

APPENDIX F

**TRAFFIC IMPACT STUDY
FOR
LOS RIOS COMMUNITY COLLEGE DISTRICT
AMERICAN RIVER COLLEGE NATOMAS CENTER
PARKING LOT EXPANSION AND PHASE 2 AND 3 BUILDOUT**

Sacramento, CA

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**TRAFFIC IMPACT ANALYSIS FOR
LOS RIOS COMMUNITY COLLEGE DISTRICT
AMERICAN RIVER COLLEGE NATOMAS CENTER
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TABLE OF CONTENTS

| | |
|--|-----------|
| INTRODUCTION..... | 1 |
| Study Purpose and Project Description..... | 1 |
| Overall Analysis Approach..... | 1 |
| EXISTING PHYSICAL AND REGULATORY SETTING | 6 |
| Study Area | 6 |
| Bicycle and Pedestrian Facilities | 7 |
| Transit Service | 7 |
| Evaluation Methodology..... | 7 |
| Regulatory Setting | 8 |
| Existing Traffic Conditions and Levels of Service | 10 |
| PROJECT CHARACTERISTICS | 13 |
| Trip Generation..... | 13 |
| Trip Distribution | 14 |
| Trip Assignment | 14 |
| EXISTING PLUS PENDING PROJECT (BASELINE) CONDITIONS | 16 |
| Travel characteristics | 16 |
| PROJECT IMPACTS | 16 |
| Baseline Plus Project Traffic Conditions | 16 |
| Impacts to Alternative Transportation Modes | 20 |
| Construction Impacts | 20 |
| Vehicle Miles Traveled (VMT) | 21 |
| SUMMARY AND CONCLUSIONS | 22 |
| APPENDICES | 25 |

**TRAFFIC IMPACT ANALYSIS
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INTRODUCTION

Study Purpose and Project Description

This traffic impact study presents an analysis of the traffic related impacts associated with development of new facilities on the Los Rios Community College District's American River College Natomas Center campus. The campus is located on the north side of Del Paso Road between East Commerce Drive and Truxel Road. The project includes construction of a new parking lot to serve the Natomas Center and the adjoining Inderkum High School as well as a new building providing lecture space, lab space and miscellaneous support space in a manner that is consistent with the American River College Facilities Master Plan. The parking lot will total 564 spaces to be allocated between the Natomas Center and the high school. The new building will be a multi-story facility totaling 49,800 gross square feet and containing approximately 31,077 assignable square feet. Figure 1 displays the regional location of the project site, and Figures 2a and 2b display the project site plan.

Overall Analysis Approach

This traffic impact study presents an analysis of a.m. and p.m. peak hour traffic operations under the following scenarios:

- Existing Conditions,
- Existing Plus Adjoining Pending Project (EPAPP) Conditions
- EPAPP plus Project Conditions

Impact analysis criteria identified under City of Sacramento traffic study guidelines have been employed.

The City of Sacramento North Natomas Community Center and Aquatics Complex (NNCCAC) is a pending project located in the study area. This project is located north of the proposed project along the planned extension of New Market Drive from Town Center Drive to Via Ingoglia. A transportation analysis was conducted for the NNCCAC project¹ and information therein has been incorporated in this traffic impact analysis.

Cumulative traffic conditions were previously addressed for the American River College Facilities Master Plan's original environmental review. Because the proposed project is consistent with the Facilities Master Plan, its cumulative traffic impacts have already been

¹ Transportation Analysis for North Natomas Community Center and Aquatics Complex, DKS, October 26, 2017

assessed and applicable mitigation measures identified. No new cumulative analysis has been undertaken.

Study Area Intersections. The quality of traffic flow is typically governed by the operation of intersections along arterial and collector street systems. To quantitatively evaluate traffic conditions and to provide a basis for comparison of operating conditions with and without traffic generated by the proposed project, traffic operations at the following four (4) study area intersections were evaluated:

- Del Paso Road / Town Center Drive
- Del Paso Road / Via Ingoglia
- Del Paso Road / Five Star Way
- Del Paso Road / Truxel Road / Natomas Blvd

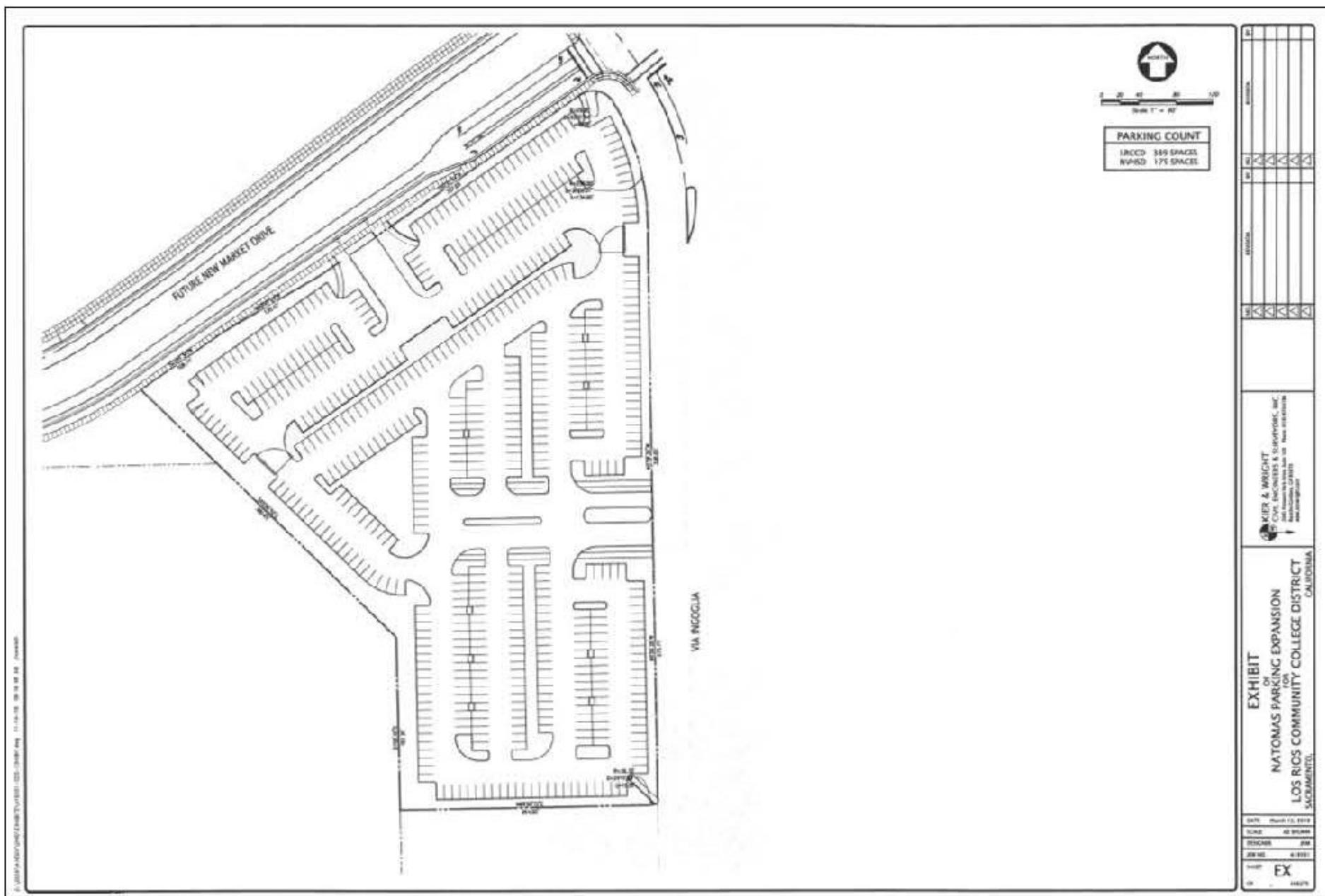


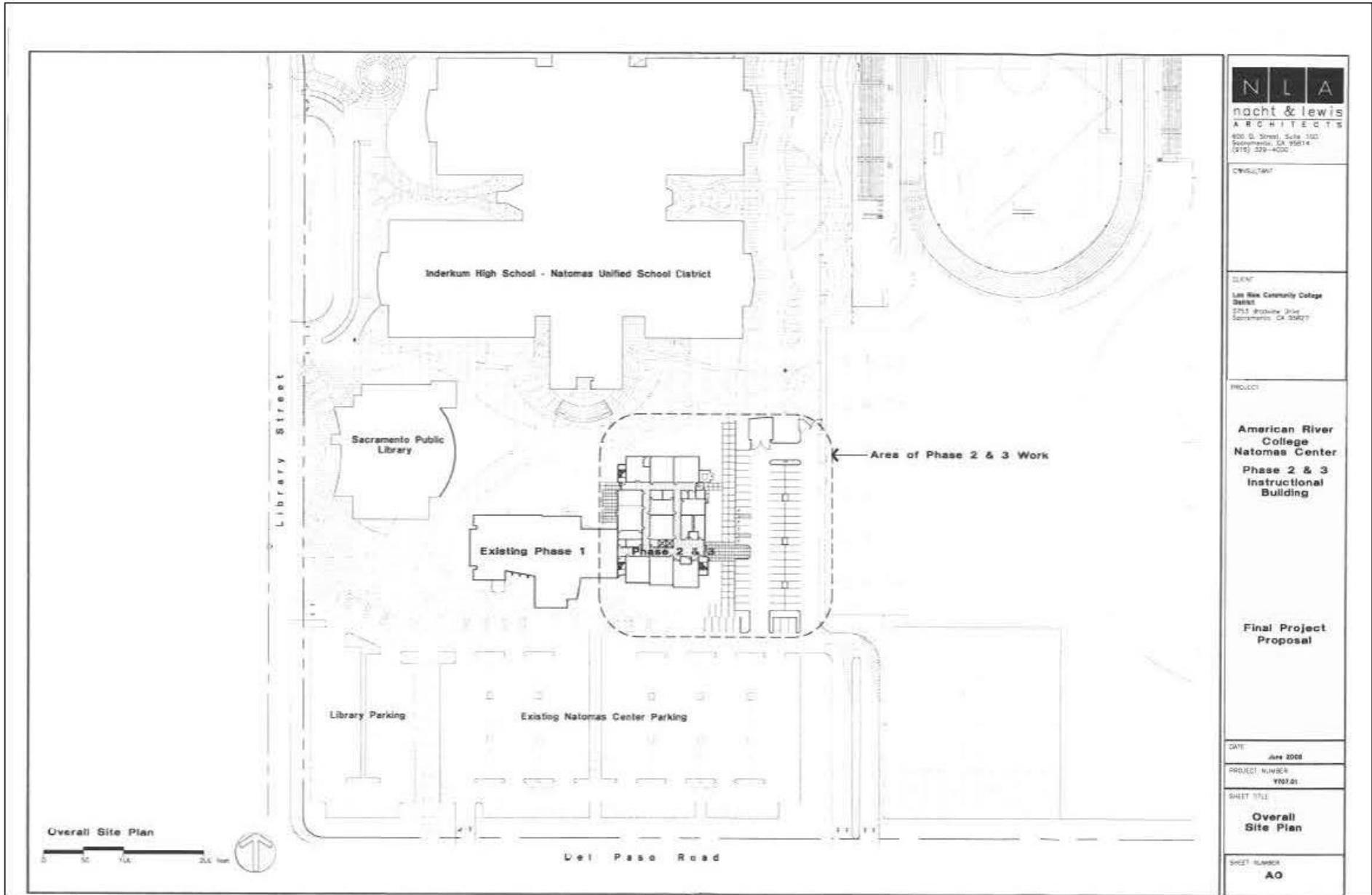
KD Anderson & Associates, Inc.
Transportation Engineers

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VICINITY MAP

figure 1





EXISTING PHYSICAL AND REGULATORY SETTING

Study Area

The following is a description of area roadways that provide circulation to the project site. These roadways are shown in Figure 2.

- **Del Paso Road** is an east-west Major Arterial which provides access for Natomas Center to Interstate 5 to the west and to the balance of North Natomas to the east. In the area of the project Del Paso Road is a divided six-lane facility. The posted speed limit is 40 mph. City of Sacramento traffic counts indicate that East Bidwell Street carries roughly 28,800 vehicles per day (vpd) north of Scholar Way and 34,400 vpd south of Scholar Way.
- **Truxel Road – Natomas Blvd** are major north-south arterial roads. Natomas Blvd runs from Elkhorn Blvd to Del Paso Road. Truxel Road runs from Del Paso Road southerly across Interstate 80. Both are divided six-lane roadways in the area of the project. The posted speed limit on both Natomas Blvd and Truxel Road is 45 mph.
- **New Market Drive** is an east-west Minor Collector roadway that begins at East Commerce Way to the west and continues to Town Center Drive. The road begins again at Via Ingoglia and continues easterly to Natomas Boulevard. East of Natomas Boulevard where it becomes Park Plaza Drive. New Market Drive has one through travel lane in each direction, and a wide median reserved for a future Light Rail extension. A 25 mph school zone exists along Inderkum HS.
- **Town Center Drive** is a north-south local street. It begins about 600 feet north of New Market Drive and extends to about 400 feet south of Del Paso Road. Town Center Drive has one through travel lane in each direction. A prima facie 25 mph speed limit is in effect.
- **Via Ingoglia** is a north-south local street that extends from New Market Drive to Del Paso Road. It has one through travel lane in each direction. A prima facie 25 mph speed limit is in effect.
- **Five Star Way** is a local street that extends south from Del Paso Road. The access to Natomas Center would be the northly extension of Five Star Way.

The geometric layout of study intersections is noted as follows:

The **Del Paso Road / Town Center Drive / Sports Parkway intersection** is controlled by a traffic signal. Del Paso Road has three through travel lanes in each direction. Left turn lanes and right turn lanes are provided on each approach. The southbound Town Center Drive approach has three lanes configured as separate left turn, through and right turn lanes. The northbound Sports Parkway approach has four lanes striped as dual left turn lanes, a through lane and a right turn lane. Crosswalks are striped on each leg of the intersection.

The **Del Paso Road / Via Ingoglia intersection** is a “tee controlled by a stop sign on the southbound Via Ingoglia approach. A raised media limits Via Ingoglia to right turns in and out only. The westbound Del Paso Road approach has a separate right turn lane. No crosswalks are striped at this intersection.

The ***Del Paso Road / Five Star Way / Natomas Center Access intersection*** is controlled by stop signs on the Five Star Way and Natomas Center access approaches. A raised median prohibits left turns onto Del Paso Road, but left turns onto each side street are allowed. Separate right turn lanes exist on both Del Paso Road approaches, and the southbound Natomas Center access has dual right turn lanes. Crosswalks are striped across the Natomas Center access and across Five Star Way.

The ***Del Paso Road / Truxel Road / Natomas Blvd intersection*** is controlled by a traffic signal. Each approach has three through travel lanes and auxiliary turn lanes. The eastbound Del Paso Road approach has triple left turn lanes and a right turn lane. The westbound Del Paso Road and southbound Natomas Blvd approaches have dual left turn lanes and a right turn lane. The northbound Truxel Road approach has dual left turn lanes and dual right turn lanes. Crosswalks are striped across each leg of the intersection.

Bicycle and Pedestrian Facilities

On-street Class II bikeways currently exist on many study area roadways, including Del Paso Road, Natomas Boulevard, Truxel Road, New Market Drive, Town Center Drive, Via Ingoglia, and East Commerce Way. Off-street bikeways exist surrounding and within the North Natomas Regional Park.

Class II bike lanes are striped along East Bidwell Street in the area of the college campus. Similarly, bike lanes are striped on Scholar Way between East Bidwell Street and Cavitt Drive.

The pedestrian system in the site vicinity consists of sidewalks on both sides of all major streets, and marked crosswalks at major intersections.

Transit Service

Regional Transit (RT) offers fixed route service in the area of the project. RT Route 11 (Truxel Road) operates in each direction along Truxel Road. It extends to Club Center Drive and Northborough Drive to the north. To the south, it continues to Downtown via Garden Highway and I-5.

The North Natomas Transportation Management Association operates the Flyer Shuttle, a peak period scheduled route transit service between North Natomas and Downtown Sacramento. Each route operates three to four buses to Downtown during the a.m. period, and three to four buses from Downtown during the p.m. period. The Central Route (172) operates along New Market Drive and Town Center Drive adjacent to the site.

Evaluation Methodology

The following is a description of the methods used in this impact study to analyze intersection operations.

Level of Service Analysis Procedures. Level of Service (LOS) analysis provides a basis for describing existing traffic conditions and for evaluating the significance of project-related traffic impacts. Level of Service measures the quality of traffic flow and is represented by letter designations from A to F, with a grade of A referring to the best conditions, and F representing the worst conditions. The characteristics associated with the various LOS for intersections are presented in Table 1 and further discussed below.

| TABLE 1 LEVEL OF SERVICE DEFINITIONS | | |
|---|---|--|
| Level of Service | Signalized Intersections | Unsignalized Intersection |
| A | Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec | Little or no delay. Delay ≤ 10 sec/veh |
| B | Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec | Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh |
| C | Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec | Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh |
| D | Congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec | Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh |
| E | Congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec | Very long traffic delays, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh |
| F | Delay > 80.0 sec | Delay > 50 sec/veh |

Source: Highway Capacity Manual, 6th Edition

The signalized study intersections have been analyzed using methods presented in the *Highway Capacity Manual (HCM)*. The *Synchro 10.0* software has been used to calculate the Levels of Service at study intersections using the HCM procedures.

Un-signalized study intersections with side street stop sign control or All-way stop sign control have also been evaluated using HCM procedures. At side street stop-sign-controlled intersections, the LOS is presented for turning movements which must yield the right of way to uncontrolled through traffic.

Regulatory Setting

City of Sacramento. The Mobility Element of the Sacramento 2035 General Plan outlines goals and policies that coordinate the transportation and circulation system with planned land uses. The following level of service policy has been used in this study:

Policy M 1.2.2 Level of Service (LOS) Standard. The City shall implement a flexible context sensitive Level of Service (LOS) standard, and will measure traffic operations against the vehicle LOS thresholds established in this policy. The City will measure Vehicle LOS based on the methodology contained in the latest version of the Highway Capacity Manual (HCM) published by the Transportation Research Board. The City's specific vehicle LOS thresholds have been defined based on community values with respect to modal priorities, land use context, economic development, and environmental resources and constraints. As such, the City has established variable LOS thresholds appropriate for the unique characteristics of the City's diverse neighborhoods and communities. The City will strive to operate the roadway network at LOS D or better for vehicles during typical weekday conditions, including AM and PM peak hour with the following exceptions described below:

- Core Area (Central City Community Plan Area) - LOS F allowed
- Priority Investment Areas – LOS F allowed
- LOS E Roadways - LOS E is allowed for the following roadways because expansion of the roadways would cause undesirable impacts or conflict with other community values.
 - 65th Street: Elvas Avenue to 14th Avenue
 - Arden Way: Royal Oaks Drive to I-80 Business
 - Broadway: Stockton Boulevard to 65th Street
 - College Town Drive: Hornet Drive to La Rivera Drive
 - El Camino Avenue: I-80 Business to Howe Avenue
 - Elder Creek Road: Stockton Boulevard to Florin Perkins Road
 - Elder Creek Road: South Watt Avenue to Hedge Avenue
 - Fruitridge Road: Franklin Boulevard to SR 99
 - Fruitridge Road: SR 99 to 44th Street
 - Howe Avenue: El Camino Avenue to Auburn Boulevard
 - Sutterville Road: Riverside Boulevard to Freeport Boulevard

LOS E is also allowed on all roadway segments and associated intersections located within $\frac{1}{2}$ mile walking distance of light rail stations.

- Other LOS F Roadways - LOS F is allowed for the following roadways because expansion of the roadways would cause undesirable impacts or conflict with other community values.
 - 47th Avenue: State Route 99 to Stockton Boulevard
 - Arcade Boulevard: Marysville Boulevard to Roseville Road
 - Carlson Drive: Moddison Avenue to H Street
 - El Camino Avenue: Grove Avenue to Del Paso Boulevard
 - Elvas Avenue: J Street to Folsom Boulevard
 - Elvas Avenue/56th Street: 52nd Street to H Street
 - Florin Road: Havenside Drive to Interstate 5
 - Florin Road: Freeport Boulevard to Franklin Boulevard
 - Florin Road: Interstate 5 to Freeport Boulevard
 - Folsom Boulevard: 47th Street to 65th Street

- Folsom Boulevard: Howe Avenue to Jackson Highway
- Folsom Boulevard: US 50 to Howe Avenue
- Freeport Boulevard: Suterville Road (North) to Suterville Road (South)
- Freeport Boulevard: 21st Street to Suterville Road (North)
- Freeport Boulevard: Broadway to 21st Street
- Garden Highway: Truxel Road to Northgate Boulevard
- H Street: Alhambra Boulevard to 45th Street
- H Street 45th: Street to Carlson Drive
- Hornet Drive: US 50 Westbound On-ramp to Folsom Boulevard
- Howe Avenue: US 50 to Fair Oaks Boulevard
- Howe Avenue: US 50 to 14th Avenue
- Raley Boulevard: Bell Avenue to Interstate 80
- South Watt Avenue: US 50 to Kiefer Boulevard
- West El Camino Avenue: Northgate Boulevard to Grove Avenue

- If maintaining the above LOS standards would, in the City's judgment be infeasible and/or conflict with the achievement of other goals, LOS E or F conditions may be accepted provided that provisions are made to improve the overall system, promote non-vehicular transportation, and/or implement vehicle trip reduction measures as part of a development project or a city-initiated project. Additionally, the City shall not expand the physical capacity of the planned roadway network to accommodate a project beyond that identified in Figure M4 and M4a (2035 General Plan Roadway Classification and Lanes).

Based upon the City's level of service policy, LOS D was utilized as the appropriate criteria in all study analyses.

Significance Criteria. A project impacts is significant if:

- The traffic generated by the project degrades LOS from an acceptable LOS (without the project) to an unacceptable LOS (with the project),
- The LOS (without project) is unacceptable and project generated traffic increases the average vehicle delay by 5 seconds or more.

Existing Traffic Conditions and Levels of Service

The following is a description of existing traffic operating conditions in the study area.

Existing Traffic Volumes. Traffic volume data was collected for this traffic impact study at the three study intersections on December 10, 2019 when Inderkum HS and the Natomas Center were in normal session. Data was collected in 15-minute increments from 7:00 – 9:00 a.m. and 4:00 - 6:00 p.m. The contiguous one hour periods with the highest volumes within the two-hour data collection period were used in this traffic impact study as the a.m. and p.m. peak hour. Figure 3 presents the existing lane configurations, intersection control and existing peak hour traffic volumes at the study intersections.

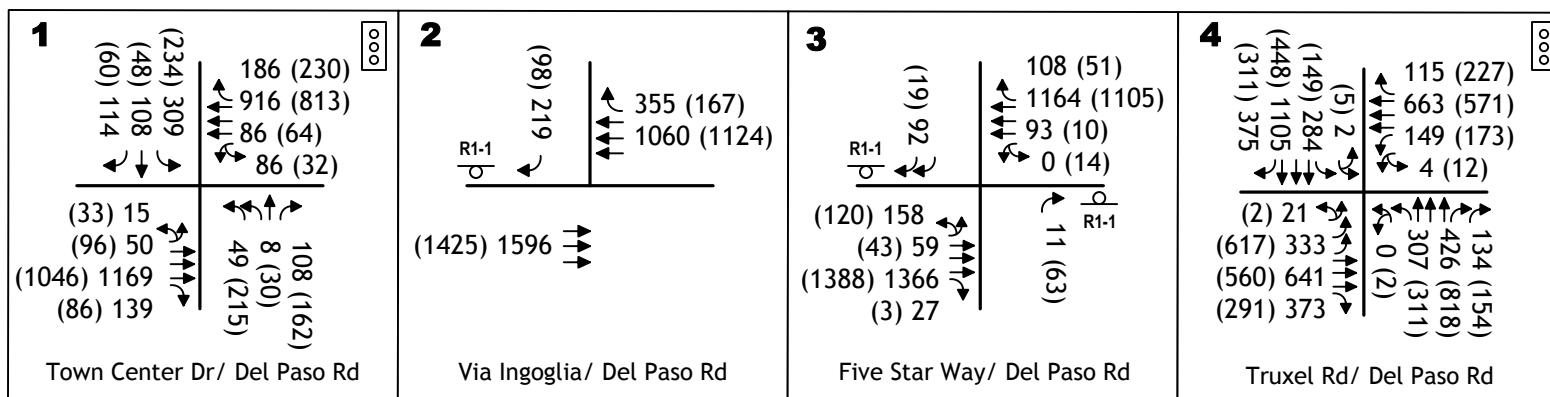
Existing Intersection Levels of Service. Table 2 presents a summary of existing peak hour LOS at the study intersections. Level of Service calculations are provided in the Appendix. As shown in Table 2, all study intersections currently operate satisfactorily within the established minimum operating LOS standard (i.e., LOS D or better).

| TABLE 2 EXISTING CONDITIONS INTERSECTION LEVELS OF SERVICE | | | | | | |
|---|----------------------------|---------------|-------------------------|---------------------------------------|-------------------------|---------------------------------------|
| Intersection | Minimum LOS Standard | Control | Existing Conditions | | | |
| | | | AM Peak Hour | | PM Peak Hour | |
| | | | LOS | Delay (sec/veh) | LOS | Delay (sec/veh) |
| Del Paso Rd / Town Center Dr | D | Signal | C | 25.2 | C | 24.4 |
| Del Paso Road / Via Ingoglia (overall average condition) Southbound approach | D | SB Stop | (A) C | (1.7) 22.4 | (A) C | (0.6) 16.8 |
| Dell Paso Rd / Five Star Way (overall average condition) Eastbound left turn Westbound left turn Northbound approach Southbound approach | D | NB/SB Stop | (A) C B B B | (2.1) 16.0 14.1 14.4 14.9 | (A) B B C B | (1.3) 13.2 12.7 16.1 12.9 |
| Del Paso Rd / Truxel Rd / Natomas Blvd | D | Signal | D | 36.9 | C | 31.8 |

It is important to recognize that traffic operating conditions near high schools can feature short term peak traffic demands that result in long delays over short time periods, primarily as a result of the capacity of school drop-off and loading areas. At those times Levels of Service can be worse than the conditions expressed herein that are based on the “average” conditions over the breadth of the peak hour.



| Legend | |
|--------|-------------------------|
| XX | AM Peak Hour Volume |
| (XX) | PM Peak Hour Volume |
| R1-1 | Stop Sign |
| ooo | Signalized Intersection |



EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

PROJECT CHARACTERISTICS

Development of the proposed project will potentially attract additional traffic to the project site. This section of the traffic impact study describes the characteristics of project-related traffic.

Trip Generation

The number of vehicle trips that are expected to be generated by development of the proposed project has been estimated using published trip generation data. The Institute of Transportation Engineers (ITE) publication, *Trip Generation Manual, 10th Edition*, has been used.

ITE Trip Generation Manual trip generation rates for the land use category 540, "Community College", have been applied to the proposed project. The trip generation rates and the resulting trip generation estimates are presented in Tables 3 and 4, respectively. As shown, the proposed 49,800 square foot building is projected to generate a total of 103 a.m. and 93 p.m. peak hour trips.

| TABLE 3 TRIP GENERATION RATES | | | | | |
|----------------------------------|---------------|--------------|-----------|--------------|-----------|
| Land Use | Trips per ksf | | | | |
| | Daily | AM Peak Hour | | PM Peak Hour | |
| | | Rate | In / Out | Rate | In / Out |
| Community College (ITE 540) | 20.25 | 2.07 | 77% / 36% | 1.86 | 50% / 50% |

Source: Institute of Transportation Engineers, Trip Generation Manual, 10th Edition.

| TABLE 4 PROJECT TRIP GENERATION | | | | | | | |
|------------------------------------|-------------|--------------|-----|-------|--------------|-----|-------|
| Land Use | Daily Trips | AM Peak Hour | | | PM Peak Hour | | |
| | | In | Out | Total | In | Out | Total |
| Phase 2 and 3 Building (49.8 ksf) | 1,008 | 79 | 24 | 103 | 46 | 47 | 93 |

The proposed parking spaces included with the project do not by themselves generate new automobile traffic. The new spaces would be used by new project trips or by persons who today park along the streets adjoining Inderkum HS and the Natomas Center.

Trip Distribution

The distribution of vehicle trips associated with the project will likely be similar to the patterns exhibited today. Because the project primarily serves the Natomas area the distribution may also be somewhat similar to that identified in the NNCCAC transportation analysis. The NNCCAC distribution was however, adjusted to reflect a slightly greater production from other areas of Sacramento that would make use of I-5 to reach the site. Table 5 presents the trip distribution percentages for the proposed project used for the traffic analysis.

**TABLE 5
PROJECT TRIP DISTRIBUTION**

| Direction | Route | Percent Trip Distribution |
|------------------|-------------------|----------------------------------|
| North | Natomas Blvd | 12% |
| North | New Markey Drive | 5% |
| East | Del Paso Road | 8% |
| South | Truxel Blvd | 12% |
| South | Town Center Drive | 3% |
| West | Del Paso Road | 60% |
| Total | | 100% |

Trip Assignment

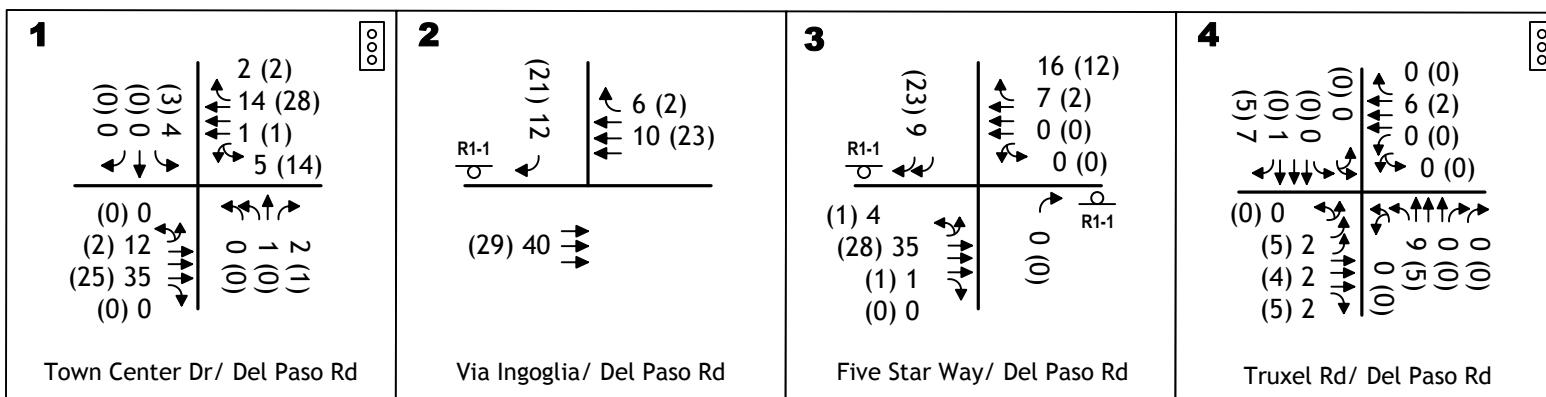
Trips that would be generated by the proposed project have been assigned to the study area street system based on the location of campus access driveways, the location of existing and new on-site parking, the existence of any turn restrictions at area intersections and the distribution estimates discussed above. The New Market Drive extension was assumed to be in place as the NNCCAC project has been funded by the City of Sacramento and is proceeding. Figure 4 displays the project related traffic volumes at each study intersection during the a.m. and p.m. peak hours.



| Legend | |
|--------|-------------------------|
| XX | AM Peak Hour Volume |
| (XX) | PM Peak Hour Volume |
| R1-1 | Stop Sign |
| ooo | Signalized Intersection |



N.T.S.



EXISTING PLUS PENDING PROJECT (BASELINE) CONDITIONS

The Baseline condition for impact analysis assumes completion of the NNCCAC, including the New Market Drive extension. This analysis makes use of trip generation and traffic diversion characteristics presented in the NNCCAC transportation analysis to create the baseline condition.

Travel Characteristics

Trip Generation. The NNCCAC transportation analysis indicates that together these two projects could generate 2,740 daily trips, with 137 trips in the a.m. peak hour and 253 trips in the p.m. peak.

Effects of New Market Drive Extension. The completion of New Market Street from Town Center Drive to Via Ingoglia is included as a part of the NNCCAC project. The redistribution of existing traffic accompanying the extension was identified in the NNCCAC transportation analysis.

Resulting Traffic Volumes. The approach taken to create background Existing Plus Pending volumes follows three steps. First the Existing and Existing plus Project a.m. and p.m. peak hour volume in the NNCCAC study were compared and the net difference in individual turning movements was identified for the three intersections also included in this analysis. Second the probable change to the fourth intersection (i.e., Del Paso Road / Five Star Way / Natomas Center access) was then interpolated. These net changes were then applied to the 2019 traffic volume collected for this analysis, as shown in Figure 5.

Baseline (Existing Plus Pending Project) Conditions. Intersection Levels of Service were recalculated at the four study intersections, and the results are noted in Table 6.

PROJECT IMPACTS

Baseline Plus Project Traffic Conditions

Level of Service. The trips accompanying development of the proposed project were superimposed onto the baseline traffic volumes, as shown in Figure 6. Table 6 displays the peak hour LOS at each study intersection under the Baseline and Existing plus Project condition. As shown, the addition of project generated traffic is projected to result in relatively minor increases in delay at each of the study intersections. Projected Levels of Service remain within the City of Sacramento's minimum LOS D standard. These impacts are considered less than significant, and mitigation is not required.

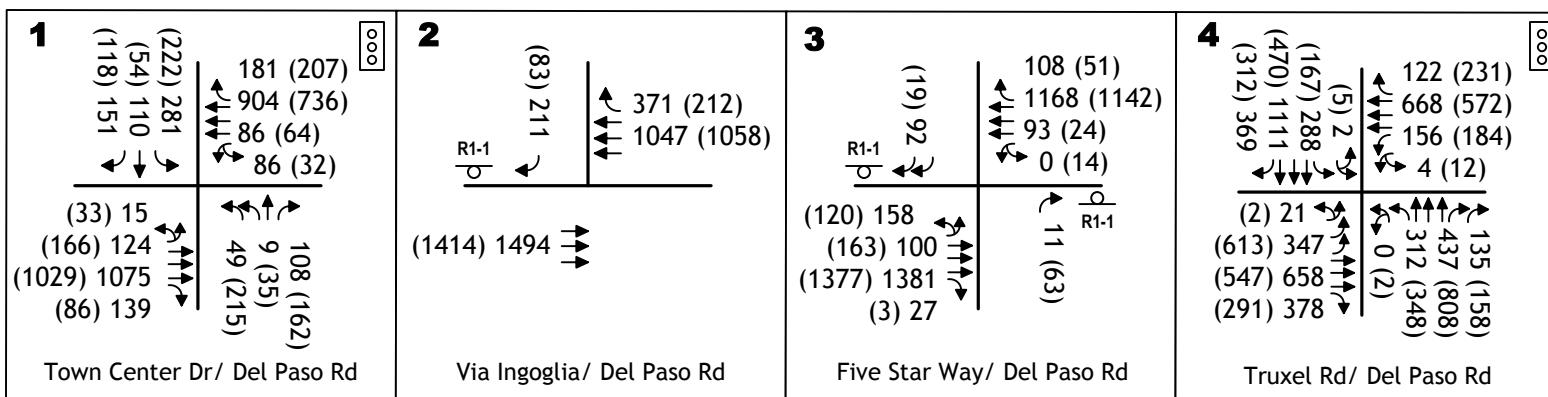


| Legend | |
|--------|-------------------------|
| XX | AM Peak Hour Volume |
| (XX) | PM Peak Hour Volume |
| R1-1 | Stop Sign |
| ooo | Signalized Intersection |



NORTH

N.T.S.





| Legend | |
|--------|-------------------------|
| XX | AM Peak Hour Volume |
| ((XX)) | PM Peak Hour Volume |
| R1-1 | Stop Sign |
| ooo | Signalized Intersection |



N.T.S.

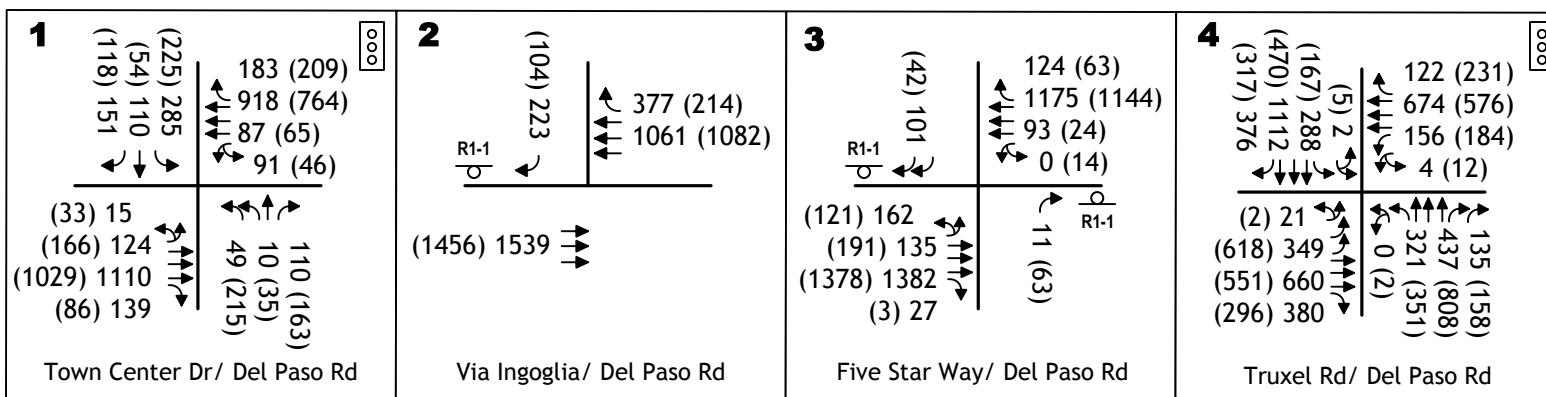


TABLE 6
BASELINE PLUS PROJECT
INTERSECTION LEVELS OF SERVICE

| Intersection | Min LOS Standard | Control | Existing Conditions | | | | | | | |
|---|------------------|------------|-------------------------|---------------------------------------|-------------------------|---------------------------------------|-------------------------|---------------------------------------|-------------------------|---------------------------------------|
| | | | AM Peak Hour | | | | PM Peak Hour | | | |
| | | | Baseline | | Baseline Plus Project | | Baseline | | Baseline Plus Project | |
| | | | LOS | Average Delay (sec/veh) |
| Del Paso Rd / Town Center Dr | D | Signal | C | 24.6 | C | 25.1 | C | 24.8 | C | 25.3 |
| Del Paso Rd / Via Ingoglia (overall average) Southbound approach | D | SB Stop | (A) C | (1.6) 21.5 | (A) C | (1.8) 22.7 | (A) C | (0.5) 15.6 | (A) C | (0.6) 16.5 |
| Dell Paso Rd / Five Star Way (overall average) Eastbound left turn Westbound left turn Northbound approach Southbound approach | D | NB/SB Stop | (A) B B B B | (1.4) 13.2 14.3 14.6 14.9 | (A) B B B C | (1.7) 14.2 14.3 14.6 15.2 | (A) B B C B | (1.3) 13.6 12.7 16.1 13.1 | (A) B B C B | (1.6) 14.4 12.7 16.1 13.6 |
| Del Paso Rd / Truxel Rd / Natomas Blvd | D | Signal | D | 37.2 | D | 37.4 | C | 31.6 | C | 31.7 |

Impacts to Alternative Transportation Modes

Pedestrian Facilities. Development of the project will likely increase the number of pedestrians walking to and from the site. Because sidewalks already exist and all study intersections have crosswalks with applicable controls, the project will not create any unsafe condition for pedestrians and does not conflict with planned pedestrian facilities identified in adopted plans. Thus, the project's impact on pedestrian circulation is not considered significant.

Bicycle Facilities. Similarly, the project will not create any unsafe condition for bicyclists and does not conflict with planned bicycle facilities identified in adopted plans. Thus, the project's impact on bicycle circulation is not considered significant.

Transit Facilities. The project will likely result in increased demand for transit service. However, as SacRT already serves the campus on a regular basis. The project would not modify or impede any existing or planned transit facilities / routes. Regional Transit's Green Line to the Airport project will extend light rail from Downtown Sacramento to the Sacramento International Airport. One potential alignment is via New Market Drive. The proposed would not impede this planned project if the New Market Drive alignment is implemented. Thus, the project's impact is not significant and mitigation is not required.

Construction Impacts

Project Effects. Construction may include disruptions to the transportation network near the project site, including the possibility of temporary lane closures, street closures, sidewalk closures, and bikeway closures. Pedestrian and bicycle access may be disrupted. Heavy vehicles, equipment and trucks would access the site and may need to be staged for construction. These activities could result in degraded roadway operating conditions. Therefore, these temporary impacts are considered significant.

Mitigation. Prior to the beginning of construction, a construction traffic management plan shall be prepared to the satisfaction of the City's Traffic Engineer and subject to review by all affected agencies. The plan shall ensure that acceptable operating conditions on roadways are maintained. At a minimum, the plan shall include:

- Description of trucks including: number and size of trucks per day, expected arrival / departure times, truck circulation patterns.
- Description of staging area including: location, maximum number of trucks simultaneously permitted in staging area, use of traffic control personnel, specific signage.
- Description of street closures and/or bicycle and pedestrian facility closures including: duration, advance warning and posted signage, safe and efficient access routes for emergency vehicles, and use of manual traffic control.
- Description of access plan including: provisions for safe vehicular, pedestrian, and bicycle travel, minimum distance from any open trench, special signage, and private vehicle accesses.

- Provisions for parking for construction workers.

Vehicle Miles Traveled (VMT)

The proposed project expands upon the education opportunities provided to Natomas residents. Without the project area residents not served by the existing Natomas Center will travel farther to other American River College facilities. Thus, the development of the project is likely to reduce the distance traveled by students and result in a reduction in overall regional VMT.

SUMMARY AND CONCLUSIONS

This traffic impact study presents an analysis of the traffic related impacts associated with development of a new building and adjoining parking on the Los Rios Community College District's American River College Natomas Center. The new building will accommodate classrooms, offices and facilities for instruction. The new building will be two story containing approximately 49,800 gross square feet.

This traffic impact study presents an analysis of a.m. and p.m. peak hour traffic operations under the following scenarios:

- Existing Peak Hour Conditions,
- Baseline (Existing Plus adjoining Pending Project)
- Baseline plus Project Conditions

The City of Sacramento's North Natomas Community Center and Aquatic Complex project (NNCCAC) is funded and proceeding. That project includes the extension of New Market Drive. The Baseline for impact analysis assumes this project is completed.

Because the project is consistent with the Natomas Center Facilities Master Plan, its cumulative impacts were addressed as part of the campus' original CEQA review, and no further cumulative analysis is required.

Study Area Intersections. Traffic operations at the following four (4) study area intersections were evaluated:

- Del Paso Road / Town Center Drive
- Del Paso Road / Via Ingoglia
- Del Paso Road / Five Star Way
- Del Paso Road / Truxel Road / Natomas Blvd

Existing Traffic Conditions and Levels of Service

Existing Traffic Volumes. Traffic volume data was collected for this traffic impact study at the study intersections during December 2019. Data was collected in 15-minute increments from 7:00 – 9:00 a.m. and 4:00 – 6:00 p.m. when area schools were in session.

Existing Intersection Levels of Service (LOS). All study intersections currently operate satisfactorily within the minimum LOS standards of the City of Sacramento. Level of Service D or better conditions are currently experienced at the study intersections during the a.m. and p.m. peak hours.

Project Trip Generation

The number of vehicle trips that are expected to be generated by development of the proposed project has been estimated using published trip generation data. The Institute of Transportation Engineers (ITE) publication *Trip Generation Manual, 10th Edition*, has been used.

ITE Trip Generation Manual estimates for the land use category 540, "Community College", have been applied to the proposed project. The proposed 49,800 sf building is projected to generate a total of 103 a.m. and 93 p.m. peak hour trips.

The proposed parking facilities will be shared by the Natomas Center and Inderkum High School. The facilities do not by themselves generate new trips but will be used by project traffic or by persons already parking along streets adjoining Inderkum HS.

Background Conditions

The Baseline condition for impact analysis assumes completion of the NNCCAC, including the New Market Drive extension. This analysis makes use of trip generation and traffic diversion characteristics presented in the NNCCAC transportation analysis to create the baseline condition.

The NNCCAC transportation analysis indicates that together these two projects could generate 2,740 daily trips, with 137 trips in the a.m. peak hour and 253 trips in the p.m. peak.

The completion of New Market Street from Town Center Drive to Via Ingoglia is included as a part of the NNCCAC project. The redistribution of existing traffic accompanying the extension was identified in the NNCCAC transportation analysis.

The approach taken to create background Existing Plus Pending volumes follows three steps. First the Existing and Existing plus Project a.m. and p.m. peak hour volume in the NNCCAC study were compared and the net difference in individual turning movements was identified for the three intersections also included in this analysis. Second the probable change to the fourth intersection (i.e., Del Paso Road / Five Star Way / Natomas Center access) was then interpolated. These net changes were then applied to the 2019 traffic volume collected for this analysis.

Baseline (Existing Plus Pending Project) Conditions. Intersection Levels of Service were recalculated at the four study intersections, and the results indicate that minimum City of Sacramento standards will continue to be satisfied.

Existing Plus Project Traffic Conditions

The trips accompanying the project were superimposed onto Baseline background traffic. The addition of project generated traffic is projected to result in relatively minor increases in delay at each of the study intersections. Level of Service will remain within adopted minimum standards, and traffic signal warrants are not satisfied at unsignalized intersections. These impacts are considered less than significant, and mitigation is not required.

Impacts to Alternative Transportation Modes. Because the project is located adjoining existing facilities for pedestrians, bicyclists and transit riders, the project's impacts are not significant.

Construction Impacts

Construction may include disruptions to the transportation network near the project site, including the possibility of temporary lane closures, street closures, sidewalk closures, and bikeway closures. Pedestrian and bicycle access may be disrupted. Heavy vehicles, equipment and trucks would access the site and may need to be staged for construction. These activities could result in degraded roadway operating conditions. Therefore, these temporary impacts are considered significant.

Mitigation. Prior to the beginning of construction, a construction traffic management plan shall be prepared to the satisfaction of the City's Traffic Engineer and subject to review by all affected agencies. The plan shall ensure that acceptable operating conditions on roadways are maintained.

APPENDICES

Level of Service Calculations

Traffic Counts

Sports Pkwy/Town Center Dwy & Del Paso Rd**Peak Hour Turning Movement Count**

ID: 19-07475-001
City: Sacramento

Sports Pkwy/Town Center Dwy**SOUTHBOUND**

| AM | 114 | 108 | 309 | 0 | 244 |
|------|-----|-----|-----|---|-----|
| NOON | 0 | 0 | 0 | 0 | 0 |
| PM | 60 | 48 | 234 | 0 | 356 |



Day: Tuesday
Date: 12/10/2019

07:00 AM - 09:00 AM

NONE

04:00 PM - 06:00 PM

COUNT PERIODS

Del Paso Rd

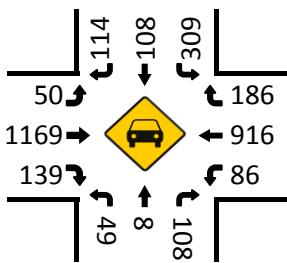
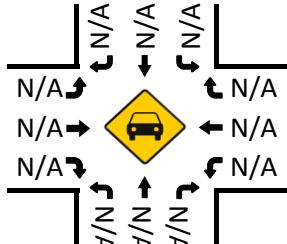
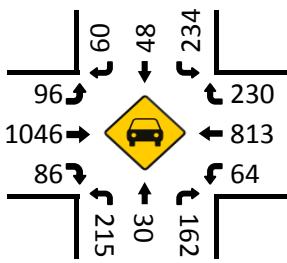
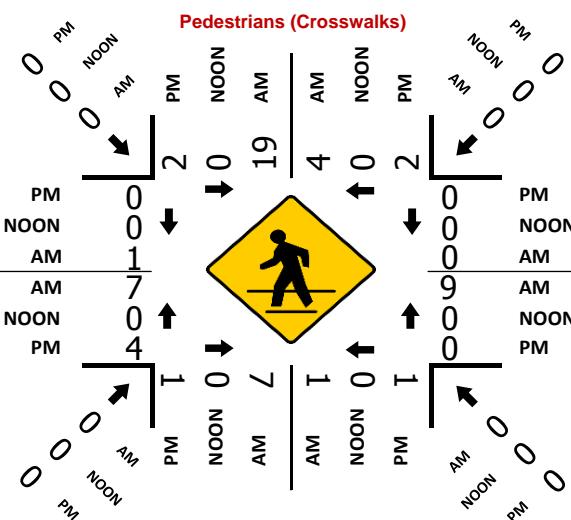
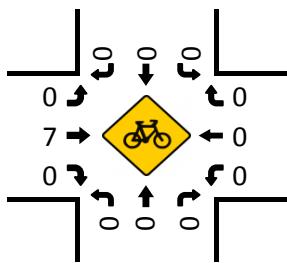
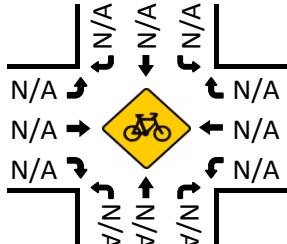
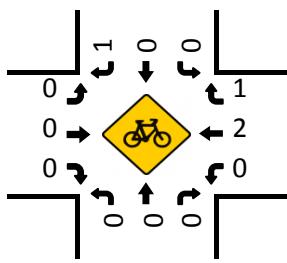
| PEAK HOURS | 07:30 AM - 08:30 AM | | | 04:15 PM - 05:15 PM | | | PEAK HOURS |
|------------|---------------------|------|------|---------------------|------|------|------------|
| | AM | NOON | PM | AM | NOON | PM | |
| | 1094 | 0 | 1121 | 15 | 0 | 33 | |
| | 50 | 0 | 96 | 50 | 0 | 96 | |
| | 1169 | 0 | 1046 | 1169 | 0 | 1046 | |
| | 139 | 0 | 86 | 139 | 0 | 86 | |
| | AM | NOON | PM | AM | NOON | PM | |

Del Paso Rd EASTBOUND**CONTROL****Signalized**

| TEV | 3343 | 0 | 3149 |
|-----|------|----|------|
| PHF | 0.81 | AM | 0.93 |

| PM | 230 | 0 | 186 |
|------|-----|---|-----|
| NOON | 813 | 0 | 916 |
| AM | 64 | 0 | 86 |
| → | 32 | 0 | 86 |

| PM | 1474 | 0 | 1672 |
|----|------|---|------|
|----|------|---|------|

WESTBOUND**Total Vehicles (AM)****Total Vehicles (Noon)****Total Vehicles (PM)****NORTHBOUND****Sports Pkwy/Town Center Dwy****Bikes (AM)****Bikes (NOON)****Bikes (PM)**

National Data & Surveying Services

Intersection Turning Movement Count

Location: Sports Pkwy/Town Center Dwy & Del Paso Rd
City: Sacramento
Control: Signalized

Project ID: 19-07475-001
Date: 12/10/2019

Total

| NS/EW Streets: | Sports Pkwy/Town Center Dwy | | | | Sports Pkwy/Town Center Dwy | | | | Del Paso Rd | | | | Del Paso Rd | | | | |
|-------------------------|-----------------------------|---------------|--------------|-------|-----------------------------|---------------|---------------|--------------|--------------|---------------|---------------|--------------|--------------|---------------|---------------|--------------|--------------|
| | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
| AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | TOTAL |
| 7:00 AM | 18 | 2 | 7 | 0 | 43 | 7 | 15 | 0 | 5 | 158 | 36 | 2 | 8 | 138 | 18 | 3 | 460 |
| 7:15 AM | 11 | 1 | 11 | 0 | 42 | 5 | 19 | 0 | 5 | 205 | 21 | 2 | 9 | 187 | 13 | 8 | 539 |
| 7:30 AM | 14 | 0 | 16 | 0 | 85 | 16 | 29 | 0 | 8 | 332 | 33 | 3 | 21 | 265 | 37 | 26 | 885 |
| 7:45 AM | 13 | 2 | 54 | 0 | 58 | 59 | 31 | 0 | 17 | 357 | 40 | 4 | 25 | 268 | 69 | 31 | 1028 |
| 8:00 AM | 13 | 1 | 15 | 0 | 87 | 17 | 33 | 0 | 20 | 269 | 34 | 5 | 23 | 234 | 55 | 25 | 831 |
| 8:15 AM | 9 | 5 | 23 | 0 | 79 | 16 | 21 | 0 | 5 | 211 | 32 | 3 | 17 | 149 | 25 | 4 | 599 |
| 8:30 AM | 18 | 0 | 11 | 0 | 53 | 12 | 20 | 0 | 13 | 172 | 23 | 5 | 15 | 160 | 22 | 5 | 529 |
| 8:45 AM | 14 | 5 | 12 | 0 | 35 | 4 | 11 | 0 | 0 | 204 | 29 | 0 | 12 | 126 | 21 | 14 | 487 |
| TOTAL VOLUMES : | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| APPROACH %'s : | 110 | 16 | 149 | 0 | 482 | 136 | 179 | 0 | 73 | 1908 | 248 | 24 | 130 | 1527 | 260 | 116 | 5358 |
| 40.00% | 5.82% | 54.18% | 0.00% | | 60.48% | 17.06% | 22.46% | 0.00% | 3.24% | 84.69% | 11.01% | 1.07% | 6.39% | 75.11% | 12.79% | 5.71% | |
| PEAK HR : | 07:30 AM - 08:30 AM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 49 | 8 | 108 | 0 | 309 | 108 | 114 | 0 | 50 | 1169 | 139 | 15 | 86 | 916 | 186 | 86 | 3343 |
| PEAK HR FACTOR : | 0.875 | 0.400 | 0.500 | 0.000 | 0.888 | 0.458 | 0.864 | 0.000 | 0.625 | 0.819 | 0.869 | 0.750 | 0.860 | 0.854 | 0.674 | 0.694 | 0.813 |
| | 0.598 | | | | 0.897 | | | | 0.821 | | | | 0.810 | | | | |

| PM | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
|-------------------------|----------------------------|---------------|--------------|-------|---------------|---------------|---------------|--------------|--------------|---------------|--------------|--------------|--------------|---------------|---------------|--------------|--------------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| PM | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| 4:00 PM | 49 | 2 | 28 | 0 | 53 | 9 | 15 | 0 | 16 | 258 | 11 | 8 | 20 | 197 | 50 | 4 | 720 |
| 4:15 PM | 48 | 4 | 36 | 0 | 57 | 8 | 13 | 0 | 14 | 267 | 15 | 6 | 14 | 200 | 61 | 8 | 751 |
| 4:30 PM | 70 | 7 | 23 | 0 | 57 | 12 | 24 | 0 | 33 | 243 | 28 | 9 | 19 | 189 | 45 | 4 | 763 |
| 4:45 PM | 46 | 9 | 38 | 0 | 64 | 16 | 12 | 0 | 27 | 285 | 23 | 6 | 20 | 174 | 64 | 8 | 792 |
| 5:00 PM | 51 | 10 | 65 | 0 | 56 | 12 | 11 | 0 | 22 | 251 | 20 | 12 | 11 | 250 | 60 | 12 | 843 |
| 5:15 PM | 39 | 8 | 38 | 0 | 64 | 4 | 14 | 0 | 19 | 226 | 16 | 12 | 24 | 213 | 58 | 8 | 743 |
| 5:30 PM | 28 | 8 | 31 | 0 | 56 | 18 | 14 | 0 | 16 | 260 | 24 | 8 | 21 | 203 | 70 | 2 | 759 |
| 5:45 PM | 27 | 6 | 30 | 0 | 58 | 14 | 13 | 0 | 27 | 274 | 16 | 10 | 18 | 186 | 58 | 11 | 748 |
| TOTAL VOLUMES : | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| APPROACH %'s : | 358 | 54 | 289 | 0 | 465 | 93 | 116 | 0 | 174 | 2064 | 153 | 71 | 147 | 1612 | 466 | 57 | 6119 |
| 51.07% | 7.70% | 41.23% | 0.00% | | 68.99% | 13.80% | 17.21% | 0.00% | 7.07% | 83.83% | 6.21% | 2.88% | 6.44% | 70.64% | 20.42% | 2.50% | |
| PEAK HR : | 04:15 PM - 05:15 PM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 215 | 30 | 162 | 0 | 234 | 48 | 60 | 0 | 96 | 1046 | 86 | 33 | 64 | 813 | 230 | 32 | 3149 |
| PEAK HR FACTOR : | 0.768 | 0.750 | 0.623 | 0.000 | 0.914 | 0.750 | 0.625 | 0.000 | 0.727 | 0.918 | 0.768 | 0.688 | 0.800 | 0.813 | 0.898 | 0.667 | 0.934 |
| | 0.808 | | | | 0.919 | | | | 0.924 | | | | 0.855 | | | | |

National Data & Surveying Services
Intersection Turning Movement Count

Location: Sports Pkwy/Town Center Dwy & Del Paso Rd
City: Sacramento
Control: Signalized

Project ID: 19-07475-001
Date: 12/10/2019

Bikes

| NS/EW Streets: | Sports Pkwy/Town Center Dwy | | | | Sports Pkwy/Town Center Dwy | | | | Del Paso Rd | | | | Del Paso Rd | | | | |
|-------------------------|-----------------------------|---------|---------|---------|-----------------------------|---------|---------|---------|-------------|---------|---------|---------|-------------|---------|---------|---------|--------------|
| AM | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
| | 0 NL | 0 NT | 0 NR | 0 NU | 0 SL | 0 ST | 0 SR | 0 SU | 0 EL | 0 ET | 0 ER | 0 EU | 0 WL | 0 WT | 0 WR | 0 WU | |
| 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 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 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 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 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 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL VOLUMES : | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| APPROACH %'s : | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 1 | 0 | 0 | 11 |
| PEAK HR : | 07:30 AM - 08:30 AM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| PEAK HR FACTOR : | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.292 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.292 |

| PM | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
|-------------------------|----------------------------|---------|---------|---------|------------|---------|---------|---------|-----------|---------|---------|---------|-----------|---------|---------|---------|--------------|
| PM | 0 NL | 0 NT | 0 NR | 0 NU | 0 SL | 0 ST | 0 SR | 0 SU | 0 EL | 0 ET | 0 ER | 0 EU | 0 WL | 0 WT | 0 WR | 0 WU | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 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 | 1 | 0 | 0 | 0 | 0 | 0 | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| TOTAL VOLUMES : | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| APPROACH %'s : | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 7 |
| PEAK HR : | 04:15 PM - 05:15 PM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 4 |
| PEAK HR FACTOR : | 0.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.250 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.500 | 0.250 | 0.000 | 0.500 |

National Data & Surveying Services

Intersection Turning Movement Count

Location: Sports Pkwy/Town Center Dwy & Del Paso Rd
City: Sacramento

Project ID: 19-07475-001
Date: 12/10/2019

Pedestrians (Crosswalks)

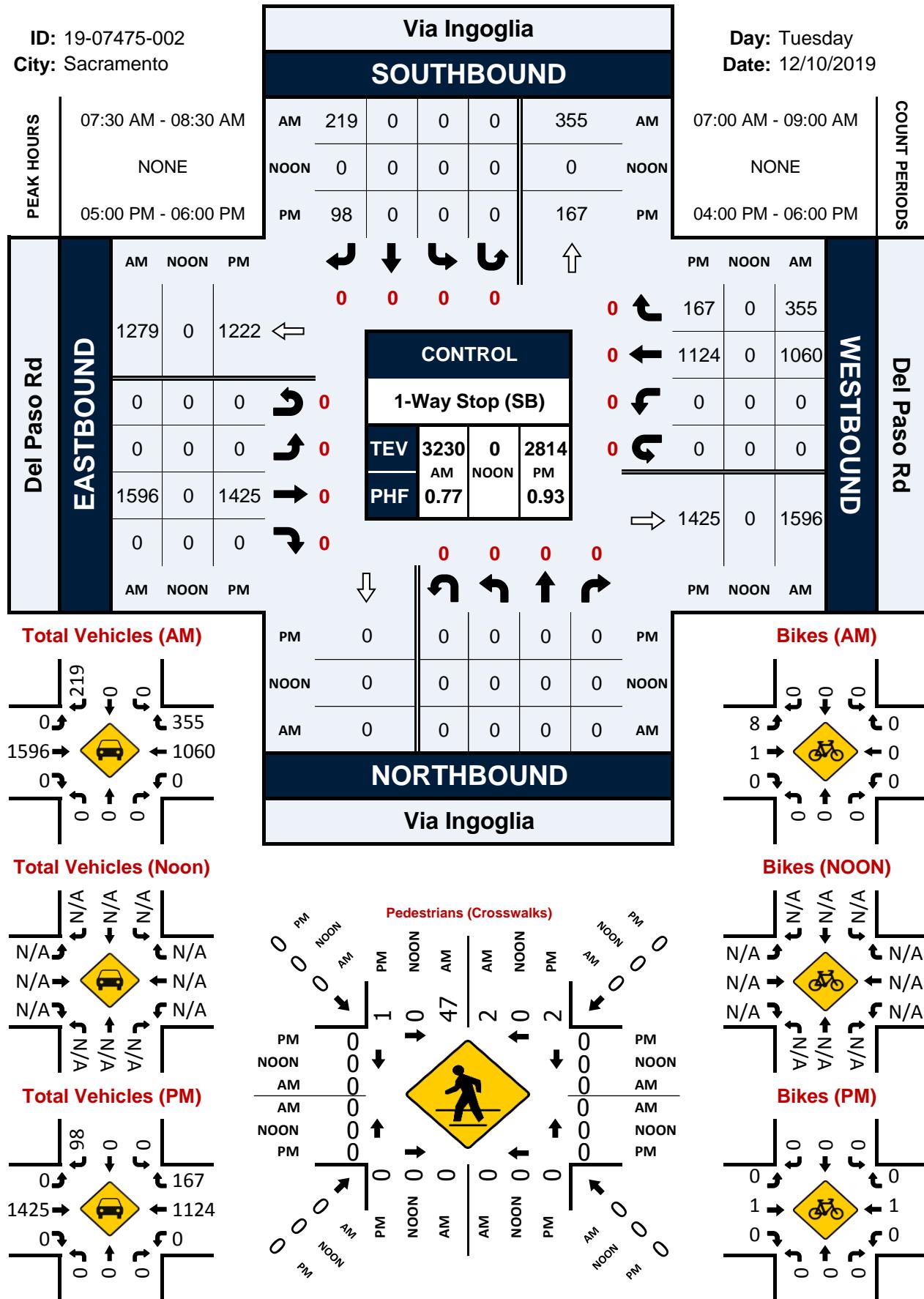
| NS/EW Streets: | Sports Pkwy/Town Center Dwy | | Sports Pkwy/Town Center Dwy | | Del Paso Rd | | Del Paso Rd | | TOTAL |
|-------------------------|-----------------------------|---------|-----------------------------|---------|-------------|---------|-------------|---------|---------------------|
| | NORTH LEG | | SOUTH LEG | | EAST LEG | | WEST LEG | | |
| AM | EB | WB | EB | WB | NB | SB | NB | SB | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 2 | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 7 |
| 7:30 AM | 9 | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 15 |
| 7:45 AM | 8 | 2 | 4 | 0 | 7 | 0 | 4 | 0 | 25 |
| 8:00 AM | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 4 |
| 8:15 AM | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL VOLUMES : | EB 21 | WB 8 | EB 7 | WB 1 | NB 9 | SB 0 | NB 9 | SB 1 | TOTAL 56 |
| APPROACH %'s : | 72.41% | 27.59% | 87.50% | 12.50% | 100.00% | 0.00% | 90.00% | 10.00% | |
| PEAK HR : | 07:30 AM - 08:30 AM | | | | | | | | TOTAL |
| PEAK HR VOL : | 19 | 4 | 7 | 1 | 9 | 0 | 7 | 1 | 48 |
| PEAK HR FACTOR : | 0.528 | 0.500 | 0.438 | 0.250 | 0.321 | 0.321 | 0.438 | 0.250 | 0.480 |
| | | | 0.500 | | | | 0.500 | | |

| PM | NORTH LEG | | SOUTH LEG | | EAST LEG | | WEST LEG | | TOTAL |
|-------------------------|----------------------------|---------|-----------|---------|----------|---------|----------|---------|---------------------|
| | EB | WB | EB | WB | NB | SB | NB | SB | |
| 4:00 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 4:15 PM | 2 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 5 |
| 4:30 PM | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4:45 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| 5:15 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 |
| 5:30 PM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL VOLUMES : | EB 2 | WB 3 | EB 2 | WB 3 | NB 0 | SB 0 | NB 4 | SB 2 | TOTAL 16 |
| APPROACH %'s : | 40.00% | 60.00% | 40.00% | 60.00% | | | 66.67% | 33.33% | |
| PEAK HR : | 04:15 PM - 05:15 PM | | | | | | | | TOTAL |
| PEAK HR VOL : | 2 | 2 | 1 | 1 | 0 | 0 | 4 | 0 | 10 |
| PEAK HR FACTOR : | 0.250 | 0.500 | 0.250 | 0.250 | 0.333 | | 0.500 | 0.500 | 0.500 |

Via Ingoglia & Del Paso Rd**Peak Hour Turning Movement Count**

ID: 19-07475-002
City: Sacramento

Day: Tuesday
Date: 12/10/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: Via Ingoglia & Del Paso Rd
City: Sacramento
Control: 1-Way Stop (SB)

Project ID: 19-07475-002
Date: 12/10/2019

Total

| NS/EW Streets: | Via Ingoglia | | | | Via Ingoglia | | | | Del Paso Rd | | | | Del Paso Rd | | | | TOTAL |
|------------------|---------------------|---------|---------|---------|--------------|---------|---------|---------|-------------|---------|---------|---------|-------------|---------|---------|---------|-------|
| | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
| AM | 0 NL | 0 NT | 0 NR | 0 NU | 0 SL | 0 ST | 0 SR | 0 SU | 0 EL | 0 ET | 0 ER | 0 EU | 0 WL | 0 WT | 0 WR | 0 WU | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 188 | 0 | 0 | 0 | 138 | 31 | 0 | 387 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 0 | 0 | 250 | 0 | 0 | 0 | 179 | 47 | 0 | 508 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 0 | 0 | 413 | 0 | 0 | 0 | 300 | 96 | 0 | 866 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 73 | 0 | 0 | 478 | 0 | 0 | 0 | 314 | 182 | 0 | 1047 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 71 | 0 | 0 | 383 | 0 | 0 | 0 | 270 | 56 | 0 | 780 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 322 | 0 | 0 | 0 | 176 | 21 | 0 | 537 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 223 | 0 | 0 | 0 | 194 | 9 | 0 | 439 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 254 | 0 | 0 | 0 | 156 | 9 | 0 | 431 |
| TOTAL VOLUMES : | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| APPROACH %'s : | 0 | 0 | 0 | 0 | 0 | 0 | 306 | 0 | 0 | 2511 | 0 | 0 | 0 | 1727 | 451 | 0 | 4995 |
| PEAK HR : | 07:30 AM - 08:30 AM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 0 | 0 | 0 | 0 | 0 | 0 | 219 | 0 | 0 | 1596 | 0 | 0 | 0 | 1060 | 355 | 0 | 3230 |
| PEAK HR FACTOR : | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.750 | 0.000 | 0.000 | 0.835 | 0.000 | 0.000 | 0.000 | 0.844 | 0.488 | 0.000 | 0.771 |

| PM | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | TOTAL |
|------------------|---------------------|---------|---------|---------|------------|---------|---------|---------|-----------|---------|---------|---------|-----------|---------|---------|---------|-------|
| | 0 NL | 0 NT | 0 NR | 0 NU | 0 SL | 0 ST | 0 SR | 0 SU | 0 EL | 0 ET | 0 ER | 0 EU | 0 WL | 0 WT | 0 WR | 0 WU | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 360 | 0 | 0 | 0 | 253 | 24 | 0 | 661 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 377 | 0 | 0 | 0 | 272 | 16 | 0 | 682 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 331 | 0 | 0 | 0 | 237 | 25 | 0 | 610 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 0 | 383 | 0 | 0 | 0 | 230 | 30 | 0 | 666 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 0 | 391 | 0 | 0 | 0 | 317 | 23 | 0 | 759 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 335 | 0 | 0 | 0 | 290 | 36 | 0 | 682 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 342 | 0 | 0 | 0 | 284 | 47 | 0 | 693 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 357 | 0 | 0 | 0 | 233 | 61 | 0 | 680 |
| TOTAL VOLUMES : | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| APPROACH %'s : | 0 | 0 | 0 | 0 | 0 | 0 | 179 | 0 | 0 | 2876 | 0 | 0 | 0 | 2116 | 262 | 0 | 5433 |
| PEAK HR : | 05:00 PM - 06:00 PM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 0 | 0 | 0 | 0 | 0 | 0 | 98 | 0 | 0 | 1425 | 0 | 0 | 0 | 1124 | 167 | 0 | 2814 |
| PEAK HR FACTOR : | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.845 | 0.000 | 0.000 | 0.911 | 0.000 | 0.000 | 0.000 | 0.886 | 0.684 | 0.000 | 0.927 |

National Data & Surveying Services
Intersection Turning Movement Count

Location: Via Ingoglia & Del Paso Rd
City: Sacramento
Control: 1-Way Stop (SB)

Project ID: 19-07475-002
Date: 12/10/2019

Bikes

| NS/EW Streets: | Via Ingoglia | | | | Via Ingoglia | | | | Del Paso Rd | | | | Del Paso Rd | | | | |
|-------------------------|----------------------------|---------|---------|---------|--------------|---------|---------|---------|-------------|---------|---------|---------|-------------|---------|---------|---------|--------------|
| | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
| AM | 0 NL | 0 NT | 0 NR | 0 NU | 0 SL | 0 ST | 0 SR | 0 SU | 0 EL | 0 ET | 0 ER | 0 EU | 0 WL | 0 WT | 0 WR | 0 WU | TOTAL |
| 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 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL VOLUMES : | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| APPROACH %'s : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 12 |
| PEAK HR : | 07:30 AM - 08:30 AM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| PEAK HR FACTOR : | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.333 | 0.250 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.375 | |
| PM | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
| | 0 NL | 0 NT | 0 NR | 0 NU | 0 SL | 0 ST | 0 SR | 0 SU | 0 EL | 0 ET | 0 ER | 0 EU | 0 WL | 0 WT | 0 WR | 0 WU | TOTAL |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| TOTAL VOLUMES : | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| APPROACH %'s : | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 7 |
| PEAK HR : | 05:00 PM - 06:00 PM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| PEAK HR FACTOR : | 0.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.250 | 0.000 | 0.000 | 0.000 | 0.250 | 0.000 | 0.500 | |

National Data & Surveying Services

Intersection Turning Movement Count

Location: Via Ingoglia & Del Paso Rd
City: Sacramento

Project ID: 19-07475-002
Date: 12/10/2019

Pedestrians (Crosswalks)

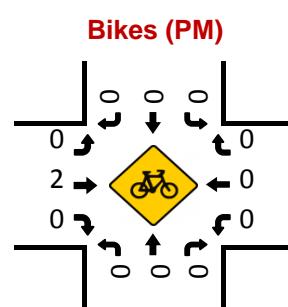
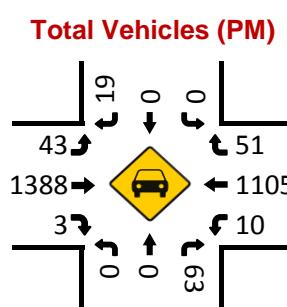
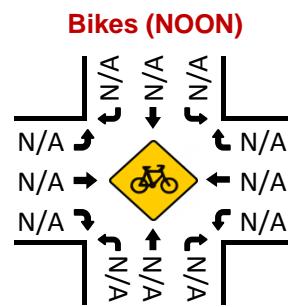
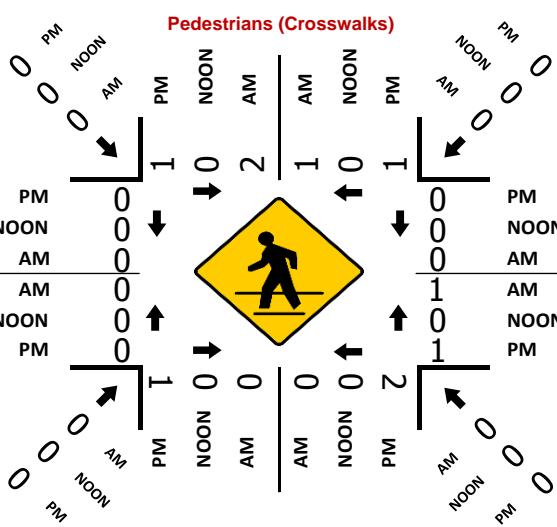
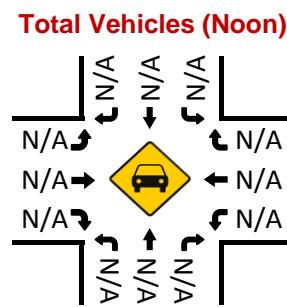
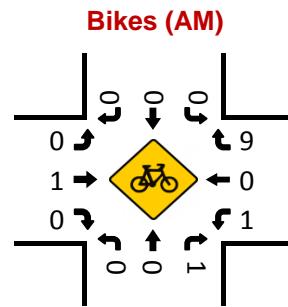
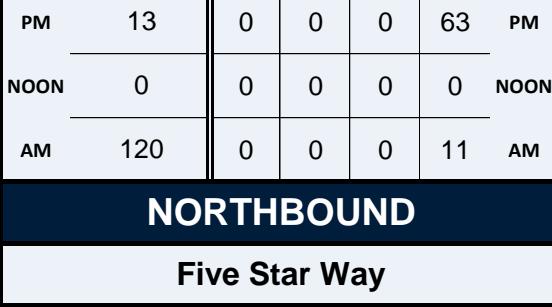
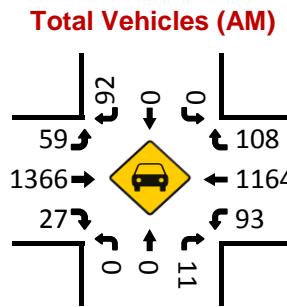
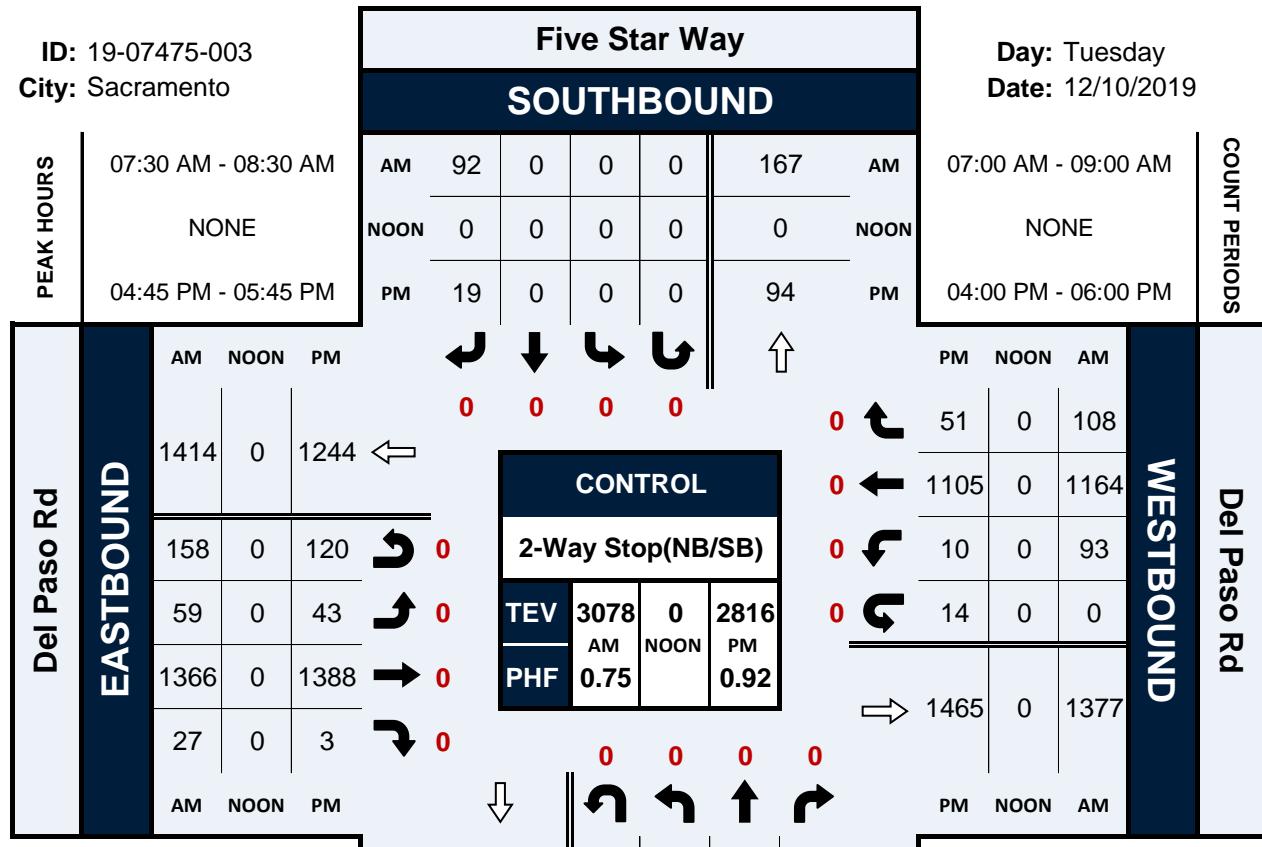
| NS/EW Streets: | Via Ingoglia | | Via Ingoglia | | Del Paso Rd | | Del Paso Rd | | |
|-------------------------|----------------------------|-------|--------------|----|-------------|----|-------------|----|--------------|
| AM | NORTH LEG | | SOUTH LEG | | EAST LEG | | WEST LEG | | TOTAL |
| | EB | WB | EB | WB | NB | SB | NB | SB | |
| 7:00 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 AM | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 7:30 AM | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| 7:45 AM | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 |
| 8:00 AM | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 8:15 AM | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL VOLUMES : | EB | WB | EB | WB | NB | SB | NB | SB | TOTAL |
| APPROACH %'s : | 50 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 58 |
| PEAK HR : | 07:30 AM - 08:30 AM | | | | | | | | TOTAL |
| PEAK HR VOL : | 47 | 2 | | | | | | | 49 |
| PEAK HR FACTOR : | 0.452 | 0.250 | | | | | | | 0.471 |
| | | | | | | | | | |
| | | | | | | | | | |

| PM | NORTH LEG | | SOUTH LEG | | EAST LEG | | WEST LEG | | TOTAL |
|------------------|----------------------------|---------|-----------|---------|----------|---------|----------|---------|-------------|
| | EB | WB | EB | WB | NB | SB | NB | SB | |
| 4:00 PM | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| TOTAL VOLUMES : | EB 5 | WB 6 | EB 0 | WB 0 | NB 0 | SB 0 | NB 0 | SB 0 | TOTAL 11 |
| APPROACH %'s : | 45.45% | 54.55% | | | | | | | |
| PEAK HR : | 05:00 PM - 06:00 PM | | | | | | | | TOTAL |
| PEAK HR VOL : | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| PEAK HR FACTOR : | 0.250 | 0.250 | 0.375 | | | | | | 0.375 |

Five Star Way & Del Paso Rd**Peak Hour Turning Movement Count**

ID: 19-07475-003
City: Sacramento

Day: Tuesday
Date: 12/10/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: Five Star Way & Del Paso Rd
City: Sacramento
Control: 2-Way Stop(NB/SB)

Project ID: 19-07475-003
Date: 12/10/2019

Total

| NS/EW Streets: | Five Star Way | | | | Five Star Way | | | | Del Paso Rd | | | | Del Paso Rd | | | | |
|-------------------------|----------------------------|-------|-------|-------|---------------|-------|-------|-------|-------------|-------|-------|-------|-------------|-------|-------|-------|-------|
| | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
| AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | TOTAL |
| 7:00 AM | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 6 | 148 | 2 | 24 | 17 | 144 | 2 | 1 | 350 |
| 7:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 7 | 0 | 7 | 187 | 2 | 43 | 13 | 172 | 6 | 3 | 441 |
| 7:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 10 | 0 | 10 | 311 | 6 | 72 | 17 | 322 | 14 | 0 | 764 |
| 7:45 AM | 0 | 0 | 4 | 0 | 0 | 0 | 45 | 0 | 26 | 410 | 12 | 42 | 26 | 403 | 59 | 0 | 1027 |
| 8:00 AM | 0 | 0 | 3 | 0 | 0 | 0 | 32 | 0 | 18 | 354 | 6 | 30 | 27 | 257 | 29 | 0 | 756 |
| 8:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 0 | 5 | 291 | 3 | 14 | 23 | 182 | 6 | 0 | 531 |
| 8:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 4 | 195 | 6 | 12 | 11 | 189 | 5 | 1 | 426 |
| 8:45 AM | 0 | 0 | 5 | 0 | 0 | 0 | 17 | 0 | 8 | 219 | 8 | 6 | 13 | 145 | 8 | 1 | 430 |
| TOTAL VOLUMES : | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| APPROACH %'s : | 0 | 0 | 21 | 0 | 0 | 0 | 121 | 0 | 84 | 2115 | 45 | 243 | 147 | 1814 | 129 | 6 | 4725 |
| PEAK HR : | 07:30 AM - 08:30 AM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 0 | 0 | 11 | 0 | 0 | 0 | 92 | 0 | 59 | 1366 | 27 | 158 | 93 | 1164 | 108 | 0 | 3078 |
| PEAK HR FACTOR : | 0.000 | 0.000 | 0.688 | 0.000 | 0.000 | 0.000 | 0.511 | 0.000 | 0.567 | 0.833 | 0.563 | 0.549 | 0.861 | 0.722 | 0.458 | 0.000 | 0.749 |
| 0.688 | | | | | 0.511 | | | | 0.821 | | | | 0.699 | | | | |

| PM | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
|-------------------------|----------------------------|-------|-------|-------|------------|-------|-------|-------|-----------|-------|-------|-------|-----------|-------|-------|-------|-------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 4:00 PM | 0 | 0 | 18 | 0 | 0 | 0 | 11 | 0 | 12 | 314 | 3 | 17 | 5 | 243 | 13 | 9 | 645 |
| 4:15 PM | 0 | 0 | 7 | 0 | 0 | 0 | 9 | 0 | 20 | 370 | 3 | 17 | 3 | 264 | 18 | 6 | 717 |
| 4:30 PM | 0 | 0 | 13 | 0 | 0 | 0 | 7 | 0 | 7 | 341 | 1 | 22 | 4 | 236 | 8 | 5 | 644 |
| 4:45 PM | 0 | 0 | 17 | 0 | 0 | 0 | 5 | 0 | 11 | 367 | 2 | 30 | 4 | 232 | 9 | 5 | 682 |
| 5:00 PM | 0 | 0 | 28 | 0 | 0 | 0 | 7 | 0 | 14 | 380 | 0 | 31 | 2 | 294 | 8 | 1 | 765 |
| 5:15 PM | 0 | 0 | 8 | 0 | 0 | 0 | 5 | 0 | 7 | 329 | 0 | 22 | 1 | 292 | 13 | 3 | 680 |
| 5:30 PM | 0 | 0 | 10 | 0 | 0 | 0 | 2 | 0 | 11 | 312 | 1 | 37 | 3 | 287 | 21 | 5 | 689 |
| 5:45 PM | 0 | 0 | 9 | 0 | 0 | 0 | 6 | 0 | 18 | 312 | 1 | 38 | 3 | 249 | 20 | 6 | 662 |
| TOTAL VOLUMES : | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| APPROACH %'s : | 0 | 0 | 110 | 0 | 0 | 0 | 52 | 0 | 100 | 2725 | 11 | 214 | 25 | 2097 | 110 | 40 | 5484 |
| PEAK HR : | 04:45 PM - 05:45 PM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 0 | 0 | 63 | 0 | 0 | 0 | 19 | 0 | 43 | 1388 | 3 | 120 | 10 | 1105 | 51 | 14 | 2816 |
| PEAK HR FACTOR : | 0.000 | 0.000 | 0.563 | 0.000 | 0.000 | 0.000 | 0.679 | 0.000 | 0.768 | 0.913 | 0.375 | 0.811 | 0.625 | 0.940 | 0.607 | 0.700 | 0.920 |
| 0.563 | | | | | 0.679 | | | | 0.914 | | | | 0.934 | | | | |

National Data & Surveying Services
Intersection Turning Movement Count

Location: Five Star Way & Del Paso Rd
City: Sacramento
Control: 2-Way Stop(NB/SB)

Project ID: 19-07475-003
Date: 12/10/2019

Bikes

| NS/EW Streets: | Five Star Way | | | | Five Star Way | | | | Del Paso Rd | | | | Del Paso Rd | | | | |
|-------------------------|----------------------------|------------------|--------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------|------------------|------------------|------------------|--------------------|--------------------|------------------|----------------------|
| | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
| AM | 0 NL | 0 NT | 0 NR | 0 NU | 0 SL | 0 ST | 0 SR | 0 SU | 0 EL | 0 ET | 0 ER | 0 EU | 0 WL | 0 WT | 0 WR | 0 WU | TOTAL |
| 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 | 1 | 0 | 2 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 |
| 8:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 3 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 4 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL VOLUMES : | NL 0 0.00% | NT 0 0.00% | NR 1 100.00% | NU 0 0.00% | SL 0 0.00% | ST 0 0.00% | SR 0 0.00% | SU 0 0.00% | EL 0 0.00% | ET 2 100.00% | ER 0 0.00% | EU 0 0.00% | WL 1 7.69% | WT 1 7.69% | WR 11 84.62% | WU 0 0.00% | TOTAL 16 0.750 |
| PEAK HR : | 07:30 AM - 08:30 AM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 0 0.000 | 0 0.000 | 1 0.250 | 0 0.000 | 0 0.000 | 0 0.000 | 0 0.000 | 0 0.000 | 0 0.000 | 1 0.250 | 0 0.250 | 0 0.000 | 1 0.250 | 0 0.000 | 9 0.563 | 0 0.000 | 12 0.625 |
| PEAK HR FACTOR : | 0.250 | | | | | | | | | | | | | | | | |
| PM | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | |
| PM | 0 NL | 0 NT | 0 NR | 0 NU | 0 SL | 0 ST | 0 SR | 0 SU | 0 EL | 0 ET | 0 ER | 0 EU | 0 WL | 0 WT | 0 WR | 0 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| TOTAL VOLUMES : | NL 0 0.00% | NT 0 0.00% | NR 0 0.00% | NU 0 0.00% | SL 0 0.00% | ST 0 0.00% | SR 0 0.00% | SU 0 0.00% | EL 0 0.00% | ET 2 100.00% | ER 0 0.00% | EU 0 0.00% | WL 0 0.00% | WT 3 100.00% | WR 0 0.00% | WU 0 0.00% | TOTAL 5 0.250 |
| PEAK HR : | 04:45 PM - 05:45 PM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 0 0.00 | 0 0.000 | 0 0.000 | 0 0.000 | 0 0.000 | 0 0.000 | 0 0.000 | 0 0.000 | 0 0.000 | 2 0.250 | 0 0.000 | 0 0.000 | 0 0.000 | 0 0.000 | 0 0.000 | 0 0.000 | 2 0.250 |
| PEAK HR FACTOR : | 0.000 | | | | | | | | | | | | | | | | |

National Data & Surveying Services

Intersection Turning Movement Count

Location: Five Star Way & Del Paso Rd
City: Sacramento

Project ID: 19-07475-003
Date: 12/10/2019

Pedestrians (Crosswalks)

| NS/EW Streets: | Five Star Way | | Five Star Way | | Del Paso Rd | | Del Paso Rd | | |
|-------------------------|----------------------------|---------|---------------|---------|-------------|---------|-------------|---------|--------------------|
| | NORTH LEG | | SOUTH LEG | | EAST LEG | | WEST LEG | | |
| AM | EB | WB | EB | WB | NB | SB | NB | SB | TOTAL |
| 7:00 AM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:30 AM | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 7:45 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL VOLUMES : | EB 3 | WB 3 | EB 0 | WB 0 | NB 1 | SB 0 | NB 0 | SB 0 | TOTAL 7 |
| APPROACH %'s : | 50.00% | 50.00% | | | 100.00% | 0.00% | | | |
| PEAK HR : | 07:30 AM - 08:30 AM | | | | | | | | TOTAL |
| PEAK HR VOL : | 2 | 1 | | | 1 | 0 | 0 | 0 | 4 |
| PEAK HR FACTOR : | 0.250 | 0.250 | | | 0.250 | 0.250 | | | 0.333 |

| PM | NORTH LEG | | SOUTH LEG | | EAST LEG | | WEST LEG | | |
|-------------------------|----------------------------|---------|-----------|---------|----------|---------|----------|---------|---------------------|
| | EB | WB | EB | WB | NB | SB | NB | SB | |
| 4:00 PM | 2 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 7 |
| 4:15 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:30 PM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 5:15 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 5:30 PM | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 4 |
| 5:45 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| TOTAL VOLUMES : | EB 3 | WB 6 | EB 3 | WB 5 | NB 1 | SB 0 | NB 0 | SB 0 | TOTAL 18 |
| APPROACH %'s : | 33.33% | 66.67% | 37.50% | 62.50% | 100.00% | 0.00% | | | |
| PEAK HR : | 04:45 PM - 05:45 PM | | | | | | | | TOTAL |
| PEAK HR VOL : | 1 | 1 | | | 1 | 0 | 0 | 0 | 6 |
| PEAK HR FACTOR : | 0.250 | 0.250 | | | 0.250 | 0.250 | | | 0.375 |

Truxel Rd/Natomas Blvd & Del Paso Rd

Peak Hour Turning Movement Count

ID: 19-07475-004
City: Sacramento

Truxel Rd/Natomas Blvd

SOUTHBOUND

| | AM | 375 | 1105 | 284 | 2 | 876 | AM |
|------|-----|-----|------|-----|------|-----|------|
| NOON | 0 | 0 | 0 | 0 | 0 | 0 | NOON |
| PM | 311 | 448 | 149 | 5 | 1667 | | PM |

| AM | NOON | PM |
|------|------|------|
| 1366 | 0 | 1195 |
| 21 | 0 | 2 |
| 333 | 0 | 617 |
| 641 | 0 | 560 |
| 373 | 0 | 291 |

Del Paso Rd
EASTBOUND

| AM | NOON | PM |
|------|------|------|
| 1366 | 0 | 1195 |
| 21 | 0 | 2 |
| 333 | 0 | 617 |
| 641 | 0 | 560 |
| 373 | 0 | 291 |

CONTROL

Signalized

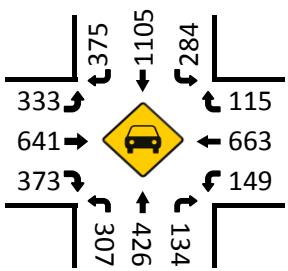
| TEV | 4932 | 0 | 4651 |
|-----|------|----|------|
| PHF | 0.83 | AM | 0.96 |

| PM | NOON | AM |
|-----|------|-----|
| 227 | 0 | 115 |
| 571 | 0 | 663 |
| 173 | 0 | 149 |
| 12 | 0 | 4 |

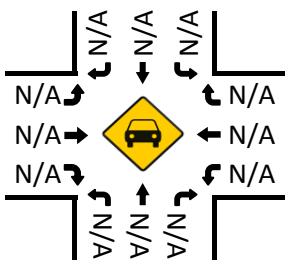
COUNT PERIODS

Del Paso Rd
WESTBOUND

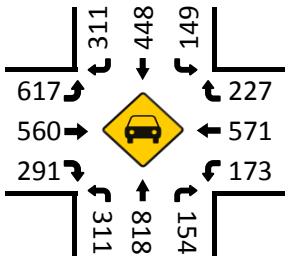
Total Vehicles (AM)



Total Vehicles (Noon)



Total Vehicles (PM)

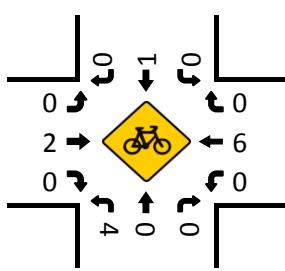


| PM | 2 | 311 | 818 | 154 | PM | |
|------|------|-----|-----|-----|------|----|
| NOON | 0 | 0 | 0 | 0 | NOON | |
| AM | 1627 | 0 | 307 | 426 | 134 | AM |

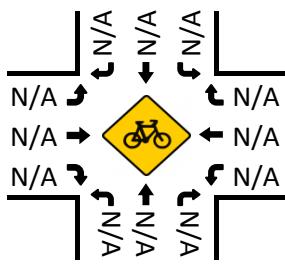
NORTHBOUND

Truxel Rd/Natomas Blvd

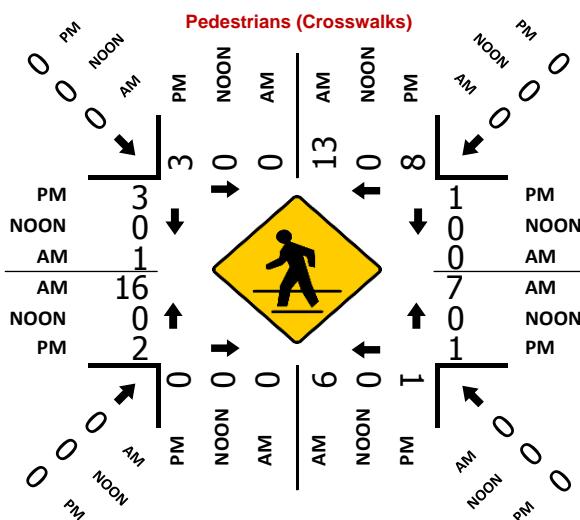
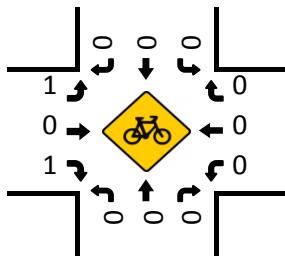
Bikes (AM)



Bikes (Noon)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Truxel Rd/Natomas Blvd & Del Paso Rd
City: Sacramento
Control: Signalized

Project ID: 19-07475-004
Date: 12/10/2019

| NS/EW Streets: | Total | | | | | | | | | | | | | | | | |
|-------------------------|----------------------------|---------|---------|---------|-------------|---------|---------|---------|-----------|---------|---------|---------|-----------|---------|---------|---------|--------------|
| | Truxel Rd/Natomas Blvd | | | | Del Paso Rd | | | | | | | | | | | | |
| AM | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | TOTAL |
| | 0 NL | 0 NT | 0 NR | 0 NU | 0 SL | 0 ST | 0 SR | 0 SU | 0 EL | 0 ET | 0 ER | 0 EU | 0 WL | 0 WT | 0 WR | 0 WU | |
| 7:00 AM | 29 | 58 | 15 | 0 | 34 | 254 | 81 | 0 | 30 | 77 | 31 | 0 | 8 | 57 | 15 | 0 | 689 |
| 7:15 AM | 39 | 77 | 16 | 1 | 45 | 279 | 90 | 0 | 45 | 95 | 62 | 0 | 22 | 59 | 15 | 0 | 845 |
| 7:30 AM | 87 | 97 | 34 | 0 | 53 | 255 | 99 | 0 | 65 | 134 | 100 | 2 | 24 | 176 | 31 | 1 | 1158 |
| 7:45 AM | 123 | 159 | 45 | 0 | 75 | 239 | 100 | 1 | 114 | 192 | 94 | 18 | 56 | 253 | 25 | 0 | 1494 |
| 8:00 AM | 52 | 86 | 22 | 0 | 81 | 313 | 98 | 0 | 87 | 178 | 97 | 1 | 40 | 150 | 25 | 0 | 1230 |
| 8:15 AM | 45 | 84 | 33 | 0 | 75 | 298 | 78 | 1 | 67 | 137 | 82 | 0 | 29 | 84 | 34 | 3 | 1050 |
| 8:30 AM | 37 | 78 | 25 | 0 | 59 | 189 | 55 | 1 | 56 | 91 | 59 | 0 | 24 | 120 | 17 | 3 | 814 |
| 8:45 AM | 21 | 60 | 20 | 0 | 49 | 163 | 67 | 0 | 48 | 121 | 53 | 0 | 16 | 76 | 18 | 1 | 713 |
| TOTAL VOLUMES : | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| APPROACH %'s : | 433 | 699 | 210 | 1 | 471 | 1990 | 668 | 3 | 512 | 1025 | 578 | 21 | 219 | 975 | 180 | 8 | 7993 |
| PEAK HR : | 07:30 AM - 08:30 AM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 307 | 426 | 134 | 0 | 284 | 1105 | 375 | 2 | 333 | 641 | 373 | 21 | 149 | 663 | 115 | 4 | 4932 |
| PEAK HR FACTOR : | 0.624 | 0.670 | 0.744 | 0.000 | 0.877 | 0.883 | 0.938 | 0.500 | 0.730 | 0.835 | 0.933 | 0.292 | 0.665 | 0.655 | 0.846 | 0.333 | 0.825 |
| PM | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | | TOTAL |
| | 0 NL | 0 NT | 0 NR | 0 NU | 0 SL | 0 ST | 0 SR | 0 SU | 0 EL | 0 ET | 0 ER | 0 EU | 0 WL | 0 WT | 0 WR | 0 WU | |
| 4:00 PM | 76 | 157 | 32 | 0 | 39 | 91 | 51 | 3 | 143 | 123 | 70 | 0 | 35 | 150 | 46 | 4 | 1020 |
| 4:15 PM | 66 | 144 | 46 | 0 | 50 | 108 | 64 | 5 | 156 | 143 | 88 | 1 | 31 | 148 | 69 | 4 | 1123 |
| 4:30 PM | 43 | 170 | 23 | 0 | 37 | 96 | 63 | 1 | 142 | 146 | 75 | 2 | 39 | 138 | 46 | 4 | 1025 |
| 4:45 PM | 76 | 218 | 41 | 1 | 33 | 118 | 57 | 2 | 144 | 152 | 82 | 1 | 37 | 122 | 56 | 3 | 1143 |
| 5:00 PM | 70 | 187 | 42 | 0 | 38 | 113 | 98 | 0 | 182 | 150 | 88 | 0 | 49 | 146 | 48 | 1 | 1212 |
| 5:15 PM | 77 | 215 | 28 | 1 | 39 | 99 | 77 | 0 | 147 | 125 | 62 | 0 | 50 | 152 | 60 | 3 | 1135 |
| 5:30 PM | 88 | 198 | 43 | 0 | 39 | 118 | 79 | 3 | 144 | 133 | 59 | 1 | 37 | 151 | 63 | 5 | 1161 |
| 5:45 PM | 82 | 189 | 37 | 0 | 48 | 109 | 72 | 0 | 123 | 138 | 58 | 0 | 32 | 125 | 61 | 1 | 1075 |
| TOTAL VOLUMES : | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| APPROACH %'s : | 578 | 1478 | 292 | 2 | 323 | 852 | 561 | 14 | 1181 | 1110 | 582 | 5 | 310 | 1132 | 449 | 25 | 8894 |
| PEAK HR : | 04:45 PM - 05:45 PM | | | | | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 311 | 818 | 154 | 2 | 149 | 448 | 311 | 5 | 617 | 560 | 291 | 2 | 173 | 571 | 227 | 12 | 4651 |
| PEAK HR FACTOR : | 0.884 | 0.938 | 0.895 | 0.500 | 0.955 | 0.949 | 0.793 | 0.417 | 0.848 | 0.921 | 0.827 | 0.500 | 0.865 | 0.939 | 0.901 | 0.600 | 0.959 |

National Data & Surveying Services

Intersection Turning Movement Count

Location: Truxel Rd/Natomas Blvd & Del Paso Rd
City: Sacramento
Control: Signalized

Project ID: 19-07475-004
Date: 12/10/2019

National Data & Surveying Services

Intersection Turning Movement Count

Location: Truxel Rd/Natomas Blvd & Del Paso Rd
City: Sacramento

Project ID: 19-07475-004
Date: 12/10/2019

Pedestrians (Crosswalks)

| NS/EW Streets: | Truxel Rd/Natomas Blvd | | Truxel Rd/Natomas Blvd | | Del Paso Rd | | Del Paso Rd | | | |
|-------------------------|------------------------|----------------------------|------------------------|-------|-------------|-------|-------------|-------|-------|-------|
| AM | NORTH LEG | | SOUTH LEG | | EAST LEG | | WEST LEG | | TOTAL | |
| | EB | WB | EB | WB | NB | SB | NB | SB | | |
| 7:00 AM | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | |
| | 1 | 1 | 0 | 4 | 0 | 0 | 3 | 0 | 9 | |
| | 0 | 4 | 0 | 2 | 2 | 0 | 10 | 0 | 18 | |
| | 0 | 6 | 0 | 5 | 5 | 0 | 6 | 0 | 22 | |
| | 8:00 AM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 3 | |
| | 8:15 AM | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 3 | |
| | 8:30 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | |
| | 8:45 AM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | |
| TOTAL VOLUMES : | | EB | WB | EB | WB | NB | SB | NB | SB | TOTAL |
| APPROACH %'s : | | 1 | 18 | 0 | 14 | 8 | 0 | 19 | 1 | |
| PEAK HR : | | 07:30 AM - 08:30 AM | | | | | | | | TOTAL |
| PEAK HR VOL : | | 0 | 13 | 0 | 9 | 7 | 0 | 16 | 1 | |
| PEAK HR FACTOR : | | 0.542 | | 0.450 | | 0.350 | | 0.400 | | 0.523 |
| | | 0.542 | | 0.450 | | 0.350 | | 0.425 | | |

| PM | NORTH LEG | | SOUTH LEG | | EAST LEG | | WEST LEG | | TOTAL | |
|-------------------------|-----------|----------------------------|-----------|-------|----------|-------|----------|-------|-------|----------------------|
| | EB | WB | EB | WB | NB | SB | NB | SB | | |
| 4:00 PM | 0 | 2 | 1 | 1 | 2 | 1 | 0 | 1 | 8 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 3 | |
| | 2 | 2 | 0 | 0 | 0 | 1 | 0 | 2 | 7 | |
| 5:00 PM | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | |
| | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 4 | |
| | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | |
| | 0 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 6 | |
| TOTAL VOLUMES : | | EB | WB | EB | WB | NB | SB | NB | SB | TOTAL 36 |
| APPROACH %'s : | | 3 | 12 | 1 | 4 | 6 | 3 | 2 | 5 | |
| PEAK HR : | | 04:45 PM - 05:45 PM | | | | | | | | TOTAL 19 0.679 |
| PEAK HR VOL : | | 3 | 8 | 0 | 1 | 1 | 1 | 2 | 3 | |
| PEAK HR FACTOR : | | 0.375 | 0.333 | | 0.250 | 0.250 | 0.250 | 0.250 | 0.375 | |
| | | 0.458 | | 0.250 | | 0.500 | | 0.625 | | |

Queues

1: DEL PASO RD & TOWN CENTER DR

AM EXISTING

01/10/2020



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 65 | 1169 | 139 | 172 | 916 | 186 | 49 | 8 | 108 | 309 | 108 | 114 |
| v/c Ratio | 0.40 | 0.71 | 0.25 | 0.64 | 0.44 | 0.26 | 0.19 | 0.04 | 0.40 | 0.74 | 0.19 | 0.21 |
| Control Delay | 59.9 | 36.5 | 16.6 | 58.4 | 25.7 | 11.3 | 56.2 | 46.1 | 13.0 | 53.4 | 33.6 | 7.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 59.9 | 36.5 | 16.6 | 58.4 | 25.7 | 11.3 | 56.2 | 46.1 | 13.0 | 53.4 | 33.6 | 7.0 |
| Queue Length 50th (ft) | 42 | 241 | 30 | 109 | 158 | 29 | 15 | 5 | 0 | 189 | 58 | 0 |
| Queue Length 95th (ft) | 112 | 439 | 107 | 239 | 294 | 106 | 46 | 21 | 51 | #516 | 122 | 44 |
| Internal Link Dist (ft) | | 950 | | | 915 | | | 671 | | | 1478 | |
| Turn Bay Length (ft) | 175 | | 135 | 250 | | 140 | 215 | | | | | 140 |
| Base Capacity (vph) | 420 | 2118 | 701 | 420 | 2224 | 756 | 815 | 790 | 733 | 420 | 803 | 747 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.15 | 0.55 | 0.20 | 0.41 | 0.41 | 0.25 | 0.06 | 0.01 | 0.15 | 0.74 | 0.13 | 0.15 |

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
1: DEL PASO RD & TOWN CENTER DR

AM EXISTING

01/10/2020

| Movement | EBL | EBT | EBC | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑↑↑ | | ↑ | ↑↑↑ | | ↑ | ↑↑ | | ↑ | ↑ | ↑ |
| Traffic Volume (veh/h) | 65 | 1169 | 139 | 172 | 916 | 186 | 49 | 8 | 108 | 309 | 108 | 114 |
| Future Volume (veh/h) | 65 | 1169 | 139 | 172 | 916 | 186 | 49 | 8 | 108 | 309 | 108 | 114 |
| Initial Q (Q _b), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 65 | 1169 | 139 | 172 | 916 | 186 | 49 | 8 | 108 | 309 | 108 | 114 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 134 | 1758 | 546 | 233 | 2042 | 634 | 226 | 181 | 154 | 356 | 433 | 367 |
| Arrive On Green | 0.08 | 0.34 | 0.34 | 0.13 | 0.40 | 0.40 | 0.07 | 0.10 | 0.10 | 0.20 | 0.23 | 0.23 |
| Sat Flow, veh/h | 1781 | 5106 | 1585 | 1781 | 5106 | 1585 | 3456 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 65 | 1169 | 139 | 172 | 916 | 186 | 49 | 8 | 108 | 309 | 108 | 114 |
| Grp Sat Flow(s), veh/h/ln | 1781 | 1702 | 1585 | 1781 | 1702 | 1585 | 1728 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.9 | 16.1 | 5.2 | 7.7 | 10.8 | 6.6 | 1.1 | 0.3 | 5.4 | 13.8 | 3.9 | 4.9 |
| Cycle Q Clear(g_c), s | 2.9 | 16.1 | 5.2 | 7.7 | 10.8 | 6.6 | 1.1 | 0.3 | 5.4 | 13.8 | 3.9 | 4.9 |
| Prop In Lane | 1.00 | | | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 134 | 1758 | 546 | 233 | 2042 | 634 | 226 | 181 | 154 | 356 | 433 | 367 |
| V/C Ratio(X) | 0.49 | 0.66 | 0.25 | 0.74 | 0.45 | 0.29 | 0.22 | 0.04 | 0.70 | 0.87 | 0.25 | 0.31 |
| Avail Cap(c_a), veh/h | 551 | 2767 | 859 | 551 | 2767 | 859 | 1068 | 1032 | 874 | 551 | 1032 | 874 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.6 | 23.0 | 19.4 | 34.5 | 18.1 | 16.8 | 36.5 | 33.8 | 36.1 | 31.9 | 25.8 | 26.2 |
| Incr Delay (d2), s/veh | 2.7 | 0.4 | 0.2 | 4.5 | 0.2 | 0.3 | 0.5 | 0.1 | 5.7 | 9.0 | 0.3 | 0.5 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%), veh/ln | 1.3 | 6.2 | 1.9 | 3.5 | 4.1 | 2.3 | 0.5 | 0.1 | 2.3 | 6.7 | 1.7 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 39.3 | 23.4 | 19.7 | 39.0 | 18.2 | 17.1 | 37.0 | 33.9 | 41.8 | 40.9 | 26.1 | 26.7 |
| LnGrp LOS | D | C | B | D | B | B | D | C | D | D | C | C |
| Approach Vol, veh/h | | 1373 | | | 1274 | | | 165 | | | 531 | |
| Approach Delay, s/veh | | 23.8 | | | 20.9 | | | 40.0 | | | 34.8 | |
| Approach LOS | | C | | | C | | | D | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+R _c), s | 21.0 | 12.5 | 15.3 | 33.7 | 9.9 | 23.6 | 10.7 | 38.3 | | | | |
| Change Period (Y+R _c), s | 4.5 | 4.5 | 4.5 | 5.3 | 4.5 | 4.5 | 4.5 | 5.3 | | | | |
| Max Green Setting (Gmax), s | 25.5 | 45.5 | 25.5 | 44.7 | 25.5 | 45.5 | 25.5 | 44.7 | | | | |
| Max Q Clear Time (g _{c+l1}), s | 15.8 | 7.4 | 9.7 | 18.1 | 3.1 | 6.9 | 4.9 | 12.8 | | | | |
| Green Ext Time (p _c), s | 0.7 | 0.4 | 0.4 | 10.3 | 0.1 | 1.0 | 0.1 | 8.4 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 25.2 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved pedestrian interval to be less than phase max green. | | | | | | | | | | | | |

| Intersection | | | | | | |
|--------------------------|--------|--------|--------|------|------|------|
| Int Delay, s/veh | 1.7 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 1596 | 1060 | 355 | 0 | 219 |
| Future Vol, veh/h | 0 | 1596 | 1060 | 355 | 0 | 219 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | Free | - | None |
| Storage Length | - | - | - | 0 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 100 | 100 | 100 | 100 | 100 | 100 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1596 | 1060 | 355 | 0 | 219 |
| Major/Minor | Major1 | Major2 | Minor2 | | | |
| Conflicting Flow All | - | 0 | - | 0 | - | 530 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 7.14 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.92 |
| Pot Cap-1 Maneuver | 0 | - | - | 0 | 0 | 422 |
| Stage 1 | 0 | - | - | 0 | 0 | - |
| Stage 2 | 0 | - | - | 0 | 0 | - |
| Platoon blocked, % | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | - | - | - | 422 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Approach | EB | WB | SB | | | |
| HCM Control Delay, s | 0 | 0 | 22.4 | | | |
| HCM LOS | | | C | | | |
| Minor Lane/Major Mvmt | EBT | WBT | SBLn1 | | | |
| Capacity (veh/h) | - | - | 422 | | | |
| HCM Lane V/C Ratio | - | - | 0.519 | | | |
| HCM Control Delay (s) | - | - | 22.4 | | | |
| HCM Lane LOS | - | - | C | | | |
| HCM 95th %tile Q(veh) | - | - | 2.9 | | | |

HCM 6th TWSC
3: FIVE STAR WAY & DEL PASO RD

AM EXISTING
01/10/2020

Intersection

Int Delay, s/veh 2.1

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑↑ | ↑ | ↑ | ↑↑ | ↑ | | | ↑ | | | ↑ |
| Traffic Vol, veh/h | 217 | 1366 | 27 | 93 | 1164 | 108 | 0 | 0 | 11 | 0 | 0 | 92 |
| Future Vol, veh/h | 217 | 1366 | 27 | 93 | 1164 | 108 | 0 | 0 | 11 | 0 | 0 | 92 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | 225 | - | 145 | 225 | - | 175 | - | - | 0 | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 217 | 1366 | 27 | 93 | 1164 | 108 | 0 | 0 | 11 | 0 | 0 | 92 |

| Major/Minor | Major1 | Major2 | | | Minor1 | | Minor2 | | | | | |
|----------------------|--------|--------|---|------|--------|---|--------|---|------|---|---|------|
| Conflicting Flow All | 1272 | 0 | 0 | 1393 | 0 | 0 | - | - | 683 | - | - | 582 |
| Stage 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | - | - | 6.94 | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | - | - | 3.32 | - | - | 3.32 |
| Pot Cap-1 Maneuver | 542 | - | - | 487 | - | - | 0 | 0 | 392 | 0 | 0 | 456 |
| Stage 1 | - | - | - | - | - | - | 0 | 0 | - | 0 | 0 | - |
| Stage 2 | - | - | - | - | - | - | 0 | 0 | - | 0 | 0 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 542 | - | - | 487 | - | - | - | - | 392 | - | - | 456 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - | - | - | - | - | - | - |

| Approach | EB | WB | | | NB | | SB | | |
|-----------------------|-------|-----|-----|-----|-------|-----|------|-------|--|
| HCM Control Delay, s | 2.2 | 1 | | | 14.4 | | 14.9 | | |
| HCM LOS | | | | | B | | B | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | |
| Capacity (veh/h) | 392 | 542 | - | - | 487 | - | - | 456 | |
| HCM Lane V/C Ratio | 0.028 | 0.4 | - | - | 0.191 | - | - | 0.202 | |
| HCM Control Delay (s) | 14.4 | 16 | - | - | 14.1 | - | - | 14.9 | |
| HCM Lane LOS | B | C | - | - | B | - | - | B | |
| HCM 95th %tile Q(veh) | 0.1 | 1.9 | - | - | 0.7 | - | - | 0.7 | |

Queues

AM EXISTING

01/10/2020

4: TRUXEL RD/NATOMAS BLVD & DEL PASO RD



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 354 | 641 | 373 | 153 | 663 | 115 | 307 | 426 | 134 | 286 | 1105 | 375 |
| v/c Ratio | 0.53 | 0.53 | 0.59 | 0.37 | 0.60 | 0.27 | 0.60 | 0.27 | 0.14 | 0.58 | 0.71 | 0.46 |
| Control Delay | 51.1 | 39.2 | 10.0 | 53.0 | 43.2 | 12.7 | 52.8 | 30.7 | 5.8 | 53.0 | 38.4 | 18.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.1 | 39.2 | 10.0 | 53.0 | 43.2 | 12.7 | 52.8 | 30.7 | 5.8 | 53.0 | 38.4 | 18.7 |
| Queue Length 50th (ft) | 85 | 146 | 20 | 53 | 158 | 10 | 107 | 82 | 0 | 101 | 253 | 141 |
| Queue Length 95th (ft) | 147 | 219 | 115 | 108 | 241 | 63 | 191 | 142 | 27 | 180 | 394 | 288 |
| Internal Link Dist (ft) | | 1121 | | | 2071 | | | 1263 | | | 887 | |
| Turn Bay Length (ft) | 275 | | 145 | 235 | | 140 | 250 | | 230 | 225 | | 150 |
| Base Capacity (vph) | 1106 | 2074 | 845 | 799 | 2074 | 704 | 799 | 2063 | 1210 | 799 | 2056 | 944 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.32 | 0.31 | 0.44 | 0.19 | 0.32 | 0.16 | 0.38 | 0.21 | 0.11 | 0.36 | 0.54 | 0.40 |

Intersection Summary

HCM 6th Signalized Intersection Summary
4: TRUXEL RD/NATOMAS BLVD & DEL PASO RD

AM EXISTING

01/10/2020

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑↑↑ | ↑↑↑ | ↑ | ↑↑↑ | ↑↑↑ | ↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑ |
| Traffic Volume (veh/h) | 354 | 641 | 373 | 153 | 663 | 115 | 307 | 426 | 134 | 286 | 1105 | 375 |
| Future Volume (veh/h) | 354 | 641 | 373 | 153 | 663 | 115 | 307 | 426 | 134 | 286 | 1105 | 375 |
| Initial Q (Q _b), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No | | | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 354 | 641 | 373 | 153 | 663 | 115 | 307 | 426 | 134 | 286 | 1105 | 375 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 542 | 1470 | 456 | 401 | 1456 | 452 | 404 | 1528 | 835 | 404 | 1527 | 645 |
| Arrive On Green | 0.11 | 0.29 | 0.29 | 0.12 | 0.29 | 0.29 | 0.12 | 0.30 | 0.30 | 0.12 | 0.30 | 0.30 |
| Sat Flow, veh/h | 5023 | 5106 | 1585 | 3456 | 5106 | 1585 | 3456 | 5106 | 2790 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 354 | 641 | 373 | 153 | 663 | 115 | 307 | 426 | 134 | 286 | 1105 | 375 |
| Grp Sat Flow(s), veh/h/ln | 1674 | 1702 | 1585 | 1728 | 1702 | 1585 | 1728 | 1702 | 1395 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 7.5 | 11.4 | 24.4 | 4.6 | 11.9 | 6.2 | 9.6 | 7.1 | 3.9 | 8.9 | 21.5 | 20.4 |
| Cycle Q Clear(g_c), s | 7.5 | 11.4 | 24.4 | 4.6 | 11.9 | 6.2 | 9.6 | 7.1 | 3.9 | 8.9 | 21.5 | 20.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 542 | 1470 | 456 | 401 | 1456 | 452 | 404 | 1528 | 835 | 404 | 1527 | 645 |
| V/C Ratio(X) | 0.65 | 0.44 | 0.82 | 0.38 | 0.46 | 0.25 | 0.76 | 0.28 | 0.16 | 0.71 | 0.72 | 0.58 |
| Avail Cap(c_a), veh/h | 1098 | 2054 | 638 | 793 | 2054 | 638 | 793 | 2035 | 1112 | 793 | 2035 | 803 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.6 | 32.2 | 36.8 | 45.4 | 32.6 | 30.6 | 47.6 | 29.8 | 28.7 | 47.2 | 34.8 | 25.6 |
| Incr Delay (d2), s/veh | 1.3 | 0.2 | 5.8 | 0.6 | 0.2 | 0.3 | 3.0 | 0.1 | 0.1 | 2.3 | 0.9 | 0.8 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%), veh/ln | 3.2 | 4.7 | 10.0 | 2.0 | 4.9 | 2.4 | 4.3 | 2.9 | 1.3 | 3.9 | 8.9 | 7.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 48.9 | 32.4 | 42.6 | 46.0 | 32.9 | 30.9 | 50.5 | 29.9 | 28.8 | 49.5 | 35.7 | 26.4 |
| LnGrp LOS | D | C | D | D | C | C | D | C | C | D | D | C |
| Approach Vol, veh/h | 1368 | | | | 931 | | | 867 | | | 1766 | |
| Approach Delay, s/veh | 39.5 | | | | 34.8 | | | 37.0 | | | 36.0 | |
| Approach LOS | D | | | | C | | | D | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+R _c), s | 17.5 | 38.9 | 17.4 | 37.3 | 17.5 | 38.9 | 17.7 | 37.0 | | | | |
| Change Period (Y+R _c), s | 4.5 | 5.7 | 4.5 | 5.3 | 4.5 | 5.7 | 5.7 | 5.3 | | | | |
| Max Green Setting (Gmax), s | 25.5 | 44.3 | 25.5 | 44.7 | 25.5 | 44.3 | 24.3 | 44.7 | | | | |
| Max Q Clear Time (g_c+l1), s | 10.9 | 9.1 | 6.6 | 26.4 | 11.6 | 23.5 | 9.5 | 13.9 | | | | |
| Green Ext Time (p_c), s | 0.8 | 3.8 | 0.4 | 5.7 | 0.9 | 9.7 | 1.1 | 5.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 36.9 | | | | | | | | |
| HCM 6th LOS | | | | D | | | | | | | | |

Lane Group

Lane Group Flow (vph)

v/c Ratio

Control Delay

Queue Delay

Total Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

HCM 6th Edition methodology does not support more than 4 approaches.

Queues

1: DEL PASO RD & TOWN CENTER DR

PM EXISTING

01/10/2020



| Lane Group | EBL | EBT | EBC | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 129 | 1046 | 86 | 96 | 813 | 230 | 215 | 30 | 162 | 234 | 48 | 60 |
| V/c Ratio | 0.51 | 0.66 | 0.16 | 0.39 | 0.52 | 0.39 | 0.35 | 0.12 | 0.47 | 0.63 | 0.13 | 0.16 |
| Control Delay | 48.8 | 31.3 | 10.1 | 47.9 | 29.8 | 12.4 | 41.9 | 40.1 | 11.2 | 45.6 | 33.1 | 5.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 48.8 | 31.3 | 10.1 | 47.9 | 29.8 | 12.4 | 41.9 | 40.1 | 11.2 | 45.6 | 33.1 | 5.8 |
| Queue Length 50th (ft) | 63 | 171 | 5 | 47 | 129 | 27 | 54 | 15 | 0 | 110 | 21 | 0 |
| Queue Length 95th (ft) | 181 | 357 | 50 | 143 | 278 | 124 | 140 | 49 | 58 | #317 | 65 | 23 |
| Internal Link Dist (ft) | | 950 | | | 915 | | | 671 | | | 1478 | |
| Turn Bay Length (ft) | 175 | | 135 | 250 | | 140 | 215 | | | | | 140 |
| Base Capacity (vph) | 512 | 2580 | 838 | 512 | 2580 | 881 | 993 | 962 | 896 | 512 | 962 | 854 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 0.41 | 0.10 | 0.19 | 0.32 | 0.26 | 0.22 | 0.03 | 0.18 | 0.46 | 0.05 | 0.07 |

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
1: DEL PASO RD & TOWN CENTER DR

PM EXISTING
01/10/2020

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑↑↑ | ↑ | ↑ | ↑↑↑ | ↑ | ↑↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| Traffic Volume (veh/h) | 129 | 1046 | 86 | 96 | 813 | 230 | 215 | 30 | 162 | 234 | 48 | 60 |
| Future Volume (veh/h) | 129 | 1046 | 86 | 96 | 813 | 230 | 215 | 30 | 162 | 234 | 48 | 60 |
| Initial Q (Q _b), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 129 | 1046 | 86 | 96 | 813 | 230 | 215 | 30 | 162 | 234 | 48 | 60 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 181 | 1625 | 504 | 230 | 1766 | 548 | 374 | 253 | 214 | 286 | 350 | 297 |
| Arrive On Green | 0.10 | 0.32 | 0.32 | 0.13 | 0.35 | 0.35 | 0.11 | 0.14 | 0.14 | 0.16 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 5106 | 1585 | 1781 | 5106 | 1585 | 3456 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 129 | 1046 | 86 | 96 | 813 | 230 | 215 | 30 | 162 | 234 | 48 | 60 |
| Grp Sat Flow(s), veh/h/ln | 1781 | 1702 | 1585 | 1781 | 1702 | 1585 | 1728 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 5.1 | 12.8 | 2.9 | 3.6 | 9.1 | 8.1 | 4.3 | 1.0 | 7.2 | 9.3 | 1.6 | 2.3 |
| Cycle Q Clear(g_c), s | 5.1 | 12.8 | 2.9 | 3.6 | 9.1 | 8.1 | 4.3 | 1.0 | 7.2 | 9.3 | 1.6 | 2.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 181 | 1625 | 504 | 230 | 1766 | 548 | 374 | 253 | 214 | 286 | 350 | 297 |
| V/C Ratio(X) | 0.71 | 0.64 | 0.17 | 0.42 | 0.46 | 0.42 | 0.58 | 0.12 | 0.76 | 0.82 | 0.14 | 0.20 |
| Avail Cap(c_a), veh/h | 622 | 3124 | 970 | 622 | 3124 | 970 | 1206 | 1165 | 987 | 622 | 1165 | 987 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.8 | 21.4 | 18.0 | 29.3 | 18.6 | 18.3 | 31.0 | 27.8 | 30.4 | 29.7 | 24.8 | 25.1 |
| Incr Delay (d2), s/veh | 5.1 | 0.4 | 0.2 | 1.2 | 0.2 | 0.5 | 1.4 | 0.2 | 5.4 | 5.8 | 0.2 | 0.3 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%), veh/ln | 2.3 | 4.7 | 1.0 | 1.5 | 3.2 | 0.1 | 1.8 | 0.4 | 2.9 | 4.1 | 0.7 | 0.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 36.9 | 21.8 | 18.1 | 30.5 | 18.8 | 18.8 | 32.4 | 28.0 | 35.8 | 35.4 | 24.9 | 25.4 |
| LnGrp LOS | D | C | B | C | B | B | C | C | D | D | C | C |
| Approach Vol, veh/h | 1261 | | | | 1139 | | | | 407 | | | 342 |
| Approach Delay, s/veh | 23.1 | | | | 19.8 | | | | 33.4 | | | 32.2 |
| Approach LOS | C | | | | B | | | | C | | | C |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+R _c), s | 16.2 | 14.4 | 13.9 | 28.6 | 12.4 | 18.2 | 11.9 | 30.6 | | | | |
| Change Period (Y+R _c), s | 4.5 | 4.5 | 4.5 | 5.3 | 4.5 | 4.5 | 4.5 | 5.3 | | | | |
| Max Green Setting (Gmax), s | 25.5 | 45.5 | 25.5 | 44.7 | 25.5 | 45.5 | 25.5 | 44.7 | | | | |
| Max Q Clear Time (g _{c+l1}), s | 11.3 | 9.2 | 5.6 | 14.8 | 6.3 | 4.3 | 7.1 | 11.1 | | | | |
| Green Ext Time (p _c), s | 0.5 | 0.7 | 0.2 | 8.4 | 0.6 | 0.4 | 0.3 | 7.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 24.2 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |
| Notes | | | | | | | | | | | | |

User approved pedestrian interval to be less than phase max green.

| Intersection | | | | | | |
|--------------------------|--------|--------|--------|------|------|------|
| Int Delay, s/veh | 0.6 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↑↑↑ | ↑↑↑ | ↑ | | ↑ |
| Traffic Vol, veh/h | 0 | 1425 | 1124 | 167 | 0 | 98 |
| Future Vol, veh/h | 0 | 1425 | 1124 | 167 | 0 | 98 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | Free | - | None |
| Storage Length | - | - | - | 0 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 100 | 100 | 100 | 100 | 100 | 100 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1425 | 1124 | 167 | 0 | 98 |
| Major/Minor | Major1 | Major2 | Minor2 | | | |
| Conflicting Flow All | - | 0 | - | 0 | - | 562 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 7.14 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.92 |
| Pot Cap-1 Maneuver | 0 | - | - | 0 | 0 | 403 |
| Stage 1 | 0 | - | - | 0 | 0 | - |
| Stage 2 | 0 | - | - | 0 | 0 | - |
| Platoon blocked, % | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | - | - | - | 403 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Approach | EB | WB | SB | | | |
| HCM Control Delay, s | 0 | 0 | 16.8 | | | |
| HCM LOS | | | C | | | |
| Minor Lane/Major Mvmt | EBT | WBT | SBLn1 | | | |
| Capacity (veh/h) | - | - | 403 | | | |
| HCM Lane V/C Ratio | - | - | 0.243 | | | |
| HCM Control Delay (s) | - | - | 16.8 | | | |
| HCM Lane LOS | - | - | C | | | |
| HCM 95th %tile Q(veh) | - | - | 0.9 | | | |

Intersection

Int Delay, s/veh 1.3

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑↑ | ↑ | ↑ | ↑↑ | ↑ | | | ↑ | | | ↑ |
| Traffic Vol, veh/h | 163 | 1386 | 3 | 24 | 1105 | 51 | 0 | 0 | 63 | 0 | 0 | 19 |
| Future Vol, veh/h | 163 | 1386 | 3 | 24 | 1105 | 51 | 0 | 0 | 63 | 0 | 0 | 19 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | 225 | - | 145 | 225 | - | 175 | - | - | 0 | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 163 | 1386 | 3 | 24 | 1105 | 51 | 0 | 0 | 63 | 0 | 0 | 19 |

| Major/Minor | Major1 | Major2 | | | Minor1 | | Minor2 | | | | | |
|----------------------|--------|--------|---|------|--------|---|--------|---|------|---|---|------|
| Conflicting Flow All | 1156 | 0 | 0 | 1389 | 0 | 0 | - | - | 693 | - | - | 553 |
| Stage 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | - | - | 6.94 | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | - | - | 3.32 | - | - | 3.32 |
| Pot Cap-1 Maneuver | 600 | - | - | 489 | - | - | 0 | 0 | 386 | 0 | 0 | 477 |
| Stage 1 | - | - | - | - | - | - | 0 | 0 | - | 0 | 0 | - |
| Stage 2 | - | - | - | - | - | - | 0 | 0 | - | 0 | 0 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 600 | - | - | 489 | - | - | - | - | 386 | - | - | 477 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - | - | - | - | - | - | - |

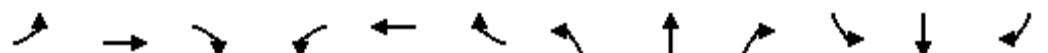
| Approach | EB | WB | | | NB | | SB | | |
|-----------------------|-------|-------|-----|-----|-------|-----|------|-------|--|
| HCM Control Delay, s | 1.4 | 0.3 | | | 16.1 | | 12.9 | | |
| HCM LOS | | | | | C | | B | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | |
| Capacity (veh/h) | 386 | 600 | - | - | 489 | - | - | 477 | |
| HCM Lane V/C Ratio | 0.163 | 0.272 | - | - | 0.049 | - | - | 0.04 | |
| HCM Control Delay (s) | 16.1 | 13.2 | - | - | 12.7 | - | - | 12.9 | |
| HCM Lane LOS | C | B | - | - | B | - | - | B | |
| HCM 95th %tile Q(veh) | 0.6 | 1.1 | - | - | 0.2 | - | - | 0.1 | |

Queues

PM EXISTING

01/10/2020

4: TRUXEL RD/NATOMAS BLVD & DEL PASO RD



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 619 | 560 | 291 | 185 | 571 | 227 | 313 | 818 | 154 | 154 | 448 | 311 |
| V/c Ratio | 0.66 | 0.41 | 0.46 | 0.40 | 0.56 | 0.46 | 0.58 | 0.62 | 0.18 | 0.33 | 0.37 | 0.39 |
| Control Delay | 43.6 | 31.8 | 6.2 | 46.8 | 39.5 | 8.5 | 46.9 | 35.9 | 5.6 | 46.6 | 34.8 | 14.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 43.6 | 31.8 | 6.2 | 46.8 | 39.5 | 8.5 | 46.9 | 35.9 | 5.6 | 46.6 | 34.8 | 14.9 |
| Queue Length 50th (ft) | 124 | 103 | 0 | 54 | 117 | 2 | 93 | 165 | 0 | 44 | 85 | 86 |
| Queue Length 95th (ft) | 231 | 176 | 66 | 120 | 199 | 69 | 185 | 263 | 27 | 104 | 153 | 205 |
| Internal Link Dist (ft) | | 1121 | | | 2071 | | | 1263 | | | 887 | |
| Turn Bay Length (ft) | 275 | | 145 | 235 | | 140 | 250 | | 230 | 225 | | 150 |
| Base Capacity (vph) | 1231 | 2308 | 877 | 889 | 2308 | 841 | 889 | 2287 | 1338 | 889 | 2287 | 890 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.50 | 0.24 | 0.33 | 0.21 | 0.25 | 0.27 | 0.35 | 0.36 | 0.12 | 0.17 | 0.20 | 0.35 |

Intersection Summary

HCM 6th Signalized Intersection Summary
4: TRUXEL RD/NATOMAS BLVD & DEL PASO RD

PM EXISTING
01/10/2020

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑↑↑ | ↑↑↑ | ↑ | ↑↑↑ | ↑↑↑ | ↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑ |
| Traffic Volume (veh/h) | 619 | 560 | 291 | 185 | 571 | 227 | 313 | 818 | 154 | 154 | 448 | 311 |
| Future Volume (veh/h) | 619 | 560 | 291 | 185 | 571 | 227 | 313 | 818 | 154 | 154 | 448 | 311 |
| Initial Q (Q _b), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 619 | 560 | 291 | 185 | 571 | 227 | 313 | 818 | 154 | 154 | 448 | 311 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 812 | 1260 | 391 | 499 | 1103 | 342 | 504 | 1235 | 675 | 493 | 1219 | 635 |
| Arrive On Green | 0.16 | 0.25 | 0.25 | 0.14 | 0.22 | 0.22 | 0.15 | 0.24 | 0.24 | 0.14 | 0.24 | 0.24 |
| Sat Flow, veh/h | 5023 | 5106 | 1585 | 3456 | 5106 | 1585 | 3456 | 5106 | 2790 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 619 | 560 | 291 | 185 | 571 | 227 | 313 | 818 | 154 | 154 | 448 | 311 |
| Grp Sat Flow(s), veh/h/ln | 1674 | 1702 | 1585 | 1728 | 1702 | 1585 | 1728 | 1702 | 1395 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 10.5 | 8.3 | 15.1 | 4.3 | 8.8 | 11.7 | 7.6 | 12.9 | 3.9 | 3.6 | 6.5 | 13.0 |
| Cycle Q Clear(g_c), s | 10.5 | 8.3 | 15.1 | 4.3 | 8.8 | 11.7 | 7.6 | 12.9 | 3.9 | 3.6 | 6.5 | 13.0 |
| Prop In Lane | 1.00 | | | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 812 | 1260 | 391 | 499 | 1103 | 342 | 504 | 1235 | 675 | 493 | 1219 | 635 |
| V/C Ratio(X) | 0.76 | 0.44 | 0.74 | 0.37 | 0.52 | 0.66 | 0.62 | 0.66 | 0.23 | 0.31 | 0.37 | 0.49 |
| Avail Cap(c_a), veh/h | 1369 | 2560 | 795 | 989 | 2560 | 795 | 989 | 2537 | 1386 | 989 | 2537 | 1044 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.7 | 28.4 | 31.0 | 34.5 | 30.8 | 32.0 | 35.8 | 30.5 | 27.1 | 34.3 | 28.3 | 19.9 |
| Incr Delay (d2), s/veh | 1.5 | 0.2 | 2.8 | 0.5 | 0.4 | 2.2 | 1.3 | 0.6 | 0.2 | 0.4 | 0.2 | 0.6 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%), veh/ln | 4.2 | 3.2 | 5.8 | 1.8 | 3.5 | 4.5 | 3.1 | 5.1 | 1.3 | 1.5 | 2.6 | 4.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 37.2 | 28.7 | 33.8 | 34.9 | 31.2 | 34.2 | 37.0 | 31.1 | 27.3 | 34.7 | 28.5 | 20.5 |
| LnGrp LOS | D | C | C | C | C | C | D | C | C | C | C | C |
| Approach Vol, veh/h | 1470 | | | | 983 | | | 1285 | | | 913 | |
| Approach Delay, s/veh | 33.3 | | | | 32.6 | | | 32.1 | | | 26.8 | |
| Approach LOS | C | | | | C | | | C | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+R _c), s | 17.2 | 27.3 | 17.4 | 27.3 | 17.5 | 27.0 | 20.1 | 24.6 | | | | |
| Change Period (Y+R _c), s | 4.5 | 5.7 | 4.5 | 5.3 | 4.5 | 5.7 | 5.7 | 5.3 | | | | |
| Max Green Setting (Gmax), s | 25.5 | 44.3 | 25.5 | 44.7 | 25.5 | 44.3 | 24.3 | 44.7 | | | | |
| Max Q Clear Time (g_c+l1), s | 5.6 | 14.9 | 6.3 | 17.1 | 9.6 | 15.0 | 12.5 | 13.7 | | | | |
| Green Ext Time (p_c), s | 0.4 | 6.7 | 0.5 | 4.9 | 0.9 | 4.2 | 1.9 | 4.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 31.5 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |

Lane Group

Lane Group Flow (vph)

v/c Ratio

Control Delay

Queue Delay

Total Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

HCM 6th Edition methodology does not support more than 4 approaches.

Queues

1: DEL PASO RD & TOWN CENTER DR

AM EX PLUS PENDING PROJECT

01/05/2020



| Lane Group | EBL | EBT | EBC | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 127 | 1075 | 139 | 172 | 904 | 181 | 49 | 9 | 108 | 281 | 110 | 151 |
| V/c Ratio | 0.56 | 0.68 | 0.26 | 0.63 | 0.53 | 0.30 | 0.18 | 0.04 | 0.39 | 0.66 | 0.19 | 0.26 |
| Control Delay | 57.4 | 36.0 | 16.9 | 56.3 | 31.0 | 13.1 | 55.1 | 45.4 | 12.8 | 48.8 | 32.6 | 6.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.4 | 36.0 | 16.9 | 56.3 | 31.0 | 13.1 | 55.1 | 45.4 | 12.8 | 48.8 | 32.6 | 6.3 |
| Queue Length 50th (ft) | 78 | 216 | 30 | 104 | 167 | 29 | 15 | 5 | 0 | 161 | 56 | 0 |
| Queue Length 95th (ft) | 187 | 397 | 107 | 239 | 312 | 111 | 46 | 23 | 51 | #451 | 125 | 50 |
| Internal Link Dist (ft) | | 950 | | | 915 | | | 671 | | | 1478 | |
| Turn Bay Length (ft) | 175 | | 135 | 250 | | 140 | 215 | | | | | 140 |
| Base Capacity (vph) | 434 | 2186 | 721 | 434 | 2213 | 752 | 842 | 815 | 753 | 434 | 829 | 788 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.49 | 0.19 | 0.40 | 0.41 | 0.24 | 0.06 | 0.01 | 0.14 | 0.65 | 0.13 | 0.19 |

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
1: DEL PASO RD & TOWN CENTER DR

AM EX PLUS PENDING PROJECT

01/05/2020

| Movement | EBL | EBT | EBC | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑↑↑ | ↑ | ↑ | ↑↑↑ | ↑ | ↑↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| Traffic Volume (veh/h) | 127 | 1075 | 139 | 172 | 904 | 181 | 49 | 9 | 108 | 281 | 110 | 151 |
| Future Volume (veh/h) | 127 | 1075 | 139 | 172 | 904 | 181 | 49 | 9 | 108 | 281 | 110 | 151 |
| Initial Q (Q _b), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No | | | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 127 | 1075 | 139 | 172 | 904 | 181 | 49 | 9 | 108 | 281 | 110 | 151 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 172 | 1681 | 522 | 247 | 1895 | 588 | 233 | 193 | 164 | 332 | 416 | 352 |
| Arrive On Green | 0.10 | 0.33 | 0.33 | 0.14 | 0.37 | 0.37 | 0.07 | 0.10 | 0.10 | 0.19 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1781 | 5106 | 1585 | 1781 | 5106 | 1585 | 3456 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 127 | 1075 | 139 | 172 | 904 | 181 | 49 | 9 | 108 | 281 | 110 | 151 |
| Grp Sat Flow(s), veh/h/ln | 1781 | 1702 | 1585 | 1781 | 1702 | 1585 | 1728 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 5.4 | 13.9 | 5.0 | 7.1 | 10.5 | 6.3 | 1.0 | 0.3 | 5.1 | 11.8 | 3.8 | 6.3 |
| Cycle Q Clear(g_c), s | 5.4 | 13.9 | 5.0 | 7.1 | 10.5 | 6.3 | 1.0 | 0.3 | 5.1 | 11.8 | 3.8 | 6.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 172 | 1681 | 522 | 247 | 1895 | 588 | 233 | 193 | 164 | 332 | 416 | 352 |
| V/C Ratio(X) | 0.74 | 0.64 | 0.27 | 0.70 | 0.48 | 0.31 | 0.21 | 0.05 | 0.66 | 0.85 | 0.26 | 0.43 |
| Avail Cap(c_a), veh/h | 587 | 2947 | 915 | 587 | 2947 | 915 | 1138 | 1099 | 931 | 587 | 1099 | 931 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.0 | 22.1 | 19.1 | 31.8 | 18.6 | 17.3 | 34.2 | 31.3 | 33.4 | 30.4 | 24.9 | 25.9 |
| Incr Delay (d2), s/veh | 6.1 | 0.4 | 0.3 | 3.5 | 0.2 | 0.3 | 0.4 | 0.1 | 4.5 | 6.0 | 0.3 | 0.8 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%), veh/ln | 2.6 | 5.3 | 1.8 | 3.2 | 3.9 | 2.2 | 0.4 | 0.2 | 2.1 | 5.4 | 1.7 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 40.1 | 22.5 | 19.4 | 35.3 | 18.8 | 17.6 | 34.6 | 31.4 | 37.9 | 36.4 | 25.2 | 26.7 |
| LnGrp LOS | D | C | B | D | B | B | C | C | D | D | C | C |
| Approach Vol, veh/h | 1341 | | | | 1257 | | | | 166 | | | 542 |
| Approach Delay, s/veh | 23.8 | | | | 20.9 | | | | 36.6 | | | 31.5 |
| Approach LOS | C | | | | C | | | | D | | | C |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 18.9 | 12.5 | 15.2 | 30.8 | 9.7 | 21.7 | 12.0 | 34.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 5.3 | 4.5 | 4.5 | 4.5 | 5.3 | | | | |
| Max Green Setting (Gmax), s | 25.5 | 45.5 | 25.5 | 44.7 | 25.5 | 45.5 | 25.5 | 44.7 | | | | |
| Max Q Clear Time (g_c+l1), s | 13.8 | 7.1 | 9.1 | 15.9 | 3.0 | 8.3 | 7.4 | 12.5 | | | | |
| Green Ext Time (p_c), s | 0.6 | 0.4 | 0.4 | 9.6 | 0.1 | 1.2 | 0.3 | 8.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 24.6 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved pedestrian interval to be less than phase max green. | | | | | | | | | | | | |

| Intersection | | | | | | |
|--------------------------|--------|--------|--------|------|------|------|
| Int Delay, s/veh | 1.6 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 1494 | 1047 | 371 | 0 | 211 |
| Future Vol, veh/h | 0 | 1494 | 1047 | 371 | 0 | 211 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | Free | - | None |
| Storage Length | - | - | - | 0 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 100 | 100 | 100 | 100 | 100 | 100 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1494 | 1047 | 371 | 0 | 211 |
| Major/Minor | Major1 | Major2 | Minor2 | | | |
| Conflicting Flow All | - | 0 | - | 0 | - | 524 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 7.14 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.92 |
| Pot Cap-1 Maneuver | 0 | - | - | 0 | 0 | 426 |
| Stage 1 | 0 | - | - | 0 | 0 | - |
| Stage 2 | 0 | - | - | 0 | 0 | - |
| Platoon blocked, % | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | - | - | - | 426 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Approach | EB | WB | SB | | | |
| HCM Control Delay, s | 0 | 0 | 21.5 | | | |
| HCM LOS | | | C | | | |
| Minor Lane/Major Mvmt | EBT | WBT | SBLn1 | | | |
| Capacity (veh/h) | - | - | 426 | | | |
| HCM Lane V/C Ratio | - | - | 0.495 | | | |
| HCM Control Delay (s) | - | - | 21.5 | | | |
| HCM Lane LOS | - | - | C | | | |
| HCM 95th %tile Q(veh) | - | - | 2.7 | | | |

Intersection

Int Delay, s/veh 1.4

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑↑ | ↑ | ↑ | ↑↑ | ↑ | | | ↑ | | | ↑ |
| Traffic Vol, veh/h | 100 | 1381 | 27 | 93 | 1168 | 108 | 0 | 0 | 11 | 0 | 0 | 92 |
| Future Vol, veh/h | 100 | 1381 | 27 | 93 | 1168 | 108 | 0 | 0 | 11 | 0 | 0 | 92 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | 225 | - | 145 | 225 | - | 175 | - | - | 0 | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 100 | 1381 | 27 | 93 | 1168 | 108 | 0 | 0 | 11 | 0 | 0 | 92 |

| Major/Minor | Major1 | Major2 | | | Minor1 | | Minor2 | | | | | |
|----------------------|--------|--------|---|------|--------|---|--------|---|------|---|---|------|
| Conflicting Flow All | 1276 | 0 | 0 | 1408 | 0 | 0 | - | - | 691 | - | - | 584 |
| Stage 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | - | - | 6.94 | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | - | - | 3.32 | - | - | 3.32 |
| Pot Cap-1 Maneuver | 540 | - | - | 481 | - | - | 0 | 0 | 387 | 0 | 0 | 455 |
| Stage 1 | - | - | - | - | - | - | 0 | 0 | - | 0 | 0 | - |
| Stage 2 | - | - | - | - | - | - | 0 | 0 | - | 0 | 0 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 540 | - | - | 481 | - | - | - | - | 387 | - | - | 455 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - | - | - | - | - | - | - |

| Approach | EB | WB | | | NB | | SB | | |
|-----------------------|-------|-------|-----|-----|-------|-----|------|-------|--|
| HCM Control Delay, s | 0.9 | 1 | | | 14.6 | | 14.9 | | |
| HCM LOS | | | | | B | | B | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | |
| Capacity (veh/h) | 387 | 540 | - | - | 481 | - | - | 455 | |
| HCM Lane V/C Ratio | 0.028 | 0.185 | - | - | 0.193 | - | - | 0.202 | |
| HCM Control Delay (s) | 14.6 | 13.2 | - | - | 14.3 | - | - | 14.9 | |
| HCM Lane LOS | B | B | - | - | B | - | - | B | |
| HCM 95th %tile Q(veh) | 0.1 | 0.7 | - | - | 0.7 | - | - | 0.7 | |

Queues

4: TRUXEL RD/NATOMAS BLVD & DEL PASO RD

AM EX PLUS PENDING PROJECT

01/05/2020



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 347 | 658 | 378 | 156 | 668 | 122 | 312 | 437 | 135 | 288 | 1111 | 369 |
| v/c Ratio | 0.53 | 0.54 | 0.60 | 0.38 | 0.60 | 0.29 | 0.61 | 0.27 | 0.14 | 0.59 | 0.71 | 0.46 |
| Control Delay | 51.4 | 39.7 | 10.8 | 53.3 | 43.3 | 12.7 | 53.0 | 30.8 | 5.7 | 53.3 | 38.6 | 18.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.4 | 39.7 | 10.8 | 53.3 | 43.3 | 12.7 | 53.0 | 30.8 | 5.7 | 53.3 | 38.6 | 18.9 |
| Queue Length 50th (ft) | 84 | 152 | 25 | 54 | 160 | 11 | 110 | 84 | 0 | 102 | 256 | 139 |
| Queue Length 95th (ft) | 145 | 226 | 125 | 110 | 243 | 66 | 194 | 146 | 27 | 181 | 399 | 285 |
| Internal Link Dist (ft) | | 1121 | | | 2071 | | | 1263 | | | 887 | |
| Turn Bay Length (ft) | 275 | | 145 | 235 | | 140 | 250 | | 230 | 225 | | 150 |
| Base Capacity (vph) | 1100 | 2063 | 840 | 794 | 2063 | 703 | 794 | 2053 | 1206 | 794 | 2045 | 941 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.32 | 0.32 | 0.45 | 0.20 | 0.32 | 0.17 | 0.39 | 0.21 | 0.11 | 0.36 | 0.54 | 0.39 |

Intersection Summary

HCM 6th Signalized Intersection Summary
4: TRUXEL RD/NATOMAS BLVD & DEL PASO RD

AM EX PLUS PENDING PROJECT

01/05/2020

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑↑↑ | ↑↑↑ | ↑ | ↑↑↑ | ↑↑↑ | ↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑ |
| Traffic Volume (veh/h) | 347 | 658 | 378 | 156 | 668 | 122 | 312 | 437 | 135 | 288 | 1111 | 369 |
| Future Volume (veh/h) | 347 | 658 | 378 | 156 | 668 | 122 | 312 | 437 | 135 | 288 | 1111 | 369 |
| Initial Q (Q _b), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No | | | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 347 | 658 | 378 | 156 | 668 | 122 | 312 | 437 | 135 | 288 | 1111 | 369 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 538 | 1486 | 461 | 398 | 1472 | 457 | 401 | 1528 | 835 | 401 | 1528 | 644 |
| Arrive On Green | 0.11 | 0.29 | 0.29 | 0.12 | 0.29 | 0.29 | 0.12 | 0.30 | 0.30 | 0.12 | 0.30 | 0.30 |
| Sat Flow, veh/h | 5023 | 5106 | 1585 | 3456 | 5106 | 1585 | 3456 | 5106 | 2790 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 347 | 658 | 378 | 156 | 668 | 122 | 312 | 437 | 135 | 288 | 1111 | 369 |
| Grp Sat Flow(s), veh/h/ln | 1674 | 1702 | 1585 | 1728 | 1702 | 1585 | 1728 | 1702 | 1395 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 7.4 | 11.7 | 24.9 | 4.7 | 12.0 | 6.6 | 9.8 | 7.3 | 4.0 | 9.0 | 21.8 | 20.2 |
| Cycle Q Clear(g_c), s | 7.4 | 11.7 | 24.9 | 4.7 | 12.0 | 6.6 | 9.8 | 7.3 | 4.0 | 9.0 | 21.8 | 20.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 538 | 1486 | 461 | 398 | 1472 | 457 | 401 | 1528 | 835 | 401 | 1528 | 644 |
| V/C Ratio(X) | 0.64 | 0.44 | 0.82 | 0.39 | 0.45 | 0.27 | 0.78 | 0.29 | 0.16 | 0.72 | 0.73 | 0.57 |
| Avail Cap(c_a), veh/h | 1090 | 2038 | 633 | 787 | 2038 | 633 | 787 | 2020 | 1103 | 787 | 2020 | 797 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 48.0 | 32.3 | 37.0 | 45.9 | 32.6 | 30.7 | 48.1 | 30.1 | 28.9 | 47.7 | 35.2 | 25.7 |
| Incr Delay (d2), s/veh | 1.3 | 0.2 | 6.1 | 0.6 | 0.2 | 0.3 | 3.3 | 0.1 | 0.1 | 2.4 | 0.9 | 0.8 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%), veh/ln | 3.2 | 4.9 | 10.3 | 2.0 | 5.0 | 2.6 | 4.4 | 3.0 | 1.3 | 4.0 | 9.1 | 7.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 49.3 | 32.5 | 43.0 | 46.5 | 32.8 | 31.0 | 51.4 | 30.2 | 29.0 | 50.2 | 36.1 | 26.5 |
| LnGrp LOS | D | C | D | D | C | C | D | C | C | D | D | C |
| Approach Vol, veh/h | 1383 | | | | 946 | | | 884 | | | 1768 | |
| Approach Delay, s/veh | 39.6 | | | | 34.9 | | | 37.5 | | | 36.4 | |
| Approach LOS | D | | | | C | | | D | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+R _c), s | 17.5 | 39.2 | 17.4 | 37.9 | 17.5 | 39.2 | 17.7 | 37.6 | | | | |
| Change Period (Y+R _c), s | 4.5 | 5.7 | 4.5 | 5.3 | 4.5 | 5.7 | 5.7 | 5.3 | | | | |
| Max Green Setting (Gmax), s | 25.5 | 44.3 | 25.5 | 44.7 | 25.5 | 44.3 | 24.3 | 44.7 | | | | |
| Max Q Clear Time (g_c+l1), s | 11.0 | 9.3 | 6.7 | 26.9 | 11.8 | 23.8 | 9.4 | 14.0 | | | | |
| Green Ext Time (p_c), s | 0.8 | 3.9 | 0.4 | 5.7 | 0.9 | 9.7 | 1.1 | 5.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 37.2 | | | | | | | | |
| HCM 6th LOS | | | | D | | | | | | | | |

Lane Group

Lane Group Flow (vph)

v/c Ratio

Control Delay

Queue Delay

Total Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

HCM 6th Edition methodology does not support more than 4 approaches.

Queues

4: TRUXEL RD/NATOMAS BLVD & DEL PASO RD

PM EX PLUS PENDING

01/05/2020



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 613 | 547 | 291 | 184 | 572 | 231 | 348 | 808 | 158 | 167 | 470 | 312 |
| V/c Ratio | 0.65 | 0.41 | 0.46 | 0.39 | 0.56 | 0.46 | 0.61 | 0.62 | 0.19 | 0.36 | 0.41 | 0.40 |
| Control Delay | 43.7 | 31.9 | 6.2 | 46.9 | 39.5 | 8.7 | 46.5 | 35.8 | 5.6 | 46.8 | 35.9 | 16.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 43.7 | 31.9 | 6.2 | 46.9 | 39.5 | 8.7 | 46.5 | 35.8 | 5.6 | 46.8 | 35.9 | 16.1 |
| Queue Length 50th (ft) | 123 | 100 | 0 | 54 | 117 | 2 | 103 | 162 | 0 | 48 | 91 | 91 |
| Queue Length 95th (ft) | 232 | 176 | 67 | 121 | 203 | 71 | 205 | 261 | 28 | 112 | 163 | 216 |
| Internal Link Dist (ft) | | 1121 | | | 2071 | | | 1263 | | | 887 | |
| Turn Bay Length (ft) | 275 | | 145 | 235 | | 140 | 250 | | 230 | 225 | | 150 |
| Base Capacity (vph) | 1239 | 2322 | 881 | 894 | 2322 | 846 | 894 | 2303 | 1348 | 894 | 2301 | 875 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.49 | 0.24 | 0.33 | 0.21 | 0.25 | 0.27 | 0.39 | 0.35 | 0.12 | 0.19 | 0.20 | 0.36 |

Intersection Summary

HCM 6th Signalized Intersection Summary
4: TRUXEL RD/NATOMAS BLVD & DEL PASO RD

PM EX PLUS PENDING

01/05/2020

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑↑↑ | ↑↑↑ | ↑ | ↑↑↑ | ↑↑↑ | ↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑ |
| Traffic Volume (veh/h) | 613 | 547 | 291 | 184 | 572 | 231 | 348 | 808 | 158 | 167 | 470 | 312 |
| Future Volume (veh/h) | 613 | 547 | 291 | 184 | 572 | 231 | 348 | 808 | 158 | 167 | 470 | 312 |
| Initial Q (Q _b), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 613 | 547 | 291 | 184 | 572 | 231 | 348 | 808 | 158 | 167 | 470 | 312 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 807 | 1256 | 390 | 500 | 1107 | 344 | 506 | 1225 | 669 | 498 | 1213 | 631 |
| Arrive On Green | 0.16 | 0.25 | 0.25 | 0.14 | 0.22 | 0.22 | 0.15 | 0.24 | 0.24 | 0.14 | 0.24 | 0.24 |
| Sat Flow, veh/h | 5023 | 5106 | 1585 | 3456 | 5106 | 1585 | 3456 | 5106 | 2790 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 613 | 547 | 291 | 184 | 572 | 231 | 348 | 808 | 158 | 167 | 470 | 312 |
| Grp Sat Flow(s), veh/h/ln | 1674 | 1702 | 1585 | 1728 | 1702 | 1585 | 1728 | 1702 | 1395 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 10.4 | 8.0 | 15.1 | 4.3 | 8.8 | 11.9 | 8.5 | 12.7 | 4.1 | 3.9 | 6.9 | 13.1 |
| Cycle Q Clear(g_c), s | 10.4 | 8.0 | 15.1 | 4.3 | 8.8 | 11.9 | 8.5 | 12.7 | 4.1 | 3.9 | 6.9 | 13.1 |
| Prop In Lane | 1.00 | | | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 807 | 1256 | 390 | 500 | 1107 | 344 | 506 | 1225 | 669 | 498 | 1213 | 631 |
| V/C Ratio(X) | 0.76 | 0.44 | 0.75 | 0.37 | 0.52 | 0.67 | 0.69 | 0.66 | 0.24 | 0.34 | 0.39 | 0.49 |
| Avail Cap(c_a), veh/h | 1374 | 2570 | 798 | 992 | 2570 | 798 | 992 | 2547 | 1392 | 992 | 2547 | 1045 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.6 | 28.3 | 30.9 | 34.3 | 30.7 | 31.9 | 36.0 | 30.5 | 27.2 | 34.2 | 28.4 | 20.0 |
| Incr Delay (d2), s/veh | 1.5 | 0.2 | 2.9 | 0.5 | 0.4 | 2.3 | 1.7 | 0.6 | 0.2 | 0.4 | 0.2 | 0.6 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%), veh/ln | 4.2 | 3.1 | 5.7 | 1.8 | 3.5 | 4.5 | 3.5 | 5.0 | 1.3 | 1.6 | 2.7 | 4.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 37.1 | 28.5 | 33.8 | 34.8 | 31.0 | 34.2 | 37.7 | 31.1 | 27.4 | 34.6 | 28.6 | 20.6 |
| LnGrp LOS | D | C | C | C | C | C | D | C | C | C | C | C |
| Approach Vol, veh/h | | 1451 | | | 987 | | | 1314 | | | 949 | |
| Approach Delay, s/veh | | 33.2 | | | 32.5 | | | 32.4 | | | 27.0 | |
| Approach LOS | | C | | | C | | | C | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+R _c), s | 17.3 | 27.0 | 17.4 | 27.2 | 17.5 | 26.8 | 20.0 | 24.6 | | | | |
| Change Period (Y+R _c), s | 4.5 | 5.7 | 4.5 | 5.3 | 4.5 | 5.7 | 5.7 | 5.3 | | | | |
| Max Green Setting (Gmax), s | 25.5 | 44.3 | 25.5 | 44.7 | 25.5 | 44.3 | 24.3 | 44.7 | | | | |
| Max Q Clear Time (g_c+l1), s | 5.9 | 14.7 | 6.3 | 17.1 | 10.5 | 15.1 | 12.4 | 13.9 | | | | |
| Green Ext Time (p_c), s | 0.5 | 6.6 | 0.5 | 4.8 | 1.0 | 4.3 | 1.9 | 4.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 31.6 | | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |

Queues

1: DEL PASO RD & TOWN CENTER DR

AM EX PENDING PLUS NATOMAS CENTER

01/10/2020



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 139 | 1110 | 139 | 178 | 918 | 183 | 49 | 10 | 110 | 285 | 110 | 151 |
| V/c Ratio | 0.59 | 0.69 | 0.25 | 0.65 | 0.54 | 0.30 | 0.18 | 0.05 | 0.40 | 0.67 | 0.19 | 0.26 |
| Control Delay | 58.2 | 36.5 | 16.8 | 57.7 | 31.7 | 13.6 | 55.6 | 46.0 | 13.0 | 49.7 | 33.1 | 6.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.2 | 36.5 | 16.8 | 57.7 | 31.7 | 13.6 | 55.6 | 46.0 | 13.0 | 49.7 | 33.1 | 6.4 |
| Queue Length 50th (ft) | 87 | 227 | 31 | 111 | 172 | 31 | 15 | 6 | 0 | 170 | 58 | 0 |
| Queue Length 95th (ft) | 201 | 412 | 107 | 246 | 322 | 115 | 46 | 25 | 52 | #461 | 125 | 50 |
| Internal Link Dist (ft) | | 950 | | | 915 | | | 671 | | | 1478 | |
| Turn Bay Length (ft) | 175 | | 135 | 250 | | 140 | 215 | | | | | 140 |
| Base Capacity (vph) | 426 | 2149 | 710 | 426 | 2167 | 739 | 827 | 801 | 743 | 426 | 815 | 777 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.33 | 0.52 | 0.20 | 0.42 | 0.42 | 0.25 | 0.06 | 0.01 | 0.15 | 0.67 | 0.13 | 0.19 |

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
1: DEL PASO RD & TOWN CENTER DR

AM EX PENDING PLUS NATOMAS CENTER
01/10/2020

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑↑↑ | ↑ | ↑ | ↑↑↑ | ↑ | ↑↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| Traffic Volume (veh/h) | 139 | 1110 | 139 | 178 | 918 | 183 | 49 | 10 | 110 | 285 | 110 | 151 |
| Future Volume (veh/h) | 139 | 1110 | 139 | 178 | 918 | 183 | 49 | 10 | 110 | 285 | 110 | 151 |
| Initial Q (Q _b), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 139 | 1110 | 139 | 178 | 918 | 183 | 49 | 10 | 110 | 285 | 110 | 151 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 179 | 1715 | 532 | 243 | 1899 | 590 | 231 | 190 | 161 | 335 | 416 | 353 |
| Arrive On Green | 0.10 | 0.34 | 0.34 | 0.14 | 0.37 | 0.37 | 0.07 | 0.10 | 0.10 | 0.19 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1781 | 5106 | 1585 | 1781 | 5106 | 1585 | 3456 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 139 | 1110 | 139 | 178 | 918 | 183 | 49 | 10 | 110 | 285 | 110 | 151 |
| Grp Sat Flow(s), veh/h/ln | 1781 | 1702 | 1585 | 1781 | 1702 | 1585 | 1728 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 6.0 | 14.6 | 5.0 | 7.6 | 10.9 | 6.5 | 1.1 | 0.4 | 5.3 | 12.2 | 3.8 | 6.5 |
| Cycle Q Clear(g_c), s | 6.0 | 14.6 | 5.0 | 7.6 | 10.9 | 6.5 | 1.1 | 0.4 | 5.3 | 12.2 | 3.8 | 6.5 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 179 | 1715 | 532 | 243 | 1899 | 590 | 231 | 190 | 161 | 335 | 416 | 353 |
| V/C Ratio(X) | 0.78 | 0.65 | 0.26 | 0.73 | 0.48 | 0.31 | 0.21 | 0.05 | 0.68 | 0.85 | 0.26 | 0.43 |
| Avail Cap(c_a), veh/h | 576 | 2893 | 898 | 576 | 2893 | 898 | 1117 | 1079 | 914 | 576 | 1079 | 914 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.6 | 22.2 | 19.1 | 32.7 | 19.0 | 17.6 | 34.8 | 32.0 | 34.2 | 31.0 | 25.3 | 26.4 |
| Incr Delay (d2), s/veh | 7.1 | 0.4 | 0.3 | 4.2 | 0.2 | 0.3 | 0.5 | 0.1 | 5.1 | 6.1 | 0.3 | 0.8 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%), veh/ln | 2.9 | 5.6 | 1.8 | 3.5 | 4.1 | 2.3 | 0.5 | 0.2 | 2.2 | 5.6 | 1.7 | 2.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 41.7 | 22.7 | 19.3 | 36.9 | 19.2 | 17.9 | 35.3 | 32.1 | 39.3 | 37.1 | 25.7 | 27.2 |
| LnGrp LOS | D | C | B | D | B | B | D | C | D | D | C | C |
| Approach Vol, veh/h | 1388 | | | | 1279 | | | 169 | | | 546 | |
| Approach Delay, s/veh | 24.2 | | | | 21.4 | | | 37.7 | | | 32.0 | |
| Approach LOS | C | | | | C | | | D | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+R _c), s | 19.3 | 12.5 | 15.3 | 31.8 | 9.8 | 22.1 | 12.4 | 34.6 | | | | |
| Change Period (Y+R _c), s | 4.5 | 4.5 | 4.5 | 5.3 | 4.5 | 4.5 | 4.5 | 5.3 | | | | |
| Max Green Setting (Gmax), s | 25.5 | 45.5 | 25.5 | 44.7 | 25.5 | 45.5 | 25.5 | 44.7 | | | | |
| Max Q Clear Time (g_c+l1), s | 14.2 | 7.3 | 9.6 | 16.6 | 3.1 | 8.5 | 8.0 | 12.9 | | | | |
| Green Ext Time (p_c), s | 0.6 | 0.4 | 0.4 | 9.9 | 0.1 | 1.2 | 0.3 | 8.4 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 25.1 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved pedestrian interval to be less than phase max green. | | | | | | | | | | | | |

Intersection

Int Delay, s/veh 1.8

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 1539 | 1061 | 377 | 0 | 223 |
| Future Vol, veh/h | 0 | 1539 | 1061 | 377 | 0 | 223 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | Free | - | None |
| Storage Length | - | - | - | 0 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 100 | 100 | 100 | 100 | 100 | 100 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1539 | 1061 | 377 | 0 | 223 |

| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|------|
| Conflicting Flow All | - | 0 | - | 0 | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | 7.14 |
| Critical Hdwy Stg 1 | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | 3.92 |
| Pot Cap-1 Maneuver | 0 | - | - | 0 | 0 |
| Stage 1 | 0 | - | - | 0 | 0 |
| Stage 2 | 0 | - | - | 0 | 0 |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | - | - | 422 |
| Mov Cap-2 Maneuver | - | - | - | - | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |

| Approach | EB | WB | SB |
|----------|----|----|----|
|----------|----|----|----|

HCM Control Delay, s 0 0 22.7

HCM LOS C

| Minor Lane/Major Mvmt | EBT | WBT | SBLn1 |
|-----------------------|-----|-----|-------|
| Capacity (veh/h) | - | - | 422 |
| HCM Lane V/C Ratio | - | - | 0.528 |
| HCM Control Delay (s) | - | - | 22.7 |
| HCM Lane LOS | - | - | C |
| HCM 95th %tile Q(veh) | - | - | 3 |

Intersection

Int Delay, s/veh 1.7

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑↑ | ↑ | ↑ | ↑↑ | ↑ | | | ↑ | | | ↑ |
| Traffic Vol, veh/h | 139 | 1382 | 27 | 93 | 1175 | 124 | 0 | 0 | 11 | 0 | 0 | 101 |
| Future Vol, veh/h | 139 | 1382 | 27 | 93 | 1175 | 124 | 0 | 0 | 11 | 0 | 0 | 101 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | 225 | - | 145 | 225 | - | 175 | - | - | 0 | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 139 | 1382 | 27 | 93 | 1175 | 124 | 0 | 0 | 11 | 0 | 0 | 101 |

| Major/Minor | Major1 | Major2 | | Minor1 | | Minor2 | |
|----------------------|--------|--------|---|--------|---|--------|------|
| Conflicting Flow All | 1299 | 0 | 0 | 1409 | 0 | 0 | - |
| Stage 1 | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.32 |
| Pot Cap-1 Maneuver | 529 | - | - | 480 | - | 0 | 387 |
| Stage 1 | - | - | - | - | - | 0 | 0 |
| Stage 2 | - | - | - | - | - | 0 | 0 |
| Platoon blocked, % | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 529 | - | - | 480 | - | - | 387 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - | - |

| Approach | EB | WB | | NB | | SB | | |
|-----------------------|-------|-------|-----|------|-------|------|-----|-------|
| HCM Control Delay, s | 1.3 | 1 | | 14.6 | | 15.2 | | |
| HCM LOS | | | | B | | C | | |
| <hr/> | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
| Capacity (veh/h) | 387 | 529 | - | - | 480 | - | - | 452 |
| HCM Lane V/C Ratio | 0.028 | 0.263 | - | - | 0.194 | - | - | 0.223 |
| HCM Control Delay (s) | 14.6 | 14.2 | - | - | 14.3 | - | - | 15.2 |
| HCM Lane LOS | B | B | - | - | B | - | - | C |
| HCM 95th %tile Q(veh) | 0.1 | 1 | - | - | 0.7 | - | - | 0.8 |

Queues

AM EX PENDING PLUS NATOMAS CENTER

4: TRUXEL RD/NATOMAS BLVD & DEL PASO RD

01/10/2020



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 349 | 660 | 380 | 156 | 674 | 122 | 321 | 437 | 135 | 288 | 1112 | 376 |
| v/c Ratio | 0.53 | 0.54 | 0.60 | 0.38 | 0.61 | 0.29 | 0.62 | 0.27 | 0.14 | 0.59 | 0.71 | 0.47 |
| Control Delay | 51.8 | 39.9 | 11.0 | 53.7 | 43.7 | 13.0 | 53.3 | 30.8 | 5.7 | 53.6 | 38.9 | 19.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.8 | 39.9 | 11.0 | 53.7 | 43.7 | 13.0 | 53.3 | 30.8 | 5.7 | 53.6 | 38.9 | 19.4 |
| Queue Length 50th (ft) | 85 | 153 | 27 | 55 | 163 | 12 | 114 | 85 | 0 | 103 | 258 | 146 |
| Queue Length 95th (ft) | 147 | 228 | 128 | 111 | 246 | 67 | 199 | 146 | 27 | 182 | 401 | 296 |
| Internal Link Dist (ft) | | 1121 | | | 2071 | | | 1263 | | | 887 | |
| Turn Bay Length (ft) | 275 | | 145 | 235 | | 140 | 250 | | 230 | 225 | | 150 |
| Base Capacity (vph) | 1095 | 2052 | 837 | 790 | 2052 | 699 | 790 | 2045 | 1201 | 790 | 2034 | 937 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.32 | 0.32 | 0.45 | 0.20 | 0.33 | 0.17 | 0.41 | 0.21 | 0.11 | 0.36 | 0.55 | 0.40 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑↑↑ | ↑↑↑ | ↑ | ↑↑↑ | ↑↑↑ | ↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑ |
| Traffic Volume (veh/h) | 349 | 660 | 380 | 156 | 674 | 122 | 321 | 437 | 135 | 288 | 1112 | 376 |
| Future Volume (veh/h) | 349 | 660 | 380 | 156 | 674 | 122 | 321 | 437 | 135 | 288 | 1112 | 376 |
| Initial Q (Q _b), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 349 | 660 | 380 | 156 | 674 | 122 | 321 | 437 | 135 | 288 | 1112 | 376 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 536 | 1491 | 463 | 396 | 1477 | 459 | 403 | 1532 | 837 | 399 | 1527 | 643 |
| Arrive On Green | 0.11 | 0.29 | 0.29 | 0.11 | 0.29 | 0.29 | 0.12 | 0.30 | 0.30 | 0.12 | 0.30 | 0.30 |
| Sat Flow, veh/h | 5023 | 5106 | 1585 | 3456 | 5106 | 1585 | 3456 | 5106 | 2790 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 349 | 660 | 380 | 156 | 674 | 122 | 321 | 437 | 135 | 288 | 1112 | 376 |
| Grp Sat Flow(s), veh/h/ln | 1674 | 1702 | 1585 | 1728 | 1702 | 1585 | 1728 | 1702 | 1395 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 7.5 | 11.8 | 25.1 | 4.7 | 12.2 | 6.7 | 10.2 | 7.4 | 4.0 | 9.0 | 22.0 | 20.8 |
| Cycle Q Clear(g_c), s | 7.5 | 11.8 | 25.1 | 4.7 | 12.2 | 6.7 | 10.2 | 7.4 | 4.0 | 9.0 | 22.0 | 20.8 |
| Prop In Lane | 1.00 | | | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 536 | 1491 | 463 | 396 | 1477 | 459 | 403 | 1532 | 837 | 399 | 1527 | 643 |
| V/C Ratio(X) | 0.65 | 0.44 | 0.82 | 0.39 | 0.46 | 0.27 | 0.80 | 0.29 | 0.16 | 0.72 | 0.73 | 0.58 |
| Avail Cap(c_a), veh/h | 1085 | 2029 | 630 | 783 | 2029 | 630 | 783 | 2011 | 1099 | 783 | 2011 | 793 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 48.2 | 32.4 | 37.1 | 46.2 | 32.7 | 30.8 | 48.4 | 30.1 | 29.0 | 48.0 | 35.3 | 26.0 |
| Incr Delay (d2), s/veh | 1.3 | 0.2 | 6.3 | 0.6 | 0.2 | 0.3 | 3.7 | 0.1 | 0.1 | 2.5 | 0.9 | 0.8 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%), veh/ln | 3.2 | 4.9 | 10.4 | 2.1 | 5.0 | 2.6 | 4.6 | 3.0 | 1.4 | 4.0 | 9.1 | 7.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 49.6 | 32.6 | 43.4 | 46.8 | 33.0 | 31.1 | 52.0 | 30.2 | 29.0 | 50.5 | 36.3 | 26.9 |
| LnGrp LOS | D | C | D | D | C | C | D | C | C | D | D | C |
| Approach Vol, veh/h | 1389 | | | | 952 | | | | 893 | | | 1776 |
| Approach Delay, s/veh | 39.8 | | | | 35.0 | | | | 37.9 | | | 36.6 |
| Approach LOS | D | | | | C | | | | D | | | D |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+R _c), s | 17.5 | 39.5 | 17.4 | 38.1 | 17.6 | 39.3 | 17.7 | 37.8 | | | | |
| Change Period (Y+R _c), s | 4.5 | 5.7 | 4.5 | 5.3 | 4.5 | 5.7 | 5.7 | 5.3 | | | | |
| Max Green Setting (Gmax), s | 25.5 | 44.3 | 25.5 | 44.7 | 25.5 | 44.3 | 24.3 | 44.7 | | | | |
| Max Q Clear Time (g_c+l1), s | 11.0 | 9.4 | 6.7 | 27.1 | 12.2 | 24.0 | 9.5 | 14.2 | | | | |
| Green Ext Time (p_c), s | 0.8 | 3.9 | 0.4 | 5.7 | 0.9 | 9.7 | 1.1 | 5.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 37.4 | | | | | | | | |
| HCM 6th LOS | | | | D | | | | | | | | |

Lane Group

Lane Group Flow (vph)

v/c Ratio

Control Delay

Queue Delay

Total Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

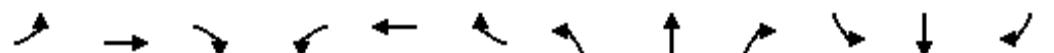
HCM 6th Edition methodology does not support more than 4 approaches.

Queues

1: DEL PASO RD & TOWN CENTER DR

PM EPPP PLUS NATOMAS CENTER

01/05/2020



| Lane Group | EBL | EBT | EBC | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 201 | 1054 | 86 | 111 | 764 | 209 | 215 | 35 | 163 | 225 | 54 | 118 |
| v/c Ratio | 0.62 | 0.65 | 0.16 | 0.44 | 0.54 | 0.38 | 0.48 | 0.15 | 0.47 | 0.64 | 0.15 | 0.29 |
| Control Delay | 48.4 | 31.2 | 10.2 | 48.6 | 32.5 | 12.4 | 45.6 | 41.2 | 11.3 | 47.1 | 34.5 | 8.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 48.4 | 31.2 | 10.2 | 48.6 | 32.5 | 12.4 | 45.6 | 41.2 | 11.3 | 47.1 | 34.5 | 8.5 |
| Queue Length 50th (ft) | 99 | 173 | 5 | 56 | 128 | 22 | 55 | 18 | 0 | 110 | 25 | 0 |
| Queue Length 95th (ft) | 265 | 366 | 50 | 162 | 272 | 111 | 141 | 56 | 58 | 296 | 73 | 48 |
| Internal Link Dist (ft) | | | 950 | | | 915 | | | 671 | | | 1478 |
| Turn Bay Length (ft) | 175 | | 135 | 250 | | 140 | 215 | | | | | 140 |
| Base Capacity (vph) | 506 | 2549 | 829 | 506 | 2549 | 870 | 981 | 950 | 887 | 506 | 950 | 865 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.40 | 0.41 | 0.10 | 0.22 | 0.30 | 0.24 | 0.22 | 0.04 | 0.18 | 0.44 | 0.06 | 0.14 |

Intersection Summary

HCM 6th Signalized Intersection Summary
1: DEL PASO RD & TOWN CENTER DR

PM EPPP PLUS NATOMAS CENTER
01/05/2020

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑↑↑ | ↑ | ↑ | ↑↑↑ | ↑ | ↑↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| Traffic Volume (veh/h) | 201 | 1054 | 86 | 111 | 764 | 209 | 215 | 35 | 163 | 225 | 54 | 118 |
| Future Volume (veh/h) | 201 | 1054 | 86 | 111 | 764 | 209 | 215 | 35 | 163 | 225 | 54 | 118 |
| Initial Q (Q _b), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 201 | 1054 | 86 | 111 | 764 | 209 | 215 | 35 | 163 | 225 | 54 | 118 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 250 | 1632 | 507 | 239 | 1600 | 497 | 371 | 254 | 215 | 276 | 343 | 290 |
| Arrive On Green | 0.14 | 0.32 | 0.32 | 0.13 | 0.31 | 0.31 | 0.11 | 0.14 | 0.14 | 0.15 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1781 | 5106 | 1585 | 1781 | 5106 | 1585 | 3456 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 201 | 1054 | 86 | 111 | 764 | 209 | 215 | 35 | 163 | 225 | 54 | 118 |
| Grp Sat Flow(s), veh/h/ln | 1781 | 1702 | 1585 | 1781 | 1702 | 1585 | 1728 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 8.0 | 13.0 | 2.9 | 4.2 | 8.9 | 7.7 | 4.4 | 1.2 | 7.3 | 9.0 | 1.8 | 4.8 |
| Cycle Q Clear(g_c), s | 8.0 | 13.0 | 2.9 | 4.2 | 8.9 | 7.7 | 4.4 | 1.2 | 7.3 | 9.0 | 1.8 | 4.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 250 | 1632 | 507 | 239 | 1600 | 497 | 371 | 254 | 215 | 276 | 343 | 290 |
| V/C Ratio(X) | 0.80 | 0.65 | 0.17 | 0.46 | 0.48 | 0.42 | 0.58 | 0.14 | 0.76 | 0.82 | 0.16 | 0.41 |
| Avail Cap(c_a), veh/h | 618 | 3104 | 964 | 618 | 3104 | 964 | 1199 | 1157 | 981 | 618 | 1157 | 981 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 30.6 | 21.4 | 18.0 | 29.4 | 20.4 | 20.0 | 31.2 | 28.0 | 30.6 | 30.1 | 25.3 | 26.5 |
| Incr Delay (d2), s/veh | 6.0 | 0.4 | 0.2 | 1.4 | 0.2 | 0.6 | 1.4 | 0.2 | 5.4 | 5.8 | 0.2 | 0.9 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%), veh/ln | 3.6 | 4.7 | 1.0 | 1.8 | 3.2 | 2.6 | 1.8 | 0.5 | 2.9 | 4.0 | 0.8 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 36.6 | 21.9 | 18.2 | 30.8 | 20.6 | 20.5 | 32.7 | 28.2 | 36.0 | 35.9 | 25.5 | 27.4 |
| LnGrp LOS | D | C | B | C | C | C | C | C | D | D | C | C |
| Approach Vol, veh/h | 1341 | | | | 1084 | | | | 413 | | | 397 |
| Approach Delay, s/veh | 23.8 | | | | 21.6 | | | | 33.6 | | | 32.0 |
| Approach LOS | C | | | | C | | | | C | | | C |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 15.9 | 14.5 | 14.4 | 28.8 | 12.4 | 18.0 | 14.8 | 28.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 5.3 | 4.5 | 4.5 | 4.5 | 5.3 | | | | |
| Max Green Setting (Gmax), s | 25.5 | 45.5 | 25.5 | 44.7 | 25.5 | 45.5 | 25.5 | 44.7 | | | | |
| Max Q Clear Time (g_c+l1), s | 11.0 | 9.3 | 6.2 | 15.0 | 6.4 | 6.8 | 10.0 | 10.9 | | | | |
| Green Ext Time (p_c), s | 0.5 | 0.7 | 0.2 | 8.5 | 0.6 | 0.6 | 0.5 | 6.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 25.3 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved pedestrian interval to be less than phase max green. | | | | | | | | | | | | |

| Intersection | | | | | | |
|--------------------------|--------|--------|--------|------|------|------|
| Int Delay, s/veh | 0.6 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↑↑↑ | ↑↑↑ | ↑ | | ↑ |
| Traffic Vol, veh/h | 0 | 1456 | 1082 | 214 | 0 | 104 |
| Future Vol, veh/h | 0 | 1456 | 1082 | 214 | 0 | 104 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | Free | - | None |
| Storage Length | - | - | - | 0 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 100 | 100 | 100 | 100 | 100 | 100 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1456 | 1082 | 214 | 0 | 104 |
| Major/Minor | Major1 | Major2 | Minor2 | | | |
| Conflicting Flow All | - | 0 | - | 0 | - | 541 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 7.14 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.92 |
| Pot Cap-1 Maneuver | 0 | - | - | 0 | 0 | 416 |
| Stage 1 | 0 | - | - | 0 | 0 | - |
| Stage 2 | 0 | - | - | 0 | 0 | - |
| Platoon blocked, % | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | - | - | - | 416 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Approach | EB | WB | SB | | | |
| HCM Control Delay, s | 0 | 0 | 16.5 | | | |
| HCM LOS | | | C | | | |
| Minor Lane/Major Mvmt | EBT | WBT | SBLn1 | | | |
| Capacity (veh/h) | - | - | 416 | | | |
| HCM Lane V/C Ratio | - | - | 0.25 | | | |
| HCM Control Delay (s) | - | - | 16.5 | | | |
| HCM Lane LOS | - | - | C | | | |
| HCM 95th %tile Q(veh) | - | - | 1 | | | |

Intersection

Int Delay, s/veh 1.6

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑↑ | ↑ | ↑ | ↑↑ | ↑ | | | ↑ | | | ↑ |
| Traffic Vol, veh/h | 192 | 1378 | 3 | 24 | 1144 | 63 | 0 | 0 | 63 | 0 | 0 | 42 |
| Future Vol, veh/h | 192 | 1378 | 3 | 24 | 1144 | 63 | 0 | 0 | 63 | 0 | 0 | 42 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | 225 | - | 145 | 225 | - | 175 | - | - | 0 | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 192 | 1378 | 3 | 24 | 1144 | 63 | 0 | 0 | 63 | 0 | 0 | 42 |

| Major/Minor | Major1 | Major2 | | | Minor1 | | Minor2 | | | | | |
|----------------------|--------|--------|---|------|--------|---|--------|---|------|---|---|------|
| Conflicting Flow All | 1207 | 0 | 0 | 1381 | 0 | 0 | - | - | 689 | - | - | 572 |
| Stage 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | - | - | 6.94 | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | - | - | 3.32 | - | - | 3.32 |
| Pot Cap-1 Maneuver | 574 | - | - | 492 | - | - | 0 | 0 | 388 | 0 | 0 | 463 |
| Stage 1 | - | - | - | - | - | - | 0 | 0 | - | 0 | 0 | - |
| Stage 2 | - | - | - | - | - | - | 0 | 0 | - | 0 | 0 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 574 | - | - | 492 | - | - | - | - | 388 | - | - | 463 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - | - | - | - | - | - | - |

| Approach | EB | WB | | | NB | | SB | | |
|-----------------------|-------|-------|-----|-----|-------|-----|------|-------|--|
| HCM Control Delay, s | 1.8 | 0.2 | | | 16.1 | | 13.6 | | |
| HCM LOS | | | | | C | | B | | |
| <hr/> | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | |
| Capacity (veh/h) | 388 | 574 | - | - | 492 | - | - | 463 | |
| HCM Lane V/C Ratio | 0.162 | 0.334 | - | - | 0.049 | - | - | 0.091 | |
| HCM Control Delay (s) | 16.1 | 14.4 | - | - | 12.7 | - | - | 13.6 | |
| HCM Lane LOS | C | B | - | - | B | - | - | B | |
| HCM 95th %tile Q(veh) | 0.6 | 1.5 | - | - | 0.2 | - | - | 0.3 | |

Queues

4: TRUXEL RD/NATOMAS BLVD & DEL PASO RD

PM EPPP PLUS NATOMAS CENTER

01/05/2020



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 618 | 551 | 296 | 184 | 576 | 231 | 353 | 808 | 158 | 167 | 470 | 317 |
| V/c Ratio | 0.66 | 0.41 | 0.46 | 0.39 | 0.56 | 0.46 | 0.61 | 0.62 | 0.19 | 0.36 | 0.41 | 0.41 |
| Control Delay | 43.8 | 31.9 | 6.2 | 47.1 | 39.7 | 8.8 | 46.7 | 35.9 | 5.6 | 47.0 | 36.2 | 16.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 43.8 | 31.9 | 6.2 | 47.1 | 39.7 | 8.8 | 46.7 | 35.9 | 5.6 | 47.0 | 36.2 | 16.5 |
| Queue Length 50th (ft) | 124 | 101 | 0 | 54 | 118 | 3 | 105 | 163 | 0 | 48 | 91 | 95 |
| Queue Length 95th (ft) | 235 | 177 | 67 | 121 | 205 | 72 | 207 | 261 | 28 | 113 | 164 | 222 |
| Internal Link Dist (ft) | | | 1121 | | | 2071 | | | 1263 | | | 887 |
| Turn Bay Length (ft) | 275 | | 145 | 235 | | 140 | 250 | | 230 | 225 | | 150 |
| Base Capacity (vph) | 1234 | 2314 | 881 | 891 | 2314 | 843 | 891 | 2297 | 1345 | 891 | 2293 | 870 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.50 | 0.24 | 0.34 | 0.21 | 0.25 | 0.27 | 0.40 | 0.35 | 0.12 | 0.19 | 0.20 | 0.36 |

Intersection Summary

HCM 6th Signalized Intersection Summary
4: TRUXEL RD/NATOMAS BLVD & DEL PASO RD

PM EPPP PLUS NATOMAS CENTER

01/05/2020

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↑↑↑ | ↑↑↑ | ↑ | ↑↑↑ | ↑↑↑ | ↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑↑↑ | ↑ |
| Traffic Volume (veh/h) | 618 | 551 | 296 | 184 | 576 | 231 | 353 | 808 | 158 | 167 | 470 | 317 |
| Future Volume (veh/h) | 618 | 551 | 296 | 184 | 576 | 231 | 353 | 808 | 158 | 167 | 470 | 317 |
| Initial Q (Q _b), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 618 | 551 | 296 | 184 | 576 | 231 | 353 | 808 | 158 | 167 | 470 | 317 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 811 | 1272 | 395 | 498 | 1115 | 346 | 503 | 1223 | 668 | 495 | 1211 | 632 |
| Arrive On Green | 0.16 | 0.25 | 0.25 | 0.14 | 0.22 | 0.22 | 0.15 | 0.24 | 0.24 | 0.14 | 0.24 | 0.24 |
| Sat Flow, veh/h | 5023 | 5106 | 1585 | 3456 | 5106 | 1585 | 3456 | 5106 | 2790 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 618 | 551 | 296 | 184 | 576 | 231 | 353 | 808 | 158 | 167 | 470 | 317 |
| Grp Sat Flow(s), veh/h/ln | 1674 | 1702 | 1585 | 1728 | 1702 | 1585 | 1728 | 1702 | 1395 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 10.5 | 8.1 | 15.4 | 4.3 | 8.9 | 11.9 | 8.7 | 12.8 | 4.1 | 3.9 | 6.9 | 13.4 |
| Cycle Q Clear(g_c), s | 10.5 | 8.1 | 15.4 | 4.3 | 8.9 | 11.9 | 8.7 | 12.8 | 4.1 | 3.9 | 6.9 | 13.4 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 811 | 1272 | 395 | 498 | 1115 | 346 | 503 | 1223 | 668 | 495 | 1211 | 632 |
| V/C Ratio(X) | 0.76 | 0.43 | 0.75 | 0.37 | 0.52 | 0.67 | 0.70 | 0.66 | 0.24 | 0.34 | 0.39 | 0.50 |
| Avail Cap(c_a), veh/h | 1367 | 2557 | 794 | 987 | 2557 | 794 | 987 | 2534 | 1384 | 987 | 2534 | 1042 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.8 | 28.2 | 30.9 | 34.5 | 30.7 | 31.9 | 36.3 | 30.7 | 27.4 | 34.4 | 28.6 | 20.2 |
| Incr Delay (d2), s/veh | 1.5 | 0.2 | 2.9 | 0.5 | 0.4 | 2.2 | 1.8 | 0.6 | 0.2 | 0.4 | 0.2 | 0.6 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%), veh/ln | 4.2 | 3.2 | 5.9 | 1.8 | 3.5 | 4.6 | 3.6 | 5.0 | 1.3 | 1.6 | 2.7 | 4.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 37.3 | 28.4 | 33.8 | 35.0 | 31.1 | 34.1 | 38.1 | 31.3 | 27.5 | 34.8 | 28.8 | 20.8 |
| LnGrp LOS | D | C | C | C | C | C | D | C | C | C | C | C |
| Approach Vol, veh/h | | 1465 | | | 991 | | | 1319 | | | 954 | |
| Approach Delay, s/veh | | 33.3 | | | 32.5 | | | 32.7 | | | 27.2 | |
| Approach LOS | | C | | | C | | | C | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+R _c), s | 17.3 | 27.1 | 17.4 | 27.5 | 17.5 | 26.9 | 20.1 | 24.8 | | | | |
| Change Period (Y+R _c), s | 4.5 | 5.7 | 4.5 | 5.3 | 4.5 | 5.7 | 5.7 | 5.3 | | | | |
| Max Green Setting (Gmax), s | 25.5 | 44.3 | 25.5 | 44.7 | 25.5 | 44.3 | 24.3 | 44.7 | | | | |
| Max Q Clear Time (g_c+l1), s | 5.9 | 14.8 | 6.3 | 17.4 | 10.7 | 15.4 | 12.5 | 13.9 | | | | |
| Green Ext Time (p_c), s | 0.5 | 6.6 | 0.5 | 4.8 | 1.0 | 4.3 | 1.9 | 4.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 31.7 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |

Lane Group

Lane Group Flow (vph)

v/c Ratio

Control Delay

Queue Delay

Total Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

HCM 6th Edition methodology does not support more than 4 approaches.