by NDS/ATD

Project #: CA18_5278_002 **City:** Culver City

Location: Helms Ave Bet. Higuera St & National Blvd **Date:** 5/3/2018



Prepared by NDS/ATD

VOLUME

Wesley St Bet. Higuera St & National Blvd

Day: Wednesday
Date: 5/2/2018

City: Culver City
Project #: CA18_5278_003

DAILY TOTALS	NB	SB	EB	WB	Total
	428	715	0	0	1,143

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	0		0				0		12:00	5		8				13	
00:15	0		0				0		12:15	4		9				13	
00:30	0		0				0		12:30	1		8				9	
00:45	1	1	0				1	1	12:45	5	15	14	39			19	54
01:00	0		0				0		13:00	6		8				14	
01:15	0		0				0		13:15	7		11				18	
01:30	0		0				0		13:30	6		8				14	
01:45	0		0				0		13:45	9	28	12	39			21	67
02:00	0		0				0		14:00	9		11				20	
02:15	0		0				0		14:15	12		10				22	
02:30	0		0				0		14:30	4		7				11	
02:45	0		0				0		14:45	7	32	5	33			12	65
03:00	0		0				0		15:00	11		3				14	
03:15	0		0				0		15:15	12		4				16	
03:30	0		0				0		15:30	10		10				20	
03:45	0		0				0		15:45	7	40	10	27			17	67
04:00	0		0				0		16:00	13		12				25	
04:15	0		0				0		16:15	15		8				23	
04:30	1		0				1		16:30	12		6				18	
04:45	0	1	2	2			2	3	16:45	10	50	19	45			29	95
05:00	0		0				0		17:00	17		11				28	
05:15	0		1				1		17:15	11		18				29	
05:30	0		1				1		17:30	11		21				32	
05:45	1	1	2	4			3	5	17:45	14	53	12	62			26	115
06:00	1		0				1		18:00	16		14				30	
06:15	2		5				7		18:15	10		15				25	
06:30	2		6				8		18:30	6		20				26	
06:45	1	6	5	16			6	22	18:45	15	47	18	67			33	114
07:00	4		5				9		19:00	6		10				16	
07:15	6		12				18		19:15	6		6				12	
07:30	4		25				29		19:30	4		1				5	
07:45	5	19	29	71			34	90	19:45	4	20	3	20			7	40
08:00	7		26				33		20:00	1		3				4	
08:15	7		22				29		20:15	4		4				8	
08:30	10		33				43		20:30	1		3				4	
08:45	7	31	25	106			32	137	20:45	3	9	3	13			6	22
09:00	10		26				36		21:00	1		0				1	
09:15	7		19				26		21:15	1		2				3	
09:30	5		27				32		21:30	1		2				3	
09:45	4	26	14	86			18	112	21:45	3	6	2	6			5	12
10:00	4		6				10		22:00	2		2				4	
10:15	2		7				9		22:15	1		0				1	
10:30	5		8				13		22:30	0		0				0	
10:45	5	16	11	32			16	48	22:45	1	4	2	4			3	8
11:00	5		9				14		23:00	1		1				2	
11:15	5		8				13		23:15	0		2				2	
11:30	3		10				13		23:30	0		1				1	
11:45	8	21	12	39			20	60	23:45	1	2	0	4			1	6
TOTALS		122		356				478	TOTALS		306		359				665
SPLIT %		25.5%		74.5%				41.8%	SPLIT %		46.0%		54.0%				58.2%

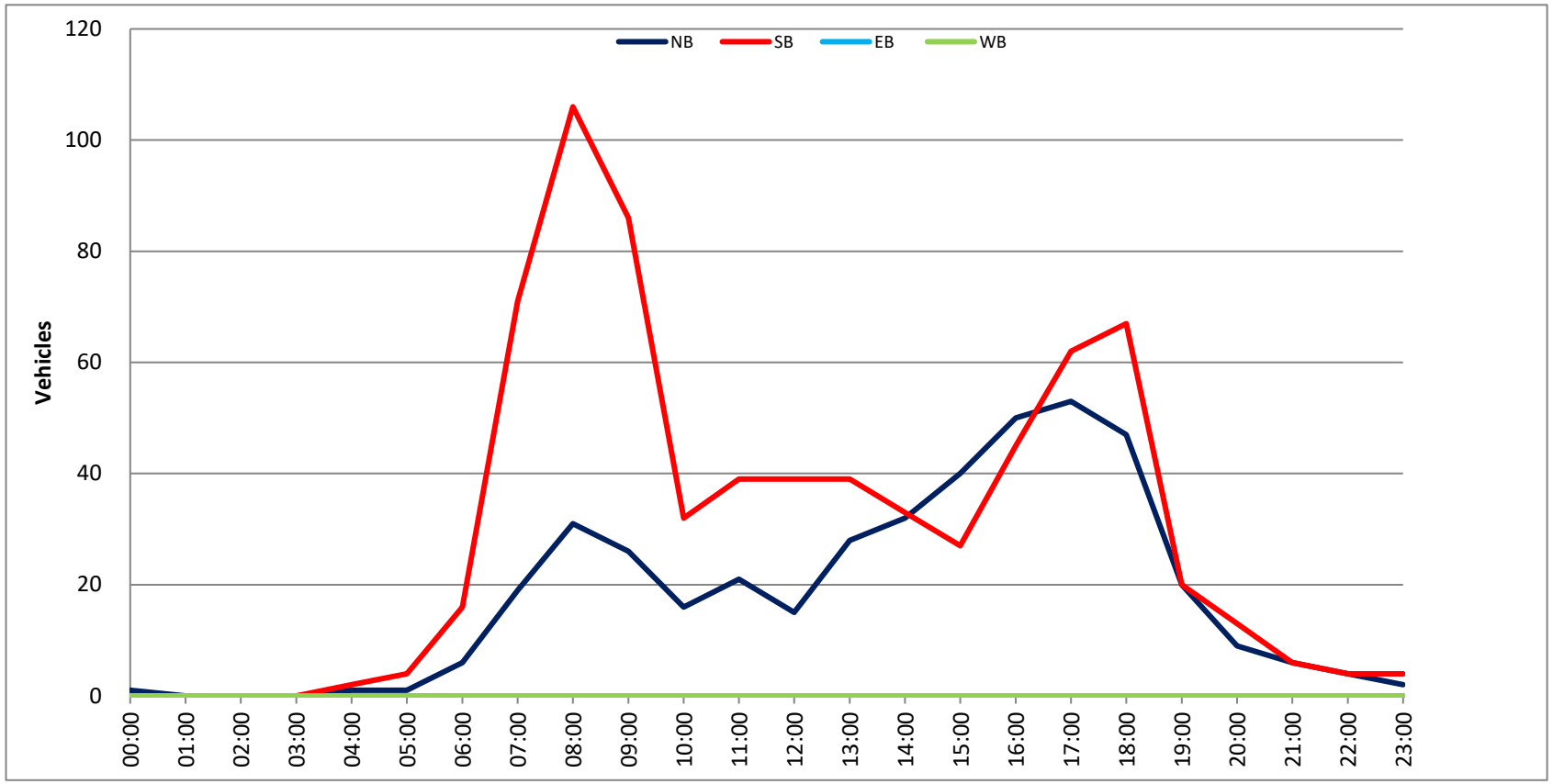
DAILY TOTALS	NB	SB	EB	WB	Total
	428	715	0	0	1,143

AM Peak Hour	08:15		07:45					08:15	PM Peak Hour	16:15		16:45					16:45
AM Pk Volume	34		110					140	PM Pk Volume	54		69					118
Pk Hr Factor	0.850		0.833					0.814	Pk Hr Factor	0.794		0.821					0.922
7 - 9 Volume	50		177		0	0		227	4 - 6 Volume	103		107		0	0		210
7 - 9 Peak Hour	08:00		07:45					07:45	4 - 6 Peak Hour	16:15		16:45					16:45
7 - 9 Pk Volume	31		110		0	0		139	4 - 6 Pk Volume	54		69		0	0		118
Pk Hr Factor	0.775		0.833		0.000	0.000		0.808	Pk Hr Factor	0.794		0.821		0.000	0.000		0.922

Prepared by NDS/ATD

Project #: CA18_5278_003 **City:** Culver City

Location: Wesley St Bet. Higuera St & National Blvd **Date:** 5/2/2018



Prepared by NDS/ATD

VOLUME

Wesley St Bet. Higuera St & National Blvd

Day: Thursday
Date: 5/3/2018

City: Culver City
Project #: CA18_5278_003

DAILY TOTALS	NB	SB	EB	WB	Total
	557	791	0	0	1,348

AM Period	NB		SB		EB		WB		TOTAL	
00:00	0		0						0	
00:15	0		0						0	
00:30	0		0						0	
00:45	0		0						0	
01:00	0		0						0	
01:15	1		0						1	
01:30	0		0						0	
01:45	0	1	0						0	1
02:00	0		0						0	
02:15	0		0						0	
02:30	0		0						0	
02:45	0		0						0	
03:00	0		0						0	
03:15	0		0						0	
03:30	0		0						0	
03:45	1	1	0						1	1
04:00	0		0						0	
04:15	0		0						0	
04:30	0		1						1	
04:45	0		0	1					0	1
05:00	0		0						0	
05:15	0		0						0	
05:30	1		2						3	
05:45	2	3	2	4					4	7
06:00	3		3						6	
06:15	2		2						4	
06:30	0		3						3	
06:45	3	8	13	21					16	29
07:00	2		2						4	
07:15	5		15						20	
07:30	6		21						27	
07:45	3	16	44	82					47	98
08:00	5		28						33	
08:15	3		39						42	
08:30	5		25						30	
08:45	9	22	15	107					24	129
09:00	7		21						28	
09:15	3		21						24	
09:30	6		9						15	
09:45	4	20	14	65					18	85
10:00	2		13						15	
10:15	4		7						11	
10:30	1		10						11	
10:45	5	12	10	40					15	52
11:00	0		5						5	
11:15	1		7						8	
11:30	2		6						8	
11:45	4	7	5	23					9	30
TOTALS		90		343						433
SPLIT %		20.8%		79.2%						32.1%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	3		10						13	
12:15	5		16						21	
12:30	2		7						9	
12:45	6	16	6	39					12	55
13:00	5		5						10	
13:15	4		6						10	
13:30	3		13						16	
13:45	6	18	17	41					23	59
14:00	5		6						11	
14:15	8		10						18	
14:30	5		9						14	
14:45	10	28	7	32					17	60
15:00	13		12						25	
15:15	11		7						18	
15:30	10		9						19	
15:45	15	49	17	45					32	94
16:00	15		13						28	
16:15	21		9						30	
16:30	31		10						41	
16:45	37	104	14	46					51	150
17:00	27		20						47	
17:15	27		27						54	
17:30	15		38						53	
17:45	12	81	16	101					28	182
18:00	16		24						40	
18:15	24		14						38	
18:30	28		20						48	
18:45	34	102	12	70					46	172
19:00	14		14						28	
19:15	7		8						15	
19:30	9		6						15	
19:45	5	35	9	37					14	72
20:00	2		2						4	
20:15	2		11						13	
20:30	4		1						5	
20:45	7	15	3	17					10	32
21:00	2		4						6	
21:15	6		5						11	
21:30	3		0						3	
21:45	2	13	2	11					4	24
22:00	0		1						1	
22:15	0		1						1	
22:30	2		2						4	
22:45	1	3	1	5					2	8
23:00	0		1						1	
23:15	2		3						5	
23:30	1		0						1	
23:45	0	3	0	4					0	7
TOTALS		467		448						915
SPLIT %		51.0%		49.0%						67.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	557	791	0	0	1,348

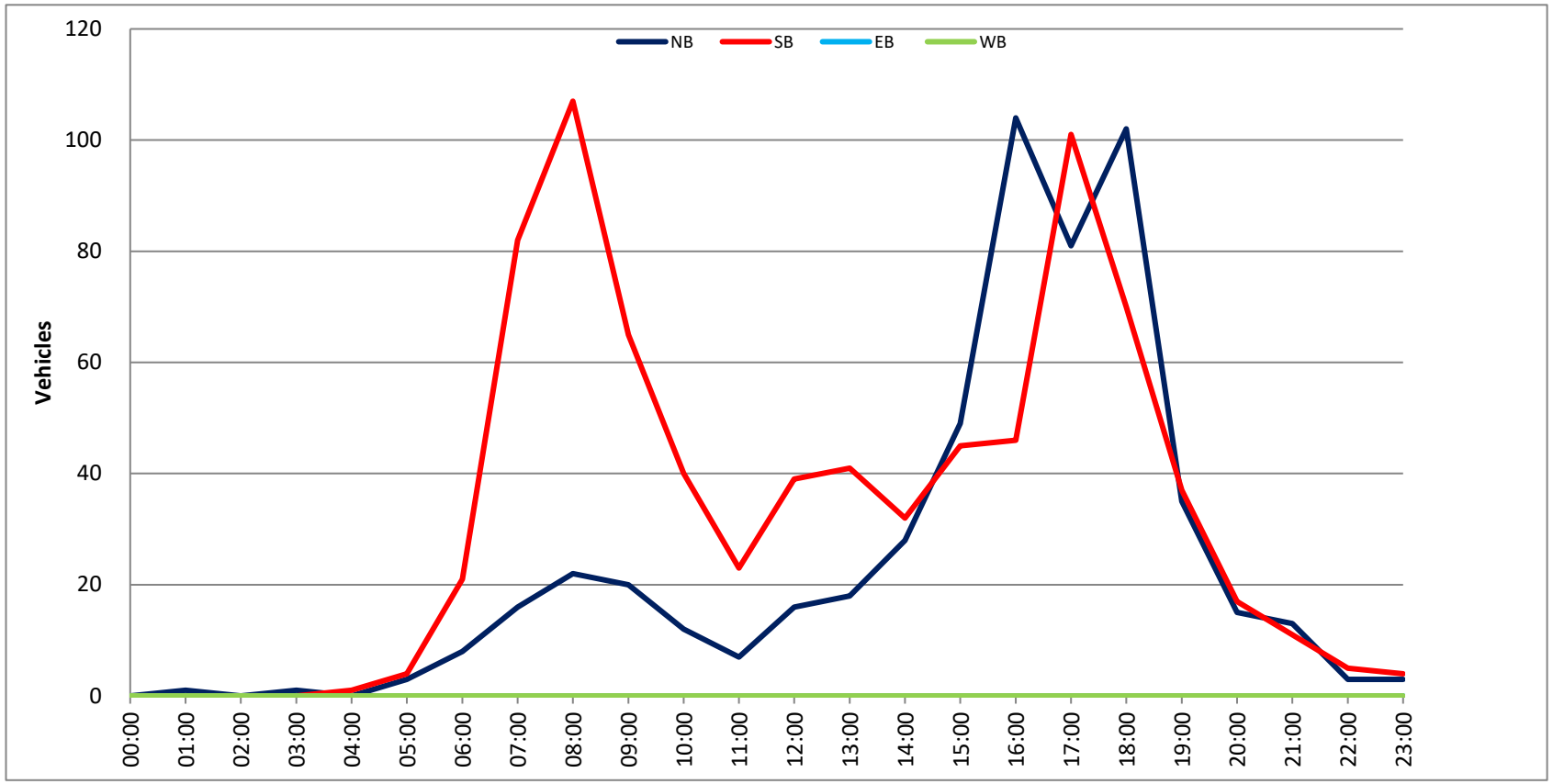
AM Peak Hour	08:45	07:45			07:45
AM Pk Volume	25	136			152
Pk Hr Factor	0.694	0.773			0.809
7 - 9 Volume	38	189	0	0	227
7 - 9 Peak Hour	08:00	07:45			07:45
7 - 9 Pk Volume	22	136	0	0	152
Pk Hr Factor	0.611	0.773	0.000	0.000	0.809

PM Peak Hour	16:30	17:15			16:45
PM Pk Volume	122	105			205
Pk Hr Factor	0.824	0.691			0.949
4 - 6 Volume	185	147	0	0	332
4 - 6 Peak Hour	16:30	17:00			16:45
4 - 6 Pk Volume	122	101	0	0	205
Pk Hr Factor	0.824	0.664	0.000	0.000	0.949

Prepared by NDS/ATD

Project #: CA18_5278_003 **City:** Culver City

Location: Wesley St Bet. Higuera St & National Blvd **Date:** 5/3/2018



Prepared by NDS/ATD

VOLUME

Lucerne Ave Bet. Higuera St & Ince Blvd

Day: Wednesday
Date: 5/2/2018

City: Culver City
Project #: CA18_5278_004

DAILY TOTALS	NB	SB	EB	WB	Total
	2,950	2,845	0	0	5,795

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	3		2				5		**12:00**	23		45				68	
00:15	1		1				2		**12:15**	39		34				73	
00:30	2		3				5		**12:30**	34		35				69	
00:45	1	7	0	6			1	13	**12:45**	42	138	39	153			81	291
01:00	3		1				4		**13:00**	51		27				78	
01:15	0		6				6		**13:15**	29		41				70	
01:30	1		0				1		**13:30**	39		51				90	
01:45	0	4	0	7			0	11	**13:45**	53	172	34	153			87	325
02:00	2		0				2		**14:00**	52		33				85	
02:15	1		3				4		**14:15**	58		22				80	
02:30	0		0				0		**14:30**	45		24				69	
02:45	1	4	0	3			1	7	**14:45**	52	207	43	122			95	329
03:00	0		0				0		**15:00**	63		40				103	
03:15	0		0				0		**15:15**	67		21				88	
03:30	0		1				1		**15:30**	58		34				92	
03:45	0		1	2			1	2	**15:45**	59	247	38	133			97	380
04:00	0		0				0		**16:00**	75		44				119	
04:15	0		2				2		**16:15**	92		42				134	
04:30	0		2				2		**16:30**	80		49				129	
04:45	4	4	1	5			5	9	**16:45**	77	324	72	207			149	531
05:00	2		0				2		**17:00**	70		56				126	
05:15	2		2				4		**17:15**	94		54				148	
05:30	2		8				10		**17:30**	91		50				141	
05:45	6	12	8	18			14	30	**17:45**	92	347	38	198			130	545
06:00	6		5				11		**18:00**	89		56				145	
06:15	15		9				24		**18:15**	77		58				135	
06:30	14		17				31		**18:30**	63		58				121	
06:45	17	52	31	62			48	114	**18:45**	69	298	59	231			128	529
07:00	17		41				58		**19:00**	60		38				98	
07:15	22		62				84		**19:15**	53		33				86	
07:30	23		102				125		**19:30**	35		28				63	
07:45	35	97	113	318			148	415	**19:45**	22	170	22	121			44	291
08:00	54		121				175		**20:00**	26		19				45	
08:15	51		121				172		**20:15**	14		16				30	
08:30	45		100				145		**20:30**	13		18				31	
08:45	68	218	116	458			184	676	**20:45**	18	71	13	66			31	137
09:00	76		111				187		**21:00**	13		12				25	
09:15	59		85				144		**21:15**	14		8				22	
09:30	52		47				99		**21:30**	11		6				17	
09:45	41	228	53	296			94	524	**21:45**	10	48	10	36			20	84
10:00	39		41				80		**22:00**	12		6				18	
10:15	31		21				52		**22:15**	6		9				15	
10:30	36		20				56		**22:30**	8		7				15	
10:45	40	146	21	103			61	249	**22:45**	3	29	6	28			9	57
11:00	24		19				43		**23:00**	4		4				8	
11:15	29		23				52		**23:15**	6		2				8	
11:30	24		31				55		**23:30**	2		3				5	
11:45	36	113	36	109			72	222	**23:45**	2	14	1	10			3	24
TOTALS		885		1387				**2272**	**TOTALS**		2065		1458				**3523**
SPLIT %		39.0%		61.0%				**39.2%**	**SPLIT %**		58.6%		41.4%				**60.8%**

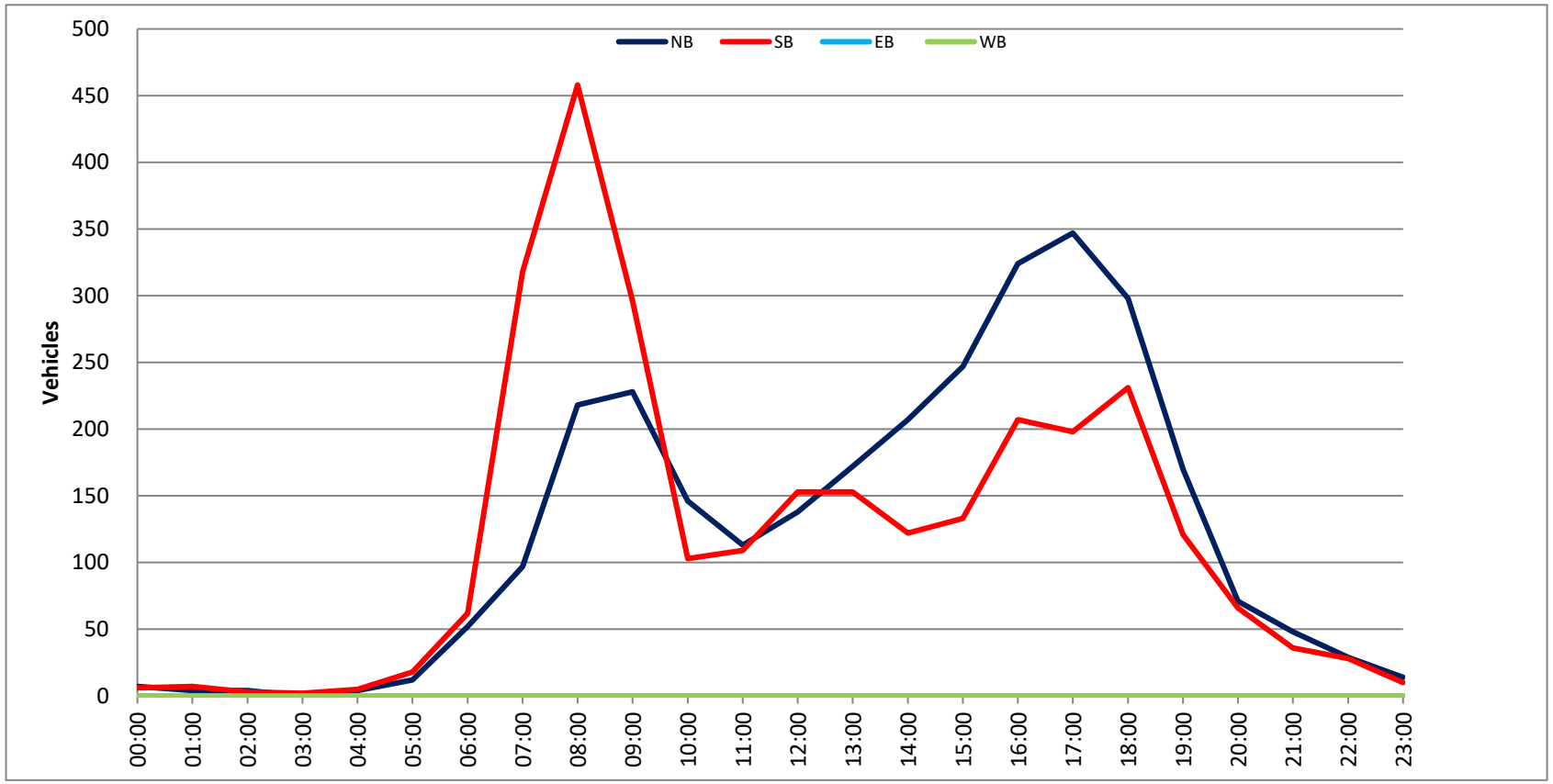
DAILY TOTALS	NB	SB	EB	WB	Total
	2,950	2,845	0	0	5,795

AM Peak Hour	08:45	08:00				**08:15**	**PM Peak Hour**	17:15	16:45					**16:45**
AM Pk Volume	255	458				**688**	**PM Pk Volume**	366	232					**564**
Pk Hr Factor	0.839	0.946				**0.920**	**Pk Hr Factor**	0.973	0.806					**0.946**
7 - 9 Volume	315	776	0	0		**1091**	**4 - 6 Volume**	671	405	0	0			**1076**
7 - 9 Peak Hour	08:00	08:00				**08:00**	**4 - 6 Peak Hour**	17:00	16:45					**16:45**
7 - 9 Pk Volume	218	458	0	0		**676**	**4 - 6 Pk Volume**	347	232	0	0			**564**
Pk Hr Factor	0.801	0.946	0.000	0.000		**0.918**	**Pk Hr Factor**	0.923	0.806	0.000	0.000			**0.946**

Prepared by NDS/ATD

Project #: CA18_5278_004 **City:** Culver City

Location: Lucerne Ave Bet. Higuera St & Ince Blvd **Date:** 5/2/2018



Prepared by NDS/ATD

VOLUME

Lucerne Ave Bet. Higuera St & Ince Blvd

Day: Thursday
Date: 5/3/2018

City: Culver City
Project #: CA18_5278_004

DAILY TOTALS	NB	SB	EB	WB	Total
	3,236	2,995	0	0	6,231

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	8		4						12		12:00	30		42						72	
00:15	2		1						3		12:15	36		34						70	
00:30	1		3						4		12:30	42		37						79	
00:45	0	11	0	8					0	19	12:45	47	155	34	147					81	302
01:00	0		0						0		13:00	43		26						69	
01:15	1		3						4		13:15	37		36						73	
01:30	0		0						0		13:30	38		53						91	
01:45	0	1	0	3					0	4	13:45	60	178	53	168					113	346
02:00	0		1						1		14:00	42		32						74	
02:15	2		0						2		14:15	42		25						67	
02:30	0		1						1		14:30	50		36						86	
02:45	2	4	3	5					5	9	14:45	59	193	31	124					90	317
03:00	0		1						1		15:00	71		35						106	
03:15	0		0						0		15:15	57		33						90	
03:30	1		0						1		15:30	82		36						118	
03:45	2	3	0	1					2	4	15:45	71	281	56	160					127	441
04:00	2		0						2		16:00	97		41						138	
04:15	0		2						2		16:15	119		48						167	
04:30	0		2						2		16:30	110		32						142	
04:45	0	2	1	5					1	7	16:45	115	441	53	174					168	615
05:00	2		2						4		17:00	112		60						172	
05:15	1		5						6		17:15	101		69						170	
05:30	4		7						11		17:30	84		54						138	
05:45	7	14	7	21					14	35	17:45	75	372	66	249					141	621
06:00	6		5						11		18:00	86		57						143	
06:15	7		7						14		18:15	86		57						143	
06:30	15		13						28		18:30	106		51						157	
06:45	18	46	26	51					44	97	18:45	91	369	53	218					144	587
07:00	19		46						65		19:00	66		44						110	
07:15	16		62						78		19:15	49		43						92	
07:30	29		104						133		19:30	38		29						67	
07:45	34	98	136	348					170	446	19:45	30	183	27	143					57	326
08:00	64		106						170		20:00	32		24						56	
08:15	56		113						169		20:15	22		33						55	
08:30	47		121						168		20:30	22		19						41	
08:45	67	234	108	448					175	682	20:45	20	96	18	94					38	190
09:00	68		92						160		21:00	15		21						36	
09:15	49		79						128		21:15	17		20						37	
09:30	49		67						116		21:30	18		11						29	
09:45	37	203	56	294					93	497	21:45	11	61	8	60					19	121
10:00	40		42						82		22:00	10		8						18	
10:15	30		26						56		22:15	6		11						17	
10:30	35		21						56		22:30	7		8						15	
10:45	23	128	20	109					43	237	22:45	9	32	8	35					17	67
11:00	21		33						54		23:00	10		5						15	
11:15	25		19						44		23:15	3		10						13	
11:30	27		21						48		23:30	7		5						12	
11:45	35	108	35	108					70	216	23:45	3	23	2	22					5	45
TOTALS		852		1401						2253	TOTALS		2384		1594						3978
SPLIT %		37.8%		62.2%						36.2%	SPLIT %		59.9%		40.1%						63.8%

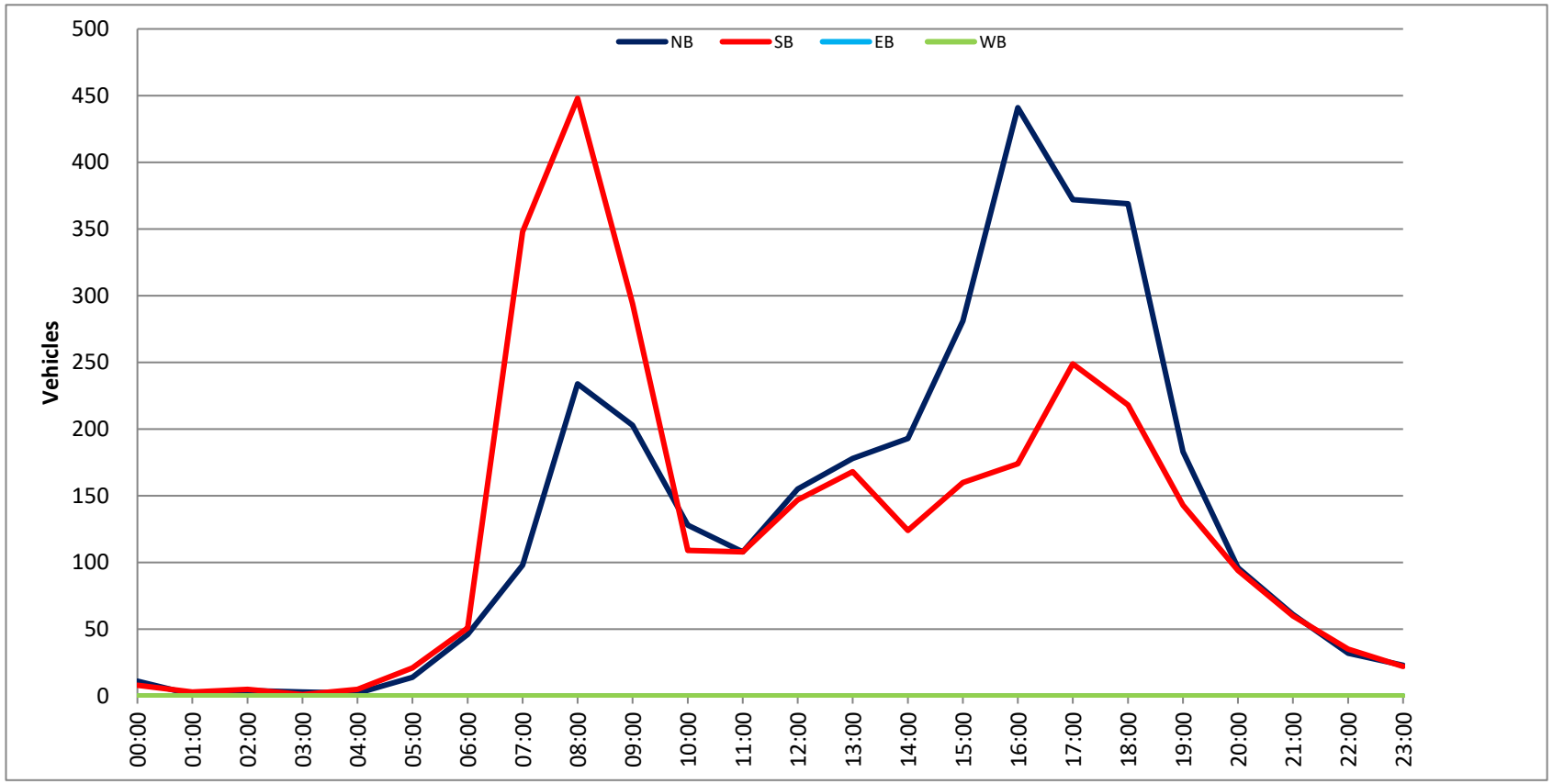
DAILY TOTALS	NB	SB	EB	WB	Total
	3,236	2,995	0	0	6,231

AM Peak Hour	08:15	07:45			08:00	PM Peak Hour	16:15	17:00		16:30
AM Pk Volume	238	476			682	PM Pk Volume	456	249		652
Pk Hr Factor	0.875	0.875			0.974	Pk Hr Factor	0.958	0.902		0.948
7 - 9 Volume	332	796	0	0	1128	4 - 6 Volume	813	423	0	0	1236
7 - 9 Peak Hour	08:00	07:45			08:00	4 - 6 Peak Hour	16:15	17:00			16:30
7 - 9 Pk Volume	234	476	0	0	682	4 - 6 Pk Volume	456	249	0	0	652
Pk Hr Factor	0.873	0.875	0.000	0.000	0.974	Pk Hr Factor	0.958	0.902	0.000	0.000	0.948

Prepared by NDS/ATD

Project #: CA18_5278_004 **City:** Culver City

Location: Lucerne Ave Bet. Higuera St & Ince Blvd **Date:** 5/3/2018



Prepared by NDS/ATD

VOLUME

Higuera St Bet. Lucerne Ave & Wesley St

Day: Wednesday
Date: 5/2/2018

City: Culver City
Project #: CA18_5278_005

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,483	3,680	8,163

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			8		3		11		12:00			32		61		93	
00:15			3		2		5		12:15			57		53		110	
00:30			3		2		5		12:30			54		52		106	
00:45			1	15	1	8	2	23	12:45			59	202	57	223	116	425
01:00			1		1		2		13:00			59		60		119	
01:15			2		4		6		13:15			48		61		109	
01:30			0		1		1		13:30			53		57		110	
01:45			1	4	0	6	1	10	13:45			71	231	58	236	129	467
02:00			0		0		0		14:00			65		51		116	
02:15			0		4		4		14:15			78		34		112	
02:30			1		2		3		14:30			79		31		110	
02:45			0	1	3	9	3	10	14:45			94	316	63	179	157	495
03:00			0		2		2		15:00			89		45		134	
03:15			1		2		3		15:15			86		39		125	
03:30			3		1		4		15:30			108		56		164	
03:45			1	5	0	5	1	10	15:45			107	390	51	191	158	581
04:00			1		1		2		16:00			112		66		178	
04:15			2		2		4		16:15			128		43		171	
04:30			7		2		9		16:30			119		47		166	
04:45			5	15	3	8	8	23	16:45			119	478	83	239	202	717
05:00			8		3		11		17:00			110		74		184	
05:15			10		12		22		17:15			112		72		184	
05:30			12		17		29		17:30			104		86		190	
05:45			18	48	24	56	42	104	17:45			127	453	70	302	197	755
06:00			13		11		24		18:00			118		76		194	
06:15			19		37		56		18:15			98		82		180	
06:30			21		42		63		18:30			70		66		136	
06:45			19	72	108	198	127	270	18:45			102	388	72	296	174	684
07:00			27		127		154		19:00			101		59		160	
07:15			27		111		138		19:15			89		41		130	
07:30			38		70		108		19:30			62		31		93	
07:45			65	157	47	355	112	512	19:45			46	298	28	159	74	457
08:00			87		46		133		20:00			34		32		66	
08:15			75		85		160		20:15			28		17		45	
08:30			82		64		146		20:30			23		27		50	
08:45			127	371	53	248	180	619	20:45			27	112	13	89	40	201
09:00			117		46		163		21:00			23		12		35	
09:15			90		111		201		21:15			20		14		34	
09:30			88		98		186		21:30			18		11		29	
09:45			74	369	90	345	164	714	21:45			15	76	10	47	25	123
10:00			77		71		148		22:00			17		9		26	
10:15			54		68		122		22:15			13		3		16	
10:30			56		56		112		22:30			11		3		14	
10:45			53	240	43	238	96	478	22:45			6	47	6	21	12	68
11:00			40		54		94		23:00			8		7		15	
11:15			47		51		98		23:15			5		5		10	
11:30			31		42		73		23:30			4		3		7	
11:45			54	172	56	203	110	375	23:45			6	23	4	19	10	42
TOTALS				1469		1679		3148	TOTALS				3014		2001		5015
SPLIT %				46.7%		53.3%		38.6%	SPLIT %				60.1%		39.9%		61.4%

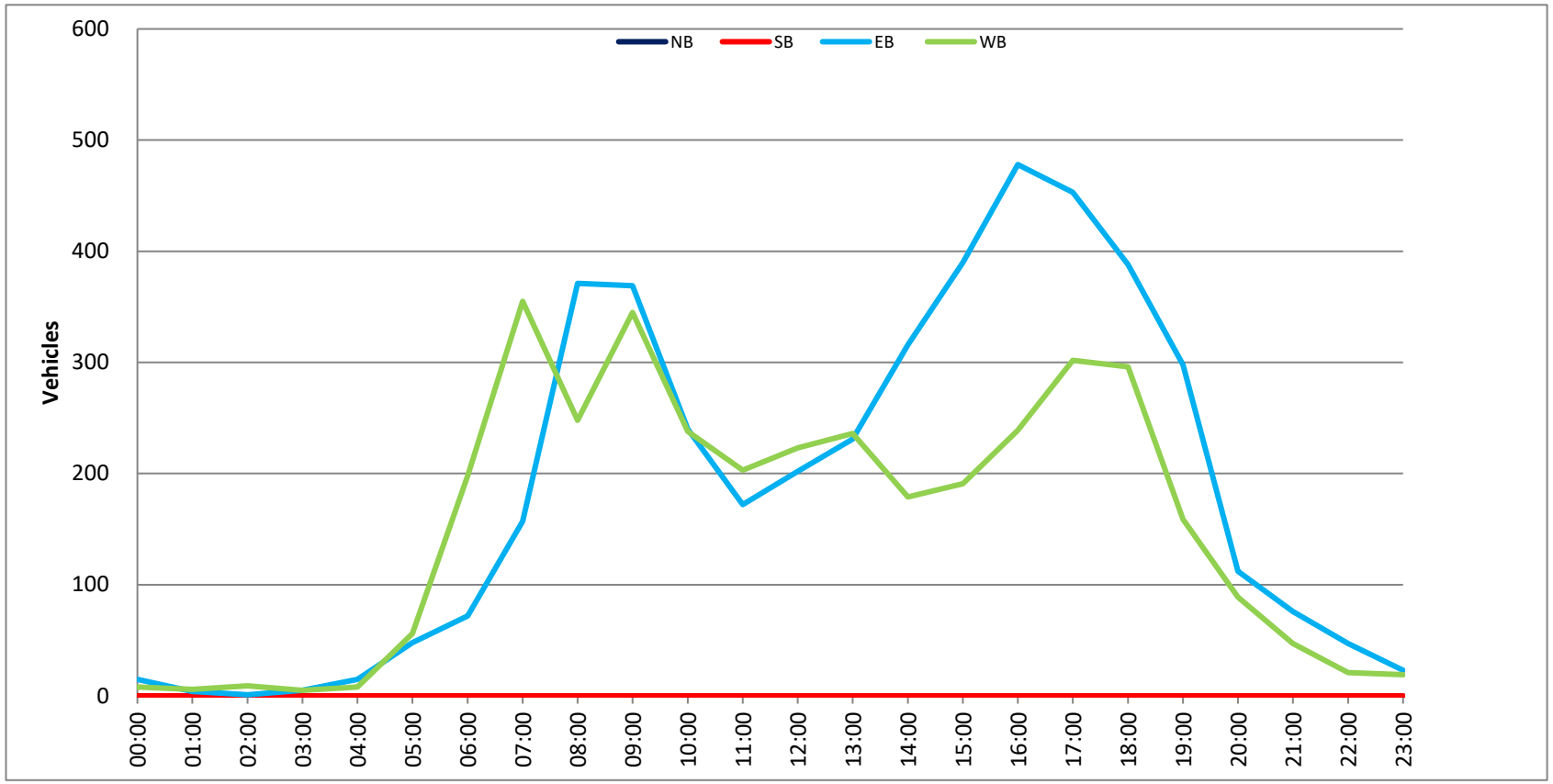
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,483	3,680	8,163

AM Peak Hour				08:45	06:45	08:45			PM Peak Hour				16:00	16:45	17:15		
AM Pk Volume				422	416	730			PM Pk Volume				478	315	765		
Pk Hr Factor				0.831	0.819	0.908			Pk Hr Factor				0.934	0.916	0.971		
7 - 9 Volume	0	0		528	603	1131			4 - 6 Volume	0	0		931	541	1472		
7 - 9 Peak Hour				08:00	07:00	08:00			4 - 6 Peak Hour				16:00	16:45	16:45		
7 - 9 Pk Volume	0	0		371	355	619			4 - 6 Pk Volume	0	0		478	315	760		
Pk Hr Factor	0.000	0.000		0.730	0.699	0.860			Pk Hr Factor	0.000	0.000		0.934	0.916	0.941		

Prepared by NDS/ATD

Project #: CA18_5278_005 **City:** Culver City

Location: Higuera St Bet. Lucerne Ave & Wesley St **Date:** 5/2/2018



Prepared by NDS/ATD

VOLUME

Higuera St Bet. Lucerne Ave & Wesley St

Day: Thursday
Date: 5/3/2018

City: Culver City
Project #: CA18_5278_005

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,850	3,812	8,662

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			10		5		15		12:00			52		59		111	
00:15			5		2		7		12:15			67		72		139	
00:30			2		1		3		12:30			48		53		101	
00:45			3	20	3	11	6	31	12:45			74	241	54	238	128	479
01:00			4		0		4		13:00			61		46		107	
01:15			3		2		5		13:15			60		54		114	
01:30			1		0		1		13:30			57		59		116	
01:45			3	11	0	2	3	13	13:45			71	249	57	216	128	465
02:00			2		1		3		14:00			74		39		113	
02:15			0		0		0		14:15			74		46		120	
02:30			0		0		0		14:30			86		55		141	
02:45			0	2	3	4	3	6	14:45			97	331	50	190	147	521
03:00			1		2		3		15:00			101		63		164	
03:15			0		3		3		15:15			109		48		157	
03:30			0		2		2		15:30			142		61		203	
03:45			2	3	0	7	2	10	15:45			120	472	58	230	178	702
04:00			0		1		1		16:00			132		46		178	
04:15			1		1		2		16:15			162		60		222	
04:30			1		3		4		16:30			145		49		194	
04:45			3	5	2	7	5	12	16:45			159	598	82	237	241	835
05:00			4		2		6		17:00			123		89		212	
05:15			9		5		14		17:15			137		80		217	
05:30			11		12		23		17:30			112		91		203	
05:45			10	34	19	38	29	72	17:45			119	491	90	350	209	841
06:00			13		19		32		18:00			123		84		207	
06:15			15		18		33		18:15			103		80		183	
06:30			20		66		86		18:30			117		85		202	
06:45			26	74	117	220	143	294	18:45			120	463	59	308	179	771
07:00			28		140		168		19:00			85		52		137	
07:15			20		112		132		19:15			78		42		120	
07:30			41		97		138		19:30			54		42		96	
07:45			69	158	58	407	127	565	19:45			64	281	33	169	97	450
08:00			78		80		158		20:00			35		23		58	
08:15			87		55		142		20:15			42		25		67	
08:30			72		77		149		20:30			39		11		50	
08:45			122	359	55	267	177	626	20:45			37	153	14	73	51	226
09:00			99		77		176		21:00			19		20		39	
09:15			86		89		175		21:15			24		15		39	
09:30			86		106		192		21:30			28		3		31	
09:45			65	336	88	360	153	696	21:45			12	83	8	46	20	129
10:00			71		79		150		22:00			13		6		19	
10:15			52		57		109		22:15			11		6		17	
10:30			63		44		107		22:30			12		7		19	
10:45			44	230	44	224	88	454	22:45			14	50	6	25	20	75
11:00			37		44		81		23:00			10		4		14	
11:15			40		38		78		23:15			12		5		17	
11:30			42		37		79		23:30			10		2		12	
11:45			50	169	49	168	99	337	23:45			5	37	4	15	9	52
TOTALS				1401		1715		3116	TOTALS				3449		2097		5546
SPLIT %				45.0%		55.0%		36.0%	SPLIT %				62.2%		37.8%		64.0%

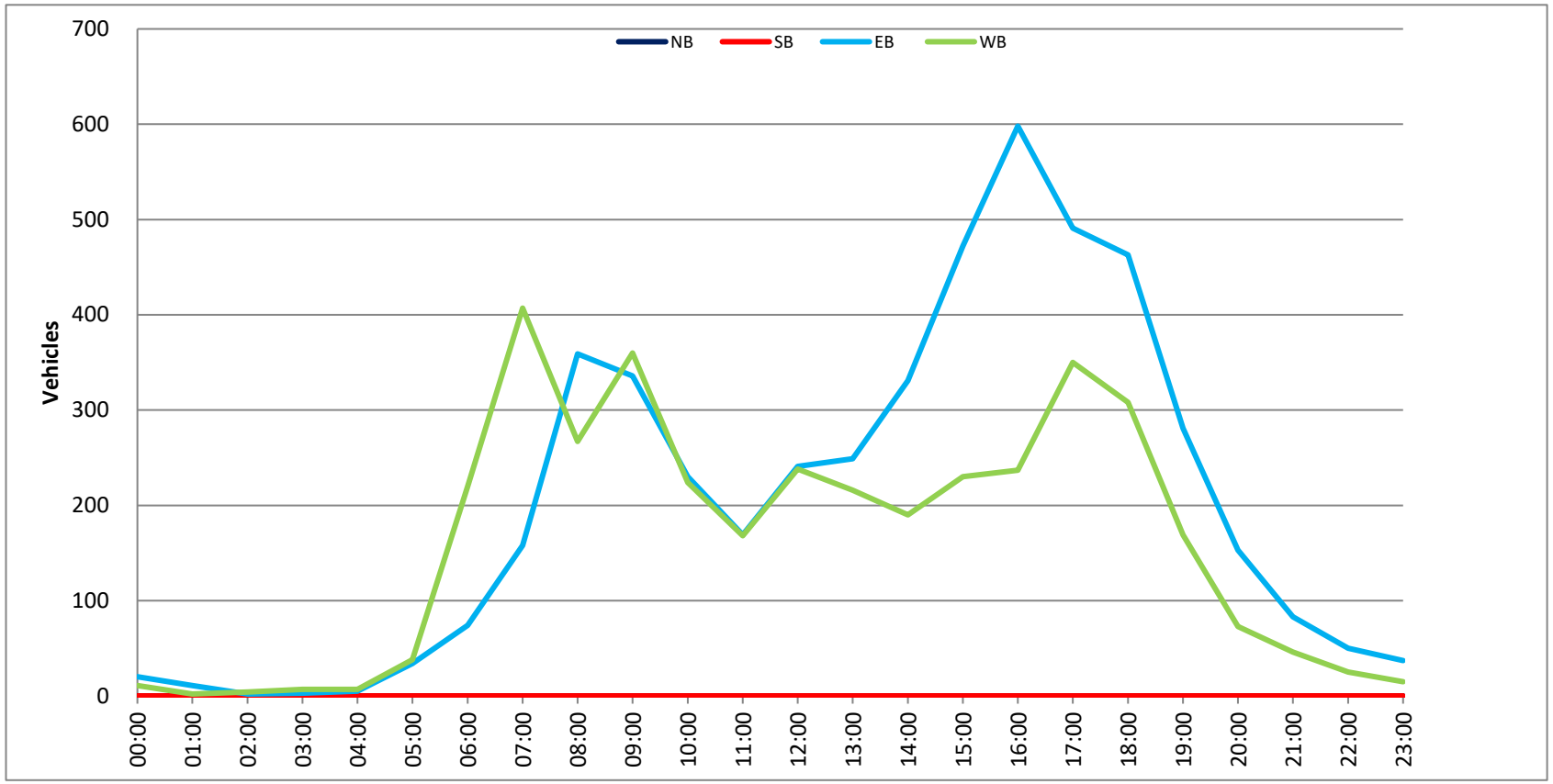
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,850	3,812	8,662

AM Peak Hour				08:45	06:45	08:45		PM Peak Hour				16:00	17:00	16:45
AM Pk Volume				393	466	720		PM Pk Volume				598	350	873
Pk Hr Factor				0.805	0.832	0.938		Pk Hr Factor				0.923	0.962	0.906
7 - 9 Volume	0	0		517	674	1191		4 - 6 Volume	0	0		1089	587	1676
7 - 9 Peak Hour				08:00	07:00	08:00		4 - 6 Peak Hour				16:00	17:00	16:45
7 - 9 Pk Volume	0	0		359	407	626		4 - 6 Pk Volume	0	0		598	350	873
Pk Hr Factor	0.000	0.000		0.736	0.727	0.884		Pk Hr Factor	0.000	0.000		0.923	0.962	0.906

Prepared by NDS/ATD

Project #: CA18_5278_005 **City:** Culver City

Location: Higuera St Bet. Lucerne Ave & Wesley St **Date:** 5/3/2018



Prepared by NDS/ATD

VOLUME

Higuera St Bet. Eastham Dr & Hayden Ave

Day: Wednesday
Date: 5/2/2018

City: Culver City
Project #: CA18_5278_006

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,852	3,831	5,683

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			7		2		9		12:00			14		43		57	
00:15			1		0		1		12:15			19		42		61	
00:30			0		1		1		12:30			29		51		80	
00:45			2	10	0	3	2	13	12:45			13	75	49	185	62	260
01:00			1		0		1		13:00			19		45		64	
01:15			0		2		2		13:15			16		55		71	
01:30			2		2		4		13:30			20		47		67	
01:45			1	4	2	6	3	10	13:45			11	66	66	213	77	279
02:00			0		1		1		14:00			26		64		90	
02:15			0		2		2		14:15			29		65		94	
02:30			0		0		0		14:30			27		61		88	
02:45			0		1	4	1	4	14:45			21	103	90	280	111	383
03:00			0		2		2		15:00			31		78		109	
03:15			0		1		1		15:15			43		46		89	
03:30			0		2		2		15:30			49		53		102	
03:45			0		0	5	0	5	15:45			48	171	42	219	90	390
04:00			0		4		4		16:00			56		80		136	
04:15			1		1		2		16:15			55		58		113	
04:30			3		3		6		16:30			58		41		99	
04:45			2	6	12	20	14	26	16:45			58	227	41	220	99	447
05:00			3		5		8		17:00			81		62		143	
05:15			3		7		10		17:15			85		59		144	
05:30			7		10		17		17:30			68		46		114	
05:45			5	18	27	49	32	67	17:45			71	305	43	210	114	515
06:00			6		29		35		18:00			85		53		138	
06:15			3		43		46		18:15			74		44		118	
06:30			11		59		70		18:30			56		47		103	
06:45			10	30	80	211	90	241	18:45			54	269	52	196	106	465
07:00			11		84		95		19:00			46		44		90	
07:15			10		63		73		19:15			38		34		72	
07:30			9		81		90		19:30			30		49		79	
07:45			10	40	137	365	147	405	19:45			21	135	25	152	46	287
08:00			13		120		133		20:00			12		25		37	
08:15			13		121		134		20:15			11		19		30	
08:30			15		135		150		20:30			15		16		31	
08:45			16	57	131	507	147	564	20:45			7	45	11	71	18	116
09:00			30		124		154		21:00			9		12		21	
09:15			13		90		103		21:15			7		4		11	
09:30			19		93		112		21:30			3		6		9	
09:45			24	86	95	402	119	488	21:45			7	26	10	32	17	58
10:00			18		58		76		22:00			9		6		15	
10:15			11		71		82		22:15			5		4		9	
10:30			17		58		75		22:30			2		5		7	
10:45			18	64	47	234	65	298	22:45			2	18	5	20	7	38
11:00			23		55		78		23:00			5		4		9	
11:15			20		56		76		23:15			5		6		11	
11:30			16		43		59		23:30			1		0		1	
11:45			23	82	61	215	84	297	23:45			4	15	2	12	6	27
TOTALS				397		2021		2418	TOTALS				1455		1810		3265
SPLIT %				16.4%		83.6%		42.5%	SPLIT %				44.6%		55.4%		57.5%

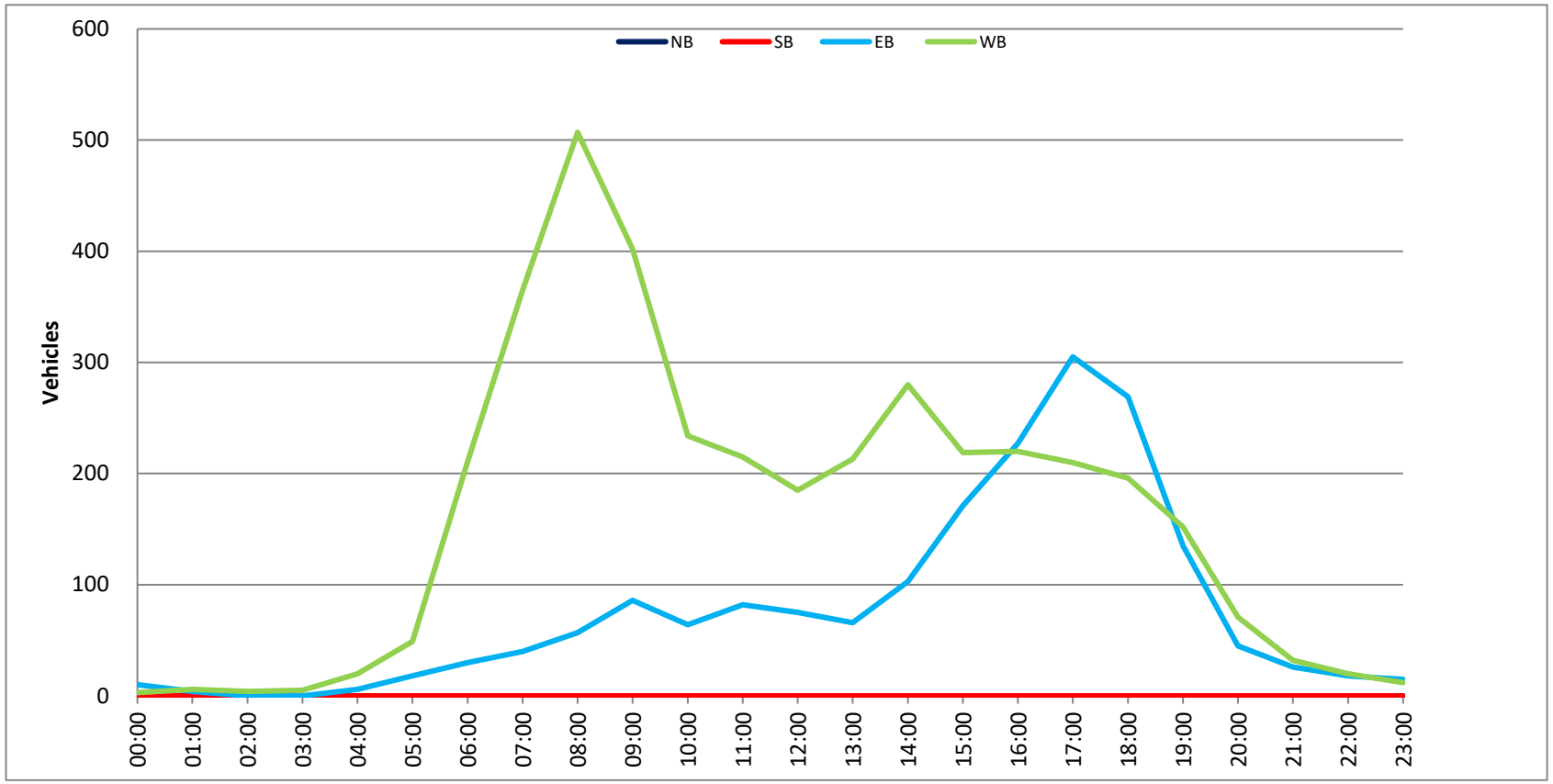
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,852	3,831	5,683

AM Peak Hour				09:00	07:45	08:15	PM Peak Hour				17:15	14:15	17:00
AM Pk Volume				86	513	585	PM Pk Volume				309	294	515
Pk Hr Factor				0.717	0.936	0.950	Pk Hr Factor				0.909	0.817	0.894
7 - 9 Volume	0	0		97	872	969	4 - 6 Volume	0	0		532	430	962
7 - 9 Peak Hour				08:00	07:45	07:45	4 - 6 Peak Hour				17:00	16:00	17:00
7 - 9 Pk Volume	0	0		57	513	564	4 - 6 Pk Volume	0	0		305	220	515
Pk Hr Factor	0.000	0.000		0.891	0.936	0.940	Pk Hr Factor	0.000	0.000		0.897	0.688	0.894

Prepared by NDS/ATD

Project #: CA18_5278_006 **City:** Culver City

Location: Higuera St Bet. Eastham Dr & Hayden Ave **Date:** 5/2/2018



Prepared by NDS/ATD

VOLUME

Higuera St Bet. Eastham Dr & Hayden Ave

Day: Thursday
Date: 5/3/2018

City: Culver City
Project #: CA18_5278_006

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,059	3,887	5,946

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			1		3		4		12:00			15		53		68	
00:15			1		2		3		12:15			30		45		75	
00:30			2		0		2		12:30			15		47		62	
00:45			1	5	1	6	2	11	12:45			20	80	52	197	72	277
01:00			2		0		2		13:00			12		60		72	
01:15			0		1		1		13:15			30		54		84	
01:30			1		2		3		13:30			23		53		76	
01:45			1	4	0	3	1	7	13:45			21	86	45	212	66	298
02:00			1		0		1		14:00			23		49		72	
02:15			0		0		0		14:15			33		43		76	
02:30			0		2		2		14:30			33		70		103	
02:45			1	2	1	3	2	5	14:45			27	116	85	247	112	363
03:00			1		0		1		15:00			39		85		124	
03:15			0		2		2		15:15			42		104		146	
03:30			0		1		1		15:30			60		71		131	
03:45			0	1	2	5	2	6	15:45			61	202	66	326	127	528
04:00			0		2		2		16:00			57		59		116	
04:15			0		0		0		16:15			45		59		104	
04:30			0		3		3		16:30			60		70		130	
04:45			0		10	15	10	15	16:45			73	235	53	241	126	476
05:00			3		6		9		17:00			92		56		148	
05:15			1		12		13		17:15			98		48		146	
05:30			0		10		10		17:30			95		56		151	
05:45			1	5	28	56	29	61	17:45			114	399	50	210	164	609
06:00			6		19		25		18:00			86		47		133	
06:15			2		39		41		18:15			75		49		124	
06:30			9		61		70		18:30			72		46		118	
06:45			4	21	82	201	86	222	18:45			45	278	39	181	84	459
07:00			7		108		115		19:00			48		34		82	
07:15			5		79		84		19:15			49		35		84	
07:30			8		68		76		19:30			28		27		55	
07:45			20	40	134	389	154	429	19:45			24	149	21	117	45	266
08:00			13		117		130		20:00			20		30		50	
08:15			11		128		139		20:15			15		16		31	
08:30			22		147		169		20:30			14		23		37	
08:45			33	79	138	530	171	609	20:45			17	66	23	92	40	158
09:00			25		97		122		21:00			14		13		27	
09:15			18		88		106		21:15			4		11		15	
09:30			15		75		90		21:30			8		5		13	
09:45			14	72	92	352	106	424	21:45			4	30	7	36	11	66
10:00			18		64		82		22:00			7		7		14	
10:15			19		68		87		22:15			3		6		9	
10:30			23		67		90		22:30			2		4		6	
10:45			14	74	41	240	55	314	22:45			2	14	4	21	6	35
11:00			31		53		84		23:00			1		5		6	
11:15			20		38		58		23:15			3		7		10	
11:30			27		41		68		23:30			4		4		8	
11:45			13	91	54	186	67	277	23:45			2	10	5	21	7	31
TOTALS				394		1986		2380	TOTALS				1665		1901		3566
SPLIT %				16.6%		83.4%		40.0%	SPLIT %				46.7%		53.3%		60.0%

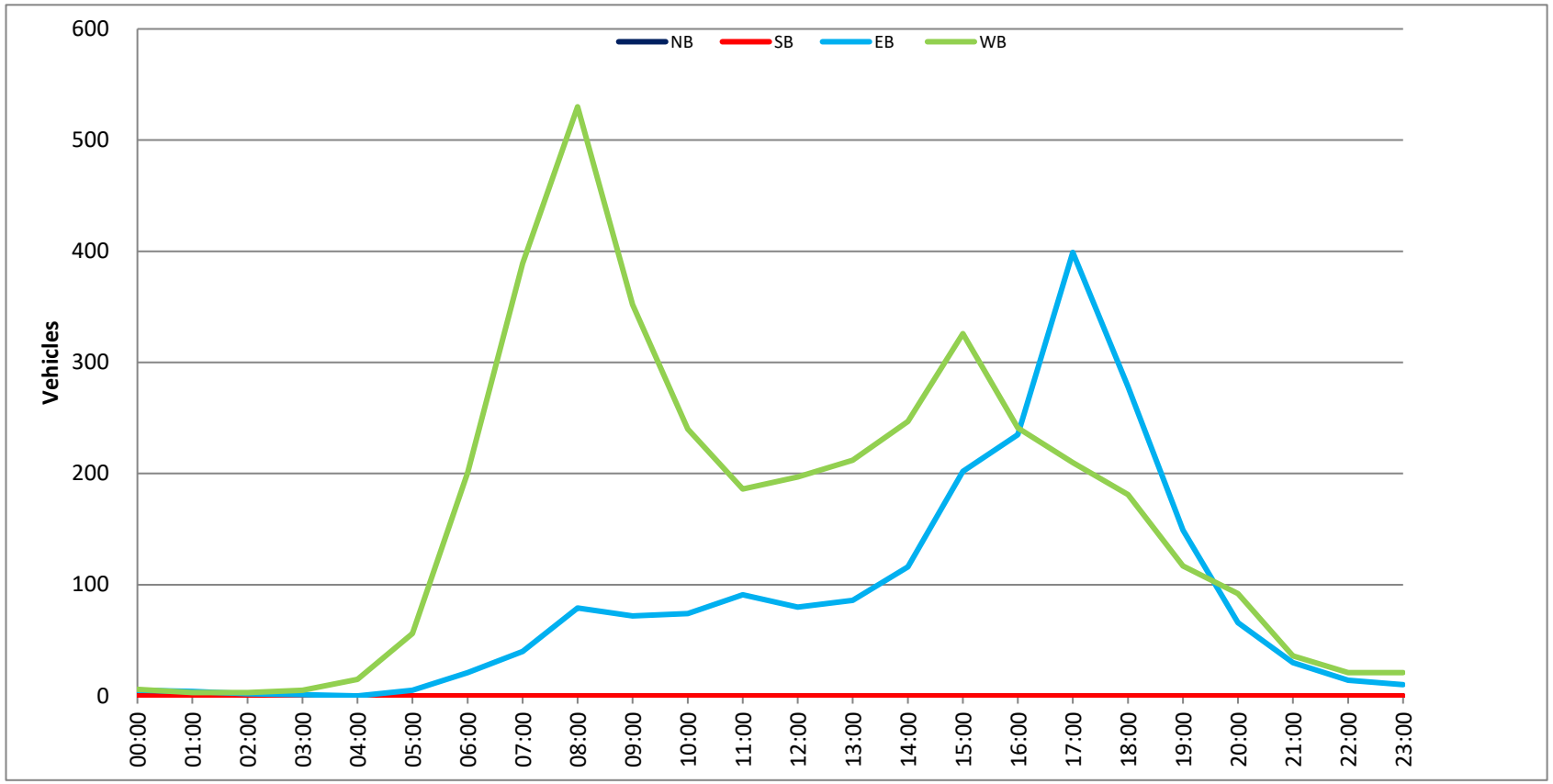
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,059	3,887	5,946

AM Peak Hour				08:30	08:00	08:00	PM Peak Hour				17:00	14:45	17:00
AM Pk Volume				98	530	609	PM Pk Volume				399	345	609
Pk Hr Factor				0.742	0.901	0.890	Pk Hr Factor				0.875	0.829	0.928
7 - 9 Volume	0	0		119	919	1038	4 - 6 Volume	0	0		634	451	1085
7 - 9 Peak Hour				08:00	08:00	08:00	4 - 6 Peak Hour				17:00	16:00	17:00
7 - 9 Pk Volume	0	0		79	530	609	4 - 6 Pk Volume	0	0		399	241	609
Pk Hr Factor	0.000	0.000		0.598	0.901	0.890	Pk Hr Factor	0.000	0.000		0.875	0.861	0.928

Prepared by NDS/ATD

Project #: CA18_5278_006 **City:** Culver City

Location: Higuera St Bet. Eastham Dr & Hayden Ave **Date:** 5/3/2018



APPENDIX I

LEVEL OF SERVICE WORKSHEETS

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND WASHINGTON BOULEVARD
EXISTING (2018) CONDITION

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	58	0.036			64	0.04		
NB THRU	2	3,200	667	0.208	*		1025	0.320	*	
NB RIGHT	1	1600	210	0.131			228	0.143		
						0.291				0.441
SB LEFT	1	1,600	133	0.083	*		193	0.121	*	
SB THRU	3	4,800	815	0.200			636	0.158		
SB RIGHT	0	0	146	0.000			124	0.000		
EB LEFT	2	2,880	115	0.040			161	0.056		
EB THRU	2	3,200	599	0.219	*		725	0.242	*	
EB RIGHT	0	0	103	0.000			50	0.000		
						0.288				0.297
WB LEFT	2	2,880	200	0.069	*		157	0.055	*	
WB THRU	2	3,200	717	0.224			624	0.195		
WB RIGHT	1	1,600	61	0.038			194	0.121		

NORTH/SOUTH CRITICAL SUM	0.291	NORTH/SOUTH CRITICAL SUM	0.441
EAST/WEST CRITICAL SUM	0.288	EAST/WEST CRITICAL SUM	0.297
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.679	INTERSECTION ICU VALUE	0.838
LESS 0.10 FOR ATSAC/ATCS	0.579	LESS 0.10 FOR ATSAC/ATCS	0.738
AM INTERSECTION LOS	A	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND WASHINGTON BOULEVARD
EXISTING CONDITION (2018)

			SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	50	0.031		
NB THRU	2	3,200	845	0.264	*	
NB RIGHT	1	1600	268	0.168		
						0.370
SB LEFT	1	1,600	169	0.106	*	
SB THRU	3	4,800	527	0.141		
SB RIGHT	0	0	151	0.000		
EB LEFT	2	2,880	138	0.048		
EB THRU	2	3,200	725	0.239	*	
EB RIGHT	0	0	40	0.000		
						0.290
WB LEFT	2	2,880	148	0.051	*	
WB THRU	2	3,200	568	0.178		
WB RIGHT	1	1,600	114	0.071		

NORTH/SOUTH CRITICAL SUM	0.370
EAST/WEST CRITICAL SUM	0.290
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.760
LESS 0.10 FOR ATSAC/ATCS	0.660
PM INTERSECTION LOS	B

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND WASHINGTON BOULEVARD
EXISTING + PROJECT

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	1	1,600	58	0	0	0	58	0.036		64	0	0	0	64	0.04	
NB THRU	2	3,200	667	0	0	0	667	0.208 *		1025	0	0	0	1025	0.320 *	
NB RIGHT	1	1600	210	0	0	6	216	0.135		228	0	0	1	229	0.143	
									0.291							0.441
SB LEFT	1	1,600	133	0	0	0	133	0.083 *		193	0	0	0	193	0.121 *	
SB THRU	3	4,800	815	0	0	0	815	0.200		636	0	0	0	636	0.158	
SB RIGHT	0	0	146	0	0	0	146	0.000		124	0	0	0	124	0.000	
EB LEFT	2	2,880	115	0	0	7	122	0.042		161	0	0	3	164	0.057	
EB THRU	2	3,200	599	0	0	9	608	0.222 *		725	0	0	3	728	0.243 *	
EB RIGHT	0	0	103	0	0	0	103	0.000		50	0	0	0	50	0.000	
									0.291							0.298
WB LEFT	2	2,880	200	0	0	0	200	0.069 *		157	0	0	0	157	0.055 *	
WB THRU	2	3,200	717	0	0	12	729	0.228		624	0	0	4	628	0.196	
WB RIGHT	1	1,600	61	0	0	0	61	0.038		194	0	0	0	194	0.121	

NORTH/SOUTH CRITICAL SUM	0.291	NORTH/SOUTH CRITICAL SUM	0.441
EAST/WEST CRITICAL SUM	0.291	EAST/WEST CRITICAL SUM	0.298
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.682	INTERSECTION ICU VALUE	0.839
LESS 0.10 FOR ATSAC/ATCS	0.582	LESS 0.10 FOR ATSAC/ATCS	0.739
AM INTERSECTION LOS	A	PM INTERSECTION LOS	C
AM IMPACT	0.003	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND WASHINGTON BOULEVARD
EXISTING + PROJECT

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	50	0	0	0	50	0.031		
NB THRU	2	3,200	845	0	0	0	845	0.264	*	
NB RIGHT	1	1600	268	0	0	4	272	0.17		
										0.370
SB LEFT	1	1,600	169	0	0	0	169	0.106	*	
SB THRU	3	4,800	527	0	0	0	527	0.141		
SB RIGHT	0	0	151	0	0	0	151	0.000		
EB LEFT	2	2,880	138	0	0	0	138	0.048		
EB THRU	2	3,200	725	0	0	8	733	0.242	*	
EB RIGHT	0	0	40	0	0	0	40	0.000		
										0.295
WB LEFT	2	2,880	148	0	0	5	153	0.053	*	
WB THRU	2	3,200	568	0	0	8	576	0.180		
WB RIGHT	1	1,600	114	0	0	0	114	0.071		

NORTH/SOUTH CRITICAL SUM		0.370
EAST/WEST CRITICAL SUM		0.295
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.765
LESS 0.10 FOR ATSAC/ATCS		0.665
	PM INTERSECTION LOS	B
	PM IMPACT	0.005

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND WASHINGTON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR
NB LEFT	1	1,600	58	1	61	120	0.075		64	1	90	155	0.097	
NB THRU	2	3,200	667	13	104	784	0.245	*	1025	21	138	1184	0.370	*
NB RIGHT	1	1600	210	4	20	234	0.146		228	5	101	334	0.208	
								0.407						0.559
SB LEFT	1	1,600	133	3	123	259	0.162	*	193	4	105	302	0.189	*
SB THRU	3	4,800	815	16	124	955	0.235		636	13	168	817	0.208	
SB RIGHT	0	0	146	3	24	173	0.000		124	2	56	182	0.000	
EB LEFT	2	2,880	115	2	71	188	0.065		161	3	88	252	0.088	
EB THRU	2	3,200	599	12	175	786	0.292	*	725	15	125	865	0.321	*
EB RIGHT	0	0	103	2	44	149	0.000		50	1	111	162	0.000	
								0.392						0.416
WB LEFT	2	2,880	200	4	83	287	0.100	*	157	3	113	273	0.095	*
WB THRU	2	3,200	717	14	104	835	0.261		624	12	176	812	0.254	
WB RIGHT	1	1,600	61	1	68	130	0.081		194	4	108	306	0.191	

	AM		PM
NORTH/SOUTH CRITICAL SUM	0.407		0.559
EAST/WEST CRITICAL SUM	0.392		0.416
CLEARANCE INTERVAL	0.100		0.100
INTERSECTION ICU VALUE	0.899		1.075
LESS 0.10 FOR ATSAC/ATCS	0.799		0.975
AM INTERSECTION LOS	C	PM INTERSECTION LOS	E
AM IMPACT	0.220	PM IMPACT	0.237

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND WASHINGTON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

						SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	50	1	90	141	0.088		
NB THRU	2	3,200	845	17	138	1000	0.312	*	
NB RIGHT	1	1600	268	5	101	374	0.234		
									0.485
SB LEFT	1	1,600	169	3	105	277	0.173	*	
SB THRU	3	4,800	527	11	168	706	0.191		
SB RIGHT	0	0	151	3	56	210	0.000		
EB LEFT	2	2,880	138	3	88	229	0.079		
EB THRU	2	3,200	725	15	125	865	0.318	*	
EB RIGHT	0	0	40	1	111	152	0.000		
									0.410
WB LEFT	2	2,880	148	3	113	264	0.092	*	
WB THRU	2	3,200	568	11	176	755	0.236		
WB RIGHT	1	1,600	114	2	108	224	0.14		

NORTH/SOUTH CRITICAL SUM	0.485
EAST/WEST CRITICAL SUM	0.410
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.995
LESS 0.10 FOR ATSAC/ATCS	0.895
PM INTERSECTION LOS	D
PM IMPACT	0.235

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND WASHINGTON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	58	1	61	0	120	0.075			64	1	90	0	155	0.097		
NB THRU	2	3,200	667	13	104	0	784	0.245	*		1025	21	138	0	1184	0.370	*	
NB RIGHT	1	1600	210	4	20	6	240	0.150			228	5	101	1	335	0.209		
										0.407								0.559
SB LEFT	1	1,600	133	3	123	0	259	0.162	*		193	4	105	0	302	0.189	*	
SB THRU	3	4,800	815	16	124	0	955	0.235			636	13	168	0	817	0.208		
SB RIGHT	0	0	146	3	24	0	173	0.000			124	2	56	0	182	0.000		
EB LEFT	2	2,880	115	2	71	7	195	0.068			161	3	88	3	255	0.089		
EB THRU	2	3,200	599	12	175	9	795	0.295	*		725	15	125	3	868	0.322	*	
EB RIGHT	0	0	103	2	44	0	149	0.000			50	1	111	0	162	0.000		
										0.395								0.417
WB LEFT	2	2,880	200	4	83	0	287	0.100	*		157	3	113	0	273	0.095	*	
WB THRU	2	3,200	717	14	104	12	847	0.265			624	12	176	4	816	0.255		
WB RIGHT	1	1,600	61	1	68	0	130	0.081			194	4	108	0	306	0.191		

NORTH/SOUTH CRITICAL SUM			0.407
EAST/WEST CRITICAL SUM			0.395
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.902
LESS 0.10 FOR ATSAC/ATCS			0.802
	AM INTERSECTION LOS		D
	AM IMPACT		0.003

NORTH/SOUTH CRITICAL SUM			0.559
EAST/WEST CRITICAL SUM			0.417
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			1.076
LESS 0.10 FOR ATSAC/ATCS			0.976
	PM INTERSECTION LOS		E
	PM IMPACT		0.001

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND WASHINGTON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	50	1	90	0	141	0.088		
NB THRU	2	3,200	845	17	138	0	1000	0.312	*	
NB RIGHT	1	1600	268	5	101	4	378	0.236		
										0.485
SB LEFT	1	1,600	169	3	105	0	277	0.173	*	
SB THRU	3	4,800	527	11	168	0	706	0.191		
SB RIGHT	0	0	151	3	56	0	210	0.000		
EB LEFT	2	2,880	138	3	88	0	229	0.079		
EB THRU	2	3,200	725	15	125	8	873	0.320	*	
EB RIGHT	0	0	40	1	111	0	152	0.000		
										0.413
WB LEFT	2	2,880	148	3	113	5	269	0.093	*	
WB THRU	2	3,200	568	11	176	8	763	0.239		
WB RIGHT	1	1,600	114	2	108	0	224	0.14		

NORTH/SOUTH CRITICAL SUM		0.485
EAST/WEST CRITICAL SUM		0.413
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.998
LESS 0.10 FOR ATSAC/ATCS		0.898
	PM INTERSECTION LOS	D
	PM IMPACT	0.003

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND HAYDEN AVENUE
EXISTING (2018) CONDITION

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	277	0.115	*		423	0.176	*	
NB THRU	0	0	0	0.000			0	0.000		
NB RIGHT	0.5	800	69	0.086			96	0.12		
						0.115				0.176
SB LEFT	0	0	0	0.000			0	0.000		
SB THRU	0	0	0	0.000			0	0.000		
SB RIGHT	0	0	0	0.000			0	0.000		
EB LEFT	0	0	0	0.000			0	0.000		
EB THRU	2	3,200	508	0.159			899	0.281	*	
EB RIGHT	1	1,600	286	0.179	*		298	0.186		
						0.325				0.297
WB LEFT	1	1,600	234	0.146	*		26	0.016	*	
WB THRU	2	3,200	867	0.271			385	0.120		
WB RIGHT	0	0	0	0.000			0	0.000		

NORTH/SOUTH CRITICAL SUM	0.115	NORTH/SOUTH CRITICAL SUM	0.176
EAST/WEST CRITICAL SUM	0.325	EAST/WEST CRITICAL SUM	0.297
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.540	INTERSECTION ICU VALUE	0.573
LESS 0.10 FOR ATSAC/ATCS	0.440	LESS 0.10 FOR ATSAC/ATCS	0.473
AM INTERSECTION LOS	A	PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND HAYDEN AVENUE
EXISTING CONDITION (2018)

			SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	275	0.115		
NB THRU	0	0	0	0.000		
NB RIGHT	0.5	800	94	0.118	*	
						0.118
SB LEFT	0	0	0	0.000	*	
SB THRU	0	0	0	0.000		
SB RIGHT	0	0	0	0.000		
EB LEFT	0	0	0	0.000		
EB THRU	2	3,200	851	0.266	*	
EB RIGHT	1	1,600	217	0.136		
						0.279
WB LEFT	1	1,600	20	0.013	*	
WB THRU	2	3,200	427	0.133		
WB RIGHT	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.118
EAST/WEST CRITICAL SUM	0.279
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.497
LESS 0.10 FOR ATSAC/ATCS	0.397
PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND HAYDEN AVENUE
EXISTING + PROJECT

								AM PEAK HOUR								PM PEAK HOUR		
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	277	0	0	16	293	0.122	*		423	0	0	6	429	0.179	*	
NB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
NB RIGHT	0.5	800	69	0	0	5	74	0.093			96	0	0	1	97	0.121		
										0.122								0.179
SB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
SB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB THRU	2	3,200	508	0	0	18	526	0.164			899	0	0	5	904	0.283	*	
EB RIGHT	1	1,600	286	0	0	0	286	0.179	*		298	0	0	0	298	0.186		
										0.325								0.299
WB LEFT	1	1,600	234	0	0	0	234	0.146	*		26	0	0	0	26	0.016	*	
WB THRU	2	3,200	867	0	0	0	867	0.271			385	0	0	0	385	0.120		
WB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.122	NORTH/SOUTH CRITICAL SUM	0.179
EAST/WEST CRITICAL SUM	0.325	EAST/WEST CRITICAL SUM	0.299
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.547	INTERSECTION ICU VALUE	0.578
LESS 0.10 FOR ATSAC/ATCS	0.447	LESS 0.10 FOR ATSAC/ATCS	0.478
AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
AM IMPACT	0.007	PM IMPACT	0.005

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND HAYDEN AVENUE
EXISTING + PROJECT

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	275	0	0	13	288	0.12		
NB THRU	0	0	0	0	0	0	0	0.000		
NB RIGHT	0.5	800	94	0	0	4	98	0.123		
										0.123
SB LEFT	0	0	0	0	0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000		
EB THRU	2	3,200	851	0	0	12	863	0.270	*	
EB RIGHT	1	1,600	217	0	0	0	217	0.136		
										0.283
WB LEFT	1	1,600	20	0	0	0	20	0.013	*	
WB THRU	2	3,200	427	0	0	0	427	0.133		
WB RIGHT	0	0	0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM		0.123
EAST/WEST CRITICAL SUM		0.283
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.506
LESS 0.10 FOR ATSAC/ATCS		0.406
	PM INTERSECTION LOS	A
	PM IMPACT	0.009

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR
NB LEFT	1.5	2,400	277	6	2	285	0.119 *		423	8	20	451	0.188 *	
NB THRU	0	0	0	0	0	0	0.000		0	0	0	0	0.000	
NB RIGHT	0.5	800	69	1	0	70	0.088		96	2	0	98	0.122	
								0.119						0.188
SB LEFT	0	0	0	0	0	0	0.000		0	0	0	0	0.000	
SB THRU	0	0	0	0	0	0	0.000		0	0	0	0	0.000	
SB RIGHT	0	0	0	0	0	0	0.000		0	0	0	0	0.000	
EB LEFT	0	0	0	0	0	0	0.000		0	0	0	0	0.000	
EB THRU	2	3,200	508	10	312	830	0.259 *		899	18	319	1236	0.386 *	
EB RIGHT	1	1,600	286	6	6	298	0.186		298	6	12	316	0.197	
								0.408						0.403
WB LEFT	1	1,600	234	5	0	239	0.149 *		26	1	0	27	0.017 *	
WB THRU	2	3,200	867	17	255	1139	0.356		385	8	366	759	0.237	
WB RIGHT	0	0	0	0	0	0	0.000		0	0	0	0	0.000	

NORTH/SOUTH CRITICAL SUM	0.119	NORTH/SOUTH CRITICAL SUM	0.188
EAST/WEST CRITICAL SUM	0.408	EAST/WEST CRITICAL SUM	0.403
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.627	INTERSECTION ICU VALUE	0.691
LESS 0.10 FOR ATSAC/ATCS	0.527	LESS 0.10 FOR ATSAC/ATCS	0.591
AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
AM IMPACT	0.087	PM IMPACT	0.118

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

						SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	275	6	20	301	0.125	*	
NB THRU	0	0	0	0	0	0	0.000		
NB RIGHT	0.5	800	94	2	0	96	0.12		
									0.125
SB LEFT	0	0	0	0	0	0	0.000		
SB THRU	0	0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0.000		
EB THRU	2	3,200	851	17	319	1187	0.371	*	
EB RIGHT	1	1,600	217	4	12	233	0.146		
									0.384
WB LEFT	1	1,600	20	0	0	20	0.013	*	
WB THRU	2	3,200	427	9	366	802	0.250		
WB RIGHT	0	0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.125
EAST/WEST CRITICAL SUM	0.384
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.609
LESS 0.10 FOR ATSAC/ATCS	0.509
PM INTERSECTION LOS	A
PM IMPACT	0.112

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	277	6	2	16	301	0.125	*		423	8	20	6	457	0.191	*	
NB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
NB RIGHT	0.5	800	69	1	0	5	75	0.094			96	2	0	1	99	0.124		
										0.125								0.191
SB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
SB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB THRU	2	3,200	508	10	312	18	848	0.265	*		899	18	319	5	1241	0.388	*	
EB RIGHT	1	1,600	286	6	6	0	298	0.186			298	6	12	0	316	0.197		
										0.414								0.405
WB LEFT	1	1,600	234	5	0	0	239	0.149	*		26	1	0	0	27	0.017	*	
WB THRU	2	3,200	867	17	255	0	1139	0.356			385	8	366	0	759	0.237		
WB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.125	NORTH/SOUTH CRITICAL SUM	0.191
EAST/WEST CRITICAL SUM	0.414	EAST/WEST CRITICAL SUM	0.405
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.639	INTERSECTION ICU VALUE	0.696
LESS 0.10 FOR ATSAC/ATCS	0.539	LESS 0.10 FOR ATSAC/ATCS	0.596
AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
AM IMPACT	0.012	PM IMPACT	0.005

EXIST + AMB + REL+PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	275	6	20	13	314	0.131	*	
NB THRU	0	0	0	0	0	0	0	0.000		
NB RIGHT	0.5	800	94	2	0	4	100	0.125		
										0.131
SB LEFT	0	0	0	0	0	0	0	0.000		
SB THRU	0	0	0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000		
EB THRU	2	3,200	851	17	319	12	1199	0.375	*	
EB RIGHT	1	1,600	217	4	12	0	233	0.146		
										0.388
WB LEFT	1	1,600	20	0	0	0	20	0.013	*	
WB THRU	2	3,200	427	9	366	0	802	0.250		
WB RIGHT	0	0	0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM		0.131
EAST/WEST CRITICAL SUM		0.388
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.619
LESS 0.10 FOR ATSAC/ATCS		0.519
	PM INTERSECTION LOS	A
	PM IMPACT	0.010

EXIST + AMB + REL + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND EASTHAM DRIVE
EXISTING (2018) CONDITION

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	32	0.020			43	0.027		
NB THRU	0	0	0	0.000			0	0.000		
NB RIGHT	1	1600	45	0.028	*		64	0.040	*	
						0.028				0.040
SB LEFT	0	0	0	0.000	*		0	0.000	*	
SB THRU	0	0	0	0.000			0	0.000		
SB RIGHT	0	0	0	0.000			0	0.000		
EB LEFT	0	0	0	0.000	*		0	0.000		
EB THRU	2	3,200	431	0.175			772	0.286	*	
EB RIGHT	0	0	128	0.000			143	0.000		
						0.318				0.300
WB LEFT	1	1,600	227	0.142			23	0.014	*	
WB THRU	2	3,200	1016	0.318	*		483	0.151		
WB RIGHT	0	0	0	0.000			0	0.000		

NORTH/SOUTH CRITICAL SUM	0.028	NORTH/SOUTH CRITICAL SUM	0.040
EAST/WEST CRITICAL SUM	0.318	EAST/WEST CRITICAL SUM	0.300
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.446	INTERSECTION ICU VALUE	0.440
LESS 0.10 FOR ATSAC/ATCS	0.346	LESS 0.10 FOR ATSAC/ATCS	0.340
AM INTERSECTION LOS	A	PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND EASTHAM DRIVE
EXISTING CONDITION (2018)

			SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	42	0.026		
NB THRU	0	0	0	0.000		
NB RIGHT	1	1600	65	0.041	*	
						0.041
SB LEFT	0	0	0	0.000		
SB THRU	0	0	0	0.000		
SB RIGHT	0	0	0	0.000		
EB LEFT	0	0	0	0.000		
EB THRU	2	3,200	793	0.293	*	
EB RIGHT	0	0	143	0.000		
						0.310
WB LEFT	1	1,600	27	0.017	*	
WB THRU	2	3,200	452	0.141		
WB RIGHT	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.041
EAST/WEST CRITICAL SUM	0.310
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.451
LESS 0.10 FOR ATSAC/ATCS	0.351
PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND EASTHAM DRIVE
EXISTING + PROJECT

											AM PEAK HOUR							PM PEAK HOUR	
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	32	0	0	0	32	0.020			43	0	0	0	43	0.027		
NB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
NB RIGHT	1	1600	45	0	0	0	45	0.028	*		64	0	0	0	64	0.04		
										0.028								0.040
SB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
SB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB THRU	2	3,200	431	0	0	5	436	0.182	*		772	0	0	1	773	0.288	*	
EB RIGHT	0	0	128	0	0	18	146	0.000			143	0	0	5	148	0.000		
										0.328								0.303
WB LEFT	1	1,600	227	0	0	6	233	0.146	*		23	0	0	1	24	0.015	*	
WB THRU	2	3,200	1016	0	0	0	1016	0.318			483	0	0	0	483	0.151		
WB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.028	NORTH/SOUTH CRITICAL SUM	0.040
EAST/WEST CRITICAL SUM	0.328	EAST/WEST CRITICAL SUM	0.303
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.456	INTERSECTION ICU VALUE	0.443
LESS 0.10 FOR ATSAC/ATCS	0.356	LESS 0.10 FOR ATSAC/ATCS	0.343
AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
AM IMPACT	0.010	PM IMPACT	0.003

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND EASTHAM DRIVE
EXISTING + PROJECT

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	42	0	0	0	42	0.026		
NB THRU	0	0	0	0	0	0	0	0.000		
NB RIGHT	1	1600	65	0	0	0	65	0.041		
										0.041
SB LEFT	0	0	0	0	0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000		
EB THRU	2	3,200	793	0	0	4	797	0.298	*	
EB RIGHT	0	0	143	0	0	12	155	0.000		
										0.317
WB LEFT	1	1,600	27	0	0	3	30	0.019	*	
WB THRU	2	3,200	452	0	0	0	452	0.141		
WB RIGHT	0	0	0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM		0.041
EAST/WEST CRITICAL SUM		0.317
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.458
LESS 0.10 FOR ATSAC/ATCS		0.358
	PM INTERSECTION LOS	A
	PM IMPACT	0.007

EXIST + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR
NB LEFT	1	1,600	32	1	0	33	0.020		43	1	0	44	0.027	
NB THRU	0	0	0	0	0	0	0.000		0	0	0	0	0.000	
NB RIGHT	1	1600	45	1	2	48	0.030 *		64	1	20	85	0.053 *	
								0.030						0.053
SB LEFT	0	0	0	0	0	0	0.000 *		0	0	0	0	0.000	
SB THRU	0	0	0	0	0	0	0.000		0	0	0	0	0.000	
SB RIGHT	0	0	0	0	0	0	0.000		0	0	0	0	0.000	
EB LEFT	0	0	0	0	0	0	0.000		0	0	0	0	0.000	
EB THRU	2	3,200	431	9	318	758	0.278 *		772	15	331	1118	0.395 *	
EB RIGHT	0	0	128	3	0	131	0.000		143	3	0	146	0.000	
								0.426						0.417
WB LEFT	1	1,600	227	5	6	238	0.148 *		23	0	12	35	0.022 *	
WB THRU	2	3,200	1016	20	255	1291	0.404		483	10	366	859	0.268	
WB RIGHT	0	0	0	0	0	0	0.000		0	0	0	0	0.000	

NORTH/SOUTH CRITICAL SUM	0.030	NORTH/SOUTH CRITICAL SUM	0.053
EAST/WEST CRITICAL SUM	0.426	EAST/WEST CRITICAL SUM	0.417
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.556	INTERSECTION ICU VALUE	0.570
LESS 0.10 FOR ATSAC/ATCS	0.456	LESS 0.10 FOR ATSAC/ATCS	0.470
AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
AM IMPACT	0.110	PM IMPACT	0.130

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

						SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	42	1	0	43	0.027		
NB THRU	0	0	0	0	0	0	0.000		
NB RIGHT	1	1600	65	1	20	86	0.054	*	
									0.054
SB LEFT	0	0	0	0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0.000		
EB THRU	2	3,200	793	16	331	1140	0.402	*	
EB RIGHT	0	0	143	3	0	146	0.000		
									0.427
WB LEFT	1	1,600	27	1	12	40	0.025	*	
WB THRU	2	3,200	452	9	366	827	0.258		
WB RIGHT	0	0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.054
EAST/WEST CRITICAL SUM	0.427
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.581
LESS 0.10 FOR ATSAC/ATCS	0.481
PM INTERSECTION LOS	A
PM IMPACT	0.130

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	1	1,600	32	1	0	0	33	0.020		43	1	0	0	44	0.027	
NB THRU	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
NB RIGHT	1	1600	45	1	2	0	48	0.030	*	64	1	20	0	85	0.053	
									0.030							0.053
SB LEFT	0	0	0	0	0	0	0	0.000	*	0	0	0	0	0	0.000	
SB THRU	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
SB RIGHT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
EB LEFT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
EB THRU	2	3,200	431	9	318	5	763	0.285	*	772	15	331	1	1119	0.397	*
EB RIGHT	0	0	128	3	0	18	149	0.000		143	3	0	5	151	0.000	
									0.437							0.420
WB LEFT	1	1,600	227	5	6	6	244	0.152	*	23	0	12	1	36	0.023	*
WB THRU	2	3,200	1016	20	255	0	1291	0.404		483	10	366	0	859	0.268	
WB RIGHT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	

NORTH/SOUTH CRITICAL SUM	0.030	NORTH/SOUTH CRITICAL SUM	0.053
EAST/WEST CRITICAL SUM	0.437	EAST/WEST CRITICAL SUM	0.420
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.567	INTERSECTION ICU VALUE	0.573
LESS 0.10 FOR ATSAC/ATCS	0.467	LESS 0.10 FOR ATSAC/ATCS	0.473
AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
AM IMPACT	0.011	PM IMPACT	0.003

EXIST + AMB+ REL + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	42	1	0	0	43	0.027		
NB THRU	0	0	0	0	0	0	0	0.000		
NB RIGHT	1	1600	65	1	20	0	86	0.054		
										0.054
SB LEFT	0	0	0	0	0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000		
EB THRU	2	3,200	793	16	331	4	1144	0.407	*	
EB RIGHT	0	0	143	3	0	12	158	0.000		
										0.434
WB LEFT	1	1,600	27	1	12	3	43	0.027	*	
WB THRU	2	3,200	452	9	366	0	827	0.258		
WB RIGHT	0	0	0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM		0.054
EAST/WEST CRITICAL SUM		0.434
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.588
LESS 0.10 FOR ATSAC/ATCS		0.488
	PM INTERSECTION LOS	A
	PM IMPACT	0.007

EXIST + AMB + RELATED + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND JEFFERSON BOULEVARD
EXISTING (2018) CONDITION

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	376	0.235	*		190	0.119	*	
NB THRU	2	3,200	656	0.205			944	0.295		
NB RIGHT	1	1600	0	0.000			0	0		
						0.761				0.302
SB LEFT	1	1,600	0	0.000			1	0.001		
SB THRU	1	1,600	841	0.526	*		292	0.183	*	
SB RIGHT	1	1,600	775	0.484			216	0.135		
EB LEFT	1.5	2,400	253	0.105	*		471	0.196		
EB THRU	0.5	800	0	0.000			0	0.000		
EB RIGHT	1	1,600	238	0.031			430	0.209	*	
						0.105				0.209
WB LEFT	0.5	800	0	0.000			0	0.000		
WB THRU	0.5	800	0	0.000	*		0	0.000		
WB RIGHT	1	1,600	0	0.000	*		0	0		

*E/B right overlap N/B left = 0.5 N/B left

NORTH/SOUTH CRITICAL SUM	0.761	NORTH/SOUTH CRITICAL SUM	0.302
EAST/WEST CRITICAL SUM	0.105	EAST/WEST CRITICAL SUM	0.209
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.966	INTERSECTION ICU VALUE	0.611
LESS 0.10 FOR ATSAC/ATCS	0.866	LESS 0.10 FOR ATSAC/ATCS	0.511
AM INTERSECTION LOS	D	PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND JEFFERSON BOULEVARD
EXISTING CONDITION (2018)

			SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	237	0.148	*	
NB THRU	2	3,200	792	0.248		
NB RIGHT	1	1600	0	0.000		
						0.339
SB LEFT	1	1,600	2	0.001		
SB THRU	1	1,600	305	0.191	*	
SB RIGHT	1	1,600	198	0.124		
EB LEFT	1.5	2,400	450	0.188	*	
EB THRU	0.5	800	0	0.000		
EB RIGHT	1	1,600	383	0.165		
						0.188
WB LEFT	0	0	0	0.000		
WB THRU	1	1,600	0	0.000		
WB RIGHT	1	1,600	0	0		

* e/b right overlap = .5 n/b left

NORTH/SOUTH CRITICAL SUM	0.339
EAST/WEST CRITICAL SUM	0.188
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.627
LESS 0.10 FOR ATSAC/ATCS	0.527
PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND JEFFERSON BOULEVARD
EXISTING + PROJECT

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	376	0	0	0	376	0.235	*		190	0	0	0	190	0.119	*	
NB THRU	2	3,200	656	0	0	0	656	0.205			944	0	0	0	944	0.295		
NB RIGHT	1	1600	0	0	0	0	0	0.000			0	0	0	0	0	0		
										0.761								0.302
SB LEFT	1	1,600	0	0	0	0	0	0.000			1	0	0	0	1	0.001		
SB THRU	1	1,600	841	0	0	0	841	0.526	*		292	0	0	0	292	0.183	*	
SB RIGHT	1	1,600	775	0	0	6	781	0.488			216	0	0	1	217	0.136		
EB LEFT	1.5	2,400	253	0	0	5	258	0.108	*		471	0	0	1	472	0.197		
EB THRU	0.5	800	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB RIGHT	1	1,600	238	0	0	0	238	0.031			430	0	0	0	430	0.209	*	
										0.108								0.209
WB LEFT	0.5	800	0	0	0	0	0	0.000			0	0	0	0	0	0		
WB THRU	0.5	800	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
WB RIGHT	1	1,600	0	0	0	0	0	0.000	*		0	0	0	0	0	0		

*E/B right overlap N/B left = 0.5 N/B left

NORTH/SOUTH CRITICAL SUM	0.761	NORTH/SOUTH CRITICAL SUM	0.302
EAST/WEST CRITICAL SUM	0.108	EAST/WEST CRITICAL SUM	0.209
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.969	INTERSECTION ICU VALUE	0.611
LESS 0.10 FOR ATSAC/ATCS	0.869	LESS 0.10 FOR ATSAC/ATCS	0.511
AM INTERSECTION LOS	D	PM INTERSECTION LOS	A
AM IMPACT	0.003	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND JEFFERSON BOULEVARD
EXISTING + PROJECT

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	237	0	0	0	237	0.148	*	
NB THRU	2	3,200	792	0	0	0	792	0.248		
NB RIGHT	1	1600	0	0	0	0	0	0.000		
										0.339
SB LEFT	1	1,600	2	0	0	0	2	0.001		
SB THRU	1	1,600	305	0	0	0	305	0.191	*	
SB RIGHT	1	1,600	198	0	0	3	201	0.126		
EB LEFT	1.5	2,400	450	0	0	4	454	0.189	*	
EB THRU	0.5	800	0	0	0	0	0	0.000		
EB RIGHT	1	1,600	383	0	0	0	383	0.165		
										0.189
WB LEFT	0	0	0	0	0	0	0	0.000		
WB THRU	1	1600	0	0	0	0	0	0.000		
WB RIGHT	1	1,600	0	0	0	0	0	0.000		

* e/b right overlap = .5 n/b left

NORTH/SOUTH CRITICAL SUM		0.339
EAST/WEST CRITICAL SUM		0.189
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.628
LESS 0.10 FOR ATSAC/ATCS		0.528
	PM INTERSECTION LOS	A
	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR
NB LEFT	1	1,600	376	8	55	439	0.274 *		190	4	70	264	0.165 *	
NB THRU	2	3,200	656	13	79	748	0.234		944	19	193	1156	0.361	
NB RIGHT	1	1600	0	0	47	47	0.029		0	0	8	8	0.005	
								0.963						0.447
SB LEFT	1	1,600	0	0	47	47	0.029		1	0	17	18	0.011	
SB THRU	1	1,600	841	17	245	1103	0.689 *		292	6	153	451	0.282 *	
SB RIGHT	1	1,600	775	16	185	976	0.610		216	4	184	404	0.253	
EB LEFT	1.5	2,400	253	5	109	367	0.153 *		471	9	227	707	0.295 *	
EB THRU	0.5	800	0	0	142	142	0.000		0	0	25	25	0.000	
EB RIGHT	1	1,600	238	5	67	310	0.057		430	9	79	518	0.241	
								0.157						0.321
WB LEFT	0.5	800	0	0	6	6	0.008		0	0	41	41	0.051	
WB THRU	0.5	800	0	0	21	21	0.000		0	0	124	124	0.000	
WB RIGHT	1	1,600	0	0	6	6	0.004 *		0	0	41	41	0.026	

*E/B right overlap N/B left = 0.5 N/B left

NORTH/SOUTH CRITICAL SUM	0.963	NORTH/SOUTH CRITICAL SUM	0.447
EAST/WEST CRITICAL SUM	0.157	EAST/WEST CRITICAL SUM	0.321
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	1.220	INTERSECTION ICU VALUE	0.868
LESS 0.10 FOR ATSAC/ATCS	1.120	LESS 0.10 FOR ATSAC/ATCS	0.768
AM INTERSECTION LOS	F	PM INTERSECTION LOS	C
AM IMPACT	0.254	PM IMPACT	0.257

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

						SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	237	5	70	312	0.195	*	
NB THRU	2	3,200	792	16	193	1001	0.313		
NB RIGHT	1	1600	0	0	8	8	0.005		
									0.485
SB LEFT	1	1,600	2	0	17	19	0.012		
SB THRU	1	1,600	305	6	153	464	0.290	*	
SB RIGHT	1	1,600	198	4	184	386	0.241		
EB LEFT	1.5	2,400	450	9	227	686	0.286	*	
EB THRU	0.5	800	0	0	25	25	0.000		
EB RIGHT	1	1,600	383	8	79	470	0.196		
									0.389
WB LEFT	0	0	0	0	41	41	0.000		
WB THRU	1	1600	0	0	124	124	0.103		
WB RIGHT	1	1,600	0	0	41	41	0.026		

* e/b right overlap = .5 n/b left

NORTH/SOUTH CRITICAL SUM	0.485
EAST/WEST CRITICAL SUM	0.389
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.974
LESS 0.10 FOR ATSAC/ATCS	0.874
PM INTERSECTION LOS	D
PM IMPACT	0.347

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	376	8	55	0	439	0.274	*		190	4	70	0	264	0.165	*	
NB THRU	2	3,200	656	13	79	0	748	0.234			944	19	193	0	1156	0.361		
NB RIGHT	1	1600	0	0	47	0	47	0.029			0	0	8	0	8	0.005		
										0.963								0.447
SB LEFT	1	1,600	0	0	47	0	47	0.029			1	0	17	0	18	0.011		
SB THRU	1	1,600	841	17	245	0	1103	0.689	*		292	6	153	0	451	0.282	*	
SB RIGHT	1	1,600	775	16	185	6	982	0.613			216	4	184	1	405	0.253		
EB LEFT	1.5	2,400	253	5	109	5	372	0.155	*		471	9	227	1	708	0.295	*	
EB THRU	0.5	800	0	0	142	0	142	0.000			0	0	25	0	25	0.000		
EB RIGHT	1	1,600	238	5	67	0	310	0.057			430	9	79	0	518	0.241		
										0.159								0.321
WB LEFT	0.5	800	0	0	6	0	6	0.008			0	0	41	0	41	0.051		
WB THRU	0.5	800	0	0	21	0	21	0.000			0	0	124	0	124	0.000		
WB RIGHT	1	1,600	0	0	6	0	6	0.004	*		0	0	41	0	41	0.026		

*E/B right overlap N/B left = 0.5 N/B left

NORTH/SOUTH CRITICAL SUM	0.963	NORTH/SOUTH CRITICAL SUM	0.447
EAST/WEST CRITICAL SUM	0.159	EAST/WEST CRITICAL SUM	0.321
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	1.222	INTERSECTION ICU VALUE	0.868
LESS 0.10 FOR ATSAC/ATCS	1.122	LESS 0.10 FOR ATSAC/ATCS	0.768
AM INTERSECTION LOS	F	PM INTERSECTION LOS	C
AM IMPACT	0.002	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	237	5	70	0	312	0.195	*	
NB THRU	2	3,200	792	16	193	0	1001	0.313		
NB RIGHT	1	1600	0	0	8	0	8	0.005		
										0.485
SB LEFT	1	1,600	2	0	17	0	19	0.012		
SB THRU	1	1,600	305	6	153	0	464	0.290	*	
SB RIGHT	1	1,600	198	4	184	3	389	0.243		
EB LEFT	1.5	2,400	450	9	227	4	690	0.288	*	
EB THRU	0.5	800	0	0	25	0	25	0.000		
EB RIGHT	1	1,600	383	8	79	0	470	0.196		
										0.391
WB LEFT	0	0	0	0	41	0	41	0.000		
WB THRU	1	1600	0	0	124	0	124	0.103		
WB RIGHT	1	1,600	0	0	41	0	41	0.026		

* e/b right overlap = .5 n/b left

NORTH/SOUTH CRITICAL SUM		0.485
EAST/WEST CRITICAL SUM		0.391
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.976
LESS 0.10 FOR ATSAC/ATCS		0.876
	PM INTERSECTION LOS	D
	PM IMPACT	0.002

EXIST + AMB + RELATED + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WASHINGTON BOULEVARD AND ROBERTSON / HIGUERA
EXISTING (2018) CONDITION

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	68	0.043	*		128	0.08		
NB THRU	2	3,200	768	0.272			1016	0.338	*	
NB RIGHT	0	0	101	0.000			67	0.000		
						0.353				0.384
SB LEFT	1	1,600	86	0.054			74	0.046	*	
SB THRU	2	3,200	812	0.310	*		638	0.241		
SB RIGHT	0	0	181	0.000			132	0.000		
EB LEFT	1	1,600	144	0.090	*		124	0.078	*	
EB THRU	1	1,600	331	0.207			253	0.158		
EB RIGHT	1	1,600	68	0.043			74	0.046		
						0.283				0.224
WB LEFT	1	1,600	49	0.031	*		29	0.018	*	
WB THRU	1	1,600	308	0.193	*		234	0.146	*	
WB RIGHT	1	1,600	93	0.058			79	0.049		

NORTH/SOUTH CRITICAL SUM	0.353	NORTH/SOUTH CRITICAL SUM	0.384
EAST/WEST CRITICAL SUM	0.283	EAST/WEST CRITICAL SUM	0.224
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.736	INTERSECTION ICU VALUE	0.708
LESS 0.10 FOR ATSAC/ATCS	0.636		0.608
AM INTERSECTION LOS	B	PM INTERSECTION LOS	B

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WASHINGTON BOULEVARD AND ROBERTSON / HIGUERA
EXISTING CONDITION (2018)

			SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	74	0.046		
NB THRU	2	3,200	929	0.309	*	
NB RIGHT	0	0	59	0.000		
						0.348
SB LEFT	1	1,600	63	0.039	*	
SB THRU	2	3,200	559	0.212		
SB RIGHT	0	0	120	0.000		
EB LEFT	1	1,600	144	0.090	*	
EB THRU	1	1,600	227	0.142		
EB RIGHT	1	1,600	59	0.037		
						0.178
WB LEFT	1	1,600	30	0.019		
WB THRU	1	1,600	141	0.088	*	
WB RIGHT	1	1,600	72	0.045		

NORTH/SOUTH CRITICAL SUM	0.348
EAST/WEST CRITICAL SUM	0.178
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.626
LESS 0.10 FOR ATSAC/ATCS	0.526
PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WASHINGTON BOULEVARD AND ROBERTSON / HIGUERA
EXISTING + PROJECT

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	68	0	0	0	68	0.043	*		128	0	0	0	128	0.08		
NB THRU	2	3,200	768	0	0	6	774	0.274			1016	0	0	2	1018	0.339	*	
NB RIGHT	0	0	101	0	0	2	103	0.000			67	0	0	0	67	0.000		
										0.356								0.385
SB LEFT	1	1,600	86	0	0	0	86	0.054			74	0	0	0	74	0.046	*	
SB THRU	2	3,200	812	0	0	7	819	0.313	*		638	0	0	3	641	0.242		
SB RIGHT	0	0	181	0	0	0	181	0.000			132	0	0	0	132	0.000		
EB LEFT	1	1,600	144	0	0	0	144	0.090	*		124	0	0	0	124	0.078	*	
EB THRU	1	1,600	331	0	0	2	333	0.208			253	0	0	0	253	0.158		
EB RIGHT	1	1,600	68	0	0	0	68	0.043			74	0	0	0	74	0.046		
										0.284								0.224
WB LEFT	1	1,600	49	0	0	1	50	0.031			29	0	0	1	30	0.019		
WB THRU	1	1600	308	0	0	2	310	0.194	*		234	0	0	0	234	0.146	*	
WB RIGHT	1	1,600	93	0	0	0	93	0.058			79	0	0	0	79	0.049		

NORTH/SOUTH CRITICAL SUM	0.356	NORTH/SOUTH CRITICAL SUM	0.385
EAST/WEST CRITICAL SUM	0.284	EAST/WEST CRITICAL SUM	0.224
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.740	INTERSECTION ICU VALUE	0.709
LESS 0.10 FOR ATSAC/ATCS	0.640	LESS 0.10 FOR ATSAC/ATCS	0.609
AM INTERSECTION LOS	B	PM INTERSECTION LOS	B
AM IMPACT	0.004	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WASHINGTON BOULEVARD AND ROBERTSON / HIGUERA
EXISTING + PROJECT

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	74	0	0	0	74	0.046		
NB THRU	2	3,200	929	0	0	4	933	0.310	*	
NB RIGHT	0	0	59	0	0	1	60	0.000		
										0.349
SB LEFT	1	1,600	63	0	0	0	63	0.039	*	
SB THRU	2	3,200	559	0	0	5	564	0.176		
SB RIGHT	0	0	120	0	0	0	120	0.000		
EB LEFT	1	1,600	144	0	0	0	144	0.09	*	
EB THRU	1	1,600	227	0	0	1	228	0.143		
EB RIGHT	1	1,600	59	0	0	0	59	0.037		
										0.179
WB LEFT	1	1,600	30	0	0	1	31	0.019		
WB THRU	1	1600	141	0	0	2	143	0.089	*	
WB RIGHT	1	1,600	72	0	0	0	72	0.045		

NORTH/SOUTH CRITICAL SUM		0.349
EAST/WEST CRITICAL SUM		0.179
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.628
LESS 0.10 FOR ATSAC/ATCS		0.528
	PM INTERSECTION LOS	A
	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WASHINGTON BOULEVARD AND ROBERTSON / HIGUERA
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR
NB LEFT	1	1,600	68	1	12	81	0.051 *		128	3	75	206	0.128 *	
NB THRU	2	3,200	768	15	89	872	0.305		1016	20	169	1205	0.400	
NB RIGHT	0	0	101	2	2	105	0.000		67	1	5	73	0.000	
								0.476						0.470
SB LEFT	1	1,600	86	2	2	90	0.056		74	1	5	80	0.05	
SB THRU	2	3,200	812	16	184	1012	0.425 *		638	13	176	827	0.342 *	
SB RIGHT	0	0	181	4	162	347	0.000		132	3	134	269	0.000	
EB LEFT	1	1,600	144	3	171	318	0.199 *		124	2	98	224	0.140 *	
EB THRU	1	1,600	331	7	8	346	0.216		253	5	17	275	0.172	
EB RIGHT	1	1,600	68	1	70	139	0.087		74	1	38	113	0.071	
								0.398						0.292
WB LEFT	1	1,600	49	1	5	55	0.034		29	1	5	35	0.022	
WB THRU	1	1600	308	6	5	319	0.199 *		234	5	5	244	0.152 *	
WB RIGHT	1	1,600	93	2	0	95	0.059		79	2	0	81	0.05	

NORTH/SOUTH CRITICAL SUM	0.476	NORTH/SOUTH CRITICAL SUM	0.470
EAST/WEST CRITICAL SUM	0.398	EAST/WEST CRITICAL SUM	0.292
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.974	INTERSECTION ICU VALUE	0.862
LESS 0.10 FOR ATSAC/ATCS	0.874	LESS 0.10 FOR ATSAC/ATCS	0.762
AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.238	PM IMPACT	0.154

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WASHINGTON BOULEVARD AND ROBERTSON / HIGUERA
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

						SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	74	1	75	150	0.094		
NB THRU	2	3,200	929	19	169	1117	0.369	*	
NB RIGHT	0	0	59	1	5	65	0.000		
									0.412
SB LEFT	1	1,600	63	1	5	69	0.043	*	
SB THRU	2	3,200	559	11	176	746	0.233		
SB RIGHT	0	0	120	2	134	256	0.000		
EB LEFT	1	1,600	144	3	98	245	0.153	*	
EB THRU	1	1,600	227	5	17	249	0.155		
EB RIGHT	1	1,600	59	1	38	98	0.061		
									0.246
WB LEFT	1	1,600	30	1	5	36	0.022		
WB THRU	1	1600	141	3	5	149	0.093	*	
WB RIGHT	1	1,600	72	1	0	73	0.046		

NORTH/SOUTH CRITICAL SUM	0.412
EAST/WEST CRITICAL SUM	0.246
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.758
LESS 0.10 FOR ATSAC/ATCS	0.658
PM INTERSECTION LOS	B
PM IMPACT	0.132

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WASHINGTON BOULEVARD AND ROBERTSON / HIGUERA
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	68	1	12	0	81	0.051	*		128	3	75	0	206	0.128	*	
NB THRU	2	3,200	768	15	89	6	878	0.308			1016	20	169	2	1207	0.400		
NB RIGHT	0	0	101	2	2	2	107	0.000			67	1	5	0	73	0.000		
										0.478								0.471
SB LEFT	1	1,600	86	2	2	0	90	0.056			74	1	5	0	80	0.05		
SB THRU	2	3,200	812	16	184	7	1019	0.427	*		638	13	176	3	830	0.343	*	
SB RIGHT	0	0	181	4	162	0	347	0.000			132	3	134	0	269	0.000		
EB LEFT	1	1,600	144	3	171	0	318	0.199	*		124	2	98	0	224	0.14	*	
EB THRU	1	1,600	331	7	8	2	348	0.217			253	5	17	0	275	0.172		
EB RIGHT	1	1,600	68	1	70	0	139	0.087			74	1	38	0	113	0.071		
										0.400								0.292
WB LEFT	1	1,600	49	1	5	1	56	0.035			29	1	5	1	36	0.022		
WB THRU	1	1600	308	6	5	2	321	0.201	*		234	5	5	0	244	0.152	*	
WB RIGHT	1	1,600	93	2	0	0	95	0.059			79	2	0	0	81	0.05		

NORTH/SOUTH CRITICAL SUM	0.478	NORTH/SOUTH CRITICAL SUM	0.471
EAST/WEST CRITICAL SUM	0.400	EAST/WEST CRITICAL SUM	0.292
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.978	INTERSECTION ICU VALUE	0.863
LESS 0.10 FOR ATSAC/ATCS	0.878	LESS 0.10 FOR ATSAC/ATCS	0.763
AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.004	PM IMPACT	0.001

EXIST + AMB + REL + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WASHINGTON BOULEVARD AND ROBERTSON / HIGUERA
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	74	1	75	0	150	0.094		
NB THRU	2	3,200	929	19	169	4	1121	0.371	*	
NB RIGHT	0	0	59	1	5	1	66	0.000		
										0.414
SB LEFT	1	1,600	63	1	5	0	69	0.043	*	
SB THRU	2	3,200	559	11	176	5	751	0.235		
SB RIGHT	0	0	120	2	134	0	256	0.000		
EB LEFT	1	1,600	144	3	98	0	245	0.153	*	
EB THRU	1	1,600	227	5	17	1	250	0.156		
EB RIGHT	1	1,600	59	1	38	0	98	0.061		
										0.247
WB LEFT	1	1,600	30	1	5	1	37	0.023		
WB THRU	1	1600	141	3	5	2	151	0.094	*	
WB RIGHT	1	1,600	72	1	0	0	73	0.046		

NORTH/SOUTH CRITICAL SUM		0.414
EAST/WEST CRITICAL SUM		0.247
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.761
LESS 0.10 FOR ATSAC/ATCS		0.661
	PM INTERSECTION LOS	B
	PM IMPACT	0.003

EXIST + AMB + RELATED + PROJECT

HCS7 Two-Way Stop-Control Report

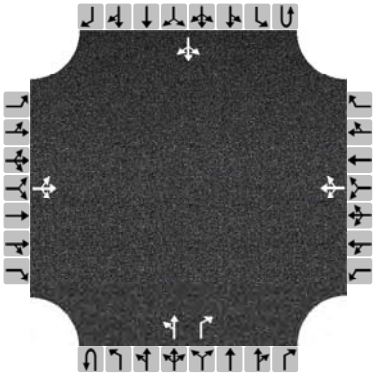
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/19/2018
Analysis Year	2018
Time Analyzed	AM PEAK HOUR
Intersection Orientation	North-South
Project Description	The Willows Community School

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		1	0	4		211	0	37		14	475	137		46	228	3
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5				270			15				50		
Capacity, c (veh/h)			455				228			1253				945		
v/c Ratio			0.01				1.18			0.01				0.05		
95% Queue Length, Q_{95} (veh)			0.0				13.0			0.0				0.2		
Control Delay (s/veh)			13.0				161.5			7.9				9.0		
Level of Service, LOS			B				F			A				A		
Approach Delay (s/veh)		13.0				161.5				0.3				2.0		
Approach LOS		B				F										

HCS7 Two-Way Stop-Control Report

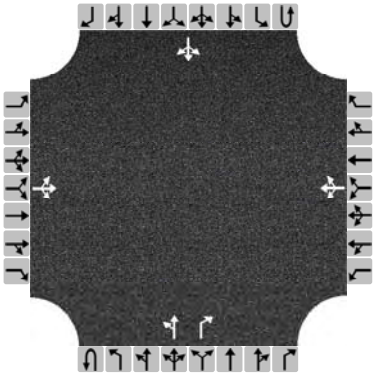
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2018
Time Analyzed	AM PEAK HOUR + PROJECT
Intersection Orientation	North-South
Project Description	The Willows Community School

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		1	0	4		211	0	37		17	496	148		46	228	3
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5				270			18				50		
Capacity, c (veh/h)			441				217			1253				926		
v/c Ratio			0.01				1.24			0.01				0.05		
95% Queue Length, Q_{95} (veh)			0.0				13.9			0.0				0.2		
Control Delay (s/veh)			13.3				186.4			7.9				9.1		
Level of Service, LOS			B				F			A				A		
Approach Delay (s/veh)		13.3				186.4				0.4				2.0		
Approach LOS		B				F										

HCS7 Two-Way Stop-Control Report

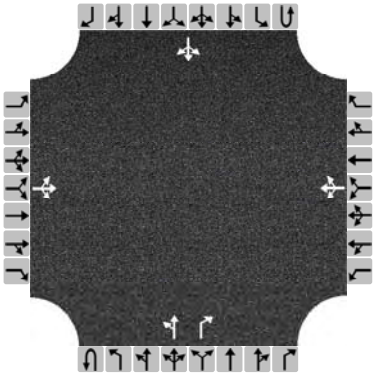
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Time Analyzed	AM PEAK HOUR
Intersection Orientation	North-South
Project Description	The Willows Community School

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		1	0	4		215	0	40		14	485	140		53	233	3
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5				277			15				58		
Capacity, c (veh/h)			437				217			1246				936		
v/c Ratio			0.01				1.28			0.01				0.06		
95% Queue Length, Q_{95} (veh)			0.0				14.6			0.0				0.2		
Control Delay (s/veh)			13.3				199.7			7.9				9.1		
Level of Service, LOS			B				F			A				A		
Approach Delay (s/veh)		13.3				199.7				0.3				2.2		
Approach LOS		B				F										

HCS7 Two-Way Stop-Control Report

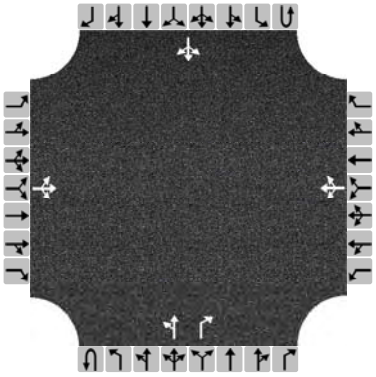
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Time Analyzed	AM PEAK HOUR + PROJECT
Intersection Orientation	North-South
Project Description	The Willows Community School

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		1	0	4		215	0	40		17	506	151		53	233	3
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5				277			18				58		
Capacity, c (veh/h)			422				207			1246				918		
v/c Ratio			0.01				1.34			0.01				0.06		
95% Queue Length, Q_{95} (veh)			0.0				15.5			0.0				0.2		
Control Delay (s/veh)			13.6				227.3			7.9				9.2		
Level of Service, LOS			B				F			A				A		
Approach Delay (s/veh)		13.6				227.3				0.4				2.2		
Approach LOS		B				F										

HCS7 Two-Way Stop-Control Report

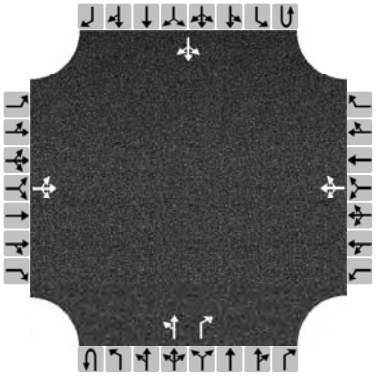
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2018
Time Analyzed	PM SCHOOL PEAK
Intersection Orientation	North-South
Project Description	The Willows Community School

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		3	1	6		66	1	27		10	313	168		50	104	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			11				102			11				54		
Capacity, c (veh/h)			493				391			1389				1107		
v/c Ratio			0.02				0.26			0.01				0.05		
95% Queue Length, Q_{95} (veh)			0.1				1.0			0.0				0.2		
Control Delay (s/veh)			12.5				17.4			7.6				8.4		
Level of Service, LOS			B				C			A				A		
Approach Delay (s/veh)		12.5				17.4				0.2				3.0		
Approach LOS		B				C										

HCS7 Two-Way Stop-Control Report

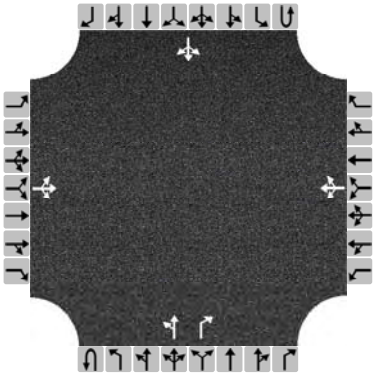
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2018
Time Analyzed	PM SCHOOL PEAK + PROJECT
Intersection Orientation	North-South
Project Description	The Willows Community School

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		3	1	6		66	1	27		13	329	176		50	104	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			11				102			14				54		
Capacity, c (veh/h)			478				377			1389				1091		
v/c Ratio			0.02				0.27			0.01				0.05		
95% Queue Length, Q_{95} (veh)			0.1				1.1			0.0				0.2		
Control Delay (s/veh)			12.7				18.1			7.6				8.5		
Level of Service, LOS			B				C			A				A		
Approach Delay (s/veh)		12.7				18.1				0.3				3.1		
Approach LOS		B				C										

HCS7 Two-Way Stop-Control Report

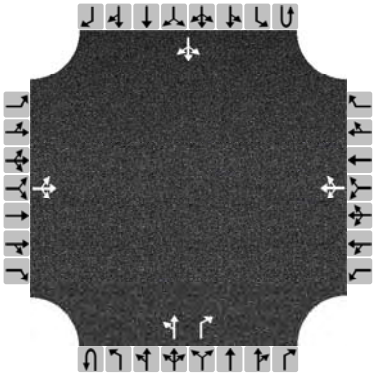
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Time Analyzed	PM SCHOOL PEAK HOUR
Intersection Orientation	North-South
Project Description	The Willows Community School

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		3	1	6		67	1	48		10	319	171		63	106	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			11				126			11				68		
Capacity, c (veh/h)			467				397			1405				1091		
v/c Ratio			0.02				0.32			0.01				0.06		
95% Queue Length, Q_{95} (veh)			0.1				1.3			0.0				0.2		
Control Delay (s/veh)			12.9				18.2			7.6				8.5		
Level of Service, LOS			B				C			A				A		
Approach Delay (s/veh)		12.9				18.2				0.2				3.5		
Approach LOS		B				C										

HCS7 Two-Way Stop-Control Report

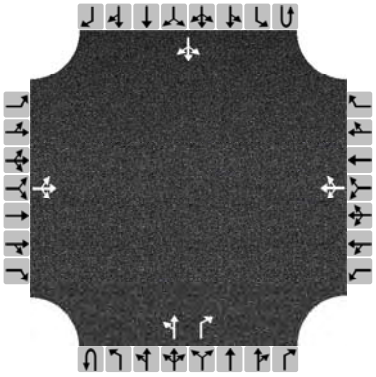
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Time Analyzed	PM SCHOOL PEAK + PROJECT
Intersection Orientation	North-South
Project Description	The Willows Community School

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		3	1	6		67	1	48		13	335	179		63	106	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			11				126			14				68		
Capacity, c (veh/h)			453				383			1405				1076		
v/c Ratio			0.02				0.33			0.01				0.06		
95% Queue Length, Q_{95} (veh)			0.1				1.4			0.0				0.2		
Control Delay (s/veh)			13.1				18.9			7.6				8.6		
Level of Service, LOS			B				C			A				A		
Approach Delay (s/veh)		13.1				18.9				0.3				3.6		
Approach LOS		B				C										

HCS7 Two-Way Stop-Control Report

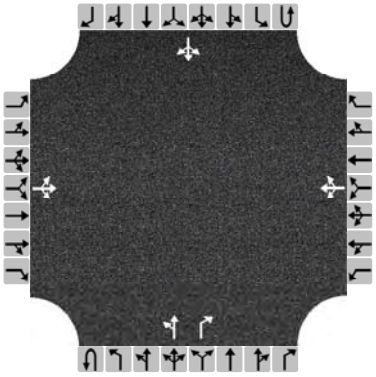
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2018
Time Analyzed	PM PEAK HOUR
Intersection Orientation	North-South
Project Description	The Willows Community School

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		7	2	10		77	0	55		12	344	145		95	150	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			21				143			13				103		
Capacity, c (veh/h)			331				317			1315				1076		
v/c Ratio			0.06				0.45			0.01				0.10		
95% Queue Length, Q_{95} (veh)			0.2				2.2			0.0				0.3		
Control Delay (s/veh)			16.6				25.4			7.8				8.7		
Level of Service, LOS			C				D			A				A		
Approach Delay (s/veh)		16.6				25.4				0.3				3.9		
Approach LOS		C				D										

HCS7 Two-Way Stop-Control Report

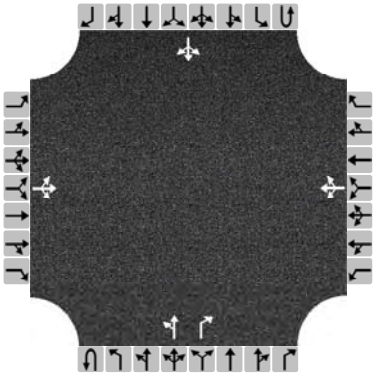
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2018
Time Analyzed	PM PEAK HOUR + PROJECT
Intersection Orientation	North-South
Project Description	The Willows Community School

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		7	2	10		77	0	55		13	351	149		95	150	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			21				143			14				103		
Capacity, c (veh/h)			326				312			1315				1069		
v/c Ratio			0.06				0.46			0.01				0.10		
95% Queue Length, Q_{95} (veh)			0.2				2.3			0.0				0.3		
Control Delay (s/veh)			16.8				26.0			7.8				8.7		
Level of Service, LOS			C				D			A				A		
Approach Delay (s/veh)		16.8				26.0				0.3				4.0		
Approach LOS		C				D										

HCS7 Two-Way Stop-Control Report

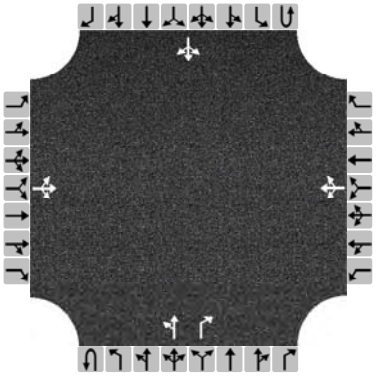
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Time Analyzed	PM PEAK HOUR
Intersection Orientation	North-South
Project Description	The Willows Community School

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		7	2	10		79	0	76		12	351	148		109	153	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			21				168			13				118		
Capacity, c (veh/h)			312				319			1346				1059		
v/c Ratio			0.07				0.53			0.01				0.11		
95% Queue Length, Q_{95} (veh)			0.2				2.9			0.0				0.4		
Control Delay (s/veh)			17.4				28.2			7.7				8.8		
Level of Service, LOS			C				D			A				A		
Approach Delay (s/veh)		17.4				28.2				0.3				4.3		
Approach LOS		C				D										

HCS7 Two-Way Stop-Control Report

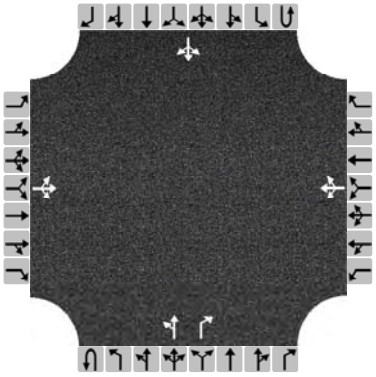
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Time Analyzed	PM PEAK HOUR + PROJECT
Intersection Orientation	North-South
Project Description	The Willows Community School

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		7	2	10		79	0	76		13	358	152		109	153	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			21				168			14				118		
Capacity, c (veh/h)			307				315			1346				1053		
v/c Ratio			0.07				0.54			0.01				0.11		
95% Queue Length, Q_{95} (veh)			0.2				3.0			0.0				0.4		
Control Delay (s/veh)			17.6				28.9			7.7				8.9		
Level of Service, LOS			C				D			A				A		
Approach Delay (s/veh)		17.6				28.9				0.3				4.3		
Approach LOS		C				D										

HCS7 All-Way Stop Control Report

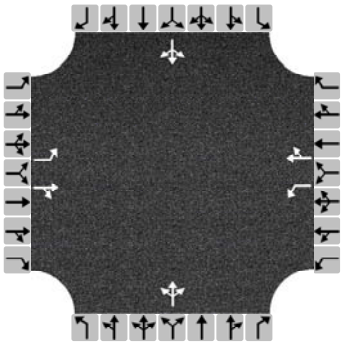
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2018
Analysis Time Period (hrs)	0.25
Time Analyzed	AM PEAK HOUR
Project Description	THE WILLOWS COMMUNITY SCHOOL

Site Information

Intersection	HIGUERA ST & HAYDEN AVE
Jurisdiction	CULVER CITY
East/West Street	HIGUERA STREET
North/South Street	HAYDEN AVENUE
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	218	10	117	104	4	377	2	36	66	3	56	379
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	237	138		113	414		113			476		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.211	0.123		0.100	0.368		0.100			0.423		
Final Departure Headway, hd (s)	8.17	6.98		7.93	6.70		7.55			6.26		
Final Degree of Utilization, x	0.537	0.268		0.249	0.770		0.237			0.828		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	5.87	4.68		5.63	4.40		5.55			4.26		

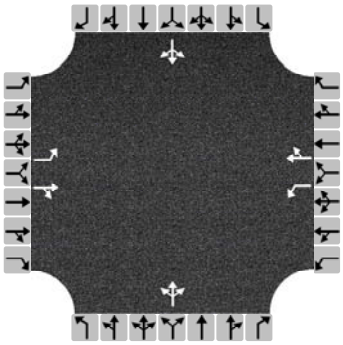
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	237	138		113	414		113			476		
Capacity	441	516		454	538		477			575		
95% Queue Length, Q_{95} (veh)	3.1	1.1		1.0	6.9		0.9			8.5		
Control Delay (s/veh)	20.0	12.2		13.2	28.4		12.9			32.4		
Level of Service, LOS	C	B		B	D		B			D		
Approach Delay (s/veh)	17.1			25.1			12.9			32.4		
Approach LOS	C			D			B			D		
Intersection Delay, s/veh | LOS	24.5						C					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	JTO	Intersection	HIGUERA ST & HAYDEN AVE
Agency/Co.	OTC INC	Jurisdiction	CULVER CITY
Date Performed	9/18/2018	East/West Street	HIGUERA STREET
Analysis Year	2018	North/South Street	HAYDEN AVENUE
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	AM PEAK HOUR+ PROJECT		
Project Description	THE WILLOWS COMMUNITY SCHOOL		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	222	10	117	104	4	408	2	36	66	3	56	382
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	241	138		113	448		113			479		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.214	0.123		0.100	0.398		0.100			0.426		
Final Departure Headway, hd (s)	8.37	7.18		8.06	6.83		7.84			6.43		
Final Degree of Utilization, x	0.561	0.275		0.253	0.849		0.246			0.856		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	6.07	4.88		5.76	4.53		5.84			4.43		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	241	138		113	448		113			479		
Capacity	430	501		447	527		459			560		
95% Queue Length, Q_{95} (veh)	3.4	1.1		1.0	8.9		1.0			9.3		
Control Delay (s/veh)	21.2	12.6		13.5	36.9		13.4			36.4		
Level of Service, LOS	C	B		B	E		B			E		
Approach Delay (s/veh)	18.1			32.2			13.4			36.4		
Approach LOS	C			D			B			E		
Intersection Delay, s/veh | LOS	28.6						D					

HCS7 All-Way Stop Control Report

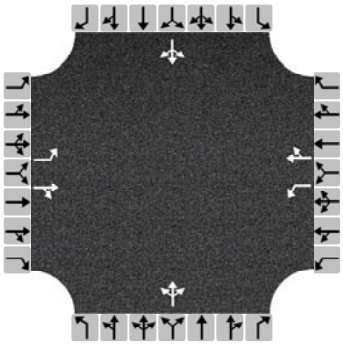
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Analysis Time Period (hrs)	0.25
Time Analyzed	AM PEAK HOUR
Project Description	THE WILLOWS COMMUNITY SCHOOL

Site Information

Intersection	HIGUERA ST & HAYDEN AVE
Jurisdiction	CULVER CITY
East/West Street	HIGUERA STREET
North/South Street	HAYDEN AVENUE
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	222	21	119	106	14	385	2	37	67	3	57	387
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	241	152		115	434		115			486		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.214	0.135		0.102	0.386		0.102			0.432		
Final Departure Headway, hd (s)	8.39	7.26		8.13	6.91		7.87			6.44		
Final Degree of Utilization, x	0.563	0.307		0.260	0.833		0.252			0.869		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	6.09	4.96		5.83	4.61		5.87			4.44		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	241	152		115	434		115			486		
Capacity	429	496		443	521		457			559		
95% Queue Length, Q_{95} (veh)	3.4	1.3		1.0	8.4		1.0			9.7		
Control Delay (s/veh)	21.4	13.1		13.7	35.3		13.5			38.2		
Level of Service, LOS	C	B		B	E		B			E		
Approach Delay (s/veh)	18.2			30.7			13.5			38.2		
Approach LOS	C			D			B			E		
Intersection Delay, s/veh | LOS	28.6						D					

HCS7 All-Way Stop Control Report

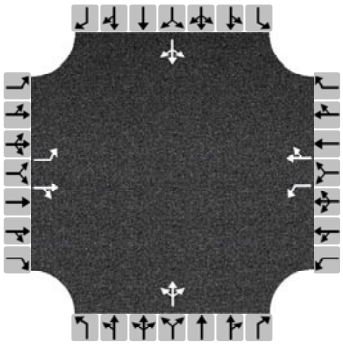
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Analysis Time Period (hrs)	0.25
Time Analyzed	AM PEAK HOUR + PROJECT
Project Description	THE WILLOWS COMMUNITY SCHOOL

Site Information

Intersection	HIGUERA ST & HAYDEN AVE
Jurisdiction	CULVER CITY
East/West Street	HIGUERA STREET
North/South Street	HAYDEN AVENUE
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	226	21	119	106	14	416	2	37	67	3	57	390
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	246	152		115	467		115			489		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.218	0.135		0.102	0.415		0.102			0.435		
Final Departure Headway, hd (s)	8.55	7.41		8.22	7.00		8.10			6.58		
Final Degree of Utilization, x	0.584	0.313		0.263	0.909		0.259			0.893		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	6.25	5.11		5.92	4.70		6.10			4.58		

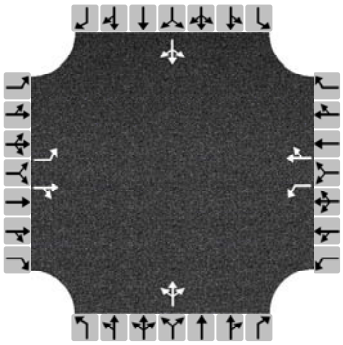
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	246	152		115	467		115			489		
Capacity	421	486		438	514		444			547		
95% Queue Length, Q_{95} (veh)	3.6	1.3		1.0	10.6		1.0			10.4		
Control Delay (s/veh)	22.6	13.5		13.8	46.6		13.9			42.3		
Level of Service, LOS	C	B		B	E		B			E		
Approach Delay (s/veh)	19.1			40.1			13.9			42.3		
Approach LOS	C			E			B			E		
Intersection Delay, s/veh | LOS	33.6						D					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	JTO	Intersection	HIGUERA ST & HAYDEN AVE
Agency/Co.	OTC INC	Jurisdiction	CULVER CITY
Date Performed	9/18/2018	East/West Street	HIGUERA STREET
Analysis Year	2018	North/South Street	HAYDEN AVENUE
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM SCHOOL PEAK HOUR		
Project Description	THE WILLOWS COMMUNITY SCHOOL		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	191	23	107	53	2	210	2	79	114	4	42	146
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	208	141		58	230		212			209		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.185	0.126		0.051	0.205		0.188			0.186		
Final Departure Headway, hd (s)	6.70	5.61		6.82	5.61		5.63			5.54		
Final Degree of Utilization, x	0.386	0.220		0.109	0.359		0.332			0.321		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	4.40	3.31		4.52	3.31		3.63			3.54		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	208	141		58	230		212			209		
Capacity	537	642		528	642		639			650		
95% Queue Length, Q_{95} (veh)	1.8	0.8		0.4	1.6		1.4			1.4		
Control Delay (s/veh)	13.6	9.9		10.4	11.4		11.4			11.1		
Level of Service, LOS	B	A		B	B		B			B		
Approach Delay (s/veh)	12.1			11.2			11.4			11.1		
Approach LOS	B			B			B			B		
Intersection Delay, s/veh | LOS	11.5						B					

HCS7 All-Way Stop Control Report

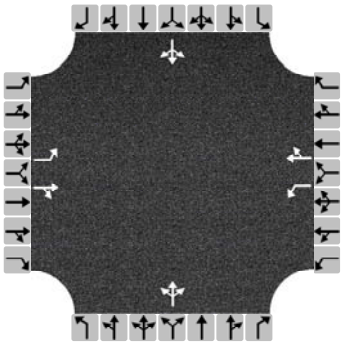
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2018
Analysis Time Period (hrs)	0.25
Time Analyzed	PM SCHOOL PEAK + PROJECT
Project Description	THE WILLOWS COMMUNITY SCHOOL

Site Information

Intersection	HIGUERA ST & HAYDEN AVE
Jurisdiction	CULVER CITY
East/West Street	HIGUERA STREET
North/South Street	HAYDEN AVENUE
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	193	23	107	53	2	235	2	79	114	4	42	149
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	210	141		58	258		212			212		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.186	0.126		0.051	0.229		0.188			0.188		
Final Departure Headway, hd (s)	6.78	5.68		6.87	5.65		5.73			5.64		
Final Degree of Utilization, x	0.395	0.223		0.110	0.404		0.338			0.332		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	4.48	3.38		4.57	3.35		3.73			3.64		

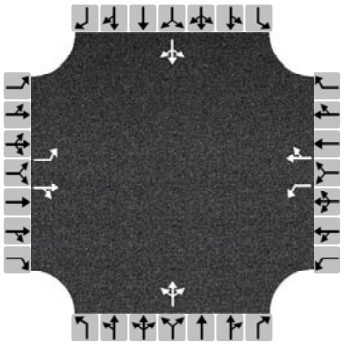
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	210	141		58	258		212			212		
Capacity	531	634		524	637		628			639		
95% Queue Length, Q_{95} (veh)	1.9	0.8		0.4	2.0		1.5			1.5		
Control Delay (s/veh)	13.8	10.0		10.4	12.1		11.6			11.4		
Level of Service, LOS	B	B		B	B		B			B		
Approach Delay (s/veh)	12.3			11.8			11.6			11.4		
Approach LOS	B			B			B			B		
Intersection Delay, s/veh | LOS	11.9						B					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	JTO	Intersection	HIGUERA ST & HAYDEN AVE
Agency/Co.	OTC INC	Jurisdiction	CULVER CITY
Date Performed	9/18/2018	East/West Street	HIGUERA STREET
Analysis Year	2020	North/South Street	HAYDEN AVENUE
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM SCHOOL PEAK HOUR		
Project Description	THE WILLOWS COMMUNITY SCHOOL		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	195	51	109	53	12	214	2	81	116	4	43	149
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	212	174		58	246		216			213		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.188	0.155		0.051	0.218		0.192			0.189		
Final Departure Headway, hd (s)	6.80	5.81		6.96	5.77		5.80			5.71		
Final Degree of Utilization, x	0.401	0.281		0.111	0.394		0.348			0.338		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	4.50	3.51		4.66	3.47		3.80			3.71		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	212	174		58	246		216			213		
Capacity	529	620		518	624		621			631		
95% Queue Length, Q_{95} (veh)	1.9	1.1		0.4	1.9		1.6			1.5		
Control Delay (s/veh)	14.0	10.8		10.5	12.2		11.9			11.6		
Level of Service, LOS	B	B		B	B		B			B		
Approach Delay (s/veh)	12.5			11.9			11.9			11.6		
Approach LOS	B			B			B			B		
Intersection Delay, s/veh | LOS	12.0						B					

HCS7 All-Way Stop Control Report

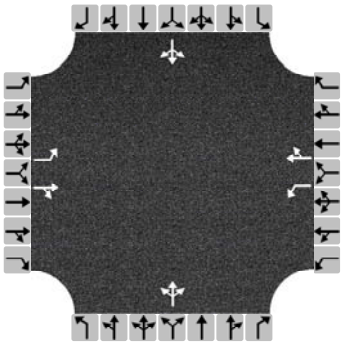
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Analysis Time Period (hrs)	0.25
Time Analyzed	PM SCHOOL PEAK + PROJECT
Project Description	THE WILLOWS COMMUNITY SCHOOL

Site Information

Intersection	HIGUERA ST & HAYDEN AVE
Jurisdiction	CULVER CITY
East/West Street	HIGUERA STREET
North/South Street	HAYDEN AVENUE
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	196	51	109	53	12	239	2	81	116	4	43	152
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	213	174		58	273		216			216		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.189	0.155		0.051	0.243		0.192			0.192		
Final Departure Headway, hd (s)	6.88	5.89		7.00	5.81		5.90			5.80		
Final Degree of Utilization, x	0.407	0.284		0.112	0.440		0.355			0.349		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	4.58	3.59		4.70	3.51		3.90			3.80		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	213	174		58	273		216			216		
Capacity	523	612		514	620		610			620		
95% Queue Length, Q_{95} (veh)	2.0	1.2		0.4	2.2		1.6			1.6		
Control Delay (s/veh)	14.2	10.9		10.6	13.0		12.1			11.9		
Level of Service, LOS	B	B		B	B		B			B		
Approach Delay (s/veh)	12.7			12.6			12.1			11.9		
Approach LOS	B			B			B			B		
Intersection Delay, s/veh | LOS	12.4						B					

HCS7 All-Way Stop Control Report

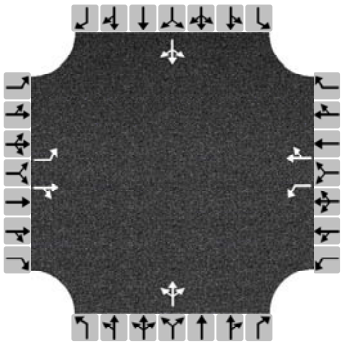
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2018
Analysis Time Period (hrs)	0.25
Time Analyzed	PM PEAK HOUR
Project Description	THE WILLOWS COMMUNITY SCHOOL

Site Information

Intersection	HIGUERA ST & HAYDEN AVE
Jurisdiction	CULVER CITY
East/West Street	HIGUERA STREET
North/South Street	HAYDEN AVENUE
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	181	29	167	29	2	182	1	146	258	10	53	176
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	197	213		32	200		440			260		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.175	0.189		0.028	0.178		0.391			0.231		
Final Departure Headway, hd (s)	7.81	6.68		8.18	6.95		6.06			6.44		
Final Degree of Utilization, x	0.427	0.395		0.072	0.386		0.741			0.464		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	5.51	4.38		5.88	4.65		4.06			4.44		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	197	213		32	200		440			260		
Capacity	461	539		440	518		594			559		
95% Queue Length, Q_{95} (veh)	2.1	1.9		0.2	1.8		6.4			2.4		
Control Delay (s/veh)	16.2	13.7		11.5	14.0		24.4			14.9		
Level of Service, LOS	C	B		B	B		C			B		
Approach Delay (s/veh)	14.9			13.6			24.4			14.9		
Approach LOS	B			B			C			B		
Intersection Delay, s/veh | LOS	17.8						C					

HCS7 All-Way Stop Control Report

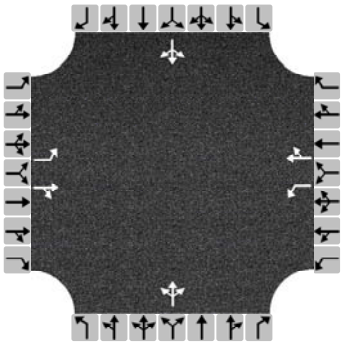
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2018
Analysis Time Period (hrs)	0.25
Time Analyzed	PM PEAK HOUR + PROJECT
Project Description	THE WILLOWS COMMUNITY SCHOOL

Site Information

Intersection	HIGUERA ST & HAYDEN AVE
Jurisdiction	CULVER CITY
East/West Street	HIGUERA STREET
North/South Street	HAYDEN AVENUE
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	182	29	167	29	2	193	1	146	258	10	53	177
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	198	213		32	212		440			261		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.176	0.189		0.028	0.188		0.391			0.232		
Final Departure Headway, hd (s)	7.88	6.74		8.22	6.99		6.13			6.51		
Final Degree of Utilization, x	0.433	0.399		0.072	0.411		0.749			0.472		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	5.58	4.44		5.92	4.69		4.13			4.51		

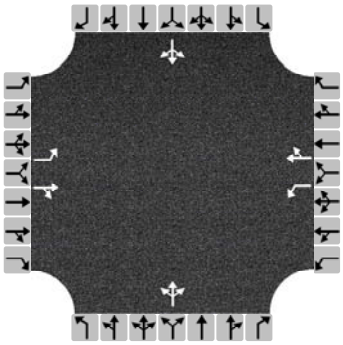
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	198	213		32	212		440			261		
Capacity	457	534		438	515		587			553		
95% Queue Length, Q_{95} (veh)	2.1	1.9		0.2	2.0		6.6			2.5		
Control Delay (s/veh)	16.4	13.9		11.6	14.5		25.2			15.2		
Level of Service, LOS	C	B		B	B		D			C		
Approach Delay (s/veh)	15.1			14.1			25.2			15.2		
Approach LOS	C			B			D			C		
Intersection Delay, s/veh | LOS	18.2						C					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	JTO	Intersection	HIGUERA ST & HAYDEN AVE
Agency/Co.	OTC INC	Jurisdiction	CULVER CITY
Date Performed	9/18/2018	East/West Street	HIGUERA STREET
Analysis Year	2020	North/South Street	HAYDEN AVENUE
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM PEAK HOUR		
Project Description	THE WILLOWS COMMUNITY SCHOOL		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	185	57	170	30	12	186	1	149	263	10	54	180
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	201	247		33	215		449			265		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.179	0.219		0.029	0.191		0.399			0.236		
Final Departure Headway, hd (s)	8.02	6.96		8.43	7.23		6.31			6.73		
Final Degree of Utilization, x	0.448	0.477		0.076	0.432		0.787			0.496		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	5.72	4.66		6.13	4.93		4.31			4.73		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	201	247		33	215		449			265		
Capacity	449	517		427	498		571			535		
95% Queue Length, Q_{95} (veh)	2.3	2.5		0.2	2.2		7.4			2.7		
Control Delay (s/veh)	17.1	15.9		11.8	15.3		28.7			16.2		
Level of Service, LOS	C	C		B	C		D			C		
Approach Delay (s/veh)	16.4			14.9			28.7			16.2		
Approach LOS	C			B			D			C		
Intersection Delay, s/veh | LOS	20.0						C					

HCS7 All-Way Stop Control Report

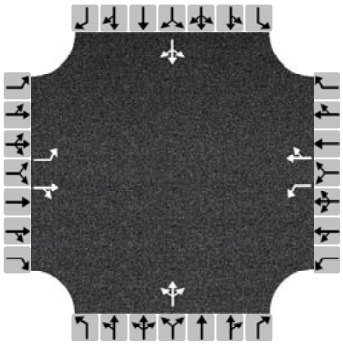
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Analysis Time Period (hrs)	0.25
Time Analyzed	PM PEAK HOUR + PROJECT
Project Description	THE WILLOWS COMMUNITY SCHOOL

Site Information

Intersection	HIGUERA ST & HAYDEN AVE
Jurisdiction	CULVER CITY
East/West Street	HIGUERA STREET
North/South Street	HAYDEN AVENUE
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	186	57	170	30	12	197	1	149	263	10	54	181
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	202	247		33	227		449			266		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.180	0.219		0.029	0.202		0.399			0.237		
Final Departure Headway, hd (s)	8.09	7.03		8.48	7.27		6.38			6.81		
Final Degree of Utilization, x	0.454	0.482		0.077	0.459		0.795			0.504		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	5.79	4.73		6.18	4.97		4.38			4.81		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	202	247		33	227		449			266		
Capacity	445	512		425	495		564			529		
95% Queue Length, Q_{95} (veh)	2.3	2.6		0.2	2.4		7.6			2.8		
Control Delay (s/veh)	17.4	16.1		11.9	16.0		29.7			16.5		
Level of Service, LOS	C	C		B	C		D			C		
Approach Delay (s/veh)	16.7			15.5			29.7			16.5		
Approach LOS	C			C			D			C		
Intersection Delay, s/veh | LOS	20.5						C					

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND EASTHAM DRIVE
EXISTING (2018) CONDITION

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0.000			1	0.000		
NB THRU	1	1,600	0	0.000			6	0.000		
NB RIGHT	0	0	2	0.000			17	0.000		
						0.059				0.346
SB LEFT	1	1,600	95	0.059	*		554	0.346	*	
SB THRU	0	0	1	0.000			2	0.000		
SB RIGHT	1	1,600	202	0.126			29	0.018		
EB LEFT	1	1,600	6	0.004	*		25	0.016	*	
EB THRU	2	3,200	95	0.030			379	0.119		
EB RIGHT	0	0	0	0.000			3	0.000		
						0.557				0.151
WB LEFT	1	1,600	5	0.003			8	0.005		
WB THRU	1	1,600	481	0.553	*		130	0.135	*	
WB RIGHT	0	0	403	0.000			86	0.000		

S/B right not part of traffic signal.

NORTH/SOUTH CRITICAL SUM	0.059	NORTH/SOUTH CRITICAL SUM	0.346
EAST/WEST CRITICAL SUM	0.557	EAST/WEST CRITICAL SUM	0.151
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.716	INTERSECTION ICU VALUE	0.597
LESS 0.10 FOR ATSAC/ATCS	0.616	LESS 0.10 FOR ATSAC/ATCS	0.497
AM INTERSECTION LOS	B	PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND EASTHAM DRIVE
EXISTING CONDITION (2018)

			SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0.000		
NB THRU	1	1600	1	0.000		
NB RIGHT	0	0	0	0.000		
						0.231
SB LEFT	1	1,600	370	0.231	*	
SB THRU	0	0	7	0.000		
SB RIGHT	1	1,600	99	0.062		
EB LEFT	1	1,600	17	0.011	*	
EB THRU	2	3,200	166	0.053		
EB RIGHT	0	0	3	0.000		
						0.122
WB LEFT	1	1,600	7	0.004		
WB THRU	1	1,600	178	0.111	*	
WB RIGHT	0	0	0	0.000		

S/B right turn not part of traffic signal.

NORTH/SOUTH CRITICAL SUM	0.231
EAST/WEST CRITICAL SUM	0.122
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.453
LESS 0.10 FOR ATSAC/ATCS	0.353
PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND EASTHAM DRIVE
EXISTING + PROJECT

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR		EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000			1	0	0	0	1	0.000	
NB THRU	1	1,600	0	0	0	0	0	0.000			6	0	0	0	6	0.000	
NB RIGHT	0	0	2	0	0	0	2	0.000			17	0	0	0	17	0.000	
										0.064							0.348
SB LEFT	1	1,600	95	0	0	7	102	0.064	*		554	0	0	3	557	0.348	*
SB THRU	0	0	1	0	0	0	1	0.000			2	0	0	0	2	0.000	
SB RIGHT	1	1,600	202	0	0	28	230	0.144			29	0	0	7	36	0.023	
EB LEFT	1	1,600	6	0	0	0	6	0.004	*		25	0	0	0	25	0.016	*
EB THRU	2	3,200	95	0	0	0	95	0.030			379	0	0	0	379	0.119	
EB RIGHT	0	0	0	0	0	0	0	0.000			3	0	0	0	3	0.000	
										0.562							0.152
WB LEFT	1	1,600	5	0	0	0	5	0.003			8	0	0	0	8	0.005	
WB THRU	1	1600	481	0	0	9	490	0.558	*		130	0	0	2	132	0.136	*
WB RIGHT	0	0	403	0	0	0	403	0.000			86	0	0	0	86	0.000	

S/B right not part of traffic signal.

NORTH/SOUTH CRITICAL SUM	0.064	NORTH/SOUTH CRITICAL SUM	0.348
EAST/WEST CRITICAL SUM	0.562	EAST/WEST CRITICAL SUM	0.152
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.726	INTERSECTION ICU VALUE	0.600
LESS 0.10 FOR ATSAC/ATCS	0.626	LESS 0.10 FOR ATSAC/ATCS	0.500
AM INTERSECTION LOS	B	PM INTERSECTION LOS	A
AM IMPACT	0.010	PM IMPACT	0.003

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND EASTHAM DRIVE
EXISTING + PROJECT

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000		
NB THRU	1	1600	1	0	0	0	1	0.000		
NB RIGHT	0	0	0	0	0	0	0	0.000		
										0.235
SB LEFT	1	1,600	370	0	0	6	376	0.235	*	
SB THRU	0	0	7	0	0	0	7	0.000		
SB RIGHT	1	1,600	99	0	0	17	116	0.073		
EB LEFT	1	1,600	17	0	0	0	17	0.011	*	
EB THRU	2	3,200	166	0	0	0	166	0.053		
EB RIGHT	0	0	3	0	0	0	3	0.000		
										0.125
WB LEFT	1	1,600	7	0	0	0	7	0.004		
WB THRU	1	1600	178	0	0	5	183	0.114	*	
WB RIGHT	0	0	0	0	0	0	0	0.000		

S/B right turn not part of traffic signal.

NORTH/SOUTH CRITICAL SUM		0.235
EAST/WEST CRITICAL SUM		0.125
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.460
LESS 0.10 FOR ATSAC/ATCS		0.360
	PM INTERSECTION LOS	A
	PM IMPACT	0.007

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0.000		1	0	0	1	0.000	
NB THRU	1	1,600	0	0	0	0	0.000		6	0	0	6	0.000	
NB RIGHT	0	0	2	0	0	2	0.000		17	0	0	17	0.000	
								0.073						0.378
SB LEFT	1	1,600	95	2	20	117	0.073	*	554	11	40	605	0.378	*
SB THRU	0	0	1	0	0	1	0.000		2	0	0	2	0.000	
SB RIGHT	1	1,600	202	4	0	206	0.129		29	1	0	30	0.018	
EB LEFT	1	1,600	6	0	0	6	0.004	*	25	1	0	26	0.016	*
EB THRU	2	3,200	95	2	11	108	0.034		379	8	27	414	0.130	
EB RIGHT	0	0	0	0	0	0	0.000		3	0	0	3	0.000	
								0.591						0.196
WB LEFT	1	1,600	5	0	0	5	0.003		8	0	0	8	0.005	
WB THRU	1	1,600	481	10	10	501	0.587	*	130	3	10	143	0.180	*
WB RIGHT	0	0	403	8	28	439	0.000		86	2	57	145	0.000	

S/B right not part of traffic signal.

NORTH/SOUTH CRITICAL SUM	0.073	NORTH/SOUTH CRITICAL SUM	0.378
EAST/WEST CRITICAL SUM	0.591	EAST/WEST CRITICAL SUM	0.196
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.764	INTERSECTION ICU VALUE	0.674
LESS 0.10 FOR ATSAC/ATCS	0.664	LESS 0.10 FOR ATSAC/ATCS	0.574
AM INTERSECTION LOS	B	PM INTERSECTION LOS	A
AM IMPACT	0.048	PM IMPACT	0.077

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

						SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0.000		
NB THRU	1	1600	1	0	0	1	0.000		
NB RIGHT	0	0	0	0	0	0	0.000		
									0.261
SB LEFT	1	1,600	370	7	40	417	0.261	*	
SB THRU	0	0	7	0	0	7	0.000		
SB RIGHT	1	1,600	99	2	0	101	0.063		
EB LEFT	1	1,600	17	0	0	17	0.011	*	
EB THRU	2	3,200	166	3	27	196	0.062		
EB RIGHT	0	0	3	0	0	3	0.000		
									0.166
WB LEFT	1	1,600	7	0	0	7	0.004		
WB THRU	1	1600	178	4	10	192	0.155	*	
WB RIGHT	0	0	0	0	57	57	0.000		

S/B right turn not part of traffic signal.

NORTH/SOUTH CRITICAL SUM	0.261
EAST/WEST CRITICAL SUM	0.166
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.527
LESS 0.10 FOR ATSAC/ATCS	0.427
PM INTERSECTION LOS	A
PM IMPACT	0.074

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project

								AM PEAK HOUR								PM PEAK HOUR	
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000		1	0	0	0	1	0.000	
NB THRU	1	1,600	0	0	0	0	0	0.000		6	0	0	0	6	0.000	
NB RIGHT	0	0	2	0	0	0	2	0.000		17	0	0	0	17	0.000	
									0.077							0.380
SB LEFT	1	1,600	95	2	20	7	124	0.077	*	554	11	40	3	608	0.380	*
SB THRU	0	0	1	0	0	0	1	0.000		2	0	0	0	2	0.000	
SB RIGHT	1	1,600	202	4	0	28	234	0.146		29	1	0	7	37	0.023	
EB LEFT	1	1,600	6	0	0	0	6	0.004	*	25	1	0	0	26	0.016	*
EB THRU	2	3,200	95	2	11	0	108	0.034		379	8	27	0	414	0.130	
EB RIGHT	0	0	0	0	0	0	0	0.000		3	0	0	0	3	0.000	
									0.597							0.197
WB LEFT	1	1,600	5	0	0	0	5	0.003		8	0	0	0	8	0.005	
WB THRU	1	1600	481	10	10	9	510	0.593	*	130	3	10	2	145	0.181	*
WB RIGHT	0	0	403	8	28	0	439	0.000		86	2	57	0	145	0.000	

S/B right not part of traffic signal.

NORTH/SOUTH CRITICAL SUM	0.077	NORTH/SOUTH CRITICAL SUM	0.380
EAST/WEST CRITICAL SUM	0.597	EAST/WEST CRITICAL SUM	0.197
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.774	INTERSECTION ICU VALUE	0.677
LESS 0.10 FOR ATSAC/ATCS	0.674	LESS 0.10 FOR ATSAC/ATCS	0.577
AM INTERSECTION LOS	B	PM INTERSECTION LOS	A
AM IMPACT	0.010	PM IMPACT	0.003

EXIST + AMB + REL + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000		
NB THRU	1	1600	1	0	0	0	1	0.000		
NB RIGHT	0	0	0	0	0	0	0	0.000		
										0.265
SB LEFT	1	1,600	370	7	40	6	423	0.265	*	
SB THRU	0	0	7	0	0	0	7	0.000		
SB RIGHT	1	1,600	99	2	0	17	118	0.074		
EB LEFT	1	1,600	17	0	0	0	17	0.011	*	
EB THRU	2	3,200	166	3	27	0	196	0.062		
EB RIGHT	0	0	3	0	0	0	3	0.000		
										0.169
WB LEFT	1	1,600	7	0	0	0	7	0.004		
WB THRU	1	1600	178	4	10	5	197	0.158	*	
WB RIGHT	0	0	0	0	57	0	57	0.000		

S/B right turn not part of traffic signal.

NORTH/SOUTH CRITICAL SUM		0.265
EAST/WEST CRITICAL SUM		0.169
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.534
LESS 0.10 FOR ATSAC/ATCS		0.434
	PM INTERSECTION LOS	A
	PM IMPACT	0.007

EXIST + AMB + RELATED + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: RODEO ROAD AND JEFFERSON BOULEVARD
EXISTING (2018) CONDITION

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	130	0.081			54	0.034		
NB THRU	2	3,200	646	0.202	*		867	0.271	*	
NB RIGHT free	1	1600	411	0.257			813	0.508		
						0.272				0.369
SB LEFT	1	1,600	112	0.070	*		156	0.098	*	
SB THRU	2	3,200	808	0.277			490	0.157		
SB RIGHT	0	0	78	0.000			12	0.000		
EB LEFT	1	1,600	28	0.018	*		39	0.024		
EB THRU	2	3,200	115	0.036			755	0.236	*	
EB RIGHT	1	1,600	48	0.030			137	0.086		
						0.436				0.359
WB LEFT	2	2,880	806	0.280			354	0.123	*	
WB THRU	1	1,600	668	0.418	*		159	0.099		
WB RIGHT	1	1,600	428	0.268			125	0.078		

NORTH/SOUTH CRITICAL SUM	0.272	NORTH/SOUTH CRITICAL SUM	0.369
EAST/WEST CRITICAL SUM	0.436	EAST/WEST CRITICAL SUM	0.359
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.808	INTERSECTION ICU VALUE	0.828
LESS 0.10 FOR ATSAC/ATCS	0.708	LESS 0.10 FOR ATSAC/ATCS	0.728
AM INTERSECTION LOS	C	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: RODEO ROAD AND JEFFERSON BOULEVARD
EXISTING CONDITION (2018)

			SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	54	0.034		
NB THRU	2	3,200	762	0.238	*	
NB RIGHT free	1	1600	806	0.504		
						0.367
SB LEFT	1	1,600	207	0.129	*	
SB THRU	2	3,200	413	0.129		
SB RIGHT	1	1,600	37	0.023		
EB LEFT	1	1,600	40	0.025		
EB THRU	2	3,200	463	0.145	*	
EB RIGHT	1	1,600	63	0.039		
						0.277
WB LEFT	2	2,880	380	0.132	*	
WB THRU	1	1,600	229	0.143		
WB RIGHT	1	1,600	196	0.123		

NORTH/SOUTH CRITICAL SUM	0.367
EAST/WEST CRITICAL SUM	0.277
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.744
LESS 0.10 FOR ATSAC/ATCS	0.644
PM INTERSECTION LOS	B

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: RODEO ROAD AND JEFFERSON BOULEVARD
EXISTING + PROJECT

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	130	0	0	7	137	0.086			54	0	0	1	55	0.034		
NB THRU	2	3,200	646	0	0	0	646	0.202	*		867	0	0	0	867	0.271	*	
NB RIGHT free	1	1600	411	0	0	0	411	0.257			813	0	0	0	813	0.508		
										0.272								0.369
SB LEFT	1	1,600	112	0	0	0	112	0.070	*		156	0	0	0	156	0.098	*	
SB THRU	2	3,200	808	0	0	0	808	0.277			490	0	0	0	490	0.157		
SB RIGHT	0	0	78	0	0	0	78	0.000			12	0	0	0	12	0.000		
EB LEFT	1	1,600	28	0	0	0	28	0.018	*		39	0	0	0	39	0.024		
EB THRU	2	3,200	115	0	0	2	117	0.037			755	0	0	1	756	0.236	*	
EB RIGHT	1	1,600	48	0	0	5	53	0.033			137	0	0	2	139	0.087		
										0.437								0.359
WB LEFT	2	2,880	806	0	0	0	806	0.280			354	0	0	0	354	0.123	*	
WB THRU	1	1600	668	0	0	2	670	0.419	*		159	0	0	1	160	0.100		
WB RIGHT	1	1,600	428	0	0	0	428	0.268			125	0	0	0	125	0.078		

NORTH/SOUTH CRITICAL SUM	0.272	NORTH/SOUTH CRITICAL SUM	0.369
EAST/WEST CRITICAL SUM	0.437	EAST/WEST CRITICAL SUM	0.359
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.809	INTERSECTION ICU VALUE	0.828
LESS 0.10 FOR ATSAC/ATCS	0.709	LESS 0.10 FOR ATSAC/ATCS	0.728
AM INTERSECTION LOS	C	PM INTERSECTION LOS	C
AM IMPACT	0.001	PM IMPACT	0.000

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THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: RODEO ROAD AND JEFFERSON BOULEVARD
EXISTING + PROJECT

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	54	0	0	4	58	0.036		
NB THRU	2	3,200	762	0	0	0	762	0.238	*	
NB RIGHT free	1	1600	806	0	0	0	806	0.504		
										0.367
SB LEFT	1	1,600	207	0	0	0	207	0.129	*	
SB THRU	2	3,200	413	0	0	0	413	0.129		
SB RIGHT	1	1,600	37	0	0	0	37	0.023		
EB LEFT	1	1,600	40	0	0	0	40	0.025		
EB THRU	2	3,200	463	0	0	2	465	0.145	*	
EB RIGHT	1	1,600	63	0	0	4	67	0.042		
										0.277
WB LEFT	2	2,880	380	0	0	0	380	0.132	*	
WB THRU	1	1600	229	0	0	1	230	0.144		
WB RIGHT	1	1,600	196	0	0	0	196	0.123		

NORTH/SOUTH CRITICAL SUM		0.367
EAST/WEST CRITICAL SUM		0.277
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.744
LESS 0.10 FOR ATSAC/ATCS		0.644
	PM INTERSECTION LOS	B
	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: RODEO ROAD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR
NB LEFT	1	1,600	130	3	8	141	0.088		54	1	32	87	0.054	
NB THRU	2	3,200	646	13	153	812	0.254	*	867	17	206	1090	0.341	*
NB RIGHT free	1	1600	411	8	29	448	0.280		813	16	72	901	0.563	
								0.333						0.459
SB LEFT	1	1,600	112	2	12	126	0.079	*	156	3	29	188	0.118	*
SB THRU	2	3,200	808	16	295	1119	0.378		490	10	232	732	0.236	
SB RIGHT	0	0	78	2	10	90	0.000		12	0	10	22	0.000	
EB LEFT	1	1,600	28	1	0	29	0.018	*	39	1	0	40	0.025	
EB THRU	2	3,200	115	2	4	121	0.038		755	15	21	791	0.247	*
EB RIGHT	1	1,600	48	1	27	76	0.047		137	3	37	177	0.11	
								0.456						0.400
WB LEFT	2	2,880	806	16	123	945	0.328		354	7	80	441	0.153	*
WB THRU	1	1600	668	13	20	701	0.438	*	159	3	25	187	0.117	
WB RIGHT	1	1,600	428	9	69	506	0.316		125	3	31	159	0.099	

NORTH/SOUTH CRITICAL SUM	0.333	NORTH/SOUTH CRITICAL SUM	0.459
EAST/WEST CRITICAL SUM	0.456	EAST/WEST CRITICAL SUM	0.400
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.889	INTERSECTION ICU VALUE	0.959
LESS 0.10 FOR ATSAC/ATCS	0.789	LESS 0.10 FOR ATSAC/ATCS	0.859
AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.081	PM IMPACT	0.131

EXISTING + AMBIENT + RELATED

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THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: RODEO ROAD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

						SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	54	1	32	87	0.054		
NB THRU	2	3,200	762	15	206	983	0.307	*	
NB RIGHT free	1	1600	806	16	72	894	0.559		
									0.457
SB LEFT	1	1,600	207	4	29	240	0.150	*	
SB THRU	2	3,200	413	8	232	653	0.204		
SB RIGHT	1	1,600	37	1	10	48	0.03		
EB LEFT	1	1,600	40	1	0	41	0.026		
EB THRU	2	3,200	463	9	21	493	0.154	*	
EB RIGHT	1	1,600	63	1	37	101	0.063		
									0.316
WB LEFT	2	2,880	380	8	80	468	0.162	*	
WB THRU	1	1600	229	5	25	259	0.162		
WB RIGHT	1	1,600	196	4	31	231	0.144		

NORTH/SOUTH CRITICAL SUM	0.457
EAST/WEST CRITICAL SUM	0.316
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.873
LESS 0.10 FOR ATSAC/ATCS	0.773
PM INTERSECTION LOS	C
PM IMPACT	0.129

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: RODEO ROAD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR		EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	1	1,600	130	3	8	7	148	0.092			54	1	32	1	88	0.055	
NB THRU	2	3,200	646	13	153	0	812	0.254	*		867	17	206	0	1090	0.341	*
NB RIGHT free	1	1600	411	8	29	0	448	0.280			813	16	72	0	901	0.563	
										0.333							0.459
SB LEFT	1	1,600	112	2	12	0	126	0.079	*		156	3	29	0	188	0.118	*
SB THRU	2	3,200	808	16	295	0	1119	0.378			490	10	232	0	732	0.236	
SB RIGHT	0	0	78	2	10	0	90	0.000			12	0	10	0	22	0.000	
EB LEFT	1	1,600	28	1	0	0	29	0.018	*		39	1	0	0	40	0.025	
EB THRU	2	3,200	115	2	4	2	123	0.039			755	15	21	1	792	0.248	*
EB RIGHT	1	1,600	48	1	27	5	81	0.051			137	3	37	2	179	0.112	
										0.458							0.401
WB LEFT	2	2,880	806	16	123	0	945	0.328			354	7	80	0	441	0.153	*
WB THRU	1	1600	668	13	20	2	703	0.440	*		159	3	25	1	188	0.118	
WB RIGHT	1	1,600	428	9	69	0	506	0.316			125	3	31	0	159	0.099	

NORTH/SOUTH CRITICAL SUM	0.333	NORTH/SOUTH CRITICAL SUM	0.459
EAST/WEST CRITICAL SUM	0.458	EAST/WEST CRITICAL SUM	0.401
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.891	INTERSECTION ICU VALUE	0.960
LESS 0.10 FOR ATSAC/ATCS	0.791	LESS 0.10 FOR ATSAC/ATCS	0.860
AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.002	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: RODEO ROAD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	54	1	32	4	91	0.057		
NB THRU	2	3,200	762	15	206	0	983	0.307	*	
NB RIGHT free	1	1600	806	16	72	0	894	0.559		
										0.457
SB LEFT	1	1,600	207	4	29	0	240	0.15	*	
SB THRU	2	3,200	413	8	232	0	653	0.204		
SB RIGHT	1	1,600	37	1	10	0	48	0.03		
EB LEFT	1	1,600	40	1	0	0	41	0.026		
EB THRU	2	3,200	463	9	21	2	495	0.155	*	
EB RIGHT	1	1,600	63	1	37	4	105	0.066		
										0.317
WB LEFT	2	2,880	380	8	80	0	468	0.162	*	
WB THRU	1	1600	229	5	25	1	260	0.162		
WB RIGHT	1	1,600	196	4	31	0	231	0.144		

NORTH/SOUTH CRITICAL SUM		0.457
EAST/WEST CRITICAL SUM		0.317
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.874
LESS 0.10 FOR ATSAC/ATCS		0.774
	PM INTERSECTION LOS	C
	PM IMPACT	0.001

EXIST + AMB + RELATED + PROJECT

APPENDIX J

ALL-WAY STOP WARRANT AND

TRAFFIC SIGNAL WARRANT INFORMATION

- **HAYDEN AVENUE AND WARNER DRIVE,**
- **HAYDEN AVENUE VEHICLE QUEUE EXHIBIT,**
- **HAYDEN AVENUE AND HIGUERA STREET TRAFFIC SIGNAL ICU**

The California Manual on Uniform Traffic Control Devices (MUTCD) is a document published by the State of California, Department of Transportation and issued to adopt uniform standards and specification for all official traffic control devices in California, in accordance with Section 21400 of the California Vehicle Code.

This California MUTCD incorporates Federal Highway Administration's MUTCD (FHWA) of the United States Department of Transportation (USDOT).

All-way Stop Signs

The following criteria should be considered in the engineering study for a multi-way stop sign installation:

- Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.
- A crash problem, as indicated by 5 for more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right- and left-turn collisions as well as right-angle collisions.
- Minimum volumes:
    - The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day, and
    - The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour, but
    - If the 85^{th} - percentile approach speed of the major-street traffic exceeds 65 km/h or exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the above values.

Other criteria that may be considered in an engineering study include:

- The need to control left-turn conflicts;
- The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
- Locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless cross traffic is also required to stop; and

When these conditions exist, the multi-way stop control can be an effective safety measure at intersections. However, several studies have indicated that multi-way stops do not necessarily provide other perceived benefits to the area roadway network, such as reduced speeds. In addition, studies have also shown that 'unwarranted' multi-way

stops potentially have detrimental effects to both traffic operational characteristics and safety for vehicles and pedestrians alike.

Traffic Signals

Warrant 3 - Peak Hour

The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor street traffic suffers undue delay when entering or crossing the major street.

Standard:

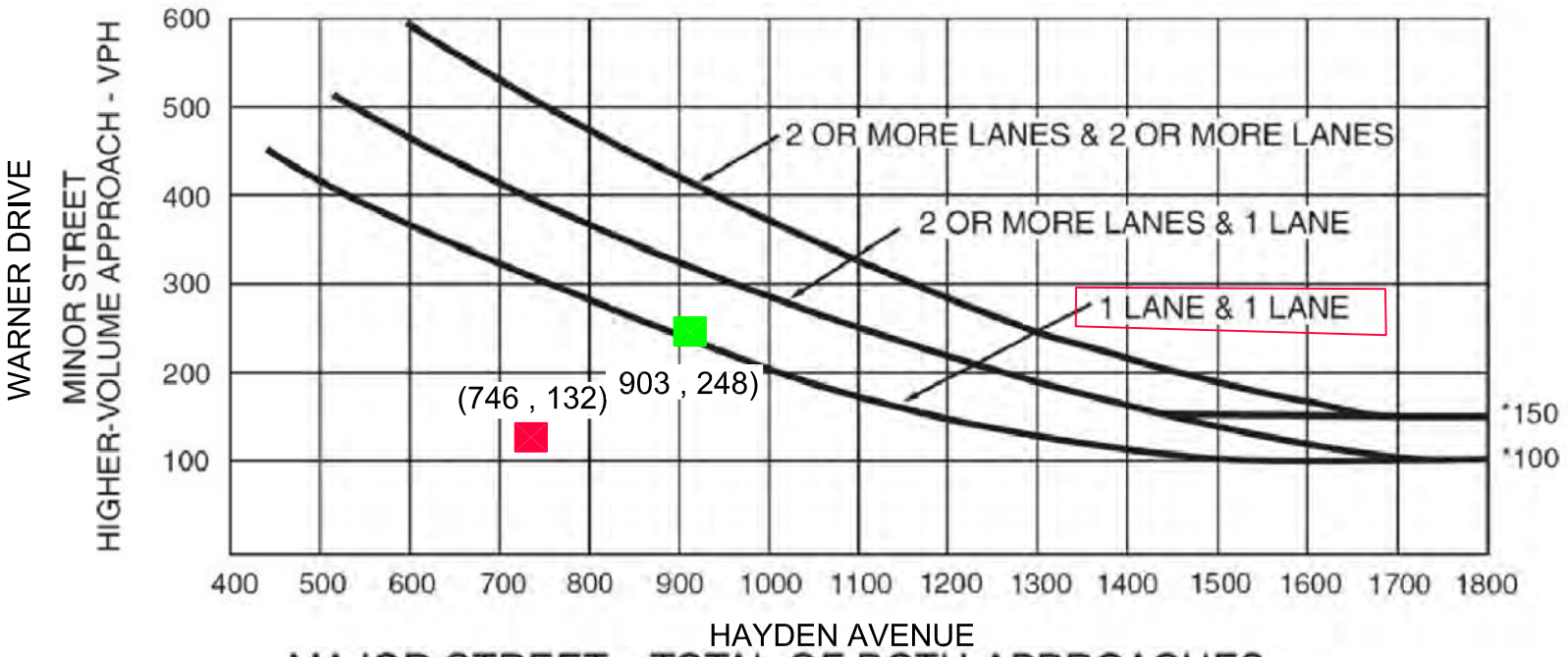
The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-muinute periods) of an average day:
    1. The total stopped time delay experienced by the traffic on one minor street approach (one direction only) controlled by a stop sign equals or exceeds: 4 vehicle hours for a one lane approach; or 5 vehicles hours for a two-lane approach, and
    2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes, and
    3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.
B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher volume minor street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

HAYDEN AVENUE AND WARNER DRIVE
2018 Peak Hour Traffic Signal Warrants

Figure 4C-3. Warrant 3, Peak Hour

HAYDEN AVENUE AND WARNER DRIVE
FUTURE 2018 WITH WCS DEVELOPMENT



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

AM PEAK HOUR
PM PEAK HOUR

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ALL – WAY STOP SIGN FOR HAYDEN AVENUE AND WARNER DRIVE

HCS7 All-Way Stop Control Report

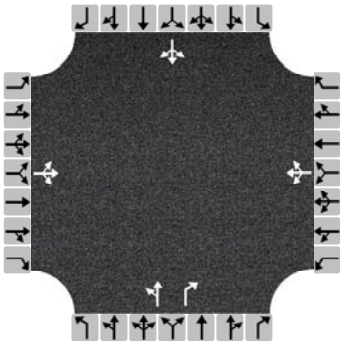
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2018
Analysis Time Period (hrs)	0.25
Time Analyzed	AM PEAK HOUR
Project Description	THE WILLOWS COMMUNITY SCHOOL

Site Information

Intersection	HAYDEN AVE & WARNER DR
Jurisdiction	CULVER CITY
East/West Street	WARNER DRIVE
North/South Street	HAYDEN AVENUE
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	1	0	4	211	0	37	14	475	137	46	228	3
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LT	R		LTR		
Flow Rate, v (veh/h)	5			270			532	149		301		
Percent Heavy Vehicles	2			2			2	2		2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20	3.20		3.20		
Initial Degree of Utilization, x	0.005			0.240			0.472	0.132		0.268		
Final Departure Headway, hd (s)	6.73			6.39			5.93	5.21		5.93		
Final Degree of Utilization, x	0.010			0.478			0.875	0.215		0.496		
Move-Up Time, m (s)	2.0			2.0			2.3	2.3		2.0		
Service Time, ts (s)	4.73			4.39			3.63	2.91		3.93		

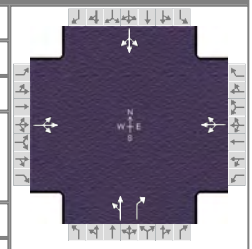
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	5			270			532	149		301		
Capacity	535			564			607	692		607		
95% Queue Length, Q_{95} (veh)	0.0			2.6			10.2	0.8		2.8		
Control Delay (s/veh)	9.8			15.1			36.5	9.3		14.6		
Level of Service, LOS	A			C			E	A		B		
Approach Delay (s/veh)	9.8			15.1			30.5			14.6		
Approach LOS	A			C			D			B		
Intersection Delay, s/veh | LOS	23.3						C					

TRAFFIC SIGNAL FOR HAYDEN AVENUE AND WARNER DRIVE

HCS7 Signalized Intersection Results Summary

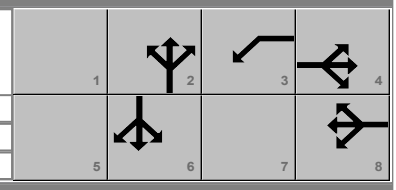
General Information				Intersection Information	
Agency	OTC INC			Duration, h	0.25
Analyst	JTO	Analysis Date	9/19/2018	Area Type	Other
Jurisdiction	CULVER CITY	Time Period	FUTURE AM PEAK WITH PROJECT	PHF	1.00
Urban Street	HAYDEN AVENUE	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	WARNER DRIVE	File Name	6 FUTURE AM WITH 2020.xus		
Project Description	202 WITH PROJECT				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	1	0	40	215	0	40	18	512	155	53	233	3

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	50.6	6.0	15.4	0.0	0.0	0.0	
Yellow	4.0	4.0	4.0	0.0	0.0	0.0	
Red	2.0	2.0	2.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		12.0		12.0		7.0		8.0
Phase Duration, s		12.0		21.4		56.6		56.6
Change Period, ($Y+R_c$), s		6.0		6.0		6.0		6.0
Max Allow Headway (*MAH*), s		4.4		4.2		0.0		0.0
Queue Clearance Time (g_s), s				14.5				
Green Extension Time (g_e), s		0.0		0.9		0.0		0.0
Phase Call Probability				1.00				
Max Out Probability				0.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		41			255			530	155		289	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1615			1775			1883	1610		1633	
Queue Service Time (g_s), s		2.2			12.5			0.0	4.2		0.0	
Cycle Queue Clearance Time (g_c), s		2.2			12.5			15.3	4.2		7.1	
Green Ratio (*g/C*)		0.07			0.17			0.56	0.56		0.56	
Capacity (*c*), veh/h		108			304			1099	905		965	
Volume-to-Capacity Ratio (*X*)		0.381			0.838			0.482	0.171		0.299	
Back of Queue (*Q*), ft/ln (85 th percentile)		41.2			206.3			220.8	65.1		116.3	
Back of Queue (*Q*), veh/ln (85 th percentile)		1.6			8.3			8.8	2.6		4.7	
Queue Storage Ratio (*RQ*) (85 th percentile)		0.00			0.00			0.00	0.00		0.00	
Uniform Delay (d_1), s/veh		40.2			36.1			12.0	9.6		10.2	
Incremental Delay (d_2), s/veh		2.2			6.1			1.5	0.4		0.8	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0	0.0		0.0	
Control Delay (*d*), s/veh		42.4			42.2			13.5	10.0		11.0	
Level of Service (LOS)		D			D			B	A		B	
Approach Delay, s/veh / LOS	42.4	D		42.2	D		12.7	B		11.0	B	
Intersection Delay, s/veh / LOS	19.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.73	B	1.66	B	1.66	B
Bicycle LOS Score / LOS	0.56	A	0.91	A	1.62	B	0.96	A

9/2018

EXAMPLE OF MAXIMUM VEHICLE STORAGE ON HAYDEN AVE.
BETWEEN WARNER DR. & HIGUERA ST.

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Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WARNER DRIVE & HAYDEN AVENUE
EXISTING CONDITION (2018)

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	0	0	14	0.000			12	0.000		
NB THRU	1	1600	475	0.306	*		344	0.223	*	
NB RIGHT	1	1600	137	0.086			145	0.091		
						0.479				0.376
SB LEFT	0	0	46	0.000			95	0.000		
SB THRU	1	1,600	228	0.173	*		150	0.153	*	
SB RIGHT	0	0	3	0.000			0	0.000		
EB LEFT	0	0	1	0.000			7	0.000		
EB THRU	1	1,600	0	0.000			2	0.000		
EB RIGHT	0	0	4	0.000			10	0.000		
						0.155				0.083
WB LEFT	0	0	211	0.000			77	0.000		
WB THRU	1	1,600	0	0.155	*		0	0.083	*	
WB RIGHT	0	0	37	0.000			55	0.000		

NORTH/SOUTH CRITICAL SUM	0.479	NORTH/SOUTH CRITICAL SUM	0.376
EAST/WEST CRITICAL SUM	0.155	EAST/WEST CRITICAL SUM	0.083
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.734	INTERSECTION ICU VALUE	0.559
LESS 0.10 FOR ATSAC/ATCS	0.634	LESS 0.10 FOR ATSAC/ATCS	0.459
AM INTERSECTION LOS	B	PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WARNER DRIVE & HAYDEN AVENUE
EXISTING CONDITION (2018)

			SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	0	0	10	0.000		
NB THRU	1	1600	313	0.202	*	
NB RIGHT	1	1600	168	0.105		
						0.298
SB LEFT	0	0	50	0.000		
SB THRU	1	1,600	104	0.096	*	
SB RIGHT	0	0	0	0.000		
EB LEFT	0	0	3	0.000		
EB THRU	1	1,600	1	0.000		
EB RIGHT	0	0	6	0.000		
						0.059
WB LEFT	0	0	66	0.000		
WB THRU	1	1,600	1	0.059		
WB RIGHT	0	0	27	0.000		

NORTH/SOUTH CRITICAL SUM	0.298
EAST/WEST CRITICAL SUM	0.059
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.457
LESS 0.10 FOR ATSAC/ATCS	0.357
PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WARNER DRIVE & HAYDEN AVENUE
EXISTING + PROJECT

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	14	0	0	3	17	0.000			12	0	0	1	13	0.000		
NB THRU	1	1600	475	0	0	21	496	0.321	*		344	0	0	7	351	0.228	*	
NB RIGHT	1	1600	137	0	0	11	148	0.093			145	0	0	4	149	0.093		
										0.494								0.381
SB LEFT	0	0	46	0	0	0	46	0.000			95	0	0	0	95	0.000		
SB THRU	1	1,600	228	0	0	0	228	0.173	*		150	0	0	0	150	0.153	*	
SB RIGHT	0	0	3	0	0	0	3	0.000			0	0	0	0	0	0.000		
EB LEFT	0	0	1	0	0	0	1	0.000			7	0	0	0	7	0.000		
EB THRU	1	1,600	0	0	0	0	0	0.000			2	0	0	0	2	0.000		
EB RIGHT	0	0	4	0	0	0	4	0.000			10	0	0	0	10	0.000		
										0.155								0.083
WB LEFT	0	0	211	0	0	0	211	0.000			77	0	0	0	77	0.000		
WB THRU	1	1600	0	0	0	0	0	0.155	*		0	0	0	0	0	0.083	*	
WB RIGHT	0	0	37	0	0	0	37	0.000			55	0	0	0	55	0.000		

NORTH/SOUTH CRITICAL SUM		0.494	NORTH/SOUTH CRITICAL SUM	0.381
EAST/WEST CRITICAL SUM		0.155	EAST/WEST CRITICAL SUM	0.083
CLEARANCE INTERVAL		0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE		0.749	INTERSECTION ICU VALUE	0.564
LESS 0.10 FOR ATSAC/ATCS		0.649	LESS 0.10 FOR ATSAC/ATCS	0.464
	AM INTERSECTION LOS	B	PM INTERSECTION LOS	A
	AM IMPACT	0.015	PM IMPACT	0.005

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WARNER DRIVE & HAYDEN AVENUE
EXISTING + PROJECT

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	10	0	0	3	13	0.000		
NB THRU	1	1600	313	0	0	16	329	0.214		
NB RIGHT	1	1600	168	0	0	8	176	0.11		
										0.310
SB LEFT	0	0	50	0	0	0	50	0.000		
SB THRU	1	1,600	104	0	0	0	104	0.096	*	
SB RIGHT	0	0	0	0	0	0	0	0.000		
EB LEFT	0	0	3	0	0	0	3	0.000		
EB THRU	1	1,600	1	0	0	0	1	0.000		
EB RIGHT	0	0	6	0	0	0	6	0.000		
										0.059
WB LEFT	0	0	66	0	0	0	66	0.000		
WB THRU	1	1600	1	0	0	0	1	0.059	*	
WB RIGHT	0	0	27	0	0	0	27	0.000		

NORTH/SOUTH CRITICAL SUM		0.310
EAST/WEST CRITICAL SUM		0.059
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.469
LESS 0.10 FOR ATSAC/ATCS		0.369
	PM INTERSECTION LOS	A
	PM IMPACT	0.012

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WARNER DRIVE & HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR
NB LEFT	0	0	14	0	0	14	0.000		12	0	0	12	0.000	
NB THRU	1	1600	475	10	0	485	0.312 *		344	7	0	351	0.227 *	
NB RIGHT	1	1600	137	3	0	140	0.087		145	3	0	148	0.092	
								0.492						0.391
SB LEFT	0	0	46	1	6	53	0.000		95	2	12	109	0.000	
SB THRU	1	1,600	228	5	0	233	0.180 *		150	3	0	153	0.164 *	
SB RIGHT	0	0	3	0	0	3	0.000		0	0	0	0	0.000	
EB LEFT	0	0	1	0	0	1	0.000		7	0	0	7	0.000	
EB THRU	1	1,600	0	0	0	0	0.000		2	0	0	2	0.000	
EB RIGHT	0	0	4	0	0	4	0.000		10	0	0	10	0.000	
								0.159						0.097
WB LEFT	0	0	211	4	0	215	0.000		77	2	0	79	0.000	
WB THRU	1	1600	0	0	0	0	0.159 *		0	0	0	0	0.097 *	
WB RIGHT	0	0	37	1	2	40	0.000		55	1	20	76	0.000	

NORTH/SOUTH CRITICAL SUM	0.492	NORTH/SOUTH CRITICAL SUM	0.391
EAST/WEST CRITICAL SUM	0.159	EAST/WEST CRITICAL SUM	0.097
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.751	INTERSECTION ICU VALUE	0.588
LESS 0.10 FOR ATSAC/ATCS	0.651	LESS 0.10 FOR ATSAC/ATCS	0.488
AM INTERSECTION LOS	B	PM INTERSECTION LOS	A
AM IMPACT	0.017	PM IMPACT	0.029

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WARNER DRIVE & HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

						SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	10	0	0	10	0.000		
NB THRU	1	1600	313	6	0	319	0.206	*	
NB RIGHT	1	1600	168	3	0	171	0.107		
									0.312
SB LEFT	0	0	50	1	12	63	0.000		
SB THRU	1	1,600	104	2	0	106	0.106	*	
SB RIGHT	0	0	0	0	0	0	0.000		
EB LEFT	0	0	3	0	0	3	0.000		
EB THRU	1	1,600	1	0	0	1	0.000		
EB RIGHT	0	0	6	0	0	6	0.000		
									0.072
WB LEFT	0	0	66	1	0	67	0.000		
WB THRU	1	1600	1	0	0	1	0.072	*	
WB RIGHT	0	0	27	1	20	48	0.000		

NORTH/SOUTH CRITICAL SUM	0.312
EAST/WEST CRITICAL SUM	0.072
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.484
LESS 0.10 FOR ATSAC/ATCS	0.384
PM INTERSECTION LOS	A
PM IMPACT	0.027

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WARNER DRIVE & HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	14	0	0	3	17	0.000			12	0	0	1	13	0.000		
NB THRU	1	1600	475	10	0	21	506	0.327	*		344	7	0	7	358	0.232	*	
NB RIGHT	1	1600	137	3	0	11	151	0.094			145	3	0	4	152	0.095		
										0.507								0.396
SB LEFT	0	0	46	1	6	0	53	0.000			95	2	12	0	109	0.000		
SB THRU	1	1,600	228	5	0	0	233	0.180	*		150	3	0	0	153	0.164	*	
SB RIGHT	0	0	3	0	0	0	3	0.000			0	0	0	0	0	0.000		
EB LEFT	0	0	1	0	0	0	1	0.000			7	0	0	0	7	0.000		
EB THRU	1	1,600	0	0	0	0	0	0.000			2	0	0	0	2	0.000		
EB RIGHT	0	0	4	0	0	0	4	0.000			10	0	0	0	10	0.000		
										0.159								0.097
WB LEFT	0	0	211	4	0	0	215	0.000			77	2	0	0	79	0.000		
WB THRU	1	1600	0	0	0	0	0	0.159	*		0	0	0	0	0	0.097	*	
WB RIGHT	0	0	37	1	2	0	40	0.000			55	1	20	0	76	0.000		

NORTH/SOUTH CRITICAL SUM	0.507	NORTH/SOUTH CRITICAL SUM	0.396
EAST/WEST CRITICAL SUM	0.159	EAST/WEST CRITICAL SUM	0.097
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.766	INTERSECTION ICU VALUE	0.593
LESS 0.10 FOR ATSAC/ATCS	0.666	LESS 0.10 FOR ATSAC/ATCS	0.493
AM INTERSECTION LOS	B	PM INTERSECTION LOS	A
AM IMPACT	0.015	PM IMPACT	0.005

EXIST + AMB + RELATED + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WARNER DRIVE & HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	10	0	0	3	13	0.000		
NB THRU	1	1600	313	6	0	16	335	0.218		
NB RIGHT	1	1600	168	3	0	8	179	0.112		
										0.324
SB LEFT	0	0	50	1	12	0	63	0.000		
SB THRU	1	1,600	104	2	0	0	106	0.106	*	
SB RIGHT	0	0	0	0	0	0	0	0.000		
EB LEFT	0	0	3	0	0	0	3	0.000		
EB THRU	1	1,600	1	0	0	0	1	0.000		
EB RIGHT	0	0	6	0	0	0	6	0.000		
										0.072
WB LEFT	0	0	66	1	0	0	67	0.000		
WB THRU	1	1600	1	0	0	0	1	0.072	*	
WB RIGHT	0	0	27	1	20	0	48	0.000		

NORTH/SOUTH CRITICAL SUM		0.324
EAST/WEST CRITICAL SUM		0.072
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.496
LESS 0.10 FOR ATSAC/ATCS		0.396
	PM INTERSECTION LOS	A
	PM IMPACT	0.012

EXIST + AMB + RELATED + PROJECT

TRAFFIC SIGNAL FOR HIGUERA STREET AND HAYDEN AVENUE

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND HAYDEN AVENUE
EXISTING (2018) CONDITION

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	0	0	2	0.000			1	0.000		
NB THRU	1	1600	36	0.065	*		146	0.253	*	
NB RIGHT	0	0	66	0.000			258	0.000		
						0.339				0.402
SB LEFT	0	0	3	0.000			10	0.000		
SB THRU	1	1,600	56	0.274	*		53	0.149	*	
SB RIGHT	0	0	379	0.000			176	0.000		
EB LEFT	1	1,600	218	0.136	*		181	0.113	*	
EB THRU	0	0	10	0.000			29	0.000		
EB RIGHT	1	1,600	117	0.073			167	0.104		
						0.372				0.227
WB LEFT	1	1,600	104	0.065			29	0.018		
WB THRU	0	0	4	0.000			2	0.000		
WB RIGHT	1	1,600	377	0.236	*		182	0.114	*	

NORTH/SOUTH CRITICAL SUM	0.339	NORTH/SOUTH CRITICAL SUM	0.402
EAST/WEST CRITICAL SUM	0.372	EAST/WEST CRITICAL SUM	0.227
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.811	INTERSECTION ICU VALUE	0.729
LESS 0.10 FOR ATSAC/ATCS	0.711	LESS 0.10 FOR ATSAC/ATCS	0.629
AM INTERSECTION LOS	C	PM INTERSECTION LOS	B

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND HAYDEN AVENUE
EXISTING CONDITION (2018)

			SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	VOLUMES	V/C		CRITICAL PAIR
NB LEFT	0	0	2	0.000		
NB THRU	1	1600	79	0.122	*	
NB RIGHT	0	0	114	0.000		
						0.242
SB LEFT	0	0	4	0.000		
SB THRU	1	1,600	42	0.120	*	
SB RIGHT	0	0	146	0.000		
EB LEFT	1	1,600	191	0.119	*	
EB THRU	0	0	23	0.000		
EB RIGHT	1	1,600	107	0.067		
						0.250
WB LEFT	1	1,600	53	0.033		
WB THRU	0	0	2	0.000		
WB RIGHT	1	1,600	210	0.131	*	

NORTH/SOUTH CRITICAL SUM	0.242
EAST/WEST CRITICAL SUM	0.250
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.592
LESS 0.10 FOR ATSAC/ATCS	0.492
PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND HAYDEN AVENUE
EXISTING + PROJECT

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	2	0	0	0	2	0.000			1	0	0	0	1	0.000		
NB THRU	1	1600	36	0	0	0	36	0.065	*		146	0	0	0	146	0.253	*	
NB RIGHT	0	0	66	0	0	0	66	0.000			258	0	0	0	258	0.000		
										0.341								0.403
SB LEFT	0	0	3	0	0	0	3	0.000			10	0	0	0	10	0.000		
SB THRU	1	1,600	56	0	0	0	56	0.276	*		53	0	0	0	53	0.150	*	
SB RIGHT	0	0	379	0	0	3	382	0.000			176	0	0	1	177	0.000		
EB LEFT	1	1,600	218	0	0	4	222	0.139	*		181	0	0	1	182	0.114	*	
EB THRU	0	0	10	0	0	0	10	0.000			29	0	0	0	29	0.000		
EB RIGHT	1	1,600	117	0	0	0	117	0.073			167	0	0	0	167	0.104		
										0.394								0.235
WB LEFT	1	1,600	104	0	0	0	104	0.065			29	0	0	0	29	0.018		
WB THRU	0	0	4	0	0	0	4	0.000			2	0	0	0	2	0.000		
WB RIGHT	1	1,600	377	0	0	31	408	0.255	*		182	0	0	11	193	0.121	*	

NORTH/SOUTH CRITICAL SUM	0.341	NORTH/SOUTH CRITICAL SUM	0.403
EAST/WEST CRITICAL SUM	0.394	EAST/WEST CRITICAL SUM	0.235
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.835	INTERSECTION ICU VALUE	0.738
LESS 0.10 FOR ATSAC/ATCS	0.735	LESS 0.10 FOR ATSAC/ATCS	0.638
AM INTERSECTION LOS	C	PM INTERSECTION LOS	B
AM IMPACT	0.024	PM IMPACT	0.009

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND HAYDEN AVENUE
EXISTING + PROJECT

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	2	0	0	0	2	0.000		
NB THRU	1	1600	79	0	0	0	79	0.122	*	
NB RIGHT	0	0	114	0	0	0	114	0.000		
										0.244
SB LEFT	0	0	4	0	0	0	4	0.000		
SB THRU	1	1,600	42	0	0	0	42	0.122	*	
SB RIGHT	0	0	146	0	0	3	149	0.000		
EB LEFT	1	1,600	191	0	0	2	193	0.121	*	
EB THRU	0	0	23	0	0	0	23	0.000		
EB RIGHT	1	1,600	107	0	0	0	107	0.067		
										0.268
WB LEFT	1	1,600	53	0	0	0	53	0.033		
WB THRU	0	0	2	0	0	0	2	0.000		
WB RIGHT	1	1,600	210	0	0	25	235	0.147	*	

NORTH/SOUTH CRITICAL SUM		0.244
EAST/WEST CRITICAL SUM		0.268
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.612
LESS 0.10 FOR ATSAC/ATCS		0.512
	PM INTERSECTION LOS	A
	PM IMPACT	0.020

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C	CRITICAL PAIR
NB LEFT	0	0	2	0	0	2	0.000		1	0	0	1	0.000	
NB THRU	1	1600	36	1	0	37	0.066 *		146	3	0	149	0.258 *	
NB RIGHT	0	0	66	1	0	67	0.000		258	5	0	263	0.000	
								0.345						0.410
SB LEFT	0	0	3	0	0	3	0.000		10	0	0	10	0.000	
SB THRU	1	1,600	56	1	0	57	0.279 *		53	1	0	54	0.152 *	
SB RIGHT	0	0	379	8	0	387	0.000		176	4	0	180	0.000	
EB LEFT	1	1,600	218	4	0	222	0.139 *		181	4	0	185	0.115 *	
EB THRU	0	0	10	0	11	21	0.000		29	1	27	57	0.000	
EB RIGHT	1	1,600	117	2	0	119	0.075		167	3	0	170	0.106	
								0.379						0.231
WB LEFT	1	1,600	104	2	0	106	0.066		29	1	0	30	0.018	
WB THRU	0	0	4	0	10	14	0.000		2	0	10	12	0.000	
WB RIGHT	1	1,600	377	8	0	385	0.240 *		182	4	0	186	0.116 *	

NORTH/SOUTH CRITICAL SUM	0.345	NORTH/SOUTH CRITICAL SUM	0.410
EAST/WEST CRITICAL SUM	0.379	EAST/WEST CRITICAL SUM	0.231
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.824	INTERSECTION ICU VALUE	0.741
LESS 0.10 FOR ATSAC/ATCS	0.724	LESS 0.10 FOR ATSAC/ATCS	0.641
AM INTERSECTION LOS	C	PM INTERSECTION LOS	B
AM IMPACT	0.013	PM IMPACT	0.012

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) Without Project

						SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	2	0	0	2	0.000		
NB THRU	1	1600	79	2	0	81	0.124	*	
NB RIGHT	0	0	114	2	0	116	0.000		
									0.246
SB LEFT	0	0	4	0	0	4	0.000		
SB THRU	1	1,600	42	1	0	43	0.122	*	
SB RIGHT	0	0	146	3	0	149	0.000		
EB LEFT	1	1,600	191	4	0	195	0.122	*	
EB THRU	0	0	23	0	27	50	0.000		
EB RIGHT	1	1,600	107	2	0	109	0.068		
									0.256
WB LEFT	1	1,600	53	1	0	54	0.034		
WB THRU	0	0	2	0	10	12	0.000		
WB RIGHT	1	1,600	210	4	0	214	0.134	*	

NORTH/SOUTH CRITICAL SUM	0.246
EAST/WEST CRITICAL SUM	0.256
CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.602
LESS 0.10 FOR ATSAC/ATCS	0.502
PM INTERSECTION LOS	A
PM IMPACT	0.010

EXISTING + AMBIENT + RELATED

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	2	0	0	0	2	0.000			1	0	0	0	1	0.000		
NB THRU	1	1600	36	1	0	0	37	0.066	*		146	3	0	0	149	0.258	*	
NB RIGHT	0	0	66	1	0	0	67	0.000			258	5	0	0	263	0.000		
										0.347								0.411
SB LEFT	0	0	3	0	0	0	3	0.000			10	0	0	0	10	0.000		
SB THRU	1	1,600	56	1	0	0	57	0.281	*		53	1	0	0	54	0.153	*	
SB RIGHT	0	0	379	8	0	3	390	0.000			176	4	0	1	181	0.000		
EB LEFT	1	1,600	218	4	0	4	226	0.141	*		181	4	0	1	186	0.116	*	
EB THRU	0	0	10	0	11	0	21	0.000			29	1	27	0	57	0.000		
EB RIGHT	1	1,600	117	2	0	0	119	0.075			167	3	0	0	170	0.106		
										0.401								0.239
WB LEFT	1	1,600	104	2	0	0	106	0.066			29	1	0	0	30	0.018		
WB THRU	0	0	4	0	10	0	14	0.000			2	0	10	0	12	0.000		
WB RIGHT	1	1,600	377	8	0	31	416	0.260	*		182	4	0	11	197	0.123	*	

NORTH/SOUTH CRITICAL SUM	0.347	NORTH/SOUTH CRITICAL SUM	0.411	
EAST/WEST CRITICAL SUM	0.401	EAST/WEST CRITICAL SUM	0.239	
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100	
INTERSECTION ICU VALUE	0.848	INTERSECTION ICU VALUE	0.750	
LESS 0.10 FOR ATSAC/ATCS	0.748	LESS 0.10 FOR ATSAC/ATCS	0.650	
AM INTERSECTION LOS	C	PM INTERSECTION LOS	B	
AM IMPACT	0.024	PM IMPACT	0.009	

EXIST + AMB + RELATED+ PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) With Project

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	2	0	0	0	2	0.000		
NB THRU	1	1600	79	2	0	0	81	0.124	*	
NB RIGHT	0	0	114	2	0	0	116	0.000		
										0.248
SB LEFT	0	0	4	0	0	0	4	0.000		
SB THRU	1	1,600	42	1	0	0	43	0.124	*	
SB RIGHT	0	0	146	3	0	3	152	0.000		
EB LEFT	1	1,600	191	4	0	2	197	0.123	*	
EB THRU	0	0	23	0	27	0	50	0.000		
EB RIGHT	1	1,600	107	2	0	0	109	0.068		
										0.273
WB LEFT	1	1,600	53	1	0	0	54	0.034		
WB THRU	0	0	2	0	10	0	12	0.000		
WB RIGHT	1	1,600	210	4	0	25	239	0.15	*	

NORTH/SOUTH CRITICAL SUM		0.248
EAST/WEST CRITICAL SUM		0.273
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.621
LESS 0.10 FOR ATSAC/ATCS		0.521
	PM INTERSECTION LOS	A
	PM IMPACT	0.019

EXIST + AMB + RELATED + PROJECT

APPENDIX K

TRANSPORTATION DEMAND MANAGEMENT (TDM)
AND
DROP - OFF AND PICK - UP INFORMATION

Transportation Demand Management Measures (TDM)

1. WCS is committed to work with its staff, students and parents to implement programs to reduce any traffic congestion, especially during student drop - off and pick - up times. WCS will continue to implement and enforce measures to ensure the free flow of traffic on Higuera, especially during drop - off and pick - up times.

2. WCS will provide before and after school care for any student to spread the student arrivals and departures time periods.

3. WCS will appoint a staff member to serve as the school transportation coordinator.

4. WCS will prepare school assisted TDM programs to aide in the formation and coordination of school sponsored carpool programs, such as providing contact lists of school families organized by residential zip code and matching services.

5. The TDM plan will be updated on an annual basis and disseminated to all new and returning school families at the beginning of each new school calendar year and throughout the year in school newsletters and other communications with parents and students.

   WCS will establish an emergency ride home program for employees that participate in carpools/vanpools or other transit modes.

7. The TDM plan will address the enforcement of adopted drop - off and pick - up hours

8. The TDM plan will include a Traffic/Parking Circulation Management Plan which explains vehicular ingress and egress access locations, provides vehicle queuing instructions, provides student drop - off and pick - up instructions and explains the school's traffic circulation requirements.

9. WCS will send out regular reminders of drop - off and pick - up procedure from school officials to students and parents to keep parents informed. Information provided to parents should be clearly stated, provide consistent messages and be delivered regularly throughout the school year. Maps of the drop - off and pick - up area with traffic flow patterns shall be provided. It is often good to begin a new drop - off plan at the start of a new school year or after a break, and after enough notice has been given to parents and students about the new plan.

10. During scheduled parent meetings on - campus, such as parent coffees and other school meetings, drivers will be reminded of traffic safety principles and school drop - off and pick - up policies and procedures, as well as providing useful pick – up and drop – off information, instructions and feedback.
11. Parents not following the proper process should receive special instructions from school personnel with reminders of the importance of following appropriate protocol.
12. Aid enforcement of drop - off and pick - up times by the issuance of vehicle placards with access time assignment, if necessary. Except for extraordinary circumstances, no entrance to school parking lots should be allowed without prior clearance. No vehicle staging on adjacent or nearby streets prior to assigned arrival times should be allowed.

    To mitigate the additional vehicle queue and improve the sight line for exiting traffic, it is recommended that the driveway exit be restricted to right – turns only. To mitigate the additional vehicle queue and improve the sight line for exiting traffic, it is recommended that signage be posted restricting the driveway exit to right turns only. This turn restriction will be enforced by the installation of a no left - turn sign and made a part of the WCS student drop - off and pick - up program.

    In addition, the City has ordered the following signing and curb markings:

    1. Install signs, ”No Stopping 7:30 to 9:00 AM and 2:30 to 3:45 PM School Days” between WCS’s two Higuera Street driveways. The parking restrictions will affect 85’ between the two driveways adjacent to WCS during the pick - up and drop - off periods.
    2. Paint five feet of red curb on the west side of the WCS’s westerly driveway, and five feet of red curb on the east side of the WCS’s easterly driveway.

Recommended Student Drop-off and Pick-up Procedures

1. All loading and unloading will be supervised during the peak morning arrival and afternoon departure periods. WCS should continue to notify parents not to arrive earlier than their designated pick - up times to lessen the possibility of on - street queuing.
2. The Higuera Street parking lot will be for adult assisted student drop-off and pick-up utilizing a moving vehicle queue line up.
3. The Higuera Street parking lot will provide up to a 12-vehicle queue on-site. A 2 - line queue will form with the front 2 vehicle positions assigned for assisted unloading and loading of students with parents remaining in the vehicles.
4. Parents, school personnel, safety patrol can serve as valets and open doors for students to enter and exit motor vehicles and remove bags or other items. This assistance speeds up the drop - off and pick - up process by eliminating the need for the parents to get out of the vehicle and ensures students are directly accessing designated locations. These assistants should wear safety vests or belts, and the loading area should be designated by signs or paint and be located at the far end of the drop off lane to maximize capacity. Provide an adequate number of assistants to help load / unload all vehicles in the drop off zone to speed up the process in a safe manner.
5. Parking for the purposes of loading and unloading students will not be allowed in the Higuera Street parking lot from 7:30 am to 8:30 am and from 2:30 pm to 3:00 pm on school days.

Student Drop - off and Pick - up

The WCS will continue to stagger the start and end times for various grade levels to minimize localize traffic congestion at and near the school.

Four staggered school days are conducted with instruction occurring between 8:00 am to 3:20 pm with student drop - off activities starting at 7:45 am. A 20 - minute separation between grade levels facilitates the spreading of vehicle arrivals and departures for student drop - off and pick - up. Parking solely for the purposes of loading and unloading of students is not allowed in the Higuera Street parking lot from 7:30 am to 8:30 am and from 2:30 pm to 3:00 pm on school days. The 9:00 am start

time for DK & K students allows parents to park in the Higuera Street lot and walk the younger students to class. Five times per year there are “late start” days with drop - off beginning at 9 am with the last pick - up at 3:05 pm.

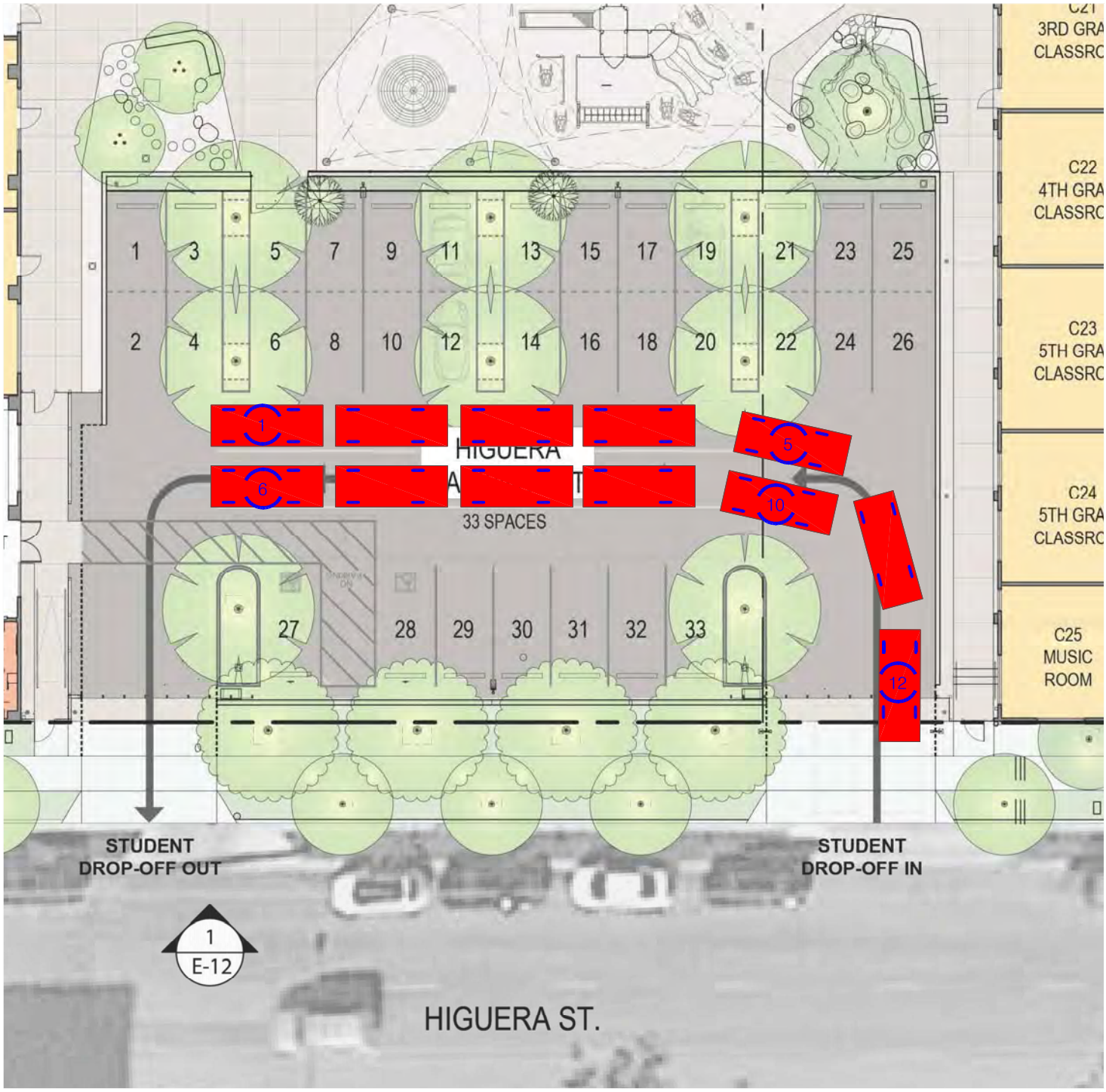
The school schedules for Monday, Tuesday, Thursday and Friday are listed below:

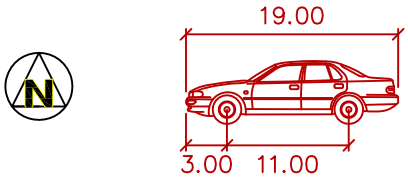
- School instruction for 5th - 8th grades begins at 8:00 am and ends at 2:50 pm;
- Classes for 3rd & 4th grades begins at 8:20 am and ends at 3:05 pm;
- Classes for 1st & 2nd grades begins at 8:40 am and ends at 3:20 pm, and
- DK & K instruction starts at 9:00 am and ends at 2:30 pm.

Wednesday start times are the same but instruction ends earlier for all but 6th thru 8th grades:

- No changes to 6th – 8th grades;
- School for 5th grade begins at the same time but ends at 2:20 pm, a half hour early;
- School for 3rd and 4th grades begins at the same time but ends at 2:20 pm, 45-minutes early;
- School for 1st and 2nd grades begins at the same time but ends at 2:00 pm, 1 hour and 20 minutes early;
- DK & K instruction starts at 9:00 am and ends at 1:40 pm, 50 minutes sooner.

The Higuera Street parking lot can provide up to a 12 - vehicle storage in a 2- line queue for loading and unloading with the front 2 vehicle positions assigned for assisted unloading and loading of students with parents remaining in the vehicles. All student loading and unloading is supervised during the peak morning arrival and afternoon departure periods.





P	feet
Width	: 7.00
Track	: 6.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.6

9/2018

THE WILLOWS COMMUNITY SCHOOL
EXAMPLE OF HIGUERA STREET ON - SITE PARKING LOT QUEUE

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APPENDIX L

COMBINED PHASE 2 & 3 TRIP GENERATION AND TRAFFIC IMPACT INFORMATION

The future Phase 3 enrollment increase will remain at 25 students as currently allowed in the approved WCS Master Plan and will be applied for at a later time. Notwithstanding the Phase 3 project will occur later under a separate approval, the following informational data for Phase 3 and the combined Phase 2 and 3 is provided below.

As shown in Table below, the Phase 3 enrollment increase of 25 students could be expected to generate an average of 103 new vehicle trips per weekday with 23 morning peak hour trips, 15 afternoon school-peak and 60 afternoon street - peak hour trips.

Phase 3 Trip Generation

			AM Peak Hour			PM School Peak Hour		
Land Use	Size	Daily	Total	In	Out	Total	In	Out
Private School	25 students	103	23	13	10	15	7	8

PM Street Peak Hour		
Total	In	Out
6	3	3

As shown in Table below, the combined Phase 2 and 3 student enrollment increase of 100 students could be expected to generate an average of 411 new vehicle trips per weekday with 91 morning peak hour trips, 62 afternoon school-peak and 26 afternoon street - peak hour trips.

Phases 2 and 3 Combined Trip Generation

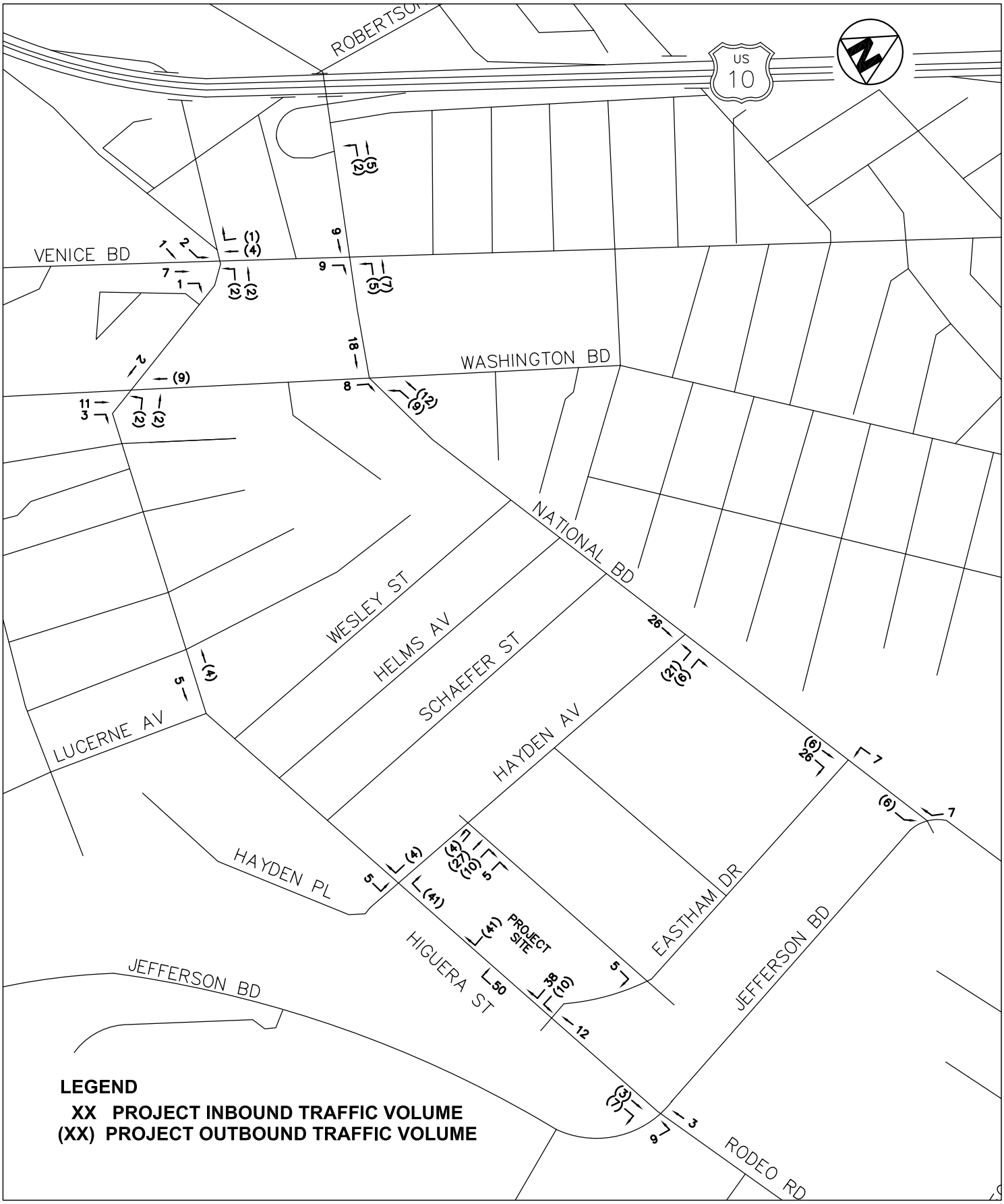
			AM Peak Hour			PM School Peak Hour		
Land Use	Size	Daily	Total	In	Out	Total	In	Out
Private School	100 students	411	91	50	41	62	29	33

PM Street Peak Hour		
Total	In	Out
26	12	14

As shown below, no significant project traffic impacts were identified for the enrollment increase of 100 students.

Future Traffic Conditions With Project (100 students)

No.	Intersection	Peak Hour	Future Without ICU-Delay	Future Without LOS	Future With Project ICU-Delay	Future With Project LOS	Impact
1.	National Bd. &	AM	0.799	C	0.803	D	+ 0.004
	Washington Bd.	PM School	0.895	D	0.899	D	+ 0.004
		PM Street	0.975	E	0.976	E	+ 0.001
2.	National Bd. &	AM	0.527	A	0.544	A	+ 0.017
	Hayden Ave.	PM School	0.509	A	0.521	A	+ 0.012
		PM Street	0.591	A	0.596	A	+ 0.005
3.	National Bd. &	AM	0.456	A	0.471	A	+ 0.015
	Eastham Dr.	PM School	0.481	A	0.489	A	+ 0.008
		PM Street	0.470	A	0.474	A	+ 0.004
4.	National Bd. &	AM	1.120	F	1.122	F	+ 0.002
	Jefferson Bd. (City of LA)	PM School	0.874	D	0.876	D	+ 0.002
		PM Street	0.768	C	0.769	C	+ 0.001
5.	Washington Bd. &	AM	0.874	D	0.878	D	+ 0.004
	Robertson / Higuera	PM School	0.658	B	0.691	B	+ 0.003
		PM Street	0.762	C	0.764	C	+ 0.002
6.	Warner Dr. &	AM	0.651	B	0.670	B	+ 0.019
			WB 199.7”	F	WB 236.4 “	F	+ 36.7 “
	Hayden Ave.	PM School	0.384	A	0.400	A	+ 0.016
			WB 18.2 “	C	WB 19.2 “	C	+ 1.0 “
		PM Street	0.488	A	0.495	A	+ 0.007
			WB 28.2 “	D	WB 29.2 “	D	+ 1.0 “
7.	Higuera St. &	AM	0.724	C	0.756	C	+ 0.032
			28.6 ”	D	35.6 “	E	+ 7.0 “
	Hayden Ave.	PM School	0.502	A	0.527	A	+ 0.025
			12.0 “	B	12.6 “	B	+ 0.6 ”
		PM Street	0.641	B	0.653	B	+ 0.012
			20.0 “	C	20.7 “	C	+ 0.7 “
8.	Higuera St. &	AM	0.664	B	0.678	B	+ 0.014
	Eastham Dr.	PM School	0.427	A	0.437	A	+ 0.010
		PM Street	0.574	A	0.577	A	+ 0.003
9.	Jefferson Bd. &	AM	0.789	C	0.791	C	+ 0.002
	Rodeo Rd. (City of LA)	PM School	0.773	C	0.774	C	+ 0.001
		PM Street	0.859	D	0.860	D	+0.001



9/2018

WCS PHASES 2 AND 3 (100 STUDENTS)
AM PEAK HOUR PROJECT TRAFFIC VOLUME

Overland Traffic Consultants, Inc.
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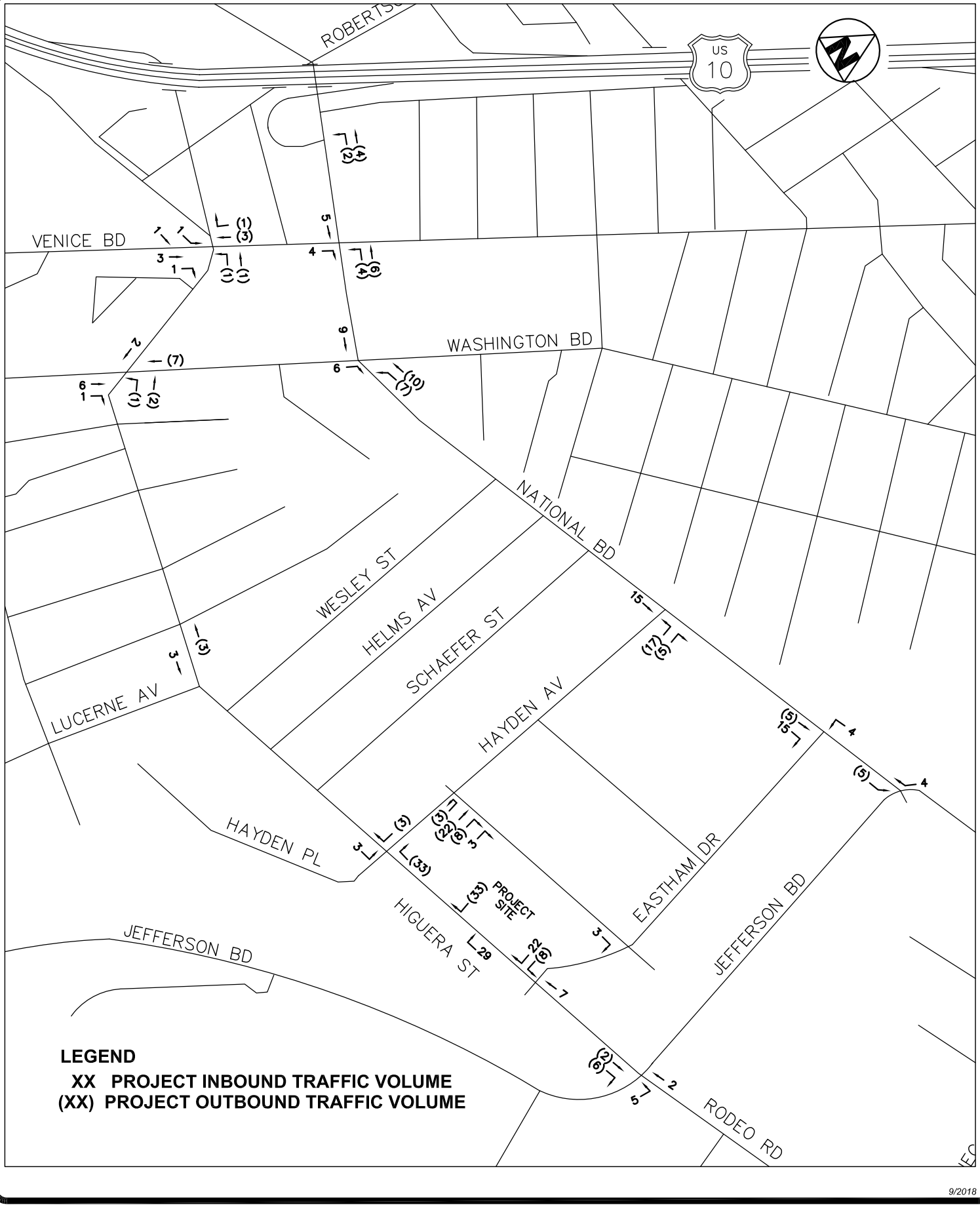
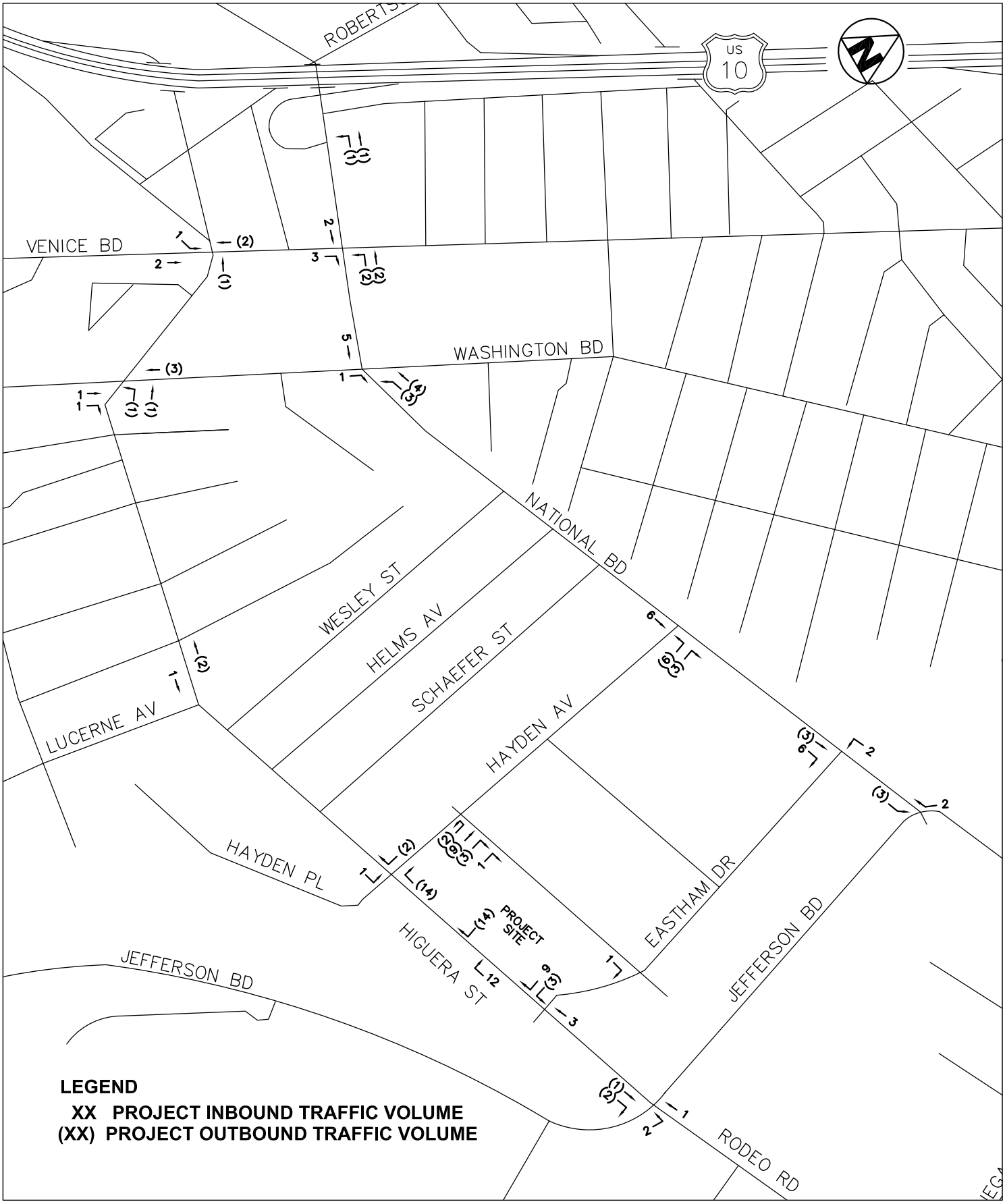


9/2018

WCS PHASES 2 AND 3 (100 STUDENTS)
PM SCHOOL PEAK HOUR PROJECT TRAFFIC VOLUME

Overland Traffic Consultants, Inc.
24325 Main Street, #202, Santa Clarita, CA 91321
(661) 799 - 8423, OTC@overlandtraffic.com



9/2018

WCS PHASES 2 AND 3 (100 STUDENTS)
PM STREET PEAK HOUR PROJECT TRAFFIC VOLUME

Overland Traffic Consultants, Inc.
24325 Main Street, #202, Santa Clarita, CA 91321
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LOS WORKSHEETS

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND WASHINGTON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phases 2 & 3

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	58	1	61	0	120	0.075			64	1	90	0	155	0.097		
NB THRU	2	3,200	667	13	104	0	784	0.245	*		1025	21	138	0	1184	0.370	*	
NB RIGHT	1	1600	210	4	20	8	242	0.151			228	5	101	1	335	0.209		
										0.407								0.559
SB LEFT	1	1,600	133	3	123	0	259	0.162	*		193	4	105	0	302	0.189	*	
SB THRU	3	4,800	815	16	124	0	955	0.235			636	13	168	0	817	0.208		
SB RIGHT	0	0	146	3	24	0	173	0.000			124	2	56	0	182	0.000		
EB LEFT	2	2,880	115	2	71	9	197	0.069			161	3	88	3	255	0.089		
EB THRU	2	3,200	599	12	175	12	798	0.296	*		725	15	125	4	869	0.322	*	
EB RIGHT	0	0	103	2	44	0	149	0.000			50	1	111	0	162	0.000		
										0.396								0.417
WB LEFT	2	2,880	200	4	83	0	287	0.100	*		157	3	113	0	273	0.095	*	
WB THRU	2	3,200	717	14	104	18	853	0.267			624	12	176	5	817	0.255		
WB RIGHT	1	1,600	61	1	68	0	130	0.081			194	4	108	0	306	0.191		

NORTH/SOUTH CRITICAL SUM			0.407
EAST/WEST CRITICAL SUM			0.396
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.903
LESS 0.10 FOR ATSAC/ATCS			0.803
	AM INTERSECTION LOS		D
	AM IMPACT		0.004

NORTH/SOUTH CRITICAL SUM			0.559
EAST/WEST CRITICAL SUM			0.417
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			1.076
LESS 0.10 FOR ATSAC/ATCS			0.976
	PM INTERSECTION LOS		E
	PM IMPACT		0.001

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND WASHINGTON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project Phases 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	50	1	90	0	141	0.088		
NB THRU	2	3,200	845	17	138	0	1000	0.312	*	
NB RIGHT	1	1600	268	5	101	6	380	0.238		
										0.485
SB LEFT	1	1,600	169	3	105	0	277	0.173	*	
SB THRU	3	4,800	527	11	168	0	706	0.191		
SB RIGHT	0	0	151	3	56	0	210	0.000		
EB LEFT	2	2,880	138	3	88	0	229	0.079		
EB THRU	2	3,200	725	15	125	9	874	0.320	*	
EB RIGHT	0	0	40	1	111	0	152	0.000		
										0.414
WB LEFT	2	2,880	148	3	113	7	271	0.094	*	
WB THRU	2	3,200	568	11	176	10	765	0.239		
WB RIGHT	1	1,600	114	2	108	0	224	0.14		

NORTH/SOUTH CRITICAL SUM		0.485
EAST/WEST CRITICAL SUM		0.414
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.999
LESS 0.10 FOR ATSAC/ATCS		0.899
	PM INTERSECTION LOS	D
	PM IMPACT	0.004

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phases 2 & 3

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	1.5	2,400	277	6	2	21	306	0.127 *		423	8	20	6	457	0.191 *	
NB THRU	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
NB RIGHT	0.5	800	69	1	0	6	76	0.095		96	2	0	3	101	0.126	
									0.127							0.191
SB LEFT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
SB THRU	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
SB RIGHT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
EB LEFT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
EB THRU	2	3,200	508	10	312	26	856	0.268 *		899	18	319	6	1242	0.388 *	
EB RIGHT	1	1,600	286	6	6	0	298	0.186		298	6	12	0	316	0.197	
									0.417							0.405
WB LEFT	1	1,600	234	5	0	0	239	0.149 *		26	1	0	0	27	0.017 *	
WB THRU	2	3,200	867	17	255	0	1139	0.356		385	8	366	0	759	0.237	
WB RIGHT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	

NORTH/SOUTH CRITICAL SUM		0.127	NORTH/SOUTH CRITICAL SUM	0.191
EAST/WEST CRITICAL SUM		0.417	EAST/WEST CRITICAL SUM	0.405
CLEARANCE INTERVAL		0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE		0.644	INTERSECTION ICU VALUE	0.696
LESS 0.10 FOR ATSAC/ATCS		0.544	LESS 0.10 FOR ATSAC/ATCS	0.596
	AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
	AM IMPACT	0.017	PM IMPACT	0.005

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phases 2 & 3

MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	SCHOOL PM PEAK HOUR TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	275	6	20	17	318	0.132	*	
NB THRU	0	0	0	0	0	0	0	0.000		
NB RIGHT	0.5	800	94	2	0	5	101	0.126		
										0.132
SB LEFT	0	0	0	0	0	0	0	0.000		
SB THRU	0	0	0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000		
EB THRU	2	3,200	851	17	319	15	1202	0.376	*	
EB RIGHT	1	1,600	217	4	12	0	233	0.146		
										0.389
WB LEFT	1	1,600	20	0	0	0	20	0.013	*	
WB THRU	2	3,200	427	9	366	0	802	0.250		
WB RIGHT	0	0	0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM		0.132
EAST/WEST CRITICAL SUM		0.389
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.621
LESS 0.10 FOR ATSAC/ATCS		0.521
	PM INTERSECTION LOS	A
	PM IMPACT	0.012

EXIST + AMB + REL + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phases 2 & 3

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	1	1,600	32	1	0	0	33	0.020		43	1	0	0	44	0.027	
NB THRU	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
NB RIGHT	1	1600	45	1	2	0	48	0.030	*	64	1	20	0	85	0.053	
									0.030							0.053
SB LEFT	0	0	0	0	0	0	0	0.000	*	0	0	0	0	0	0.000	
SB THRU	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
SB RIGHT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
EB LEFT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
EB THRU	2	3,200	431	9	318	6	764	0.288	*	772	15	331	3	1121	0.398	*
EB RIGHT	0	0	128	3	0	28	159	0.000		143	3	0	6	152	0.000	
									0.441							0.421
WB LEFT	1	1,600	227	5	6	7	245	0.153	*	23	0	12	2	37	0.023	*
WB THRU	2	3,200	1016	20	255	0	1291	0.404		483	10	366	0	859	0.268	
WB RIGHT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	

NORTH/SOUTH CRITICAL SUM			0.030
EAST/WEST CRITICAL SUM			0.441
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.571
LESS 0.10 FOR ATSAC/ATCS			0.471
	AM INTERSECTION LOS		A
	AM IMPACT		0.015

NORTH/SOUTH CRITICAL SUM			0.053
EAST/WEST CRITICAL SUM			0.421
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.574
LESS 0.10 FOR ATSAC/ATCS			0.474
	PM INTERSECTION LOS		A
	PM IMPACT		0.004

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project Phase 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	42	1	0	0	43	0.027		
NB THRU	0	0	0	0	0	0	0	0.000		
NB RIGHT	1	1600	65	1	20	0	86	0.054		
										0.054
SB LEFT	0	0	0	0	0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000		
EB THRU	2	3,200	793	16	331	5	1145	0.408	*	
EB RIGHT	0	0	143	3	0	15	161	0.000		
										0.435
WB LEFT	1	1,600	27	1	12	4	44	0.027	*	
WB THRU	2	3,200	452	9	366	0	827	0.258		
WB RIGHT	0	0	0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM		0.054
EAST/WEST CRITICAL SUM		0.435
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.589
LESS 0.10 FOR ATSAC/ATCS		0.489
	PM INTERSECTION LOS	A
	PM IMPACT	0.008

EXIST + AMB + RELATED + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phase 2 & 3

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	376	8	55	0	439	0.274	*		190	4	70	0	264	0.165	*	
NB THRU	2	3,200	656	13	79	0	748	0.234			944	19	193	0	1156	0.361		
NB RIGHT	1	1600	0	0	47	0	47	0.029			0	0	8	0	8	0.005		
										0.963								0.447
SB LEFT	1	1,600	0	0	47	0	47	0.029			1	0	17	0	18	0.011		
SB THRU	1	1,600	841	17	245	0	1103	0.689	*		292	6	153	0	451	0.282	*	
SB RIGHT	1	1,600	775	16	185	7	983	0.614			216	4	184	2	406	0.254		
EB LEFT	1.5	2,400	253	5	109	6	373	0.155	*		471	9	227	3	710	0.296	*	
EB THRU	0.5	800	0	0	142	0	142	0.000			0	0	25	0	25	0.000		
EB RIGHT	1	1,600	238	5	67	0	310	0.057			430	9	79	0	518	0.241		
										0.159								0.322
WB LEFT	0.5	800	0	0	6	0	6	0.008			0	0	41	0	41	0.051		
WB THRU	0.5	800	0	0	21	0	21	0.000			0	0	124	0	124	0.000		
WB RIGHT	1	1,600	0	0	6	0	6	0.004	*		0	0	41	0	41	0.026		

*E/B right overlap N/B left = 0.5 N/B left

NORTH/SOUTH CRITICAL SUM		0.963	0.447
EAST/WEST CRITICAL SUM		0.159	0.322
CLEARANCE INTERVAL		0.100	0.100
INTERSECTION ICU VALUE		1.222	0.869
LESS 0.10 FOR ATSAC/ATCS		1.122	0.769
	AM INTERSECTION LOS	F	
	AM IMPACT	0.002	
	PM INTERSECTION LOS		C
	PM IMPACT		0.001

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project Phase 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	237	5	70	0	312	0.195	*	
NB THRU	2	3,200	792	16	193	0	1001	0.313		
NB RIGHT	1	1600	0	0	8	0	8	0.005		
										0.485
SB LEFT	1	1,600	2	0	17	0	19	0.012		
SB THRU	1	1,600	305	6	153	0	464	0.290	*	
SB RIGHT	1	1,600	198	4	184	4	390	0.244		
EB LEFT	1.5	2,400	450	9	227	5	691	0.288	*	
EB THRU	0.5	800	0	0	25	0	25	0.000		
EB RIGHT	1	1,600	383	8	79	0	470	0.196		
										0.391
WB LEFT	0	0	0	0	41	0	41	0.000		
WB THRU	1	1600	0	0	124	0	124	0.103		
WB RIGHT	1	1,600	0	0	41	0	41	0.026		

* e/b right overlap = .5 n/b left

NORTH/SOUTH CRITICAL SUM		0.485
EAST/WEST CRITICAL SUM		0.391
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.976
LESS 0.10 FOR ATSAC/ATCS		0.876
	PM INTERSECTION LOS	D
	PM IMPACT	0.002

EXIST + AMB + RELATED + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WASHINGTON BOULEVARD AND ROBERTSON / HIGUERA
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phase 2 & 3

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	68	1	12	0	81	0.051	*		128	3	75	0	206	0.128	*	
NB THRU	2	3,200	768	15	89	11	883	0.310			1016	20	169	1	1206	0.400		
NB RIGHT	0	0	101	2	2	3	108	0.000			67	1	5	1	74	0.000		
										0.478								0.471
SB LEFT	1	1,600	86	2	2	0	90	0.056			74	1	5	0	80	0.05		
SB THRU	2	3,200	812	16	184	9	1021	0.427	*		638	13	176	3	830	0.343	*	
SB RIGHT	0	0	181	4	162	0	347	0.000			132	3	134	0	269	0.000		
EB LEFT	1	1,600	144	3	171	0	318	0.199	*		124	2	98	0	224	0.14	*	
EB THRU	1	1,600	331	7	8	2	348	0.217			253	5	17	0	275	0.172		
EB RIGHT	1	1,600	68	1	70	0	139	0.087			74	1	38	0	113	0.071		
										0.400								0.293
WB LEFT	1	1,600	49	1	5	2	57	0.036			29	1	5	1	36	0.022		
WB THRU	1	1600	308	6	5	2	321	0.201	*		234	5	5	1	245	0.153	*	
WB RIGHT	1	1,600	93	2	0	0	95	0.059			79	2	0	0	81	0.05		

NORTH/SOUTH CRITICAL SUM			0.478
EAST/WEST CRITICAL SUM			0.400
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.978
LESS 0.10 FOR ATSAC/ATCS			0.878
	AM INTERSECTION LOS		D
	AM IMPACT		0.004

NORTH/SOUTH CRITICAL SUM			0.471
EAST/WEST CRITICAL SUM			0.293
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.864
LESS 0.10 FOR ATSAC/ATCS			0.764
	PM INTERSECTION LOS		C
	PM IMPACT		0.002

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WASHINGTON BOULEVARD AND ROBERTSON / HIGUERA
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project Phase 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	74	1	75	0	150	0.094		
NB THRU	2	3,200	929	19	169	6	1123	0.371	*	
NB RIGHT	0	0	59	1	5	1	66	0.000		
										0.414
SB LEFT	1	1,600	63	1	5	0	69	0.043	*	
SB THRU	2	3,200	559	11	176	7	753	0.235		
SB RIGHT	0	0	120	2	134	0	256	0.000		
EB LEFT	1	1,600	144	3	98	0	245	0.153	*	
EB THRU	1	1,600	227	5	17	2	251	0.157		
EB RIGHT	1	1,600	59	1	38	0	98	0.061		
										0.247
WB LEFT	1	1,600	30	1	5	1	37	0.023		
WB THRU	1	1600	141	3	5	2	151	0.094	*	
WB RIGHT	1	1,600	72	1	0	0	73	0.046		

NORTH/SOUTH CRITICAL SUM		0.414
EAST/WEST CRITICAL SUM		0.247
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.761
LESS 0.07 FOR ATSAC		0.691
	PM INTERSECTION LOS	B
	PM IMPACT	0.003

EXIST + AMB + RELATED + PROJECT

HCS7 Two-Way Stop-Control Report

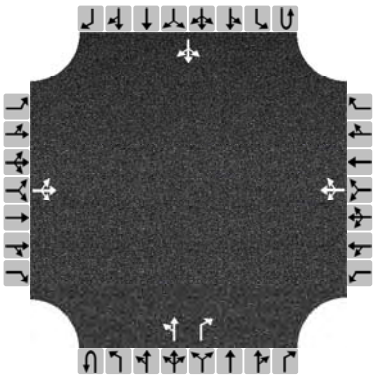
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Time Analyzed	AM PEAK HOUR + PROJECT
Intersection Orientation	North-South
Project Description	WCS Phase 2 and 3

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		1	0	4		215	0	40		18	512	155		53	233	3
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5				277			20				58		
Capacity, c (veh/h)			418				203			1246				912		
v/c Ratio			0.01				1.36			0.02				0.06		
95% Queue Length, Q_{95} (veh)			0.0				15.8			0.0				0.2		
Control Delay (s/veh)			13.7				236.4			7.9				9.2		
Level of Service, LOS			B				F			A				A		
Approach Delay (s/veh)		13.7				236.4				0.4				2.2		
Approach LOS		B				F										

HCS7 Two-Way Stop-Control Report

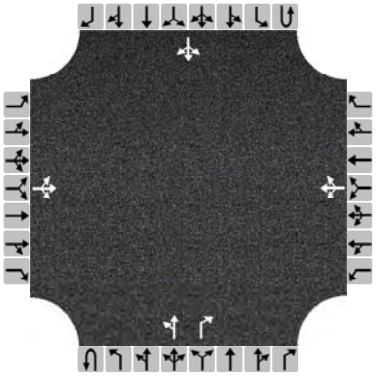
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Time Analyzed	PM SCHOOL PEAK + PROJECT
Intersection Orientation	North-South
Project Description	WCS Phase 2 & 3

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		3	1	6		67	1	48		13	341	182		63	106	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			11				126			14				68		
Capacity, c (veh/h)			449				379			1405				1069		
v/c Ratio			0.02				0.33			0.01				0.06		
95% Queue Length, Q_{95} (veh)			0.1				1.4			0.0				0.2		
Control Delay (s/veh)			13.2				19.2			7.6				8.6		
Level of Service, LOS			B				C			A				A		
Approach Delay (s/veh)		13.2				19.2				0.3				3.6		
Approach LOS		B				C										

HCS7 Two-Way Stop-Control Report

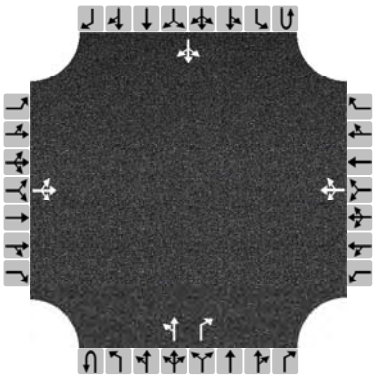
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Time Analyzed	PM PEAK HOUR + PROJECT
Intersection Orientation	North-South
Project Description	WCS Phase 2 & 3

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		7	2	10		79	0	76		14	360	152		109	153	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			21				168			15				118		
Capacity, c (veh/h)			305				312			1346				1051		
v/c Ratio			0.07				0.54			0.01				0.11		
95% Queue Length, Q_{95} (veh)			0.2				3.0			0.0				0.4		
Control Delay (s/veh)			17.7				29.2			7.7				8.9		
Level of Service, LOS			C				D			A				A		
Approach Delay (s/veh)		17.7				29.2				0.3				4.3		
Approach LOS		C				D										

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WARNER DRIVE & HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phase 2 & 3

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	0	0	14	0	0	4	18	0.000		12	0	0	2	14	0.000	
NB THRU	1	1600	475	10	0	27	512	0.331	*	344	7	0	9	360	0.234	*
NB RIGHT	1	1600	137	3	0	15	155	0.097		145	3	0	4	152	0.095	
									0.511							0.398
SB LEFT	0	0	46	1	6	0	53	0.000		95	2	12	0	109	0.000	
SB THRU	1	1,600	228	5	0	0	233	0.180	*	150	3	0	0	153	0.164	*
SB RIGHT	0	0	3	0	0	0	3	0.000		0	0	0	0	0	0.000	
EB LEFT	0	0	1	0	0	0	1	0.000		7	0	0	0	7	0.000	
EB THRU	1	1,600	0	0	0	0	0	0.000		2	0	0	0	2	0.000	
EB RIGHT	0	0	4	0	0	0	4	0.000		10	0	0	0	10	0.000	
									0.159							0.097
WB LEFT	0	0	211	4	0	0	215	0.000		77	2	0	0	79	0.000	
WB THRU	1	1600	0	0	0	0	0	0.159	*	0	0	0	0	0	0.097	*
WB RIGHT	0	0	37	1	2	0	40	0.000		55	1	20	0	76	0.000	

NORTH/SOUTH CRITICAL SUM			0.511
EAST/WEST CRITICAL SUM			0.159
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.770
LESS 0.10 FOR ATSAC/ATCS			0.670
	AM INTERSECTION LOS		B
	AM IMPACT		0.019

NORTH/SOUTH CRITICAL SUM			0.398
EAST/WEST CRITICAL SUM			0.097
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.595
LESS 0.10 FOR ATSAC/ATCS			0.495
	PM INTERSECTION LOS		A
	PM IMPACT		0.007

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WARNER DRIVE & HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project Phase 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	10	0	0	3	13	0.000		
NB THRU	1	1600	313	6	0	22	341	0.222		
NB RIGHT	1	1600	168	3	0	11	182	0.114		
										0.328
SB LEFT	0	0	50	1	12	0	63	0.000		
SB THRU	1	1,600	104	2	0	0	106	0.106	*	
SB RIGHT	0	0	0	0	0	0	0	0.000		
EB LEFT	0	0	3	0	0	0	3	0.000		
EB THRU	1	1,600	1	0	0	0	1	0.000		
EB RIGHT	0	0	6	0	0	0	6	0.000		
										0.072
WB LEFT	0	0	66	1	0	0	67	0.000		
WB THRU	1	1600	1	0	0	0	1	0.072	*	
WB RIGHT	0	0	27	1	20	0	48	0.000		

NORTH/SOUTH CRITICAL SUM		0.328
EAST/WEST CRITICAL SUM		0.072
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.500
LESS 0.10 FOR ATSAC/ATCS		0.400
	PM INTERSECTION LOS	A
	PM IMPACT	0.016

EXIST + AMB + RELATED + PROJECT

HCS7 All-Way Stop Control Report

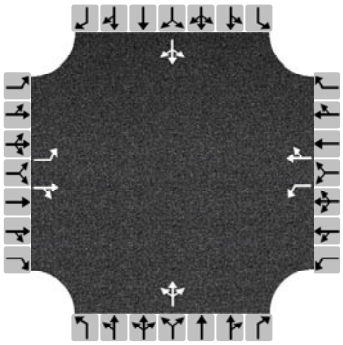
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Analysis Time Period (hrs)	0.25
Time Analyzed	AM PEAK HOUR + PROJECT
Project Description	WCS Phase 2 & 3

Site Information

Intersection	HIGUERA ST & HAYDEN AVE
Jurisdiction	CULVER CITY
East/West Street	HIGUERA STREET
North/South Street	HAYDEN AVENUE
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	227	21	119	106	14	426	2	37	67	3	57	391
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	247	152		115	478		115			490		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.219	0.135		0.102	0.425		0.102			0.436		
Final Departure Headway, hd (s)	8.61	7.47		8.25	7.03		8.17			6.62		
Final Degree of Utilization, x	0.590	0.316		0.264	0.934		0.262			0.901		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	6.31	5.17		5.95	4.73		6.17			4.62		

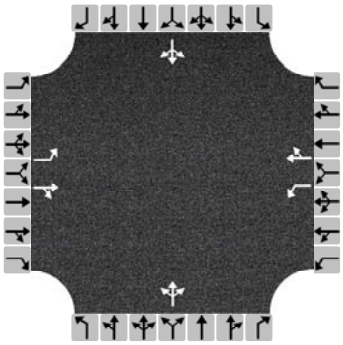
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	247	152		115	478		115			490		
Capacity	418	482		436	512		440			544		
95% Queue Length, Q_{95} (veh)	3.7	1.3		1.0	11.5		1.0			10.6		
Control Delay (s/veh)	22.9	13.6		13.9	51.3		14.0			43.8		
Level of Service, LOS	C	B		B	F		B			E		
Approach Delay (s/veh)	19.4			44.0			14.0			43.8		
Approach LOS	C			E			B			E		
Intersection Delay, s/veh | LOS	35.6						E					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	JTO	Intersection	HIGUERA ST & HAYDEN AVE
Agency/Co.	OTC INC	Jurisdiction	CULVER CITY
Date Performed	9/18/2018	East/West Street	HIGUERA STREET
Analysis Year	2020	North/South Street	HAYDEN AVENUE
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM SCHOOL PEAK + PROJECT		
Project Description	WCS Phase 2 & 3		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	198	51	109	53	12	247	2	81	116	4	43	152
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	215	174		58	282		216			216		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.191	0.155		0.051	0.250		0.192			0.192		
Final Departure Headway, hd (s)	6.91	5.91		7.01	5.82		5.94			5.84		
Final Degree of Utilization, x	0.413	0.285		0.112	0.455		0.357			0.351		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	4.61	3.61		4.71	3.52		3.94			3.84		

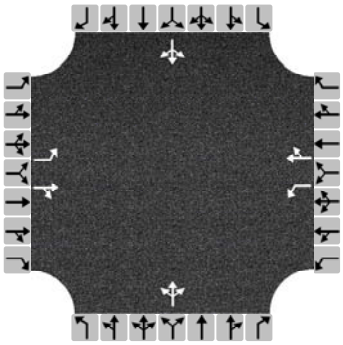
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	215	174		58	282		216			216		
Capacity	521	609		513	618		606			617		
95% Queue Length, Q_{95} (veh)	2.0	1.2		0.4	2.4		1.6			1.6		
Control Delay (s/veh)	14.4	11.0		10.6	13.3		12.2			12.0		
Level of Service, LOS	B	B		B	B		B			B		
Approach Delay (s/veh)	12.8			12.8			12.2			12.0		
Approach LOS	B			B			B			B		
Intersection Delay, s/veh | LOS	12.6						B					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	JTO	Intersection	HIGUERA ST & HAYDEN AVE
Agency/Co.	OTC INC	Jurisdiction	CULVER CITY
Date Performed	9/18/2018	East/West Street	HIGUERA STREET
Analysis Year	2020	North/South Street	HAYDEN AVENUE
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM PEAK HOUR + PROJECT		
Project Description	WCS Phase 2 & 3		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	186	57	170	30	12	200	1	149	263	10	54	182
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	202	247		33	230		449			267		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.180	0.219		0.029	0.205		0.399			0.238		
Final Departure Headway, hd (s)	8.12	7.05		8.49	7.28		6.40			6.83		
Final Degree of Utilization, x	0.456	0.484		0.077	0.466		0.798			0.507		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	5.82	4.75		6.19	4.98		4.40			4.83		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	202	247		33	230		449			267		
Capacity	444	510		424	494		562			527		
95% Queue Length, Q_{95} (veh)	2.3	2.6		0.2	2.4		7.7			2.8		
Control Delay (s/veh)	17.4	16.2		11.9	16.2		30.0			16.7		
Level of Service, LOS	C	C		B	C		D			C		
Approach Delay (s/veh)	16.7			15.7			30.0			16.7		
Approach LOS	C			C			D			C		
Intersection Delay, s/veh | LOS	20.7						C					

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phase 2 & 3

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	0	0	2	0	0	0	2	0.000		1	0	0	0	1	0.000	
NB THRU	1	1600	36	1	0	0	37	0.066	*	146	3	0	0	149	0.258	*
NB RIGHT	0	0	66	1	0	0	67	0.000		258	5	0	0	263	0.000	
									0.348							0.412
SB LEFT	0	0	3	0	0	0	3	0.000		10	0	0	0	10	0.000	
SB THRU	1	1,600	56	1	0	0	57	0.282	*	53	1	0	0	54	0.154	*
SB RIGHT	0	0	379	8	0	4	391	0.000		176	4	0	2	182	0.000	
EB LEFT	1	1,600	218	4	0	5	227	0.142	*	181	4	0	1	186	0.116	*
EB THRU	0	0	10	0	11	0	21	0.000		29	1	27	0	57	0.000	
EB RIGHT	1	1,600	117	2	0	0	119	0.075		167	3	0	0	170	0.106	
									0.408							0.241
WB LEFT	1	1,600	104	2	0	0	106	0.066		29	1	0	0	30	0.018	
WB THRU	0	0	4	0	10	0	14	0.000		2	0	10	0	12	0.000	
WB RIGHT	1	1,600	377	8	0	41	426	0.266	*	182	4	0	14	200	0.125	*

NORTH/SOUTH CRITICAL SUM		0.348	
EAST/WEST CRITICAL SUM		0.408	
CLEARANCE INTERVAL		0.100	
INTERSECTION ICU VALUE		0.856	
LESS 0.10 FOR ATSAC/ATCS		0.756	
	AM INTERSECTION LOS	C	
	AM IMPACT	0.032	

NORTH/SOUTH CRITICAL SUM		0.412	
EAST/WEST CRITICAL SUM		0.241	
CLEARANCE INTERVAL		0.100	
INTERSECTION ICU VALUE		0.753	
LESS 0.10 FOR ATSAC/ATCS		0.653	
	PM INTERSECTION LOS	B	
	PM IMPACT	0.012	

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) With Project Phase 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	2	0	0	0	2	0.000		
NB THRU	1	1600	79	2	0	0	81	0.124	*	
NB RIGHT	0	0	114	2	0	0	116	0.000		
										0.248
SB LEFT	0	0	4	0	0	0	4	0.000		
SB THRU	1	1,600	42	1	0	0	43	0.124	*	
SB RIGHT	0	0	146	3	0	3	152	0.000		
EB LEFT	1	1,600	191	4	0	3	198	0.124	*	
EB THRU	0	0	23	0	27	0	50	0.000		
EB RIGHT	1	1,600	107	2	0	0	109	0.068		
										0.279
WB LEFT	1	1,600	53	1	0	0	54	0.034		
WB THRU	0	0	2	0	10	0	12	0.000		
WB RIGHT	1	1,600	210	4	0	33	247	0.155	*	

NORTH/SOUTH CRITICAL SUM		0.248
EAST/WEST CRITICAL SUM		0.279
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.627
LESS 0.10 FOR ATSAC/ATCS		0.527
	PM INTERSECTION LOS	A
	PM IMPACT	0.025

EXIST + AMB + RELATED + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phase 2 & 3

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000		1	0	0	0	1	0.000	
NB THRU	1	1,600	0	0	0	0	0	0.000		6	0	0	0	6	0.000	
NB RIGHT	0	0	2	0	0	0	2	0.000		17	0	0	0	17	0.000	
									0.079							0.380
SB LEFT	1	1,600	95	2	20	10	127	0.079	*	554	11	40	3	608	0.380	*
SB THRU	0	0	1	0	0	0	1	0.000		2	0	0	0	2	0.000	
SB RIGHT	1	1,600	202	4	0	38	244	0.153		29	1	0	9	39	0.024	
EB LEFT	1	1,600	6	0	0	0	6	0.004	*	25	1	0	0	26	0.016	*
EB THRU	2	3,200	95	2	11	0	108	0.034		379	8	27	0	414	0.130	
EB RIGHT	0	0	0	0	0	0	0	0.000		3	0	0	0	3	0.000	
									0.599							0.197
WB LEFT	1	1,600	5	0	0	0	5	0.003		8	0	0	0	8	0.005	
WB THRU	1	1600	481	10	10	12	513	0.595	*	130	3	10	3	146	0.181	*
WB RIGHT	0	0	403	8	28	0	439	0.000		86	2	57	0	145	0.000	

S/B right not part of traffic signal.

NORTH/SOUTH CRITICAL SUM			0.079
EAST/WEST CRITICAL SUM			0.599
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.778
LESS 0.10 FOR ATSAC/ATCS			0.678
	AM INTERSECTION LOS		B
	AM IMPACT		0.014

NORTH/SOUTH CRITICAL SUM			0.380
EAST/WEST CRITICAL SUM			0.197
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.677
LESS 0.10 FOR ATSAC/ATCS			0.577
	PM INTERSECTION LOS		A
	PM IMPACT		0.003

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project Phase 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000		
NB THRU	1	1600	1	0	0	0	1	0.000		
NB RIGHT	0	0	0	0	0	0	0	0.000		
										0.266
SB LEFT	1	1,600	370	7	40	8	425	0.266	*	
SB THRU	0	0	7	0	0	0	7	0.000		
SB RIGHT	1	1,600	99	2	0	22	123	0.077		
EB LEFT	1	1,600	17	0	0	0	17	0.011	*	
EB THRU	2	3,200	166	3	27	0	196	0.062		
EB RIGHT	0	0	3	0	0	0	3	0.000		
										0.171
WB LEFT	1	1,600	7	0	0	0	7	0.004		
WB THRU	1	1600	178	4	10	7	199	0.160	*	
WB RIGHT	0	0	0	0	57	0	57	0.000		

S/B right turn not part of traffic signal.

NORTH/SOUTH CRITICAL SUM		0.266
EAST/WEST CRITICAL SUM		0.171
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.537
LESS 0.10 FOR ATSAC/ATCS		0.437
	PM INTERSECTION LOS	A
	PM IMPACT	0.010

EXIST + AMB + RELATED + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: RODEO ROAD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phase 2 & 3

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	130	3	8	9	150	0.094			54	1	32	2	89	0.056		
NB THRU	2	3,200	646	13	153	0	812	0.254	*		867	17	206	0	1090	0.341	*	
NB RIGHT free	1	1600	411	8	29	0	448	0.280			813	16	72	0	901	0.563		
										0.333								0.459
SB LEFT	1	1,600	112	2	12	0	126	0.079	*		156	3	29	0	188	0.118	*	
SB THRU	2	3,200	808	16	295	0	1119	0.378			490	10	232	0	732	0.236		
SB RIGHT	0	0	78	2	10	0	90	0.000			12	0	10	0	22	0.000		
EB LEFT	1	1,600	28	1	0	0	29	0.018	*		39	1	0	0	40	0.025		
EB THRU	2	3,200	115	2	4	3	124	0.039			755	15	21	1	792	0.248	*	
EB RIGHT	1	1,600	48	1	27	7	83	0.052			137	3	37	2	179	0.112		
										0.458								0.401
WB LEFT	2	2,880	806	16	123	0	945	0.328			354	7	80	0	441	0.153	*	
WB THRU	1	1600	668	13	20	3	704	0.440	*		159	3	25	1	188	0.118		
WB RIGHT	1	1,600	428	9	69	0	506	0.316			125	3	31	0	159	0.099		

NORTH/SOUTH CRITICAL SUM	0.333		NORTH/SOUTH CRITICAL SUM	0.459	
EAST/WEST CRITICAL SUM	0.458		EAST/WEST CRITICAL SUM	0.401	
CLEARANCE INTERVAL	0.100		CLEARANCE INTERVAL	0.100	
INTERSECTION ICU VALUE	0.891		INTERSECTION ICU VALUE	0.960	
LESS 0.10 FOR ATSAC/ATCS	0.791		LESS 0.10 FOR ATSAC/ATCS	0.860	
AM INTERSECTION LOS	C		PM INTERSECTION LOS	D	
AM IMPACT	0.002		PM IMPACT	0.001	

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: RODEO ROAD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	54	1	32	5	92	0.058		
NB THRU	2	3,200	762	15	206	0	983	0.307	*	
NB RIGHT free	1	1600	806	16	72	0	894	0.559		
										0.457
SB LEFT	1	1,600	207	4	29	0	240	0.15	*	
SB THRU	2	3,200	413	8	232	0	653	0.204		
SB RIGHT	1	1,600	37	1	10	0	48	0.03		
EB LEFT	1	1,600	40	1	0	0	41	0.026		
EB THRU	2	3,200	463	9	21	2	495	0.155	*	
EB RIGHT	1	1,600	63	1	37	6	107	0.067		
										0.317
WB LEFT	2	2,880	380	8	80	0	468	0.162	*	
WB THRU	1	1600	229	5	25	2	261	0.163		
WB RIGHT	1	1,600	196	4	31	0	231	0.144		

NORTH/SOUTH CRITICAL SUM		0.457
EAST/WEST CRITICAL SUM		0.317
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.874
LESS 0.10 FOR ATSAC/ATCS		0.774
	PM INTERSECTION LOS	C
	PM IMPACT	0.001

EXIST + AMB + RELATED + PROJECT

Overland Traffic Consultants, Inc.

Overland Traffic Consultants
South Office
952 Manhattan Beach Bl, #100
Manhattan Beach, CA 90266
E-mail: otc@overlandtraffic.com

November 26, 2018

City of Culver City
Attn: Mr. Barry Kurtz
Public Works Department / Engineering Division
9770 Culver Boulevard
Culver City, CA 90232

RE: Submittal of Appendix L Addendum for The Willows Community School Traffic Impact Study (8509 Higuera Street)

Dear Mr. Kurtz,

Per your comments included in the Project Review Committee (PRC) letter dated November 15, 2018 for The Willows Community School Project, an addendum to Appendix L of the Willows Community School traffic study has been prepared.

This Addendum modifies and supplements the Appendix L of the Final Traffic Study for the Willows Community School (Oct. 2018).

Sincerely,

Jerry Overland

Jerry Overland

Enclosure - Addendum Appendix L

Cc: Mr. Jose Mendivil
Mr. Mark Armbruster

ADDENDUM APPENDIX L

(November 2018,

***per City PRC Comments*)**

COMBINED PHASE 2 & 3 TRIP GENERATION AND TRAFFIC IMPACT INFORMATION

The Traffic Impact Analysis for the Willows Community School dated October 2018 included in Appendix L, an analysis for the combined Phase 2 and 3 student total enrollment increase of 100 students. The Appendix L traffic analysis showed no significant traffic impacts were identified for the enrollment increase of 100 students.

The future Phase 3 enrollment increase will remain at 25 students as currently allowed in the approved WCS Master Plan and will be applied for at a later time. As shown in the table below, the Phase 3 enrollment increase of 25 students could be expected to generate an average of 103 new vehicle trips per weekday with 23 morning peak hour trips, 15 afternoon school-peak and 6 afternoon street - peak hour trips.

Phase 3 Trip Generation

			AM Peak Hour			PM School Peak Hour		
Land Use	Size	Daily	Total	In	Out	Total	In	Out
Private School	25 students	103	23	13	10	15	7	8

PM Street Peak Hour		
Total	In	Out
6	3	3

Notwithstanding the Phase 3 project will occur later under a separate approval, the combined Phase 2 and 3 student enrollment increase of 100 students could be expected to generate an average of 411 new vehicle trips per weekday with 91 morning peak hour trips, 62 afternoon school-peak and 26 afternoon street - peak hour trips, as shown below.

Phases 2 and 3 Combined Trip Generation

			AM Peak Hour			PM School Peak Hour		
Land Use	Size	Daily	Total	In	Out	Total	In	Out
Private School	100 students	411	91	50	41	62	29	33

PM Street Peak Hour		
Total	In	Out
26	12	14

The City of Culver City is holding community meetings to begin consideration of the various traffic calming measures for Higuera Street, including the possible cul - de - sac on Higuera Street at the west approach to Hayden Avenue. The October 2018 traffic study shows that the Project's traffic at buildout, with Phases 2 and 3, adds only nine vehicles (total for both directions) during the highest peak hour (am peak) to Higuera Street west of Hayden Avenue, see attached figures. For the most extreme traffic calming measure of a cul - de - sac of Higuera Street, only nine vehicles will rerouted to other streets, which would not create a significant Project traffic impact.

Therefore, an additional full traffic study will not be required for the additional 25 students for Phase 3.

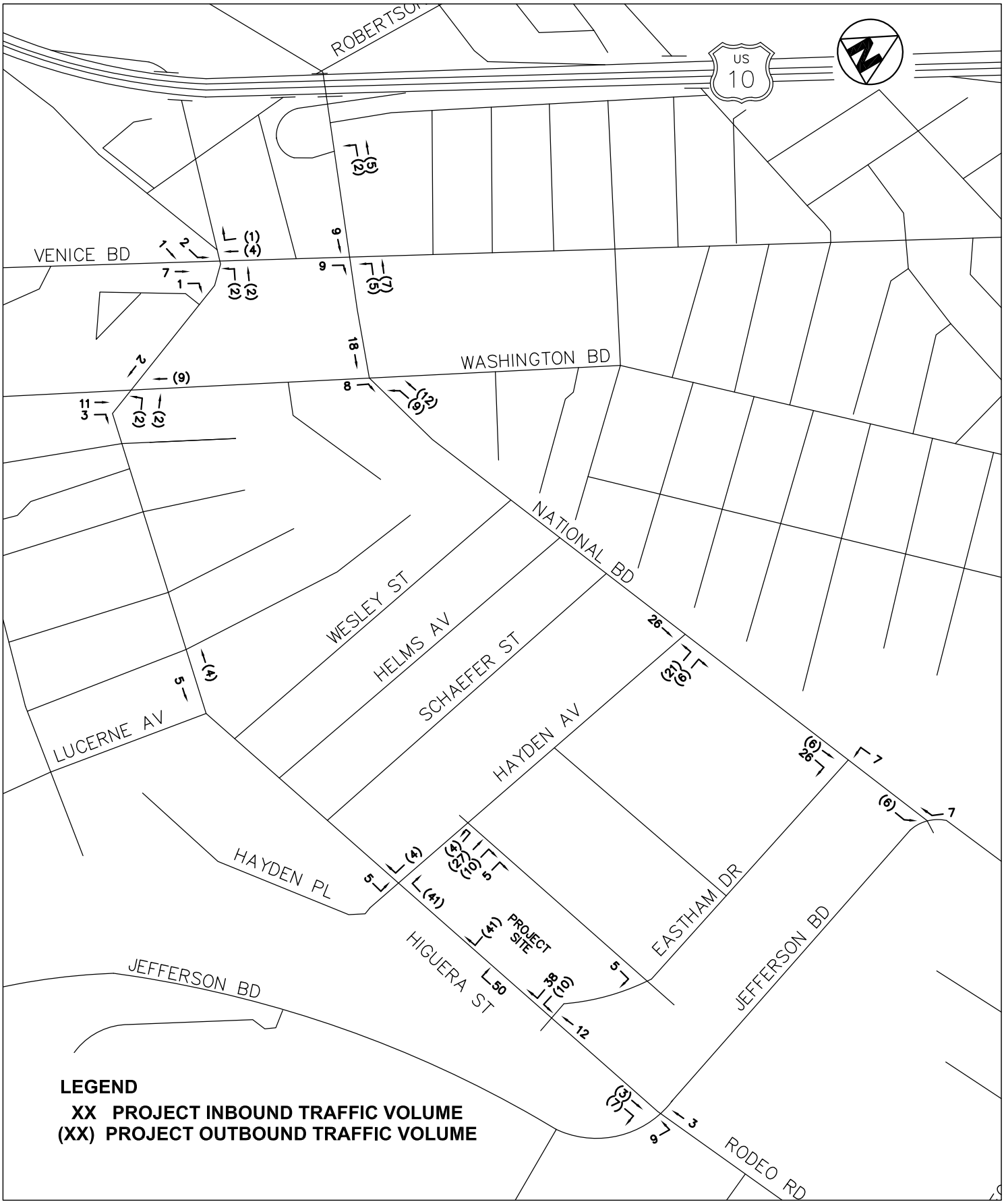
Below are additional traffic related conditions for The Willows Community School from the City's November 2018 PRC review:

1. *The School's traffic consultant shall conduct follow-up site reviews and a report after Phase 2's 75 additional students are enrolled to see if the more efficient loading and unloading of students can be accommodated on site, without the queue of cars spilling onto Higuera Street.*
2. *The School's traffic consultant shall conduct follow-up site reviews and a report after the full additional 100 students from combined Phases 2 and 3 are enrolled to see if the more efficient loading and unloading of students can be accommodated on site, without the queue of cars spilling onto Higuera Street.*
3. *If the follow-up site reviews for Phase 2 and 3 show that the queue of cars spill out onto Higuera Street, the School will be responsible to apply additional corrective measures.*
4. *The School shall advise parents of the no-left turn restriction at the west exit driveway.*
5. *The School shall pay $250 for a no-left-turn sign, which the City will post in the public right of way at the west exit driveway.*
6. *The School should post a sign on their property in advance of the driveway advising motorists that left turns are prohibited.*

As shown below, no significant traffic impacts were identified for Phases 2 & 3.

Future Traffic Conditions With Project (100 students)

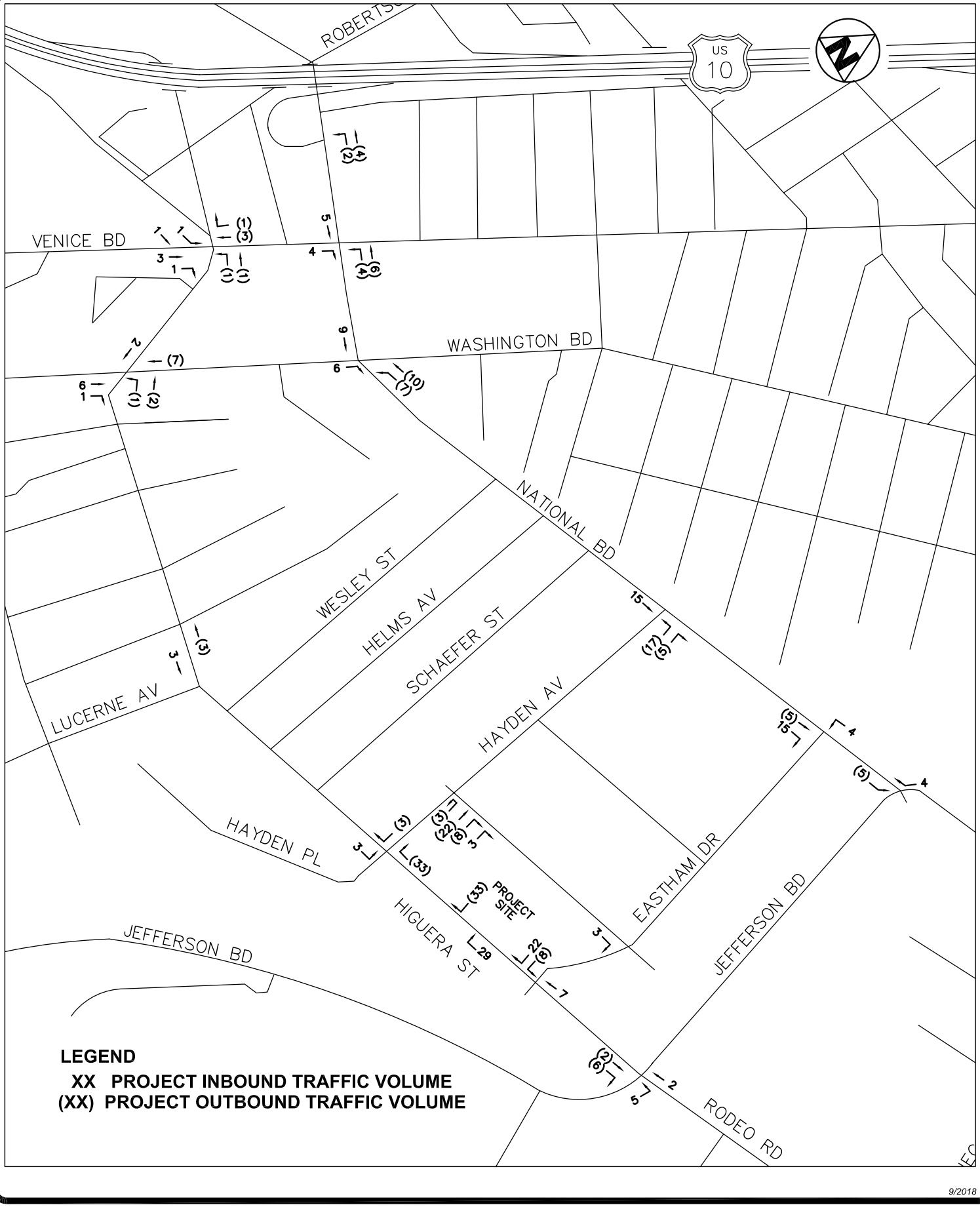
No.	Intersection	Peak Hour	Future Without ICU-Delay	LOS	Future With Project ICU-Delay	LOS	Impact
1.	National Bd. &	AM	0.799	C	0.803	D	+ 0.004
	Washington Bd.	PM School	0.895	D	0.899	D	+ 0.004
		PM Street	0.975	E	0.976	E	+ 0.001
2.	National Bd. &	AM	0.527	A	0.544	A	+ 0.017
	Hayden Ave.	PM School	0.509	A	0.521	A	+ 0.012
		PM Street	0.591	A	0.596	A	+ 0.005
3.	National Bd. &	AM	0.456	A	0.471	A	+ 0.015
	Eastham Dr.	PM School	0.481	A	0.489	A	+ 0.008
		PM Street	0.470	A	0.474	A	+ 0.004
4.	National Bd. &	AM	1.120	F	1.122	F	+ 0.002
	Jefferson Bd. (City of LA)	PM School	0.874	D	0.876	D	+ 0.002
		PM Street	0.768	C	0.769	C	+ 0.001
5.	Washington Bd. &	AM	0.874	D	0.878	D	+ 0.004
	Robertson / Higuera	PM School	0.658	B	0.691	B	+ 0.003
		PM Street	0.762	C	0.764	C	+ 0.002
6.	Warner Dr. &	AM	0.651	B	0.670	B	+ 0.019
			WB 199.7"	F	WB 236.4 "	F	+ 36.7 "
	Hayden Ave.	PM School	0.384	A	0.400	A	+ 0.016
			WB 18.2 "	C	WB 19.2 "	C	+ 1.0 "
		PM Street	0.488	A	0.495	A	+ 0.007
			WB 28.2 "	D	WB 29.2 "	D	+ 1.0 "
7.	Higuera St. &	AM	0.724	C	0.756	C	+ 0.032
			28.6 "	D	35.6 "	E	+ 7.0 "
	Hayden Ave.	PM School	0.502	A	0.527	A	+ 0.025
			12.0 "	B	12.6 "	B	+ 0.6 "
		PM Street	0.641	B	0.653	B	+ 0.012
			20.0 "	C	20.7 "	C	+ 0.7 "
8.	Higuera St. &	AM	0.664	B	0.678	B	+ 0.014
	Eastham Dr.	PM School	0.427	A	0.437	A	+ 0.010
		PM Street	0.574	A	0.577	A	+ 0.003
9.	Jefferson Bd. &	AM	0.789	C	0.791	C	+ 0.002
	Rodeo Rd. (City of LA)	PM School	0.773	C	0.774	C	+ 0.001
		PM Street	0.859	D	0.860	D	+0.001



9/2018

WCS PHASES 2 AND 3 (100 STUDENTS)
AM PEAK HOUR PROJECT TRAFFIC VOLUME

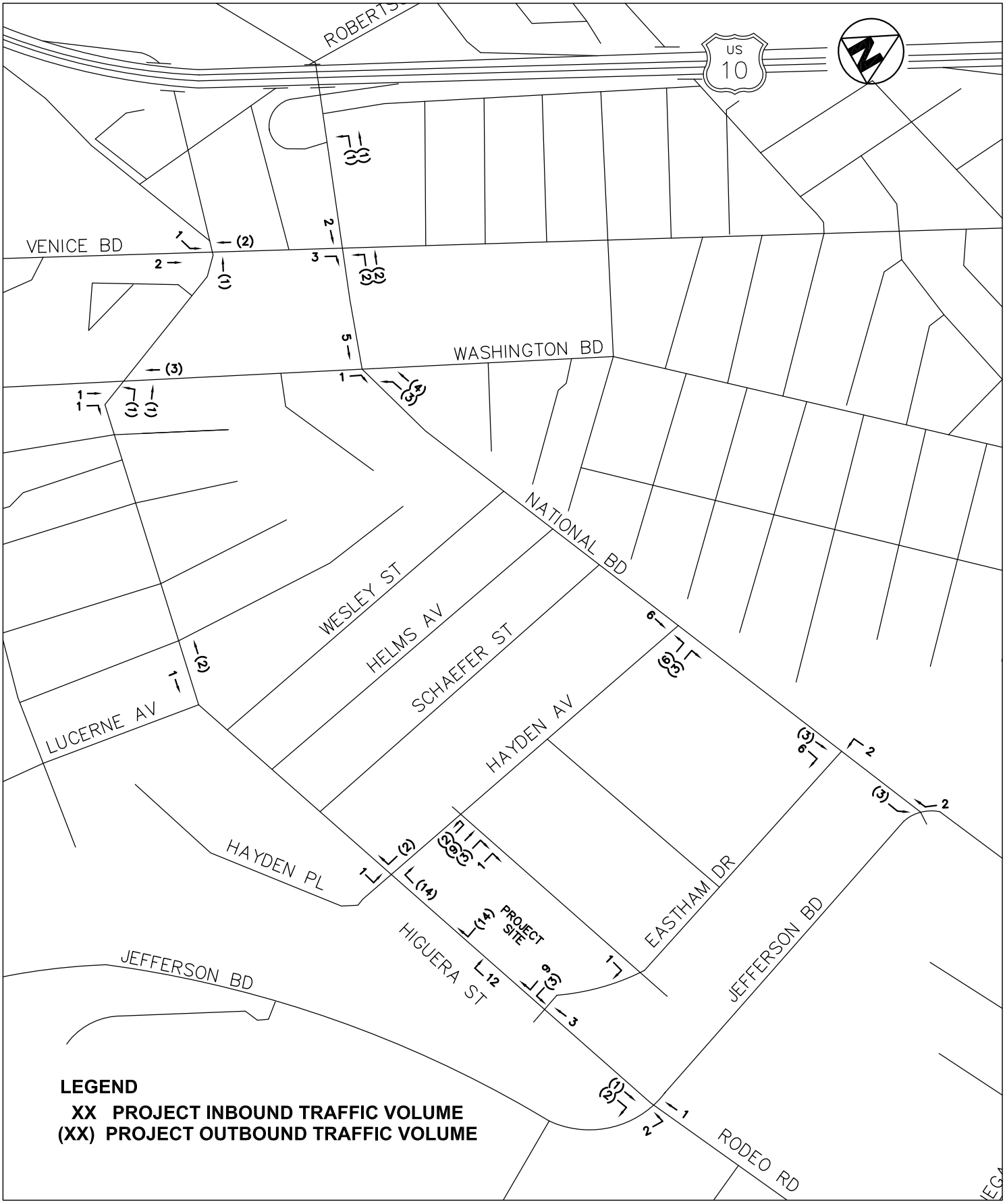
Overland Traffic Consultants, Inc.
24325 Main Street, #202, Santa Clarita, CA 91321
(661) 799 - 8423, OTC@overlandtraffic.com



9/2018

WCS PHASES 2 AND 3 (100 STUDENTS)
PM SCHOOL PEAK HOUR PROJECT TRAFFIC VOLUME

Overland Traffic Consultants, Inc.
24325 Main Street, #202, Santa Clarita, CA 91321
(661) 799 - 8423, OTC@overlandtraffic.com



9/2018

WCS PHASES 2 AND 3 (100 STUDENTS)
PM STREET PEAK HOUR PROJECT TRAFFIC VOLUME

Overland Traffic Consultants, Inc.
24325 Main Street, #202, Santa Clarita, CA 91321
(661) 799 - 8423, OTC@overlandtraffic.com

LOS WORKSHEETS

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND WASHINGTON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phases 2 & 3

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	58	1	61	0	120	0.075			64	1	90	0	155	0.097		
NB THRU	2	3,200	667	13	104	0	784	0.245	*		1025	21	138	0	1184	0.370	*	
NB RIGHT	1	1600	210	4	20	8	242	0.151			228	5	101	1	335	0.209		
										0.407								0.559
SB LEFT	1	1,600	133	3	123	0	259	0.162	*		193	4	105	0	302	0.189	*	
SB THRU	3	4,800	815	16	124	0	955	0.235			636	13	168	0	817	0.208		
SB RIGHT	0	0	146	3	24	0	173	0.000			124	2	56	0	182	0.000		
EB LEFT	2	2,880	115	2	71	9	197	0.069			161	3	88	3	255	0.089		
EB THRU	2	3,200	599	12	175	12	798	0.296	*		725	15	125	4	869	0.322	*	
EB RIGHT	0	0	103	2	44	0	149	0.000			50	1	111	0	162	0.000		
										0.396								0.417
WB LEFT	2	2,880	200	4	83	0	287	0.100	*		157	3	113	0	273	0.095	*	
WB THRU	2	3,200	717	14	104	18	853	0.267			624	12	176	5	817	0.255		
WB RIGHT	1	1,600	61	1	68	0	130	0.081			194	4	108	0	306	0.191		

NORTH/SOUTH CRITICAL SUM			0.407
EAST/WEST CRITICAL SUM			0.396
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.903
LESS 0.10 FOR ATSAC/ATCS			0.803
	AM INTERSECTION LOS		D
	AM IMPACT		0.004

NORTH/SOUTH CRITICAL SUM			0.559
EAST/WEST CRITICAL SUM			0.417
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			1.076
LESS 0.10 FOR ATSAC/ATCS			0.976
	PM INTERSECTION LOS		E
	PM IMPACT		0.001

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND WASHINGTON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project Phases 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	50	1	90	0	141	0.088		
NB THRU	2	3,200	845	17	138	0	1000	0.312	*	
NB RIGHT	1	1600	268	5	101	6	380	0.238		
										0.485
SB LEFT	1	1,600	169	3	105	0	277	0.173	*	
SB THRU	3	4,800	527	11	168	0	706	0.191		
SB RIGHT	0	0	151	3	56	0	210	0.000		
EB LEFT	2	2,880	138	3	88	0	229	0.079		
EB THRU	2	3,200	725	15	125	9	874	0.320	*	
EB RIGHT	0	0	40	1	111	0	152	0.000		
										0.414
WB LEFT	2	2,880	148	3	113	7	271	0.094	*	
WB THRU	2	3,200	568	11	176	10	765	0.239		
WB RIGHT	1	1,600	114	2	108	0	224	0.14		

NORTH/SOUTH CRITICAL SUM		0.485
EAST/WEST CRITICAL SUM		0.414
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.999
LESS 0.10 FOR ATSAC/ATCS		0.899
	PM INTERSECTION LOS	D
	PM IMPACT	0.004

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phases 2 & 3

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	1.5	2,400	277	6	2	21	306	0.127 *		423	8	20	6	457	0.191 *	
NB THRU	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
NB RIGHT	0.5	800	69	1	0	6	76	0.095		96	2	0	3	101	0.126	
									0.127							0.191
SB LEFT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
SB THRU	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
SB RIGHT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
EB LEFT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
EB THRU	2	3,200	508	10	312	26	856	0.268 *		899	18	319	6	1242	0.388 *	
EB RIGHT	1	1,600	286	6	6	0	298	0.186		298	6	12	0	316	0.197	
									0.417							0.405
WB LEFT	1	1,600	234	5	0	0	239	0.149 *		26	1	0	0	27	0.017 *	
WB THRU	2	3,200	867	17	255	0	1139	0.356		385	8	366	0	759	0.237	
WB RIGHT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	

NORTH/SOUTH CRITICAL SUM		0.127	NORTH/SOUTH CRITICAL SUM	0.191
EAST/WEST CRITICAL SUM		0.417	EAST/WEST CRITICAL SUM	0.405
CLEARANCE INTERVAL		0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE		0.644	INTERSECTION ICU VALUE	0.696
LESS 0.10 FOR ATSAC/ATCS		0.544	LESS 0.10 FOR ATSAC/ATCS	0.596
	AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
	AM IMPACT	0.017	PM IMPACT	0.005

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phases 2 & 3

MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	SCHOOL PM PEAK HOUR TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	275	6	20	17	318	0.132	*	
NB THRU	0	0	0	0	0	0	0	0.000		
NB RIGHT	0.5	800	94	2	0	5	101	0.126		
										0.132
SB LEFT	0	0	0	0	0	0	0	0.000		
SB THRU	0	0	0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000		
EB THRU	2	3,200	851	17	319	15	1202	0.376	*	
EB RIGHT	1	1,600	217	4	12	0	233	0.146		
										0.389
WB LEFT	1	1,600	20	0	0	0	20	0.013	*	
WB THRU	2	3,200	427	9	366	0	802	0.250		
WB RIGHT	0	0	0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM		0.132
EAST/WEST CRITICAL SUM		0.389
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.621
LESS 0.10 FOR ATSAC/ATCS		0.521
	PM INTERSECTION LOS	A
	PM IMPACT	0.012

EXIST + AMB + REL + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phases 2 & 3

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	1	1,600	32	1	0	0	33	0.020		43	1	0	0	44	0.027	
NB THRU	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
NB RIGHT	1	1600	45	1	2	0	48	0.030	*	64	1	20	0	85	0.053	
									0.030							0.053
SB LEFT	0	0	0	0	0	0	0	0.000	*	0	0	0	0	0	0.000	
SB THRU	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
SB RIGHT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
EB LEFT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	
EB THRU	2	3,200	431	9	318	6	764	0.288	*	772	15	331	3	1121	0.398	*
EB RIGHT	0	0	128	3	0	28	159	0.000		143	3	0	6	152	0.000	
									0.441							0.421
WB LEFT	1	1,600	227	5	6	7	245	0.153	*	23	0	12	2	37	0.023	*
WB THRU	2	3,200	1016	20	255	0	1291	0.404		483	10	366	0	859	0.268	
WB RIGHT	0	0	0	0	0	0	0	0.000		0	0	0	0	0	0.000	

NORTH/SOUTH CRITICAL SUM			0.030
EAST/WEST CRITICAL SUM			0.441
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.571
LESS 0.10 FOR ATSAC/ATCS			0.471
	AM INTERSECTION LOS		A
	AM IMPACT		0.015

NORTH/SOUTH CRITICAL SUM			0.053
EAST/WEST CRITICAL SUM			0.421
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.574
LESS 0.10 FOR ATSAC/ATCS			0.474
	PM INTERSECTION LOS		A
	PM IMPACT		0.004

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project Phase 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	42	1	0	0	43	0.027		
NB THRU	0	0	0	0	0	0	0	0.000		
NB RIGHT	1	1600	65	1	20	0	86	0.054		
										0.054
SB LEFT	0	0	0	0	0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000		
EB THRU	2	3,200	793	16	331	5	1145	0.408	*	
EB RIGHT	0	0	143	3	0	15	161	0.000		
										0.435
WB LEFT	1	1,600	27	1	12	4	44	0.027	*	
WB THRU	2	3,200	452	9	366	0	827	0.258		
WB RIGHT	0	0	0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM		0.054
EAST/WEST CRITICAL SUM		0.435
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.589
LESS 0.10 FOR ATSAC/ATCS		0.489
	PM INTERSECTION LOS	A
	PM IMPACT	0.008

EXIST + AMB + RELATED + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phase 2 & 3

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	376	8	55	0	439	0.274	*		190	4	70	0	264	0.165	*	
NB THRU	2	3,200	656	13	79	0	748	0.234			944	19	193	0	1156	0.361		
NB RIGHT	1	1600	0	0	47	0	47	0.029			0	0	8	0	8	0.005		
										0.963								0.447
SB LEFT	1	1,600	0	0	47	0	47	0.029			1	0	17	0	18	0.011		
SB THRU	1	1,600	841	17	245	0	1103	0.689	*		292	6	153	0	451	0.282	*	
SB RIGHT	1	1,600	775	16	185	7	983	0.614			216	4	184	2	406	0.254		
EB LEFT	1.5	2,400	253	5	109	6	373	0.155	*		471	9	227	3	710	0.296	*	
EB THRU	0.5	800	0	0	142	0	142	0.000			0	0	25	0	25	0.000		
EB RIGHT	1	1,600	238	5	67	0	310	0.057			430	9	79	0	518	0.241		
										0.159								0.322
WB LEFT	0.5	800	0	0	6	0	6	0.008			0	0	41	0	41	0.051		
WB THRU	0.5	800	0	0	21	0	21	0.000			0	0	124	0	124	0.000		
WB RIGHT	1	1,600	0	0	6	0	6	0.004	*		0	0	41	0	41	0.026		

*E/B right overlap N/B left = 0.5 N/B left

NORTH/SOUTH CRITICAL SUM		0.963	0.447
EAST/WEST CRITICAL SUM		0.159	0.322
CLEARANCE INTERVAL		0.100	0.100
INTERSECTION ICU VALUE		1.222	0.869
LESS 0.10 FOR ATSAC/ATCS		1.122	0.769
	AM INTERSECTION LOS	F	
	AM IMPACT	0.002	
	PM INTERSECTION LOS		C
	PM IMPACT		0.001

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: NATIONAL BOULEVARD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project Phase 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	237	5	70	0	312	0.195	*	
NB THRU	2	3,200	792	16	193	0	1001	0.313		
NB RIGHT	1	1600	0	0	8	0	8	0.005		
										0.485
SB LEFT	1	1,600	2	0	17	0	19	0.012		
SB THRU	1	1,600	305	6	153	0	464	0.290	*	
SB RIGHT	1	1,600	198	4	184	4	390	0.244		
EB LEFT	1.5	2,400	450	9	227	5	691	0.288	*	
EB THRU	0.5	800	0	0	25	0	25	0.000		
EB RIGHT	1	1,600	383	8	79	0	470	0.196		
										0.391
WB LEFT	0	0	0	0	41	0	41	0.000		
WB THRU	1	1600	0	0	124	0	124	0.103		
WB RIGHT	1	1,600	0	0	41	0	41	0.026		

* e/b right overlap = .5 n/b left

NORTH/SOUTH CRITICAL SUM		0.485
EAST/WEST CRITICAL SUM		0.391
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.976
LESS 0.10 FOR ATSAC/ATCS		0.876
	PM INTERSECTION LOS	D
	PM IMPACT	0.002

EXIST + AMB + RELATED + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WASHINGTON BOULEVARD AND ROBERTSON / HIGUERA
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phase 2 & 3

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	68	1	12	0	81	0.051	*		128	3	75	0	206	0.128	*	
NB THRU	2	3,200	768	15	89	11	883	0.310			1016	20	169	1	1206	0.400		
NB RIGHT	0	0	101	2	2	3	108	0.000			67	1	5	1	74	0.000		
										0.478								0.471
SB LEFT	1	1,600	86	2	2	0	90	0.056			74	1	5	0	80	0.05		
SB THRU	2	3,200	812	16	184	9	1021	0.427	*		638	13	176	3	830	0.343	*	
SB RIGHT	0	0	181	4	162	0	347	0.000			132	3	134	0	269	0.000		
EB LEFT	1	1,600	144	3	171	0	318	0.199	*		124	2	98	0	224	0.14	*	
EB THRU	1	1,600	331	7	8	2	348	0.217			253	5	17	0	275	0.172		
EB RIGHT	1	1,600	68	1	70	0	139	0.087			74	1	38	0	113	0.071		
										0.400								0.293
WB LEFT	1	1,600	49	1	5	2	57	0.036			29	1	5	1	36	0.022		
WB THRU	1	1600	308	6	5	2	321	0.201	*		234	5	5	1	245	0.153	*	
WB RIGHT	1	1,600	93	2	0	0	95	0.059			79	2	0	0	81	0.05		

NORTH/SOUTH CRITICAL SUM			0.478
EAST/WEST CRITICAL SUM			0.400
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.978
LESS 0.10 FOR ATSAC/ATCS			0.878
	AM INTERSECTION LOS		D
	AM IMPACT		0.004

NORTH/SOUTH CRITICAL SUM			0.471
EAST/WEST CRITICAL SUM			0.293
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.864
LESS 0.10 FOR ATSAC/ATCS			0.764
	PM INTERSECTION LOS		C
	PM IMPACT		0.002

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WASHINGTON BOULEVARD AND ROBERTSON / HIGUERA
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project Phase 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	74	1	75	0	150	0.094		
NB THRU	2	3,200	929	19	169	6	1123	0.371	*	
NB RIGHT	0	0	59	1	5	1	66	0.000		
										0.414
SB LEFT	1	1,600	63	1	5	0	69	0.043	*	
SB THRU	2	3,200	559	11	176	7	753	0.235		
SB RIGHT	0	0	120	2	134	0	256	0.000		
EB LEFT	1	1,600	144	3	98	0	245	0.153	*	
EB THRU	1	1,600	227	5	17	2	251	0.157		
EB RIGHT	1	1,600	59	1	38	0	98	0.061		
										0.247
WB LEFT	1	1,600	30	1	5	1	37	0.023		
WB THRU	1	1600	141	3	5	2	151	0.094	*	
WB RIGHT	1	1,600	72	1	0	0	73	0.046		

NORTH/SOUTH CRITICAL SUM		0.414
EAST/WEST CRITICAL SUM		0.247
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.761
LESS 0.07 FOR ATSAC		0.691
	PM INTERSECTION LOS	B
	PM IMPACT	0.003

EXIST + AMB + RELATED + PROJECT

HCS7 Two-Way Stop-Control Report

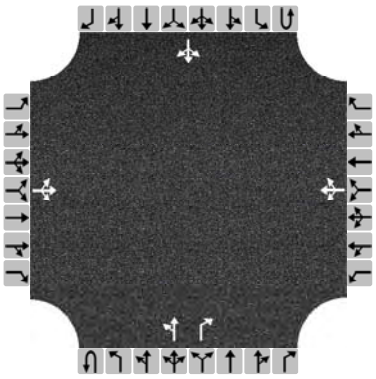
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Time Analyzed	AM PEAK HOUR + PROJECT
Intersection Orientation	North-South
Project Description	WCS Phase 2 and 3

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		1	0	4		215	0	40		18	512	155		53	233	3
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5				277			20				58		
Capacity, c (veh/h)			418				203			1246				912		
v/c Ratio			0.01				1.36			0.02				0.06		
95% Queue Length, Q_{95} (veh)			0.0				15.8			0.0				0.2		
Control Delay (s/veh)			13.7				236.4			7.9				9.2		
Level of Service, LOS			B				F			A				A		
Approach Delay (s/veh)		13.7				236.4				0.4				2.2		
Approach LOS		B				F										

HCS7 Two-Way Stop-Control Report

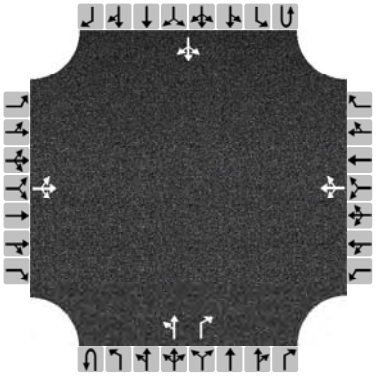
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Time Analyzed	PM SCHOOL PEAK + PROJECT
Intersection Orientation	North-South
Project Description	WCS Phase 2 & 3

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		3	1	6		67	1	48		13	341	182		63	106	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			11				126			14				68		
Capacity, c (veh/h)			449				379			1405				1069		
v/c Ratio			0.02				0.33			0.01				0.06		
95% Queue Length, Q_{95} (veh)			0.1				1.4			0.0				0.2		
Control Delay (s/veh)			13.2				19.2			7.6				8.6		
Level of Service, LOS			B				C			A				A		
Approach Delay (s/veh)		13.2				19.2				0.3				3.6		
Approach LOS		B				C										

HCS7 Two-Way Stop-Control Report

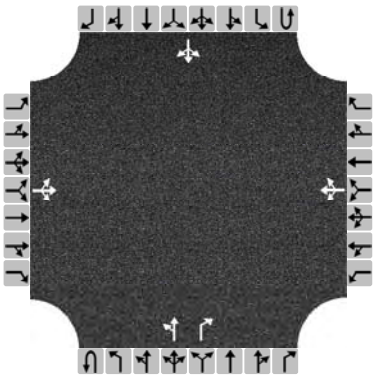
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Time Analyzed	PM PEAK HOUR + PROJECT
Intersection Orientation	North-South
Project Description	WCS Phase 2 & 3

Site Information

Intersection	Hayden Ave & Warner Dr
Jurisdiction	Culver City
East/West Street	Warner Drive
North/South Street	Hayden Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	1	0	0	1	0
Configuration			LTR				LTR			LT		R			LTR	
Volume, V (veh/h)		7	2	10		79	0	76		14	360	152		109	153	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				Yes				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			21				168			15				118		
Capacity, c (veh/h)			305				312			1346				1051		
v/c Ratio			0.07				0.54			0.01				0.11		
95% Queue Length, Q_{95} (veh)			0.2				3.0			0.0				0.4		
Control Delay (s/veh)			17.7				29.2			7.7				8.9		
Level of Service, LOS			C				D			A				A		
Approach Delay (s/veh)		17.7				29.2				0.3				4.3		
Approach LOS		C				D										

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WARNER DRIVE & HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phase 2 & 3

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	0	0	14	0	0	4	18	0.000		12	0	0	2	14	0.000	
NB THRU	1	1600	475	10	0	27	512	0.331	*	344	7	0	9	360	0.234	*
NB RIGHT	1	1600	137	3	0	15	155	0.097		145	3	0	4	152	0.095	
									0.511							0.398
SB LEFT	0	0	46	1	6	0	53	0.000		95	2	12	0	109	0.000	
SB THRU	1	1,600	228	5	0	0	233	0.180	*	150	3	0	0	153	0.164	*
SB RIGHT	0	0	3	0	0	0	3	0.000		0	0	0	0	0	0.000	
EB LEFT	0	0	1	0	0	0	1	0.000		7	0	0	0	7	0.000	
EB THRU	1	1,600	0	0	0	0	0	0.000		2	0	0	0	2	0.000	
EB RIGHT	0	0	4	0	0	0	4	0.000		10	0	0	0	10	0.000	
									0.159							0.097
WB LEFT	0	0	211	4	0	0	215	0.000		77	2	0	0	79	0.000	
WB THRU	1	1600	0	0	0	0	0	0.159	*	0	0	0	0	0	0.097	*
WB RIGHT	0	0	37	1	2	0	40	0.000		55	1	20	0	76	0.000	

NORTH/SOUTH CRITICAL SUM			0.511
EAST/WEST CRITICAL SUM			0.159
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.770
LESS 0.10 FOR ATSAC/ATCS			0.670
	AM INTERSECTION LOS		B
	AM IMPACT		0.019

NORTH/SOUTH CRITICAL SUM			0.398
EAST/WEST CRITICAL SUM			0.097
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.595
LESS 0.10 FOR ATSAC/ATCS			0.495
	PM INTERSECTION LOS		A
	PM IMPACT		0.007

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: WARNER DRIVE & HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project Phase 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	10	0	0	3	13	0.000		
NB THRU	1	1600	313	6	0	22	341	0.222		
NB RIGHT	1	1600	168	3	0	11	182	0.114		
										0.328
SB LEFT	0	0	50	1	12	0	63	0.000		
SB THRU	1	1,600	104	2	0	0	106	0.106	*	
SB RIGHT	0	0	0	0	0	0	0	0.000		
EB LEFT	0	0	3	0	0	0	3	0.000		
EB THRU	1	1,600	1	0	0	0	1	0.000		
EB RIGHT	0	0	6	0	0	0	6	0.000		
										0.072
WB LEFT	0	0	66	1	0	0	67	0.000		
WB THRU	1	1600	1	0	0	0	1	0.072	*	
WB RIGHT	0	0	27	1	20	0	48	0.000		

NORTH/SOUTH CRITICAL SUM		0.328
EAST/WEST CRITICAL SUM		0.072
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.500
LESS 0.10 FOR ATSAC/ATCS		0.400
	PM INTERSECTION LOS	A
	PM IMPACT	0.016

EXIST + AMB + RELATED + PROJECT

HCS7 All-Way Stop Control Report

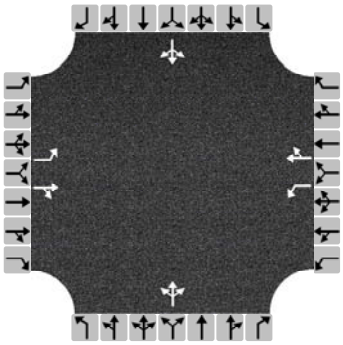
General Information

Analyst	JTO
Agency/Co.	OTC INC
Date Performed	9/18/2018
Analysis Year	2020
Analysis Time Period (hrs)	0.25
Time Analyzed	AM PEAK HOUR + PROJECT
Project Description	WCS Phase 2 & 3

Site Information

Intersection	HIGUERA ST & HAYDEN AVE
Jurisdiction	CULVER CITY
East/West Street	HIGUERA STREET
North/South Street	HAYDEN AVENUE
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	227	21	119	106	14	426	2	37	67	3	57	391
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	247	152		115	478		115			490		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.219	0.135		0.102	0.425		0.102			0.436		
Final Departure Headway, hd (s)	8.61	7.47		8.25	7.03		8.17			6.62		
Final Degree of Utilization, x	0.590	0.316		0.264	0.934		0.262			0.901		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	6.31	5.17		5.95	4.73		6.17			4.62		

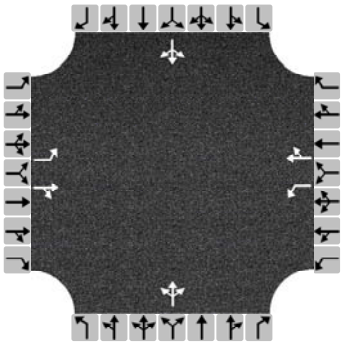
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	247	152		115	478		115			490		
Capacity	418	482		436	512		440			544		
95% Queue Length, Q_{95} (veh)	3.7	1.3		1.0	11.5		1.0			10.6		
Control Delay (s/veh)	22.9	13.6		13.9	51.3		14.0			43.8		
Level of Service, LOS	C	B		B	F		B			E		
Approach Delay (s/veh)	19.4			44.0			14.0			43.8		
Approach LOS	C			E			B			E		
Intersection Delay, s/veh | LOS	35.6						E					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	JTO	Intersection	HIGUERA ST & HAYDEN AVE
Agency/Co.	OTC INC	Jurisdiction	CULVER CITY
Date Performed	9/18/2018	East/West Street	HIGUERA STREET
Analysis Year	2020	North/South Street	HAYDEN AVENUE
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM SCHOOL PEAK + PROJECT		
Project Description	WCS Phase 2 & 3		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	198	51	109	53	12	247	2	81	116	4	43	152
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	215	174		58	282		216			216		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.191	0.155		0.051	0.250		0.192			0.192		
Final Departure Headway, hd (s)	6.91	5.91		7.01	5.82		5.94			5.84		
Final Degree of Utilization, x	0.413	0.285		0.112	0.455		0.357			0.351		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	4.61	3.61		4.71	3.52		3.94			3.84		

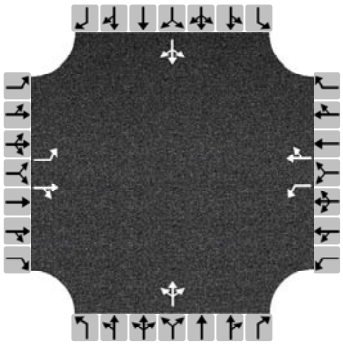
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	215	174		58	282		216			216		
Capacity	521	609		513	618		606			617		
95% Queue Length, Q_{95} (veh)	2.0	1.2		0.4	2.4		1.6			1.6		
Control Delay (s/veh)	14.4	11.0		10.6	13.3		12.2			12.0		
Level of Service, LOS	B	B		B	B		B			B		
Approach Delay (s/veh)	12.8			12.8			12.2			12.0		
Approach LOS	B			B			B			B		
Intersection Delay, s/veh | LOS	12.6						B					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	JTO	Intersection	HIGUERA ST & HAYDEN AVE
Agency/Co.	OTC INC	Jurisdiction	CULVER CITY
Date Performed	9/18/2018	East/West Street	HIGUERA STREET
Analysis Year	2020	North/South Street	HAYDEN AVENUE
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM PEAK HOUR + PROJECT		
Project Description	WCS Phase 2 & 3		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	186	57	170	30	12	200	1	149	263	10	54	182
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		LTR			LTR		
Flow Rate, v (veh/h)	202	247		33	230		449			267		
Percent Heavy Vehicles	2	2		2	2		2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.180	0.219		0.029	0.205		0.399			0.238		
Final Departure Headway, hd (s)	8.12	7.05		8.49	7.28		6.40			6.83		
Final Degree of Utilization, x	0.456	0.484		0.077	0.466		0.798			0.507		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.0			2.0		
Service Time, ts (s)	5.82	4.75		6.19	4.98		4.40			4.83		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	202	247		33	230		449			267		
Capacity	444	510		424	494		562			527		
95% Queue Length, Q_{95} (veh)	2.3	2.6		0.2	2.4		7.7			2.8		
Control Delay (s/veh)	17.4	16.2		11.9	16.2		30.0			16.7		
Level of Service, LOS	C	C		B	C		D			C		
Approach Delay (s/veh)	16.7			15.7			30.0			16.7		
Approach LOS	C			C			D			C		
Intersection Delay, s/veh | LOS	20.7						C					

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phase 2 & 3

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	0	0	2	0	0	0	2	0.000		1	0	0	0	1	0.000	
NB THRU	1	1600	36	1	0	0	37	0.066	*	146	3	0	0	149	0.258	*
NB RIGHT	0	0	66	1	0	0	67	0.000		258	5	0	0	263	0.000	
									0.348							0.412
SB LEFT	0	0	3	0	0	0	3	0.000		10	0	0	0	10	0.000	
SB THRU	1	1,600	56	1	0	0	57	0.282	*	53	1	0	0	54	0.154	*
SB RIGHT	0	0	379	8	0	4	391	0.000		176	4	0	2	182	0.000	
EB LEFT	1	1,600	218	4	0	5	227	0.142	*	181	4	0	1	186	0.116	*
EB THRU	0	0	10	0	11	0	21	0.000		29	1	27	0	57	0.000	
EB RIGHT	1	1,600	117	2	0	0	119	0.075		167	3	0	0	170	0.106	
									0.408							0.241
WB LEFT	1	1,600	104	2	0	0	106	0.066		29	1	0	0	30	0.018	
WB THRU	0	0	4	0	10	0	14	0.000		2	0	10	0	12	0.000	
WB RIGHT	1	1,600	377	8	0	41	426	0.266	*	182	4	0	14	200	0.125	*

NORTH/SOUTH CRITICAL SUM		0.348	
EAST/WEST CRITICAL SUM		0.408	
CLEARANCE INTERVAL		0.100	
INTERSECTION ICU VALUE		0.856	
LESS 0.10 FOR ATSAC/ATCS		0.756	
	AM INTERSECTION LOS	C	
	AM IMPACT	0.032	

NORTH/SOUTH CRITICAL SUM		0.412	
EAST/WEST CRITICAL SUM		0.241	
CLEARANCE INTERVAL		0.100	
INTERSECTION ICU VALUE		0.753	
LESS 0.10 FOR ATSAC/ATCS		0.653	
	PM INTERSECTION LOS	B	
	PM IMPACT	0.012	

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND HAYDEN AVENUE
EXISTING + AMBIENT GROWTH + RELATED
Future (2020) With Project Phase 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	2	0	0	0	2	0.000		
NB THRU	1	1600	79	2	0	0	81	0.124	*	
NB RIGHT	0	0	114	2	0	0	116	0.000		
										0.248
SB LEFT	0	0	4	0	0	0	4	0.000		
SB THRU	1	1,600	42	1	0	0	43	0.124	*	
SB RIGHT	0	0	146	3	0	3	152	0.000		
EB LEFT	1	1,600	191	4	0	3	198	0.124	*	
EB THRU	0	0	23	0	27	0	50	0.000		
EB RIGHT	1	1,600	107	2	0	0	109	0.068		
										0.279
WB LEFT	1	1,600	53	1	0	0	54	0.034		
WB THRU	0	0	2	0	10	0	12	0.000		
WB RIGHT	1	1,600	210	4	0	33	247	0.155	*	

NORTH/SOUTH CRITICAL SUM		0.248
EAST/WEST CRITICAL SUM		0.279
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.627
LESS 0.10 FOR ATSAC/ATCS		0.527
	PM INTERSECTION LOS	A
	PM IMPACT	0.025

EXIST + AMB + RELATED + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phase 2 & 3

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C	CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000		1	0	0	0	1	0.000	
NB THRU	1	1,600	0	0	0	0	0	0.000		6	0	0	0	6	0.000	
NB RIGHT	0	0	2	0	0	0	2	0.000		17	0	0	0	17	0.000	
									0.079							0.380
SB LEFT	1	1,600	95	2	20	10	127	0.079	*	554	11	40	3	608	0.380	*
SB THRU	0	0	1	0	0	0	1	0.000		2	0	0	0	2	0.000	
SB RIGHT	1	1,600	202	4	0	38	244	0.153		29	1	0	9	39	0.024	
EB LEFT	1	1,600	6	0	0	0	6	0.004	*	25	1	0	0	26	0.016	*
EB THRU	2	3,200	95	2	11	0	108	0.034		379	8	27	0	414	0.130	
EB RIGHT	0	0	0	0	0	0	0	0.000		3	0	0	0	3	0.000	
									0.599							0.197
WB LEFT	1	1,600	5	0	0	0	5	0.003		8	0	0	0	8	0.005	
WB THRU	1	1600	481	10	10	12	513	0.595	*	130	3	10	3	146	0.181	*
WB RIGHT	0	0	403	8	28	0	439	0.000		86	2	57	0	145	0.000	

S/B right not part of traffic signal.

NORTH/SOUTH CRITICAL SUM			0.079
EAST/WEST CRITICAL SUM			0.599
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.778
LESS 0.10 FOR ATSAC/ATCS			0.678
	AM INTERSECTION LOS		B
	AM IMPACT		0.014

NORTH/SOUTH CRITICAL SUM			0.380
EAST/WEST CRITICAL SUM			0.197
CLEARANCE INTERVAL			0.100
INTERSECTION ICU VALUE			0.677
LESS 0.10 FOR ATSAC/ATCS			0.577
	PM INTERSECTION LOS		A
	PM IMPACT		0.003

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: HIGUERA STREET AND EASTHAM DRIVE
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project Phase 2 & 3

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000		
NB THRU	1	1600	1	0	0	0	1	0.000		
NB RIGHT	0	0	0	0	0	0	0	0.000		
										0.266
SB LEFT	1	1,600	370	7	40	8	425	0.266	*	
SB THRU	0	0	7	0	0	0	7	0.000		
SB RIGHT	1	1,600	99	2	0	22	123	0.077		
EB LEFT	1	1,600	17	0	0	0	17	0.011	*	
EB THRU	2	3,200	166	3	27	0	196	0.062		
EB RIGHT	0	0	3	0	0	0	3	0.000		
										0.171
WB LEFT	1	1,600	7	0	0	0	7	0.004		
WB THRU	1	1600	178	4	10	7	199	0.160	*	
WB RIGHT	0	0	0	0	57	0	57	0.000		

S/B right turn not part of traffic signal.

NORTH/SOUTH CRITICAL SUM		0.266
EAST/WEST CRITICAL SUM		0.171
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.537
LESS 0.10 FOR ATSAC/ATCS		0.437
	PM INTERSECTION LOS	A
	PM IMPACT	0.010

EXIST + AMB + RELATED + PROJECT

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: RODEO ROAD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) With Project Phase 2 & 3

			AM PEAK HOUR								PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	130	3	8	9	150	0.094			54	1	32	2	89	0.056		
NB THRU	2	3,200	646	13	153	0	812	0.254	*		867	17	206	0	1090	0.341	*	
NB RIGHT free	1	1600	411	8	29	0	448	0.280			813	16	72	0	901	0.563		
										0.333								0.459
SB LEFT	1	1,600	112	2	12	0	126	0.079	*		156	3	29	0	188	0.118	*	
SB THRU	2	3,200	808	16	295	0	1119	0.378			490	10	232	0	732	0.236		
SB RIGHT	0	0	78	2	10	0	90	0.000			12	0	10	0	22	0.000		
EB LEFT	1	1,600	28	1	0	0	29	0.018	*		39	1	0	0	40	0.025		
EB THRU	2	3,200	115	2	4	3	124	0.039			755	15	21	1	792	0.248	*	
EB RIGHT	1	1,600	48	1	27	7	83	0.052			137	3	37	2	179	0.112		
										0.458								0.401
WB LEFT	2	2,880	806	16	123	0	945	0.328			354	7	80	0	441	0.153	*	
WB THRU	1	1600	668	13	20	3	704	0.440	*		159	3	25	1	188	0.118		
WB RIGHT	1	1,600	428	9	69	0	506	0.316			125	3	31	0	159	0.099		

NORTH/SOUTH CRITICAL SUM	0.333		NORTH/SOUTH CRITICAL SUM	0.459	
EAST/WEST CRITICAL SUM	0.458		EAST/WEST CRITICAL SUM	0.401	
CLEARANCE INTERVAL	0.100		CLEARANCE INTERVAL	0.100	
INTERSECTION ICU VALUE	0.891		INTERSECTION ICU VALUE	0.960	
LESS 0.10 FOR ATSAC/ATCS	0.791		LESS 0.10 FOR ATSAC/ATCS	0.860	
AM INTERSECTION LOS	C		PM INTERSECTION LOS	D	
AM IMPACT	0.002		PM IMPACT	0.001	

Overland Traffic Consultants, Inc.

THE WILLOWS COMMUNITY SCHOOL
ICU CALCULATIONS

INTERSECTION: RODEO ROAD AND JEFFERSON BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED + PROJECT
Future (2020) with Project

							SCHOOL PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	54	1	32	5	92	0.058		
NB THRU	2	3,200	762	15	206	0	983	0.307	*	
NB RIGHT free	1	1600	806	16	72	0	894	0.559		
										0.457
SB LEFT	1	1,600	207	4	29	0	240	0.15	*	
SB THRU	2	3,200	413	8	232	0	653	0.204		
SB RIGHT	1	1,600	37	1	10	0	48	0.03		
EB LEFT	1	1,600	40	1	0	0	41	0.026		
EB THRU	2	3,200	463	9	21	2	495	0.155	*	
EB RIGHT	1	1,600	63	1	37	6	107	0.067		
										0.317
WB LEFT	2	2,880	380	8	80	0	468	0.162	*	
WB THRU	1	1600	229	5	25	2	261	0.163		
WB RIGHT	1	1,600	196	4	31	0	231	0.144		

NORTH/SOUTH CRITICAL SUM		0.457
EAST/WEST CRITICAL SUM		0.317
CLEARANCE INTERVAL		0.100
INTERSECTION ICU VALUE		0.874
LESS 0.10 FOR ATSAC/ATCS		0.774
	PM INTERSECTION LOS	C
	PM IMPACT	0.001

EXIST + AMB + RELATED + PROJECT