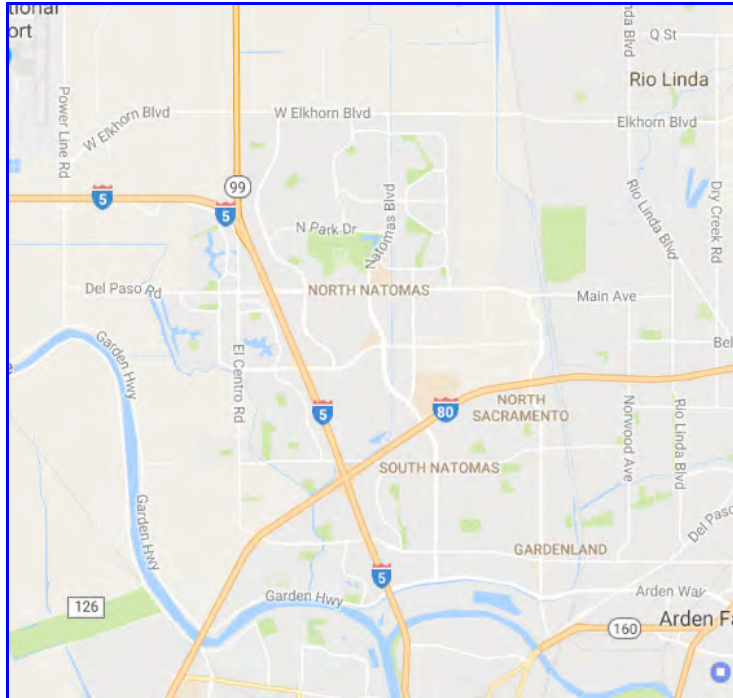


Draft Supplement to the
2035 General Plan Master EIR
(SCH # 2012122006)

to address

Proposed Changes to Planned North Natomas Roadway Improvements

APPENDICES



Prepared for:

City of Sacramento

Prepared by:

Adrienne L. Graham, AICP
and DKS Associates

October 2017

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APPENDIX A: NOTICE OF PREPARATION

DATE: July 5, 2017

TO: Interested Persons

FROM: Scott Johnson, Associate Planner
Community Development Department

RE: **NOTICE OF PREPARATION OF A SUPPLEMENT TO THE 2035
GENERAL PLAN MASTER ENVIRONMENTAL IMPACT REPORT TO
ADDRESS PROPOSED CHANGES TO PLANNED ROADWAY
IMPROVEMENTS IN THE NORTH NATOMAS COMMUNITY PLAN
AREA**

COMMENT PERIOD

July 5 through August 4, 2017

INTRODUCTION

The City of Sacramento (City) is the Lead Agency for preparation of a Supplement to the 2035 General Plan Master Environmental Impact Report (MEIR, SCH #2012122006) to address revisions to the Mobility Element of the 2035 General Plan, the North Natomas Community Plan, and the North Natomas Financing Plan to eliminate the future connection of Natomas Crossing Drive between East Commerce Way and El Centro Road, and to convert the Gibraltar Street/White Eagle Lane Connection between Beretania Way and Windsong Street from a local road to a paved trail.

The City of Sacramento certified the Master EIR and adopted the 2035 General Plan EIR on March 3, 2015. The Supplemental EIR (SEIR) to be prepared by the City will focus on new impacts and/or more severe impacts resulting from the proposed project. Written comments regarding the issues that should be covered in the SEIR are invited.

The SEIR is being prepared in compliance with the California Environmental Quality Act (CEQA). Under CEQA, upon deciding to prepare an EIR, the City as lead agency must issue a Notice of Preparation (NOP) to inform trustee agencies, the public, and responsible agencies of that decision. The purpose of the NOP is to provide information describing the project and its potential environmental effects to those who may wish to comment regarding the scope and content of the information to be included in the EIR. Agencies should comment on such information as it relates to their statutory responsibilities in connection with the project.

The proposed project description, location, and environmental issue areas that could be affected by the proposed project are described below. The SEIR will evaluate the potentially significant environmental impacts of the proposed project, on both a direct and cumulative basis, identify mitigation measures that may be feasible to lessen or avoid such impacts, if available, and identify alternatives to the proposed project.

PROJECT LOCATION/SETTING

The 2035 General Plan Mobility Element identifies transportation improvements throughout the City, including the North Natomas Community Plan area. The improvements identified for North Natomas are included in the North Natomas Financing Plan covers most of the North Natomas Community Plan (see Figure 1). The NNFP area extends from Interstate 80 on the south to Elkhorn Boulevard to the north, and to the east of El Centro Road and to the west of Natomas Boulevard/Truxel Road. Two components of the NNFP would be revised under the proposed project, as shown in Figure 2. The first would eliminate a future connection of Natomas Crossing Drive between East Commerce Way and El Centro Road. The second would convert the Gibraltar Street/White Eagle Lane Connection between Beretania Way and Windsong Street from a local road to a paved trail.

PROJECT DESCRIPTION

The North Natomas Financing Plan is a blueprint for infrastructure financing within the portion of the North Natomas community located within the City of Sacramento. The Financing Plan includes funding for major roads, signals and bridges, as well as other infrastructure. The City proposes to revise the General Plan Circulation Diagram and North Natomas Community Plan and to update the Financing Plan to reflect the proposed changes as follows:

- Elimination of the portion of Natomas Crossing Drive between East Commerce Way and El Centro Road. This future roadway extension is shown as an arterial roadway on the Citywide Circulation Diagram in the General Plan.
- Conversion of the Gibraltar Street/White Eagle Lane Connection between Beretania Way and Windsong Street from a local road to a paved trail for use only by bicycles and pedestrians.

With these changes, any costs related to those improvements will be eliminated from the Financing Plan.

In order to implement the proposed project, it will be necessary to make revisions to the 2035 General Plan Mobility Element. Specifically, the Citywide Circulation Diagrams (including Figures M3 and M4) and the North Natomas Community Plan Conceptual Transit Corridors Map (Figure NN-4) would be amended to reflect the changes described above. In addition, Figure M1, *Vehicle Level of Service Exception Areas*,

and General Plan Policy M.1.22 may need to be revised to add roadway segments that could operate at LOS E or F as a result of the proposed project. The Bikeway Master Plan and 2035 General Plan Master EIR may also need to be amended.

ANTICIPATED ACTIONS

The following actions would be taken by the City Council in order to implement the proposed project:

- Certify that the 2035 Master EIR as supplemented by the SEIR adequately addresses the significant effects of the proposed project pursuant to CEQA and the CEQA Guidelines;
- Amend the Mobility Element of the 2035 General Plan as described above.
- Amend the North Natomas Community Plan Conceptual Transit Corridors Map.
- Amend the North Natomas Financing Plan.

ENVIRONMENTAL EFFECTS AND SCOPE OF THE SEIR

Under CEQA Guidelines Section 15162, a Subsequent EIR must be prepared if any the following conditions are met:

1. Substantial changes are proposed in the project which would require major revisions of the previous EIR or negative declaration due to the involvement of new significant effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken, which would require major revisions of the previous EIR or negative declaration due to the involvement of new significant effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, as complete or the negative declaration was adopted, shows any of the following:
 - a) The project would have new or more significant effects not discussed in the previous EIR or negative declaration;
 - b) Significant effects previously examined would be substantially more severe than shown in the previous EIR;
 - c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the proposed proponents decline to adopt the mitigation measures or alternative; or
 - d) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adapt the mitigation measure or alternative.

Section 15163 of the CEQA Guidelines states:

- (a) The Lead or Responsible Agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if:
 - (1) Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and
 - (2) Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

The proposed project requires changes to the 2035 General Plan Mobility Element, which would constitute changes to the General Plan necessitating revision to the Master EIR. Specifically, the proposed project would eliminate a roadway connection in the Natomas community, which would divert future traffic to other roadways in the project vicinity. As a result, traffic congestion could increase on these roads and one or more roadway segments might operate at LOS E or F, which would not meet adopted City standards. The particular revisions and impacts will be determined based on the traffic study prepared for the SEIR, but they are anticipated to be limited to the Mobility Element and Section 4.12, Transportation and Circulation, of the Master EIR. Therefore, the City has determined that a Supplement to the 2035 General Plan Master EIR is the appropriate CEQA document for the proposed project.

The proposed project is not anticipated to alter the conclusions of the Master EIR in any impact area other than transportation. No new development or facilities would be planned or constructed as a result of the proposed project. Rather, because it would remove funding for a planned future roadway connection, the proposed project would reduce the extent of impacts related to facilities construction. For these reasons, the SEIR will focus solely on transportation impacts.

SUBMITTING COMMENTS

Comments and suggestions as to the appropriate scope of analysis in the EIR are invited from all interested parties. Written comments or questions concerning the EIR for the proposed project should be directed to the City's environmental project manager at the following address by 5:00 p.m. on August 4, 2017. Please include the commenter's full name and address.

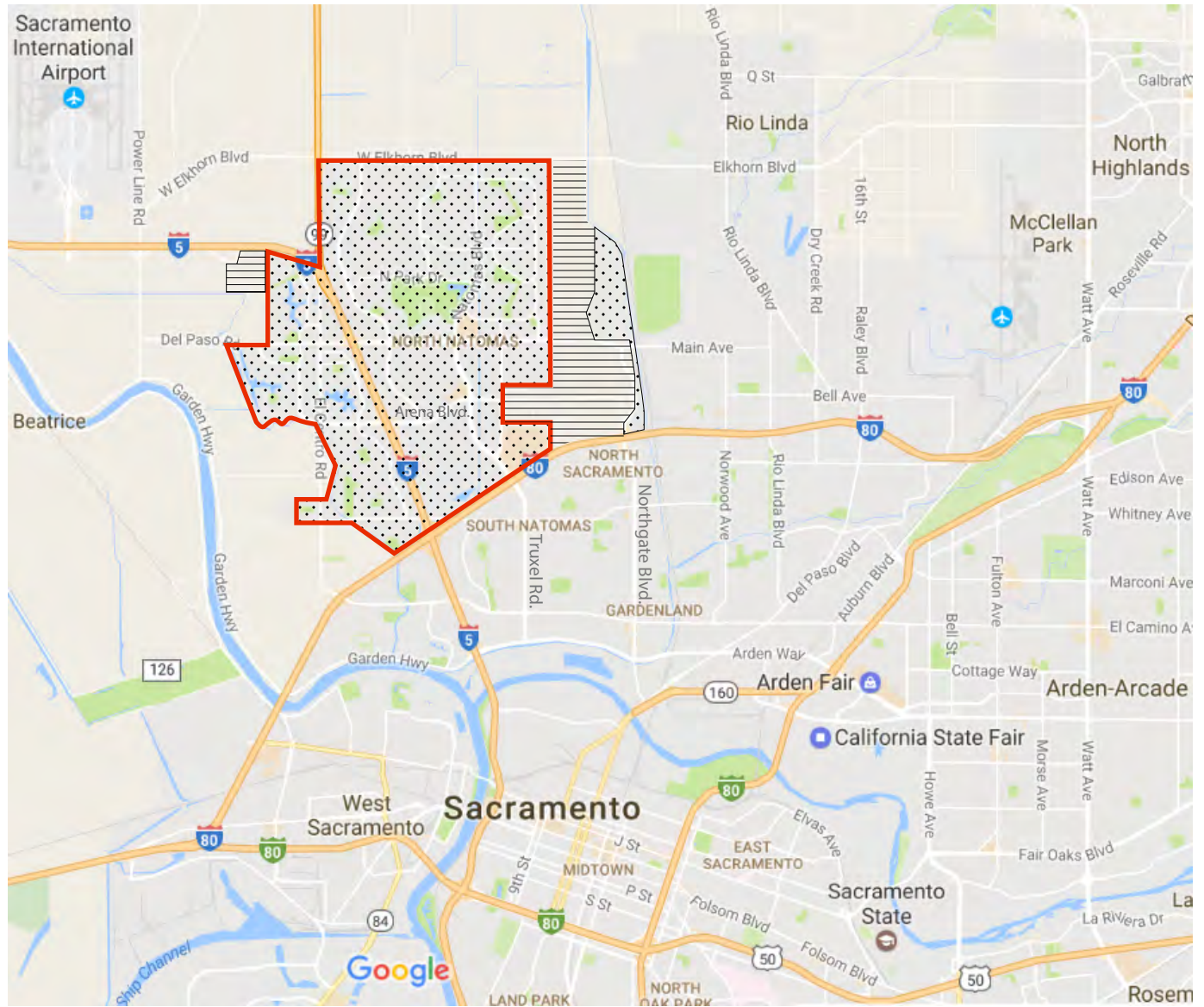
Scott Johnson, Associate Planner,
City of Sacramento Community Development Department,
300 Richards Boulevard, Third Floor
Sacramento, CA 95811

Telephone: (916) 808-5842
E:mail: srjohnson@cityofsacramento.org

Attachments

Figure 1 North Natomas Financing Plan Boundaries

Figure 2 Project Location



- North Natomas Finance Plan Boundary
- North Natomas Community Plan
City of Sacramento
- North Natomas Community Plan
County of Sacramento

Figure 1

**North Natomas
Financing Plan Area**

No Scale

SOURCE: Economic & Planning Systems, Inc., May 2009; Google Maps, 2017.



Figure 2
Project Location

APPENDIX B: NOTICE OF PREPARATION RESPONSES



8/4/2017

VIA EMAIL

Scott Johnson, Associate Planner,
City of Sacramento Community Development Department
300 Richards Boulevard, 3rd Floor
Sacramento, CA 95811

RE: Notice of Preparation of a Supplement to the 2025 General Plan Master Environmental Impact Report to Address Proposed Changes to the Planned Roadway Improvements in the North Natomas Community Plan Area

Dear Mr. Johnson:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) of a Supplement to the 2035 General Plan Master Environmental Impact Report (NNFP SEIR). The proposed project would revise the 2035 General Plan Mobility Element and Circulation Diagram, the North Natomas Community Plan, and the North Natomas Financing Plan. These revisions would be done to reflect the elimination of Natomas Crossing Drive between East Commerce Way and El Centro Road, and the conversion of Gibraltar Street/White Eagle Lane Connection between Beretania Way and Windsong Street from a local road to a paved trail for use only by bicycles and pedestrians.

Goals of the 2035 General Plan include development of a multi-modal transportation system that emphasizes walking, biking and transit, promotes efficient travel by removing barriers, and makes Sacramento a model pedestrian-friendly community. The North Natomas Community Plan envisioned these 2035 GP goals with its guiding principles for circulation, including linking all land uses with all modes, connecting neighborhoods, providing a support network for pedestrians and bicycles, and providing multiple routes and connections to adjacent developments.

The NOP project description indicates that the segment of Natomas Crossing Drive between East Commerce Way and El Centro Road would be eliminated, but it doesn't specify whether the Natomas Crossing Drive bridge over I-5 would also be eliminated. This future crossing is important for making walking and biking connections between neighborhoods, commercial areas, and transit service that are separated by the freeway.

Eliminating only the roadway, and not the bridge, between the east and west sides of I-5 may have negative impacts on east-side and west-side pedestrian and bicycle trips as local vehicle trips become more concentrated on the existing streets and the freeway crossings at the Arena Boulevard and El Paso Road interchanges. Eliminating the bridge in addition to the Natomas Crossing Drive segment may cause pedestrian and bicycle travel to shift to vehicles, putting those remaining pedestrians and bicyclists at greater risk of collisions. The proposed conversion of

Gibraltar Street/White Eagle Lane connection could also change the travel pattern and number of local vehicle trips.

WALKSacramento requests the scope of analysis in the NNFP SEIR include analysis of the impact the project may have on walk and bike mode shares, and the impact to pedestrian and bicycle safety. These impacts should be compared to alternatives to the project that include or exclude, as appropriate, the bicycle and pedestrian facilities along the Natomas Crossing Drive segment between East Commerce Way and El Centro Road, and an alternative that includes or excludes, as appropriate, the associated crossing of I-5.

WALKSacramento is working to support increased physical activity such as walking and bicycling in local neighborhoods as well as helping to create community environments that support walking and bicycling. The benefits include improved physical fitness, less motor vehicle traffic congestion, better air quality, and a stronger sense of cohesion and safety in local neighborhoods.

Thank you for your consideration of these comments and recommendations. If you have questions or need additional information, please don't hesitate to contact me.

Sincerely,

Chris Holm
Project Manager



MIWOK United Auburn Indian Community
 MAIDU of the Auburn Rancheria

Gene Whitehouse
 Chairman

John L. Williams
 Vice Chairman

Calvin Moman
 Secretary

Jason Camp
 Treasurer

Gabe Cayton
 Council Member

July 18, 2017

Scott Johnson
 City of Sacramento
 300 Richards Blvd. 3rd Floor
 Sacramento, CA 95811

**COMMUNITY DEVELOPMENT
 DEPARTMENT**

JUL 28 2017

RECEIVED

Subject: Notice of Preparation of a Supplement to the 2035 General Plan Master Environmental Impact Report to Address Proposed Changes to Planned Roadway Improvements in the North Natomas Community Plan Area

Dear Scott Johnson,

Thank you for requesting information regarding the above referenced project. The United Auburn Indian Community (UAIC) of the Auburn Rancheria is comprised of Miwok and Southern Maidu (Nisenan) people whose tribal lands are within Placer County and whose service area includes El Dorado, Nevada, Placer, Sacramento, Sutter, and Yuba counties. The UAIC is concerned about development within its aboriginal territory that has potential to impact the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance. We appreciate the opportunity to comment on this and other projects. The UAIC would like to consult on this project.

In order to ascertain whether the project could affect cultural resources that may be of importance to the UAIC, we would like to receive copies of any archaeological reports that are completed for the project. We also request copies of environmental documents for the proposed project so that we have the opportunity to comment on appropriate identification, assessment and mitigation related to cultural resources. We recommend UAIC tribal representatives observe and participate in all cultural resource surveys. If you are interested, the UAIC's preservation department offers a mapping, records and literature search services program that has been shown to assist project proponents in complying with the necessary resource laws and choosing the appropriate mitigation measures or form of environmental documentation during the planning process.

The UAIC's preservation committee would like to set up a meeting or site visit, and begin consulting on the proposed project. Based on the preservation committee's identification of cultural resources in and around your project area, UAIC recommends that a tribal monitor be present during any ground disturbing activities. Thank you again for taking these matters into consideration, and for involving the UAIC early in the planning process. We look forward to reviewing the documents requested above and consulting on your project. Please contact Marcos Guerrero, Cultural Resources Manager, at (530) 883-2364 or by email at mguerrero@auburnrancheria.com if you have any questions.

Sincerely,

Gene Whitehouse,
 Chairman

CC: Marcos Guerrero, CRM



Sent Via E-Mail

August 4, 2017

Scott Johnson, Associate Planner
City of Sacramento
Community Development Department
300 Richards Boulevard, 3rd Floor
Sacramento, CA 95811
srjohnson@cityofsacramento.org

Subject: Notice of Preparation of a Supplement to the 2035 General Plan Master Environmental Impact Report to Address Proposed Changes to Planned Roadway Improvements in the North Natomas Community Plan Area (Clearinghouse No. 2012122006)

Dear Mr. Johnson:

The Sacramento Municipal Utility District (SMUD) appreciates the opportunity to provide comments on the Notice of Preparation (NOP) of a Supplement to the 2035 General Plan Master Environmental Impact Report (MEIR) to Address Proposed Changes to Planned Roadway Improvements in the North Natomas Community Plan Area (Project). SMUD is the primary energy provider for Sacramento County and the proposed Project area. SMUD's vision is to empower our customers with solutions and options that increase energy efficiency, protect the environment, reduce global warming, and lower the cost to serve our region. As a Responsible Agency, SMUD aims to ensure that the proposed Project limits the potential for significant environmental effects on SMUD facilities, employees, and customers.

It is our desire that the MEIR for the Project will acknowledge any Project impacts related to the following:

- Overhead and or underground transmission and distribution line easements. Please view the following links on smud.org for more information regarding transmission encroachment:
 - <https://www.smud.org/en/business/customer-service/support-and-services/design-construction-services.htm>
 - <https://www.smud.org/en/do-business-with-smud/real-estate-services/transmission-right-of-way.htm>
- Utility line routing
- Electrical load needs/requirements
- Energy Efficiency
- Climate Change
- Cumulative impacts related to the need for increased electrical delivery

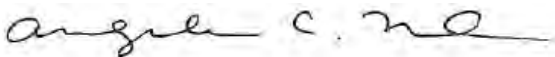
Based on our review of the NOP and our understanding of the proposed Project, SMUD offers the following input for your consideration:

- There are existing facilities within the Project area including overhead 69kV facilities to the north of Future Snowy Egret Drive and underground 12kV facilities to the south of Future Snowy Egret Drive. In the event the Applicant requires the relocation or removal of existing SMUD facilities on or adjacent to the subject property, the Applicant shall coordinate with SMUD. The Applicant shall be responsible for the cost of relocation or removal.
- SMUD may require use of future bike fly-ways over Interstate 5 (I-5) to extend underground 12kV circuits to enhance service within the Project area.
- SMUD may require a 12.5-foot public utility easement (PUE) adjacent to the proposed bike trails for future 12kV facilities.
- To ensure adequate access to SMUD equipment, all paved surfaces should be accessible to a 26,000 pound SMUD service vehicle in all-weather. At a minimum: (a) the drivable surface shall be 20-feet wide; and (b) all SMUD underground equipment and appurtenances shall be within 15-feet from the drivable surface.

SMUD would like to be involved with discussing the above areas of interest as well as discussing any other potential issues. We aim to be partners in the efficient and sustainable delivery of the proposed Project. Please ensure that the information included in this response is conveyed to the Project planners and the appropriate Project proponents.

Environmental leadership is a core value of SMUD and we look forward to collaborating with you on this Project. Again, we appreciate the opportunity to provide input on this MEIR. If you have any questions regarding this letter, please contact Rob Ferrera at rob.ferrera@smud.org or (916)732-6676.

Sincerely,



Angela C. McIntire
Regional & Local Government Affairs
Sacramento Municipal Utility District
6301 S Street, Mail Stop A313
Sacramento, CA 95817
angela.mcintire@smud.org

Cc: Rob Ferrera, SMUD

Department of Transportation

Michael J. Penrose, Director



Divisions

Administration
Maintenance & Operations
Engineering & Planning

County of Sacramento

July 18, 2017

Mr. Scott Johnson
City of Sacramento, Community Development Department
300 Richards Blvd, 3rd Floor
Sacramento, CA 95811
sjohnson@cityofsacramento.org

SUBJECT: COMMENTS ON THE NOTICE OF PREPARATION OF A SUPPLEMENT TO THE 2035 GENERAL PLAN MASTER ENVIRONMENTAL IMPACT REPORT TO ADDRESS PROPOSED CHANGES TO PLANNED ROADWAY IMPROVEMENTS IN THE NORTH NATOMAS COMMUNITY PLAN AREA.

Dear Mr. Johnson:

The Sacramento County Department of Transportation (SACDOT) has received the Notice of Preparation (NOP) for the supplement to the Master Plan Environmental Impact Report (EIR). We appreciate the opportunity to review this document and have the following comment to offer.

1. We expect traffic that anticipates using the 2 roadways proposed not to be connected will recirculate to other area roadways. El Centro Road in the County of Sacramento will most likely be affected with increased traffic. We ask the City of Sacramento to analyze the effects of these changes on traffic volumes on El Centro Road and adjacent intersections. Where an impact occurs please identify a suitable mitigation.

Should you have any questions, please feel free to contact me at (916) 874-7052.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew G. Darrow".

Matthew G. Darrow, P.E., T.E., P.T.O.E.
Senior Transportation Engineer
Department of Transportation

MGD

c: Dean Blank – DOT
Kamal Atwal – DOT
Todd Smith – PER
Leighann Moffitt - PER

From: [Ed Bodfish](#)
To: [Scott Johnson](#)
Subject: Comment on "Notice of Preparation" ...
Date: Monday, July 10, 2017 2:48:59 PM

To: Scott Johnson, Associate Planner
City of Sacramento Community DEvelopment Department

Re: Notice of Preparation of a Supplement to the 2035 General Plan Master...

Dear Scott,

In 2010, within two days, we gathered 268 signatures of residents in North Natomas Community opposing construction of Natomas Crossing Roadway to connect E. Commerce Way and El Centro Road.

This people's Referendum expressed two major concerns:

1. A "future roadway" along the eastern border of San Juan Reservoir will bring environmental damage to the sanctuary habitat of so many migrating species of birds: including flocks of hundreds of wild geese, the few remaining families of the endangered California Screeching Owl, egrets, the magnificent eagles, and zillions of other birds that visit the Reservoir on their migration routes. There is even fish in the creek.

Unfortunately, with every year, fewer and fewer migrating birds arrive. While in 2010, on some evenings at the end of summer, hundreds of geese took wing from the Reservoir, and the sky seemed to be all covered by the flocks practicing the flights in huge triangles, right over our houses, not so many today, and yet, they are still there, they still arrive, and the residents of Natomas are determined to save the habitat of San Juan Reservoir from destruction.

2. Today, near San Juan Reservoir, it's always cooler and breezy. It certainly is. This is what people appreciate so much. And gasoline fumes from a "future roadway", carbon monoxide, polluted leaks from the road will damage the environment, and create the infamous "city pockets" of hot, vertically convecting air up to 400 ft high, oozing from the asphalt. And will certainly raise the local heat blasts of summer.

Today, on weekends, families with children of all ages, cyclists, even fishermen, come from other parts of Natomas, and even from outside Natomas, to walk, bike, and jog to the Reservoir. Our house stands at the corner of Sparrow and Carneros Creek St, and especially in spring and autumn, we see never-ceasing walks of hundreds of people toward San Juan Reservoir. It's so good to see children walk proudly with seeds in their hands For the Birds of San Juan.

If it helps to protect the environment of this area, we can take videos of this Great Walk of families and interview them.

- The residents expressed what they prefer to see instead of the "future Natomas Crossing Roadway".
- The residents don't see a road.
- They see a park extension of San Juan reservoir, an alley of trees, children's playgrounds, bike lanes, jogging paths.
- The natural elevation of the land toward the border of San Juan Reservoir may become a perfect arena for the kids who enjoy skate board surfing, to keep them from skateboarding on the streets.
- Another proposal was to build a Botanic Garden featuring the native plants. And some residents on Chateau Montelena Way said they would help to irrigate trees with hoses from their own backyards - it's amazing to see such enthusiasm.
- And we already have an \$80,000 City-of-Sacramento Community Garden built near the eastern border of San Juan Reservoir, it provides 26 families with organic vegetables. There is so much vacant land - it can be extended.

We hope for the attention of the City of Sacramento Council to the will of the residents, we hope that your Department will protect the view of 268 people to save the area on the eastern border of San Juan Reservoir from destruction, and ideally, develop this area as a beautiful park extension of the Reservoir, as an entertainment park, or just a tree-lined alley for the bikers and joggers. Something special that the residents will enjoy.

In 2011 we mailed the lists with 268 signatures to Angelica Ashby. She kindly regarded the papers and said that "unless the roadway is vitally needed for the routes of security and fire", she was not to support it.

The "Notice of Preparation of a Supplement to the 2035 General Plan Master Environmental Impact Report" is written in a technical language. It mentions that the Department recommends a change to the Master Plan as: a) *Elimination of the portion of Natomas Crossing Drive between East Commerce Way and El Centro Road.* We hope this proposition means that building an additional roadway is not so vital as to destroy the area that residents enjoy. But we are not sure what exactly is meant by the words "elimination of the portion". Will appreciate if you could tell us what exactly the proposal of your Department may mean to us.

And if it will help, we can re-start the people's referendum of 2010 to add up, we hope, to a thousand signatures of the residents with their emails/telephones.

Thank you for your attention.

Ed Bodfish

Irina Doren

2900 Chateau Montelena Way, Sacramento, CA 95834

ebodfish@gmail.com

916-572-5680

David L. Von Aspern
3009 Funston Drive
Sacramento, CA 95833
Cell 916-591-2679
dvajet@aol.com

VIA EMAIL

To: Scott Johnson, City of Sacramento, Associate Planner

RE: MEIR, SCH #2012122006

It is inappropriate to eliminate the future connection of Natomas Crossing Drive between East Commerce Way and El Centro Road. The community was made specific representations when the General Plan and Natomas building plans were first promulgated. Both the City and private landowners/project proponents should be held to account when promises appear to be on the brink of being broken.

If Natomas Crossing Drive is not built within the ROW already set aside for it, the community will be stuck with the on-going blight and fire hazard that presently exists within that roadway corridor. The City has been a poor steward of that land area by failing to keep weeds abated, to collect trash, eliminate graffiti and discourage parking of junk autos along those dead-end streets that will continue to exist if the street is not built. See the color photos attached that illustrate all of these existing problems.

The City allowed installation of major infrastructure within the San Juan Road ROW to accommodate development, and yet the City neither made itself nor required developers to correspondingly install important upgrades to that old thoroughfare. So now the community is stuck with failing pavement that is literally "sloughing off" into the adjoining roadside ditch as evidenced by the cracking visible in the attached photographs. Furthermore, the roadway is settling relative to the installed manholes resulting in severe bumps when drivers traverse those locations. Settlement has been so severe in some locations adjoining manholes that asphaltic repairs have been made; these are visible in the photos attached. Giving the failing condition of San Juan Road between El Centro Road and Witter Ranch driveway it is conceivable that Natomas Crossing Drive will be critically needed when San Juan Road must be closed for major repairs.

The City and/or project proponents must live up to promises; otherwise the public gets "ripped off" again!

Thank you,



David Von Aspern

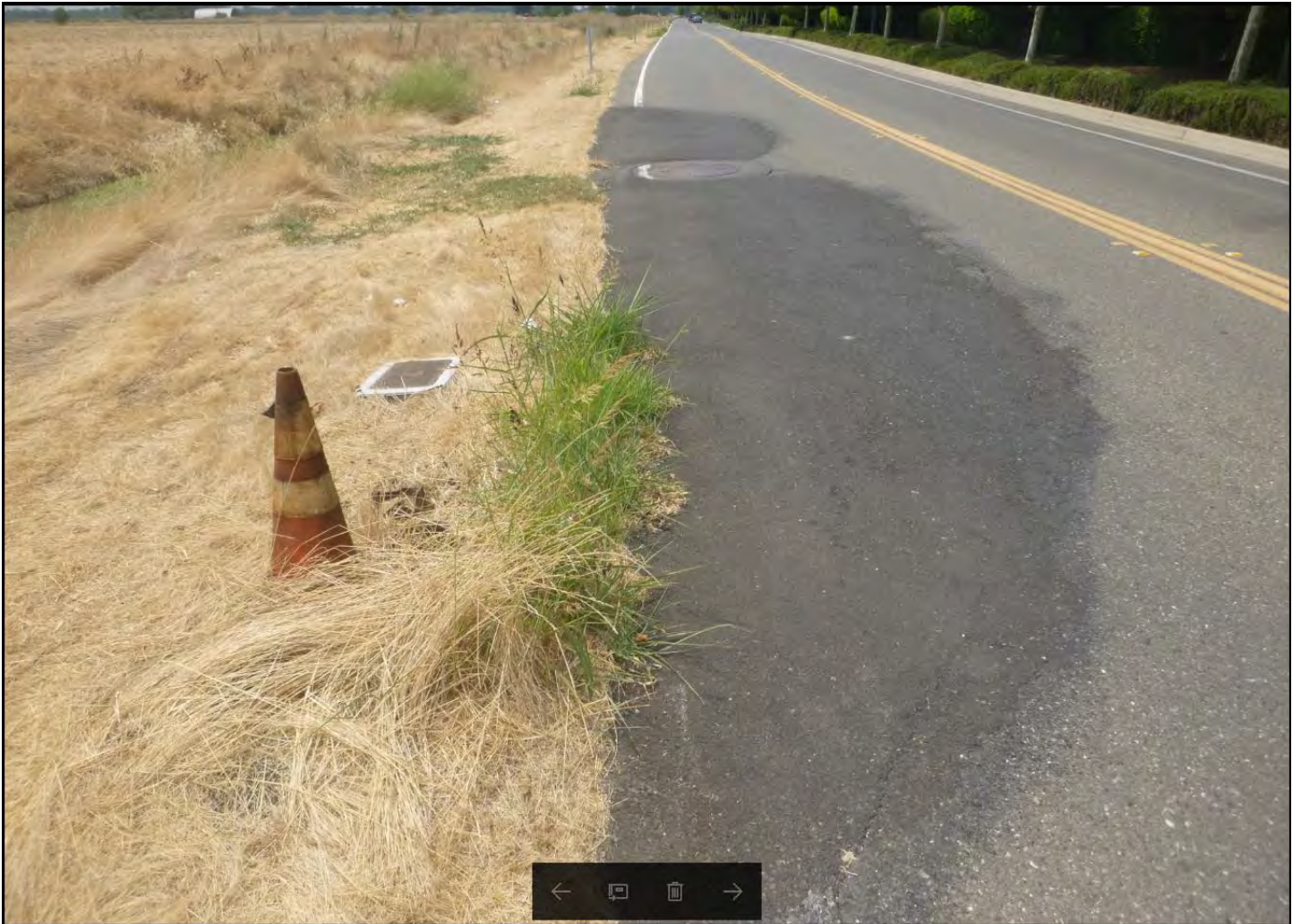
NCD fire haz.jpg



NCD litter.jpg



NCD manholes.jpg



NCD sloughing road.jpg



NCD junk cars graffiti.jpg



NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Fax (916) 373-5471
Email: nahc@nahc.ca.gov
Website: <http://www.nahc.ca.gov>
Twitter: @CA_NAHC



COMMUNITY DEVELOPMENT
DEPARTMENT

AUG 09 2017

RECEIVED

August 4, 2017

Scott Johnson
City of Sacramento
300 Richards Blvd. 3rd Floor
Sacramento, CA 95811

Sent Via Email: srjohnson@cityofsacramento.org

RE: SCH# 2012122006, Supplemental to 2035 General Plan MEIR Roadways improvements in Natomas, Sacramento County

Dear Mr. Johnson:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
 - a. A brief description of the project.
 - b. The lead agency contact information.
 - c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
 - d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).
2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subs. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
 - a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).
3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
 - a. Alternatives to the project.
 - b. Recommended mitigation measures.
 - c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).
4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
 - a. Type of environmental review necessary.
 - b. Significance of the tribal cultural resources.
 - c. Significance of the project's impacts on tribal cultural resources.
 - d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).
5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).
6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
 - a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
 - b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).
7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
 - a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

- b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).
8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).
 9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).
 10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
 - a. Avoidance and preservation of the resources in place, including, but not limited to:
 - i. Planning and construction to avoid the resources and protect the cultural and natural context.
 - ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 - b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - i. Protecting the cultural character and integrity of the resource.
 - ii. Protecting the traditional use of the resource.
 - iii. Protecting the confidentiality of the resource.
 - c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
 - d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
 - e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
 - f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).
 11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
 - a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
 - b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
 - c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of

open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. **No Statutory Time Limit on SB 18 Tribal Consultation.** There is no statutory time limit on SB 18 tribal consultation.
3. **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. **Conclusion of SB 18 Tribal Consultation:** Consultation should be concluded at the point in which:
 - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
 - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
 - a. If part or all of the APE has been previously surveyed for cultural resources.
 - b. If any known cultural resources have been already been recorded on or adjacent to the APE.
 - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
 - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
 - b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.
3. Contact the NAHC for:

- a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
 - b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
- a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
 - b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
 - c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions, please contact me at my email address: sharaya.souza@nahc.ca.gov.

Sincerely,



Sharaya Souza
Staff Services Analyst
cc: State Clearinghouse



August 9, 2017

Mr. Scott Johnson
City of Sacramento – Community Development Department
300 Richards Boulevard, 3rd Floor
Sacramento CA 95811

Subject: Notice of Preparation of a Supplement to the 2035 General Plan Master Environmental Impact Report to Address Proposed Changes to Planned Roadway Improvements in the North Natomas Community Plan Area

Dear Mr. Johnson,

Sacramento Regional County Sanitation District (Regional San) has reviewed the subject application and has the following comments.

The Sacramento Area Sewer District (SASD) and Regional San both have several existing facilities located within the boundaries of the North Natomas Community. Both Regional San and SASD will require continuous access to its existing pipelines and facilities for operation and maintenance purposes.

Regional San's previous comments pertaining to the City of Sacramento's 2035 General Plan Update, Master Environmental Impact Report (LR12-003) dated August 25, 2014 are still sufficient and required for the associated supplement.

If you have any questions regarding this letter, please feel free to contact me at (916) 876-6104 or by email: armstrongro@sacsewer.com.

Sincerely,

Robb Armstrong

Robb Armstrong
Regional San Development Services & Plan Check

cc: SASD Development Services
Policy & Planning - Long Range Planning

Main Office

10060 Goethe Road
Sacramento, CA 95827-3553
Tel: 916.876.6000
Fax: 916.876.6160

Treatment Plant

8521 Laguna Station Road
Elk Grove, CA 95758-9550
Tel: 916.875.9000
Fax: 916.875.9068

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Christoph Dobson

Director of Policy & Planning

David O'Toole

Director of Internal Services

Joseph Maestretti

Chief Financial Officer

Claudia Goss

Public Affairs Manager

www.regionalsan.com

Date: August 10, 2017

To: Scott Johnson
Associate Planner,
City of Sacramento Community Development Department

Subject: Comments re NOP for Supplemental EIR revising NNCP & NNFP

I am writing this letter on behalf of the North Natomas Community Coalition (NNCC). We are a community-based group consisting of residents from many HOAs and Community Associations in the North Natomas Area. Our goal is to analyze any new projects in our area and determine how they may or may not benefit our area.

At our August 9, 2017 meeting, our group discussed the referenced NOP dated July 5, 2017. We generally support the proposals to eliminate the I-5 overpass at Natomas Crossing Drive, and to revise the unfinished roadway at White Eagle Lane to a paved bike/ped trail with the following comments:

- We continue to support construction per the NNCP of the I-5 bike/pedestrian overpass at Snowy Egret.
- With elimination of the Natomas Crossing overpass, more vehicular and bike traffic will be funneled to the Arena Blvd. I-5 overpass & the San Juan Rd. I-5 underpass. We request traffic mitigations be implemented/funded to address bike/ped safety:
 - A suggested mitigation for the Arena Blvd overpass could be green-painted bike lanes with white border lines that are dashed lines at the on/off ramps (see example bike lane at Sacramento Tower bridge entrance).
 - At the San Juan Road I-5 underpass, there is a major bikeway connection under I-5 crossing San Juan to downtown that is currently confusing and disconnected. We request the EIR assess bike/ped safety at this connector due to increased traffic and suggest this bike/ped trail connection be mitigated by improving it to a Class I connector/crossing if feasible.
- We look forward to evaluation of the bikeway system impacts in the SEIR. A map of the affected bikeways with existing & future conditions would be helpful for assessment.

Thank you for the opportunity to comment.

Sincerely,

Chris Paros

Chris Paros, NNCC President



NORTH NATOMAS TRANSPORTATION MANAGEMENT ASSOCIATION
1918 Del Paso Road, Suite 100 | Sacramento, CA 95834 | P: (916) 419-9955 | F: (916) 419-0055

August 14, 2017

Scott Johnson
City of Sacramento Community Development Department
300 Richards Blvd., 3rd Floor
Sacramento, CA 95811

RE: Notice of Preparation of Supplement to the 2025 General Plan Master Environmental Impact Report to address Proposed Changes to the Planned Roadway Improvements in the North Natomas Community Plan Area

Dear Scott,

On behalf of the North Natomas Transportation Management Association, thank you for the opportunity to comment on the NOP for Supplemental EIR revising NNCP & NNFP. This process would eliminate the Natomas Crossing Overpass from the NNFP and the Community Plan.

In 2015, NNTMA held a meeting of 30 area bicycle stakeholders to discuss North Natomas infrastructure and give input to updating the Bicycle Master Plan and the Transportation Program Guide. From that exercise, it was deemed that five east/west connectors were of great importance, Natomas Crossing Overpass and east/west related infrastructure, being the most southern option. At this location, a connection would provide a direct and preferred route to connect neighborhoods in the west to businesses in the east, that otherwise would be burdensome to access.

Will you please include an analysis of a bike/pedestrian bridge *only* – a more affordable amenity that would connect a community that is divided by freeway, especially for the southern portion of North Natomas?

NNTMA is a financial partner with the city in a feasibility study looking at an innovative bicycle lane on East Commerce Way. Once this is built, connections at Natomas Crossing would allow cyclists and pedestrians access to the entire community safely – north/south and east/west. How disappointing for the community to lose this amenity!

NNTMA supports neighborhood connectivity in effective, efficient and neighborhood-friendly ways and so we support the conversion of the Gibraltar Street/White Eagle Lane Connection from a local road to a paved trail for bike/pedestrian use only. This connection has been a problem for the Sundance neighborhood because others use it as a by-pass and at high rates of speed.

Thank you for considering our comments.

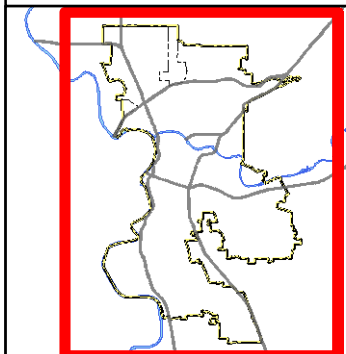
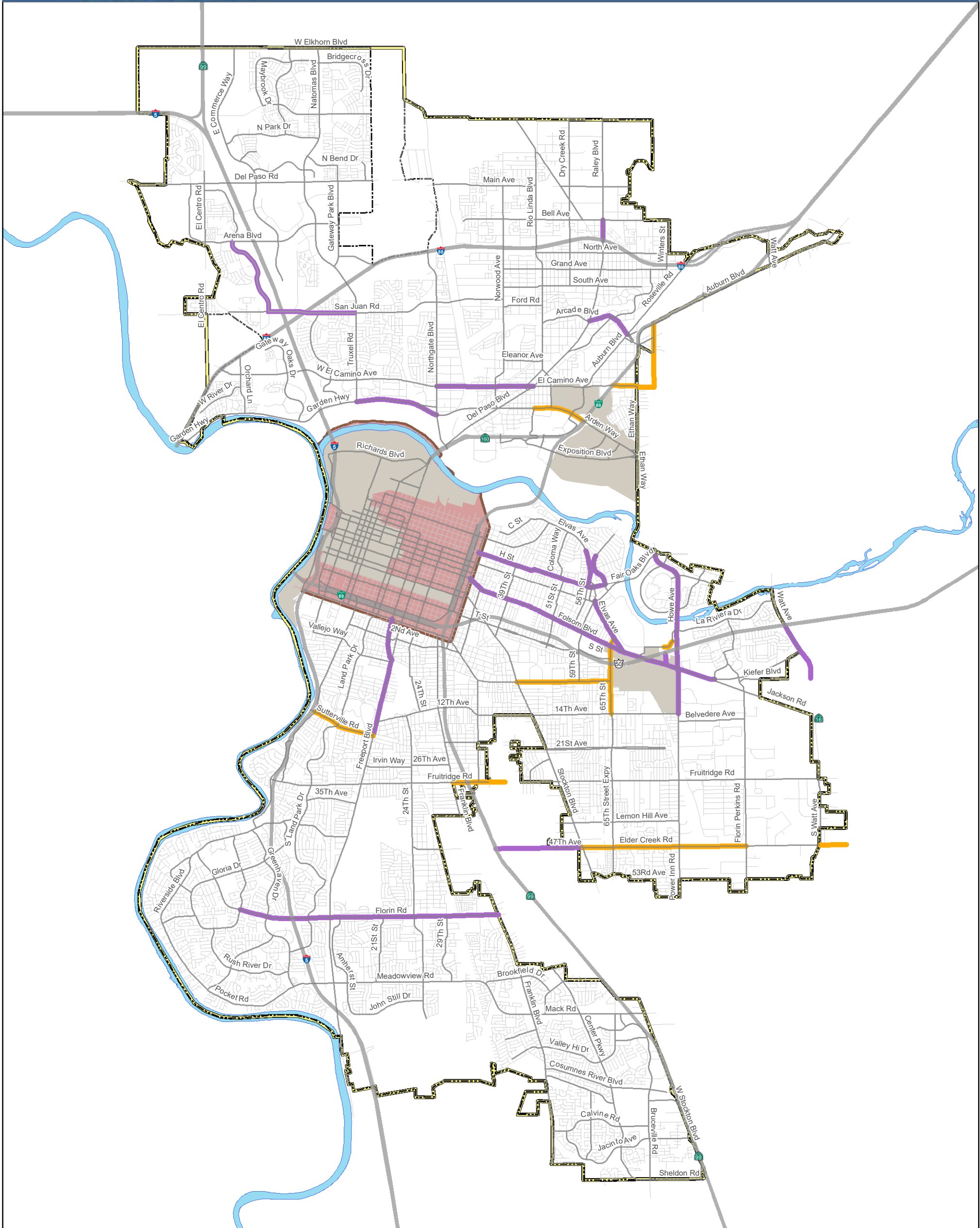
Sincerely,



Becky Heieck
Executive Director

Cc: CM Angelique Ashby/Jennifer Donlan-Wyant – City of Sacramento, Chris Holm – WALKSacramento, Chris Paros – North Natomas Community Coalition, Matt Stevens – Sundance Neighborhood Association, NNTMA Bike/Ped Stakeholders

**APPENDIX C: REVISED GENERAL PLAN, NORTH NATOMAS COMMUNITY
PLAN AND BICYCLE MASTER PLAN FIGURES**

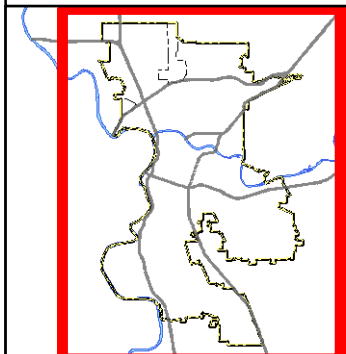
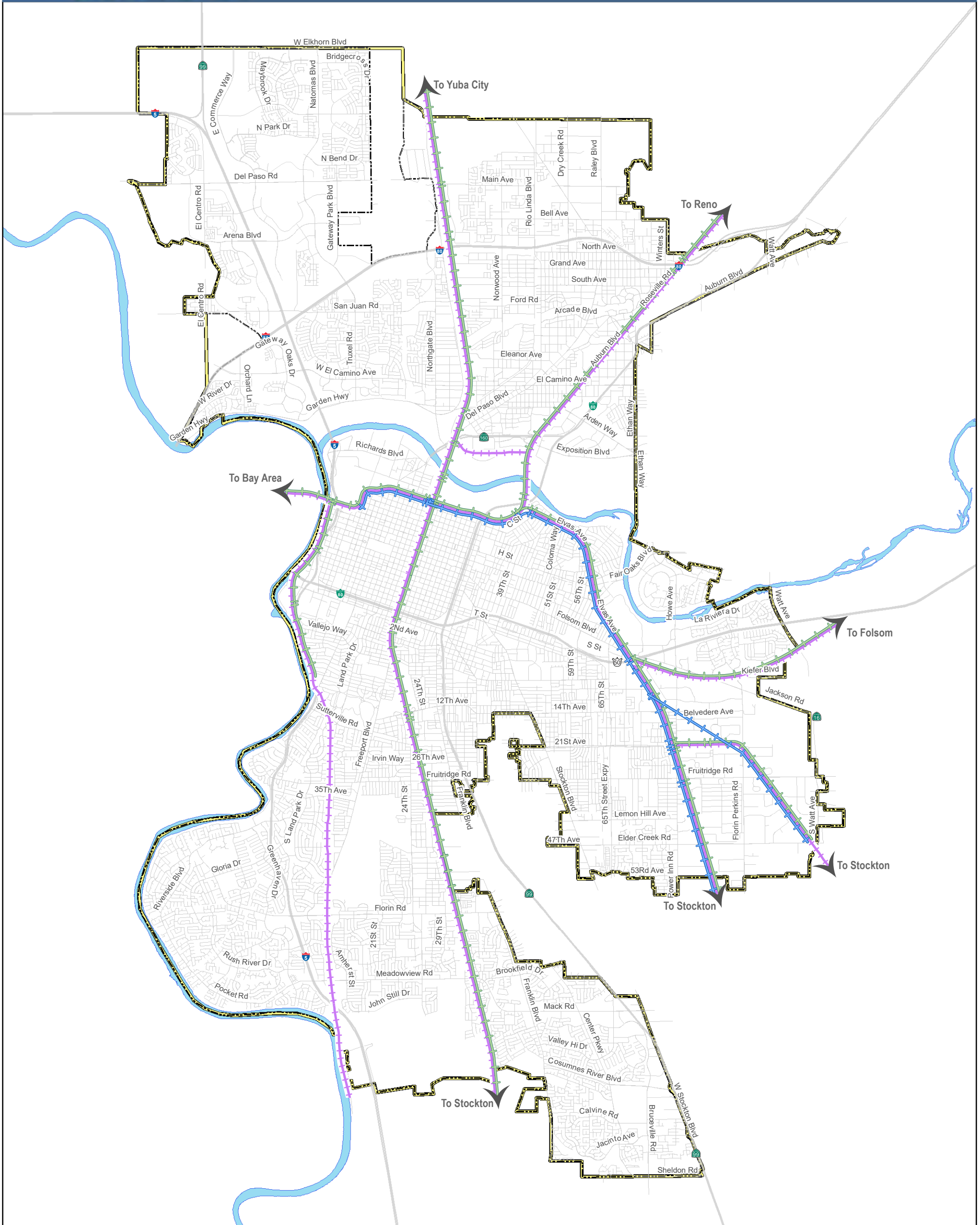


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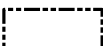

- Core Area
- Tier 1 Priority Investment Areas
- LOS F Roadway Segments
- LOS E Roadway Segments
- City Limits
- Waterways



0 1 2 Miles




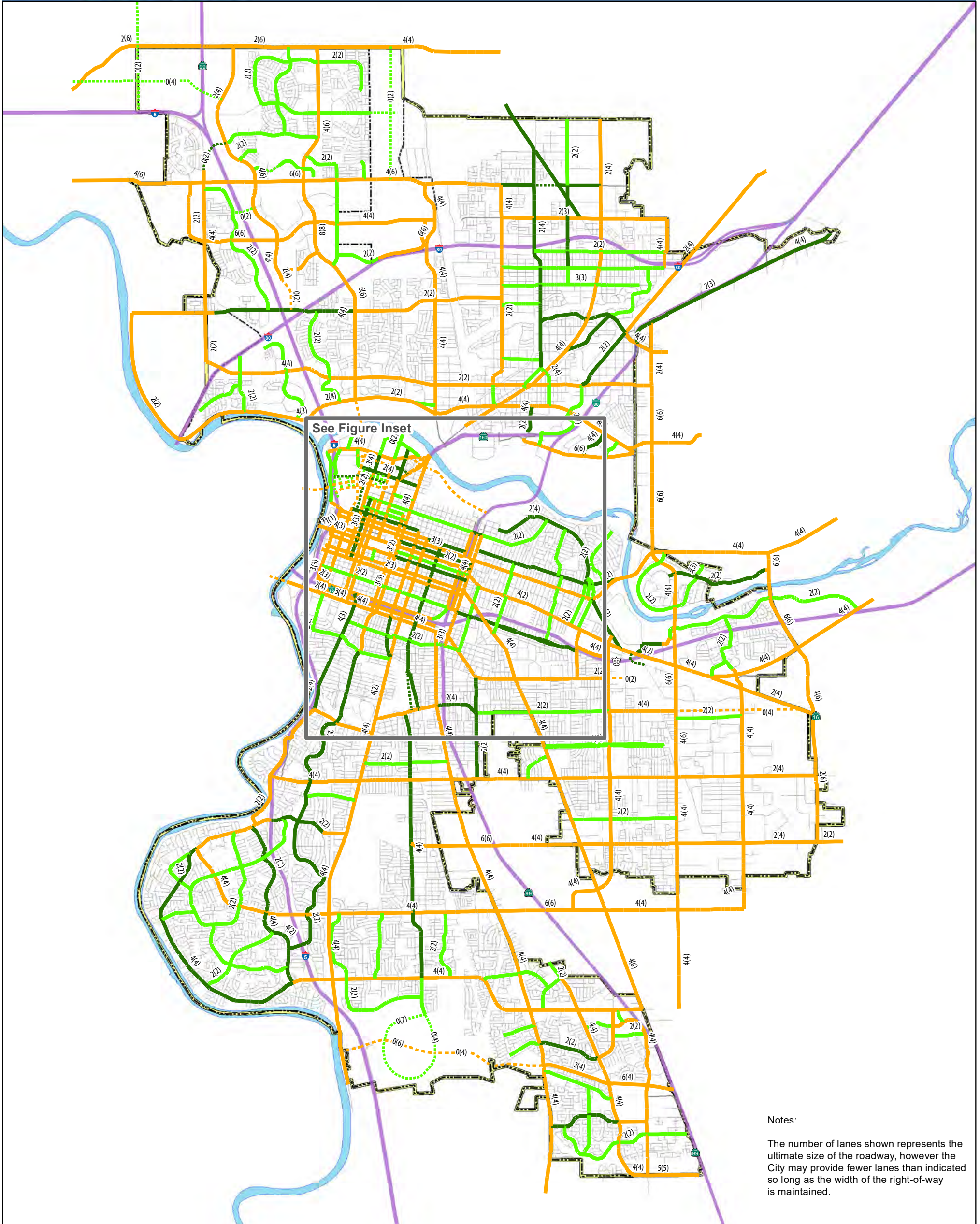
Legend

-  California High Speed Rail
-  Passenger Rail
-  Freight Rail
-  City Limits
-  Waterways



0 1 2 Miles





Notes:
The number of lanes shown represents the ultimate size of the roadway, however the City may provide fewer lanes than indicated so long as the width of the right-of-way is maintained.

Legend

- | | | |
|-----------------------------------|-------------------------|-------------|
| Existing (Future) Number of Lanes | Planned Local Road | City Limits |
| Freeway | Planned Arterial | Waterways |
| Arterial | Planned Major Collector | |
| Major Collector | Planned Minor Collector | |
| Minor Collector | | |



0 1 2 Miles



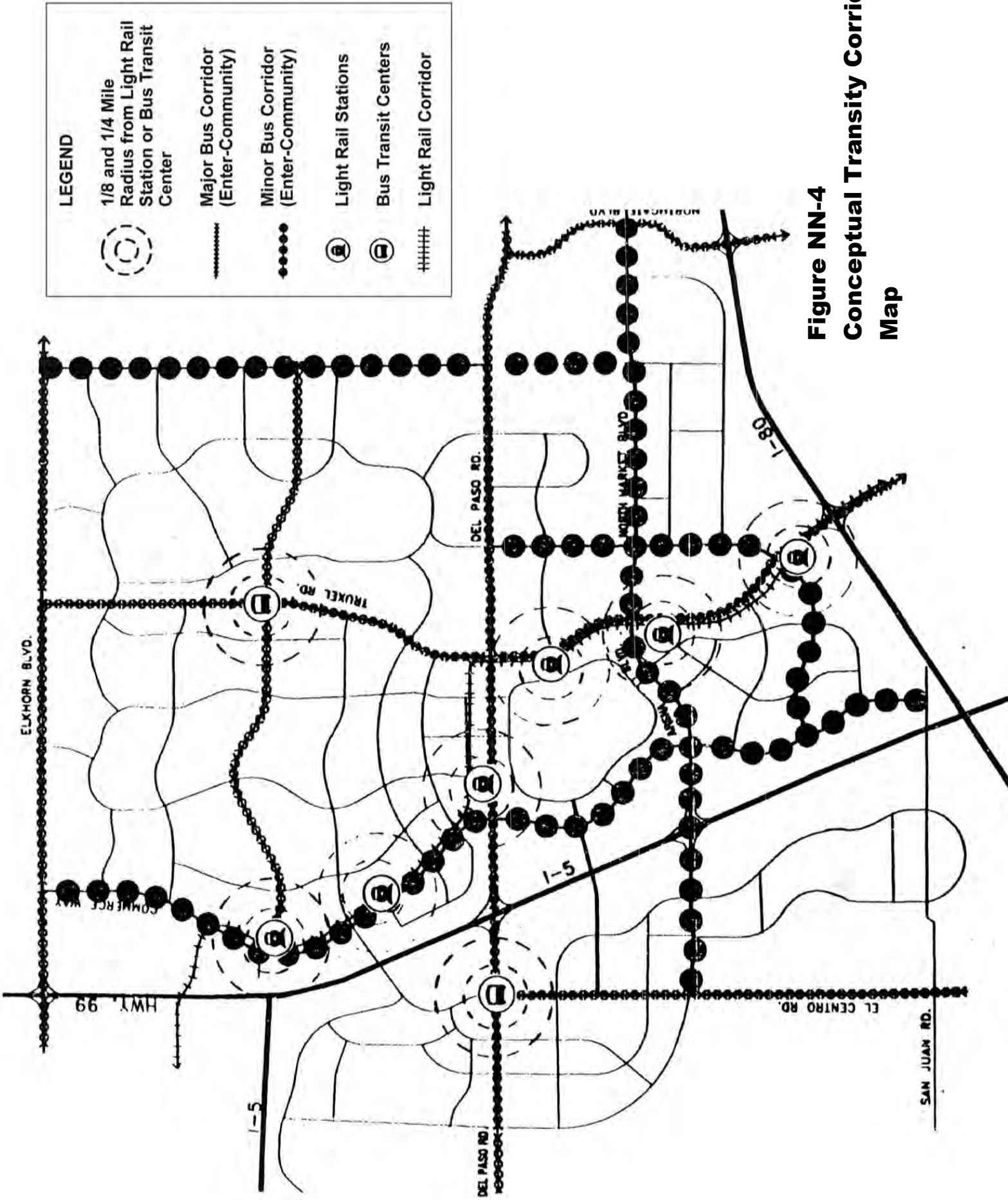
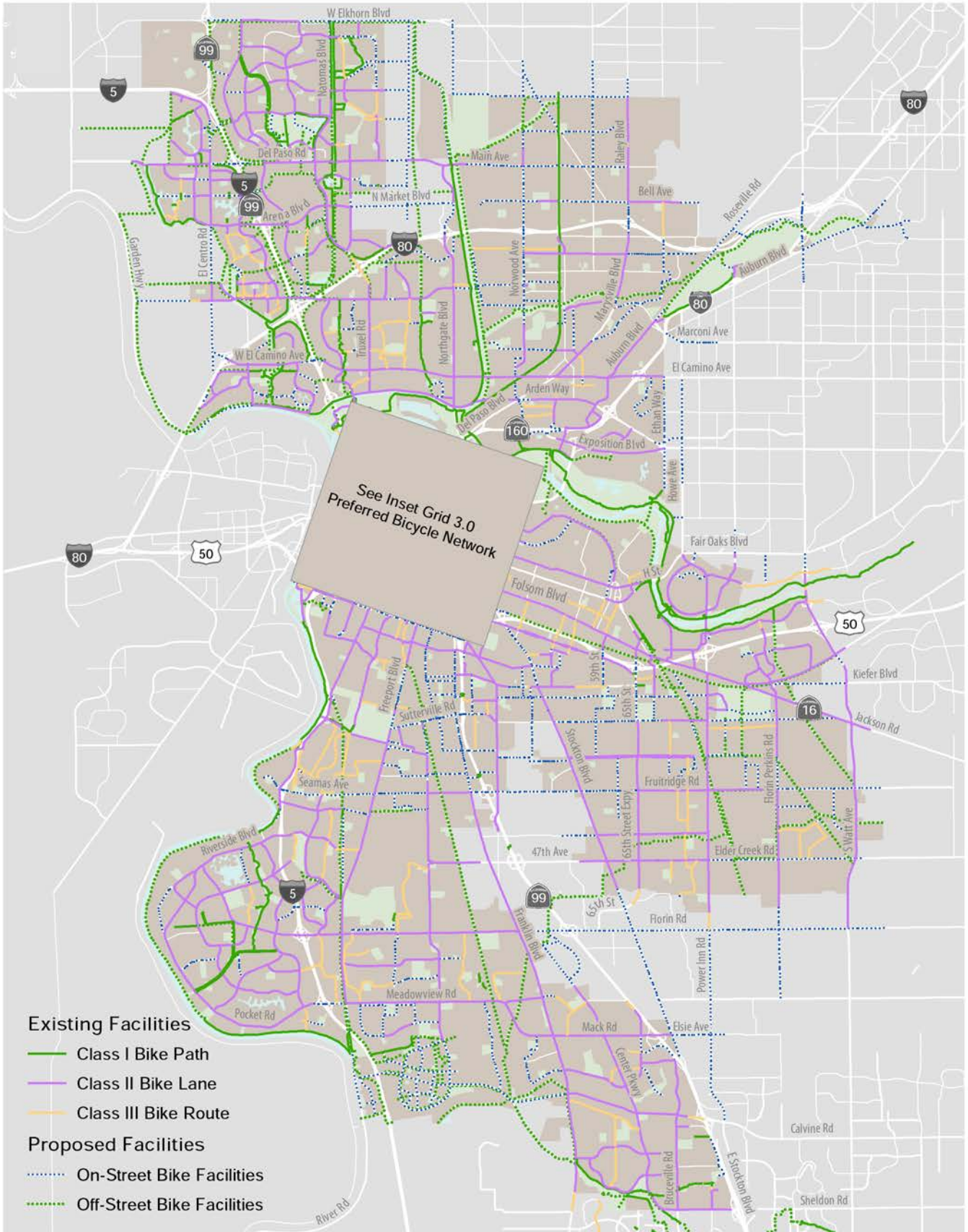


Figure NN-4
Conceptual Transit Corridors
Map

NEXT STEPS FOR ENHANCING THE CITY'S BICYCLE NETWORK



APPENDIX D: TRAFFIC DATA

North Natomas Finance Plan Transportation Analysis

Technical Report

Prepared for

City of Sacramento

By

DKS Associates

8950 Cal Center Drive, Suite 340

Sacramento, California

(916) 368-2000

September 27, 2017

NORTH NATOMAS FINANCE PLAN TRANSPORTATION STUDY

Introduction

This report discusses existing and cumulative transportation and circulation conditions associated with the proposed North Natomas Finance Plan project (proposed project). The analysis includes analysis of roadway operating conditions and vehicle-miles travelled. Quantitative transportation analyses have been conducted for the following scenarios:

- Existing
- Existing Plus Project
- Cumulative (2035) (no project)
- Cumulative (2035) Plus Project

Environmental Setting

The roadway, transit, bicycle, and pedestrian transportation systems within the study area are described below. Figure 1 illustrates the roadway system near the project site.

Roadway System

The roadway component of the transportation system near the proposed project is described below.

- Interstate 80 (I-80) is a six-lane freeway that traverses the project area. It runs primarily east-west and provides access to the Natomas community in addition to interregional connections east to Reno, Nevada and beyond, and west to the San Francisco Bay area. Access to I-80 is provided primarily by interchanges at Truxel Road and West El Camino Avenue.
- Interstate 5 (I-5) is a multi-lane freeway that serves as the commute corridor between Downtown Sacramento and North Natomas. Just north of the Del Paso Road interchange, I-5 curves towards the west and continues to the Sacramento International Airport, Yolo County, and beyond. Access to I-5 is provided primarily by the Del Paso Road, Arena Boulevard, and West El Camino Avenue interchanges.
- Arena Boulevard is an east-west arterial roadway, extending from El Centro Road to the west to Gateway Park Boulevard to the east. It accommodates four to eight through lanes. Arena Boulevard has a full interchange with I-5. West of El Centro Road, it continues as Natomas Central Drive. East of Gateway Park Boulevard, it continues as North Market Boulevard.



Figure 1
Project Location

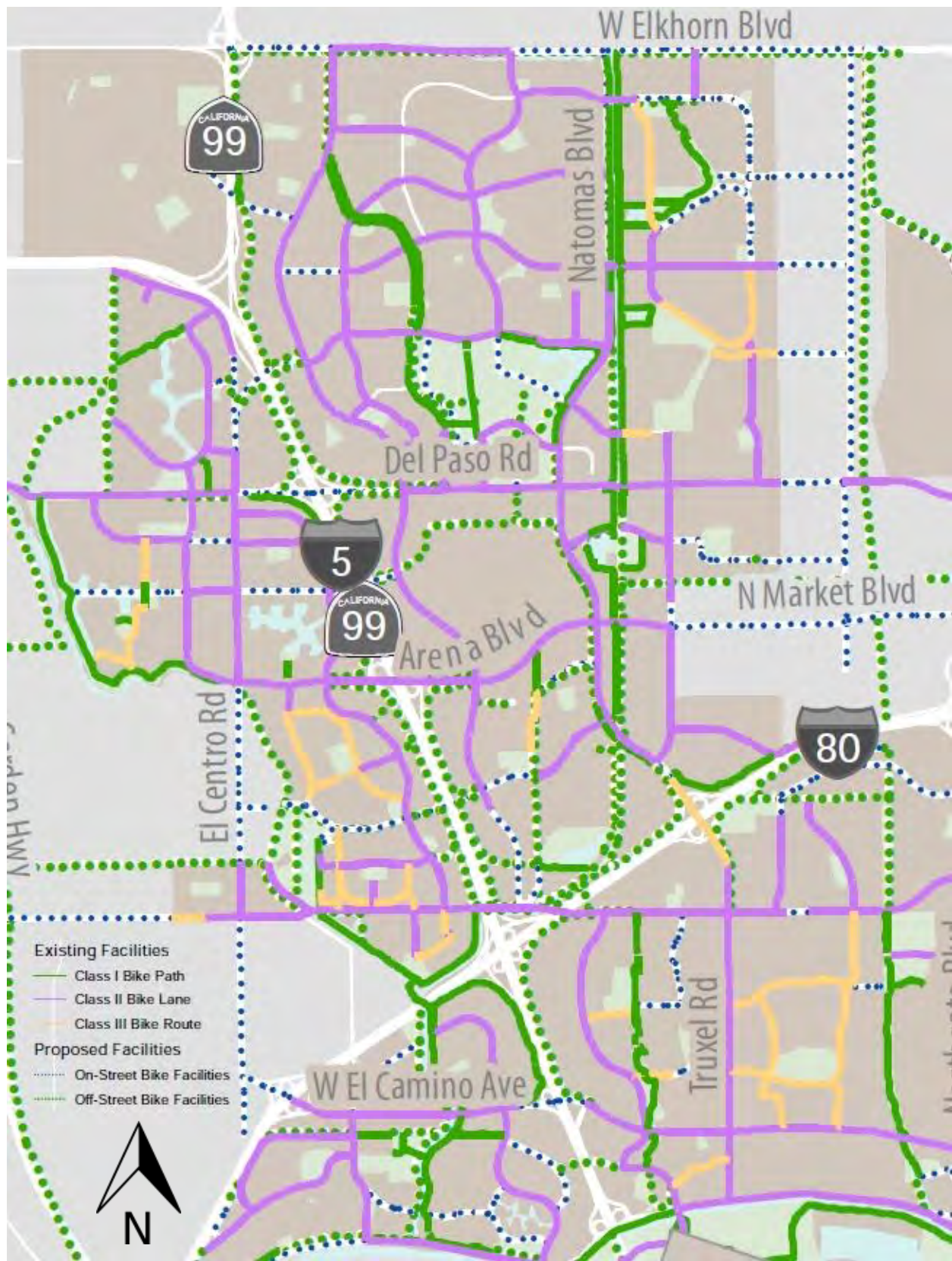
- Duckhorn Drive is a north-south two-lane minor collector which parallels I-5 to the west. It extends from El Centro Road to San Juan Road.
- East Commerce Way is a north-south arterial which parallels I-5 to the east. To the north, it extends to Elkhorn Boulevard. It currently terminates south of Natomas Crossing Drive, but is planned to extend to San Juan Road. East Commerce Way is planned to accommodate two to six through lanes.
- El Centro Road is a north-south arterial roadway. To the north, it becomes Bayou Way near the I-5 / SR 99 interchange. To the south, it extends to a cul-de-sac south of West El Camino Avenue. It is currently two to four lanes wide.
- Natomas Crossing Drive is a partially constructed 2-lane east-west arterial roadway. It is currently constructed from Truxel Drive to the east to Airport Road. In accordance with the General Plan, it is planned to extend westerly across I-5 to El Centro Road to the west.
- San Juan Road is an east-west 2-lane major collector roadway. To the west, it extends to Garden Highway. To the east, it extends across South Natomas. It becomes Silver Eagle Road east of Steelhead Creek.
- Snowy Egret Drive is a planned two-lane east-west minor collector / local roadway. It is planned to extend from El Centro Road to East Commerce Way, crossing I-5. West of El Centro Road, it will become Manera Rica Drive. East of East Commerce Way, it will become the West Entrance Road to the former arena site.
- Truxel Road is a four to eight-lane north-south arterial roadway. To the north, it extends to Del Paso Road, where it becomes Natomas Boulevard. To the south, it extends to Garden Highway.

Pedestrian System

The quality of the pedestrian system varies in the site vicinity. Recently developed areas in North Natomas generally have a complete pedestrian system, with sidewalks on both sides of most streets, and marked crosswalks at major intersections. Areas where development is incomplete often do not include sidewalks.

Bicycle System

Figure 2 illustrates the existing and proposed bicycle system in the site vicinity. On-street bikeways currently exist on many study area roadways, including Arena Boulevard, Duckhorn Drive, East Commerce Way, portions of El Centro Road, Natomas Crossing Drive, San Juan Road, and Truxel Road. On-street bikeways are included in the future plans for the Natomas Crossing Drive and Snowy Egret Way crossings of I-5. Off-street bikeways are planned to parallel each side of I-5.



**Figure 2
Bikeways**

Transit System

Regional Transit (RT) service in the site vicinity is illustrated in Figure 3.

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.

RT Route 13 (Northgate) loops through North Natomas on Gateway Park Boulevard, Truxel Road, and Arena Boulevard, providing access to Natomas Marketplace. To the east, the route continues southerly along Northgate Boulevard and Arden Way to the Arden / Del Paso Light Rail Station.

As illustrated in Figure 4, 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.

Study Area

Figure 5 illustrates the study area. The following intersections are included in the study area:

1. Arena Boulevard and El Centro Road
2. Arena Boulevard and Duckhorn Drive
3. Arena Boulevard and I-5 Southbound Ramps
4. Arena Boulevard and I-5 Northbound Ramps
5. Arena Boulevard and East Commerce Way
6. Arena Boulevard and Truxel Road
7. Natomas Crossing Drive and El Centro Road (future)
8. Natomas Crossing Drive and Duckhorn Drive (future)
9. Natomas Crossing Drive and East Commerce Way (future)
10. Natomas Crossing Drive and Truxel Road
11. San Juan Road and El Centro Road
12. San Juan Road and Duckhorn Drive
13. San Juan Road and East Commerce Way (future)

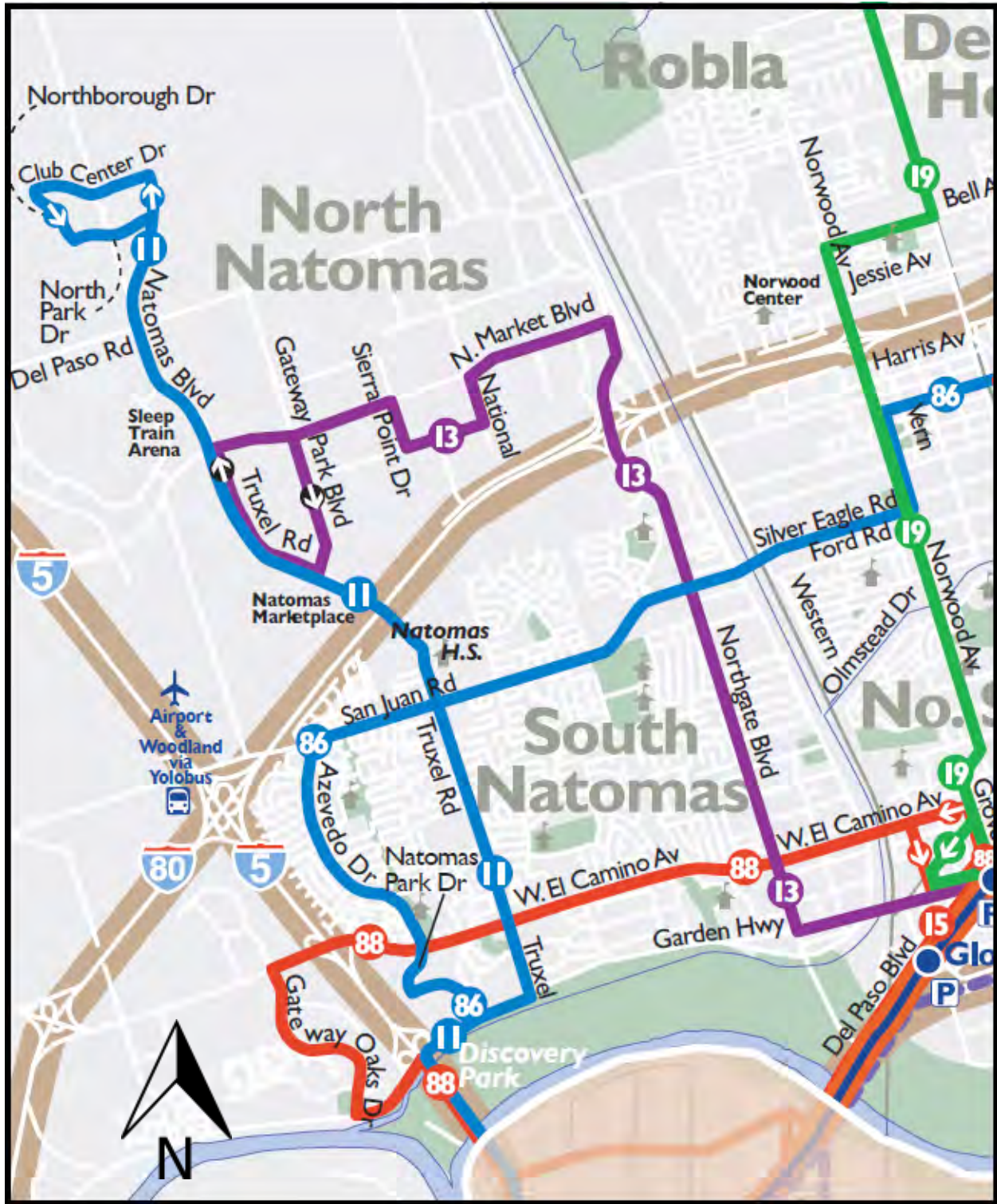


Figure 3
Regional Transit Services



Daily conditions were evaluated for seven roadway segments located in the study area that were also evaluated in the 2035 City of Sacramento General Plan Master Environmental Impact Report (MEIR):

- Arena Boulevard
 - I-5 to Truxel Road
 - El Centro Road to I-5
- El Centro Road
 - Hawkview Drive to Radio Road
 - Radio Road to I-80
- San Juan Road
 - El Centro Road to Duckhorn Drive
- Truxel Road
 - Arena Boulevard to I-80
- Interstate 5
 - Arena Boulevard to I-80

The MEIR analysis focused on citywide and regional effects of the General Plan transportation network and land use policies, and included 260 roadway segments located throughout the City and in adjacent jurisdictions. Because of the anticipated localized nature of the effects of the proposed project, the number of locations in the study area was increased to include segments that are in proximity to the proposed project, but that were not analyzed in the MEIR. Some MEIR segments were split into smaller divisions, and additional roadways were included. The following list presents the additional segments that are analyzed:

- Arena Boulevard
 - El Centro Road to Duckhorn Drive
 - Duckhorn Drive to I-5
 - I-5 to East Commerce Way
 - East Commerce Way to Truxel Road
- Natomas Crossing Drive
 - El Centro Road to Duckhorn Drive

- Duckhorn Drive to East Commerce Way
 - East Commerce Way to Truxel Road
- San Juan Road
 - El Centro Road to Duckhorn Drive
 - Duckhorn Drive to East Commerce Way
 - East Commerce Way to Truxel Road
- El Centro Road
 - Arena Boulevard to Natomas Crossing Drive
 - Natomas Crossing Drive to San Juan Road
- Duckhorn Drive
 - Arena Boulevard to Natomas Crossing Drive
 - Natomas Crossing Drive to San Juan Road
- East Commerce Way
 - Arena Boulevard to Natomas Crossing Drive
 - Natomas Crossing Drive to San Juan Road
- Truxel Road
 - Arena Boulevard to Natomas Crossing Drive
 - Natomas Crossing Drive to Gateway Park Boulevard
 - Gateway Park Boulevard to I-80
 - I-80 to San Juan Road
- Snowy Egret Drive
 - El Centro Road to Duckhorn Drive
 - Duckhorn Drive to East Commerce Way
- Tynebourne Street
 - South of Bonfair Avenue

- Colchester Street
 - West of Duckhorn Drive
- Gibraltar Street
 - South of Bonfair Avenue
 - North of Snowy Egret Drive
- White Eagle Lane
 - South of Snowy Egret Drive
- Bearcloud Avenue
 - East of El Centro Road
- Golden Light Lane
 - West of Duckhorn Drive
- Goose Haven Lane
 - West of Duckhorn Drive

The following freeway ramp termini are included in the study area:

- I-5 Northbound ramp to Arena Boulevard
- I-5 Southbound ramp to Arena Boulevard

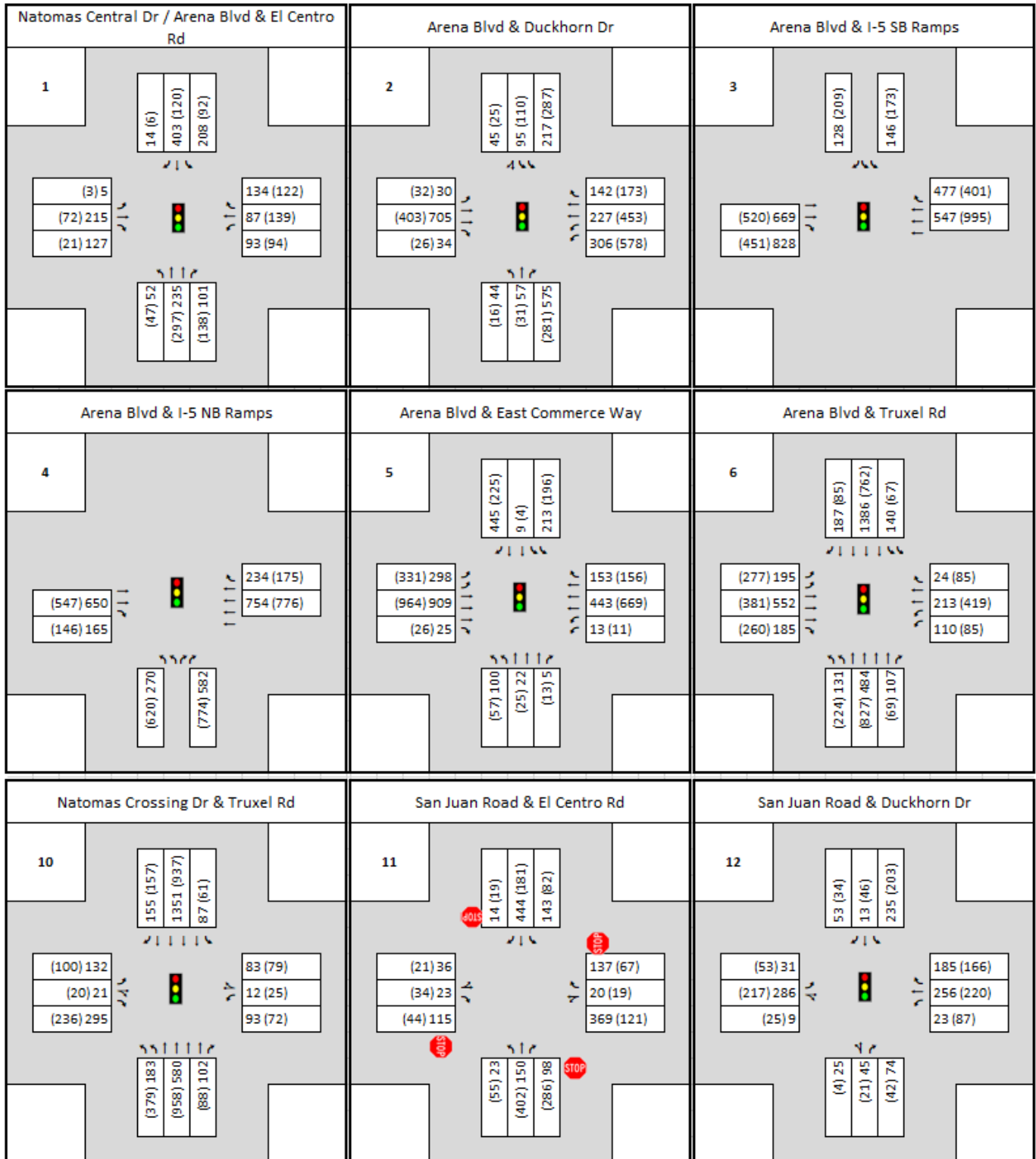
Existing Intersection Geometry

Existing intersection geometry (number of approach lanes and traffic control) is illustrated in Figure 6.

Existing Traffic Volumes and Data

Intersections

For the two intersections of Arena Boulevard with the I-5 freeway ramps, count data was obtained from the North Natomas Freeway Monitoring Program. These counts were conducted on Tuesday March 10, 2015.



Legend: AM Peak Hour (PM Peak Hour)



Figure 6
Existing Peak Hour Volumes and Geometry

For the remaining existing intersections, peak period intersection turning movement counts were conducted for the a.m. weekday peak period (7:00 to 9:00 a.m.) and the p.m. weekday peak period (4:00 to 6:00 p.m.) on Thursday, March 9, 2017.

Roadway Segments

Where available, daily (24-hour) weekday traffic counts were obtained for roadways from the Sacramento County Department of Transportation Traffic Volume Flow Map and from City of Sacramento records. Additional counts were collected at twenty-two locations on Tuesday, March 7, 2017.

Freeway Daily Volumes

Freeway mainline daily traffic volume was taken from the Caltrans 2015 Traffic Volume Report.

Freeway Peak Hour Volumes

Freeway mainline peak hour volume data was taken from the Caltrans Performance Measurement System (PeMS). Data was obtained for Tuesdays, Wednesdays, and Thursdays from March 21, 2017 through March 30, 2017.

Freeway Ramp Termini Queuing

Queuing data was obtained from the North Natomas Freeway Monitoring Program. These observations were made on Tuesday March 10, 2015.

Level of Service Analysis and Methodology

Field reconnaissance was undertaken to ascertain the traffic control characteristics of each of the study area intersections and roadway segments. Determination of roadway operating conditions is based upon comparison of known or projected traffic volumes during peak hours to roadway capacity. In an urban setting, roadway capacity is generally governed by intersection characteristics, and intersection delay is used to determine “levels of service.” Levels of service (LOS) describe roadway operating conditions. LOS is a qualitative measure of the effect of several factors, including speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, delay, and operating costs. LOS are designated A through F from best to worst, which cover the entire range of traffic operations that might occur. LOS A through E generally represent traffic volumes at less than roadway capacity, while LOS F represents over capacity and/or forced flow conditions.

Intersection Analysis

Intersection analyses were conducted using a methodology outlined in the Transportation Research Board's Special Report 209, Highway Capacity Manual 2010 (HCM 2010) (TRB 2010). The methodology utilized is known as "operational analysis." This procedure calculates an average control delay per vehicle at an intersection, and assigns a level of service designation based upon the delay. Table 1 presents the level of service criteria for signalized intersections on the HCM 2010 methodology. At some signalized intersections, traffic signal characteristics cannot be adequately analyzed by the HCM 2010 methodology, due to methodological or software constraints. In these cases, the prior methodology, HCM 2000, was utilized (TRB 2000).

Table 1
Intersection Level of Service Criteria

Level of Service (LOS)	Total Delay Per Vehicle (seconds)	
	<i>Signalized</i>	<i>Unsignalized</i>
A	< 10	< 10
B	> 10 and < 20	> 10 and < 15
C	> 20 and < 35	> 15 and < 25
D	> 35 and < 55	> 25 and < 35
E	> 55 and < 80	> 35 and < 50
F	> 80	> 50

Source: TRB 2010.

Roadway Segments

Level of service analyses were conducted for roadway segments in the study area based upon daily traffic volumes, number of traffic lanes between intersections, and roadway characteristics. The capacity class categories are based upon the nature of traffic flow along the facility, including number of interruptions due to intersection control and "side-friction" due to driveways and local streets. For each capacity class, relationships were developed between daily traffic volumes and roadway level of service.

Table 2 summarizes the maximum daily traffic volumes associated with each level of service designation and capacity class combination. Although the segment-based level of service calculations are based upon daily traffic volumes, the resultant levels of service are representative of peak hour conditions.

Results of Existing Condition Analysis

Study area intersections and freeway facilities were evaluated for weekday AM and PM peak hours. Roadway segments were evaluated based upon daily traffic volumes.

Table 2
Level of Service Threshold for Roadway Segments

Operational Class	Number of Lanes	ADT Level-of-Service Capacity Threshold				
		A	B	C	D	E
Arterial - Low Access Control	2	9,000	10,500	12,000	13,500	15,000
	4	18,000	21,000	24,000	27,000	30,000
	6	27,000	31,500	36,000	40,500	45,000
Arterial - Moderate Access Control	2	10,800	12,600	14,400	16,200	18,000
	4	21,600	25,200	28,800	32,400	36,000
	6	32,400	37,800	43,200	48,600	54,000
Arterial - High Access Control	2	12,000	14,000	16,000	18,000	20,000
	4	24,000	28,000	32,000	36,000	40,000
	6	36,000	43,000	48,000	54,000	60,000
Collector Street - Minor	2	5,250	6,125	7,000	7,875	8,750
Collector Street - Major	2	8,400	9,800	11,200	12,600	14,000
	4	16,800	19,600	22,400	25,200	28,000
Local Street	2	3,000	3,500	4,000	4,500	5,000
Freeway	2	14,000	21,600	30,800	37,200	40,000
	4	28,000	43,200	61,600	74,400	80,000
	6	42,000	64,800	92,400	111,600	120,000
	8	56,000	86,400	123,200	148,800	160,000
	10	70,000	108,000	154,000	186,000	200,000
Facility Type	Stops / Mile		Driveways		Speed	
Arterial - Low Access Control	4 +		Frequent		25 – 35 mph	
Arterial - Moderate Access Control	2 – 4		Limited		35 – 45 mph	
Arterial - High Access Control	1 - 2		None		45 – 55 mph	

Source: Sacramento 2035 General Plan MEIR

Intersection Operations

Table 3 summarizes the existing a.m. and p.m. peak hour operating conditions at the study area intersections.

Table 3
Existing Intersection Operating Conditions

Intersection	LOS Criteria	Traffic Control	AM Peak Hour		PM Peak Hour	
			LOS	Delay (Seconds)	LOS	Delay (Seconds)
1. El Centro Road & Natomas Central Drive / Arena Boulevard	D	Signalized	C	23.0	B	19.6
2. Duckhorn Drive & Arena Boulevard	D	Signalized	D	50.8	C	29.6
3. I-5 Southbound Ramps & Arena Boulevard	E	Signalized	A	6.7	A	7.1
4. I-5 Northbound Ramps & Arena Boulevard	E	Signalized	A	8.2	A	9.4
5. East Commerce Way & Arena Boulevard	D	Signalized	C	24.9	C	24.8
6. Truxel Road & Arena Boulevard	D	Signalized	D	39.7	C	34.1
7. Natomas Crossing Drive & El Centro Road	D	Signalized	-	-	-	-
8. Natomas Crossing Drive & Duckhorn Drive	D	Signalized	-	-	-	-
9. Natomas Crossing Drive & East Commerce Way	E	Signalized	-	-	-	-
10. Truxel Road & Natomas Crossing Drive	D	Signalized	C	28.0	C	30.8
11. El Centro Road & San Juan Avenue	E	All-way Stop Control	E	47.9	C	17.4
12. Duckhorn Drive & San Juan Avenue	E	Signalized	B	15.7	B	15.8
13. East Commerce Way & San Juan Road	D	Signalized	-	-	-	-

Source: DKS Associates, 2017.

Roadway Segment Operations

Table 4 summarizes the roadway segment operating conditions.

Freeway Peak Hour Volumes

Table 5 summarizes the I-5 peak hour volumes on the segment between I-80 and Arena Boulevard.

**Table 4
Existing Roadway Segment Conditions**

Roadway	Segment	Operational Class	Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS
General Plan MEIR Segments						
Arena Boulevard	I-5 to Truxel Rd.	Arterial – High Access Control	6	20,254	0.34	A
	El Centro Rd. to I-5		6	24,381	0.41	A
El Centro Road	Hawkview Dr. to Radio Rd.	Arterial – Moderate Access Control	2	7,111	0.40	A
	Radio Rd. to I-80		2	7,624	0.42	A
San Juan Road	El Centro Rd. to Duckhorn Dr.	Major Collector	2	6,184	0.44	A
Truxel Road	Arena Blvd. to I-80	Arterial - High Access Control	8	62,570	0.78	C
I-5	Arena Blvd. to I-80	Freeway	8	153,000	0.96	E
Focused Study Area Segments						
Arena Boulevard	El Centro Road to Duckhorn Drive	Arterial – High Access Control	4	7,540	0.19	A
	Duckhorn Drive to I-5		6	24,381	0.41	A
	I-5 to East Commerce Way		8	24,246	0.30	A
	East Commerce Way to Truxel Road		6	20,254	0.34	A
Duckhorn Drive	Arena Boulevard to Natomas Crossing Drive	Minor Collector	2	4,664	0.53	A
	Natomas Crossing Drive to San Juan Road		2	4,664	0.53	A

**Table 4
Existing Roadway Segment Conditions**

Roadway	Segment	Operational Class	Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS
General Plan MEIR Segments						
East Commerce Way	Arena Boulevard to Natomas Crossing Drive	Arterial – Moderate Access Control	6	1,642	0.03	A
El Centro Road	Arena Boulevard to Natomas Crossing Drive		2	4,664	0.53	A
	Natomas Crossing Drive to San Juan Road		2	4,664	0.53	A
Natomas Crossing Drive	East Commerce Way to Truxel Road		2	12,027	0.67	B
San Juan Road	El Centro Road to Duckhorn Drive	Major Collector	2	6,184	0.44	A
	Duckhorn Drive to East Commerce Way		2	9,208	0.66	B
	East Commerce Way to Truxel Road		2	17,381	1.24	F
Truxel Road	Arena Boulevard to Natomas Crossing Drive	Arterial – High Access Control	8	25,463	0.32	A
	Natomas Crossing Drive to Gateway Park Boulevard		8	30,859	0.39	A
	Gateway Park Boulevard to I-80		8	62,570	0.78	C
	I-80 to San Juan Road		6	40,689	0.68	B
Tynebourne Street	South of Bonfair Avenue	Local	2	710	0.14	A
Gibraltar Street	South of Bonfair Avenue		2	422	0.08	A

Table 4
Existing Roadway Segment Conditions

Roadway	Segment	Operational Class	Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS
General Plan MEIR Segments						
Colchester Street	West of Duckhorn Drive	Local	2	1,027	0.21	A
Gibraltar Street / White Eagle Lane	At Snowy Egret Drive		2	630	0.13	A
Bearcloud Avenue	East of El Centro Road		2	526	0.11	A
Golden Light Lane	Golden Light Lane west of Duckhorn Drive		2	961	0.19	A
Goose Haven Lane	Goose Haven Lane west of Duckhorn Drive		2	1,094	0.22	A
I-5	Arena Blvd. to I-80	Freeway	8	153,000	0.96	E

Source: DKS Associates, 2017.

Table 5
Existing Peak Hour Freeway Volumes

Direction	Location	AM Peak Hour	PM Peak Hour
Northbound I-5	I-80 to Arena Boulevard	4,572	7,554
Southbound I-5	Arena Boulevard to I-80	6,739	5,354

Source: Caltrans, 2017.

Freeway Peak Hour Ramp Queuing

Table 6 summarizes the existing peak hour freeway ramp queuing. At the current time, the maximum observed queues do not exceed the available storage.

Table 6
Existing Peak Hour Freeway Ramp Termini Queuing

Direction	Location	Available Storage Length (feet/lane)	Maximum Queue Length (feet/lane)	
			AM Peak Hour	PM Peak Hour
I-5 Northbound	Arena Boulevard	660	244	260
I-5 Southbound	Arena Boulevard	650	141	152

Source: City of Sacramento, 2015.

Methods of Analysis

This section describes the analysis techniques, assumptions, and results of the analysis of the transportation and circulation system. This section describes the anticipated travel characteristics of the proposed project, and presents the change in the transportation system with the addition of the proposed project.

Project Description

The project consists of changes to the planned circulation system of North Natomas. Changes are proposed in two areas:

- Modification of Natomas Crossing Drive from East Commerce Way to El Centro Way, including the I-5 crossing. (See Figure 7.) A motor-vehicle roadway, on-street bikeways, and sidewalks would not be constructed. An off-street bike-path would be constructed from El Centro Road to East Commerce Way, including an overcrossing of I-5.
- Conversion of Gibraltar Street / White Eagle Lane to pedestrian / bicycle use only. (See Figure 8.) At the current time, this roadway accommodates motor vehicle, pedestrian, and bicycle traffic between two neighborhoods. The roadway crosses the alignment of the future Snowy Egret Drive. The project would prohibit motor vehicle traffic on this north-south alignment. The future construction of Snowy Egret Drive is assumed to occur.

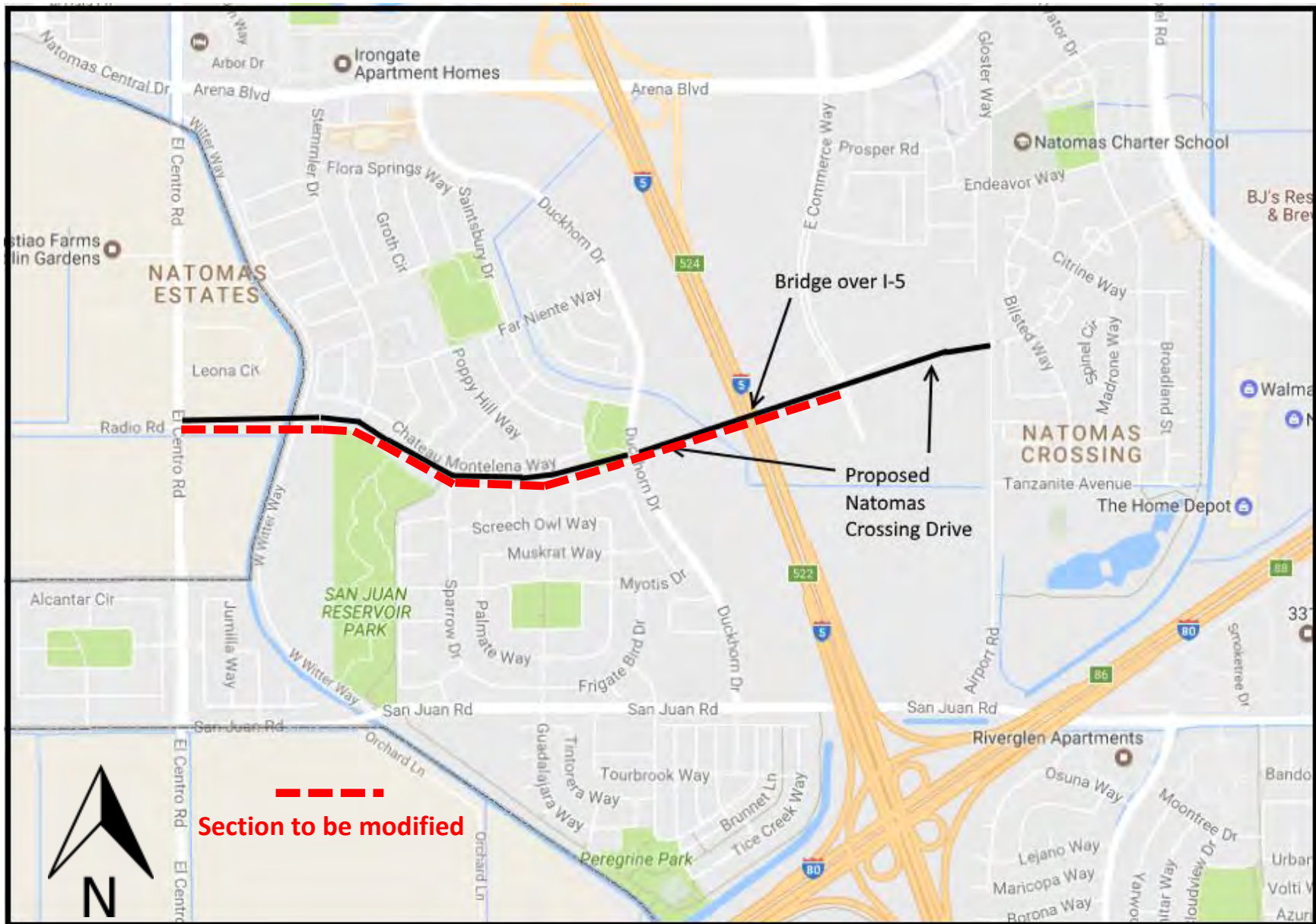


Figure 7
Proposed Project To Be Modified – Natomas Crossing Drive

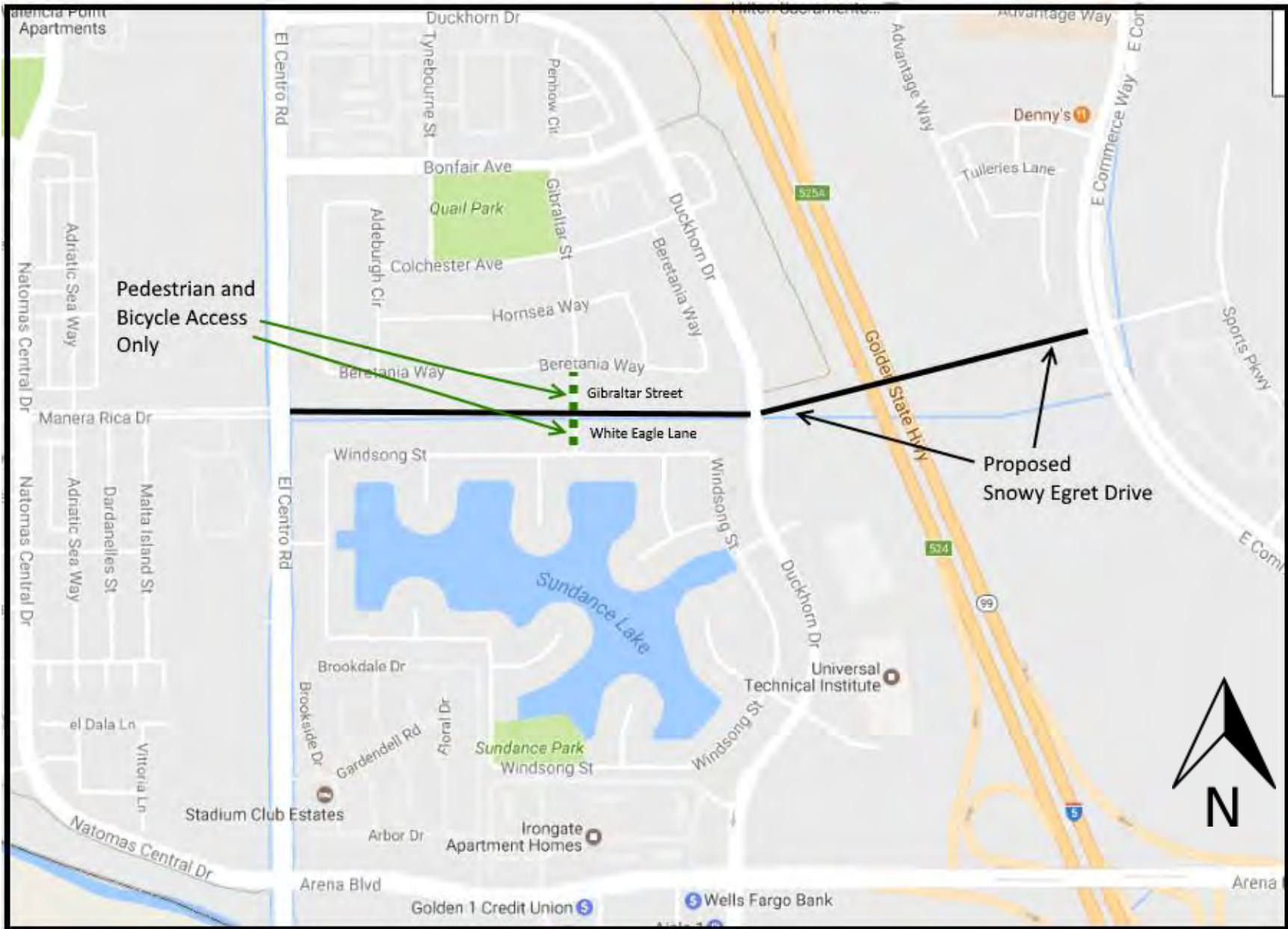


Figure 8
Proposed Project – Gibraltar Street / White Eagle Lane

Analysis Scenarios

The transportation modeling and analysis was conducted for the following scenarios.

- Existing Conditions – Existing volumes and levels of service within the study area are described above.
- Existing Plus Project – conditions associated with the proposed circulation changes, assuming immediate implementation of the project. Regarding the Natomas Crossing Drive changes to the circulation diagram, there is no difference between existing conditions and the existing plus project scenario, because the subject section of Natomas Crossing Drive does not exist at present. Therefore, the existing plus project scenario focuses only on the proposed changes to Gibraltar Street / White Eagle Lane, which is an existing transportation facility.
- Cumulative (2035 without Project) – conditions with 2035 land use forecasts and transportation infrastructure assumptions for the City of Sacramento based on the 2035 General Plan policies. This scenario includes the extension of Natomas Crossing Drive as an arterial roadway, and the retention of the Gibraltar Street / White Eagle Lane connection as a street.
- Cumulative (2035) with Project – conditions with 2035 land use forecasts and transportation infrastructure assumptions for the City of Sacramento based on the proposed changes to the circulation system. The off-street bikeway along the Natomas Crossing Drive alignment was not included in the travel modelling. As bicycle mode share is anticipated to be low in the project environs, the estimated motor vehicle volumes should be similar to the project with the off-street bikeway, albeit somewhat conservative (high).

Existing Plus Project Conditions

As noted previously, with respect to the proposed change to the planned extension of Natomas Crossing Drive, there is no difference between existing and existing plus project conditions, because the roadway is not currently constructed. Therefore, the existing plus project analysis focuses on Gibraltar Street / White Eagle Lane changes to the circulation system. The study area for the existing plus project analysis is limited to neighborhood local streets, because the conversion of this segment to a bike/pedestrian facility would affect vehicular circulation only in the immediate vicinity.

Table 7 summarizes the anticipated changes in traffic volumes and operating conditions associated with the project.

**Table 7
Existing Plus Project Roadway Segment Conditions**

Roadway	Segment	Operational Class	Cumulative				Cumulative Plus Project			
			Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS	Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS
Tynebourne Street	South of Bonfair Avenue	Local	2	710	0.14	A	2	920	0.18	A
Gibraltar St.	South of Bonfair Ave.		2	1,027	0.21	A	2	1,311	0.26	A
Colchester Street	West of Duckhorn Drive		2	422	0.08	A	2	558	0.11	A
Gibraltar Street	North of Snowy Egret Drive		2	630	0.13	A	-	-	-	-
White Eagle Lane	South of Snowy Egret Drive		2	630	0.13	A	-	-	-	-
Bearcloud Avenue	East of El Centro Road		2	526	0.11	A	2	739	0.15	A
Golden Light Lane	Golden Light Lane west of Duckhorn Drive		2	961	0.19	A	2	1,378	0.28	A
Goose Haven Lane	Goose Haven Lane west of Duckhorn Dr.		2	1,094	0.22	A	2	1,094	0.22	A

Source: DKS Associates, 2017.

Cumulative (2035) Conditions

Cumulative land use and transportation network characteristics are primarily based on SACOG's 2016 MTP/SCS, which projects land use to the year 2036. This dataset was primarily used for the cumulative analysis as it contains regional land use projections that are similar to the 2035 horizon year of the City's General Plan, as well as a funding assured transportation network.

In the study area, land use forecasts were reviewed to ascertain differences between the SACOG (2036) and City (2035) General Plan projections. In the interest of conservatism, the higher forecasts were employed.

- The number of dwelling units forecast in the General Plan analysis was utilized, an increase of about 700 dwelling units over the SACOG estimates.
- Total employment in the arena area (bordered by Del Paso Road to the north, Truxel Road to the east, Arena Boulevard to the south, and East Commerce Way to the west) was increased to 6,071 jobs. This is higher than both the SACOG and City General Plan estimates (by 3,247 and 1,869 jobs, respectively). This increase was implemented for conservatism to anticipate potential reuse of the arena site.
- Employment in the zones immediately east of I-5 from Arena Boulevard to San Juan Road was also increased to reflect potential development.

The resultant land use forecasts are consistent with the uses permitted and envisioned by the 2035 General Plan.

The 2036 transportation network includes several improved facilities in the study area. These include:

- Freeway System
 - HOV lanes on I-80 from the Sacramento River bridge to Longview Drive
 - HOV lanes on I-5 from Downtown Sacramento to I-80
 - Reconstructed I-5 / I-80 interchange, including HOV lane connectors.
- Transit System
 - Light Rail Extension from Richards Boulevard to Sacramento International Airport

Cumulative (Without Project) Traffic Conditions

Intersections

Figure 9 illustrates AM peak hour and PM peak hour traffic volumes associated with the cumulative scenario. The figure also illustrates the intersection geometry of the cumulative scenario. Table 8 summarizes the results of the cumulative peak hour intersection analysis.

Segments

Table 9 summarizes the results of the cumulative daily segment analysis.

Freeway Operations

Table 10 summarizes the cumulative freeway peak hour volumes.

Table 11 summarizes the cumulative peak hour freeway ramp queuing.

Cumulative Plus Project Traffic Conditions

Intersections

Figure 10 illustrates AM peak hour and PM peak hour traffic volumes associated with the cumulative plus project scenario. The figure also illustrates the intersection geometry of the Cumulative Plus Project scenario.

Table 8 summarizes the results of the peak hour intersection analysis.

Roadway Segments

Table 9 summarizes the results of the cumulative plus project roadway segment analysis.

Freeway Operations

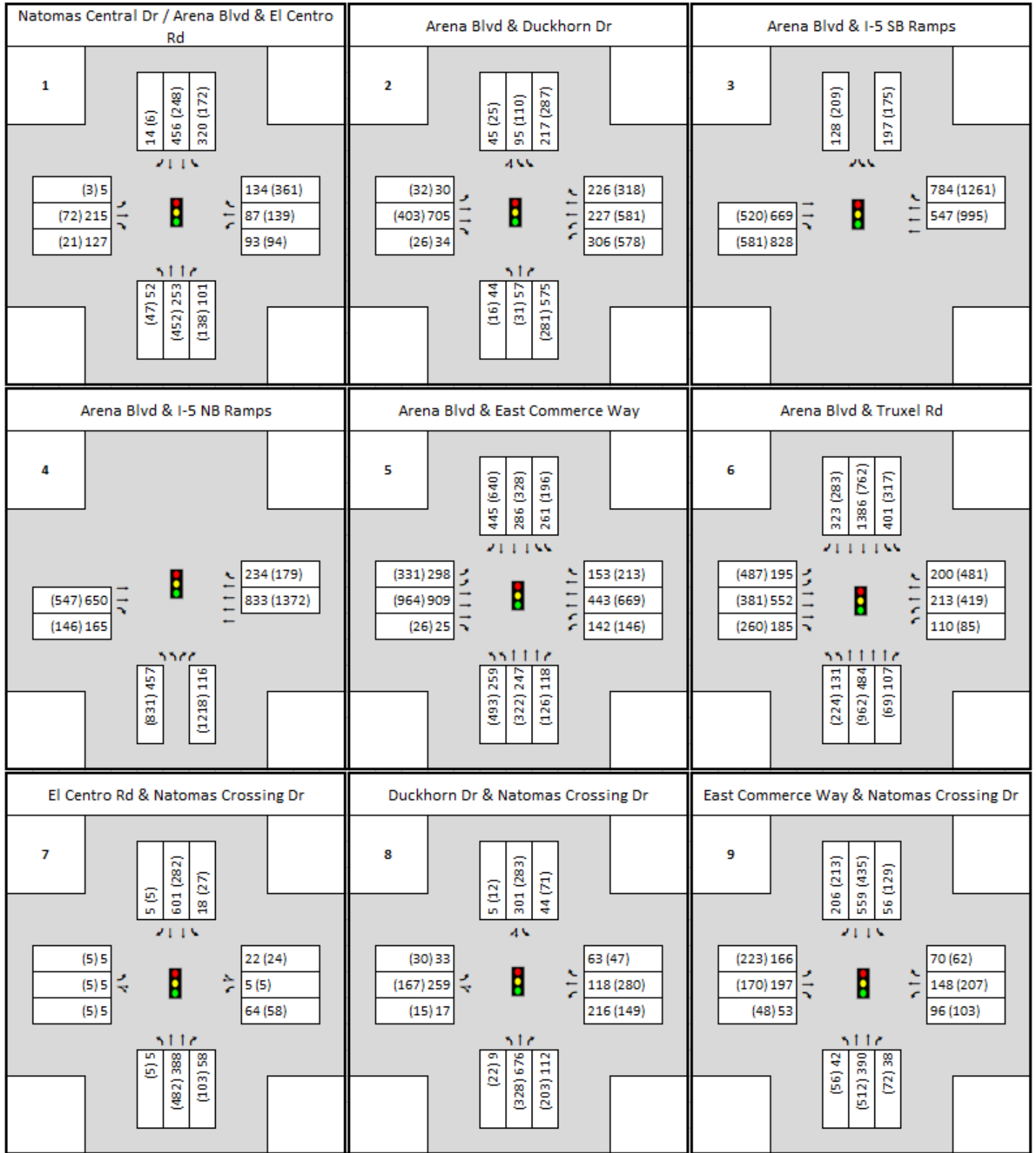
Table 10 summarizes the cumulative freeway peak hour volumes.

Table 11 summarizes the cumulative peak hour freeway ramp queuing.

Vehicle Miles Traveled (VMT)

Travel forecasting for the project transportation analysis was conducted with the use of SACOG's SACSIM travel model. The model was used to calculate regional VMT for the cumulative and cumulative with project scenarios.

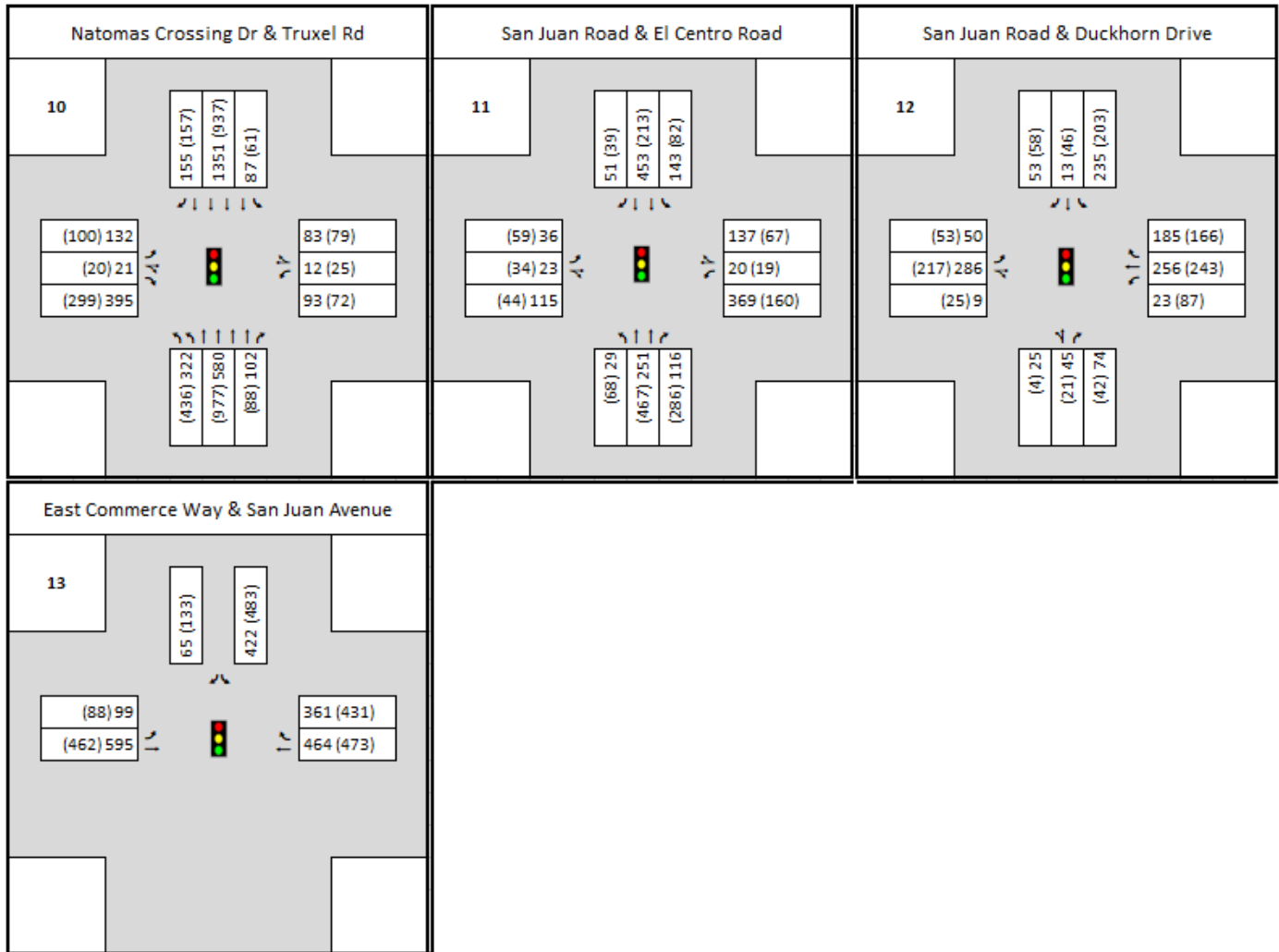
As shown in Table 12, the project is estimated to increase daily VMT by 25,393.



Legend: AM Peak Hour (PM Peak Hour)



Figure 9
Cumulative No Project Peak Hour Volumes and Geometry
 Page 1 of 2



Legend: AM Peak Hour (PM Peak Hour)



Figure 9
Cumulative No Project Peak Hour Volumes and Geometry
 Page 2 of 2

**Table 8
Cumulative Intersection Operating Conditions**

Signalized Intersection	AM Peak Hour				PM Peak Hour			
	Cumulative		Cumulative Plus Project		Cumulative		Cumulative Plus Project	
	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)
1. El Centro Road & Natomas Central Drive / Arena Boulevard	C	25.5	C	28.1	C	21.5	C	22.6
2. Duckhorn Drive & Arena Boulevard	D	50.2	E	67.4	D	40.6	D	51.2
3. I-5 Southbound Ramps & Arena Boulevard	A	6.8	A	6.9	A	7.1	A	7.0
4. I-5 Northbound Ramps & Arena Boulevard	B	14.9	B	14.0	B	17.0	B	15.0
5. East Commerce Way & Arena Boulevard	C	30.3	C	29.7	D	37.3	C	32.3
6. Truxel Road & Arena Boulevard	D	42.9	D	42.4	D	54.2	D	49.5
7. Natomas Crossing Drive & El Centro Road	B	12.2	-	-	B	12.6	-	-
8. Natomas Crossing Drive & Duckhorn Drive	D	43.4	-	-	C	23.0	-	-
9. Natomas Crossing Drive & East Commerce Way	C	21.3	B	10.9	C	24.6	B	11.8
10. Truxel Road & Natomas Crossing Drive	C	30.5	C	25.5	C	26.5	C	29.3
11. El Centro Road & San Juan Road	C	31.5	D	36.3	D	35.6	C	25.5
12. Duckhorn Drive & San Juan Road	B	16.1	B	19.9	B	14.7	B	17.8
13. East Commerce Way & San Juan Road	C	22.5	C	26.3	C	24.0	C	32.2

Source: DKS Associates, 2017.

**Table 9
Cumulative Roadway Segment Conditions**

Roadway	Segment	Operational Class	Cumulative				Cumulative Plus Project			
			Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS	Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS
General Plan MEIR Segments										
Arena Blvd.	I-5 to Truxel Rd.	Arterial - High Access Control	6	22,279	0.37	A	6	21,211	0.35	A
	El Centro Rd. to I-5		6	26,819	0.45	A	6	30,441	0.51	A
El Centro Road	Hawkview Dr. to Radio Rd.	Arterial - Moderate Access Control	4	9,167	0.25	A	4	10,730	0.30	A
	Radio Rd. to I-80		4	9,446	0.26	A	4	9,056	0.25	A
San Juan Road	El Centro Rd. to Duckhorn Dr.	Major Collector	2	6,802	0.49	A	2	8,769	0.63	B
Truxel Road	Arena Blvd. to I-80	Arterial - High Access Control	8	79,828	1.00	E	8	78,659	0.98	E
I-5	Arena Blvd. to I-80	Freeway	8	221,500	1.38	F	8	221,800	1.39	F

**Table 9
Cumulative Roadway Segment Conditions**

Roadway	Segment	Operational Class	Cumulative				Cumulative Plus Project			
			Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS	Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS
Focused Study Area Segments										
Arena Boulevard	El Centro Road to Duckhorn Drive	Arterial – High Access Control	4	9,186	0.23	A	4	11,561	0.29	A
	Duckhorn Drive to I-5		6	26,819	0.45	A	6	30,441	0.51	A
	I-5 to East Commerce Way		8	33,801	0.42	A	8	33,721	0.42	A
	East Commerce Way to Truxel Road		6	22,279	0.37	A	6	21,211	0.35	A
Duckhorn Drive	Arena Boulevard to Natomas Crossing Drive	Minor Collector	2	6,095	0.70	B	2	8,852	1.01	F
	Natomas Crossing Drive to San Juan Road		2	5,130	0.59	A	2	8,905	1.02	F
East Commerce Way	Arena Boulevard to Natomas Crossing Drive	Arterial – Moderate Access Control	6	22,187	0.41	A	6	20,440	0.38	A
	Natomas Crossing Drive to San Juan Road (north)		4	15,246	0.42	A	4	17,129	0.48	A
	Natomas Crossing Drive to San Juan Road (south)		2	12,818	0.71	C	2	14,939	0.83	D

**Table 9
Cumulative Roadway Segment Conditions**

Roadway	Segment	Operational Class	Cumulative				Cumulative Plus Project			
			Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS	Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS
El Centro Road	Arena Boulevard to Natomas Crossing Drive	Arterial – Moderate Access Control	4	9,167	0.25	A	4	10,730	0.30	A
	Natomas Crossing Drive to San Juan Road		4	9,446	0.26	A	4	9,056	0.25	A
Natomas Crossing Drive	El Centro Road to Duckhorn Drive		2	6,658	0.37	A	-	-	-	-
	Duckhorn Drive to East Commerce Way		2	11,272	0.63	B	-	-	-	-
	East Commerce Way to Truxel Road		2	13,230	0.73	C	2	12,103	0.67	B
San Juan Road	El Centro Road to Duckhorn Drive		Major Collector	2	6,802	0.49	A	2	8,769	0.63
	Duckhorn Drive to East Commerce Way	2		10,129	0.72	C	2	15,706	1.12	F
	East Commerce Way to Truxel Road	2		19,119	1.37	F	2	19,543	1.40	F
Snowy Egret Drive	El Centro Road to Duckhorn Drive	Local	2	8,299	1.66	F	2	5,144	1.03	F
	Duckhorn Drive to East Commerce Way	Minor Collector	2	14,470	1.65	F	2	13,981	1.60	F

**Table 9
Cumulative Roadway Segment Conditions**

Roadway	Segment	Operational Class	Cumulative				Cumulative Plus Project			
			Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS	Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS
Truxel Road	Arena Boulevard to Natomas Crossing Dr.	Arterial – High Access Control	8	28,009	0.35	A	8	28,149	0.35	A
	Natomas Crossing Drive to Gateway Park Boulevard		8	35,779	0.45	A	8	33,491	0.42	A
	Gateway Park Boulevard to I-80		8	79,828	1.00	E	8	78,659	0.98	E
	I-80 to San Juan Rd.		6	44,758	0.75	C	6	45,918	0.77	C
Tynebourne Street	South of Bonfair Avenue	Local	2	327	0.07	A	2	568	0.11	A
Gibraltar St.	South of Bonfair Ave.		2	152	0.03	A	2	647	0.13	A
Colchester Street	West of Duckhorn Drive		2	369	0.07	A	2	1,574	0.31	A
Gibraltar Street	North of Snowy Egret Dr.		2	152	0.03	A	2	647	0.13	A
White Eagle Lane	South of Snowy Egret Dr.		2	1,942	0.39	A	-	-	-	-
Bearcloud Avenue	East of El Centro Road		2	1,735	0.35	A	-	-	-	-
Golden Light Lane	Golden Light Lane west of Duckhorn Drive		2	384	0.08	A	2	888	0.18	A

**Table 9
Cumulative Roadway Segment Conditions**

Roadway	Segment	Operational Class	Cumulative				Cumulative Plus Project			
			Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS	Lanes	Daily Volume	Volume-to-Capacity Ratio	LOS
Goose Haven Lane	Goose Haven Lane west of Duckhorn Dr.	Local	2	511	0.10	A	2	1,086	0.22	A
I-5	Arena Boulevard to I-80	Freeway	8	221,500	1.38	F	8	221,800	1.39	F

Source: DKS Associates, 2017.

Table 10
Cumulative Peak Hour Freeway Volumes

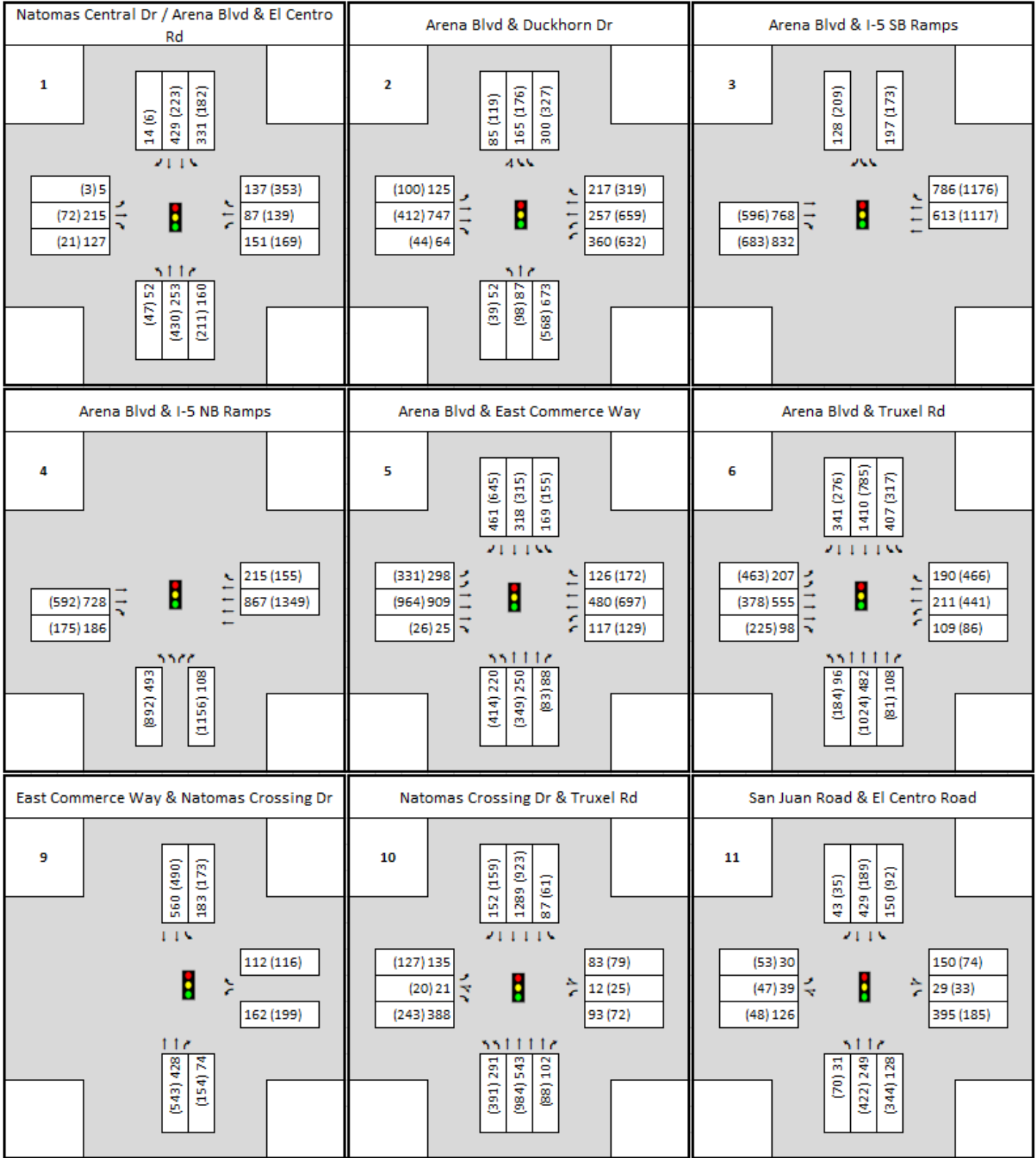
Direction	Location	AM Peak Hour	PM Peak Hour
Cumulative			
Northbound I-5	I-80 to Arena Boulevard	6,871	10,005
Southbound I-5	Arena Boulevard to I-80	8,750	7,825
Cumulative Plus Project			
Northbound I-5	I-80 to Arena Boulevard	6,820	10,014
Southbound I-5	Arena Boulevard to I-80	8,773	7,852

Source: DKS Associates, 2017.

Table 11
Cumulative Peak Hour Freeway Ramp Termini Queuing

Direction	Location	Available Storage Length (feet/lane)	Maximum Queue Length (feet/lane)	
			AM Peak Hour	PM Peak Hour
Cumulative				
I-5 Northbound	Arena Boulevard	660	409	485
I-5 Southbound	Arena Boulevard	650	149	161
Cumulative Plus Project				
I-5 Northbound	Arena Boulevard	660	417	485
I-5 Southbound	Arena Boulevard	650	149	186

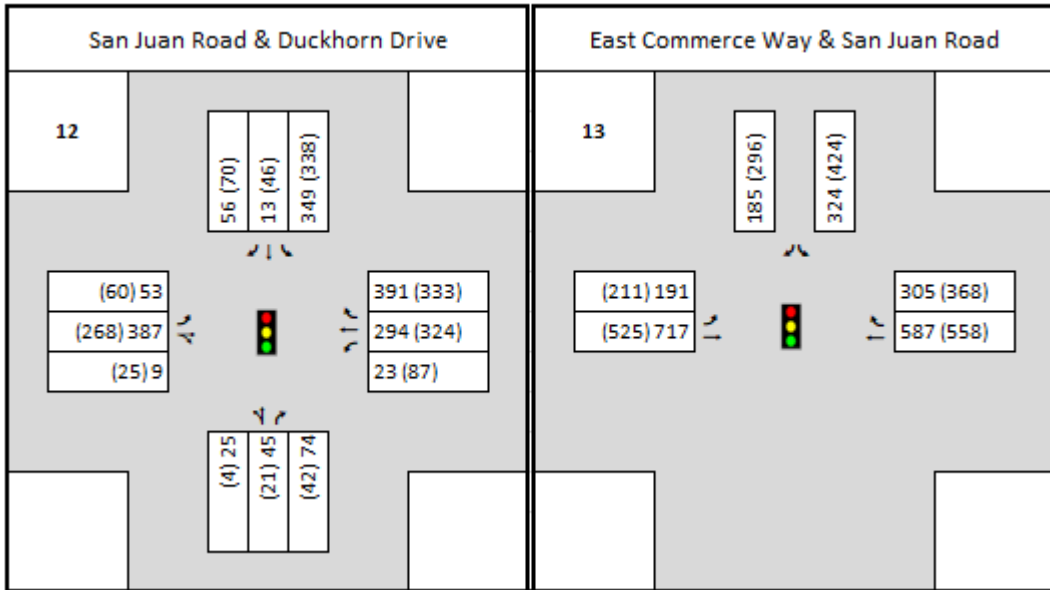
Source: DKS Associates, 2017.



Legend: AM Peak Hour (PM Peak Hour)



Figure 10
Cumulative With Project Peak Hour Volumes and Geometry
 Page 1 of 2



Legend: AM Peak Hour (PM Peak Hour)



Figure 10
Cumulative With Project Peak Hour Volumes and Geometry
 Page 2 of 2

Table 12
Estimated Project VMT

Roadway Type	Regional Daily Vehicle Miles Travelled		
	Cumulative	Cumulative Plus Project	Difference
Freeways and Rural Roads	40,546,513	40,559,354	12,841
Urban Streets	35,472,085	35,464,634	12,550
Total	76,018,596	76,043,989	25,393

Source: DKS Associates, 2017.

North Natomas Finance Plan Transportation Analysis

Transportation Appendices

Prepared for

City of Sacramento

By

DKS Associates

8950 Cal Center Drive, Suite 340

Sacramento, California

(916) 368-2000

September 27, 2017

Traffic Counts

National Data and Surveying Services

City of Sacramento
 All Vehicles & Uturns On Unshifted
 Peds & Bikes On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7174-001 El Centro Rd & Arena Blvd
 Date : 3/9/2017

Unshifted Count = All Vehicles & Uturns

START TIME	El Centro Rd Southbound					Arena Blvd Westbound					El Centro Rd Northbound					Arena Blvd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	25	79	2	0	106	15	14	2	1	32	1	20	15	0	36	1	43	11	0	55	229	1
7:15	55	113	3	1	172	21	13	25	3	62	3	49	19	0	71	1	45	27	0	73	378	4
7:30	57	81	4	1	143	21	27	40	2	90	16	58	30	0	104	2	58	34	0	94	431	3
7:45	51	101	5	0	157	23	28	43	0	94	23	79	32	0	134	2	65	37	0	104	489	0
Total	188	374	14	2	578	80	82	110	6	278	43	206	96	0	345	6	211	109	0	326	1527	8
8:00	40	108	2	3	153	23	19	26	0	68	9	49	20	1	79	0	47	29	0	76	376	4
8:15	42	64	3	0	109	23	11	15	1	50	1	34	9	0	44	0	24	8	0	32	235	1
8:30	27	36	1	1	65	6	14	13	1	34	6	18	7	1	32	0	18	4	0	22	153	3
8:45	22	30	4	1	57	13	6	10	1	30	3	22	17	0	42	2	22	8	0	32	161	2
Total	131	238	10	5	384	65	50	64	3	182	19	123	53	2	197	2	111	49	0	162	925	10
16:00	21	33	2	0	56	20	25	24	0	69	9	61	34	0	104	2	23	5	0	30	259	0
16:15	24	33	0	2	59	25	29	19	0	73	15	56	25	0	96	2	22	5	0	29	257	2
16:30	26	30	0	0	56	25	26	36	0	87	11	43	33	0	87	1	20	4	0	25	255	0
16:45	17	32	0	0	49	21	38	34	0	93	12	45	37	0	94	0	21	2	0	23	259	0
Total	88	128	2	2	220	91	118	113	0	322	47	205	129	0	381	5	86	16	0	107	1030	2
17:00	27	30	4	0	61	21	39	36	0	96	11	85	34	2	132	1	15	6	0	22	311	2
17:15	23	20	0	2	45	29	35	26	0	90	6	71	40	0	117	1	22	5	0	28	280	2
17:30	24	33	2	1	60	21	26	28	0	75	15	75	29	0	119	1	15	6	0	22	276	1
17:45	15	37	0	0	52	23	39	32	0	94	13	66	35	0	114	0	20	4	0	24	284	0
Total	89	120	6	3	218	94	139	122	0	355	45	297	138	2	482	3	72	21	0	96	1151	5
Grand Total	496	860	32	12	1400	330	389	409	9	1137	154	831	416	4	1405	16	480	195	0	691	4633	25
Apprch %	35.4%	61.4%	2.3%	0.9%		29.0%	34.2%	36.0%	0.8%		11.0%	59.1%	29.6%	0.3%		2.3%	69.5%	28.2%	0.0%			
Total %	10.7%	18.6%	0.7%	0.3%	30.2%	7.1%	8.4%	8.8%	0.2%	24.5%	3.3%	17.9%	9.0%	0.1%	30.3%	0.3%	10.4%	4.2%	0.0%	14.9%	100.0%	

AM PEAK HOUR	El Centro Rd Southbound					Arena Blvd Westbound					El Centro Rd Northbound					Arena Blvd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	55	113	3	1	172	21	13	25	3	62	3	49	19	0	71	1	45	27	0	73	378
7:30	57	81	4	1	143	21	27	40	2	90	16	58	30	0	104	2	58	34	0	94	431
7:45	51	101	5	0	157	23	28	43	0	94	23	79	32	0	134	2	65	37	0	104	489
8:00	40	108	2	3	153	23	19	26	0	68	9	49	20	1	79	0	47	29	0	76	376
Total Volume	203	403	14	5	625	88	87	134	5	314	51	235	101	1	388	5	215	127	0	347	1674
% App Total	32.5%	64.5%	2.2%	0.8%		28.0%	27.7%	42.7%	1.6%		13.1%	60.6%	26.0%	0.3%		1.4%	62.0%	36.6%	0.0%		
PHF	.890	.892	.700	.417	.908	.957	.777	.779	.417	.835	.554	.744	.789	.250	.724	.625	.827	.858	.000	.834	.856

PM PEAK HOUR	El Centro Rd Southbound					Arena Blvd Westbound					El Centro Rd Northbound					Arena Blvd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	27	30	4	0	61	21	39	36	0	96	11	85	34	2	132	1	15	6	0	22	311
17:15	23	20	0	2	45	29	35	26	0	90	6	71	40	0	117	1	22	5	0	28	280
17:30	24	33	2	1	60	21	26	28	0	75	15	75	29	0	119	1	15	6	0	22	276
17:45	15	37	0	0	52	23	39	32	0	94	13	66	35	0	114	0	20	4	0	24	284
Total Volume	89	120	6	3	218	94	139	122	0	355	45	297	138	2	482	3	72	21	0	96	1151
% App Total	40.8%	55.0%	2.8%	1.4%		26.5%	39.2%	34.4%	0.0%		9.3%	61.6%	28.6%	0.4%		3.1%	75.0%	21.9%	0.0%		
PHF	.824	.811	.375	.375	.893	.810	.891	.847	.000	.924	.750	.874	.863	.250	.913	.750	.818	.875	.000	.857	.925

National Data and Surveying Services

City of Sacramento
 All Vehicles & Uturns On Unshifted
 Peds & Bikes On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7174-002 Duckhorn Dr & Arena Blvd
 Date : 3/9/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Duckhorn Dr Southbound					Arena Blvd Westbound					Duckhorn Dr Northbound					Arena Blvd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	51	16	7	0	74	61	47	33	1	142	2	9	114	0	125	8	113	2	0	123	464	1
7:15	49	19	8	0	76	55	59	25	1	140	6	10	118	0	134	4	171	3	0	178	528	1
7:30	65	30	27	0	122	67	67	33	3	170	20	9	179	0	208	9	191	6	0	206	706	3
7:45	66	19	8	0	93	80	45	46	4	175	9	26	175	0	210	9	208	15	0	232	710	4
Total	231	84	50	0	365	263	218	137	9	627	37	54	586	0	677	30	683	26	0	739	2408	9
8:00	37	27	2	0	66	94	56	38	2	190	9	12	103	0	124	8	135	10	0	153	533	2
8:15	52	10	5	0	67	81	49	35	2	167	0	7	104	0	111	3	96	4	0	103	448	2
8:30	36	7	1	0	44	62	45	22	3	132	2	7	75	0	84	2	81	1	0	84	344	3
8:45	40	5	3	0	48	45	39	22	2	108	1	4	75	0	80	3	69	6	0	78	314	2
Total	165	49	11	0	225	282	189	117	9	597	12	30	357	0	399	16	381	21	0	418	1639	9
16:00	34	17	6	0	57	93	85	35	1	214	0	10	66	0	76	10	97	9	0	116	463	1
16:15	35	17	2	0	54	98	70	33	0	201	2	4	68	0	74	8	95	6	0	109	438	0
16:30	69	35	8	0	112	98	94	39	0	231	2	8	65	0	75	6	102	5	0	113	531	0
16:45	123	43	12	0	178	141	122	43	0	306	6	11	79	0	96	5	114	2	0	121	701	0
Total	261	112	28	0	401	430	371	150	1	952	10	33	278	0	321	29	408	22	0	459	2133	1
17:00	57	19	4	0	80	176	119	38	3	336	2	4	60	0	66	13	76	11	1	101	583	4
17:15	38	13	1	0	52	160	118	53	0	331	6	8	77	0	91	7	111	8	0	126	600	0
17:30	25	15	4	0	44	151	90	32	0	273	2	7	86	0	95	6	86	11	1	104	516	1
17:45	31	9	4	0	44	139	97	50	2	288	3	3	85	0	91	7	88	13	1	109	532	3
Total	151	56	13	0	220	626	424	173	5	1228	13	22	308	0	343	33	361	43	3	440	2231	8
Grand Total	808	301	102	0	1211	1601	1202	577	24	3404	72	139	1529	0	1740	108	1833	112	3	2056	8411	27
Apprch %	66.7%	24.9%	8.4%	0.0%		47.0%	35.3%	17.0%	0.7%		4.1%	8.0%	87.9%	0.0%		5.3%	89.2%	5.4%	0.1%			
Total %	9.6%	3.6%	1.2%	0.0%	14.4%	19.0%	14.3%	6.9%	0.3%	40.5%	0.9%	1.7%	18.2%	0.0%	20.7%	1.3%	21.8%	1.3%	0.0%	24.4%	100.0%	

AM PEAK HOUR	Duckhorn Dr Southbound					Arena Blvd Westbound					Duckhorn Dr Northbound					Arena Blvd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	49	19	8	0	76	55	59	25	1	140	6	10	118	0	134	4	171	3	0	178	528
7:30	65	30	27	0	122	67	67	33	3	170	20	9	179	0	208	9	191	6	0	206	706
7:45	66	19	8	0	93	80	45	46	4	175	9	26	175	0	210	9	208	15	0	232	710
8:00	37	27	2	0	66	94	56	38	2	190	9	12	103	0	124	8	135	10	0	153	533
Total Volume	217	95	45	0	357	296	227	142	10	675	44	57	575	0	676	30	705	34	0	769	2477
% App Total	60.8%	26.6%	12.6%	0.0%		43.9%	33.6%	21.0%	1.5%		6.5%	8.4%	85.1%	0.0%		3.9%	91.7%	4.4%	0.0%		
PHF	.822	.792	.417	.000	.732	.787	.847	.772	.625	.888	.550	.548	.803	.000	.805	.833	.847	.567	.000	.829	.872

PM PEAK HOUR	Duckhorn Dr Southbound					Arena Blvd Westbound					Duckhorn Dr Northbound					Arena Blvd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	69	35	8	0	112	98	94	39	0	231	2	8	65	0	75	6	102	5	0	113	531
16:45	123	43	12	0	178	141	122	43	0	306	6	11	79	0	96	5	114	2	0	121	701
17:00	57	19	4	0	80	176	119	38	3	336	2	4	60	0	66	13	76	11	1	101	583
17:15	38	13	1	0	52	160	118	53	0	331	6	8	77	0	91	7	111	8	0	126	600
Total Volume	287	110	25	0	422	575	453	173	3	1204	16	31	281	0	328	31	403	26	1	461	2415
% App Total	68.0%	26.1%	5.9%	0.0%		47.8%	37.6%	14.4%	0.2%		4.9%	9.5%	85.7%	0.0%		6.7%	87.4%	5.6%	0.2%		
PHF	.583	.640	.521	.000	.593	.817	.928	.816	.250	.896	.667	.705	.889	.000	.854	.596	.884	.591	.250	.915	.861

National Data and Surveying Services

City of Sacramento
 All Vehicles & Uturns On Unshifted
 Peds & Bikes On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7174-003 East Commerce Way & Arena Blvd
 Date : 3/9/2017

Unshifted Count = All Vehicles & Uturns

START TIME	East Commerce Way Southbound					Arena Blvd Westbound					East Commerce Way Northbound					Arena Blvd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	25	0	78	1	104	0	95	15	0	110	12	2	0	0	14	31	134	17	0	182	410	1
7:15	36	3	97	0	136	0	81	17	0	98	15	3	3	0	21	51	151	9	1	212	467	1
7:30	31	2	121	0	154	0	112	32	0	144	19	3	0	0	22	83	205	3	1	292	612	1
7:45	49	1	120	0	170	1	95	45	2	143	22	5	3	0	30	116	286	2	2	406	749	4
Total	141	6	416	1	564	1	383	109	2	495	68	13	6	0	87	281	776	31	4	1092	2238	7
8:00	61	5	122	0	188	0	111	35	7	153	27	8	2	0	37	63	223	9	1	296	674	8
8:15	71	1	82	1	155	2	125	41	1	169	32	6	0	0	38	31	195	7	1	234	596	3
8:30	39	1	38	1	79	1	95	32	0	128	21	7	1	0	29	23	156	8	0	187	423	1
8:45	25	1	24	0	50	0	78	19	0	97	19	6	1	0	26	31	181	5	2	219	392	2
Total	196	8	266	2	472	3	409	127	8	547	99	27	4	0	130	148	755	29	4	936	2085	14
16:00	30	0	59	0	89	1	160	34	1	196	12	2	2	0	16	59	197	5	2	263	564	3
16:15	27	2	32	1	62	0	161	31	4	196	14	8	1	0	23	49	222	8	0	279	560	5
16:30	39	1	35	1	76	1	190	28	2	221	11	9	5	0	25	42	240	4	1	287	609	4
16:45	38	2	44	1	85	0	179	43	3	225	7	3	3	0	13	66	246	4	4	320	643	8
Total	134	5	170	3	312	2	690	136	10	838	44	22	11	0	77	216	905	21	7	1149	2376	20
17:00	56	2	92	0	150	0	198	38	3	239	16	12	2	0	30	83	223	8	3	317	736	6
17:15	53	0	48	0	101	0	143	36	4	183	11	7	3	0	21	98	257	9	2	366	671	6
17:30	47	0	41	1	89	0	149	39	1	189	19	3	5	0	27	73	238	5	2	318	623	4
17:45	40	1	46	2	89	0	127	32	3	162	14	3	1	0	18	61	228	6	2	297	566	7
Total	196	3	227	3	429	0	617	145	11	773	60	25	11	0	96	315	946	28	9	1298	2596	23
Grand Total	667	22	1079	9	1777	6	2099	517	31	2653	271	87	32	0	390	960	3382	109	24	4475	9295	64
Apprch %	37.5%	1.2%	60.7%	0.5%		0.2%	79.1%	19.5%	1.2%		69.5%	22.3%	8.2%	0.0%		21.5%	75.6%	2.4%	0.5%			
Total %	7.2%	0.2%	11.6%	0.1%	19.1%	0.1%	22.6%	5.6%	0.3%	28.5%	2.9%	0.9%	0.3%	0.0%	4.2%	10.3%	36.4%	1.2%	0.3%	48.1%	100.0%	

AM PEAK HOUR	East Commerce Way Southbound					Arena Blvd Westbound					East Commerce Way Northbound					Arena Blvd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	31	2	121	0	154	0	112	32	0	144	19	3	0	0	22	83	205	3	1	292	612
7:45	49	1	120	0	170	1	95	45	2	143	22	5	3	0	30	116	286	2	2	406	749
8:00	61	5	122	0	188	0	111	35	7	153	27	8	2	0	37	63	223	9	1	296	674
8:15	71	1	82	1	155	2	125	41	1	169	32	6	0	0	38	31	195	7	1	234	596
Total Volume	212	9	445	1	667	3	443	153	10	609	100	22	5	0	127	293	909	21	5	1228	2631
% App Total	31.8%	1.3%	66.7%	0.1%		0.5%	72.7%	25.1%	1.6%		78.7%	17.3%	3.9%	0.0%		23.9%	74.0%	1.7%	0.4%		
PHF	.746	.450	.912	.250	.887	.375	.886	.850	.357	.901	.781	.688	.417	.000	.836	.631	.795	.583	.625	.756	.878

PM PEAK HOUR	East Commerce Way Southbound					Arena Blvd Westbound					East Commerce Way Northbound					Arena Blvd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	38	2	44	1	85	0	179	43	3	225	7	3	3	0	13	66	246	4	4	320	643
17:00	56	2	92	0	150	0	198	38	3	239	16	12	2	0	30	83	223	8	3	317	736
17:15	53	0	48	0	101	0	143	36	4	183	11	7	3	0	21	98	257	9	2	366	671
17:30	47	0	41	1	89	0	149	39	1	189	19	3	5	0	27	73	238	5	2	318	623
Total Volume	194	4	225	2	425	0	669	156	11	836	53	25	13	0	91	320	964	26	11	1321	2673
% App Total	45.6%	0.9%	52.9%	0.5%		0.0%	80.0%	18.7%	1.3%		58.2%	27.5%	14.3%	0.0%		24.2%	73.0%	2.0%	0.8%		
PHF	.866	.500	.611	.500	.708	.000	.845	.907	.688	.874	.697	.521	.650	.000	.758	.816	.938	.722	.688	.902	.908

National Data and Surveying Services

City of Sacramento
 All Vehicles & Uturns On Unshifted
 Peds & Bikes On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7174-004 Truxel Rd & Arena Blvd
 Date : 3/9/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Truxel Rd Southbound					Arena Blvd Westbound					Truxel Rd Northbound					Arena Blvd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	16	223	35	0	274	6	33	4	0	43	16	56	21	0	93	15	105	29	0	149	559	0
7:15	20	301	38	0	359	9	32	5	0	46	29	81	26	0	136	21	102	33	2	158	699	2
7:30	31	371	50	0	452	7	35	2	1	45	21	133	28	0	182	55	131	39	0	225	904	1
7:45	38	317	40	0	395	30	46	7	2	85	35	173	25	0	233	75	163	37	4	279	992	6
Total	105	1212	163	0	1480	52	146	18	3	219	101	443	100	0	644	166	501	138	6	811	3154	9
8:00	40	400	53	0	493	38	67	8	0	113	33	78	29	0	140	30	142	55	1	228	974	1
8:15	31	298	44	0	373	32	65	7	0	104	42	100	25	0	167	28	116	54	2	200	844	2
8:30	20	213	28	0	261	24	33	12	2	71	39	89	21	0	149	34	104	38	6	182	663	8
8:45	27	156	39	3	225	13	42	10	0	65	36	74	25	0	135	31	101	37	4	173	598	7
Total	118	1067	164	3	1352	107	207	37	2	353	150	341	100	0	591	123	463	184	13	783	3079	18
16:00	16	161	23	0	200	39	135	23	2	199	51	158	11	0	220	39	83	53	2	177	796	4
16:15	21	155	24	1	201	29	90	24	1	144	55	190	14	0	259	42	81	43	1	167	771	3
16:30	16	157	23	1	197	27	151	25	2	205	56	166	21	1	244	61	97	53	2	213	859	6
16:45	14	159	23	0	196	25	98	17	0	140	67	191	16	0	274	58	75	48	5	186	796	5
Total	67	632	93	2	794	120	474	89	5	688	229	705	62	1	997	200	336	197	10	743	3222	18
17:00	21	212	17	0	250	27	160	31	1	219	51	160	16	0	227	57	89	62	6	214	910	7
17:15	16	178	27	0	221	23	96	19	1	139	51	195	15	1	262	56	111	46	0	213	835	2
17:30	14	175	21	0	210	21	88	18	0	127	66	254	19	0	339	75	81	60	1	217	893	1
17:45	16	197	20	0	233	11	75	17	1	104	55	218	19	0	292	68	70	42	4	184	813	5
Total	67	762	85	0	914	82	419	85	3	589	223	827	69	1	1120	256	351	210	11	828	3451	15
Grand Total	357	3673	505	5	4540	361	1246	229	13	1849	703	2316	331	2	3352	745	1651	729	40	3165	12906	60
Apprch %	7.9%	80.9%	11.1%	0.1%		19.5%	67.4%	12.4%	0.7%		21.0%	69.1%	9.9%	0.1%		23.5%	52.2%	23.0%	1.3%			
Total %	2.8%	28.5%	3.9%	0.0%	35.2%	2.8%	9.7%	1.8%	0.1%	14.3%	5.4%	17.9%	2.6%	0.0%	26.0%	5.8%	12.8%	5.6%	0.3%	24.5%	100.0%	

AM PEAK HOUR	Truxel Rd Southbound					Arena Blvd Westbound					Truxel Rd Northbound					Arena Blvd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	31	371	50	0	452	7	35	2	1	45	21	133	28	0	182	55	131	39	0	225	904
7:45	38	317	40	0	395	30	46	7	2	85	35	173	25	0	233	75	163	37	4	279	992
8:00	40	400	53	0	493	38	67	8	0	113	33	78	29	0	140	30	142	55	1	228	974
8:15	31	298	44	0	373	32	65	7	0	104	42	100	25	0	167	28	116	54	2	200	844
Total Volume	140	1386	187	0	1713	107	213	24	3	347	131	484	107	0	722	188	552	185	7	932	3714
% App Total	8.2%	80.9%	10.9%	0.0%		30.8%	61.4%	6.9%	0.9%		18.1%	67.0%	14.8%	0.0%		20.2%	59.2%	19.8%	0.8%		
PHF	.875	.866	.882	.000	.869	.704	.795	.750	.375	.768	.780	.699	.922	.000	.775	.627	.847	.841	.438	.835	.936

PM PEAK HOUR	Truxel Rd Southbound					Arena Blvd Westbound					Truxel Rd Northbound					Arena Blvd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	21	212	17	0	250	27	160	31	1	219	51	160	16	0	227	57	89	62	6	214	910
17:15	16	178	27	0	221	23	96	19	1	139	51	195	15	1	262	56	111	46	0	213	835
17:30	14	175	21	0	210	21	88	18	0	127	66	254	19	0	339	75	81	60	1	217	893
17:45	16	197	20	0	233	11	75	17	1	104	55	218	19	0	292	68	70	42	4	184	813
Total Volume	67	762	85	0	914	82	419	85	3	589	223	827	69	1	1120	256	351	210	11	828	3451
% App Total	7.3%	83.4%	9.3%	0.0%		13.9%	71.1%	14.4%	0.5%		19.9%	73.8%	6.2%	0.1%		30.9%	42.4%	25.4%	1.3%		
PHF	.798	.899	.787	.000	.914	.759	.655	.685	.750	.672	.845	.814	.908	.250	.826	.853	.791	.847	.458	.954	.948

National Data and Surveying Services

City of Sacramento
 All Vehicles & Uturns On Unshifted
 Peds & Bikes On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7174-005 Truxel Rd & Natomas Crossing Dr
 Date : 3/9/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Truxel Rd Southbound					Natomas Crossing Dr Westbound					Truxel Rd Northbound					Natomas Crossing Dr Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	27	217	25	0	269	21	1	23	0	45	26	71	25	2	124	14	4	68	0	86	524	2
7:15	18	300	15	1	334	17	2	27	0	46	24	98	22	0	144	28	3	80	0	111	635	1
7:30	19	369	21	0	409	23	1	20	0	44	31	142	21	0	194	42	3	97	0	142	789	0
7:45	24	288	31	0	343	17	3	20	0	40	49	188	23	1	261	34	3	65	0	102	746	1
Total	88	1174	92	1	1355	78	7	90	0	175	130	499	91	3	723	118	13	310	0	441	2694	4
8:00	23	375	58	1	457	21	2	19	0	42	39	124	27	0	190	29	6	57	0	92	781	1
8:15	18	319	45	2	384	32	6	24	0	62	61	126	31	2	220	26	9	76	1	112	778	5
8:30	20	216	27	0	263	25	6	15	0	46	41	124	28	0	193	10	6	74	0	90	592	0
8:45	11	181	40	1	233	19	2	16	0	37	31	134	25	4	194	13	6	56	0	75	539	5
Total	72	1091	170	4	1337	97	16	74	0	187	172	508	111	6	797	78	27	263	1	369	2690	11
16:00	15	203	27	0	245	18	6	18	0	42	54	190	30	7	281	21	6	48	0	75	643	7
16:15	10	217	38	0	265	29	4	19	0	52	88	220	19	11	338	30	3	54	0	87	742	11
16:30	9	194	34	0	237	15	6	13	0	34	67	247	26	7	347	18	3	65	0	86	704	7
16:45	13	220	32	0	265	20	6	16	0	42	58	241	19	7	325	27	5	56	0	88	720	7
Total	47	834	131	0	1012	82	22	66	0	170	267	898	94	32	1291	96	17	223	0	336	2809	32
17:00	15	273	32	0	320	14	4	13	0	31	82	202	20	5	309	18	6	71	0	95	755	5
17:15	12	223	45	1	281	23	11	13	0	47	102	242	26	4	374	27	6	56	0	89	791	5
17:30	21	210	38	0	269	19	5	32	0	56	77	256	21	3	357	28	5	53	0	86	768	3
17:45	11	231	42	1	285	16	5	21	0	42	99	258	21	7	385	27	3	56	0	86	798	8
Total	59	937	157	2	1155	72	25	79	0	176	360	958	88	19	1425	100	20	236	0	356	3112	21
Grand Total	266	4036	550	7	4859	329	70	309	0	708	929	2863	384	60	4236	392	77	1032	1	1502	11305	68
Apprch %	5.5%	83.1%	11.3%	0.1%		46.5%	9.9%	43.6%	0.0%		21.9%	67.6%	9.1%	1.4%		26.1%	5.1%	68.7%	0.1%			
Total %	2.4%	35.7%	4.9%	0.1%	43.0%	2.9%	0.6%	2.7%	0.0%	6.3%	8.2%	25.3%	3.4%	0.5%	37.5%	3.5%	0.7%	9.1%	0.0%	13.3%	100.0%	

AM PEAK HOUR	Truxel Rd Southbound					Natomas Crossing Dr Westbound					Truxel Rd Northbound					Natomas Crossing Dr Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	19	369	21	0	409	23	1	20	0	44	31	142	21	0	194	42	3	97	0	142	789
7:45	24	288	31	0	343	17	3	20	0	40	49	188	23	1	261	34	3	65	0	102	746
8:00	23	375	58	1	457	21	2	19	0	42	39	124	27	0	190	29	6	57	0	92	781
8:15	18	319	45	2	384	32	6	24	0	62	61	126	31	2	220	26	9	76	1	112	778
Total Volume	84	1351	155	3	1593	93	12	83	0	188	180	580	102	3	865	131	21	295	1	448	3094
% App Total	5.3%	84.8%	9.7%	0.2%		49.5%	6.4%	44.1%	0.0%		20.8%	67.1%	11.8%	0.3%		29.2%	4.7%	65.8%	0.2%		
PHF	.875	.901	.668	.375	.871	.727	.500	.865	.000	.758	.738	.771	.823	.375	.829	.780	.583	.760	.250	.789	.980

PM PEAK HOUR	Truxel Rd Southbound					Natomas Crossing Dr Westbound					Truxel Rd Northbound					Natomas Crossing Dr Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	15	273	32	0	320	14	4	13	0	31	82	202	20	5	309	18	6	71	0	95	755
17:15	12	223	45	1	281	23	11	13	0	47	102	242	26	4	374	27	6	56	0	89	791
17:30	21	210	38	0	269	19	5	32	0	56	77	256	21	3	357	28	5	53	0	86	768
17:45	11	231	42	1	285	16	5	21	0	42	99	258	21	7	385	27	3	56	0	86	798
Total Volume	59	937	157	2	1155	72	25	79	0	176	360	958	88	19	1425	100	20	236	0	356	3112
% App Total	5.1%	81.1%	13.6%	0.2%		40.9%	14.2%	44.9%	0.0%		25.3%	67.2%	6.2%	1.3%		28.1%	5.6%	66.3%	0.0%		
PHF	.702	.858	.872	.500	.902	.783	.568	.617	.000	.786	.882	.928	.846	.679	.925	.893	.833	.831	.000	.937	.975

National Data and Surveying Services

City of Sacramento
 All Vehicles & Uturns On Unshifted
 Peds & Bikes On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7174-006 El Centro Rd & San Juan Rd
 Date : 3/9/2017

Unshifted Count = All Vehicles & Uturns

START TIME	El Centro Rd Southbound					San Juan Rd Westbound					El Centro Rd Northbound					San Juan Rd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	19	89	1	0	109	68	0	14	0	82	2	19	15	0	36	4	5	16	0	25	252	0
7:15	25	113	2	0	140	111	5	24	0	140	3	31	12	0	46	7	8	29	0	44	370	0
7:30	48	112	4	0	164	108	8	14	0	130	3	43	25	0	71	11	8	41	0	60	425	0
7:45	32	109	4	0	145	81	3	67	0	151	7	47	32	0	86	14	4	27	0	45	427	0
Total	124	423	11	0	558	368	16	119	0	503	15	140	84	0	239	36	25	113	0	174	1474	0
8:00	38	110	4	0	152	69	4	32	0	105	10	29	29	0	68	4	3	18	0	25	350	0
8:15	24	77	2	0	103	56	4	12	0	72	10	26	23	0	59	2	3	22	0	27	261	0
8:30	9	43	3	0	55	27	2	9	0	38	6	22	17	0	45	2	2	16	0	20	158	0
8:45	9	46	2	0	57	48	1	13	0	62	9	27	22	0	58	0	2	3	0	5	182	0
Total	80	276	11	0	367	200	11	66	0	277	35	104	91	0	230	8	10	59	0	77	951	0
16:00	25	34	1	0	60	31	3	14	0	48	13	74	58	0	145	4	10	7	0	21	274	0
16:15	16	33	1	0	50	23	2	18	0	43	12	78	62	0	152	4	5	11	0	20	265	0
16:30	15	36	8	0	59	24	5	15	0	44	14	92	64	0	170	3	2	9	0	14	287	0
16:45	19	49	4	0	72	31	7	20	0	58	14	103	55	0	172	8	11	13	0	32	334	0
Total	75	152	14	0	241	109	17	67	0	193	53	347	239	0	639	19	28	40	0	87	1160	0
17:00	24	49	5	0	78	33	3	14	0	50	16	100	70	0	186	5	12	11	0	28	342	0
17:15	24	47	2	0	73	33	4	18	0	55	11	107	97	0	215	5	9	11	0	25	368	0
17:30	11	39	2	0	52	25	5	11	0	41	15	87	71	0	173	4	2	7	0	13	279	0
17:45	11	33	2	0	46	28	5	15	0	48	11	65	76	0	152	4	6	3	0	13	259	0
Total	70	168	11	0	249	119	17	58	0	194	53	359	314	0	726	18	29	32	0	79	1248	0
Grand Total	349	1019	47	0	1415	796	61	310	0	1167	156	950	728	0	1834	81	92	244	0	417	4833	0
Apprch %	24.7%	72.0%	3.3%	0.0%		68.2%	5.2%	26.6%	0.0%		8.5%	51.8%	39.7%	0.0%		19.4%	22.1%	58.5%	0.0%			
Total %	7.2%	21.1%	1.0%	0.0%	29.3%	16.5%	1.3%	6.4%	0.0%	24.1%	3.2%	19.7%	15.1%	0.0%	37.9%	1.7%	1.9%	5.0%	0.0%	8.6%	100.0%	

AM PEAK HOUR	El Centro Rd Southbound					San Juan Rd Westbound					El Centro Rd Northbound					San Juan Rd Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 07:15 to 08:15																						
Peak Hour For Entire Intersection Begins at 07:15																						
7:15	25	113	2	0	140	111	5	24	0	140	3	31	12	0	46	7	8	29	0	44	370	
7:30	48	112	4	0	164	108	8	14	0	130	3	43	25	0	71	11	8	41	0	60	425	
7:45	32	109	4	0	145	81	3	67	0	151	7	47	32	0	86	14	4	27	0	45	427	
8:00	38	110	4	0	152	69	4	32	0	105	10	29	29	0	68	4	3	18	0	25	350	
Total Volume	143	444	14	0	601	369	20	137	0	526	23	150	98	0	271	36	23	115	0	174	1572	
% App Total	23.8%	73.9%	2.3%	0.0%		70.2%	3.8%	26.0%	0.0%		8.5%	55.4%	36.2%	0.0%		20.7%	13.2%	66.1%	0.0%			
PHF	.745	.982	.875	.000	.916	.831	.625	.511	.000	.871	.575	.798	.766	.000	.788	.643	.719	.701	.000	.725	.920	

PM PEAK HOUR	El Centro Rd Southbound					San Juan Rd Westbound					El Centro Rd Northbound					San Juan Rd Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 16:30 to 17:30																						
Peak Hour For Entire Intersection Begins at 16:30																						
16:30	15	36	8	0	59	24	5	15	0	44	14	92	64	0	170	3	2	9	0	14	287	
16:45	19	49	4	0	72	31	7	20	0	58	14	103	55	0	172	8	11	13	0	32	334	
17:00	24	49	5	0	78	33	3	14	0	50	16	100	70	0	186	5	12	11	0	28	342	
17:15	24	47	2	0	73	33	4	18	0	55	11	107	97	0	215	5	9	11	0	25	368	
Total Volume	82	181	19	0	282	121	19	67	0	207	55	402	286	0	743	21	34	44	0	99	1331	
% App Total	29.1%	64.2%	6.7%	0.0%		58.5%	9.2%	32.4%	0.0%		7.4%	54.1%	38.5%	0.0%		21.2%	34.3%	44.4%	0.0%			
PHF	.854	.923	.594	.000	.904	.917	.679	.838	.000	.892	.859	.939	.737	.000	.864	.656	.708	.846	.000	.773	.904	

National Data and Surveying Services

City of Sacramento
 All Vehicles & Uturns On Unshifted
 Peds & Bikes On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7174-007 Duckhorn Dr & San Juan Rd
 Date : 3/9/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Duckhorn Dr Southbound					San Juan Rd Westbound					Duckhorn Dr Northbound					San Juan Rd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	27	1	12	0	40	3	24	16	0	43	7	9	16	0	32	1	35	1	0	37	152	0
7:15	48	2	16	0	66	9	57	35	0	101	10	16	20	0	46	7	56	0	0	63	276	0
7:30	68	1	18	0	87	5	70	70	0	145	8	14	24	0	46	15	82	0	0	97	375	0
7:45	69	4	11	0	84	6	88	52	0	146	7	10	17	0	34	5	77	4	0	86	350	0
Total	212	8	57	0	277	23	239	173	0	435	32	49	77	0	158	28	250	5	0	283	1153	0
8:00	50	6	8	0	64	3	41	28	0	72	0	5	13	0	18	4	71	5	0	80	234	0
8:15	32	5	13	0	50	4	33	24	0	61	3	3	18	0	24	6	43	0	0	49	184	0
8:30	25	2	1	0	28	1	29	15	0	45	1	2	14	0	17	5	36	2	0	43	133	0
8:45	14	1	9	0	24	4	26	11	0	41	3	1	14	0	18	9	26	2	0	37	120	0
Total	121	14	31	0	166	12	129	78	0	219	7	11	59	0	77	24	176	9	0	209	671	0
16:00	29	2	7	0	38	16	45	43	0	104	1	4	9	0	14	13	40	2	0	55	211	0
16:15	18	4	10	0	32	17	51	41	0	109	0	4	6	0	10	11	39	5	0	55	206	0
16:30	42	5	4	0	51	19	37	38	0	94	0	5	15	0	20	17	53	2	0	72	237	0
16:45	60	8	6	0	74	26	61	42	0	129	1	3	10	0	14	9	43	5	0	57	274	0
Total	149	19	27	0	195	78	194	164	0	436	2	16	40	0	58	50	175	14	0	239	928	0
17:00	54	13	11	0	78	19	45	40	0	104	3	6	9	0	18	11	58	6	0	75	275	0
17:15	48	13	8	0	69	25	57	45	0	127	0	5	9	0	14	17	63	6	0	86	296	0
17:30	41	12	9	0	62	17	57	39	0	113	0	7	14	0	21	16	53	8	0	77	273	0
17:45	45	7	6	0	58	15	53	32	0	100	0	2	8	0	10	20	46	9	0	75	243	0
Total	188	45	34	0	267	76	212	156	0	444	3	20	40	0	63	64	220	29	0	313	1087	0
Grand Total	670	86	149	0	905	189	774	571	0	1534	44	96	216	0	356	166	821	57	0	1044	3839	0
Apprch %	74.0%	9.5%	16.5%	0.0%		12.3%	50.5%	37.2%	0.0%		12.4%	27.0%	60.7%	0.0%		15.9%	78.6%	5.5%	0.0%			
Total %	17.5%	2.2%	3.9%	0.0%	23.6%	4.9%	20.2%	14.9%	0.0%	40.0%	1.1%	2.5%	5.6%	0.0%	9.3%	4.3%	21.4%	1.5%	0.0%	27.2%	100.0%	

AM PEAK HOUR	Duckhorn Dr Southbound					San Juan Rd Westbound					Duckhorn Dr Northbound					San Juan Rd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	48	2	16	0	66	9	57	35	0	101	10	16	20	0	46	7	56	0	0	63	276
7:30	68	1	18	0	87	5	70	70	0	145	8	14	24	0	46	15	82	0	0	97	375
7:45	69	4	11	0	84	6	88	52	0	146	7	10	17	0	34	5	77	4	0	86	350
8:00	50	6	8	0	64	3	41	28	0	72	0	5	13	0	18	4	71	5	0	80	234
Total Volume	235	13	53	0	301	23	256	185	0	464	25	45	74	0	144	31	286	9	0	326	1235
% App Total	78.1%	4.3%	17.6%	0.0%		5.0%	55.2%	39.9%	0.0%		17.4%	31.3%	51.4%	0.0%		9.5%	87.7%	2.8%	0.0%		
PHF	.851	.542	.736	.000	.865	.639	.727	.661	.000	.795	.625	.703	.771	.000	.783	.517	.872	.450	.000	.840	.823

PM PEAK HOUR	Duckhorn Dr Southbound					San Juan Rd Westbound					Duckhorn Dr Northbound					San Juan Rd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	60	8	6	0	74	26	61	42	0	129	1	3	10	0	14	9	43	5	0	57	274
17:00	54	13	11	0	78	19	45	40	0	104	3	6	9	0	18	11	58	6	0	75	275
17:15	48	13	8	0	69	25	57	45	0	127	0	5	9	0	14	17	63	6	0	86	296
17:30	41	12	9	0	62	17	57	39	0	113	0	7	14	0	21	16	53	8	0	77	273
Total Volume	203	46	34	0	283	87	220	166	0	473	4	21	42	0	67	53	217	25	0	295	1118
% App Total	71.7%	16.3%	12.0%	0.0%		18.4%	46.5%	35.1%	0.0%		6.0%	31.3%	62.7%	0.0%		18.0%	73.6%	8.5%	0.0%		
PHF	.846	.885	.773	.000	.907	.837	.902	.922	.000	.917	.333	.750	.750	.000	.798	.779	.861	.781	.000	.858	.944

VOLUME

Tynebourne St S/O Bonfair Ave

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					336	374	0	0	710		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	3	5			8
00:15	1	1			2	12:15	5	4			9
00:30	0	0			0	12:30	2	2			4
00:45	1	2	0	1	1	12:45	9	19	3	14	12
01:00	0	0			0	13:00	4	5			9
01:15	0	0			0	13:15	4	7			11
01:30	0	0			0	13:30	5	5			10
01:45	1	1	0		1	13:45	1	14	8	25	9
02:00	1	0			1	14:00	10	4			14
02:15	0	0			0	14:15	6	4			10
02:30	0	0			0	14:30	4	4			8
02:45	0	1	1	1	1	14:45	8	28	5	17	13
03:00	0	0			0	15:00	7	10			17
03:15	0	1			1	15:15	11	14			25
03:30	1	0			1	15:30	3	10			13
03:45	2	3	2	3	4	15:45	3	24	8	42	11
04:00	1	0			1	16:00	5	8			13
04:15	0	0			0	16:15	6	8			14
04:30	1	0			1	16:30	3	7			10
04:45	0	2	0		0	16:45	5	19	9	32	14
05:00	0	0			0	17:00	7	7			14
05:15	2	0			2	17:15	3	2			5
05:30	3	1			4	17:30	8	3			11
05:45	4	9	0	1	4	17:45	1	19	21	33	22
06:00	1	0			1	18:00	3	11			14
06:15	0	0			0	18:15	1	7			8
06:30	4	1			5	18:30	4	9			13
06:45	8	13	5	6	13	18:45	9	17	8	35	17
07:00	6	2			8	19:00	3	4			7
07:15	19	6			25	19:15	5	7			12
07:30	17	5			22	19:30	7	5			12
07:45	16	58	18	31	34	19:45	1	16	8	24	9
08:00	6	10			16	20:00	1	4			5
08:15	6	5			11	20:15	1	4			5
08:30	4	3			7	20:30	1	3			4
08:45	9	25	4	22	13	20:45	2	5	2	13	4
09:00	3	4			7	21:00	2	7			9
09:15	5	4			9	21:15	3	5			8
09:30	1	4			5	21:30	1	2			3
09:45	6	15	2	14	8	21:45	1	7	3	17	4
10:00	5	3			8	22:00	1	1			2
10:15	1	3			4	22:15	1	3			4
10:30	3	0			3	22:30	2	3			5
10:45	2	11	3	9	5	22:45	1	5	3	10	4
11:00	4	2			6	23:00	1	5			6
11:15	8	6			14	23:15	1	2			3
11:30	4	2			6	23:30	1	1			2
11:45	3	19	3	13	6	23:45	1	4	3	11	4
TOTALS	159	101			260	TOTALS	177	273			450
SPLIT %	61.2%	38.8%			36.6%	SPLIT %	39.3%	60.7%			63.4%

DAILY TOTALS					NB	SB	EB	WB	Total
					336	374	0	0	710

AM Peak Hour	07:00	07:15			07:15	PM Peak Hour	14:30	17:45			14:45
AM Pk Volume	58	39			97	PM Pk Volume	30	48			68
Pk Hr Factor	0.763	0.542			0.713	Pk Hr Factor	0.682	0.571			0.680
7 - 9 Volume	83	53	0	0	136	4 - 6 Volume	38	65	0	0	103
7 - 9 Peak Hour	07:00	07:15			07:15	4 - 6 Peak Hour	16:45	17:00			16:15
7 - 9 Pk Volume	58	39	0	0	97	4 - 6 Pk Volume	23	33	0	0	52
Pk Hr Factor	0.763	0.542	0.000	0.000	0.713	Pk Hr Factor	0.719	0.393	0.000	0.000	0.929

VOLUME

Gibraltar St S/O Bonfair Ave

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					226	196	0	0	422		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	2	1			3
00:15	0	0			0	12:15	2	2			4
00:30	1	0			1	12:30	4	4			8
00:45	0	1	0		0	12:45	1	9	1	8	2
01:00	0	1			1	13:00	4	4			8
01:15	0	0			0	13:15	2	1			3
01:30	0	0			0	13:30	3	2			5
01:45	0	0	1		0	13:45	2	11	4	11	6
02:00	0	1			1	14:00	3	7			10
02:15	0	0			0	14:15	6	2			8
02:30	0	0			0	14:30	2	3			5
02:45	0	0	1		0	14:45	8	19	1	13	9
03:00	0	0			0	15:00	4	2			6
03:15	1	0			1	15:15	2	3			5
03:30	1	0			1	15:30	6	2			8
03:45	0	2	0		0	15:45	4	16	6	13	10
04:00	0	0			0	16:00	5	4			9
04:15	0	0			0	16:15	1	7			8
04:30	0	1			1	16:30	2	2			4
04:45	0	1	2		1	16:45	3	11	3	16	6
05:00	0	0			0	17:00	2	1			3
05:15	0	1			1	17:15	3	1			4
05:30	0	0			0	17:30	3	2			5
05:45	1	1	0	1	1	17:45	7	15	2	6	9
06:00	0	0			0	18:00	2	3			5
06:15	2	0			2	18:15	8	8			16
06:30	0	0			0	18:30	5	1			6
06:45	2	4	1	1	3	18:45	5	20	3	15	8
07:00	8	8			16	19:00	1	3			4
07:15	6	4			10	19:15	1	7			8
07:30	11	2			13	19:30	3	4			7
07:45	15	40	6	20	21	19:45	2	7	3	17	5
08:00	7	7			14	20:00	3	2			5
08:15	1	5			6	20:15	3	1			4
08:30	4	3			7	20:30	2	2			4
08:45	4	16	3	18	7	20:45	2	10	2	7	4
09:00	3	5			8	21:00	2	1			3
09:15	0	3			3	21:15	2	2			4
09:30	4	3			7	21:30	2	1			3
09:45	6	13	1	12	7	21:45	1	7	2	6	3
10:00	3	1			4	22:00	2	4			6
10:15	1	1			2	22:15	2	2			4
10:30	2	2			4	22:30	1	1			2
10:45	0	6	1	5	1	22:45	1	6	1	8	2
11:00	1	2			3	23:00	1	1			2
11:15	3	2			5	23:15	1	1			2
11:30	2	5			7	23:30	1	1			2
11:45	3	9	3	12	6	23:45	0	3	0	3	0
TOTALS	92	73			165	TOTALS	134	123			257
SPLIT %	55.8%	44.2%			39.1%	SPLIT %	52.1%	47.9%			60.9%

DAILY TOTALS					NB	SB	EB	WB	Total
					226	196	0	0	422

AM Peak Hour	07:00	07:45			07:00	PM Peak Hour	17:45	15:30			17:45
AM Pk Volume	40	21			60	PM Pk Volume	22	19			36
Pk Hr Factor	0.667	0.750			0.714	Pk Hr Factor	0.688	0.679			0.563
7 - 9 Volume	56	38	0	0	94	4 - 6 Volume	26	22	0	0	48
7 - 9 Peak Hour	07:00	07:45			07:00	4 - 6 Peak Hour	17:00	16:00			16:00
7 - 9 Pk Volume	40	21	0	0	60	4 - 6 Pk Volume	15	16	0	0	27
Pk Hr Factor	0.667	0.750	0.000	0.000	0.714	Pk Hr Factor	0.536	0.571	0.000	0.000	0.750

VOLUME

Colchester Ave W/O Duckhorn Dr

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_003

DAILY TOTALS					NB	SB						Total		
					0	0						1,027		
							483			544				
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			1	2	3	12:00			7	5	12			
00:15			1	1	2	12:15			5	7	12			
00:30			2	3	5	12:30			14	10	24			
00:45			1	5	1	7	12:45		8	34	10	32	18	66
01:00			1	1	2	13:00			6	4	10			
01:15			0	1	1	13:15			4	4	8			
01:30			1	0	1	13:30			14	6	20			
01:45			0	2	0	2	13:45		10	34	6	20	16	54
02:00			0	0	0	14:00			5	13	18			
02:15			0	0	0	14:15			7	12	19			
02:30			0	1	1	14:30			7	7	14			
02:45			0	0	0	1	14:45		3	22	8	40	11	62
03:00			1	0	1	15:00			6	13	19			
03:15			0	0	0	15:15			6	6	12			
03:30			2	0	2	15:30			6	7	13			
03:45			0	3	0	3	15:45		5	23	16	42	21	65
04:00			0	0	0	16:00			5	11	16			
04:15			1	0	1	16:15			9	13	22			
04:30			2	1	3	16:30			9	11	20			
04:45			2	5	0	1	16:45		5	28	10	45	15	73
05:00			0	0	0	17:00			6	17	23			
05:15			2	0	2	17:15			5	10	15			
05:30			2	0	2	17:30			6	19	25			
05:45			3	7	2	2	17:45		6	23	14	60	20	83
06:00			6	0	6	18:00			7	14	21			
06:15			1	4	5	18:15			2	7	9			
06:30			6	1	7	18:30			9	10	19			
06:45			8	21	2	7	18:45		6	24	14	45	20	69
07:00			19	2	21	19:00			7	10	17			
07:15			20	4	24	19:15			10	8	18			
07:30			16	8	24	19:30			6	11	17			
07:45			12	67	7	21	19:45		5	28	10	39	15	67
08:00			12	5	17	20:00			5	11	16			
08:15			11	3	14	20:15			2	8	10			
08:30			11	3	14	20:30			5	13	18			
08:45			6	40	4	15	20:45		2	14	8	40	10	54
09:00			14	11	25	21:00			2	8	10			
09:15			9	2	11	21:15			4	5	9			
09:30			9	6	15	21:30			4	8	12			
09:45			10	42	8	27	21:45		3	13	6	27	9	40
10:00			6	4	10	22:00			3	4	7			
10:15			2	3	5	22:15			1	3	4			
10:30			5	8	13	22:30			2	4	6			
10:45			2	15	5	20	22:45		1	7	1	12	2	19
11:00			8	3	11	23:00			1	6	7			
11:15			2	13	15	23:15			1	1	2			
11:30			9	5	14	23:30			1	2	3			
11:45			3	22	8	29	23:45		1	4	1	10	2	14
TOTALS			229	132	361	TOTALS			254	412	666			
SPLIT %			63.4%	36.6%	35.2%	SPLIT %			38.1%	61.9%	64.8%			

DAILY TOTALS					NB	SB						Total
					0	0						1,027
							483			544		

AM Peak Hour			07:00	11:15	07:00	PM Peak Hour			13:30	17:00	17:00
AM Pk Volume			67	31	88	PM Pk Volume			36	60	83
Pk Hr Factor			0.838	0.596	0.917	Pk Hr Factor			0.643	0.789	0.830
7 - 9 Volume	0	0	107	36	143	4 - 6 Volume	0	0	51	105	156
7 - 9 Peak Hour			07:00	07:15	07:00	4 - 6 Peak Hour			16:15	17:00	17:00
7 - 9 Pk Volume	0	0	67	24	88	4 - 6 Pk Volume	0	0	29	60	83
Pk Hr Factor	0.000	0.000	0.838	0.750	0.917	Pk Hr Factor	0.000	0.000	0.806	0.789	0.830

VOLUME

Gibraltar St/White Eagle Ln Bet. Beretania Way & Windsong St

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_004

DAILY TOTALS					NB	SB	EB	WB	Total		
					329	301	0	0	630		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	1	1			2	12:00	0	6			6
00:15	0	0			0	12:15	5	2			7
00:30	0	1			1	12:30	2	3			5
00:45	0	1	1	3	1 4	12:45	4	11	1	12	5 23
01:00	1	2			3	13:00	4	1			5
01:15	0	0			0	13:15	2	6			8
01:30	0	2			2	13:30	7	8			15
01:45	0	1	0	4	0 5	13:45	7	20	7	22	14 42
02:00	0	0			0	14:00	4	6			10
02:15	0	0			0	14:15	7	7			14
02:30	0	0			0	14:30	6	4			10
02:45	0	0			0	14:45	4	21	11	28	15 49
03:00	0	0			0	15:00	7	7			14
03:15	0	0			0	15:15	4	6			10
03:30	0	0			0	15:30	2	3			5
03:45	1	1	0		1 1	15:45	6	19	6	22	12 41
04:00	0	0			0	16:00	5	4			9
04:15	2	0			2	16:15	6	4			10
04:30	0	0			0	16:30	2	6			8
04:45	0	2	1	1	1 3	16:45	7	20	9	23	16 43
05:00	2	0			2	17:00	2	10			12
05:15	1	0			1	17:15	2	10			12
05:30	3	0			3	17:30	10	8			18
05:45	1	7	1	1	2 8	17:45	2	16	7	35	9 51
06:00	10	2			12	18:00	11	8			19
06:15	3	0			3	18:15	9	7			16
06:30	4	1			5	18:30	4	3			7
06:45	5	22	2	5	7 27	18:45	4	28	5	23	9 51
07:00	8	2			10	19:00	3	4			7
07:15	18	3			21	19:15	2	4			6
07:30	11	5			16	19:30	3	3			6
07:45	10	47	4	14	14 61	19:45	3	11	3	14	6 25
08:00	9	6			15	20:00	1	7			8
08:15	8	3			11	20:15	3	5			8
08:30	8	1			9	20:30	0	3			3
08:45	11	36	2	12	13 48	20:45	2	6	5	20	7 26
09:00	3	0			3	21:00	2	7			9
09:15	5	2			7	21:15	3	4			7
09:30	3	0			3	21:30	1	3			4
09:45	7	18	2	4	9 22	21:45	1	7	2	16	3 23
10:00	4	1			5	22:00	1	3			4
10:15	4	2			6	22:15	0	2			2
10:30	4	5			9	22:30	3	3			6
10:45	4	16	4	12	8 28	22:45	0	4	3	11	3 15
11:00	5	2			7	23:00	0	1			1
11:15	4	3			7	23:15	0	0			0
11:30	2	3			5	23:30	1	2			3
11:45	3	14	6	14	9 28	23:45	0	1	2	5	2 6
TOTALS	165	70			235	TOTALS	164	231			395
SPLIT %	70.2%	29.8%			37.3%	SPLIT %	41.5%	58.5%			62.7%

DAILY TOTALS					NB	SB	EB	WB	Total
					329	301	0	0	630

AM Peak Hour	07:15	07:15			07:15	PM Peak Hour	17:30	16:45			17:30
AM Pk Volume	48	18			66	PM Pk Volume	32	37			62
Pk Hr Factor	0.667	0.750			0.786	Pk Hr Factor	0.727	0.925			0.816
7 - 9 Volume	83	26	0	0	109	4 - 6 Volume	36	58	0	0	94
7 - 9 Peak Hour	07:15	07:15			07:15	4 - 6 Peak Hour	16:45	16:45			16:45
7 - 9 Pk Volume	48	18	0	0	66	4 - 6 Pk Volume	21	37	0	0	58
Pk Hr Factor	0.667	0.750	0.000	0.000	0.786	Pk Hr Factor	0.525	0.925	0.000	0.000	0.806

VOLUME

Bearcloud Ave E/O El Centro Rd

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_005

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	250	276	526					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			1	0	1	12:00			3	2	5			
00:15			2	1	3	12:15			5	6	11			
00:30			0	1	1	12:30			2	1	3			
00:45			1	4	0	2	12:45		7	17	6	15	13	32
01:00			0	0	0	13:00			6	3	9			
01:15			0	0	0	13:15			2	3	5			
01:30			0	0	0	13:30			3	7	10			
01:45			1	1	1	1	13:45		0	11	4	17	4	28
02:00			0	0	0	14:00			5	6	11			
02:15			1	0	1	14:15			2	5	7			
02:30			2	1	3	14:30			4	7	11			
02:45			0	3	2	3	14:45		3	14	2	20	5	34
03:00			0	0	0	15:00			11	3	14			
03:15			0	0	0	15:15			4	1	5			
03:30			1	1	2	15:30			5	3	8			
03:45			0	1	0	1	15:45		7	27	5	12	12	39
04:00			0	0	0	16:00			3	4	7			
04:15			0	0	0	16:15			4	5	9			
04:30			1	1	2	16:30			3	4	7			
04:45			1	2	2	3	16:45		10	20	5	18	15	38
05:00			0	0	0	17:00			8	2	10			
05:15			0	1	1	17:15			9	9	18			
05:30			0	1	1	17:30			9	1	10			
05:45			0	1	1	3	17:45		6	32	8	20	14	52
06:00			1	1	2	18:00			2	7	9			
06:15			0	0	0	18:15			4	5	9			
06:30			0	3	3	18:30			4	2	6			
06:45			0	1	4	8	18:45		9	19	1	15	10	34
07:00			2	6	8	19:00			3	5	8			
07:15			1	12	13	19:15			5	2	7			
07:30			8	15	23	19:30			4	5	9			
07:45			4	15	8	41	19:45		5	17	2	14	7	31
08:00			6	7	13	20:00			5	4	9			
08:15			2	8	10	20:15			2	3	5			
08:30			5	7	12	20:30			4	0	4			
08:45			2	15	6	28	20:45		2	13	1	8	3	21
09:00			3	1	4	21:00			1	1	2			
09:15			2	3	5	21:15			1	2	3			
09:30			2	3	5	21:30			2	2	4			
09:45			1	8	2	9	21:45		2	6	2	7	4	13
10:00			1	6	7	22:00			3	1	4			
10:15			1	1	2	22:15			1	1	2			
10:30			2	2	4	22:30			2	2	4			
10:45			2	6	2	11	22:45		1	7	2	6	3	13
11:00			4	1	5	23:00			1	0	1			
11:15			0	1	1	23:15			0	1	1			
11:30			2	5	7	23:30			0	1	1			
11:45			2	8	5	12	23:45		2	3	0	2	2	5
TOTALS			64	122	186	TOTALS			186	154	340			
SPLIT %			34.4%	65.6%	35.4%	SPLIT %			54.7%	45.3%	64.6%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	250	276	526

AM Peak Hour			07:30	07:15	07:15	PM Peak Hour			16:45	17:15	16:45
AM Pk Volume			20	42	61	PM Pk Volume			36	25	53
Pk Hr Factor			0.625	0.700	0.663	Pk Hr Factor			0.900	0.694	0.736
7 - 9 Volume	0	0	30	69	99	4 - 6 Volume	0	0	52	38	90
7 - 9 Peak Hour			07:30	07:15	07:15	4 - 6 Peak Hour			16:45	16:30	16:45
7 - 9 Pk Volume	0	0	20	42	61	4 - 6 Pk Volume	0	0	36	20	53
Pk Hr Factor	0.000	0.000	0.625	0.700	0.663	Pk Hr Factor	0.000	0.000	0.900	0.556	0.736

VOLUME

Golden Light Ln W/O Duckhorn Dr

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_006

DAILY TOTALS					NB	SB						Total		
					0	0						961		
					449		512							
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			1	2	3	12:00			5	7	12			
00:15			1	1	2	12:15			4	3	7			
00:30			0	3	3	12:30			5	2	7			
00:45			0	2	1	7	12:45		3	17	5	17	8	34
01:00			0	1	1	13:00			1	4	5			
01:15			0	0	0	13:15			2	6	8			
01:30			1	1	2	13:30			7	7	14			
01:45			1	2	1	3	13:45		9	19	8	25	17	44
02:00			0	0	0	14:00			9	12	21			
02:15			1	2	3	14:15			9	9	18			
02:30			0	1	1	14:30			6	7	13			
02:45			0	1	0	3	14:45		6	30	9	37	15	67
03:00			1	2	3	15:00			6	18	24			
03:15			0	0	0	15:15			5	10	15			
03:30			0	0	0	15:30			7	11	18			
03:45			1	2	0	2	15:45		8	26	10	49	18	75
04:00			1	0	1	16:00			9	11	20			
04:15			1	1	2	16:15			3	11	14			
04:30			2	0	2	16:30			5	9	14			
04:45			0	4	2	3	16:45		9	26	11	42	20	68
05:00			2	0	2	17:00			4	12	16			
05:15			1	2	3	17:15			5	17	22			
05:30			6	1	7	17:30			10	13	23			
05:45			4	13	1	4	17:45		7	26	17	59	24	85
06:00			8	1	9	18:00			11	11	22			
06:15			5	1	6	18:15			7	12	19			
06:30			6	1	7	18:30			6	7	13			
06:45			8	27	3	6	18:45		9	33	10	40	19	73
07:00			8	2	10	19:00			3	16	19			
07:15			22	3	25	19:15			4	10	14			
07:30			17	6	23	19:30			3	9	12			
07:45			12	59	7	18	19:45		4	14	8	43	12	57
08:00			10	6	16	20:00			7	14	21			
08:15			6	3	9	20:15			5	9	14			
08:30			14	4	18	20:30			1	6	7			
08:45			12	42	3	16	20:45		3	16	8	37	11	53
09:00			7	3	10	21:00			5	12	17			
09:15			10	2	12	21:15			1	7	8			
09:30			6	2	8	21:30			5	5	10			
09:45			10	33	2	9	21:45		1	12	5	29	6	41
10:00			4	3	7	22:00			2	4	6			
10:15			8	2	10	22:15			3	2	5			
10:30			4	6	10	22:30			2	5	7			
10:45			5	21	8	19	22:45		1	8	7	18	8	26
11:00			6	3	9	23:00			2	3	5			
11:15			1	3	4	23:15			1	1	2			
11:30			4	7	11	23:30			1	2	3			
11:45			0	11	6	19	23:45		1	5	1	7	2	12
TOTALS			217		109	326	TOTALS		232		403	635		
SPLIT %			66.6%		33.4%	33.9%	SPLIT %		36.5%		63.5%	66.1%		

DAILY TOTALS					NB	SB						Total
					0	0						961
					449		512					

AM Peak Hour			07:15	11:15	07:15	PM Peak Hour			17:30	17:00	17:15
AM Pk Volume			61	23	83	PM Pk Volume			35	59	91
Pk Hr Factor			0.693	0.821	0.830	Pk Hr Factor			0.795	0.868	0.948
7 - 9 Volume	0	0	101	34	135	4 - 6 Volume	0	0	52	101	153
7 - 9 Peak Hour			07:15	07:15	07:15	4 - 6 Peak Hour			16:45	17:00	17:00
7 - 9 Pk Volume	0	0	61	22	83	4 - 6 Pk Volume	0	0	28	59	85
Pk Hr Factor	0.000	0.000	0.693	0.786	0.830	Pk Hr Factor	0.000	0.000	0.700	0.868	0.885

VOLUME

Goose Haven Ln W/O Duckhorn Dr

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_007

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	556	538	1,094					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			0	4	4	12:00			6	7	13			
00:15			1	1	2	12:15			7	9	16			
00:30			0	2	2	12:30			3	6	9			
00:45			0	1	1	12:45			7	23	7	29	14	52
01:00			0	1	1	13:00			7	4	11			
01:15			1	0	1	13:15			10	9	19			
01:30			0	3	3	13:30			5	11	16			
01:45			1	2	1	13:45			14	36	5	29	19	65
02:00			1	2	3	14:00			8	7	15			
02:15			0	0	0	14:15			14	9	23			
02:30			0	0	0	14:30			7	6	13			
02:45			0	1	1	14:45			12	41	6	28	18	69
03:00			0	1	1	15:00			9	8	17			
03:15			0	0	0	15:15			4	18	22			
03:30			1	0	1	15:30			9	13	22			
03:45			0	1	0	15:45			3	25	10	49	13	74
04:00			0	0	0	16:00			7	11	18			
04:15			1	1	2	16:15			7	17	24			
04:30			1	0	1	16:30			7	11	18			
04:45			1	3	0	16:45			13	34	18	57	31	91
05:00			2	1	3	17:00			12	17	29			
05:15			2	0	2	17:15			11	11	22			
05:30			2	2	4	17:30			10	18	28			
05:45			5	11	1	17:45			3	36	14	60	17	96
06:00			5	3	8	18:00			7	11	18			
06:15			9	2	11	18:15			8	12	20			
06:30			9	3	12	18:30			8	10	18			
06:45			10	33	2	18:45			4	27	5	38	9	65
07:00			11	6	17	19:00			8	14	22			
07:15			15	2	17	19:15			5	8	13			
07:30			29	5	34	19:30			4	7	11			
07:45			25	80	5	19:45			4	21	10	39	14	60
08:00			17	8	25	20:00			0	7	7			
08:15			11	7	18	20:15			2	10	12			
08:30			4	3	7	20:30			3	7	10			
08:45			9	41	5	20:45			3	8	7	31	10	39
09:00			12	4	16	21:00			0	3	3			
09:15			6	4	10	21:15			2	6	8			
09:30			5	2	7	21:30			4	4	8			
09:45			11	34	7	21:45			5	11	6	19	11	30
10:00			10	5	15	22:00			3	4	7			
10:15			6	7	13	22:15			3	4	7			
10:30			6	7	13	22:30			3	2	5			
10:45			13	35	10	22:45			0	9	1	11	1	20
11:00			11	5	16	23:00			1	1	2			
11:15			9	3	12	23:15			1	1	2			
11:30			10	4	14	23:30			2	6	8			
11:45			8	38	7	23:45			1	5	2	10	3	15
TOTALS			280	138	418	TOTALS			276	400	676			
SPLIT %			67.0%	33.0%	38.2%	SPLIT %			40.8%	59.2%	61.8%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	556	538	1,094

AM Peak Hour			07:15	10:00	07:30	PM Peak Hour			16:45	16:45	16:45
AM Pk Volume			86	29	107	PM Pk Volume			46	64	110
Pk Hr Factor			0.741	0.725	0.787	Pk Hr Factor			0.885	0.889	0.887
7 - 9 Volume	0	0	121	41	162	4 - 6 Volume	0	0	70	117	187
7 - 9 Peak Hour			07:15	07:30	07:30	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	86	25	107	4 - 6 Pk Volume	0	0	46	64	110
Pk Hr Factor	0.000	0.000	0.741	0.781	0.787	Pk Hr Factor	0.000	0.000	0.885	0.889	0.887

VOLUME

Arena Blvd Bet. El Centro Rd & Duckhorn Dr

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_008

DAILY TOTALS					NB	SB						Total		
					0	0						7,540		
							3,884			3,656				
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			2	4	6	12:00			60	40	100			
00:15			5	6	11	12:15			56	75	131			
00:30			2	3	5	12:30			60	42	102			
00:45			1	10	2	15	12:45		44	220	64	221	108	441
01:00			2	1	3	13:00			73	63	136			
01:15			1	1	2	13:15			50	52	102			
01:30			4	3	7	13:30			70	42	112			
01:45			3	10	1	6	13:45		69	262	45	202	114	464
02:00			1	2	3	14:00			56	74	130			
02:15			1	4	5	14:15			50	65	115			
02:30			1	1	2	14:30			60	63	123			
02:45			2	5	1	8	14:45		66	232	58	260	124	492
03:00			1	1	2	15:00			71	84	155			
03:15			2	1	3	15:15			91	62	153			
03:30			6	2	8	15:30			76	76	152			
03:45			2	11	3	7	15:45		67	305	68	290	135	595
04:00			1	1	2	16:00			87	78	165			
04:15			6	2	8	16:15			73	66	139			
04:30			6	2	8	16:30			75	73	148			
04:45			5	18	4	9	16:45		99	334	102	319	201	653
05:00			6	3	9	17:00			65	96	161			
05:15			15	7	22	17:15			89	92	181			
05:30			22	7	29	17:30			79	100	179			
05:45			18	61	4	21	17:45		54	287	96	384	150	671
06:00			25	13	38	18:00			74	84	158			
06:15			31	30	61	18:15			61	75	136			
06:30			36	27	63	18:30			50	73	123			
06:45			57	149	47	117	18:45		50	235	68	300	118	535
07:00			74	39	113	19:00			41	52	93			
07:15			99	64	163	19:15			30	54	84			
07:30			166	80	246	19:30			38	58	96			
07:45			127	466	97	280	19:45		22	131	58	222	80	353
08:00			123	48	171	20:00			26	41	67			
08:15			68	56	124	20:15			24	40	64			
08:30			72	49	121	20:30			25	32	57			
08:45			59	322	47	200	20:45		16	91	36	149	52	240
09:00			49	37	86	21:00			15	28	43			
09:15			57	18	75	21:15			20	40	60			
09:30			45	39	84	21:30			16	32	48			
09:45			61	212	36	130	21:45		14	65	21	121	35	186
10:00			47	33	80	22:00			11	16	27			
10:15			53	34	87	22:15			7	16	23			
10:30			30	26	56	22:30			9	6	15			
10:45			52	182	33	126	22:45		15	42	12	50	27	92
11:00			52	38	90	23:00			4	16	20			
11:15			48	47	95	23:15			10	13	23			
11:30			61	48	109	23:30			7	8	15			
11:45			48	209	43	176	23:45		4	25	6	43	10	68
TOTALS			1655	1095	2750	TOTALS			2229	2561	4790			
SPLIT %			60.2%	39.8%	36.5%	SPLIT %			46.5%	53.5%	63.5%			

DAILY TOTALS					NB	SB						Total
					0	0						7,540
							3,884			3,656		

AM Peak Hour			07:15	07:15	07:15	PM Peak Hour			16:00	16:45	16:45
AM Pk Volume			515	289	804	PM Pk Volume			334	390	722
Pk Hr Factor			0.776	0.745	0.817	Pk Hr Factor			0.843	0.956	0.898
7 - 9 Volume	0	0	788	480	1268	4 - 6 Volume	0	0	621	703	1324
7 - 9 Peak Hour			07:15	07:15	07:15	4 - 6 Peak Hour			16:00	16:45	16:45
7 - 9 Pk Volume	0	0	515	289	804	4 - 6 Pk Volume	0	0	334	390	722
Pk Hr Factor	0.000	0.000	0.776	0.745	0.817	Pk Hr Factor	0.000	0.000	0.843	0.956	0.898

VOLUME

Arena Blvd Bet. Duckhorn Dr & I-5

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_009

DAILY TOTALS					NB	SB	EB		WB	Total				
					0	0	12,400	11,981	24,381					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			15	31	46	12:00			162	214	376			
00:15			19	32	51	12:15			213	155	368			
00:30			8	17	25	12:30			207	159	366			
00:45			8	50	16	96	12:45		167	749	164	692	331	1441
01:00			8	15	23	13:00			175	185	360			
01:15			6	9	15	13:15			168	194	362			
01:30			3	19	22	13:30			171	192	363			
01:45			7	24	6	49	13:45		177	691	164	735	341	1426
02:00			8	8	16	14:00			202	163	365			
02:15			6	7	13	14:15			186	185	371			
02:30			7	3	10	14:30			192	158	350			
02:45			3	24	6	24	14:45		199	779	198	704	397	1483
03:00			9	8	17	15:00			208	235	443			
03:15			7	7	14	15:15			222	260	482			
03:30			29	6	35	15:30			182	198	380			
03:45			10	55	6	27	15:45		173	785	224	917	397	1702
04:00			15	6	21	16:00			212	253	465			
04:15			32	10	42	16:15			187	246	433			
04:30			48	12	60	16:30			238	235	473			
04:45			37	132	23	51	16:45		305	942	300	1034	605	1976
05:00			34	10	44	17:00			232	293	525			
05:15			55	29	84	17:15			205	306	511			
05:30			77	40	117	17:30			195	313	508			
05:45			80	246	60	139	17:45		173	805	254	1166	427	1971
06:00			102	103	205	18:00			162	249	411			
06:15			126	130	256	18:15			151	233	384			
06:30			152	163	315	18:30			168	221	389			
06:45			203	583	234	630	18:45		174	655	212	915	386	1570
07:00			254	133	387	19:00			163	190	353			
07:15			312	136	448	19:15			136	189	325			
07:30			429	173	602	19:30			128	151	279			
07:45			418	1413	158	600	19:45		123	550	143	673	266	1223
08:00			324	179	503	20:00			95	151	246			
08:15			232	179	411	20:15			84	144	228			
08:30			197	133	330	20:30			105	137	242			
08:45			173	926	119	610	20:45		78	362	119	551	197	913
09:00			201	120	321	21:00			56	97	153			
09:15			175	108	283	21:15			75	98	173			
09:30			150	115	265	21:30			55	94	149			
09:45			173	699	108	451	21:45		42	228	87	376	129	604
10:00			170	106	276	22:00			41	73	114			
10:15			165	112	277	22:15			39	57	96			
10:30			116	123	239	22:30			32	57	89			
10:45			157	608	118	459	22:45		17	129	46	233	63	362
11:00			165	124	289	23:00			22	52	74			
11:15			215	150	365	23:15			26	49	75			
11:30			316	199	515	23:30			22	30	52			
11:45			185	881	212	685	23:45		14	84	33	164	47	248
TOTALS			5641	3821	9462	TOTALS			6759	8160	14919			
SPLIT %			59.6%	40.4%	38.8%	SPLIT %			45.3%	54.7%	61.2%			

DAILY TOTALS					NB	SB	EB		WB	Total
					0	0	12,400	11,981	24,381	

AM Peak Hour	07:15	11:30	07:15	PM Peak Hour	16:30	16:45	16:45				
AM Pk Volume	1483	780	2129	PM Pk Volume	980	1212	2149				
Pk Hr Factor	0.864	0.911	0.884	Pk Hr Factor	0.803	0.968	0.888				
7 - 9 Volume	0	0	2339	1210	3549	4 - 6 Volume	0	0	1747	2200	3947
7 - 9 Peak Hour	07:15	07:30	07:15	4 - 6 Peak Hour	16:30	16:45	16:45				
7 - 9 Pk Volume	1483	689	2129	4 - 6 Pk Volume	980	1212	2149				
Pk Hr Factor	0.000	0.000	0.864	0.962	0.884	Pk Hr Factor	0.000	0.000	0.803	0.968	0.888

VOLUME

Arena Blvd Bet. I-5 & E Commerce Way

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_010

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	13,330	10,916	24,246					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			16	19	35	12:00			195	182	377			
00:15			11	16	27	12:15			215	152	367			
00:30			14	12	26	12:30			226	213	439			
00:45			10	51	9	56	12:45		182	818	184	731	366	1549
01:00			13	8	21	13:00			185	214	399			
01:15			8	5	13	13:15			197	183	380			
01:30			9	9	18	13:30			173	179	352			
01:45			10	40	8	30	13:45		215	770	140	716	355	1486
02:00			7	2	9	14:00			204	165	369			
02:15			7	6	13	14:15			200	161	361			
02:30			3	4	7	14:30			187	188	375			
02:45			8	25	7	19	14:45		271	862	166	680	437	1542
03:00			11	6	17	15:00			211	266	477			
03:15			5	6	11	15:15			227	236	463			
03:30			7	10	17	15:30			216	224	440			
03:45			19	42	10	32	15:45		225	879	207	933	432	1812
04:00			6	7	13	16:00			264	222	486			
04:15			25	11	36	16:15			252	222	474			
04:30			25	17	42	16:30			286	246	532			
04:45			61	117	24	59	16:45		330	1132	203	893	533	2025
05:00			33	21	54	17:00			422	274	696			
05:15			29	22	51	17:15			451	234	685			
05:30			42	43	85	17:30			439	201	640			
05:45			79	183	33	119	17:45		300	1612	165	874	465	2486
06:00			76	78	154	18:00			262	184	446			
06:15			94	74	168	18:15			235	166	401			
06:30			151	107	258	18:30			186	173	359			
06:45			188	509	136	395	18:45		179	862	155	678	334	1540
07:00			188	182	370	19:00			162	141	303			
07:15			217	202	419	19:15			157	148	305			
07:30			300	267	567	19:30			120	129	249			
07:45			375	1080	226	877	19:45		117	556	99	517	216	1073
08:00			299	237	536	20:00			89	127	216			
08:15			250	285	535	20:15			108	105	213			
08:30			185	190	375	20:30			92	117	209			
08:45			187	921	148	860	20:45		92	381	93	442	185	823
09:00			196	152	348	21:00			64	74	138			
09:15			179	115	294	21:15			74	70	144			
09:30			147	133	280	21:30			60	67	127			
09:45			156	678	117	517	21:45		44	242	57	268	101	510
10:00			177	101	278	22:00			53	51	104			
10:15			139	117	256	22:15			48	49	97			
10:30			135	115	250	22:30			41	36	77			
10:45			166	617	98	431	22:45		36	178	30	166	66	344
11:00			167	118	285	23:00			24	28	52			
11:15			137	118	255	23:15			26	22	48			
11:30			177	151	328	23:30			26	19	45			
11:45			194	675	141	528	23:45		24	100	26	95	50	195
TOTALS			4938	3923	8861	TOTALS			8392	6993	15385			
SPLIT %			55.7%	44.3%	36.5%	SPLIT %			54.5%	45.5%	63.5%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	13,330	10,916	24,246

AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			16:45	16:30	16:45
AM Pk Volume			1224	1015	2239	PM Pk Volume			1642	957	2554
Pk Hr Factor			0.816	0.890	0.931	Pk Hr Factor			0.910	0.873	0.917
7 - 9 Volume	0	0	2001	1737	3738	4 - 6 Volume	0	0	2744	1767	4511
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			16:45	16:30	16:45
7 - 9 Pk Volume	0	0	1224	1015	2239	4 - 6 Pk Volume	0	0	1642	957	2554
Pk Hr Factor	0.000	0.000	0.816	0.890	0.931	Pk Hr Factor	0.000	0.000	0.910	0.873	0.917

VOLUME

Arena Blvd Bet. E Commerce Way & Truxel Rd

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_011

DAILY TOTALS					NB	SB						Total		
					0	0						20,254		
							10,947			9,307				
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			17	13	30	12:00			166	149	315			
00:15			7	10	17	12:15			191	154	345			
00:30			8	7	15	12:30			192	178	370			
00:45			9	41	3	33	12:45		154	703	143	624	297	1327
01:00			11	2	13	13:00			180	168	348			
01:15			5	1	6	13:15			157	150	307			
01:30			8	7	15	13:30			135	160	295			
01:45			6	30	4	14	13:45		178	650	176	654	354	1304
02:00			8	2	10	14:00			172	205	377			
02:15			3	4	7	14:15			174	154	328			
02:30			6	4	10	14:30			148	181	329			
02:45			6	23	4	14	14:45		194	688	189	729	383	1417
03:00			9	3	12	15:00			191	226	417			
03:15			8	11	19	15:15			186	195	381			
03:30			10	7	17	15:30			187	219	406			
03:45			16	43	7	28	15:45		184	748	192	832	376	1580
04:00			6	3	9	16:00			230	229	459			
04:15			24	6	30	16:15			203	197	400			
04:30			24	12	36	16:30			249	245	494			
04:45			51	105	15	36	16:45		264	946	229	900	493	1846
05:00			40	16	56	17:00			304	244	548			
05:15			29	18	47	17:15			349	203	552			
05:30			44	34	78	17:30			306	186	492			
05:45			66	179	28	96	17:45		238	1197	167	800	405	1997
06:00			55	59	114	18:00			213	179	392			
06:15			67	49	116	18:15			201	177	378			
06:30			117	81	198	18:30			149	161	310			
06:45			135	374	86	275	18:45		168	731	148	665	316	1396
07:00			146	111	257	19:00			137	133	270			
07:15			165	106	271	19:15			137	146	283			
07:30			229	131	360	19:30			106	126	232			
07:45			271	811	133	481	19:45		93	473	122	527	215	1000
08:00			249	151	400	20:00			83	109	192			
08:15			214	145	359	20:15			78	98	176			
08:30			163	120	283	20:30			78	105	183			
08:45			189	815	126	542	20:45		74	313	84	396	158	709
09:00			162	113	275	21:00			58	66	124			
09:15			148	100	248	21:15			54	63	117			
09:30			136	106	242	21:30			39	43	82			
09:45			120	566	95	414	21:45		34	185	47	219	81	404
10:00			155	86	241	22:00			33	53	86			
10:15			120	97	217	22:15			30	49	79			
10:30			137	87	224	22:30			29	25	54			
10:45			135	547	82	352	22:45		22	114	10	137	32	251
11:00			146	93	239	23:00			23	23	46			
11:15			117	116	233	23:15			14	20	34			
11:30			162	137	299	23:30			15	12	27			
11:45			172	597	120	466	23:45		16	68	18	73	34	141
TOTALS			4131	2751	6882	TOTALS			6816	6556	13372			
SPLIT %			60.0%	40.0%	34.0%	SPLIT %			51.0%	49.0%	66.0%			

DAILY TOTALS					NB	SB						Total
					0	0						20,254
							10,947			9,307		

AM Peak Hour			07:30	11:45	07:30	PM Peak Hour			16:45	16:30	16:30
AM Pk Volume			963	601	1523	PM Pk Volume			1223	921	2087
Pk Hr Factor			0.888	0.844	0.942	Pk Hr Factor			0.876	0.940	0.945
7 - 9 Volume	0	0	1626	1023	2649	4 - 6 Volume	0	0	2143	1700	3843
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			16:45	16:30	16:30
7 - 9 Pk Volume	0	0	963	560	1523	4 - 6 Pk Volume	0	0	1223	921	2087
Pk Hr Factor	0.000	0.000	0.888	0.927	0.942	Pk Hr Factor	0.000	0.000	0.876	0.940	0.945

VOLUME

Natomas Crossing Dr W/O Truxel Rd

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_012

DAILY TOTALS					NB	SB					Total			
					0	0	6,784	WB		5,243	12,027			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			4	4	8	12:00			86	85	171			
00:15			6	5	11	12:15			141	107	248			
00:30			4	6	10	12:30			129	97	226			
00:45			6	20	4	12:45			112	468	61	350	173	818
01:00			2	4	6	13:00			118	85	203			
01:15			2	1	3	13:15			120	66	186			
01:30			3	3	6	13:30			104	73	177			
01:45			1	8	4	12	13:45		87	429	68	292	155	721
02:00			3	3	6	14:00			97	79	176			
02:15			2	2	4	14:15			83	73	156			
02:30			3	2	5	14:30			79	78	157			
02:45			1	9	2	9	14:45		92	351	93	323	185	674
03:00			2	0	2	15:00			98	84	182			
03:15			5	0	5	15:15			96	88	184			
03:30			4	1	5	15:30			98	105	203			
03:45			4	15	1	2	15:45		105	397	98	375	203	772
04:00			3	7	10	16:00			87	112	199			
04:15			3	20	23	16:15			92	113	205			
04:30			10	20	30	16:30			94	95	189			
04:45			9	25	24	71	16:45		108	381	122	442	230	823
05:00			18	21	39	17:00			94	142	236			
05:15			27	17	44	17:15			99	122	221			
05:30			43	23	66	17:30			102	100	202			
05:45			41	129	39	100	17:45		86	381	132	496	218	877
06:00			59	24	83	18:00			96	124	220			
06:15			60	23	83	18:15			112	107	219			
06:30			81	29	110	18:30			129	106	235			
06:45			129	329	40	116	18:45		81	418	97	434	178	852
07:00			112	47	159	19:00			135	93	228			
07:15			137	35	172	19:15			108	97	205			
07:30			120	62	182	19:30			158	71	229			
07:45			114	483	65	209	19:45		97	498	76	337	173	835
08:00			96	83	179	20:00			106	70	176			
08:15			84	76	160	20:15			89	71	160			
08:30			88	61	149	20:30			129	56	185			
08:45			97	365	73	293	20:45		76	400	51	248	127	648
09:00			72	83	155	21:00			97	44	141			
09:15			75	60	135	21:15			73	48	121			
09:30			99	58	157	21:30			63	32	95			
09:45			91	337	57	258	21:45		64	297	39	163	103	460
10:00			90	70	160	22:00			45	40	85			
10:15			90	48	138	22:15			53	31	84			
10:30			65	69	134	22:30			53	20	73			
10:45			90	335	51	238	22:45		37	188	16	107	53	295
11:00			105	82	187	23:00			34	20	54			
11:15			109	61	170	23:15			22	12	34			
11:30			117	71	188	23:30			34	9	43			
11:45			80	411	84	298	23:45		20	110	10	51	30	161
TOTALS			2466	1625	4091	TOTALS			4318	3618	7936			
SPLIT %			60.3%	39.7%	34.0%	SPLIT %			54.4%	45.6%	66.0%			

DAILY TOTALS					NB	SB					Total
					0	0	6,784	WB		5,243	12,027

AM Peak Hour			06:45	11:45	11:45	PM Peak Hour			12:15	17:00	17:45
AM Pk Volume			498	373	809	PM Pk Volume			500	496	892
Pk Hr Factor			0.909	0.871	0.816	Pk Hr Factor			0.887	0.873	0.949
7 - 9 Volume	0	0	848	502	1350	4 - 6 Volume	0	0	762	938	1700
7 - 9 Peak Hour			07:00	08:00	07:15	4 - 6 Peak Hour			16:45	17:00	16:45
7 - 9 Pk Volume	0	0	483	293	712	4 - 6 Pk Volume	0	0	403	496	889
Pk Hr Factor	0.000	0.000	0.881	0.883	0.978	Pk Hr Factor	0.000	0.000	0.933	0.873	0.942

VOLUME

San Juan Rd E/O Duckhorn Dr

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_013

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	4,533	4,675	9,208					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			11	9	20	12:00			46	93	139			
00:15			1	17	18	12:15			38	55	93			
00:30			9	8	17	12:30			55	50	105			
00:45			4	25	4	38	12:45		65	204	67	265	132	469
01:00			3	9	12	13:00			63	62	125			
01:15			4	6	10	13:15			49	52	101			
01:30			2	6	8	13:30			53	64	117			
01:45			2	11	4	25	13:45		71	236	66	244	137	480
02:00			2	4	6	14:00			89	74	163			
02:15			1	5	6	14:15			59	73	132			
02:30			1	5	6	14:30			81	73	154			
02:45			5	9	5	19	14:45		68	297	135	355	203	652
03:00			1	3	4	15:00			69	99	168			
03:15			2	1	3	15:15			83	80	163			
03:30			2	4	6	15:30			101	82	183			
03:45			4	9	4	12	15:45		76	329	87	348	163	677
04:00			3	5	8	16:00			81	84	165			
04:15			6	6	12	16:15			100	92	192			
04:30			6	6	12	16:30			89	105	194			
04:45			9	24	4	21	16:45		134	404	120	401	254	805
05:00			16	6	22	17:00			98	113	211			
05:15			7	12	19	17:15			109	122	231			
05:30			19	7	26	17:30			104	114	218			
05:45			19	61	16	41	17:45		74	385	113	462	187	847
06:00			22	17	39	18:00			81	112	193			
06:15			24	29	53	18:15			101	101	202			
06:30			53	32	85	18:30			69	91	160			
06:45			64	163	56	134	18:45		50	301	82	386	132	687
07:00			79	60	139	19:00			55	54	109			
07:15			122	79	201	19:15			41	63	104			
07:30			176	143	319	19:30			41	60	101			
07:45			158	535	146	428	19:45		52	189	67	244	119	433
08:00			145	62	207	20:00			45	70	115			
08:15			91	51	142	20:15			37	57	94			
08:30			68	48	116	20:30			30	50	80			
08:45			60	364	42	203	20:45		47	159	47	224	94	383
09:00			47	37	84	21:00			28	51	79			
09:15			61	41	102	21:15			26	46	72			
09:30			55	35	90	21:30			28	44	72			
09:45			58	221	43	156	21:45		29	111	36	177	65	288
10:00			38	32	70	22:00			17	34	51			
10:15			32	29	61	22:15			13	27	40			
10:30			55	41	96	22:30			16	26	42			
10:45			56	181	39	141	22:45		13	59	28	115	41	174
11:00			44	43	87	23:00			11	10	21			
11:15			63	46	109	23:15			15	15	30			
11:30			52	33	85	23:30			8	17	25			
11:45			53	212	60	182	23:45		10	44	12	54	22	98
TOTALS			1815	1400	3215	TOTALS			2718	3275	5993			
SPLIT %			56.5%	43.5%	34.9%	SPLIT %			45.4%	54.6%	65.1%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	4,533	4,675	9,208

AM Peak Hour			07:15	07:15	07:15	PM Peak Hour			16:45	16:45	16:45
AM Pk Volume			601	430	1031	PM Pk Volume			445	469	914
Pk Hr Factor			0.854	0.736	0.808	Pk Hr Factor			0.830	0.961	0.900
7 - 9 Volume	0	0	899	631	1530	4 - 6 Volume	0	0	789	863	1652
7 - 9 Peak Hour			07:15	07:15	07:15	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	601	430	1031	4 - 6 Pk Volume	0	0	445	469	914
Pk Hr Factor	0.000	0.000	0.854	0.736	0.808	Pk Hr Factor	0.000	0.000	0.830	0.961	0.900

VOLUME

San Juan Rd W/O Truxel Rd

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_014

DAILY TOTALS					NB	SB						Total		
					0	0						17,381		
							8,775			8,606				
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			22	34	56	12:00			87	119	206			
00:15			8	36	44	12:15			108	101	209			
00:30			14	20	34	12:30			95	108	203			
00:45			11	55	13	103	12:45		100	390	123	451	223	841
01:00			6	23	29	13:00			121	109	230			
01:15			9	15	24	13:15			125	120	245			
01:30			9	18	27	13:30			92	104	196			
01:45			8	32	10	66	13:45		141	479	131	464	272	943
02:00			11	13	24	14:00			147	124	271			
02:15			3	12	15	14:15			133	122	255			
02:30			2	10	12	14:30			160	159	319			
02:45			9	25	12	47	14:45		170	610	153	558	323	1168
03:00			12	9	21	15:00			126	216	342			
03:15			7	7	14	15:15			171	146	317			
03:30			13	6	19	15:30			159	189	348			
03:45			12	44	9	31	15:45		144	600	155	706	299	1306
04:00			11	11	22	16:00			139	158	297			
04:15			24	8	32	16:15			159	188	347			
04:30			25	16	41	16:30			149	182	331			
04:45			26	86	13	48	16:45		207	654	186	714	393	1368
05:00			30	10	40	17:00			205	207	412			
05:15			33	10	43	17:15			181	198	379			
05:30			66	24	90	17:30			174	195	369			
05:45			60	189	27	71	17:45		155	715	207	807	362	1522
06:00			55	22	77	18:00			163	197	360			
06:15			81	30	111	18:15			169	190	359			
06:30			93	50	143	18:30			162	198	360			
06:45			145	374	58	160	18:45		123	617	154	739	277	1356
07:00			132	64	196	19:00			117	147	264			
07:15			196	89	285	19:15			120	150	270			
07:30			233	145	378	19:30			86	129	215			
07:45			245	806	136	434	19:45		112	435	143	569	255	1004
08:00			193	102	295	20:00			96	133	229			
08:15			168	98	266	20:15			99	142	241			
08:30			110	83	193	20:30			60	128	188			
08:45			128	599	76	359	20:45		65	320	121	524	186	844
09:00			99	68	167	21:00			69	102	171			
09:15			94	66	160	21:15			67	124	191			
09:30			111	56	167	21:30			54	95	149			
09:45			127	431	68	258	21:45		55	245	86	407	141	652
10:00			93	74	167	22:00			57	99	156			
10:15			79	60	139	22:15			39	63	102			
10:30			97	74	171	22:30			41	64	105			
10:45			108	377	70	278	22:45		22	159	61	287	83	446
11:00			95	90	185	23:00			28	41	69			
11:15			119	80	199	23:15			26	39	65			
11:30			85	94	179	23:30			23	58	81			
11:45			140	439	93	357	23:45		17	94	30	168	47	262
TOTALS			3457	2212	5669	TOTALS			5318	6394	11712			
SPLIT %			61.0%	39.0%	32.6%	SPLIT %			45.4%	54.6%	67.4%			

DAILY TOTALS					NB	SB						Total
					0	0						17,381
							8,775			8,606		

AM Peak Hour			07:15	07:30	07:15	PM Peak Hour			16:45	17:00	16:45
AM Pk Volume			867	481	1339	PM Pk Volume			767	807	1553
Pk Hr Factor			0.885	0.829	0.879	Pk Hr Factor			0.926	0.975	0.942
7 - 9 Volume	0	0	1405	793	2198	4 - 6 Volume	0	0	1369	1521	2890
7 - 9 Peak Hour			07:15	07:30	07:15	4 - 6 Peak Hour			16:45	17:00	16:45
7 - 9 Pk Volume	0	0	867	481	1339	4 - 6 Pk Volume	0	0	767	807	1553
Pk Hr Factor	0.000	0.000	0.885	0.829	0.879	Pk Hr Factor	0.000	0.000	0.926	0.975	0.942

VOLUME

El Centro Rd S/O Arena Blvd

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_015

DAILY TOTALS					NB	SB						Total
					3,812	3,299						7,111
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00	4	7			11	12:00	50	42			92	
00:15	6	2			8	12:15	48	51			99	
00:30	3	2			5	12:30	52	25			77	
00:45	5	18	2	13	7	12:45	55	205	53	171	108	
01:00	4	1			5	13:00	62	75			137	
01:15	4	2			6	13:15	50	48			98	
01:30	3	1			4	13:30	59	35			94	
01:45	3	14	1	5	4	13:45	58	229	44	202	102	
02:00	2	1			3	14:00	59	43			102	
02:15	0	2			2	14:15	50	42			92	
02:30	5	1			6	14:30	71	46			117	
02:45	3	10	2	6	5	14:45	103	283	54	185	157	
03:00	1	1			2	15:00	81	77			158	
03:15	2	1			3	15:15	67	89			156	
03:30	5	1			6	15:30	69	91			160	
03:45	4	12	3	6	7	15:45	88	305	61	318	149	
04:00	3	3			6	16:00	97	70			167	
04:15	1	4			5	16:15	92	69			161	
04:30	1	4			5	16:30	109	56			165	
04:45	6	11	8	19	14	16:45	134	432	58	253	192	
05:00	4	6			10	17:00	140	59			199	
05:15	2	6			8	17:15	147	58			205	
05:30	6	9			15	17:30	122	60			182	
05:45	9	21	10	31	19	17:45	105	514	56	233	161	
06:00	11	21			32	18:00	83	54			137	
06:15	15	24			39	18:15	62	48			110	
06:30	12	31			43	18:30	62	38			100	
06:45	30	68	51	127	81	18:45	42	249	41	181	83	
07:00	41	68			109	19:00	54	35			89	
07:15	71	139			210	19:15	42	22			64	
07:30	125	144			269	19:30	36	23			59	
07:45	138	375	148	499	286	19:45	36	168	36	116	72	
08:00	80	146			226	20:00	34	18			52	
08:15	48	94			142	20:15	24	18			42	
08:30	39	67			106	20:30	23	23			46	
08:45	30	197	62	369	92	20:45	24	105	14	73	38	
09:00	36	45			81	21:00	27	14			41	
09:15	37	33			70	21:15	26	13			39	
09:30	46	28			74	21:30	21	15			36	
09:45	40	159	40	146	80	21:45	12	86	9	51	21	
10:00	20	28			48	22:00	19	12			31	
10:15	25	29			54	22:15	10	13			23	
10:30	31	23			54	22:30	8	11			19	
10:45	31	107	30	110	61	22:45	14	51	7	43	21	
11:00	41	22			63	23:00	9	5			14	
11:15	32	34			66	23:15	6	7			13	
11:30	46	36			82	23:30	3	3			6	
11:45	50	169	33	125	83	23:45	6	24	2	17	8	
TOTALS	1161	1456			2617	TOTALS	2651	1843			4494	
SPLIT %	44.4%	55.6%			36.8%	SPLIT %	59.0%	41.0%			63.2%	

DAILY TOTALS					NB	SB						Total
					3,812	3,299						7,111

AM Peak Hour	07:15	07:15			07:15	PM Peak Hour	16:45	15:00			16:45
AM Pk Volume	414	577			991	PM Pk Volume	543	318			778
Pk Hr Factor	0.750	0.975			0.866	Pk Hr Factor	0.923	0.874			0.949
7 - 9 Volume	572	868	0	0	1440	4 - 6 Volume	946	486	0	0	1432
7 - 9 Peak Hour	07:15	07:15			07:15	4 - 6 Peak Hour	16:45	16:00			16:45
7 - 9 Pk Volume	414	577	0	0	991	4 - 6 Pk Volume	543	253	0	0	778
Pk Hr Factor	0.750	0.975	0.000	0.000	0.866	Pk Hr Factor	0.923	0.904	0.000	0.000	0.949

VOLUME

El Centro Rd N/O San Juan Rd

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_016

DAILY TOTALS					NB	SB	EB	WB	Total		
					3,678	3,946	0	0	7,624		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	5	8			13	12:00	58	53			111
00:15	8	1			9	12:15	39	65			104
00:30	3	4			7	12:30	52	43			95
00:45	6	22	1	14	7	12:45	57	206	70	231	127
01:00	4	1			5	13:00	57	86			143
01:15	5	4			9	13:15	45	80			125
01:30	3	1			4	13:30	56	55			111
01:45	3	15	1	7	4	13:45	53	211	53	274	106
02:00	2	1			3	14:00	65	60			125
02:15	2	3			5	14:15	53	65			118
02:30	2	2			4	14:30	62	59			121
02:45	3	9	2	8	5	14:45	106	286	85	269	191
03:00	1	3			4	15:00	70	82			152
03:15	4	1			5	15:15	70	98			168
03:30	4	3			7	15:30	67	119			186
03:45	4	13	3	10	7	15:45	90	297	81	380	171
04:00	3	3			6	16:00	86	83			169
04:15	2	3			5	16:15	89	74			163
04:30	1	6			7	16:30	103	58			161
04:45	8	14	15	27	23	16:45	135	413	65	280	200
05:00	3	8			11	17:00	136	70			206
05:15	3	9			12	17:15	137	64			201
05:30	4	11			15	17:30	126	66			192
05:45	4	14	11	39	15	17:45	101	500	56	256	157
06:00	9	26			35	18:00	74	64			138
06:15	16	26			42	18:15	66	46			112
06:30	19	50			69	18:30	65	50			115
06:45	25	69	61	163	86	18:45	48	253	51	211	99
07:00	38	89			127	19:00	51	44			95
07:15	59	157			216	19:15	45	26			71
07:30	92	119			211	19:30	41	21			62
07:45	124	313	165	530	289	19:45	39	176	33	124	72
08:00	79	174			253	20:00	41	26			67
08:15	38	116			154	20:15	25	15			40
08:30	33	75			108	20:30	21	23			44
08:45	34	184	70	435	104	20:45	24	111	21	85	45
09:00	40	53			93	21:00	30	18			48
09:15	31	43			74	21:15	25	13			38
09:30	35	38			73	21:30	27	12			39
09:45	33	139	42	176	75	21:45	13	95	9	52	22
10:00	15	45			60	22:00	20	11			31
10:15	25	34			59	22:15	11	12			23
10:30	30	29			59	22:30	7	10			17
10:45	32	102	33	141	65	22:45	15	53	8	41	23
11:00	40	31			71	23:00	8	5			13
11:15	33	41			74	23:15	6	9			15
11:30	40	57			97	23:30	5	1			6
11:45	44	157	47	176	91	23:45	7	26	2	17	9
TOTALS	1051	1726			2777	TOTALS	2627	2220			4847
SPLIT %	37.8%	62.2%			36.4%	SPLIT %	54.2%	45.8%			63.6%

DAILY TOTALS					NB	SB	EB	WB	Total
					3,678	3,946	0	0	7,624

AM Peak Hour	07:15	07:15			07:15	PM Peak Hour	16:45	14:45			16:45
AM Pk Volume	354	615			969	PM Pk Volume	534	384			799
Pk Hr Factor	0.714	0.884			0.838	Pk Hr Factor	0.974	0.807			0.970
7 - 9 Volume	497	965	0	0	1462	4 - 6 Volume	913	536	0	0	1449
7 - 9 Peak Hour	07:15	07:15			07:15	4 - 6 Peak Hour	16:45	16:00			16:45
7 - 9 Pk Volume	354	615	0	0	969	4 - 6 Pk Volume	534	280	0	0	799
Pk Hr Factor	0.714	0.884	0.000	0.000	0.838	Pk Hr Factor	0.974	0.843	0.000	0.000	0.970

VOLUME

Duckhorn Dr Bet. Arena Blvd & San Juan Rd

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_017

DAILY TOTALS					NB	SB	EB	WB	Total		
					2,395	2,269	0	0	4,664		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	1	6			7	12:00	53	21			74
00:15	2	2			4	12:15	38	26			64
00:30	2	5			7	12:30	37	38			75
00:45	2	7	3	16	5	12:45	22	150	25	110	47
01:00	5	2			7	13:00	34	30			64
01:15	1	5			6	13:15	34	19			53
01:30	2	3			5	13:30	29	31			60
01:45	3	11	4	14	7	13:45	29	126	33	113	62
02:00	2	2			4	14:00	41	32			73
02:15	1	4			5	14:15	41	38			79
02:30	3	1			4	14:30	32	48			80
02:45	1	7	1	8	2	14:45	51	165	36	154	87
03:00	1	1			2	15:00	47	35			82
03:15	2	1			3	15:15	47	55			102
03:30	7	1			8	15:30	35	51			86
03:45	5	15	2	5	7	15:45	36	165	42	183	78
04:00	3	1			4	16:00	34	53			87
04:15	4	2			6	16:15	37	60			97
04:30	13	1			14	16:30	44	61			105
04:45	7	27	1	5	8	16:45	55	170	89	263	144
05:00	4	2			6	17:00	47	52			99
05:15	9	2			11	17:15	55	67			122
05:30	12	3			15	17:30	38	62			100
05:45	26	51	3	10	29	17:45	55	195	54	235	109
06:00	16	7			23	18:00	38	39			77
06:15	31	8			39	18:15	30	60			90
06:30	25	13			38	18:30	47	40			87
06:45	55	127	13	41	68	18:45	36	151	40	179	76
07:00	50	26			76	19:00	25	40			65
07:15	60	33			93	19:15	31	40			71
07:30	94	47			141	19:30	25	42			67
07:45	84	288	40	146	124	19:45	19	100	30	152	49
08:00	42	49			91	20:00	17	29			46
08:15	35	36			71	20:15	21	34			55
08:30	36	27			63	20:30	17	20			37
08:45	26	139	22	134	48	20:45	13	68	23	106	36
09:00	26	23			49	21:00	13	21			34
09:15	29	20			49	21:15	17	22			39
09:30	32	17			49	21:30	11	14			25
09:45	29	116	20	80	49	21:45	17	58	15	72	32
10:00	25	14			39	22:00	18	13			31
10:15	27	23			50	22:15	12	14			26
10:30	23	19			42	22:30	9	10			19
10:45	18	93	18	74	36	22:45	2	41	6	43	8
11:00	26	12			38	23:00	4	10			14
11:15	23	26			49	23:15	5	9			14
11:30	30	32			62	23:30	2	3			5
11:45	29	108	25	95	54	23:45	6	17	9	31	15
TOTALS	989	628			1617	TOTALS	1406	1641			3047
SPLIT %	61.2%	38.8%			34.7%	SPLIT %	46.1%	53.9%			65.3%

DAILY TOTALS					NB	SB	EB	WB	Total
					2,395	2,269	0	0	4,664

AM Peak Hour	07:00	07:30			07:15	PM Peak Hour	16:30	16:45			16:30
AM Pk Volume	288	172			449	PM Pk Volume	201	270			470
Pk Hr Factor	0.766	0.878			0.796	Pk Hr Factor	0.914	0.758			0.816
7 - 9 Volume	427	280			707	4 - 6 Volume	365	498			863
7 - 9 Peak Hour	07:00	07:30			07:15	4 - 6 Peak Hour	16:30	16:45			16:30
7 - 9 Pk Volume	288	172			449	4 - 6 Pk Volume	201	270			470
Pk Hr Factor	0.766	0.878	0.000	0.000	0.796	Pk Hr Factor	0.914	0.758	0.000	0.000	0.816

VOLUME

E Commerce Way S/O Arena Blvd

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_018

DAILY TOTALS					NB	SB	EB	WB	Total		
					1,063	579	0	0	1,642		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	2	3			5	12:00	24	7			31
00:15	1	1			2	12:15	10	11			21
00:30	2	0			2	12:30	21	7			28
00:45	3	8	0	4	3	12:45	25	80	10	35	35
01:00	1	2			3	13:00	17	8			25
01:15	0	1			1	13:15	8	9			17
01:30	2	2			4	13:30	22	8			30
01:45	2	5	4	9	6	13:45	18	65	6	31	24
02:00	0	1			1	14:00	10	10			20
02:15	0	1			1	14:15	15	12			27
02:30	0	1			1	14:30	22	7			29
02:45	2	2	0	3	2	14:45	18	65	20	49	38
03:00	3	0			3	15:00	63	13			76
03:15	0	0			0	15:15	36	12			48
03:30	0	0			0	15:30	25	8			33
03:45	1	4	0		1	15:45	25	149	7	40	32
04:00	1	0			1	16:00	21	5			26
04:15	2	0			2	16:15	14	13			27
04:30	1	0			1	16:30	28	5			33
04:45	1	5	1	1	2	16:45	16	79	4	27	20
05:00	0	2			2	17:00	24	3			27
05:15	0	0			0	17:15	24	5			29
05:30	3	1			4	17:30	11	8			19
05:45	4	7	5	8	9	17:45	23	82	3	19	26
06:00	2	5			7	18:00	12	4			16
06:15	10	16			26	18:15	11	7			18
06:30	7	22			29	18:30	8	5			13
06:45	13	32	29	72	42	18:45	8	39	4	20	12
07:00	12	21			33	19:00	9	12			21
07:15	18	17			35	19:15	6	6			12
07:30	24	9			33	19:30	7	7			14
07:45	18	72	8	55	26	19:45	8	30	2	27	10
08:00	26	17			43	20:00	3	6			9
08:15	43	9			52	20:15	4	5			9
08:30	42	11			53	20:30	4	1			5
08:45	10	121	8	45	18	20:45	4	15	2	14	6
09:00	15	10			25	21:00	2	4			6
09:15	14	8			22	21:15	6	2			8
09:30	8	12			20	21:30	3	3			6
09:45	9	46	9	39	18	21:45	3	14	0	9	3
10:00	14	9			23	22:00	4	1			5
10:15	18	12			30	22:15	3	2			5
10:30	18	4			22	22:30	1	0			1
10:45	10	60	5	30	15	22:45	1	9	0	3	1
11:00	9	8			17	23:00	1	0			1
11:15	22	5			27	23:15	0	2			2
11:30	16	10			26	23:30	2	1			3
11:45	22	69	12	35	34	23:45	2	5	1	4	3
TOTALS	431	301			732	TOTALS	632	278			910
SPLIT %	58.9%	41.1%			44.6%	SPLIT %	69.5%	30.5%			55.4%

DAILY TOTALS					NB	SB	EB	WB	Total
					1,063	579	0	0	1,642

AM Peak Hour	07:45	06:30			07:45	PM Peak Hour	15:00	14:45			14:45
AM Pk Volume	129	89			174	PM Pk Volume	149	53			195
Pk Hr Factor	0.750	0.767			0.821	Pk Hr Factor	0.591	0.663			0.641
7 - 9 Volume	193	100	0	0	293	4 - 6 Volume	161	46	0	0	207
7 - 9 Peak Hour	07:45	07:00			07:45	4 - 6 Peak Hour	16:30	16:00			16:30
7 - 9 Pk Volume	129	55	0	0	174	4 - 6 Pk Volume	92	27	0	0	109
Pk Hr Factor	0.750	0.655	0.000	0.000	0.821	Pk Hr Factor	0.821	0.519	0.000	0.000	0.826

VOLUME

Truxel Rd Bet. Arena Blvd & Natomas Crossing Dr

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_019

DAILY TOTALS					NB	SB	EB	WB	Total		
					11,634	13,829	0	0	25,463		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	11	18			29	12:00	175	219			394
00:15	14	13			27	12:15	232	221			453
00:30	11	11			22	12:30	202	236			438
00:45	11	47	8	50	19	12:45	169	778	214	890	383
01:00	9	9			18	13:00	183	230			413
01:15	7	3			10	13:15	186	190			376
01:30	9	10			19	13:30	169	191			360
01:45	2	27	5	27	7	13:45	202	740	197	808	399
02:00	8	2			10	14:00	208	206			414
02:15	9	3			12	14:15	182	234			416
02:30	3	5			8	14:30	196	213			409
02:45	6	26	6	16	12	14:45	234	820	206	859	440
03:00	7	1			8	15:00	228	233			461
03:15	5	7			12	15:15	195	267			462
03:30	7	9			16	15:30	195	248			443
03:45	7	26	16	33	23	15:45	223	841	236	984	459
04:00	12	12			24	16:00	209	246			455
04:15	4	22			26	16:15	237	240			477
04:30	11	14			25	16:30	252	223			475
04:45	13	40	43	91	56	16:45	275	973	237	946	512
05:00	14	25			39	17:00	284	303			587
05:15	19	27			46	17:15	251	254			505
05:30	17	35			52	17:30	299	228			527
05:45	48	98	54	141	102	17:45	306	1140	256	1041	562
06:00	58	74			132	18:00	266	237			503
06:15	69	79			148	18:15	242	261			503
06:30	81	122			203	18:30	197	217			414
06:45	108	316	126	401	234	18:45	209	914	204	919	413
07:00	100	250			350	19:00	180	186			366
07:15	115	357			472	19:15	189	194			383
07:30	207	399			606	19:30	162	149			311
07:45	190	612	357	1363	547	19:45	153	684	167	696	320
08:00	154	445			599	20:00	158	141			299
08:15	130	331			461	20:15	117	151			268
08:30	132	285			417	20:30	148	150			298
08:45	143	559	234	1295	377	20:45	110	533	105	547	215
09:00	119	185			304	21:00	111	108			219
09:15	151	167			318	21:15	117	80			197
09:30	119	124			243	21:30	96	48			144
09:45	118	507	176	652	294	21:45	83	407	66	302	149
10:00	121	205			326	22:00	96	52			148
10:15	128	149			277	22:15	63	41			104
10:30	124	195			319	22:30	42	35			77
10:45	154	527	194	743	348	22:45	44	245	35	163	79
11:00	142	198			340	23:00	39	27			66
11:15	153	176			329	23:15	25	20			45
11:30	176	210			386	23:30	24	18			42
11:45	193	664	202	786	395	23:45	22	110	11	76	33
TOTALS	3449	5598			9047	TOTALS	8185	8231			16416
SPLIT %	38.1%	61.9%			35.5%	SPLIT %	49.9%	50.1%			64.5%

DAILY TOTALS					NB	SB	EB	WB	Total
					11,634	13,829	0	0	25,463

AM Peak Hour	11:45	07:15				PM Peak Hour	17:00	17:00			17:00
AM Pk Volume	802	1558			2224	PM Pk Volume	1140	1041			2181
Pk Hr Factor	0.864	0.875			0.917	Pk Hr Factor	0.931	0.859			0.929
7 - 9 Volume	1171	2658	0	0	3829	4 - 6 Volume	2113	1987	0	0	4100
7 - 9 Peak Hour	07:30	07:15			07:15	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	681	1558	0	0	2224	4 - 6 Pk Volume	1140	1041	0	0	2181
Pk Hr Factor	0.822	0.875	0.000	0.000	0.917	Pk Hr Factor	0.931	0.859	0.000	0.000	0.929

VOLUME

Truxel Rd Bet. Natomas Crossing Dr & Gateway Park Blvd

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_020

DAILY TOTALS		NB	SB	EB	WB	Total					
		14,883	15,976	0	0	30,859					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	23	34			57	12:00	233	226			459
00:15	16	22			38	12:15	274	253			527
00:30	16	11			27	12:30	263	265			528
00:45	13	68	9	76	22	12:45	232	1002	284	1028	516
01:00	11	10			21	13:00	254	260			514
01:15	7	7			14	13:15	241	240			481
01:30	9	10			19	13:30	241	209			450
01:45	6	33	5	32	11	13:45	236	972	213	922	449
02:00	8	4			12	14:00	249	225			474
02:15	8	3			11	14:15	239	254			493
02:30	3	5			8	14:30	250	227			477
02:45	6	25	7	19	13	14:45	289	1027	220	926	509
03:00	9	3			12	15:00	278	252			530
03:15	5	13			18	15:15	255	262			517
03:30	6	12			18	15:30	267	251			518
03:45	12	32	19	47	31	15:45	292	1092	255	1020	547
04:00	15	14			29	16:00	281	271			552
04:15	19	14			33	16:15	305	255			560
04:30	25	18			43	16:30	331	285			616
04:45	25	84	32	78	57	16:45	327	1244	269	1080	596
05:00	27	28			55	17:00	359	327			686
05:15	30	42			72	17:15	340	332			672
05:30	35	55			90	17:30	367	299			666
05:45	66	158	61	186	127	17:45	377	1443	314	1272	691
06:00	42	90			132	18:00	349	236			585
06:15	66	103			169	18:15	302	304			606
06:30	69	143			212	18:30	283	264			547
06:45	102	279	192	528	294	18:45	239	1173	242	1046	481
07:00	126	306			432	19:00	246	215			461
07:15	145	433			578	19:15	232	225			457
07:30	236	455			691	19:30	201	209			410
07:45	222	729	385	1579	607	19:45	194	873	180	829	374
08:00	182	446			628	20:00	203	187			390
08:15	183	372			555	20:15	160	160			320
08:30	171	300			471	20:30	153	195			348
08:45	195	731	232	1350	427	20:45	138	654	122	664	260
09:00	182	198			380	21:00	137	143			280
09:15	176	197			373	21:15	139	105			244
09:30	175	170			345	21:30	115	106			221
09:45	159	692	189	754	348	21:45	116	507	87	441	203
10:00	169	236			405	22:00	113	68			181
10:15	178	185			363	22:15	96	73			169
10:30	165	196			361	22:30	61	59			120
10:45	193	705	207	824	400	22:45	55	325	54	254	109
11:00	187	221			408	23:00	49	40			89
11:15	214	220			434	23:15	33	41			74
11:30	227	228			455	23:30	29	31			60
11:45	272	900	222	891	494	23:45	24	135	18	130	42
TOTALS	4436	6364			10800	TOTALS	10447	9612			20059
SPLIT %	41.1%	58.9%			35.0%	SPLIT %	52.1%	47.9%			65.0%

DAILY TOTALS		NB	SB	EB	WB	Total
		14,883	15,976	0	0	30,859

AM Peak Hour	11:45	07:15			07:15	PM Peak Hour	17:00	17:00			17:00
AM Pk Volume	1042	1719			2504	PM Pk Volume	1443	1272			2715
Pk Hr Factor	0.951	0.945			0.906	Pk Hr Factor	0.957	0.958			0.982
7 - 9 Volume	1460	2929	0	0	4389	4 - 6 Volume	2687	2352	0	0	5039
7 - 9 Peak Hour	07:30	07:15			07:15	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	823	1719	0	0	2504	4 - 6 Pk Volume	1443	1272	0	0	2715
Pk Hr Factor	0.872	0.945	0.000	0.000	0.906	Pk Hr Factor	0.957	0.958	0.000	0.000	0.982

VOLUME

Truxel Rd Bet. Gateway Park Blvd & I-80

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_021

DAILY TOTALS		NB		SB		EB		WB		Total			
		30,692		31,878		0		0		62,570			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL		
00:00	36	77			113	12:00	573	460			1033		
00:15	34	61			95	12:15	558	449			1007		
00:30	43	81			124	12:30	506	529			1035		
00:45	23	136	57	276	80	412	12:45	510	2147	544	1982	1054	4129
01:00	20	49			69	13:00	483	552			1035		
01:15	25	24			49	13:15	470	567			1037		
01:30	34	26			60	13:30	446	548			994		
01:45	15	94	18	117	33	211	13:45	479	1878	466	2133	945	4011
02:00	14	32			46	14:00	431	505			936		
02:15	16	17			33	14:15	448	511			959		
02:30	21	32			53	14:30	459	531			990		
02:45	26	77	16	97	42	174	14:45	531	1869	489	2036	1020	3905
03:00	22	13			35	15:00	515	595			1110		
03:15	26	28			54	15:15	547	529			1076		
03:30	32	49			81	15:30	562	667			1229		
03:45	55	135	36	126	91	261	15:45	539	2163	546	2337	1085	4500
04:00	33	40			73	16:00	560	611			1171		
04:15	57	34			91	16:15	516	591			1107		
04:30	101	68			169	16:30	584	567			1151		
04:45	132	323	50	192	182	515	16:45	599	2259	529	2298	1128	4557
05:00	89	75			164	17:00	603	627			1230		
05:15	99	98			197	17:15	582	630			1212		
05:30	118	165			283	17:30	631	532			1163		
05:45	209	515	141	479	350	994	17:45	638	2454	497	2286	1135	4740
06:00	168	165			333	18:00	585	493			1078		
06:15	213	208			421	18:15	554	529			1083		
06:30	289	253			542	18:30	538	493			1031		
06:45	396	1066	303	929	699	1995	18:45	468	2145	421	1936	889	4081
07:00	395	437			832	19:00	464	448			912		
07:15	458	587			1045	19:15	424	462			886		
07:30	530	631			1161	19:30	376	415			791		
07:45	636	2019	521	2176	1157	4195	19:45	394	1658	383	1708	777	3366
08:00	514	573			1087	20:00	349	449			798		
08:15	485	535			1020	20:15	297	400			697		
08:30	455	490			945	20:30	277	400			677		
08:45	454	1908	387	1985	841	3893	20:45	266	1189	389	1638	655	2827
09:00	439	352			791	21:00	252	353			605		
09:15	398	328			726	21:15	232	322			554		
09:30	359	344			703	21:30	184	273			457		
09:45	387	1583	324	1348	711	2931	21:45	207	875	264	1212	471	2087
10:00	337	358			695	22:00	152	278			430		
10:15	355	347			702	22:15	142	249			391		
10:30	381	342			723	22:30	114	162			276		
10:45	423	1496	375	1422	798	2918	22:45	83	491	165	854	248	1345
11:00	433	415			848	23:00	70	185			255		
11:15	466	395			861	23:15	66	101			167		
11:30	513	442			955	23:30	69	202			271		
11:45	533	1945	449	1701	982	3646	23:45	62	267	122	610	184	877
TOTALS	11297		10848		22145		TOTALS	19395		21030		40425	
SPLIT %	51.0%		49.0%		35.4%		SPLIT %	48.0%		52.0%		64.6%	

DAILY TOTALS		NB		SB		EB		WB		Total	
		30,692		31,878		0		0		62,570	

AM Peak Hour	11:30	07:15				PM Peak Hour	17:00	15:30				17:00
AM Pk Volume	2177	2312			4450	PM Pk Volume	2454	2415				4740
Pk Hr Factor	0.950	0.916			0.958	Pk Hr Factor	0.962	0.905				0.963
7 - 9 Volume	3927	4161	0	0	8088	4 - 6 Volume	4713	4584	0	0	0	9297
7 - 9 Peak Hour	07:30	07:15			07:15	4 - 6 Peak Hour	17:00	16:30				17:00
7 - 9 Pk Volume	2165	2312	0	0	4450	4 - 6 Pk Volume	2454	2353	0	0	0	4740
Pk Hr Factor	0.851	0.916	0.000	0.000	0.958	Pk Hr Factor	0.962	0.934	0.000	0.000	0.000	0.963

VOLUME

Truxel Rd Bet. I-80 & San Juan Rd

Day: Tuesday
Date: 3/7/2017City: Sacramento
Project #: CA17_7175_022

DAILY TOTALS					NB	SB	EB	WB	Total		
					19,369	21,320	0	0	40,689		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	20	49			69	12:00	294	309			603
00:15	19	48			67	12:15	293	268			561
00:30	25	45			70	12:30	302	290			592
00:45	26	90	36	178	62	12:45	275	1164	317	1184	592
					268						2348
01:00	17	41			58	13:00	276	288			564
01:15	19	24			43	13:15	308	334			642
01:30	20	16			36	13:30	267	298			565
01:45	17	73	22	103	39	13:45	309	1160	311	1231	620
					176						2391
02:00	14	16			30	14:00	294	325			619
02:15	12	18			30	14:15	308	323			631
02:30	12	13			25	14:30	324	406			730
02:45	17	55	15	62	32	14:45	344	1270	341	1395	685
					117						2665
03:00	21	14			35	15:00	313	367			680
03:15	19	12			31	15:15	352	370			722
03:30	35	17			52	15:30	374	426			800
03:45	35	110	20	63	55	15:45	316	1355	370	1533	686
					173						2888
04:00	40	18			58	16:00	347	383			730
04:15	60	14			74	16:15	330	463			793
04:30	76	16			92	16:30	344	455			799
04:45	80	256	37	85	117	16:45	368	1389	475	1776	843
					341						3165
05:00	61	30			91	17:00	374	531			905
05:15	90	29			119	17:15	343	543			886
05:30	139	53			192	17:30	412	447			859
05:45	163	453	60	172	223	17:45	377	1506	403	1924	780
					625						3430
06:00	126	80			206	18:00	357	414			771
06:15	203	88			291	18:15	329	414			743
06:30	208	106			314	18:30	338	399			737
06:45	298	835	184	458	482	18:45	280	1304	327	1554	607
					1293						2858
07:00	319	220			539	19:00	279	355			634
07:15	359	323			682	19:15	244	326			570
07:30	436	506			942	19:30	224	301			525
07:45	431	1545	387	1436	818	19:45	229	976	303	1285	532
					2981						2261
08:00	341	388			729	20:00	211	284			495
08:15	293	359			652	20:15	186	302			488
08:30	290	287			577	20:30	165	267			432
08:45	256	1180	296	1330	552	20:45	153	715	248	1101	401
					2510						1816
09:00	204	220			424	21:00	136	214			350
09:15	263	208			471	21:15	136	241			377
09:30	231	168			399	21:30	135	209			344
09:45	258	956	184	780	442	21:45	124	531	196	860	320
					1736						1391
10:00	202	199			401	22:00	101	179			280
10:15	222	204			426	22:15	94	150			244
10:30	226	211			437	22:30	81	126			207
10:45	249	899	245	859	494	22:45	62	338	98	553	160
					1758						891
11:00	232	245			477	23:00	47	109			156
11:15	254	234			488	23:15	38	103			141
11:30	257	255			512	23:30	40	96			136
11:45	320	1063	305	1039	625	23:45	21	146	51	359	72
					2102						505
TOTALS	7515	6565			14080	TOTALS	11854	14755			26609
SPLIT %	53.4%	46.6%			34.6%	SPLIT %	44.5%	55.5%			65.4%

























DAILY TOTALS					NB	SB	EB	WB	Total
					19,369	21,320	0	0	40,689

AM Peak Hour	07:15	07:30			07:15	PM Peak Hour	17:00	16:30			16:45
AM Pk Volume	1567	1640			3171	PM Pk Volume	1506	2004			3493
Pk Hr Factor	0.899	0.810			0.842	Pk Hr Factor	0.914	0.923			0.965
7 - 9 Volume	2725	2766	0	0	5491	4 - 6 Volume	2895	3700	0	0	6595
7 - 9 Peak Hour	07:15	07:30			07:15	4 - 6 Peak Hour	17:00	16:30			16:45
7 - 9 Pk Volume	1567	1640	0	0	3171	4 - 6 Pk Volume	1506	2004	0	0	3493
Pk Hr Factor	0.899	0.810	0.000	0.000	0.842	Pk Hr Factor	0.914	0.923	0.000	0.000	0.965

Synchro Analysis
Existing AM Peak Hour

HCM 2010 Signalized Intersection Summary
 1: El Centro Rd & Natomas Central Dr/Arena Blvd

























04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	215	127	93	87	134	52	235	101	208	403	14
Future Volume (veh/h)	5	215	127	93	87	134	52	235	101	208	403	14
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	215	127	93	87	134	52	235	101	208	403	14
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	1	1
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	26	370	308	244	599	494	199	777	337	293	504	427
Arrive On Green	0.01	0.20	0.20	0.14	0.32	0.32	0.11	0.22	0.22	0.17	0.27	0.27
Sat Flow, veh/h	1774	1863	1552	1774	1863	1537	1774	3539	1535	1774	1863	1576
Grp Volume(v), veh/h	5	215	127	93	87	134	52	235	101	208	403	14
Grp Sat Flow(s),veh/h/ln	1774	1863	1552	1774	1863	1537	1774	1770	1535	1774	1863	1576
Q Serve(g_s), s	0.2	6.8	4.7	3.1	2.2	4.2	1.7	3.6	3.6	7.2	13.1	0.4
Cycle Q Clear(g_c), s	0.2	6.8	4.7	3.1	2.2	4.2	1.7	3.6	3.6	7.2	13.1	0.4
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	26	370	308	244	599	494	199	777	337	293	504	427
V/C Ratio(X)	0.19	0.58	0.41	0.38	0.15	0.27	0.26	0.30	0.30	0.71	0.80	0.03
Avail Cap(c_a), veh/h	300	887	739	300	884	730	327	1468	637	373	795	673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	23.6	22.8	25.6	15.7	16.4	26.4	21.2	21.2	25.7	22.1	17.5
Incr Delay (d2), s/veh	1.3	0.5	0.3	0.4	0.0	0.1	0.3	0.1	0.2	2.7	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.5	2.0	1.5	1.1	1.8	0.9	1.8	1.5	3.7	6.9	0.2
LnGrp Delay(d),s/veh	33.0	24.2	23.1	25.9	15.8	16.5	26.7	21.3	21.4	28.4	23.4	17.5
LnGrp LOS	C	C	C	C	B	B	C	C	C	C	C	B
Approach Vol, veh/h		347			314			388			625	
Approach Delay, s/veh		23.9			19.1			22.1			24.9	
Approach LOS		C			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.0	25.5	11.7	22.9	13.0	17.5	15.0	19.6				
Change Period (Y+Rc), s	4.0	* 4.6	* 4.4	* 5.3	4.0	* 4.6	* 4.3	* 5.3				
Max Green Setting (Gmax), s	11.0	* 31	* 12	* 28	11.0	* 31	* 14	* 27				
Max Q Clear Time (g_c+I1), s	2.2	6.2	3.7	15.1	5.1	8.8	9.2	5.6				
Green Ext Time (p_c), s	0.0	1.5	0.0	2.0	0.0	1.5	0.1	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			23.0									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary













2: Duckhorn Dr & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	705	34	306	227	142	44	57	575	217	95	45
Future Volume (veh/h)	30	705	34	306	227	142	44	57	575	217	95	45
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	30	705	34	306	227	142	44	57	575	217	95	45
Adj No. of Lanes	1	2	1	2	2	1	1	1	1	2	1	0
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	111	808	353	389	982	425	152	640	536	425	456	216
Arrive On Green	0.06	0.23	0.23	0.11	0.28	0.28	0.09	0.34	0.34	0.12	0.38	0.38
Sat Flow, veh/h	1774	3539	1549	3442	3539	1530	1774	1863	1561	3442	1196	566
Grp Volume(v), veh/h	30	705	34	306	227	142	44	57	575	217	0	140
Grp Sat Flow(s),veh/h/ln	1774	1770	1549	1721	1770	1530	1774	1863	1561	1721	0	1762
Q Serve(g_s), s	1.6	18.7	1.7	8.4	4.8	7.2	2.3	2.0	33.4	5.7	0.0	5.2
Cycle Q Clear(g_c), s	1.6	18.7	1.7	8.4	4.8	7.2	2.3	2.0	33.4	5.7	0.0	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	111	808	353	389	982	425	152	640	536	425	0	672
V/C Ratio(X)	0.27	0.87	0.10	0.79	0.23	0.33	0.29	0.09	1.07	0.51	0.00	0.21
Avail Cap(c_a), veh/h	201	954	417	390	982	425	219	640	536	425	0	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.4	36.1	29.6	41.9	27.1	28.0	41.6	21.6	31.9	39.8	0.0	20.2
Incr Delay (d2), s/veh	0.5	7.1	0.0	9.4	0.0	0.2	0.4	0.0	59.5	0.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	9.9	0.7	4.5	2.4	3.1	1.1	1.0	23.1	2.7	0.0	2.5
LnGrp Delay(d),s/veh	43.9	43.2	29.6	51.3	27.1	28.1	42.0	21.6	91.4	40.3	0.0	20.3
LnGrp LOS	D	D	C	D	C	C	D	C	F	D		C
Approach Vol, veh/h		769			675			676			357	
Approach Delay, s/veh		42.6			38.3			82.3			32.4	
Approach LOS		D			D			F			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	32.3	16.7	38.0	15.0	27.5	13.0	41.7				
Change Period (Y+Rc), s	* 4.1	* 5.3	* 4.7	* 4.6	4.0	* 5.3	* 4.7	* 4.6				
Max Green Setting (Gmax), s	* 11	* 25	* 12	* 33	11.0	* 26	* 12	* 34				
Max Q Clear Time (g_c+I1), s	3.6	9.2	7.7	35.4	10.4	20.7	4.3	7.2				
Green Ext Time (p_c), s	0.0	3.9	0.2	0.0	0.0	1.5	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			50.8									
HCM 2010 LOS			D									
Notes												













HCM 2010 Signalized Intersection Summary
 3: I-5 SB On-Ramp/I-5 SB Ramps & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	669	828	0	547	477	0	0	0	146	0	128
Future Volume (veh/h)	0	669	828	0	547	477	0	0	0	146	0	128
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863				1863	0	1863
Adj Flow Rate, veh/h	0	669	0	0	547	0				146	0	128
Adj No. of Lanes	0	2	1	0	3	1				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	1385	620	0	1990	620				1049	0	482
Arrive On Green	0.00	0.39	0.00	0.00	0.39	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	3632	1583	0	5253	1583				3442	0	1583
Grp Volume(v), veh/h	0	669	0	0	547	0				146	0	128
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583				1721	0	1583
Q Serve(g_s), s	0.0	4.2	0.0	0.0	2.1	0.0				0.9	0.0	1.8
Cycle Q Clear(g_c), s	0.0	4.2	0.0	0.0	2.1	0.0				0.9	0.0	1.8
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1385	620	0	1990	620				1049	0	482
V/C Ratio(X)	0.00	0.48	0.00	0.00	0.27	0.00				0.14	0.00	0.27
Avail Cap(c_a), veh/h	0	3130	1400	0	4497	1400				1786	0	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.7	0.0	0.0	6.1	0.0				7.4	0.0	7.7
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0				0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.0	0.0	0.0	1.0	0.0				0.4	0.0	0.8
LnGrp Delay(d),s/veh	0.0	6.8	0.0	0.0	6.1	0.0				7.4	0.0	7.8
LnGrp LOS		A			A					A		A
Approach Vol, veh/h		669			547						274	
Approach Delay, s/veh		6.8			6.1						7.6	
Approach LOS		A			A						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		16.6				16.6		12.7				
Change Period (Y+Rc), s		* 5.1				* 5.1		3.8				
Max Green Setting (Gmax), s		* 26				* 26		15.2				
Max Q Clear Time (g_c+I1), s		4.1				6.2		3.8				
Green Ext Time (p_c), s		5.5				5.3		0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			6.7									
HCM 2010 LOS			A									
Notes												

























HCM 2010 Signalized Intersection Summary
 4: I-5 NB Ramps/I-5 NB On-Ramp & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑↑	↗	↘↘		↗↗			
Traffic Volume (veh/h)	0	650	165	0	754	234	270	0	582	0	0	0
Future Volume (veh/h)	0	650	165	0	754	234	270	0	582	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	650	0	0	754	0	270	0	582			
Adj No. of Lanes	0	2	1	0	4	1	2	0	2			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1375	615	0	2490	615	1129	0	914			
Arrive On Green	0.00	0.39	0.00	0.00	0.39	0.00	0.33	0.00	0.33			
Sat Flow, veh/h	0	3632	1583	0	6669	1583	3442	0	2787			
Grp Volume(v), veh/h	0	650	0	0	754	0	270	0	582			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1602	1583	1721	0	1393			
Q Serve(g_s), s	0.0	4.6	0.0	0.0	2.7	0.0	1.9	0.0	5.9			
Cycle Q Clear(g_c), s	0.0	4.6	0.0	0.0	2.7	0.0	1.9	0.0	5.9			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1375	615	0	2490	615	1129	0	914			
V/C Ratio(X)	0.00	0.47	0.00	0.00	0.30	0.00	0.24	0.00	0.64			
Avail Cap(c_a), veh/h	0	2914	1304	0	5334	1318	1325	0	1072			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	7.7	0.0	0.0	7.1	0.0	8.2	0.0	9.6			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	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			
%ile BackOfQ(50%),veh/ln	0.0	2.2	0.0	0.0	1.2	0.0	0.9	0.0	2.3			
LnGrp Delay(d),s/veh	0.0	7.8	0.0	0.0	7.1	0.0	8.3	0.0	10.1			
LnGrp LOS		A			A		A		B			
Approach Vol, veh/h		650			754			852				
Approach Delay, s/veh		7.8			7.1			9.5				
Approach LOS		A			A			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		18.4		15.1		18.4						
Change Period (Y+Rc), s		* 5.4		* 4.1		* 5.4						
Max Green Setting (Gmax), s		* 28		* 13		* 28						
Max Q Clear Time (g_c+I1), s		4.7		7.9		6.6						
Green Ext Time (p_c), s		6.6		1.0		6.4						
Intersection Summary												
HCM 2010 Ctrl Delay			8.2									
HCM 2010 LOS			A									
Notes												

HCM 2010 Signalized Intersection Summary
 5: Commerce Way & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	298	909	25	13	443	153	100	22	5	213	9	445
Future Volume (veh/h)	298	909	25	13	443	153	100	22	5	213	9	445
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	298	909	25	13	443	153	100	22	5	213	9	0
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	2	1
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	556	1819	559	151	1228	382	497	723	225	594	607	272
Arrive On Green	0.16	0.36	0.36	0.04	0.24	0.24	0.14	0.14	0.14	0.17	0.17	0.00
Sat Flow, veh/h	3442	5085	1562	3442	5085	1581	3442	5085	1583	3442	3539	1583
Grp Volume(v), veh/h	298	909	25	13	443	153	100	22	5	213	9	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1562	1721	1695	1581	1721	1695	1583	1721	1770	1583
Q Serve(g_s), s	6.4	11.2	0.8	0.3	5.8	6.5	2.1	0.3	0.2	4.4	0.2	0.0
Cycle Q Clear(g_c), s	6.4	11.2	0.8	0.3	5.8	6.5	2.1	0.3	0.2	4.4	0.2	0.0
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	556	1819	559	151	1228	382	497	723	225	594	607	272
V/C Ratio(X)	0.54	0.50	0.04	0.09	0.36	0.40	0.20	0.03	0.02	0.36	0.01	0.00
Avail Cap(c_a), veh/h	736	2359	725	599	2157	671	557	2340	729	599	1677	750
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.9	20.2	16.8	36.9	25.3	25.6	30.3	29.7	29.7	29.3	27.7	0.0
Incr Delay (d2), s/veh	0.3	0.1	0.0	0.1	0.3	1.1	0.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	5.2	0.4	0.1	2.7	3.0	1.0	0.1	0.1	2.1	0.1	0.0
LnGrp Delay(d),s/veh	31.2	20.3	16.9	37.0	25.6	26.7	30.4	29.7	29.7	29.5	27.7	0.0
LnGrp LOS	C	C	B	D	C	C	C	C	C	C	C	C
Approach Vol, veh/h		1232			609			127			222	
Approach Delay, s/veh		22.9			26.2			30.2			29.4	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.4	25.3	19.4	17.3	9.0	34.7	17.0	19.7				
Change Period (Y+Rc), s	* 5.4	* 5.9	5.5	* 5.9	5.5	* 5.9	* 5.4	* 5.9				
Max Green Setting (Gmax), s	* 17	* 34	14.0	* 37	14.0	* 37	* 13	* 38				
Max Q Clear Time (g_c+I1), s	8.4	8.5	6.4	2.3	2.3	13.2	4.1	2.2				
Green Ext Time (p_c), s	0.4	10.6	0.2	0.1	0.0	10.3	0.1	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			24.9									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
6: Truxel Rd & Arena Blvd

04/11/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	552	185	110	213	24	131	484	107	140	1386	187
Future Volume (veh/h)	195	552	185	110	213	24	131	484	107	140	1386	187
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	195	552	185	110	213	24	131	484	107	140	1386	187
Adj No. of Lanes	2	3	1	2	2	1	2	4	1	2	4	1
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	397	1075	329	390	740	330	367	2534	615	368	2535	616
Arrive On Green	0.12	0.21	0.21	0.11	0.21	0.21	0.04	0.13	0.13	0.11	0.40	0.40
Sat Flow, veh/h	3442	5085	1556	3442	3539	1577	3442	6408	1556	3442	6408	1558
Grp Volume(v), veh/h	195	552	185	110	213	24	131	484	107	140	1386	187
Grp Sat Flow(s),veh/h/ln	1721	1695	1556	1721	1770	1577	1721	1602	1556	1721	1602	1558
Q Serve(g_s), s	6.9	12.5	13.8	3.8	6.6	1.6	4.8	8.8	8.0	4.9	21.7	10.7
Cycle Q Clear(g_c), s	6.9	12.5	13.8	3.8	6.6	1.6	4.8	8.8	8.0	4.9	21.7	10.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	397	1075	329	390	740	330	367	2534	615	368	2535	616
V/C Ratio(X)	0.49	0.51	0.56	0.28	0.29	0.07	0.36	0.19	0.17	0.38	0.55	0.30
Avail Cap(c_a), veh/h	397	1600	490	397	1122	500	371	2534	615	371	2535	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	45.4	45.9	52.8	43.2	41.3	58.3	38.0	37.6	54.0	30.3	27.0
Incr Delay (d2), s/veh	0.3	0.7	2.9	0.1	0.3	0.1	0.2	0.2	0.6	0.2	0.9	1.3
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	3.3	5.9	6.2	1.8	3.3	0.7	2.3	3.9	3.5	2.3	9.8	4.8
LnGrp Delay(d),s/veh	54.3	46.1	48.8	52.9	43.5	41.4	58.6	38.1	38.2	54.3	31.1	28.2
LnGrp LOS	D	D	D	D	D	D	E	D	D	D	C	C
Approach Vol, veh/h		932			347			722			1713	
Approach Delay, s/veh		48.3			46.4			41.9			32.7	
Approach LOS		D			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.5	33.3	19.4	56.8	20.2	33.6	19.4	56.8				
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4				
Max Green Setting (Gmax), s	15.0	* 41	14.0	* 38	15.0	* 41	14.0	* 38				
Max Q Clear Time (g_c+I1), s	8.9	8.6	6.9	10.8	5.8	15.8	6.8	23.7				
Green Ext Time (p_c), s	0.2	11.4	0.1	24.7	0.1	10.2	0.1	13.2				
Intersection Summary												
HCM 2010 Ctrl Delay			39.7									
HCM 2010 LOS			D									
Notes												

HCM Signalized Intersection Capacity Analysis
 10: Truxel Rd & Natomas Crossing Dr

04/11/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖↗	↑↑↑	↖	↘	↑↑↑	↖
Traffic Volume (vph)	132	21	295	93	12	83	183	580	102	87	1351	155
Future Volume (vph)	132	21	295	93	12	83	183	580	102	87	1351	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		4.8	4.6	4.6	4.5	4.6	4.6
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00		0.97	0.86	1.00	1.00	0.86	1.00
Frpb, ped/bikes	1.00	0.99	0.99	1.00	0.99		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.87	0.85	1.00	0.87		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1519	1482	1770	1599		3433	6408	1547	1770	6408	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1519	1482	1770	1599		3433	6408	1547	1770	6408	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	132	21	295	93	12	83	183	580	102	87	1351	155
RTOR Reduction (vph)	0	116	130	0	73	0	0	0	53	0	0	85
Lane Group Flow (vph)	132	44	26	93	22	0	183	580	49	87	1351	70
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			2			1			1			
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6						8			4
Actuated Green, G (s)	16.0	18.8	18.8	11.2	14.0		12.3	54.8	54.8	10.1	52.3	52.3
Effective Green, g (s)	16.0	18.8	18.8	11.2	14.0		12.3	54.8	54.8	10.1	52.3	52.3
Actuated g/C Ratio	0.14	0.16	0.16	0.10	0.12		0.11	0.48	0.48	0.09	0.45	0.45
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		4.8	4.6	4.6	4.5	4.6	4.6
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	5.9	5.9
Lane Grp Cap (vph)	246	248	242	172	194		367	3053	737	155	2914	719
v/s Ratio Prot	c0.07	c0.03		c0.05	0.01		c0.05	0.09		0.05	c0.21	
v/s Ratio Perm			0.02						0.03			0.04
v/c Ratio	0.54	0.18	0.11	0.54	0.11		0.50	0.19	0.07	0.56	0.46	0.10
Uniform Delay, d1	46.1	41.4	40.9	49.4	45.0		48.4	17.3	16.3	50.3	21.7	17.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.1	0.1	1.9	0.1		0.4	0.1	0.2	2.8	0.5	0.3
Delay (s)	47.2	41.6	41.0	51.3	45.1		48.8	17.5	16.4	53.1	22.2	18.2
Level of Service	D	D	D	D	D		D	B	B	D	C	B
Approach Delay (s)		43.0			48.2			24.0			23.5	
Approach LOS		D			D			C			C	

Intersection Summary

HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	47.9
Intersection LOS	E

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↖	↗			↖	↗		↖	↗	↗
Traffic Vol, veh/h	0	36	23	115	0	369	20	137	0	23	150	98
Future Vol, veh/h	0	36	23	115	0	369	20	137	0	23	150	98
Peak Hour Factor	0.92	1.00	1.00	1.00	0.92	1.00	1.00	1.00	0.92	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	36	23	115	0	369	20	137	0	23	150	98
Number of Lanes	0	0	1	1	0	0	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	2
HCM Control Delay	15.2	52	16.4
HCM LOS	C	F	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	61%	0%	95%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	39%	0%	5%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	100%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	150	98	59	115	389	137	143	444	14
LT Vol	23	0	0	36	0	369	0	143	0	0
Through Vol	0	150	0	23	0	20	0	0	444	0
RT Vol	0	0	98	0	115	0	137	0	0	14
Lane Flow Rate	23	150	98	59	115	389	137	143	444	14
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.063	0.388	0.234	0.162	0.283	0.958	0.293	0.358	1.047	0.03
Departure Headway (Hd)	10.149	9.627	8.895	10.136	9.105	9.056	7.867	9.01	8.493	7.769
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	355	377	406	356	397	405	460	398	426	459
Service Time	7.849	7.327	6.595	7.836	6.805	6.756	5.567	6.793	6.275	5.551
HCM Lane V/C Ratio	0.065	0.398	0.241	0.166	0.29	0.96	0.298	0.359	1.042	0.031
HCM Control Delay	13.5	18.3	14.3	14.8	15.4	65.5	13.8	16.8	86.3	10.8
HCM Lane LOS	B	C	B	B	C	F	B	C	F	B
HCM 95th-tile Q	0.2	1.8	0.9	0.6	1.1	11	1.2	1.6	14.1	0.1

Intersection

Intersection Delay, s/veh























Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations		↘	↑	↗
Traffic Vol, veh/h	0	143	444	14
Future Vol, veh/h	0	143	444	14
Peak Hour Factor	0.92	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	143	444	14
Number of Lanes	0	1	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	68
HCM LOS	F

HCM 2010 Signalized Intersection Summary
 12: Duckhorn Dr & San Juan Ave

























04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	286	9	23	256	185	25	45	74	235	13	53
Future Volume (veh/h)	31	286	9	23	256	185	25	45	74	235	13	53
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	31	286	9	23	256	185	25	45	74	235	13	53
Adj No. of Lanes	1	1	0	1	1	1	0	1	1	1	1	1
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	89	417	13	99	443	376	88	158	207	398	418	347
Arrive On Green	0.05	0.23	0.23	0.06	0.24	0.24	0.13	0.13	0.13	0.22	0.22	0.22
Sat Flow, veh/h	1774	1795	56	1774	1863	1580	654	1176	1543	1774	1863	1543
Grp Volume(v), veh/h	31	0	295	23	256	185	70	0	74	235	13	53
Grp Sat Flow(s),veh/h/ln	1774	0	1851	1774	1863	1580	1830	0	1543	1774	1863	1543
Q Serve(g_s), s	0.7	0.0	6.3	0.5	5.3	4.4	1.5	0.0	1.9	5.1	0.2	1.2
Cycle Q Clear(g_c), s	0.7	0.0	6.3	0.5	5.3	4.4	1.5	0.0	1.9	5.1	0.2	1.2
Prop In Lane	1.00		0.03	1.00		1.00	0.36		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	89	0	430	99	443	376	246	0	207	398	418	347
V/C Ratio(X)	0.35	0.00	0.69	0.23	0.58	0.49	0.28	0.00	0.36	0.59	0.03	0.15
Avail Cap(c_a), veh/h	778	0	769	778	859	729	802	0	676	769	808	669
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	15.2	19.6	14.6	14.3	16.9	0.0	17.1	15.0	13.1	13.5
Incr Delay (d2), s/veh	0.9	0.0	0.7	0.4	0.4	0.4	0.2	0.0	0.4	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	3.3	0.3	2.8	1.9	0.8	0.0	0.8	2.5	0.1	0.5
LnGrp Delay(d),s/veh	20.8	0.0	15.9	20.0	15.0	14.6	17.1	0.0	17.4	15.5	13.1	13.6
LnGrp LOS	C		B	C	B	B	B		B	B	B	B
Approach Vol, veh/h		326			464			144			301	
Approach Delay, s/veh		16.4			15.1			17.3			15.1	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	14.9		13.4	5.9	14.7		9.3				
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5				
Max Green Setting (Gmax), s	19.0	* 20		18.8	19.0	* 18		19.0				
Max Q Clear Time (g_c+I1), s	2.7	7.3		7.1	2.5	8.3		3.9				
Green Ext Time (p_c), s	0.0	1.9		0.4	0.0	1.7		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			15.7									
HCM 2010 LOS			B									
Notes												

Synchro Analysis
Existing PM Peak Hour

























HCM 2010 Signalized Intersection Summary
 1: El Centro Rd & Natomas Central Dr/Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	72	21	94	139	122	47	297	138	92	120	6
Future Volume (veh/h)	3	72	21	94	139	122	47	297	138	92	120	6
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	3	72	21	94	139	122	47	297	138	92	120	6
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	1	1
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	16	385	321	259	640	543	193	694	306	257	428	356
Arrive On Green	0.01	0.21	0.21	0.15	0.34	0.34	0.11	0.20	0.20	0.14	0.23	0.23
Sat Flow, veh/h	1774	1863	1557	1774	1863	1581	1774	3539	1559	1774	1863	1549
Grp Volume(v), veh/h	3	72	21	94	139	122	47	297	138	92	120	6
Grp Sat Flow(s),veh/h/ln	1774	1863	1557	1774	1863	1581	1774	1770	1559	1774	1863	1549
Q Serve(g_s), s	0.1	1.9	0.6	2.8	3.1	3.3	1.4	4.4	4.6	2.8	3.1	0.2
Cycle Q Clear(g_c), s	0.1	1.9	0.6	2.8	3.1	3.3	1.4	4.4	4.6	2.8	3.1	0.2
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	16	385	321	259	640	543	193	694	306	257	428	356
V/C Ratio(X)	0.19	0.19	0.07	0.36	0.22	0.22	0.24	0.43	0.45	0.36	0.28	0.02
Avail Cap(c_a), veh/h	329	1020	853	329	1017	863	359	1640	723	350	826	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	19.4	18.9	22.8	13.8	13.9	24.2	20.9	21.0	22.9	18.8	17.7
Incr Delay (d2), s/veh	2.1	0.1	0.0	0.3	0.1	0.1	0.2	0.2	0.4	0.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.0	0.3	1.4	1.6	1.4	0.7	2.1	2.0	1.4	1.6	0.1
LnGrp Delay(d),s/veh	31.3	19.5	19.0	23.2	13.9	13.9	24.4	21.1	21.4	23.2	18.9	17.7
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	B	B
Approach Vol, veh/h		96			355			482			218	
Approach Delay, s/veh		19.8			16.4			21.5			20.7	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.5	25.0	10.9	18.9	12.7	16.9	12.9	16.9				
Change Period (Y+Rc), s	4.0	* 4.6	* 4.4	* 5.3	4.0	* 4.6	* 4.3	* 5.3				
Max Green Setting (Gmax), s	11.0	* 32	* 12	* 26	11.0	* 33	* 12	* 28				
Max Q Clear Time (g_c+I1), s	2.1	5.3	3.4	5.1	4.8	3.9	4.8	6.6				
Green Ext Time (p_c), s	0.0	0.9	0.0	1.6	0.0	0.9	0.0	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay			19.6									
HCM 2010 LOS			B									
Notes												













HCM 2010 Signalized Intersection Summary
 2: Duckhorn Dr & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	403	26	578	453	173	16	31	281	287	110	25
Future Volume (veh/h)	32	403	26	578	453	173	16	31	281	287	110	25
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	32	403	26	578	453	173	16	31	281	287	110	25
Adj No. of Lanes	1	2	1	2	2	1	1	1	1	2	1	0
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	127	637	285	651	1048	458	81	406	338	558	490	111
Arrive On Green	0.07	0.18	0.18	0.19	0.30	0.30	0.05	0.22	0.22	0.16	0.33	0.33
Sat Flow, veh/h	1774	3539	1581	3442	3539	1547	1774	1863	1554	3442	1465	333
Grp Volume(v), veh/h	32	403	26	578	453	173	16	31	281	287	0	135
Grp Sat Flow(s),veh/h/ln	1774	1770	1581	1721	1770	1547	1774	1863	1554	1721	0	1797
Q Serve(g_s), s	1.3	7.8	1.0	12.1	7.7	6.6	0.6	1.0	12.8	5.6	0.0	4.0
Cycle Q Clear(g_c), s	1.3	7.8	1.0	12.1	7.7	6.6	0.6	1.0	12.8	5.6	0.0	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	127	637	285	651	1048	458	81	406	338	558	0	601
V/C Ratio(X)	0.25	0.63	0.09	0.89	0.43	0.38	0.20	0.08	0.83	0.51	0.00	0.22
Avail Cap(c_a), veh/h	263	1128	504	651	1209	528	287	830	692	558	0	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	28.1	25.3	29.3	21.0	20.7	34.1	23.0	27.7	28.4	0.0	17.7
Incr Delay (d2), s/veh	0.4	0.4	0.1	13.8	0.1	0.2	0.4	0.0	2.0	0.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.8	0.4	7.0	3.7	2.8	0.3	0.5	5.6	2.7	0.0	2.0
LnGrp Delay(d),s/veh	32.9	28.5	25.4	43.0	21.2	20.9	34.5	23.1	29.7	28.7	0.0	17.8
LnGrp LOS	C	C	C	D	C	C	C	C	C	C		B
Approach Vol, veh/h		461			1204			328				422
Approach Delay, s/veh		28.6			31.6			29.3				25.2
Approach LOS		C			C			C				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	27.2	16.7	20.7	18.0	18.6	8.1	29.4				
Change Period (Y+Rc), s	* 4.1	* 5.3	* 4.7	* 4.6	4.0	* 5.3	* 4.7	* 4.6				
Max Green Setting (Gmax), s	* 11	* 25	* 12	* 33	14.0	* 24	* 12	* 33				
Max Q Clear Time (g_c+I1), s	3.3	9.7	7.6	14.8	14.1	9.8	2.6	6.0				
Green Ext Time (p_c), s	0.0	3.6	0.2	1.0	0.0	3.4	0.0	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				29.6								
HCM 2010 LOS				C								
Notes												













HCM 2010 Signalized Intersection Summary
 3: I-5 SB On-Ramp/I-5 SB Ramps & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑↑	↗				↗↗		↗
Traffic Volume (veh/h)	0	520	451	0	995	401	0	0	0	173	0	209
Future Volume (veh/h)	0	520	451	0	995	401	0	0	0	173	0	209
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863				1863	0	1863
Adj Flow Rate, veh/h	0	520	0	0	995	0				173	0	209
Adj No. of Lanes	0	2	1	0	3	1				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	1482	663	0	2130	663				1041	0	479
Arrive On Green	0.00	0.42	0.00	0.00	0.42	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	3632	1583	0	5253	1583				3442	0	1583
Grp Volume(v), veh/h	0	520	0	0	995	0				173	0	209
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583				1721	0	1583
Q Serve(g_s), s	0.0	3.2	0.0	0.0	4.5	0.0				1.2	0.0	3.4
Cycle Q Clear(g_c), s	0.0	3.2	0.0	0.0	4.5	0.0				1.2	0.0	3.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1482	663	0	2130	663				1041	0	479
V/C Ratio(X)	0.00	0.35	0.00	0.00	0.47	0.00				0.17	0.00	0.44
Avail Cap(c_a), veh/h	0	2870	1284	0	4124	1284				1638	0	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.3	0.0	0.0	6.7	0.0				8.2	0.0	9.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.0				0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.5	0.0	0.0	2.0	0.0				0.6	0.0	1.5
LnGrp Delay(d),s/veh	0.0	6.4	0.0	0.0	6.8	0.0				8.2	0.0	9.2
LnGrp LOS		A			A					A		A
Approach Vol, veh/h		520			995						382	
Approach Delay, s/veh		6.4			6.8						8.7	
Approach LOS		A			A						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		18.5				18.5		13.5				
Change Period (Y+Rc), s		* 5.1				* 5.1		3.8				
Max Green Setting (Gmax), s		* 26				* 26		15.2				
Max Q Clear Time (g_c+I1), s		6.5				5.2		5.4				
Green Ext Time (p_c), s		6.9				7.0		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			7.1									
HCM 2010 LOS			A									
Notes												

HCM 2010 Signalized Intersection Summary
 4: I-5 NB Ramps/I-5 NB On-Ramp & Arena Blvd

























04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑↑	↑	↑↑		↑↑			
Traffic Volume (veh/h)	0	547	146	0	776	175	620	0	774	0	0	0
Future Volume (veh/h)	0	547	146	0	776	175	620	0	774	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	547	0	0	776	0	620	0	774			
Adj No. of Lanes	0	2	1	0	4	1	2	0	2			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1283	574	0	2323	574	1194	0	967			
Arrive On Green	0.00	0.36	0.00	0.00	0.36	0.00	0.35	0.00	0.35			
Sat Flow, veh/h	0	3632	1583	0	6669	1583	3442	0	2787			
Grp Volume(v), veh/h	0	547	0	0	776	0	620	0	774			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1602	1583	1721	0	1393			
Q Serve(g_s), s	0.0	3.8	0.0	0.0	2.9	0.0	4.7	0.0	8.2			
Cycle Q Clear(g_c), s	0.0	3.8	0.0	0.0	2.9	0.0	4.7	0.0	8.2			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1283	574	0	2323	574	1194	0	967			
V/C Ratio(X)	0.00	0.43	0.00	0.00	0.33	0.00	0.52	0.00	0.80			
Avail Cap(c_a), veh/h	0	2989	1337	0	5470	1352	1358	0	1100			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	7.9	0.0	0.0	7.6	0.0	8.5	0.0	9.7			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	3.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	1.8	0.0	0.0	1.2	0.0	2.2	0.0	3.6			
LnGrp Delay(d),s/veh	0.0	7.9	0.0	0.0	7.6	0.0	8.6	0.0	12.9			
LnGrp LOS		A			A		A		B			
Approach Vol, veh/h		547			776				1394			
Approach Delay, s/veh		7.9			7.6				11.0			
Approach LOS		A			A				B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		17.2		15.4		17.2						
Change Period (Y+Rc), s		* 5.4		* 4.1		* 5.4						
Max Green Setting (Gmax), s		* 28		* 13		* 28						
Max Q Clear Time (g_c+I1), s		4.9		10.2		5.8						
Green Ext Time (p_c), s		6.1		1.1		6.0						
Intersection Summary												
HCM 2010 Ctrl Delay			9.4									
HCM 2010 LOS			A									
Notes												

HCM 2010 Signalized Intersection Summary

























5: Commerce Way & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	331	964	26	11	669	156	57	25	13	196	4	225
Future Volume (veh/h)	331	964	26	11	669	156	57	25	13	196	4	225
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	331	964	26	11	669	156	57	25	13	196	4	0
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	2	1
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	520	2047	628	129	1476	452	495	679	211	555	518	232
Arrive On Green	0.15	0.40	0.40	0.04	0.29	0.29	0.14	0.13	0.13	0.16	0.15	0.00
Sat Flow, veh/h	3442	5085	1559	3442	5085	1559	3442	5085	1580	3442	3539	1583
Grp Volume(v), veh/h	331	964	26	11	669	156	57	25	13	196	4	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1559	1721	1695	1559	1721	1695	1580	1721	1770	1583
Q Serve(g_s), s	7.8	12.0	0.5	0.3	9.2	6.8	1.2	0.4	0.6	4.4	0.1	0.0
Cycle Q Clear(g_c), s	7.8	12.0	0.5	0.3	9.2	6.8	1.2	0.4	0.6	4.4	0.1	0.0
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	520	2047	628	129	1476	452	495	679	211	555	518	232
V/C Ratio(X)	0.64	0.47	0.04	0.08	0.45	0.34	0.12	0.04	0.06	0.35	0.01	0.00
Avail Cap(c_a), veh/h	784	2436	747	560	2105	645	564	2223	691	580	1568	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.3	18.9	4.4	40.0	24.9	24.1	32.1	32.4	32.6	32.1	31.4	0.0
Incr Delay (d2), s/veh	0.5	0.1	0.0	0.1	0.4	0.7	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	5.6	0.2	0.1	4.4	3.0	0.6	0.2	0.3	2.1	0.0	0.0
LnGrp Delay(d),s/veh	34.8	19.0	4.4	40.1	25.3	24.8	32.1	32.5	32.6	32.2	31.4	0.0
LnGrp LOS	C	B	A	D	C	C	C	C	C	C	C	C
Approach Vol, veh/h		1321			836			95			200	
Approach Delay, s/veh		22.7			25.4			32.3			32.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.4	30.9	19.4	17.4	8.7	40.5	18.3	18.5				
Change Period (Y+Rc), s	* 5.4	* 5.9	5.5	* 5.9	5.5	* 5.9	* 5.9	* 5.9				
Max Green Setting (Gmax), s	* 20	* 36	14.5	* 38	14.0	* 41	* 14	* 38				
Max Q Clear Time (g_c+I1), s	9.8	11.2	6.4	2.6	2.3	14.0	3.2	2.1				
Green Ext Time (p_c), s	0.5	13.3	0.2	0.2	0.0	14.1	0.1	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			24.8									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
6: Truxel Rd & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	277	381	260	85	419	85	224	827	69	67	762	85
Future Volume (veh/h)	277	381	260	85	419	85	224	827	69	67	762	85
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.99
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	277	381	260	85	419	85	224	827	69	67	762	85
Adj No. of Lanes	2	3	1	2	2	1	2	4	1	2	4	1
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	397	1254	385	379	854	375	371	2385	588	338	2324	566
Arrive On Green	0.12	0.25	0.25	0.11	0.24	0.24	0.22	0.74	0.74	0.10	0.36	0.36
Sat Flow, veh/h	3442	5085	1560	3442	3539	1555	3442	6408	1581	3442	6408	1561
Grp Volume(v), veh/h	277	381	260	85	419	85	224	827	69	67	762	85
Grp Sat Flow(s),veh/h/ln	1721	1695	1560	1721	1770	1555	1721	1602	1581	1721	1602	1561
Q Serve(g_s), s	10.1	7.9	19.6	2.9	13.2	5.7	7.6	5.8	1.6	2.3	11.2	4.8
Cycle Q Clear(g_c), s	10.1	7.9	19.6	2.9	13.2	5.7	7.6	5.8	1.6	2.3	11.2	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	397	1254	385	379	854	375	371	2385	588	338	2324	566
V/C Ratio(X)	0.70	0.30	0.68	0.22	0.49	0.23	0.60	0.35	0.12	0.20	0.33	0.15
Avail Cap(c_a), veh/h	447	1674	513	397	1122	493	384	2385	588	371	2324	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	39.9	44.3	52.8	42.4	39.6	48.5	11.2	10.6	53.9	30.0	27.9
Incr Delay (d2), s/veh	2.9	0.3	4.0	0.1	0.6	0.4	1.7	0.4	0.4	0.1	0.4	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	5.0	3.7	8.9	1.4	6.5	2.5	3.7	2.6	0.7	1.1	5.0	2.1
LnGrp Delay(d),s/veh	58.2	40.1	48.2	52.9	43.0	40.0	50.2	11.6	11.0	54.0	30.3	28.5
LnGrp LOS	E	D	D	D	D	D	D	B	B	D	C	C
Approach Vol, veh/h		918			589			1120			914	
Approach Delay, s/veh		47.9			44.0			19.2			31.9	
Approach LOS		D			D			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.5	37.5	18.3	53.8	19.8	38.2	19.5	52.5				
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4				
Max Green Setting (Gmax), s	16.9	* 41	14.0	* 36	15.0	* 43	14.5	* 35				
Max Q Clear Time (g_c+I1), s	12.1	15.2	4.3	7.8	4.9	21.6	9.6	13.2				
Green Ext Time (p_c), s	0.2	11.3	0.0	23.2	0.1	10.2	0.2	18.8				
Intersection Summary												
HCM 2010 Ctrl Delay			34.1									
HCM 2010 LOS			C									
Notes												

HCM Signalized Intersection Capacity Analysis

10: Truxel Rd & Natomas Crossing Dr

04/11/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	20	236	72	25	79	379	958	88	61	937	157
Future Volume (vph)	100	20	236	72	25	79	379	958	88	61	937	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		4.8	4.6	4.6	4.5	4.6	4.6
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00		0.97	0.86	1.00	1.00	0.86	1.00
Frpb, ped/bikes	1.00	0.99	0.99	1.00	0.99		1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.87	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1527	1484	1770	1634		3433	6408	1543	1770	6408	1554
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1527	1484	1770	1634		3433	6408	1543	1770	6408	1554
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	100	20	236	72	25	79	379	958	88	61	937	157
RTOR Reduction (vph)	0	87	102	0	66	0	0	0	49	0	0	96
Lane Group Flow (vph)	100	42	25	72	38	0	379	958	39	61	937	61
Confl. Peds. (#/hr)	1		2	2		1	3		1	1		3
Confl. Bikes (#/hr)									4			4
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6						8			4
Actuated Green, G (s)	14.9	22.9	22.9	11.2	19.2		16.1	51.2	51.2	9.6	44.4	44.4
Effective Green, g (s)	14.9	22.9	22.9	11.2	19.2		16.1	51.2	51.2	9.6	44.4	44.4
Actuated g/C Ratio	0.13	0.20	0.20	0.10	0.17		0.14	0.45	0.45	0.08	0.39	0.39
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		4.8	4.6	4.6	4.5	4.6	4.6
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	5.9	5.9
Lane Grp Cap (vph)	229	304	295	172	272		480	2852	686	147	2474	599
v/s Ratio Prot	c0.06	c0.03		c0.04	0.02		c0.11	0.15		0.03	c0.15	
v/s Ratio Perm			0.02						0.03			0.04
v/c Ratio	0.44	0.14	0.09	0.42	0.14		0.79	0.34	0.06	0.41	0.38	0.10
Uniform Delay, d1	46.2	37.9	37.5	48.8	40.9		47.8	20.8	18.2	50.0	25.4	22.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.1	0.0	0.6	0.1		7.8	0.3	0.2	0.7	0.4	0.3
Delay (s)	46.7	38.0	37.6	49.4	40.9		55.6	21.1	18.3	50.7	25.8	22.9
Level of Service	D	D	D	D	D		E	C	B	D	C	C
Approach Delay (s)		40.3			44.4			30.1			26.7	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			30.8			HCM 2000 Level of Service		C				
HCM 2000 Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			115.0			Sum of lost time (s)		20.4				
Intersection Capacity Utilization			57.7%			ICU Level of Service		B				
Analysis Period (min)			15									
c Critical Lane Group												

Intersection	
Intersection Delay, s/veh	17.4
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↔	↔			↔	↔		↔	↔	↔
Traffic Vol, veh/h	0	21	34	44	0	121	19	67	0	55	402	286
Future Vol, veh/h	0	21	34	44	0	121	19	67	0	55	402	286
Peak Hour Factor	0.92	1.00	1.00	1.00	0.92	1.00	1.00	1.00	0.92	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	21	34	44	0	121	19	67	0	55	402	286
Number of Lanes	0	0	1	1	0	0	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	2
HCM Control Delay	11.8	13.5	20.6
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	38%	0%	86%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	62%	0%	14%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	100%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	402	286	55	44	140	67	82	181	19
LT Vol	55	0	0	21	0	121	0	82	0	0
Through Vol	0	402	0	34	0	19	0	0	181	0
RT Vol	0	0	286	0	44	0	67	0	0	19
Lane Flow Rate	55	402	286	55	44	140	67	82	181	19
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.11	0.746	0.474	0.128	0.091	0.32	0.132	0.183	0.378	0.036
Departure Headway (Hd)	7.191	6.683	5.972	8.376	7.476	8.24	7.1	8.031	7.522	6.809
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	499	543	603	428	479	437	505	447	478	526
Service Time	4.923	4.415	3.704	6.126	5.226	5.982	4.843	5.773	5.263	4.55
HCM Lane V/C Ratio	0.11	0.74	0.474	0.129	0.092	0.32	0.133	0.183	0.379	0.036
HCM Control Delay	10.8	26.6	14	12.4	11	14.8	10.9	12.6	14.8	9.8
HCM Lane LOS	B	D	B	B	B	B	B	B	B	A
HCM 95th-tile Q	0.4	6.4	2.5	0.4	0.3	1.4	0.5	0.7	1.7	0.1

Intersection























Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations		↙	↑	↗
Traffic Vol, veh/h	0	82	181	19
Future Vol, veh/h	0	82	181	19
Peak Hour Factor	0.92	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	82	181	19
Number of Lanes	0	1	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	13.8
HCM LOS	B

HCM 2010 Signalized Intersection Summary
 12: Duckhorn Dr & San Juan Ave

























04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	217	25	87	220	166	4	21	42	203	46	34
Future Volume (veh/h)	53	217	25	87	220	166	4	21	42	203	46	34
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	53	217	25	87	220	166	4	21	42	203	46	34
Adj No. of Lanes	1	1	0	1	1	1	0	1	1	1	1	1
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	335	39	262	515	421	27	142	144	383	402	333
Arrive On Green	0.08	0.20	0.20	0.15	0.28	0.28	0.09	0.09	0.09	0.22	0.22	0.22
Sat Flow, veh/h	1774	1637	189	1774	1863	1523	296	1552	1573	1774	1863	1542
Grp Volume(v), veh/h	53	0	242	87	220	166	25	0	42	203	46	34
Grp Sat Flow(s),veh/h/ln	1774	0	1825	1774	1863	1523	1848	0	1573	1774	1863	1542
Q Serve(g_s), s	1.3	0.0	5.5	2.0	4.4	4.0	0.6	0.0	1.1	4.6	0.9	0.8
Cycle Q Clear(g_c), s	1.3	0.0	5.5	2.0	4.4	4.0	0.6	0.0	1.1	4.6	0.9	0.8
Prop In Lane	1.00		0.10	1.00		1.00	0.16		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	0	373	262	515	421	169	0	144	383	402	333
V/C Ratio(X)	0.40	0.00	0.65	0.33	0.43	0.39	0.15	0.00	0.29	0.53	0.11	0.10
Avail Cap(c_a), veh/h	276	0	585	711	1053	861	617	0	525	486	510	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	16.4	17.2	13.3	13.2	18.8	0.0	19.1	15.6	14.2	14.1
Incr Delay (d2), s/veh	0.7	0.0	0.7	0.3	0.2	0.2	0.1	0.0	0.4	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.8	1.0	2.2	1.7	0.3	0.0	0.5	2.2	0.5	0.3
LnGrp Delay(d),s/veh	20.5	0.0	17.1	17.4	13.5	13.4	18.9	0.0	19.5	16.0	14.2	14.2
LnGrp LOS	C		B	B	B	B	B		B	B	B	B
Approach Vol, veh/h		295			473			67			283	
Approach Delay, s/veh		17.7			14.2			19.3			15.5	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.9	17.0		13.4	10.1	13.8		7.6				
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5				
Max Green Setting (Gmax), s	7.0	* 25		12.3	18.0	* 14		15.0				
Max Q Clear Time (g_c+I1), s	3.3	6.4		6.6	4.0	7.5		3.1				
Green Ext Time (p_c), s	0.0	1.8		0.3	0.1	1.2		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			15.8									
HCM 2010 LOS			B									
Notes												

Synchro Analysis
Cumulative No Project AM Peak Hour

























HCM 2010 Signalized Intersection Summary
 1: El Centro Rd & Natomas Central Dr/Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	215	127	93	87	134	52	253	101	320	456	14
Future Volume (veh/h)	5	215	127	93	87	134	52	253	101	320	456	14
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	215	127	93	87	134	52	253	101	320	456	14
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
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	26	373	311	245	603	504	200	615	266	365	938	418
Arrive On Green	0.01	0.20	0.20	0.14	0.32	0.32	0.11	0.17	0.17	0.21	0.26	0.26
Sat Flow, veh/h	1774	1863	1552	1774	1863	1556	1774	3539	1530	1774	3539	1576
Grp Volume(v), veh/h	5	215	127	93	87	134	52	253	101	320	456	14
Grp Sat Flow(s),veh/h/ln	1774	1863	1552	1774	1863	1556	1774	1770	1530	1774	1770	1576
Q Serve(g_s), s	0.2	6.7	4.6	3.1	2.1	4.1	1.7	4.1	3.8	11.3	7.0	0.4
Cycle Q Clear(g_c), s	0.2	6.7	4.6	3.1	2.1	4.1	1.7	4.1	3.8	11.3	7.0	0.4
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	26	373	311	245	603	504	200	615	266	365	938	418
V/C Ratio(X)	0.19	0.58	0.41	0.38	0.14	0.27	0.26	0.41	0.38	0.88	0.49	0.03
Avail Cap(c_a), veh/h	303	896	746	303	893	746	330	1482	641	377	1526	680
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	23.3	22.5	25.3	15.5	16.1	26.1	23.7	23.6	24.8	20.0	17.6
Incr Delay (d2), s/veh	1.3	0.5	0.3	0.4	0.0	0.1	0.3	0.2	0.3	19.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.5	2.0	1.5	1.1	1.8	0.9	2.0	1.6	7.4	3.4	0.2
LnGrp Delay(d),s/veh	32.7	23.8	22.8	25.6	15.5	16.2	26.4	23.9	23.9	43.8	20.1	17.6
LnGrp LOS	C	C	C	C	B	B	C	C	C	D	C	B
Approach Vol, veh/h		347			314			406			790	
Approach Delay, s/veh		23.6			18.8			24.2			29.7	
Approach LOS		C			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.9	25.5	11.7	22.4	12.9	17.5	17.6	16.5				
Change Period (Y+Rc), s	4.0	* 4.6	* 4.4	* 5.3	4.0	* 4.6	* 4.3	* 5.3				
Max Green Setting (Gmax), s	11.0	* 31	* 12	* 28	11.0	* 31	* 14	* 27				
Max Q Clear Time (g_c+I1), s	2.2	6.1	3.7	9.0	5.1	8.7	13.3	6.1				
Green Ext Time (p_c), s	0.0	1.5	0.0	2.7	0.0	1.5	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			25.5									
HCM 2010 LOS			C									
Notes												













HCM 2010 Signalized Intersection Summary
 2: Duckhorn Dr & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	705	34	306	227	226	44	57	575	217	95	45
Future Volume (veh/h)	30	705	34	306	227	226	44	57	575	217	95	45
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	30	705	34	306	227	226	44	57	575	217	95	45
Adj No. of Lanes	1	2	1	2	2	1	1	1	1	2	1	0
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	111	806	353	390	981	424	152	641	537	425	456	216
Arrive On Green	0.06	0.23	0.23	0.11	0.28	0.28	0.09	0.34	0.34	0.12	0.38	0.38
Sat Flow, veh/h	1774	3539	1549	3442	3539	1530	1774	1863	1561	3442	1196	566
Grp Volume(v), veh/h	30	705	34	306	227	226	44	57	575	217	0	140
Grp Sat Flow(s),veh/h/ln	1774	1770	1549	1721	1770	1530	1774	1863	1561	1721	0	1762
Q Serve(g_s), s	1.6	18.7	1.7	8.4	4.8	12.2	2.3	2.0	33.4	5.7	0.0	5.2
Cycle Q Clear(g_c), s	1.6	18.7	1.7	8.4	4.8	12.2	2.3	2.0	33.4	5.7	0.0	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	111	806	353	390	981	424	152	641	537	425	0	672
V/C Ratio(X)	0.27	0.87	0.10	0.79	0.23	0.53	0.29	0.09	1.07	0.51	0.00	0.21
Avail Cap(c_a), veh/h	201	955	418	390	981	424	219	641	537	425	0	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.4	36.2	29.6	41.9	27.1	29.8	41.6	21.6	31.9	39.8	0.0	20.2
Incr Delay (d2), s/veh	0.5	7.2	0.0	9.3	0.0	0.7	0.4	0.0	59.3	0.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	9.9	0.7	4.5	2.4	5.2	1.1	1.0	23.1	2.7	0.0	2.5
LnGrp Delay(d),s/veh	43.9	43.3	29.7	51.2	27.2	30.5	42.0	21.6	91.1	40.2	0.0	20.2
LnGrp LOS	D	D	C	D	C	C	D	C	F	D		C
Approach Vol, veh/h		769			759			676			357	
Approach Delay, s/veh		42.7			37.8			82.1			32.4	
Approach LOS		D			D			F			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	32.2	16.7	38.0	15.0	27.4	13.0	41.7				
Change Period (Y+Rc), s	* 4.1	* 5.3	* 4.7	* 4.6	4.0	* 5.3	* 4.7	* 4.6				
Max Green Setting (Gmax), s	* 11	* 25	* 12	* 33	11.0	* 26	* 12	* 34				
Max Q Clear Time (g_c+I1), s	3.6	14.2	7.7	35.4	10.4	20.7	4.3	7.2				
Green Ext Time (p_c), s	0.0	3.5	0.2	0.0	0.0	1.5	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			50.2									
HCM 2010 LOS			D									
Notes												













HCM 2010 Signalized Intersection Summary
 3: I-5 SB On-Ramp/I-5 SB Ramps & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	669	828	0	547	784	0	0	0	197	0	128
Future Volume (veh/h)	0	669	828	0	547	784	0	0	0	197	0	128
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863				1863	0	1863
Adj Flow Rate, veh/h	0	669	0	0	547	0				197	0	128
Adj No. of Lanes	0	2	1	0	3	1				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	1399	626	0	2010	626				1066	0	490
Arrive On Green	0.00	0.40	0.00	0.00	0.40	0.00				0.31	0.00	0.31
Sat Flow, veh/h	0	3632	1583	0	5253	1583				3442	0	1583
Grp Volume(v), veh/h	0	669	0	0	547	0				197	0	128
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583				1721	0	1583
Q Serve(g_s), s	0.0	4.3	0.0	0.0	2.2	0.0				1.3	0.0	1.8
Cycle Q Clear(g_c), s	0.0	4.3	0.0	0.0	2.2	0.0				1.3	0.0	1.8
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1399	626	0	2010	626				1066	0	490
V/C Ratio(X)	0.00	0.48	0.00	0.00	0.27	0.00				0.18	0.00	0.26
Avail Cap(c_a), veh/h	0	3743	1674	0	5378	1674				2191	0	1008
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.8	0.0	0.0	6.2	0.0				7.6	0.0	7.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0				0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	0.0	0.0	1.0	0.0				0.6	0.0	0.8
LnGrp Delay(d),s/veh	0.0	6.9	0.0	0.0	6.2	0.0				7.7	0.0	7.9
LnGrp LOS		A			A					A		A
Approach Vol, veh/h		669			547						325	
Approach Delay, s/veh		6.9			6.2						7.8	
Approach LOS		A			A						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		17.0				17.0		13.1				
Change Period (Y+Rc), s		* 5.1				* 5.1		3.8				
Max Green Setting (Gmax), s		* 32				* 32		19.2				
Max Q Clear Time (g_c+I1), s		4.2				6.3		3.8				
Green Ext Time (p_c), s		5.8				5.7		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			6.8									
HCM 2010 LOS			A									
Notes												

HCM 2010 Signalized Intersection Summary
 4: I-5 NB Ramps/I-5 NB On-Ramp & Arena Blvd

























04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑↑	↑	↑↑		↑↑			
Traffic Volume (veh/h)	0	650	165	0	833	234	457	0	1163	0	0	0
Future Volume (veh/h)	0	650	165	0	833	234	457	0	1163	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	650	0	0	833	0	457	0	1163			
Adj No. of Lanes	0	2	1	0	4	1	2	0	2			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1196	535	0	2166	535	1568	0	1270			
Arrive On Green	0.00	0.34	0.00	0.00	0.34	0.00	0.46	0.00	0.46			
Sat Flow, veh/h	0	3632	1583	0	6669	1583	3442	0	2787			
Grp Volume(v), veh/h	0	650	0	0	833	0	457	0	1163			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1602	1583	1721	0	1393			
Q Serve(g_s), s	0.0	6.9	0.0	0.0	4.6	0.0	3.8	0.0	18.0			
Cycle Q Clear(g_c), s	0.0	6.9	0.0	0.0	4.6	0.0	3.8	0.0	18.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1196	535	0	2166	535	1568	0	1270			
V/C Ratio(X)	0.00	0.54	0.00	0.00	0.38	0.00	0.29	0.00	0.92			
Avail Cap(c_a), veh/h	0	2198	983	0	4022	994	1637	0	1325			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	12.4	0.0	0.0	11.6	0.0	7.9	0.0	11.7			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	9.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.4	0.0	0.0	2.0	0.0	1.8	0.0	8.5			
LnGrp Delay(d),s/veh	0.0	12.5	0.0	0.0	11.6	0.0	7.9	0.0	21.3			
LnGrp LOS		B			B		A		C			
Approach Vol, veh/h		650			833				1620			
Approach Delay, s/veh		12.5			11.6				17.5			
Approach LOS		B			B				B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.0		25.1		21.0						
Change Period (Y+Rc), s		* 5.4		* 4.1		* 5.4						
Max Green Setting (Gmax), s		* 29		* 22		* 29						
Max Q Clear Time (g_c+I1), s		6.6		20.0		8.9						
Green Ext Time (p_c), s		7.0		1.0		6.7						
Intersection Summary												
HCM 2010 Ctrl Delay			14.9									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary

























5: Commerce Way & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	298	909	25	142	443	153	259	247	118	261	286	445
Future Volume (veh/h)	298	909	25	142	443	153	259	247	118	261	286	445
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	298	909	25	142	443	153	259	247	118	261	286	0
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
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	508	1484	456	530	1523	474	507	693	216	546	757	236
Arrive On Green	0.15	0.29	0.29	0.15	0.30	0.30	0.15	0.14	0.14	0.16	0.15	0.00
Sat Flow, veh/h	3442	5085	1562	3442	5085	1582	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	298	909	25	142	443	153	259	247	118	261	286	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1562	1721	1695	1582	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	7.1	13.6	1.0	3.2	5.9	6.6	6.1	3.9	6.1	6.1	4.5	0.0
Cycle Q Clear(g_c), s	7.1	13.6	1.0	3.2	5.9	6.6	6.1	3.9	6.1	6.1	4.5	0.0
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	508	1484	456	530	1523	474	507	693	216	546	757	236
V/C Ratio(X)	0.59	0.61	0.05	0.27	0.29	0.32	0.51	0.36	0.55	0.48	0.38	0.00
Avail Cap(c_a), veh/h	672	2161	663	547	1976	615	508	2132	664	547	2195	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.0	26.9	22.4	32.8	23.7	23.9	34.6	34.5	35.5	33.7	33.8	0.0
Incr Delay (d2), s/veh	0.4	0.2	0.0	0.1	0.2	0.6	0.4	0.1	0.8	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	6.3	0.4	1.5	2.8	3.0	2.9	1.8	2.7	2.9	2.1	0.0
LnGrp Delay(d),s/veh	35.4	27.0	22.5	32.9	23.8	24.6	35.0	34.6	36.3	33.9	33.9	0.0
LnGrp LOS	D	C	C	C	C	C	C	C	D	C	C	
Approach Vol, veh/h		1232			738			624			547	
Approach Delay, s/veh		29.0			25.7			35.1			33.9	
Approach LOS		C			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.4	32.3	19.5	17.9	19.1	31.6	18.4	19.0				
Change Period (Y+Rc), s	* 5.4	* 5.9	5.5	* 5.9	5.5	* 5.9	* 5.4	* 5.9				
Max Green Setting (Gmax), s	* 17	* 34	14.0	* 37	14.0	* 37	* 13	* 38				
Max Q Clear Time (g_c+I1), s	9.1	8.6	8.1	8.1	5.2	15.6	8.1	6.5				
Green Ext Time (p_c), s	0.4	10.6	0.3	2.7	0.1	9.8	0.2	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			30.3									
HCM 2010 LOS			C									
Notes												























HCM 2010 Signalized Intersection Summary
6: Truxel Rd & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	552	185	110	213	200	131	484	107	401	1386	323
Future Volume (veh/h)	195	552	185	110	213	200	131	484	107	401	1386	323
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	195	552	185	110	213	200	131	484	107	401	1386	323
Adj No. of Lanes	2	3	1	2	2	1	2	4	1	2	4	1
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	397	1150	352	390	793	353	367	2281	553	453	2441	593
Arrive On Green	0.12	0.23	0.23	0.11	0.22	0.22	0.04	0.12	0.12	0.13	0.38	0.38
Sat Flow, veh/h	3442	5085	1557	3442	3539	1577	3442	6408	1555	3442	6408	1557
Grp Volume(v), veh/h	195	552	185	110	213	200	131	484	107	401	1386	323
Grp Sat Flow(s),veh/h/ln	1721	1695	1557	1721	1770	1577	1721	1602	1555	1721	1602	1557
Q Serve(g_s), s	6.9	12.3	13.6	3.8	6.5	14.7	4.8	8.9	8.1	14.9	22.2	21.1
Cycle Q Clear(g_c), s	6.9	12.3	13.6	3.8	6.5	14.7	4.8	8.9	8.1	14.9	22.2	21.1
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	397	1150	352	390	793	353	367	2281	553	453	2441	593
V/C Ratio(X)	0.49	0.48	0.53	0.28	0.27	0.57	0.36	0.21	0.19	0.88	0.57	0.54
Avail Cap(c_a), veh/h	397	1592	487	397	1116	497	371	2281	553	516	2441	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	43.7	44.2	52.8	41.7	44.8	58.3	40.9	40.5	55.5	31.8	31.4
Incr Delay (d2), s/veh	0.3	0.5	1.8	0.1	0.2	2.0	0.2	0.2	0.8	14.1	1.0	3.6
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	3.3	5.8	6.0	1.8	3.2	6.6	2.3	4.0	3.6	8.0	10.0	9.6
LnGrp Delay(d),s/veh	54.2	44.1	46.0	52.9	41.9	46.8	58.6	41.1	41.3	69.6	32.8	35.0
LnGrp LOS	D	D	D	D	D	D	E	D	D	E	C	C
Approach Vol, veh/h		932			523			722			2110	
Approach Delay, s/veh		46.6			46.1			44.3			40.1	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.5	35.2	22.6	51.7	20.2	35.5	19.4	54.9				
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4				
Max Green Setting (Gmax), s	15.0	* 41	19.5	* 32	15.0	* 41	14.0	* 38				
Max Q Clear Time (g_c+I1), s	8.9	16.7	16.9	10.9	5.8	15.6	6.8	24.2				
Green Ext Time (p_c), s	0.2	11.1	0.2	20.3	0.1	11.3	0.1	13.1				
Intersection Summary												
HCM 2010 Ctrl Delay			42.9									
HCM 2010 LOS			D									
Notes												
























HCM 2010 Signalized Intersection Summary
 7: Natomas Crossing Dr & El Centro Rd

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	64	5	22	5	388	58	18	601	5
Future Volume (veh/h)	5	5	5	64	5	22	5	388	58	18	601	5
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	5	5	70	5	24	5	422	63	20	653	5
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	81	81	234	60	287	29	1083	484	105	1260	564
Arrive On Green	0.01	0.10	0.10	0.13	0.21	0.21	0.02	0.31	0.31	0.06	0.36	0.36
Sat Flow, veh/h	1774	856	856	1774	280	1345	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	5	0	10	70	0	29	5	422	63	20	653	5
Grp Sat Flow(s),veh/h/ln	1774	0	1712	1774	0	1625	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.1	0.0	0.2	1.5	0.0	0.6	0.1	4.1	1.2	0.5	6.3	0.1
Cycle Q Clear(g_c), s	0.1	0.0	0.2	1.5	0.0	0.6	0.1	4.1	1.2	0.5	6.3	0.1
Prop In Lane	1.00		0.50	1.00		0.83	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	24	0	163	234	0	346	29	1083	484	105	1260	564
V/C Ratio(X)	0.21	0.00	0.06	0.30	0.00	0.08	0.17	0.39	0.13	0.19	0.52	0.01
Avail Cap(c_a), veh/h	411	0	1112	411	0	1055	494	1904	852	494	1863	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	17.8	16.9	0.0	13.6	20.9	11.8	10.8	19.3	11.0	9.0
Incr Delay (d2), s/veh	4.2	0.0	0.2	0.7	0.0	0.1	2.8	0.2	0.1	0.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.8	0.0	0.3	0.1	2.0	0.6	0.3	3.1	0.0
LnGrp Delay(d),s/veh	25.3	0.0	17.9	17.6	0.0	13.7	23.8	12.0	10.9	20.2	11.3	9.0
LnGrp LOS	C		B	B		B	C	B	B	C	B	A
Approach Vol, veh/h		15			99			490			678	
Approach Delay, s/veh		20.4			16.5			12.0			11.5	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	8.1	4.7	20.6	4.6	13.2	6.9	18.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	* 5.3	4.0	4.0	* 4.3	* 5.3				
Max Green Setting (Gmax), s	10.0	28.0	12.0	* 23	10.0	28.0	* 12	* 23				
Max Q Clear Time (g_c+I1), s	3.5	2.2	2.1	8.3	2.1	2.6	2.5	6.1				
Green Ext Time (p_c), s	0.1	0.1	0.0	6.5	0.0	0.1	0.0	7.1				
Intersection Summary												
HCM 2010 Ctrl Delay			12.2									
HCM 2010 LOS			B									
Notes												

























HCM 2010 Signalized Intersection Summary
 8: Natomas Crossing Dr & Duckhorn Dr

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	259	17	216	118	63	9	676	112	44	301	5
Future Volume (veh/h)	33	259	17	216	118	63	9	676	112	44	301	5
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	36	282	18	235	128	68	10	735	122	48	327	5
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	322	21	262	513	436	43	770	654	132	848	13
Arrive On Green	0.06	0.19	0.19	0.15	0.28	0.28	0.02	0.41	0.41	0.07	0.46	0.46
Sat Flow, veh/h	1774	1733	111	1774	1863	1583	1774	1863	1583	1774	1830	28
Grp Volume(v), veh/h	36	0	300	235	128	68	10	735	122	48	0	332
Grp Sat Flow(s),veh/h/ln	1774	0	1843	1774	1863	1583	1774	1863	1583	1774	0	1858
Q Serve(g_s), s	1.9	0.0	15.5	12.8	5.2	3.2	0.5	37.5	4.8	2.5	0.0	11.5
Cycle Q Clear(g_c), s	1.9	0.0	15.5	12.8	5.2	3.2	0.5	37.5	4.8	2.5	0.0	11.5
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	113	0	343	262	513	436	43	770	654	132	0	861
V/C Ratio(X)	0.32	0.00	0.87	0.90	0.25	0.16	0.23	0.96	0.19	0.36	0.00	0.39
Avail Cap(c_a), veh/h	181	0	404	262	513	436	181	788	670	181	0	861
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.9	0.0	38.8	41.0	27.6	26.9	46.9	27.9	18.3	43.2	0.0	17.2
Incr Delay (d2), s/veh	1.6	0.0	16.8	30.0	0.3	0.2	2.7	21.5	0.1	1.7	0.0	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	1.0	0.0	9.5	8.5	2.7	1.4	0.3	23.8	2.1	1.3	0.0	5.9
LnGrp Delay(d),s/veh	45.5	0.0	55.6	71.1	27.9	27.1	49.6	49.4	18.4	44.8	0.0	17.5
LnGrp LOS	D		E	E	C	C	D	D	B	D		B
Approach Vol, veh/h		336			431			867				380
Approach Delay, s/veh		54.5			51.3			45.0				20.9
Approach LOS		D			D			D				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	31.5	6.4	49.9	19.0	22.7	11.3	45.0				
Change Period (Y+Rc), s	4.0	* 4.5	4.0	* 4.5	* 4.5	* 4.5	4.0	* 4.5				
Max Green Setting (Gmax), s	10.0	* 27	10.0	* 42	* 15	* 22	10.0	* 42				
Max Q Clear Time (g_c+I1), s	3.9	7.2	2.5	13.5	14.8	17.5	4.5	39.5				
Green Ext Time (p_c), s	0.0	2.7	0.0	9.1	0.0	0.7	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			43.4									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary
 9: Natomas Crossing Dr & Commerce Way

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	197	53	96	148	70	42	390	38	56	559	206
Future Volume (veh/h)	166	197	53	96	148	70	42	390	38	56	559	206
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	180	214	58	104	161	76	46	424	41	61	608	224
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	323	416	353	235	324	276	156	988	442	184	1046	468
Arrive On Green	0.18	0.22	0.22	0.13	0.17	0.17	0.09	0.28	0.28	0.10	0.30	0.30
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	180	214	58	104	161	76	46	424	41	61	608	224
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.8	6.4	1.9	3.4	4.9	2.6	1.5	6.2	1.2	2.0	9.2	7.3
Cycle Q Clear(g_c), s	5.8	6.4	1.9	3.4	4.9	2.6	1.5	6.2	1.2	2.0	9.2	7.3
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	323	416	353	235	324	276	156	988	442	184	1046	468
V/C Ratio(X)	0.56	0.51	0.16	0.44	0.50	0.28	0.30	0.43	0.09	0.33	0.58	0.48
Avail Cap(c_a), veh/h	393	987	839	337	928	789	281	1568	701	281	1568	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	21.6	19.8	25.3	23.6	22.6	27.0	18.7	16.9	26.3	18.9	18.3
Incr Delay (d2), s/veh	1.5	1.0	0.2	1.3	1.2	0.5	1.0	0.3	0.1	1.0	0.5	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	3.0	3.4	0.8	1.8	2.7	1.2	0.8	3.0	0.5	1.0	4.6	3.3
LnGrp Delay(d),s/veh	25.1	22.5	20.0	26.6	24.8	23.2	28.1	19.0	16.9	27.3	19.5	19.0
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		452			341			511			893	
Approach Delay, s/veh		23.2			25.0			19.6			19.9	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	15.0	9.5	23.2	12.4	18.1	10.6	22.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	* 4.5	4.0	4.0	4.0	* 4.5				
Max Green Setting (Gmax), s	14.0	31.5	10.0	* 28	12.0	33.5	10.0	* 28				
Max Q Clear Time (g_c+I1), s	7.8	6.9	3.5	11.2	5.4	8.4	4.0	8.2				
Green Ext Time (p_c), s	0.2	2.7	0.0	7.4	0.1	2.7	0.0	8.1				
Intersection Summary												
HCM 2010 Ctrl Delay			21.3									
HCM 2010 LOS			C									
Notes												

HCM Signalized Intersection Capacity Analysis

10: Truxel Rd & Natomas Crossing Dr

04/11/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	21	395	93	12	83	322	580	102	87	1351	155
Future Volume (vph)	132	21	395	93	12	83	322	580	102	87	1351	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		4.8	4.6	4.6	4.5	4.6	4.6
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00		0.97	0.86	1.00	1.00	0.86	1.00
Frpb, ped/bikes	1.00	0.99	0.99	1.00	0.99		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.86	0.85	1.00	0.87		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1510	1482	1770	1599		3433	6408	1547	1770	6408	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1510	1482	1770	1599		3433	6408	1547	1770	6408	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	132	21	395	93	12	83	322	580	102	87	1351	155
RTOR Reduction (vph)	0	159	171	0	73	0	0	0	53	0	0	89
Lane Group Flow (vph)	132	52	34	93	22	0	322	580	49	87	1351	66
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			2			1			1			
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6						8			4
Actuated Green, G (s)	16.0	18.8	18.8	11.2	14.0		15.5	54.8	54.8	10.1	49.1	49.1
Effective Green, g (s)	16.0	18.8	18.8	11.2	14.0		15.5	54.8	54.8	10.1	49.1	49.1
Actuated g/C Ratio	0.14	0.16	0.16	0.10	0.12		0.13	0.48	0.48	0.09	0.43	0.43
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		4.8	4.6	4.6	4.5	4.6	4.6
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	5.9	5.9
Lane Grp Cap (vph)	246	246	242	172	194		462	3053	737	155	2735	675
v/s Ratio Prot	c0.07	c0.03		c0.05	0.01		c0.09	0.09		0.05	c0.21	
v/s Ratio Perm			0.02						0.03			0.04
v/c Ratio	0.54	0.21	0.14	0.54	0.11		0.70	0.19	0.07	0.56	0.49	0.10
Uniform Delay, d1	46.1	41.7	41.2	49.4	45.0		47.5	17.3	16.3	50.3	23.9	19.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.2	0.1	1.9	0.1		3.7	0.1	0.2	2.8	0.6	0.3
Delay (s)	47.2	41.8	41.3	51.3	45.1		51.2	17.5	16.4	53.1	24.6	20.0
Level of Service	D	D	D	D	D		D	B	B	D	C	B
Approach Delay (s)		42.9			48.2			28.2			25.7	
Approach LOS		D			D			C			C	























Intersection Summary

HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group























HCM 2010 Signalized Intersection Summary
 11: El Centro Rd & San Juan Ave

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	23	115	369	20	137	29	251	116	143	453	51
Future Volume (veh/h)	36	23	115	369	20	137	29	251	116	143	453	51
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	36	23	115	369	20	137	29	251	116	143	453	51
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
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	130	45	224	379	63	434	122	655	285	276	961	429
Arrive On Green	0.07	0.17	0.17	0.21	0.31	0.31	0.07	0.18	0.18	0.16	0.27	0.27
Sat Flow, veh/h	1774	268	1338	1774	206	1409	1774	3539	1541	1774	3539	1580
Grp Volume(v), veh/h	36	0	138	369	0	157	29	251	116	143	453	51
Grp Sat Flow(s),veh/h/ln	1774	0	1605	1774	0	1614	1774	1770	1541	1774	1770	1580
Q Serve(g_s), s	1.3	0.0	5.1	13.5	0.0	4.9	1.0	4.1	4.3	4.8	7.0	1.6
Cycle Q Clear(g_c), s	1.3	0.0	5.1	13.5	0.0	4.9	1.0	4.1	4.3	4.8	7.0	1.6
Prop In Lane	1.00		0.83	1.00		0.87	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	0	269	379	0	497	122	655	285	276	961	429
V/C Ratio(X)	0.28	0.00	0.51	0.97	0.00	0.32	0.24	0.38	0.41	0.52	0.47	0.12
Avail Cap(c_a), veh/h	271	0	706	379	0	816	298	1016	443	298	973	435
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	0.0	24.8	25.5	0.0	17.4	28.9	23.4	23.5	25.4	19.9	17.9
Incr Delay (d2), s/veh	1.1	0.0	1.5	38.9	0.0	0.4	1.0	0.4	0.9	1.5	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.4	10.7	0.0	2.2	0.5	2.0	1.9	2.5	3.4	0.7
LnGrp Delay(d),s/veh	29.8	0.0	26.3	64.4	0.0	17.7	29.8	23.8	24.4	26.9	20.3	18.1
LnGrp LOS	C		C	E		B	C	C	C	C	C	B
Approach Vol, veh/h		174			526			396			647	
Approach Delay, s/veh		27.0			50.5			24.4			21.6	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	24.7	8.9	23.1	18.0	15.5	14.6	17.4				
Change Period (Y+Rc), s	4.0	* 4.5	* 4.4	* 5.3	4.0	4.5	* 4.4	* 5.3				
Max Green Setting (Gmax), s	10.0	* 33	* 11	* 18	14.0	28.8	* 11	* 19				
Max Q Clear Time (g_c+I1), s	3.3	6.9	3.0	9.0	15.5	7.1	6.8	6.3				
Green Ext Time (p_c), s	0.0	1.7	0.0	3.1	0.0	1.7	0.1	3.8				
Intersection Summary												
HCM 2010 Ctrl Delay			31.5									
HCM 2010 LOS			C									
Notes												

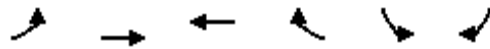
HCM 2010 Signalized Intersection Summary
 12: Duckhorn Dr & San Juan Ave

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	286	9	23	256	185	25	45	74	235	13	53
Future Volume (veh/h)	50	286	9	23	256	185	25	45	74	235	13	53
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	50	286	9	23	256	185	25	45	74	235	13	53
Adj No. of Lanes	1	1	0	1	1	1	0	1	1	1	1	1
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	129	428	13	99	412	350	87	157	206	395	415	344
Arrive On Green	0.07	0.24	0.24	0.06	0.22	0.22	0.13	0.13	0.13	0.22	0.22	0.22
Sat Flow, veh/h	1774	1795	56	1774	1863	1580	654	1176	1543	1774	1863	1543
Grp Volume(v), veh/h	50	0	295	23	256	185	70	0	74	235	13	53
Grp Sat Flow(s),veh/h/ln	1774	0	1851	1774	1863	1580	1830	0	1543	1774	1863	1543
Q Serve(g_s), s	1.2	0.0	6.3	0.5	5.4	4.5	1.5	0.0	1.9	5.2	0.2	1.2
Cycle Q Clear(g_c), s	1.2	0.0	6.3	0.5	5.4	4.5	1.5	0.0	1.9	5.2	0.2	1.2
Prop In Lane	1.00		0.03	1.00		1.00	0.36		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	129	0	441	99	412	350	244	0	206	395	415	344
V/C Ratio(X)	0.39	0.00	0.67	0.23	0.62	0.53	0.29	0.00	0.36	0.59	0.03	0.15
Avail Cap(c_a), veh/h	284	0	652	730	1124	953	627	0	529	458	481	399
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	0.0	15.1	19.8	15.4	15.0	17.1	0.0	17.3	15.2	13.3	13.7
Incr Delay (d2), s/veh	0.7	0.0	0.7	0.4	0.6	0.5	0.2	0.0	0.4	0.7	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	3.3	0.3	2.8	2.0	0.8	0.0	0.8	2.6	0.1	0.5
LnGrp Delay(d),s/veh	20.1	0.0	15.8	20.2	16.0	15.5	17.3	0.0	17.6	15.9	13.3	13.8
LnGrp LOS	C		B	C	B	B	B		B	B	B	B
Approach Vol, veh/h		345			464			144			301	
Approach Delay, s/veh		16.4			16.0			17.5			15.4	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	14.3		13.4	5.9	15.0		9.3				
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5				
Max Green Setting (Gmax), s	7.0	* 26		11.3	18.0	* 15		15.0				
Max Q Clear Time (g_c+I1), s	3.2	7.4		7.2	2.5	8.3		3.9				
Green Ext Time (p_c), s	0.0	2.1		0.2	0.0	1.5		0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			16.1									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
 13: San Juan Ave & Commerce Way

04/11/2017



























Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	99	595	464	361	422	65		
Future Volume (veh/h)	99	595	464	361	422	65		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	108	647	504	392	459	71		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	180	972	675	574	630	562		
Arrive On Green	0.10	0.52	0.36	0.36	0.36	0.36		
Sat Flow, veh/h	1774	1863	1863	1583	1774	1583		
Grp Volume(v), veh/h	108	647	504	392	459	71		
Grp Sat Flow(s),veh/h/ln	1774	1863	1863	1583	1774	1583		
Q Serve(g_s), s	4.0	17.6	16.3	14.5	15.5	2.1		
Cycle Q Clear(g_c), s	4.0	17.6	16.3	14.5	15.5	2.1		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	180	972	675	574	630	562		
V/C Ratio(X)	0.60	0.67	0.75	0.68	0.73	0.13		
Avail Cap(c_a), veh/h	206	999	675	574	630	562		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	29.7	12.1	19.2	18.6	19.4	15.0		
Incr Delay (d2), s/veh	3.8	1.6	7.4	6.5	7.2	0.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.1	9.4	9.6	13.2	8.8	2.3		
LnGrp Delay(d),s/veh	33.4	13.7	26.6	25.1	26.6	15.5		
LnGrp LOS	C	B	C	C	C	B		
Approach Vol, veh/h		755	896		530			
Approach Delay, s/veh		16.5	26.0		25.1			
Approach LOS		B	C		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		40.0		29.0	11.0	29.0		
Change Period (Y+Rc), s		4.0		* 4.5	4.0	4.0		
Max Green Setting (Gmax), s		37.0		* 25	8.0	25.0		
Max Q Clear Time (g_c+I1), s		19.6		17.5	6.0	18.3		
Green Ext Time (p_c), s		8.9		1.1	0.0	4.5		
Intersection Summary								
HCM 2010 Ctrl Delay			22.5					
HCM 2010 LOS			C					
Notes								

Synchro Analysis
Cumulative No Project PM Peak Hour

HCM 2010 Signalized Intersection Summary
 1: El Centro Rd & Natomas Central Dr/Arena Blvd

























08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	72	21	93	87	134	47	452	138	172	248	6
Future Volume (veh/h)	3	72	21	93	87	134	47	452	138	172	248	6
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	3	72	21	93	87	134	47	452	138	172	248	6
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
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	16	377	314	248	621	518	189	730	316	293	931	415
Arrive On Green	0.01	0.20	0.20	0.14	0.33	0.33	0.11	0.21	0.21	0.16	0.26	0.26
Sat Flow, veh/h	1774	1863	1552	1774	1863	1556	1774	3539	1534	1774	3539	1576
Grp Volume(v), veh/h	3	72	21	93	87	134	47	452	138	172	248	6
Grp Sat Flow(s),veh/h/ln	1774	1863	1552	1774	1863	1556	1774	1770	1534	1774	1770	1576
Q Serve(g_s), s	0.1	2.0	0.7	3.0	2.1	4.0	1.5	7.4	5.0	5.7	3.5	0.2
Cycle Q Clear(g_c), s	0.1	2.0	0.7	3.0	2.1	4.0	1.5	7.4	5.0	5.7	3.5	0.2
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	16	377	314	248	621	518	189	730	316	293	931	415
V/C Ratio(X)	0.19	0.19	0.07	0.38	0.14	0.26	0.25	0.62	0.44	0.59	0.27	0.01
Avail Cap(c_a), veh/h	307	910	758	307	907	757	335	1505	652	383	1550	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	21.0	20.5	24.8	14.8	15.4	26.0	22.9	22.0	24.5	18.5	17.3
Incr Delay (d2), s/veh	2.1	0.1	0.0	0.3	0.0	0.1	0.3	0.3	0.4	0.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.0	0.3	1.5	1.1	1.7	0.8	3.6	2.1	2.8	1.7	0.1
LnGrp Delay(d),s/veh	33.3	21.1	20.5	25.1	14.8	15.5	26.3	23.2	22.3	25.2	18.6	17.3
LnGrp LOS	C	C	C	C	B	B	C	C	C	C	B	B
Approach Vol, veh/h		96			314			637			426	
Approach Delay, s/veh		21.3			18.2			23.3			21.2	
Approach LOS		C			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.6	25.7	11.2	22.0	12.9	17.5	14.8	18.4				
Change Period (Y+Rc), s	4.0	* 4.6	* 4.4	* 5.3	4.0	* 4.6	* 4.3	* 5.3				
Max Green Setting (Gmax), s	11.0	* 31	* 12	* 28	11.0	* 31	* 14	* 27				
Max Q Clear Time (g_c+I1), s	2.1	6.0	3.5	5.5	5.0	4.0	7.7	9.4				
Green Ext Time (p_c), s	0.0	0.8	0.0	2.8	0.0	0.8	0.1	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			21.5									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary













2: Duckhorn Dr & Arena Blvd

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	403	26	578	581	318	16	31	281	287	110	25
Future Volume (veh/h)	32	403	26	578	581	318	16	31	281	287	110	25
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	32	403	26	578	581	318	16	31	281	287	110	25
Adj No. of Lanes	1	2	1	2	2	1	1	1	1	2	1	0
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	128	718	314	528	1001	433	81	403	337	576	497	113
Arrive On Green	0.07	0.20	0.20	0.15	0.28	0.28	0.05	0.22	0.22	0.17	0.34	0.34
Sat Flow, veh/h	1774	3539	1547	3442	3539	1530	1774	1863	1559	3442	1469	334
Grp Volume(v), veh/h	32	403	26	578	581	318	16	31	281	287	0	135
Grp Sat Flow(s),veh/h/ln	1774	1770	1547	1721	1770	1530	1774	1863	1559	1721	0	1803
Q Serve(g_s), s	1.2	7.3	1.0	11.0	10.1	13.5	0.6	0.9	12.3	5.4	0.0	3.8
Cycle Q Clear(g_c), s	1.2	7.3	1.0	11.0	10.1	13.5	0.6	0.9	12.3	5.4	0.0	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	128	718	314	528	1001	433	81	403	337	576	0	610
V/C Ratio(X)	0.25	0.56	0.08	1.09	0.58	0.73	0.20	0.08	0.83	0.50	0.00	0.22
Avail Cap(c_a), veh/h	272	1294	566	528	1230	532	297	868	727	577	0	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.4	25.7	23.1	30.3	22.0	23.3	32.9	22.4	26.8	27.1	0.0	17.0
Incr Delay (d2), s/veh	0.4	0.3	0.0	67.1	0.2	2.9	0.4	0.0	2.1	0.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.6	0.4	10.1	5.0	6.0	0.3	0.5	5.5	2.6	0.0	1.9
LnGrp Delay(d),s/veh	31.8	25.9	23.2	97.5	22.2	26.2	33.4	22.4	28.9	27.3	0.0	17.0
LnGrp LOS	C	C	C	F	C	C	C	C	C	C		B
Approach Vol, veh/h		461			1477			328			422	
Approach Delay, s/veh		26.2			52.5			28.5			24.0	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	25.6	16.7	20.1	15.0	19.8	8.0	28.8				
Change Period (Y+Rc), s	* 4.1	* 5.3	* 4.7	* 4.6	4.0	* 5.3	* 4.7	* 4.6				
Max Green Setting (Gmax), s	* 11	* 25	* 12	* 33	11.0	* 26	* 12	* 34				
Max Q Clear Time (g_c+I1), s	3.2	15.5	7.4	14.3	13.0	9.3	2.6	5.8				
Green Ext Time (p_c), s	0.0	3.5	0.2	1.0	0.0	4.6	0.0	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			40.6									
HCM 2010 LOS			D									
Notes												













HCM 2010 Signalized Intersection Summary
 3: I-5 SB On-Ramp/I-5 SB Ramps & Arena Blvd

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	520	581	0	995	1261	0	0	0	175	0	209
Future Volume (veh/h)	0	520	581	0	995	1261	0	0	0	175	0	209
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863				1863	0	1863
Adj Flow Rate, veh/h	0	520	0	0	995	0				175	0	209
Adj No. of Lanes	0	2	1	0	3	1				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	1432	641	0	2058	641				1065	0	490
Arrive On Green	0.00	0.40	0.00	0.00	0.40	0.00				0.31	0.00	0.31
Sat Flow, veh/h	0	3632	1583	0	5253	1583				3442	0	1583
Grp Volume(v), veh/h	0	520	0	0	995	0				175	0	209
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583				1721	0	1583
Q Serve(g_s), s	0.0	3.2	0.0	0.0	4.5	0.0				1.2	0.0	3.3
Cycle Q Clear(g_c), s	0.0	3.2	0.0	0.0	4.5	0.0				1.2	0.0	3.3
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1432	641	0	2058	641				1065	0	490
V/C Ratio(X)	0.00	0.36	0.00	0.00	0.48	0.00				0.16	0.00	0.43
Avail Cap(c_a), veh/h	0	2398	1073	0	3446	1073				1105	0	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.5	0.0	0.0	6.9	0.0				7.8	0.0	8.6
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.0				0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.5	0.0	0.0	2.0	0.0				0.5	0.0	1.4
LnGrp Delay(d),s/veh	0.0	6.5	0.0	0.0	6.9	0.0				7.8	0.0	8.8
LnGrp LOS		A			A					A		A
Approach Vol, veh/h		520			995						384	
Approach Delay, s/veh		6.5			6.9						8.3	
Approach LOS		A			A						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		17.7				17.7		13.4				
Change Period (Y+Rc), s		* 5.1				* 5.1		3.8				
Max Green Setting (Gmax), s		* 21				* 21		10.0				
Max Q Clear Time (g_c+I1), s		6.5				5.2		5.3				
Green Ext Time (p_c), s		6.1				6.3		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			7.1									
HCM 2010 LOS			A									
Notes												

HCM 2010 Signalized Intersection Summary
 4: I-5 NB Ramps/I-5 NB On-Ramp & Arena Blvd

























08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑↑	↑	↑↑		↑↑			
Traffic Volume (veh/h)	0	547	146	0	1372	179	831	0	1218	0	0	0
Future Volume (veh/h)	0	547	146	0	1372	179	831	0	1218	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	547	0	0	1372	0	831	0	1218			
Adj No. of Lanes	0	2	1	0	4	1	2	0	2			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1283	574	0	2322	574	1612	0	1305			
Arrive On Green	0.00	0.36	0.00	0.00	0.36	0.00	0.47	0.00	0.47			
Sat Flow, veh/h	0	3632	1583	0	6669	1583	3442	0	2787			
Grp Volume(v), veh/h	0	547	0	0	1372	0	831	0	1218			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1602	1583	1721	0	1393			
Q Serve(g_s), s	0.0	6.5	0.0	0.0	9.7	0.0	9.5	0.0	23.2			
Cycle Q Clear(g_c), s	0.0	6.5	0.0	0.0	9.7	0.0	9.5	0.0	23.2			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1283	574	0	2322	574	1612	0	1305			
V/C Ratio(X)	0.00	0.43	0.00	0.00	0.59	0.00	0.52	0.00	0.93			
Avail Cap(c_a), veh/h	0	1804	807	0	3301	816	1650	0	1336			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	13.5	0.0	0.0	14.5	0.0	10.5	0.0	14.1			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	11.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.2	0.0	0.0	4.3	0.0	4.5	0.0	10.9			
LnGrp Delay(d),s/veh	0.0	13.6	0.0	0.0	14.6	0.0	10.6	0.0	25.7			
LnGrp LOS		B			B		B		C			
Approach Vol, veh/h		547			1372			2049				
Approach Delay, s/veh		13.6			14.6			19.6				
Approach LOS		B			B			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		25.7		30.4		25.7						
Change Period (Y+Rc), s		* 5.4		* 4.1		* 5.4						
Max Green Setting (Gmax), s		* 29		* 27		* 29						
Max Q Clear Time (g_c+I1), s		11.7		25.2		8.5						
Green Ext Time (p_c), s		8.6		1.1		9.3						
Intersection Summary												
HCM 2010 Ctrl Delay			17.0									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary

























5: Commerce Way & Arena Blvd

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	331	964	26	146	669	213	493	322	126	196	328	640
Future Volume (veh/h)	331	964	26	146	669	213	493	322	126	196	328	640
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	331	964	26	146	669	213	493	322	126	196	328	0
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
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	487	1621	498	512	1664	517	487	678	211	521	734	228
Arrive On Green	0.14	0.32	0.32	0.15	0.33	0.33	0.14	0.13	0.13	0.15	0.14	0.00
Sat Flow, veh/h	3442	5085	1562	3442	5085	1582	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	331	964	26	146	669	213	493	322	126	196	328	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1562	1721	1695	1582	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	8.4	14.6	1.1	3.5	9.4	9.6	13.0	5.4	6.9	4.7	5.4	0.0
Cycle Q Clear(g_c), s	8.4	14.6	1.1	3.5	9.4	9.6	13.0	5.4	6.9	4.7	5.4	0.0
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	487	1621	498	512	1664	517	487	678	211	521	734	228
V/C Ratio(X)	0.68	0.59	0.05	0.29	0.40	0.41	1.01	0.47	0.60	0.38	0.45	0.00
Avail Cap(c_a), veh/h	644	2069	635	524	1892	588	487	2041	636	524	2102	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.5	26.3	21.7	34.8	24.0	24.0	39.5	36.9	37.5	35.1	36.0	0.0
Incr Delay (d2), s/veh	0.8	0.1	0.0	0.1	0.3	0.9	44.1	0.2	1.0	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	6.9	0.5	1.7	4.4	4.3	9.1	2.5	3.1	2.2	2.6	0.0
LnGrp Delay(d),s/veh	38.3	26.5	21.7	34.9	24.2	24.9	83.6	37.1	38.5	35.3	36.1	0.0
LnGrp LOS	D	C	C	C	C	C	F	D	D	D	D	
Approach Vol, veh/h		1321			1028			941			524	
Approach Delay, s/veh		29.3			25.9			61.6			35.8	
Approach LOS		C			C			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.4	36.0	19.4	18.2	19.2	35.2	18.4	19.2				
Change Period (Y+Rc), s	* 5.4	* 5.9	5.5	* 5.9	5.5	* 5.9	* 5.4	* 5.9				
Max Green Setting (Gmax), s	* 17	* 34	14.0	* 37	14.0	* 37	* 13	* 38				
Max Q Clear Time (g_c+I1), s	10.4	11.6	6.7	8.9	5.5	16.6	15.0	7.4				
Green Ext Time (p_c), s	0.4	13.1	0.2	3.4	0.1	12.5	0.0	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay				37.3								
HCM 2010 LOS				D								
Notes												























HCM 2010 Signalized Intersection Summary
6: Truxel Rd & Arena Blvd

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	487	381	260	85	419	481	224	962	69	317	762	283
Future Volume (veh/h)	487	381	260	85	419	481	224	962	69	317	762	283
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	487	381	260	85	419	481	224	962	69	317	762	283
Adj No. of Lanes	2	3	1	2	2	1	2	4	1	2	4	1
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	490	1768	542	379	1116	498	371	1676	406	371	1676	407
Arrive On Green	0.14	0.35	0.35	0.11	0.32	0.32	0.04	0.09	0.09	0.11	0.26	0.26
Sat Flow, veh/h	3442	5085	1559	3442	3539	1579	3442	6408	1551	3442	6408	1554
Grp Volume(v), veh/h	487	381	260	85	419	481	224	962	69	317	762	283
Grp Sat Flow(s),veh/h/ln	1721	1695	1559	1721	1770	1579	1721	1602	1551	1721	1602	1554
Q Serve(g_s), s	18.4	6.9	17.0	2.9	12.0	39.0	8.3	18.8	5.4	11.8	13.0	21.4
Cycle Q Clear(g_c), s	18.4	6.9	17.0	2.9	12.0	39.0	8.3	18.8	5.4	11.8	13.0	21.4
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	490	1768	542	379	1116	498	371	1676	406	371	1676	407
V/C Ratio(X)	0.99	0.22	0.48	0.22	0.38	0.97	0.60	0.57	0.17	0.86	0.45	0.70
Avail Cap(c_a), veh/h	490	1768	542	397	1116	498	371	1676	406	400	1691	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	29.9	33.2	52.8	34.6	43.8	60.0	52.4	46.3	57.0	40.2	43.3
Incr Delay (d2), s/veh	32.2	0.1	0.9	0.1	0.3	31.8	1.9	1.4	0.9	14.5	0.9	9.5
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	10.9	3.2	7.4	1.4	5.9	21.4	4.1	8.5	2.4	6.3	5.8	10.3
LnGrp Delay(d),s/veh	87.9	30.0	34.1	52.9	34.8	75.6	61.9	53.8	47.2	71.5	41.1	52.8
LnGrp LOS	F	C	C	D	C	E	E	D	D	E	D	D
Approach Vol, veh/h		1128			985			1255			1362	
Approach Delay, s/veh		55.9			56.3			54.9			50.6	
Approach LOS		E			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	47.1	19.5	39.4	19.8	51.3	19.5	39.4				
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4				
Max Green Setting (Gmax), s	18.5	* 41	15.1	* 33	15.0	* 44	14.0	* 34				
Max Q Clear Time (g_c+I1), s	20.4	41.0	13.8	20.8	4.9	19.0	10.3	23.4				
Green Ext Time (p_c), s	0.0	0.0	0.1	11.8	0.1	13.9	0.1	10.3				
Intersection Summary												
HCM 2010 Ctrl Delay			54.2									
HCM 2010 LOS			D									
Notes												
























HCM 2010 Signalized Intersection Summary
 7: Natomas Crossing Dr & El Centro Rd

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	58	5	24	5	482	103	27	282	5
Future Volume (veh/h)	5	5	5	58	5	24	5	482	103	27	282	5
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	5	5	63	5	26	5	524	112	29	307	5
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	84	84	217	54	282	29	1039	465	145	1295	579
Arrive On Green	0.01	0.10	0.10	0.12	0.21	0.21	0.02	0.29	0.29	0.08	0.37	0.37
Sat Flow, veh/h	1774	856	856	1774	262	1361	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	5	0	10	63	0	31	5	524	112	29	307	5
Grp Sat Flow(s),veh/h/ln	1774	0	1712	1774	0	1623	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.1	0.0	0.2	1.4	0.0	0.7	0.1	5.3	2.3	0.7	2.6	0.1
Cycle Q Clear(g_c), s	0.1	0.0	0.2	1.4	0.0	0.7	0.1	5.3	2.3	0.7	2.6	0.1
Prop In Lane	1.00		0.50	1.00		0.84	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	24	0	168	217	0	336	29	1039	465	145	1295	579
V/C Ratio(X)	0.21	0.00	0.06	0.29	0.00	0.09	0.17	0.50	0.24	0.20	0.24	0.01
Avail Cap(c_a), veh/h	408	0	1101	408	0	1044	489	1887	844	489	1846	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	0.0	17.8	17.4	0.0	14.0	21.1	12.7	11.7	18.7	9.6	8.8
Incr Delay (d2), s/veh	4.3	0.0	0.1	0.7	0.0	0.1	2.8	0.4	0.3	0.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.7	0.0	0.3	0.1	2.6	1.1	0.3	1.3	0.0
LnGrp Delay(d),s/veh	25.5	0.0	18.0	18.1	0.0	14.1	24.0	13.1	12.0	19.3	9.7	8.8
LnGrp LOS	C		B	B		B	C	B	B	B	A	A
Approach Vol, veh/h		15			94			641			341	
Approach Delay, s/veh		20.5			16.8			13.0			10.5	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	8.3	4.7	21.2	4.6	13.0	7.8	18.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	* 5.3	4.0	4.0	* 4.3	* 5.3				
Max Green Setting (Gmax), s	10.0	28.0	12.0	* 23	10.0	28.0	* 12	* 23				
Max Q Clear Time (g_c+I1), s	3.4	2.2	2.1	4.6	2.1	2.7	2.7	7.3				
Green Ext Time (p_c), s	0.1	0.2	0.0	5.8	0.0	0.2	0.0	5.4				
Intersection Summary												
HCM 2010 Ctrl Delay			12.6									
HCM 2010 LOS			B									
Notes												

























HCM 2010 Signalized Intersection Summary
 8: Natomas Crossing Dr & Duckhorn Dr

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	167	15	149	280	47	22	328	203	71	283	12
Future Volume (veh/h)	30	167	15	149	280	47	22	328	203	71	283	12
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	33	182	16	162	304	51	24	357	221	77	308	13
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	302	27	302	536	456	95	515	438	201	597	25
Arrive On Green	0.07	0.18	0.18	0.17	0.29	0.29	0.05	0.28	0.28	0.11	0.34	0.34
Sat Flow, veh/h	1774	1688	148	1774	1863	1583	1774	1863	1583	1774	1775	75
Grp Volume(v), veh/h	33	0	198	162	304	51	24	357	221	77	0	321
Grp Sat Flow(s),veh/h/ln	1774	0	1837	1774	1863	1583	1774	1863	1583	1774	0	1850
Q Serve(g_s), s	1.2	0.0	6.7	5.6	9.3	1.6	0.9	11.5	7.9	2.7	0.0	9.3
Cycle Q Clear(g_c), s	1.2	0.0	6.7	5.6	9.3	1.6	0.9	11.5	7.9	2.7	0.0	9.3
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	121	0	329	302	536	456	95	515	438	201	0	622
V/C Ratio(X)	0.27	0.00	0.60	0.54	0.57	0.11	0.25	0.69	0.50	0.38	0.00	0.52
Avail Cap(c_a), veh/h	264	0	575	317	653	555	264	958	814	264	0	965
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	0.0	25.3	25.4	20.3	17.6	30.4	21.7	20.4	27.6	0.0	17.9
Incr Delay (d2), s/veh	1.2	0.0	1.8	1.6	0.9	0.1	1.4	1.7	0.9	1.2	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	3.5	2.9	4.9	0.7	0.5	6.1	3.5	1.4	0.0	4.8
LnGrp Delay(d),s/veh	30.8	0.0	27.1	27.0	21.3	17.7	31.8	23.4	21.3	28.7	0.0	18.5
LnGrp LOS	C		C	C	C	B	C	C	C	C		B
Approach Vol, veh/h		231			517			602			398	
Approach Delay, s/veh		27.7			22.7			23.0			20.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	23.8	7.6	27.1	15.9	16.5	11.6	23.1				
Change Period (Y+Rc), s	4.0	* 4.5	4.0	* 4.5	* 4.5	* 4.5	4.0	* 4.5				
Max Green Setting (Gmax), s	10.0	* 24	10.0	* 35	* 12	* 21	10.0	* 35				
Max Q Clear Time (g_c+I1), s	3.2	11.3	2.9	11.3	7.6	8.7	4.7	13.5				
Green Ext Time (p_c), s	0.0	2.5	0.0	5.2	0.2	2.6	0.1	5.0				
Intersection Summary												
HCM 2010 Ctrl Delay			23.0									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
 9: East Commerce Way & Natomas Crossing Dr

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	170	48	103	207	62	56	512	72	129	435	213
Future Volume (veh/h)	223	170	48	103	207	62	56	512	72	129	435	213
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	242	185	52	112	225	67	61	557	78	140	473	232
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	306	421	358	227	339	288	177	959	429	240	1084	485
Arrive On Green	0.17	0.23	0.23	0.13	0.18	0.18	0.10	0.27	0.27	0.14	0.31	0.31
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	242	185	52	112	225	67	61	557	78	140	473	232
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	9.0	5.9	1.8	4.0	7.7	2.5	2.2	9.4	2.6	5.1	7.4	8.2
Cycle Q Clear(g_c), s	9.0	5.9	1.8	4.0	7.7	2.5	2.2	9.4	2.6	5.1	7.4	8.2
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	306	421	358	227	339	288	177	959	429	240	1084	485
V/C Ratio(X)	0.79	0.44	0.15	0.49	0.66	0.23	0.34	0.58	0.18	0.58	0.44	0.48
Avail Cap(c_a), veh/h	361	906	770	309	852	724	258	1387	621	283	1439	644
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.3	22.9	21.3	27.9	26.2	24.1	28.9	21.7	19.3	28.0	19.1	19.4
Incr Delay (d2), s/veh	9.8	0.7	0.2	1.6	2.2	0.4	1.1	0.6	0.2	2.2	0.3	0.7
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	5.2	3.1	0.8	2.1	4.2	1.1	1.1	4.6	1.2	2.6	3.7	3.7
LnGrp Delay(d),s/veh	37.1	23.6	21.5	29.6	28.5	24.5	30.0	22.3	19.5	30.2	19.4	20.2
LnGrp LOS	D	C	C	C	C	C	C	C	B	C	B	C
Approach Vol, veh/h		479			404			696			845	
Approach Delay, s/veh		30.2			28.1			22.6			21.4	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.9	16.5	10.9	25.6	12.8	19.6	13.3	23.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	* 4.5	4.0	4.0	4.0	* 4.5				
Max Green Setting (Gmax), s	14.0	31.5	10.0	* 28	12.0	33.5	11.0	* 27				
Max Q Clear Time (g_c+I1), s	11.0	9.7	4.2	10.2	6.0	7.9	7.1	11.4				
Green Ext Time (p_c), s	0.2	2.8	0.0	7.8	0.1	2.9	0.1	7.3				
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									
Notes												

HCM Signalized Intersection Capacity Analysis

10: Truxel Rd & Natomas Crossing Dr























08/09/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	20	299	72	25	79	436	977	88	61	937	157
Future Volume (vph)	100	20	299	72	25	79	436	977	88	61	937	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		4.8	4.6	4.6	4.5	4.6	4.6
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00		0.97	0.86	1.00	1.00	0.86	1.00
Frpb, ped/bikes	1.00	0.99	0.98	1.00	0.99		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.87	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1517	1481	1770	1633		3433	6408	1546	1770	6408	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1517	1481	1770	1633		3433	6408	1546	1770	6408	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	100	20	299	72	25	79	436	977	88	61	937	157
RTOR Reduction (vph)	0	121	136	0	70	0	0	0	40	0	0	86
Lane Group Flow (vph)	100	40	22	72	34	0	436	977	48	61	937	71
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			2			1			1			
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6						8			4
Actuated Green, G (s)	15.4	18.2	18.2	11.2	14.0		21.0	70.8	70.8	9.7	59.2	59.2
Effective Green, g (s)	15.4	18.2	18.2	11.2	14.0		21.0	70.8	70.8	9.7	59.2	59.2
Actuated g/C Ratio	0.12	0.14	0.14	0.09	0.11		0.16	0.54	0.54	0.07	0.46	0.46
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		4.8	4.6	4.6	4.5	4.6	4.6
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	5.9	5.9
Lane Grp Cap (vph)	209	212	207	152	175		554	3489	841	132	2918	720
v/s Ratio Prot	c0.06	c0.03		c0.04	0.02		c0.13	0.15		0.03	c0.15	
v/s Ratio Perm			0.01						0.03			0.05
v/c Ratio	0.48	0.19	0.11	0.47	0.19		0.79	0.28	0.06	0.46	0.32	0.10
Uniform Delay, d1	53.5	49.4	48.8	56.6	52.8		52.4	15.9	13.9	57.6	22.6	20.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.45	0.33	0.02
Incremental Delay, d2	0.6	0.2	0.1	0.8	0.2		6.7	0.2	0.1	0.9	0.3	0.3
Delay (s)	54.2	49.5	48.9	57.4	53.0		59.1	16.1	14.0	84.7	7.7	0.7
Level of Service	D	D	D	E	D		E	B	B	F	A	A
Approach Delay (s)		50.4			54.8			28.5			10.8	
Approach LOS		D			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			26.5			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			20.4			
Intersection Capacity Utilization			54.4%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												























HCM 2010 Signalized Intersection Summary
 11: El Centro Rd & San Juan Ave

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	34	44	369	20	137	68	467	286	82	213	39
Future Volume (veh/h)	59	34	44	369	20	137	68	467	286	82	213	39
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	59	34	44	369	20	137	68	467	286	82	213	39
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
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	175	118	153	366	55	378	208	840	366	226	876	391
Arrive On Green	0.10	0.16	0.16	0.21	0.27	0.27	0.12	0.24	0.24	0.13	0.25	0.25
Sat Flow, veh/h	1774	732	948	1774	206	1409	1774	3539	1543	1774	3539	1580
Grp Volume(v), veh/h	59	0	78	369	0	157	68	467	286	82	213	39
Grp Sat Flow(s),veh/h/ln	1774	0	1680	1774	0	1614	1774	1770	1543	1774	1770	1580
Q Serve(g_s), s	2.1	0.0	2.8	14.0	0.0	5.4	2.4	7.9	11.8	2.9	3.3	1.3
Cycle Q Clear(g_c), s	2.1	0.0	2.8	14.0	0.0	5.4	2.4	7.9	11.8	2.9	3.3	1.3
Prop In Lane	1.00		0.56	1.00		0.87	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	175	0	271	366	0	433	208	840	366	226	876	391
V/C Ratio(X)	0.34	0.00	0.29	1.01	0.00	0.36	0.33	0.56	0.78	0.36	0.24	0.10
Avail Cap(c_a), veh/h	261	0	712	366	0	787	287	980	427	287	938	419
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	0.0	25.1	27.0	0.0	20.1	27.5	22.8	24.3	27.1	20.5	19.7
Incr Delay (d2), s/veh	1.1	0.0	0.6	49.4	0.0	0.5	0.9	0.6	7.8	1.0	0.1	0.1
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	1.1	0.0	1.3	11.8	0.0	2.4	1.2	3.9	5.8	1.5	1.6	0.6
LnGrp Delay(d),s/veh	29.7	0.0	25.6	76.4	0.0	20.6	28.4	23.3	32.1	28.1	20.6	19.8
LnGrp LOS	C		C	F		C	C	C	C	C	C	B
Approach Vol, veh/h		137			526			821			334	
Approach Delay, s/veh		27.4			59.8			26.8			22.3	
Approach LOS		C			E			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	22.7	12.4	22.1	18.0	15.5	13.1	21.4				
Change Period (Y+Rc), s	4.0	* 4.5	* 4.4	* 5.3	4.0	4.5	* 4.4	* 5.3				
Max Green Setting (Gmax), s	10.0	* 33	* 11	* 18	14.0	28.8	* 11	* 19				
Max Q Clear Time (g_c+I1), s	4.1	7.4	4.4	5.3	16.0	4.8	4.9	13.8				
Green Ext Time (p_c), s	0.0	1.3	0.1	4.2	0.0	1.3	0.1	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			35.6									
HCM 2010 LOS			D									
Notes												

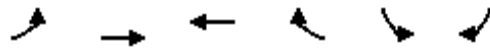
HCM 2010 Signalized Intersection Summary
 12: Duckhorn Dr & San Juan Ave

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	217	25	23	256	185	4	21	42	203	46	58
Future Volume (veh/h)	53	217	25	23	256	185	4	21	42	203	46	58
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	53	217	25	23	256	185	4	21	42	203	46	58
Adj No. of Lanes	1	1	0	1	1	1	0	1	1	1	1	1
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	137	399	46	100	415	352	27	144	143	418	439	364
Arrive On Green	0.08	0.24	0.24	0.06	0.22	0.22	0.09	0.09	0.09	0.24	0.24	0.24
Sat Flow, veh/h	1774	1636	188	1774	1863	1580	296	1552	1544	1774	1863	1544
Grp Volume(v), veh/h	53	0	242	23	256	185	25	0	42	203	46	58
Grp Sat Flow(s),veh/h/ln	1774	0	1824	1774	1863	1580	1848	0	1544	1774	1863	1544
Q Serve(g_s), s	1.2	0.0	4.8	0.5	5.1	4.2	0.5	0.0	1.0	4.1	0.8	1.2
Cycle Q Clear(g_c), s	1.2	0.0	4.8	0.5	5.1	4.2	0.5	0.0	1.0	4.1	0.8	1.2
Prop In Lane	1.00		0.10	1.00		1.00	0.16		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	137	0	445	100	415	352	171	0	143	418	439	364
V/C Ratio(X)	0.39	0.00	0.54	0.23	0.62	0.53	0.15	0.00	0.29	0.49	0.10	0.16
Avail Cap(c_a), veh/h	302	0	683	776	1195	1013	674	0	563	487	511	424
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	13.6	18.6	14.4	14.1	17.2	0.0	17.4	13.6	12.3	12.5
Incr Delay (d2), s/veh	0.7	0.0	0.4	0.4	0.6	0.5	0.1	0.0	0.4	0.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.4	0.3	2.6	1.9	0.3	0.0	0.5	2.0	0.4	0.5
LnGrp Delay(d),s/veh	18.7	0.0	14.0	19.0	15.0	14.5	17.3	0.0	17.8	13.9	12.4	12.6
LnGrp LOS	B		B	B	B	B	B		B	B	B	B
Approach Vol, veh/h		295			464			67			307	
Approach Delay, s/veh		14.8			15.0			17.6			13.4	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	13.8		13.4	5.8	14.6		7.3				
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5				
Max Green Setting (Gmax), s	7.0	* 26		11.3	18.0	* 15		15.0				
Max Q Clear Time (g_c+I1), s	3.2	7.1		6.1	2.5	6.8		3.0				
Green Ext Time (p_c), s	0.0	1.9		0.3	0.0	1.5		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			14.7									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
 13: San Juan Ave & East Commerce Way

08/09/2017



























Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	88	462	464	361	483	133		
Future Volume (veh/h)	88	462	464	361	483	133		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	96	502	504	392	525	145		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	173	936	645	548	663	592		
Arrive On Green	0.10	0.50	0.35	0.35	0.37	0.37		
Sat Flow, veh/h	1774	1863	1863	1583	1774	1583		
Grp Volume(v), veh/h	96	502	504	392	525	145		
Grp Sat Flow(s),veh/h/ln	1774	1863	1863	1583	1774	1583		
Q Serve(g_s), s	3.5	12.6	16.7	14.8	18.1	4.3		
Cycle Q Clear(g_c), s	3.5	12.6	16.7	14.8	18.1	4.3		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	173	936	645	548	663	592		
V/C Ratio(X)	0.55	0.54	0.78	0.71	0.79	0.24		
Avail Cap(c_a), veh/h	207	970	645	548	663	592		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	29.6	11.6	20.1	19.5	19.1	14.8		
Incr Delay (d2), s/veh	2.7	0.5	9.1	7.8	9.4	1.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.9	6.6	10.2	13.5	10.5	4.6		
LnGrp Delay(d),s/veh	32.3	12.2	29.2	27.3	28.5	15.8		
LnGrp LOS	C	B	C	C	C	B		
Approach Vol, veh/h		598	896		670			
Approach Delay, s/veh		15.4	28.4		25.7			
Approach LOS		B	C		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		38.5		30.2	10.7	27.8		
Change Period (Y+Rc), s		4.0		* 4.5	4.0	4.0		
Max Green Setting (Gmax), s		35.8		* 26	8.0	23.8		
Max Q Clear Time (g_c+I1), s		14.6		20.1	5.5	18.7		
Green Ext Time (p_c), s		8.5		1.3	0.0	3.3		
Intersection Summary								
HCM 2010 Ctrl Delay			24.0					
HCM 2010 LOS			C					
Notes								

Synchro Analysis
Cumulative With Project AM Peak Hour

























HCM 2010 Signalized Intersection Summary
 1: El Centro Rd & Natomas Central Dr/Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	215	127	151	87	137	52	253	160	331	429	14
Future Volume (veh/h)	5	215	127	151	87	137	52	253	160	331	429	14
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	215	127	151	87	137	52	253	160	331	429	14
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
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	26	357	298	272	616	514	196	645	279	360	966	430
Arrive On Green	0.01	0.19	0.19	0.15	0.33	0.33	0.11	0.18	0.18	0.20	0.27	0.27
Sat Flow, veh/h	1774	1863	1552	1774	1863	1556	1774	3539	1531	1774	3539	1576
Grp Volume(v), veh/h	5	215	127	151	87	137	52	253	160	331	429	14
Grp Sat Flow(s),veh/h/ln	1774	1863	1552	1774	1863	1556	1774	1770	1531	1774	1770	1576
Q Serve(g_s), s	0.2	7.1	4.9	5.3	2.2	4.4	1.8	4.2	6.4	12.3	6.8	0.4
Cycle Q Clear(g_c), s	0.2	7.1	4.9	5.3	2.2	4.4	1.8	4.2	6.4	12.3	6.8	0.4
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	26	357	298	272	616	514	196	645	279	360	966	430
V/C Ratio(X)	0.19	0.60	0.43	0.55	0.14	0.27	0.26	0.39	0.57	0.92	0.44	0.03
Avail Cap(c_a), veh/h	289	856	713	289	853	712	315	1416	613	360	1458	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	24.9	24.0	26.4	15.9	16.6	27.5	24.3	25.2	26.4	20.3	18.0
Incr Delay (d2), s/veh	1.3	0.6	0.4	1.0	0.0	0.1	0.3	0.1	0.7	27.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.7	2.1	2.7	1.1	1.9	0.9	2.1	2.8	8.7	3.3	0.2
LnGrp Delay(d),s/veh	34.2	25.5	24.4	27.4	15.9	16.7	27.8	24.5	25.9	53.9	20.4	18.0
LnGrp LOS	C	C	C	C	B	B	C	C	C	D	C	B
Approach Vol, veh/h		347			375			465			774	
Approach Delay, s/veh		25.2			20.8			25.3			34.7	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.0	26.9	11.9	23.7	14.4	17.5	18.0	17.6				
Change Period (Y+Rc), s	4.0	* 4.6	* 4.4	* 5.3	4.0	* 4.6	* 4.3	* 5.3				
Max Green Setting (Gmax), s	11.0	* 31	* 12	* 28	11.0	* 31	* 14	* 27				
Max Q Clear Time (g_c+I1), s	2.2	6.4	3.8	8.8	7.3	9.1	14.3	8.4				
Green Ext Time (p_c), s	0.0	1.5	0.0	2.7	0.1	1.5	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			28.1									
HCM 2010 LOS			C									
Notes												













HCM 2010 Signalized Intersection Summary
 2: Duckhorn Dr & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	747	64	360	257	217	52	87	673	300	165	85
Future Volume (veh/h)	125	747	64	360	257	217	52	87	673	300	165	85
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	125	747	64	360	257	217	52	87	673	300	165	85
Adj No. of Lanes	1	2	1	2	2	1	1	1	1	2	1	0
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	198	827	362	398	839	362	143	646	541	373	434	224
Arrive On Green	0.11	0.23	0.23	0.12	0.24	0.24	0.08	0.35	0.35	0.11	0.37	0.37
Sat Flow, veh/h	1774	3539	1549	3442	3539	1526	1774	1863	1561	3442	1159	597
Grp Volume(v), veh/h	125	747	64	360	257	217	52	87	673	300	0	250
Grp Sat Flow(s),veh/h/ln	1774	1770	1549	1721	1770	1526	1774	1863	1561	1721	0	1757
Q Serve(g_s), s	6.4	19.5	3.1	9.8	5.7	12.0	2.6	3.0	33.0	8.1	0.0	9.9
Cycle Q Clear(g_c), s	6.4	19.5	3.1	9.8	5.7	12.0	2.6	3.0	33.0	8.1	0.0	9.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	198	827	362	398	839	362	143	646	541	373	0	657
V/C Ratio(X)	0.63	0.90	0.18	0.90	0.31	0.60	0.36	0.13	1.24	0.81	0.00	0.38
Avail Cap(c_a), veh/h	205	867	379	398	839	362	192	646	541	373	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.4	35.4	29.1	41.6	29.9	32.3	41.4	21.3	31.1	41.4	0.0	21.7
Incr Delay (d2), s/veh	4.3	11.9	0.1	23.0	0.1	2.0	0.6	0.0	124.3	11.3	0.0	0.1
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	3.4	10.9	1.4	5.9	2.8	5.2	1.3	1.6	32.9	4.4	0.0	4.8
LnGrp Delay(d),s/veh	44.7	47.3	29.2	64.6	29.9	34.2	42.0	21.3	155.4	52.8	0.0	21.9
LnGrp LOS	D	D	C	E	C	C	D	C	F	D		C
Approach Vol, veh/h		936			834			812			550	
Approach Delay, s/veh		45.7			46.0			133.7			38.7	
Approach LOS		D			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	27.8	15.0	37.6	15.0	27.5	12.4	40.2				
Change Period (Y+Rc), s	* 4.1	* 5.3	* 4.7	* 4.6	4.0	* 5.3	* 4.7	* 4.6				
Max Green Setting (Gmax), s	* 11	* 22	* 10	* 33	11.0	* 23	* 10	* 33				
Max Q Clear Time (g_c+I1), s	8.4	14.0	10.1	35.0	11.8	21.5	4.6	11.9				
Green Ext Time (p_c), s	0.0	3.2	0.0	0.0	0.0	0.7	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			67.4									
HCM 2010 LOS			E									
Notes												













HCM 2010 Signalized Intersection Summary
 3: I-5 SB On-Ramp/I-5 SB Ramps & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	768	832	0	613	786	0	0	0	197	0	128
Future Volume (veh/h)	0	768	832	0	613	786	0	0	0	197	0	128
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863				1863	0	1863
Adj Flow Rate, veh/h	0	768	0	0	613	0				197	0	128
Adj No. of Lanes	0	2	1	0	3	1				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	1520	680	0	2184	680				1011	0	465
Arrive On Green	0.00	0.43	0.00	0.00	0.43	0.00				0.29	0.00	0.29
Sat Flow, veh/h	0	3632	1583	0	5253	1583				3442	0	1583
Grp Volume(v), veh/h	0	768	0	0	613	0				197	0	128
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583				1721	0	1583
Q Serve(g_s), s	0.0	5.1	0.0	0.0	2.5	0.0				1.4	0.0	2.0
Cycle Q Clear(g_c), s	0.0	5.1	0.0	0.0	2.5	0.0				1.4	0.0	2.0
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1520	680	0	2184	680				1011	0	465
V/C Ratio(X)	0.00	0.51	0.00	0.00	0.28	0.00				0.19	0.00	0.28
Avail Cap(c_a), veh/h	0	3729	1668	0	5359	1668				1840	0	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.7	0.0	0.0	6.0	0.0				8.5	0.0	8.7
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0				0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	0.0	0.0	1.1	0.0				0.7	0.0	0.9
LnGrp Delay(d),s/veh	0.0	6.8	0.0	0.0	6.0	0.0				8.5	0.0	8.8
LnGrp LOS		A			A					A		A
Approach Vol, veh/h		768			613						325	
Approach Delay, s/veh		6.8			6.0						8.7	
Approach LOS		A			A						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		18.9				18.9		13.3				
Change Period (Y+Rc), s		* 5.1				* 5.1		3.8				
Max Green Setting (Gmax), s		* 34				* 34		17.2				
Max Q Clear Time (g_c+I1), s		4.5				7.1		4.0				
Green Ext Time (p_c), s		6.9				6.7		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			6.9									
HCM 2010 LOS			A									
Notes												

























HCM 2010 Signalized Intersection Summary
 4: I-5 NB Ramps/I-5 NB On-Ramp & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑↑	↗	↘↘		↗↗			
Traffic Volume (veh/h)	0	728	186	0	867	215	493	0	1086	0	0	0
Future Volume (veh/h)	0	728	186	0	867	215	493	0	1086	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	728	0	0	867	0	493	0	1086			
Adj No. of Lanes	0	2	1	0	4	1	2	0	2			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1281	573	0	2319	573	1496	0	1211			
Arrive On Green	0.00	0.36	0.00	0.00	0.36	0.00	0.43	0.00	0.43			
Sat Flow, veh/h	0	3632	1583	0	6669	1583	3442	0	2787			
Grp Volume(v), veh/h	0	728	0	0	867	0	493	0	1086			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1602	1583	1721	0	1393			
Q Serve(g_s), s	0.0	7.7	0.0	0.0	4.7	0.0	4.4	0.0	16.9			
Cycle Q Clear(g_c), s	0.0	7.7	0.0	0.0	4.7	0.0	4.4	0.0	16.9			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1281	573	0	2319	573	1496	0	1211			
V/C Ratio(X)	0.00	0.57	0.00	0.00	0.37	0.00	0.33	0.00	0.90			
Avail Cap(c_a), veh/h	0	2167	970	0	3965	980	1614	0	1307			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	12.0	0.0	0.0	11.0	0.0	8.7	0.0	12.2			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	7.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.8	0.0	0.0	2.1	0.0	2.1	0.0	7.6			
LnGrp Delay(d),s/veh	0.0	12.1	0.0	0.0	11.0	0.0	8.8	0.0	19.9			
LnGrp LOS		B			B		A		B			
Approach Vol, veh/h		728			867			1579				
Approach Delay, s/veh		12.1			11.0			16.4				
Approach LOS		B			B			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		22.3		24.4		22.3						
Change Period (Y+Rc), s		* 5.4		* 4.1		* 5.4						
Max Green Setting (Gmax), s		* 29		* 22		* 29						
Max Q Clear Time (g_c+I1), s		6.7		18.9		9.7						
Green Ext Time (p_c), s		7.7		1.4		7.2						
Intersection Summary												
HCM 2010 Ctrl Delay			14.0									
HCM 2010 LOS			B									
Notes												

























HCM 2010 Signalized Intersection Summary
 5: Commerce Way & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	298	909	25	117	480	126	220	250	88	169	318	461
Future Volume (veh/h)	298	909	25	117	480	126	220	250	88	169	318	461
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	298	909	25	117	480	126	220	250	88	169	318	0
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
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	511	1497	460	518	1515	471	509	697	217	541	751	234
Arrive On Green	0.15	0.29	0.29	0.15	0.30	0.30	0.15	0.14	0.14	0.16	0.15	0.00
Sat Flow, veh/h	3442	5085	1562	3442	5085	1582	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	298	909	25	117	480	126	220	250	88	169	318	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1562	1721	1695	1582	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	7.1	13.4	1.0	2.6	6.4	5.3	5.1	3.9	4.4	3.8	5.0	0.0
Cycle Q Clear(g_c), s	7.1	13.4	1.0	2.6	6.4	5.3	5.1	3.9	4.4	3.8	5.0	0.0
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	511	1497	460	518	1515	471	509	697	217	541	751	234
V/C Ratio(X)	0.58	0.61	0.05	0.23	0.32	0.27	0.43	0.36	0.41	0.31	0.42	0.00
Avail Cap(c_a), veh/h	676	2173	667	550	1987	618	511	2144	667	550	2208	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.7	26.5	22.1	32.7	23.8	23.4	34.0	34.3	34.5	32.7	33.9	0.0
Incr Delay (d2), s/veh	0.4	0.1	0.0	0.1	0.2	0.5	0.2	0.1	0.5	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	6.3	0.4	1.2	3.0	2.4	2.4	1.8	2.0	1.8	2.3	0.0
LnGrp Delay(d),s/veh	35.1	26.7	22.2	32.8	24.0	23.9	34.2	34.4	35.0	32.8	34.1	0.0
LnGrp LOS	D	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		1232			723			558			487	
Approach Delay, s/veh		28.6			25.4			34.4			33.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.4	32.0	19.3	17.9	18.7	31.7	18.3	18.8				
Change Period (Y+Rc), s	* 5.4	* 5.9	5.5	* 5.9	5.5	* 5.9	* 5.4	* 5.9				
Max Green Setting (Gmax), s	* 17	* 34	14.0	* 37	14.0	* 37	* 13	* 38				
Max Q Clear Time (g_c+I1), s	9.1	8.4	5.8	6.4	4.6	15.4	7.1	7.0				
Green Ext Time (p_c), s	0.4	10.8	0.2	2.9	0.1	10.1	0.2	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			29.7									
HCM 2010 LOS			C									
Notes												













HCM 2010 Signalized Intersection Summary
6: Truxel Rd & Arena Blvd

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	555	98	109	211	190	96	482	108	407	1410	341
Future Volume (veh/h)	207	555	98	109	211	190	96	482	108	407	1410	341
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	207	555	98	109	211	190	96	482	108	407	1410	341
Adj No. of Lanes	2	3	1	2	2	1	2	4	1	2	4	1
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	397	1103	338	389	760	339	359	2329	565	459	2515	611
Arrive On Green	0.12	0.22	0.22	0.11	0.21	0.21	0.03	0.12	0.12	0.13	0.39	0.39
Sat Flow, veh/h	3442	5085	1556	3442	3539	1577	3442	6408	1555	3442	6408	1558
Grp Volume(v), veh/h	207	555	98	109	211	190	96	482	108	407	1410	341
Grp Sat Flow(s),veh/h/ln	1721	1695	1556	1721	1770	1577	1721	1602	1555	1721	1602	1558
Q Serve(g_s), s	7.4	12.5	6.8	3.8	6.5	14.0	3.5	8.8	8.1	15.1	22.3	22.1
Cycle Q Clear(g_c), s	7.4	12.5	6.8	3.8	6.5	14.0	3.5	8.8	8.1	15.1	22.3	22.1
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	397	1103	338	389	760	339	359	2329	565	459	2515	611
V/C Ratio(X)	0.52	0.50	0.29	0.28	0.28	0.56	0.27	0.21	0.19	0.89	0.56	0.56
Avail Cap(c_a), veh/h	397	1592	487	397	1116	497	371	2329	565	516	2515	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	44.7	42.5	52.8	42.6	45.6	57.9	40.3	40.0	55.4	30.8	30.7
Incr Delay (d2), s/veh	0.4	0.5	0.7	0.1	0.3	2.0	0.1	0.2	0.7	14.6	0.9	3.6
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	3.5	5.9	3.0	1.8	3.2	6.3	1.7	4.0	3.6	8.1	10.0	10.1
LnGrp Delay(d),s/veh	54.6	45.3	43.2	52.9	42.9	47.6	58.1	40.5	40.7	69.9	31.7	34.4
LnGrp LOS	D	D	D	D	D	D	E	D	D	E	C	C
Approach Vol, veh/h		860			510			686			2158	
Approach Delay, s/veh		47.3			46.8			43.0			39.3	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.5	34.0	22.8	52.7	20.2	34.3	19.1	56.4				
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4				
Max Green Setting (Gmax), s	15.0	* 41	19.5	* 32	15.0	* 41	14.0	* 38				
Max Q Clear Time (g_c+I1), s	9.4	16.0	17.1	10.8	5.8	14.5	5.5	24.3				
Green Ext Time (p_c), s	0.2	10.4	0.2	20.5	0.1	10.6	0.1	13.0				
Intersection Summary												
HCM 2010 Ctrl Delay			42.4									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary
 9: Natomas Crossing Dr & Commerce Way

04/11/2017

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	162	112	428	74	183	560		
Future Volume (veh/h)	162	112	428	74	183	560		
Number	5	12	8	18	7	4		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	176	122	465	80	199	609		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	380	339	1098	491	358	2122		
Arrive On Green	0.21	0.21	0.31	0.31	0.20	0.60		
Sat Flow, veh/h	1774	1583	3632	1583	1774	3632		
Grp Volume(v), veh/h	176	122	465	80	199	609		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1774	1770		
Q Serve(g_s), s	3.9	3.0	4.8	1.7	4.6	3.8		
Cycle Q Clear(g_c), s	3.9	3.0	4.8	1.7	4.6	3.8		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	380	339	1098	491	358	2122		
V/C Ratio(X)	0.46	0.36	0.42	0.16	0.56	0.29		
Avail Cap(c_a), veh/h	1225	1093	1940	868	428	3104		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.6	15.3	12.5	11.4	16.4	4.4		
Incr Delay (d2), s/veh	0.9	0.6	0.3	0.2	1.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	1.3	2.4	0.8	2.3	1.8		
LnGrp Delay(d),s/veh	16.5	15.9	12.8	11.6	17.7	4.5		
LnGrp LOS	B	B	B	B	B	A		
Approach Vol, veh/h	298		545			808		
Approach Delay, s/veh	16.3		12.6			7.8		
Approach LOS	B		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		13.8		31.8			13.2	18.6
Change Period (Y+Rc), s		4.0		* 4.5			4.0	* 4.5
Max Green Setting (Gmax), s		31.5		* 40			11.0	* 25
Max Q Clear Time (g_c+I1), s		5.9		5.8			6.6	6.8
Green Ext Time (p_c), s		0.9		9.3			0.2	7.4
Intersection Summary								
HCM 2010 Ctrl Delay			10.9					
HCM 2010 LOS			B					
Notes								

HCM Signalized Intersection Capacity Analysis

10: Truxel Rd & Natomas Crossing Dr























04/11/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	21	388	93	12	83	291	543	102	87	1289	152
Future Volume (vph)	135	21	388	93	12	83	291	543	102	87	1289	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		4.8	4.6	4.6	4.5	4.6	4.6
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00		0.97	0.86	1.00	1.00	0.86	1.00
Frpb, ped/bikes	1.00	0.99	0.98	1.00	0.99		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.87	0.85	1.00	0.87		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1510	1481	1770	1599		3433	6408	1546	1770	6408	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1510	1481	1770	1599		3433	6408	1546	1770	6408	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	135	21	388	93	12	83	291	543	102	87	1289	152
RTOR Reduction (vph)	0	164	178	0	74	0	0	0	49	0	0	78
Lane Group Flow (vph)	135	43	24	93	21	0	291	543	53	87	1289	74
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			2			1			1			
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6						8			4
Actuated Green, G (s)	15.8	15.7	15.7	14.1	14.0		16.2	67.3	67.3	12.8	63.6	63.6
Effective Green, g (s)	15.8	15.7	15.7	14.1	14.0		16.2	67.3	67.3	12.8	63.6	63.6
Actuated g/C Ratio	0.12	0.12	0.12	0.11	0.11		0.12	0.52	0.52	0.10	0.49	0.49
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		4.8	4.6	4.6	4.5	4.6	4.6
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	5.9	5.9
Lane Grp Cap (vph)	215	182	178	191	172		427	3317	800	174	3134	774
v/s Ratio Prot	c0.08	0.03		c0.05	0.01		c0.08	c0.08		0.05	c0.20	
v/s Ratio Perm			0.02						0.03			0.05
v/c Ratio	0.63	0.24	0.14	0.49	0.12		0.68	0.16	0.07	0.50	0.41	0.10
Uniform Delay, d1	54.3	51.7	51.1	54.5	52.4		54.4	16.5	15.7	55.6	21.2	17.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.44	0.27	0.06
Incremental Delay, d2	4.1	0.2	0.1	0.7	0.1		3.6	0.1	0.2	0.7	0.4	0.2
Delay (s)	58.4	52.0	51.2	55.3	52.6		58.0	16.6	15.8	80.5	6.0	1.2
Level of Service	E	D	D	E	D		E	B	B	F	A	A
Approach Delay (s)		53.3			53.9			29.4			9.8	
Approach LOS		D			D			C			A	
Intersection Summary												
HCM 2000 Control Delay			25.5	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			130.0	Sum of lost time (s)				20.4				
Intersection Capacity Utilization			70.1%	ICU Level of Service				C				
Analysis Period (min)			15									
c Critical Lane Group												























HCM 2010 Signalized Intersection Summary
 11: El Centro Rd & San Juan Ave

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	39	126	395	29	150	31	249	128	150	429	43
Future Volume (veh/h)	30	39	126	395	29	150	31	249	128	150	429	43
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	30	39	126	395	29	150	31	249	128	150	429	43
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
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	114	64	208	379	83	431	128	654	285	278	952	425
Arrive On Green	0.06	0.17	0.17	0.21	0.32	0.32	0.07	0.18	0.18	0.16	0.27	0.27
Sat Flow, veh/h	1774	384	1240	1774	263	1360	1774	3539	1541	1774	3539	1580
Grp Volume(v), veh/h	30	0	165	395	0	179	31	249	128	150	429	43
Grp Sat Flow(s),veh/h/ln	1774	0	1624	1774	0	1623	1774	1770	1541	1774	1770	1580
Q Serve(g_s), s	1.1	0.0	6.2	14.0	0.0	5.6	1.1	4.0	4.8	5.1	6.6	1.3
Cycle Q Clear(g_c), s	1.1	0.0	6.2	14.0	0.0	5.6	1.1	4.0	4.8	5.1	6.6	1.3
Prop In Lane	1.00		0.76	1.00		0.84	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	114	0	272	379	0	514	128	654	285	278	952	425
V/C Ratio(X)	0.26	0.00	0.61	1.04	0.00	0.35	0.24	0.38	0.45	0.54	0.45	0.10
Avail Cap(c_a), veh/h	271	0	713	379	0	819	298	1009	439	300	971	434
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	0.0	25.3	25.8	0.0	17.2	28.7	23.4	23.8	25.5	19.9	18.0
Incr Delay (d2), s/veh	1.2	0.0	2.2	57.9	0.0	0.4	1.0	0.4	1.1	1.6	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.9	12.8	0.0	2.5	0.6	2.0	2.1	2.6	3.3	0.6
LnGrp Delay(d),s/veh	30.4	0.0	27.5	83.7	0.0	17.6	29.7	23.8	24.9	27.1	20.3	18.1
LnGrp LOS	C		C	F		B	C	C	C	C	C	B
Approach Vol, veh/h		195			574			408			622	
Approach Delay, s/veh		27.9			63.1			24.6			21.8	
Approach LOS		C			E			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	25.3	9.1	22.9	18.0	15.5	14.7	17.4				
Change Period (Y+Rc), s	4.0	* 4.5	* 4.4	* 5.3	4.0	4.5	* 4.4	* 5.3				
Max Green Setting (Gmax), s	10.0	* 33	* 11	* 18	14.0	28.8	* 11	* 19				
Max Q Clear Time (g_c+I1), s	3.1	7.6	3.1	8.6	16.0	8.2	7.1	6.8				
Green Ext Time (p_c), s	0.0	2.0	0.0	3.1	0.0	1.9	0.1	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			36.3									
HCM 2010 LOS			D									
Notes												

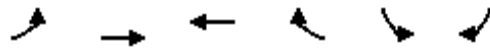
HCM 2010 Signalized Intersection Summary
 12: Duckhorn Dr & San Juan Ave

04/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	387	9	23	294	391	25	45	74	349	13	56
Future Volume (veh/h)	53	387	9	23	294	391	25	45	74	349	13	56
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	53	387	9	23	294	391	25	45	74	349	13	56
Adj No. of Lanes	1	1	0	1	1	1	0	1	1	1	1	1
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	124	602	14	95	588	499	73	132	173	410	430	357
Arrive On Green	0.07	0.33	0.33	0.05	0.32	0.32	0.11	0.11	0.11	0.23	0.23	0.23
Sat Flow, veh/h	1774	1812	42	1774	1863	1581	654	1176	1541	1774	1863	1543
Grp Volume(v), veh/h	53	0	396	23	294	391	70	0	74	349	13	56
Grp Sat Flow(s),veh/h/ln	1774	0	1854	1774	1863	1581	1830	0	1541	1774	1863	1543
Q Serve(g_s), s	1.6	0.0	10.2	0.7	7.2	12.7	2.0	0.0	2.5	10.6	0.3	1.6
Cycle Q Clear(g_c), s	1.6	0.0	10.2	0.7	7.2	12.7	2.0	0.0	2.5	10.6	0.3	1.6
Prop In Lane	1.00		0.02	1.00		1.00	0.36		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	124	0	616	95	588	499	205	0	173	410	430	357
V/C Ratio(X)	0.43	0.00	0.64	0.24	0.50	0.78	0.34	0.00	0.43	0.85	0.03	0.16
Avail Cap(c_a), veh/h	220	0	729	566	1096	930	486	0	409	613	643	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	0.0	16.0	25.6	15.7	17.6	23.1	0.0	23.4	20.8	16.8	17.3
Incr Delay (d2), s/veh	0.9	0.0	0.8	0.5	0.2	1.0	0.4	0.0	0.6	4.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	5.3	0.4	3.7	5.7	1.0	0.0	1.1	5.7	0.2	0.7
LnGrp Delay(d),s/veh	26.0	0.0	16.9	26.1	15.9	18.6	23.5	0.0	24.0	25.7	16.8	17.4
LnGrp LOS	C		B	C	B	B	C		C	C	B	B
Approach Vol, veh/h		449			708			144			418	
Approach Delay, s/veh		17.9			17.7			23.7			24.3	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	22.4		16.7	6.5	23.3		9.8				
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5				
Max Green Setting (Gmax), s	7.0	* 33		19.5	18.0	* 22		15.0				
Max Q Clear Time (g_c+I1), s	3.6	14.7		12.6	2.7	12.2		4.5				
Green Ext Time (p_c), s	0.0	3.1		0.4	0.0	2.5		0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			19.9									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
 13: San Juan Ave & Commerce Way

04/11/2017



























Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	191	717	587	305	324	185		
Future Volume (veh/h)	191	717	587	305	324	185		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	208	779	638	332	352	201		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	244	1106	757	643	532	475		
Arrive On Green	0.14	0.59	0.41	0.41	0.30	0.30		
Sat Flow, veh/h	1774	1863	1863	1583	1774	1583		
Grp Volume(v), veh/h	208	779	638	332	352	201		
Grp Sat Flow(s),veh/h/ln	1774	1863	1863	1583	1774	1583		
Q Serve(g_s), s	9.2	23.4	24.7	12.6	13.9	8.1		
Cycle Q Clear(g_c), s	9.2	23.4	24.7	12.6	13.9	8.1		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	244	1106	757	643	532	475		
V/C Ratio(X)	0.85	0.70	0.84	0.52	0.66	0.42		
Avail Cap(c_a), veh/h	244	1106	757	643	532	475		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	33.7	11.3	21.4	17.8	24.5	22.4		
Incr Delay (d2), s/veh	24.1	2.0	11.1	2.9	6.3	2.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.1	12.5	14.9	12.2	7.7	7.9		
LnGrp Delay(d),s/veh	57.8	13.4	32.5	20.8	30.8	25.2		
LnGrp LOS	E	B	C	C	C	C		
Approach Vol, veh/h		987	970		553			
Approach Delay, s/veh		22.8	28.5		28.8			
Approach LOS		C	C		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		51.5		28.5	15.0	36.5		
Change Period (Y+Rc), s		4.0		* 4.5	4.0	4.0		
Max Green Setting (Gmax), s		47.5		* 24	11.0	32.5		
Max Q Clear Time (g_c+I1), s		25.4		15.9	11.2	26.7		
Green Ext Time (p_c), s		12.3		1.2	0.0	4.4		
Intersection Summary								
HCM 2010 Ctrl Delay			26.3					
HCM 2010 LOS			C					
Notes								

Synchro Analysis
Cumulative With Project PM Peak Hour

























HCM 2010 Signalized Intersection Summary
 1: El Centro Rd & Natomas Central Dr/Arena Blvd

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	72	31	151	87	137	47	430	211	182	223	6
Future Volume (veh/h)	3	72	31	151	87	137	47	430	211	182	223	6
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	3	72	31	151	87	137	47	430	211	182	223	6
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
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	16	365	304	277	639	534	186	747	324	285	939	418
Arrive On Green	0.01	0.20	0.20	0.16	0.34	0.34	0.11	0.21	0.21	0.16	0.27	0.27
Sat Flow, veh/h	1774	1863	1552	1774	1863	1556	1774	3539	1534	1774	3539	1576
Grp Volume(v), veh/h	3	72	31	151	87	137	47	430	211	182	223	6
Grp Sat Flow(s),veh/h/ln	1774	1863	1552	1774	1863	1556	1774	1770	1534	1774	1770	1576
Q Serve(g_s), s	0.1	2.1	1.1	5.2	2.1	4.2	1.6	7.2	8.3	6.3	3.3	0.2
Cycle Q Clear(g_c), s	0.1	2.1	1.1	5.2	2.1	4.2	1.6	7.2	8.3	6.3	3.3	0.2
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	16	365	304	277	639	534	186	747	324	285	939	418
V/C Ratio(X)	0.19	0.20	0.10	0.54	0.14	0.26	0.25	0.58	0.65	0.64	0.24	0.01
Avail Cap(c_a), veh/h	296	876	730	296	873	729	323	1450	628	369	1493	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	22.2	21.8	25.6	14.9	15.6	27.1	23.4	23.8	25.9	19.0	17.9
Incr Delay (d2), s/veh	2.1	0.1	0.1	0.8	0.0	0.1	0.3	0.3	0.8	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.1	0.5	2.6	1.1	1.8	0.8	3.6	3.6	3.2	1.6	0.1
LnGrp Delay(d),s/veh	34.6	22.3	21.8	26.4	15.0	15.7	27.4	23.6	24.6	26.7	19.0	17.9
LnGrp LOS	C	C	C	C	B	B	C	C	C	C	B	B
Approach Vol, veh/h		106			375			688			411	
Approach Delay, s/veh		22.5			19.8			24.2			22.4	
Approach LOS		C			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.6	27.2	11.3	22.8	14.3	17.5	14.9	19.2				
Change Period (Y+Rc), s	4.0	* 4.6	* 4.4	* 5.3	4.0	* 4.6	* 4.3	* 5.3				
Max Green Setting (Gmax), s	11.0	* 31	* 12	* 28	11.0	* 31	* 14	* 27				
Max Q Clear Time (g_c+I1), s	2.1	6.2	3.6	5.3	7.2	4.1	8.3	10.3				
Green Ext Time (p_c), s	0.0	0.8	0.0	2.7	0.1	0.8	0.1	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			22.6									
HCM 2010 LOS			C									
Notes												













HCM 2010 Signalized Intersection Summary
2: Duckhorn Dr & Arena Blvd

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	412	44	632	659	319	39	98	568	327	176	119
Future Volume (veh/h)	100	412	44	632	659	319	39	98	568	327	176	119
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	100	412	44	632	659	319	39	98	568	327	176	119
Adj No. of Lanes	1	2	1	2	2	1	1	1	1	2	1	0
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	176	620	270	707	992	429	138	611	512	394	378	256
Arrive On Green	0.10	0.18	0.18	0.21	0.28	0.28	0.08	0.33	0.33	0.11	0.36	0.36
Sat Flow, veh/h	1774	3539	1544	3442	3539	1530	1774	1863	1561	3442	1037	701
Grp Volume(v), veh/h	100	412	44	632	659	319	39	98	568	327	0	295
Grp Sat Flow(s),veh/h/ln	1774	1770	1544	1721	1770	1530	1774	1863	1561	1721	0	1738
Q Serve(g_s), s	5.6	11.4	2.5	18.8	17.3	19.9	2.2	3.9	34.4	9.8	0.0	13.6
Cycle Q Clear(g_c), s	5.6	11.4	2.5	18.8	17.3	19.9	2.2	3.9	34.4	9.8	0.0	13.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	176	620	270	707	992	429	138	611	512	394	0	634
V/C Ratio(X)	0.57	0.67	0.16	0.89	0.66	0.74	0.28	0.16	1.11	0.83	0.00	0.47
Avail Cap(c_a), veh/h	225	874	381	886	1292	559	203	611	512	502	0	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.1	40.4	36.7	40.6	33.4	34.3	45.6	25.0	35.3	45.5	0.0	25.5
Incr Delay (d2), s/veh	1.1	0.5	0.1	8.6	0.4	2.5	0.4	0.0	73.4	7.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	5.6	1.1	9.7	8.5	8.7	1.1	2.0	25.2	5.0	0.0	6.6
LnGrp Delay(d),s/veh	46.2	40.9	36.9	49.2	33.7	36.8	46.0	25.1	108.7	52.8	0.0	25.7
LnGrp LOS	D	D	D	D	C	D	D	C	F	D		C
Approach Vol, veh/h		556			1610			705			622	
Approach Delay, s/veh		41.5			40.4			93.6			40.0	
Approach LOS		D			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.5	34.7	16.7	39.0	25.6	23.7	12.8	42.9				
Change Period (Y+Rc), s	* 4.1	* 5.3	* 4.7	* 4.6	4.0	* 5.3	* 4.7	* 4.6				
Max Green Setting (Gmax), s	* 13	* 38	* 15	* 34	27.0	* 26	* 12	* 38				
Max Q Clear Time (g_c+I1), s	7.6	21.9	11.8	36.4	20.8	13.4	4.2	15.6				
Green Ext Time (p_c), s	0.0	5.0	0.2	0.0	0.8	4.5	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			51.2									
HCM 2010 LOS			D									
Notes												













HCM 2010 Signalized Intersection Summary
 3: I-5 SB On-Ramp/I-5 SB Ramps & Arena Blvd

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	596	683	0	1117	1176	0	0	0	173	0	209
Future Volume (veh/h)	0	596	683	0	1117	1176	0	0	0	173	0	209
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863				1863	0	1863
Adj Flow Rate, veh/h	0	596	0	0	1117	0				173	0	209
Adj No. of Lanes	0	2	1	0	3	1				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	1664	745	0	2391	745				954	0	439
Arrive On Green	0.00	0.47	0.00	0.00	0.47	0.00				0.28	0.00	0.28
Sat Flow, veh/h	0	3632	1583	0	5253	1583				3442	0	1583
Grp Volume(v), veh/h	0	596	0	0	1117	0				173	0	209
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583				1721	0	1583
Q Serve(g_s), s	0.0	3.8	0.0	0.0	5.3	0.0				1.3	0.0	3.9
Cycle Q Clear(g_c), s	0.0	3.8	0.0	0.0	5.3	0.0				1.3	0.0	3.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1664	745	0	2391	745				954	0	439
V/C Ratio(X)	0.00	0.36	0.00	0.00	0.47	0.00				0.18	0.00	0.48
Avail Cap(c_a), veh/h	0	3808	1703	0	5471	1703				1778	0	818
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.9	0.0	0.0	6.3	0.0				9.7	0.0	10.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.1	0.0				0.0	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	1.8	0.0	0.0	2.4	0.0				0.6	0.0	1.7
LnGrp Delay(d),s/veh	0.0	6.0	0.0	0.0	6.4	0.0				9.7	0.0	10.9
LnGrp LOS		A			A					A		B
Approach Vol, veh/h		596			1117						382	
Approach Delay, s/veh		6.0			6.4						10.4	
Approach LOS		A			A						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		21.7				21.7		13.6				
Change Period (Y+Rc), s		* 5.1				* 5.1		3.8				
Max Green Setting (Gmax), s		* 38				* 38		18.2				
Max Q Clear Time (g_c+I1), s		7.3				5.8		5.9				
Green Ext Time (p_c), s		9.3				9.4		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			7.0									
HCM 2010 LOS			A									
Notes												

























HCM 2010 Signalized Intersection Summary
 4: I-5 NB Ramps/I-5 NB On-Ramp & Arena Blvd

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑↑	↑	↑↑		↑↑			
Traffic Volume (veh/h)	0	592	175	0	1349	155	892	0	1156	0	0	0
Future Volume (veh/h)	0	592	175	0	1349	155	892	0	1156	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	592	0	0	1349	0	892	0	1156			
Adj No. of Lanes	0	2	1	0	4	1	2	0	2			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1281	573	0	2320	573	1598	0	1294			
Arrive On Green	0.00	0.36	0.00	0.00	0.36	0.00	0.46	0.00	0.46			
Sat Flow, veh/h	0	3632	1583	0	6669	1583	3442	0	2787			
Grp Volume(v), veh/h	0	592	0	0	1349	0	892	0	1156			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1602	1583	1721	0	1393			
Q Serve(g_s), s	0.0	7.0	0.0	0.0	9.3	0.0	10.3	0.0	20.8			
Cycle Q Clear(g_c), s	0.0	7.0	0.0	0.0	9.3	0.0	10.3	0.0	20.8			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1281	573	0	2320	573	1598	0	1294			
V/C Ratio(X)	0.00	0.46	0.00	0.00	0.58	0.00	0.56	0.00	0.89			
Avail Cap(c_a), veh/h	0	1784	798	0	3264	807	1753	0	1420			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	13.4	0.0	0.0	14.1	0.0	10.6	0.0	13.4			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	6.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.4	0.0	0.0	4.1	0.0	4.9	0.0	9.1			
LnGrp Delay(d),s/veh	0.0	13.5	0.0	0.0	14.2	0.0	10.7	0.0	20.1			
LnGrp LOS		B			B		B		C			
Approach Vol, veh/h		592			1349			2048				
Approach Delay, s/veh		13.5			14.2			16.0				
Approach LOS		B			B			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		25.2		29.5		25.2						
Change Period (Y+Rc), s		* 5.4		* 4.1		* 5.4						
Max Green Setting (Gmax), s		* 28		* 28		* 28						
Max Q Clear Time (g_c+I1), s		11.3		22.8		9.0						
Green Ext Time (p_c), s		8.5		2.6		9.1						
Intersection Summary												
HCM 2010 Ctrl Delay			15.0									
HCM 2010 LOS			B									
Notes												

























HCM 2010 Signalized Intersection Summary
5: East Commerce Way & Arena Blvd

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	331	964	26	129	697	172	414	349	83	155	315	645
Future Volume (veh/h)	331	964	26	129	697	172	414	349	83	155	315	645
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	331	964	26	129	697	172	414	349	83	155	315	0
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
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	490	1629	500	508	1660	517	491	669	208	518	715	223
Arrive On Green	0.14	0.32	0.32	0.15	0.33	0.33	0.14	0.13	0.13	0.15	0.14	0.00
Sat Flow, veh/h	3442	5085	1562	3442	5085	1582	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	331	964	26	129	697	172	414	349	83	155	315	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1562	1721	1695	1582	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	8.3	14.5	1.0	3.0	9.8	7.5	10.7	5.8	4.4	3.7	5.2	0.0
Cycle Q Clear(g_c), s	8.3	14.5	1.0	3.0	9.8	7.5	10.7	5.8	4.4	3.7	5.2	0.0
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	490	1629	500	508	1660	517	491	669	208	518	715	223
V/C Ratio(X)	0.67	0.59	0.05	0.25	0.42	0.33	0.84	0.52	0.40	0.30	0.44	0.00
Avail Cap(c_a), veh/h	649	2085	640	528	1907	593	491	2058	641	528	2119	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.1	26.0	21.4	34.4	24.0	23.2	38.1	36.9	36.3	34.5	35.9	0.0
Incr Delay (d2), s/veh	0.7	0.1	0.0	0.1	0.3	0.6	12.1	0.2	0.5	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	6.8	0.5	1.4	4.6	3.4	5.9	2.7	1.9	1.8	2.4	0.0
LnGrp Delay(d),s/veh	37.8	26.1	21.4	34.5	24.2	23.8	50.2	37.2	36.8	34.6	36.1	0.0
LnGrp LOS	D	C	C	C	C	C	D	D	D	C	D	
Approach Vol, veh/h		1321			998			846			470	
Approach Delay, s/veh		29.0			25.5			43.5			35.6	
Approach LOS		C			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.4	35.7	19.2	17.9	19.0	35.1	18.4	18.7				
Change Period (Y+Rc), s	* 5.4	* 5.9	5.5	* 5.9	5.5	* 5.9	* 5.4	* 5.9				
Max Green Setting (Gmax), s	* 17	* 34	14.0	* 37	14.0	* 37	* 13	* 38				
Max Q Clear Time (g_c+I1), s	10.3	11.8	5.7	7.8	5.0	16.5	12.7	7.2				
Green Ext Time (p_c), s	0.4	13.1	0.2	3.4	0.1	12.5	0.0	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			32.3									
HCM 2010 LOS			C									
Notes												













HCM 2010 Signalized Intersection Summary
6: Truxel Rd & Arena Blvd

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	463	378	225	89	441	466	184	1024	81	317	785	276
Future Volume (veh/h)	463	378	225	89	441	466	184	1024	81	317	785	276
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	463	378	225	89	441	466	184	1024	81	317	785	276
Adj No. of Lanes	2	3	1	2	2	1	2	4	1	2	4	1
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	490	1745	535	381	1103	492	370	1700	412	371	1701	413
Arrive On Green	0.14	0.34	0.34	0.11	0.31	0.31	0.11	0.27	0.27	0.11	0.27	0.27
Sat Flow, veh/h	3442	5085	1559	3442	3539	1579	3442	6408	1552	3442	6408	1554
Grp Volume(v), veh/h	463	378	225	89	441	466	184	1024	81	317	785	276
Grp Sat Flow(s),veh/h/ln	1721	1695	1559	1721	1770	1579	1721	1602	1552	1721	1602	1554
Q Serve(g_s), s	17.3	6.9	14.4	3.1	12.7	37.5	6.6	18.2	5.3	11.8	13.3	20.6
Cycle Q Clear(g_c), s	17.3	6.9	14.4	3.1	12.7	37.5	6.6	18.2	5.3	11.8	13.3	20.6
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	490	1745	535	381	1103	492	370	1700	412	371	1701	413
V/C Ratio(X)	0.95	0.22	0.42	0.23	0.40	0.95	0.50	0.60	0.20	0.86	0.46	0.67
Avail Cap(c_a), veh/h	490	1745	535	397	1116	498	371	1700	412	400	1701	413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	30.3	32.8	52.8	35.2	43.7	54.7	41.8	37.0	57.0	40.0	42.6
Incr Delay (d2), s/veh	21.1	0.1	0.7	0.1	0.3	27.6	0.4	1.5	1.0	14.5	0.9	8.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	3.2	6.3	1.5	6.3	20.1	3.1	8.2	2.4	6.3	6.0	9.8
LnGrp Delay(d),s/veh	76.3	30.4	33.5	52.9	35.5	71.3	55.1	43.3	38.0	71.5	40.9	51.0
LnGrp LOS	E	C	C	D	D	E	E	D	D	E	D	D
Approach Vol, veh/h		1066			996			1289			1378	
Approach Delay, s/veh		51.0			53.8			44.6			50.0	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	46.6	19.5	39.9	19.9	50.7	19.5	39.9				
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4				
Max Green Setting (Gmax), s	18.5	* 41	15.1	* 33	15.0	* 44	14.0	* 34				
Max Q Clear Time (g_c+I1), s	19.3	39.5	13.8	20.2	5.1	16.4	8.6	22.6				
Green Ext Time (p_c), s	0.0	1.0	0.1	12.5	0.1	14.4	0.1	11.1				
Intersection Summary												
HCM 2010 Ctrl Delay			49.5									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary
 9: East Commerce Way & Natomas Crossing Drive

08/09/2017

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	199	116	543	154	173	490		
Future Volume (veh/h)	199	116	543	154	173	490		
Number	5	12	8	18	7	4		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	216	126	590	167	188	533		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	369	329	1190	532	342	2170		
Arrive On Green	0.21	0.21	0.34	0.34	0.19	0.61		
Sat Flow, veh/h	1774	1583	3632	1583	1774	3632		
Grp Volume(v), veh/h	216	126	590	167	188	533		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1774	1770		
Q Serve(g_s), s	5.2	3.3	6.3	3.7	4.5	3.3		
Cycle Q Clear(g_c), s	5.2	3.3	6.3	3.7	4.5	3.3		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	369	329	1190	532	342	2170		
V/C Ratio(X)	0.59	0.38	0.50	0.31	0.55	0.25		
Avail Cap(c_a), veh/h	1175	1049	1861	833	410	2978		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	17.0	16.2	12.6	11.7	17.3	4.2		
Incr Delay (d2), s/veh	1.5	0.7	0.3	0.3	1.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.7	1.5	3.1	1.7	2.3	1.6		
LnGrp Delay(d),s/veh	18.5	16.9	12.9	12.0	18.7	4.2		
LnGrp LOS	B	B	B	B	B	A		
Approach Vol, veh/h	342		757			721		
Approach Delay, s/veh	17.9		12.7			8.0		
Approach LOS	B		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		13.9		33.7			13.2	20.5
Change Period (Y+Rc), s		4.0		* 4.5			4.0	* 4.5
Max Green Setting (Gmax), s		31.5		* 40			11.0	* 25
Max Q Clear Time (g_c+I1), s		7.2		5.3			6.5	8.3
Green Ext Time (p_c), s		1.0		10.3			0.2	7.7
Intersection Summary								
HCM 2010 Ctrl Delay			11.8					
HCM 2010 LOS			B					
Notes								

HCM Signalized Intersection Capacity Analysis

10: Truxel Rd & Natomas Crossing Dr























08/09/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	20	243	72	25	79	391	984	88	61	923	159
Future Volume (vph)	127	20	243	72	25	79	391	984	88	61	923	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		4.8	4.6	4.6	4.5	4.6	4.6
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00		0.97	0.86	1.00	1.00	0.86	1.00
Frpb, ped/bikes	1.00	0.99	0.99	1.00	0.99		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.87	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1524	1482	1770	1633		3433	6408	1547	1770	6408	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1524	1482	1770	1633		3433	6408	1547	1770	6408	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	127	20	243	72	25	79	391	984	88	61	923	159
RTOR Reduction (vph)	0	96	108	0	69	0	0	0	46	0	0	95
Lane Group Flow (vph)	127	38	21	72	35	0	391	984	42	61	923	64
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			2			1			1			
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6						8			4
Actuated Green, G (s)	15.8	18.6	18.6	11.2	14.0		18.4	55.5	55.5	9.6	46.4	46.4
Effective Green, g (s)	15.8	18.6	18.6	11.2	14.0		18.4	55.5	55.5	9.6	46.4	46.4
Actuated g/C Ratio	0.14	0.16	0.16	0.10	0.12		0.16	0.48	0.48	0.08	0.40	0.40
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		4.8	4.6	4.6	4.5	4.6	4.6
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	5.9	5.9
Lane Grp Cap (vph)	243	246	239	172	198		549	3092	746	147	2585	638
v/s Ratio Prot	c0.07	c0.03		c0.04	0.02		c0.11	0.15		0.03	c0.14	
v/s Ratio Perm			0.01						0.03			0.04
v/c Ratio	0.52	0.16	0.09	0.42	0.17		0.71	0.32	0.06	0.41	0.36	0.10
Uniform Delay, d1	46.1	41.5	41.0	48.8	45.3		45.8	18.2	15.8	50.0	23.9	21.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.1	0.1	0.6	0.2		3.6	0.3	0.1	0.7	0.4	0.3
Delay (s)	47.0	41.6	41.0	49.4	45.5		49.4	18.5	16.0	50.7	24.3	21.6
Level of Service	D	D	D	D	D		D	B	B	D	C	C
Approach Delay (s)		43.2			47.1			26.6			25.3	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			29.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			115.0			Sum of lost time (s)			20.4			
Intersection Capacity Utilization			55.9%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												























HCM 2010 Signalized Intersection Summary
 11: El Centro Rd & San Juan Road

08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	47	48	185	33	74	70	422	344	92	189	35
Future Volume (veh/h)	53	47	48	185	33	74	70	422	344	92	189	35
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	53	47	48	185	33	74	70	422	344	92	189	35
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
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	168	141	144	264	114	255	216	934	408	244	990	442
Arrive On Green	0.09	0.17	0.17	0.15	0.22	0.22	0.12	0.26	0.26	0.14	0.28	0.28
Sat Flow, veh/h	1774	840	858	1774	512	1148	1774	3539	1544	1774	3539	1581
Grp Volume(v), veh/h	53	0	95	185	0	107	70	422	344	92	189	35
Grp Sat Flow(s),veh/h/ln	1774	0	1698	1774	0	1660	1774	1770	1544	1774	1770	1581
Q Serve(g_s), s	1.8	0.0	3.2	6.4	0.0	3.5	2.3	6.4	13.6	3.1	2.6	1.1
Cycle Q Clear(g_c), s	1.8	0.0	3.2	6.4	0.0	3.5	2.3	6.4	13.6	3.1	2.6	1.1
Prop In Lane	1.00		0.51	1.00		0.69	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	168	0	286	264	0	369	216	934	408	244	990	442
V/C Ratio(X)	0.31	0.00	0.33	0.70	0.00	0.29	0.32	0.45	0.84	0.38	0.19	0.08
Avail Cap(c_a), veh/h	274	0	756	384	0	849	302	1017	444	307	990	442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.3	0.0	23.7	26.2	0.0	20.9	26.0	19.9	22.5	25.4	17.7	17.2
Incr Delay (d2), s/veh	1.1	0.0	0.7	3.3	0.0	0.4	0.9	0.3	13.0	1.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.6	3.4	0.0	1.6	1.2	3.2	7.3	1.5	1.3	0.5
LnGrp Delay(d),s/veh	28.4	0.0	24.4	29.5	0.0	21.3	26.8	20.2	35.6	26.3	17.8	17.2
LnGrp LOS	C		C	C		C	C	C	D	C	B	B
Approach Vol, veh/h		148			292			836			316	
Approach Delay, s/veh		25.8			26.5			27.1			20.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.1	18.9	12.3	23.4	13.6	15.4	13.3	22.4				
Change Period (Y+Rc), s	4.0	* 4.5	* 4.4	* 5.3	4.0	4.5	* 4.4	* 5.3				
Max Green Setting (Gmax), s	10.0	* 33	* 11	* 18	14.0	28.8	* 11	* 19				
Max Q Clear Time (g_c+I1), s	3.8	5.5	4.3	4.6	8.4	5.2	5.1	15.6				
Green Ext Time (p_c), s	0.0	1.1	0.1	4.1	0.2	1.1	0.1	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			25.5									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
 12: Duckhorn Dr & San Juan Road

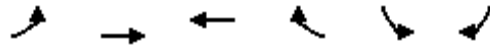
08/09/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	268	25	87	324	333	4	21	42	338	46	70
Future Volume (veh/h)	60	268	25	87	324	333	4	21	42	338	46	70
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	60	268	25	87	324	333	4	21	42	338	46	70
Adj No. of Lanes	1	1	0	1	1	1	0	1	1	1	1	1
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	141	391	36	249	549	465	26	134	133	413	433	359
Arrive On Green	0.08	0.23	0.23	0.14	0.29	0.29	0.09	0.09	0.09	0.23	0.23	0.23
Sat Flow, veh/h	1774	1675	156	1774	1863	1581	296	1552	1542	1774	1863	1543
Grp Volume(v), veh/h	60	0	293	87	324	333	25	0	42	338	46	70
Grp Sat Flow(s),veh/h/ln	1774	0	1831	1774	1863	1581	1848	0	1542	1774	1863	1543
Q Serve(g_s), s	1.6	0.0	7.3	2.2	7.4	9.4	0.6	0.0	1.3	9.0	1.0	1.8
Cycle Q Clear(g_c), s	1.6	0.0	7.3	2.2	7.4	9.4	0.6	0.0	1.3	9.0	1.0	1.8
Prop In Lane	1.00		0.09	1.00		1.00	0.16		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	0	427	249	549	465	160	0	133	413	433	359
V/C Ratio(X)	0.43	0.00	0.69	0.35	0.59	0.72	0.16	0.00	0.32	0.82	0.11	0.19
Avail Cap(c_a), veh/h	249	0	750	641	1174	996	557	0	464	759	797	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	0.0	17.4	19.3	15.0	15.7	21.1	0.0	21.4	18.1	15.0	15.4
Incr Delay (d2), s/veh	0.8	0.0	0.7	0.3	0.4	0.8	0.2	0.0	0.5	1.6	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	3.7	1.1	3.8	4.2	0.3	0.0	0.6	4.6	0.5	0.8
LnGrp Delay(d),s/veh	22.6	0.0	18.2	19.7	15.4	16.5	21.2	0.0	21.9	19.7	15.1	15.5
LnGrp LOS	C		B	B	B	B	C		C	B	B	B
Approach Vol, veh/h		353			744			67			454	
Approach Delay, s/veh		18.9			16.4			21.6			18.6	
Approach LOS		B			B			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	19.3		15.3	10.5	16.2		7.8				
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5				
Max Green Setting (Gmax), s	7.0	* 31		21.3	18.0	* 20		15.0				
Max Q Clear Time (g_c+I1), s	3.6	11.4		11.0	4.2	9.3		3.3				
Green Ext Time (p_c), s	0.0	2.7		0.6	0.1	2.3		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary

13: San Juan Road & East Commerce Way

08/09/2017



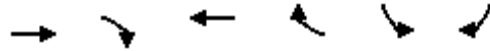
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	211	525	587	305	424	296		
Future Volume (veh/h)	211	525	587	305	424	296		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	229	571	638	332	461	322		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	264	1087	726	617	570	509		
Arrive On Green	0.15	0.58	0.39	0.39	0.32	0.32		
Sat Flow, veh/h	1774	1863	1863	1583	1774	1583		
Grp Volume(v), veh/h	229	571	638	332	461	322		
Grp Sat Flow(s),veh/h/ln	1774	1863	1863	1583	1774	1583		
Q Serve(g_s), s	11.3	16.4	28.4	14.5	21.3	15.5		
Cycle Q Clear(g_c), s	11.3	16.4	28.4	14.5	21.3	15.5		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	264	1087	726	617	570	509		
V/C Ratio(X)	0.87	0.53	0.88	0.54	0.81	0.63		
Avail Cap(c_a), veh/h	278	1102	726	617	570	509		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	37.1	11.2	25.3	21.0	27.8	25.8		
Incr Delay (d2), s/veh	23.3	0.4	14.2	3.3	11.7	5.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.2	8.5	17.4	13.8	12.2	14.2		
LnGrp Delay(d),s/veh	60.5	11.6	39.5	24.4	39.5	31.7		
LnGrp LOS	E	B	D	C	D	C		
Approach Vol, veh/h		800	970		783			
Approach Delay, s/veh		25.6	34.3		36.3			
Approach LOS		C	C		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		56.1		33.2	17.3	38.8		
Change Period (Y+Rc), s		4.0		* 4.5	4.0	4.0		
Max Green Setting (Gmax), s		52.8		* 29	14.0	34.8		
Max Q Clear Time (g_c+I1), s		18.4		23.3	13.3	30.4		
Green Ext Time (p_c), s		12.3		1.5	0.1	3.2		
Intersection Summary								
HCM 2010 Ctrl Delay			32.2					
HCM 2010 LOS			C					
Notes								

Synchro Analysis
Freeway Termini Queuing

Queues

3: I-5 SB On-Ramp/I-5 SB Ramps & Arena Blvd

04/13/2017



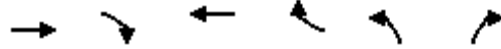
Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	669	828	547	477	146	128
v/c Ratio	0.36	0.53	0.21	0.31	0.13	0.21
Control Delay	6.9	1.3	5.9	0.5	9.2	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.9	1.3	5.9	0.5	9.2	4.0
Queue Length 50th (ft)	38	0	20	0	6	0
Queue Length 95th (ft)	62	0	32	0	28	27
Internal Link Dist (ft)	1167		1250			
Turn Bay Length (ft)						175
Base Capacity (vph)	2977	1551	4278	1551	1695	846
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.53	0.13	0.31	0.09	0.15

Intersection Summary

Queues

4: I-5 NB Ramps/I-5 NB On-Ramp & Arena Blvd

04/13/2017



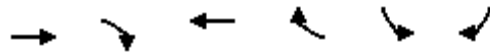
Lane Group	EBT	EBR	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	650	165	754	234	270	582
v/c Ratio	0.52	0.10	0.32	0.15	0.23	0.47
Control Delay	9.8	0.1	7.7	0.2	8.5	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	0.1	7.7	0.2	8.5	4.2
Queue Length 50th (ft)	42	0	24	0	13	9
Queue Length 95th (ft)	71	0	38	0	37	39
Internal Link Dist (ft)	1250		1278			
Turn Bay Length (ft)	400		500			
Base Capacity (vph)	3064	1583	5609	1583	1389	1374
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.10	0.13	0.15	0.19	0.42

Intersection Summary

Queues

3: I-5 SB On-Ramp/I-5 SB Ramps & Arena Blvd

04/13/2017



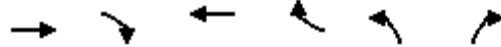
Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	520	451	995	401	173	209
v/c Ratio	0.34	0.28	0.46	0.26	0.16	0.38
Control Delay	7.3	0.5	7.7	0.4	8.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	0.5	7.7	0.4	8.8	8.1
Queue Length 50th (ft)	28	0	40	0	9	14
Queue Length 95th (ft)	52	0	65	0	27	53
Internal Link Dist (ft)	1167		1250			
Turn Bay Length (ft)						175
Base Capacity (vph)	2748	1583	3949	1551	1564	767
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.28	0.25	0.26	0.11	0.27

Intersection Summary

Queues

4: I-5 NB Ramps/I-5 NB On-Ramp & Arena Blvd

04/13/2017



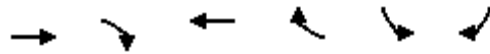
Lane Group	EBT	EBR	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	547	146	776	175	620	774
v/c Ratio	0.47	0.09	0.35	0.11	0.49	0.57
Control Delay	10.0	0.1	8.4	0.1	9.4	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	0.1	8.4	0.1	9.4	4.5
Queue Length 50th (ft)	34	0	25	0	36	14
Queue Length 95th (ft)	64	0	42	0	71	44
Internal Link Dist (ft)	1250		1278			
Turn Bay Length (ft)	400			500		
Base Capacity (vph)	3086	1583	5649	1551	1399	1450
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.09	0.14	0.11	0.44	0.53

Intersection Summary

Queues

3: I-5 SB On-Ramp/I-5 SB Ramps & Arena Blvd

04/13/2017



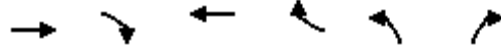
Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	669	828	547	784	197	128
v/c Ratio	0.37	0.53	0.21	0.51	0.17	0.21
Control Delay	7.0	1.3	6.0	1.2	9.2	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.0	1.3	6.0	1.2	9.2	4.0
Queue Length 50th (ft)	38	0	20	0	9	0
Queue Length 95th (ft)	62	0	32	0	36	27
Internal Link Dist (ft)	1167		1250			
Turn Bay Length (ft)						175
Base Capacity (vph)	3397	1551	4881	1551	2181	1052
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.53	0.11	0.51	0.09	0.12

Intersection Summary

Queues

4: I-5 NB Ramps/I-5 NB On-Ramp & Arena Blvd

04/13/2017



Lane Group	EBT	EBR	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	650	165	833	234	457	1163
v/c Ratio	0.61	0.10	0.42	0.15	0.28	0.78
Control Delay	15.7	0.1	12.5	0.2	7.7	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	0.1	12.5	0.2	7.7	12.2
Queue Length 50th (ft)	74	0	48	0	29	76
Queue Length 95th (ft)	113	0	68	0	62	#204
Internal Link Dist (ft)	1250		1278			
Turn Bay Length (ft)		400		500		
Base Capacity (vph)	2424	1583	4436	1583	1801	1614
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.10	0.19	0.15	0.25	0.72

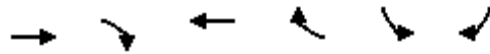
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

3: I-5 SB On-Ramp/I-5 SB Ramps & Arena Blvd

04/13/2017



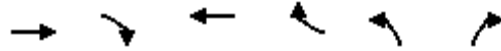
Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	768	832	613	786	197	128
v/c Ratio	0.41	0.54	0.23	0.51	0.18	0.21
Control Delay	7.1	1.3	5.9	1.2	9.5	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	1.3	5.9	1.2	9.5	4.1
Queue Length 50th (ft)	46	0	22	0	10	0
Queue Length 95th (ft)	73	0	35	0	36	27
Internal Link Dist (ft)	1167		1250			
Turn Bay Length (ft)						175
Base Capacity (vph)	3432	1551	4932	1551	1900	933
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.54	0.12	0.51	0.10	0.14

Intersection Summary

Queues

4: I-5 NB Ramps/I-5 NB On-Ramp & Arena Blvd

04/13/2017



Lane Group	EBT	EBR	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	728	186	867	215	493	1086
v/c Ratio	0.62	0.12	0.40	0.14	0.32	0.79
Control Delay	15.2	0.2	11.8	0.2	8.9	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	0.2	11.8	0.2	8.9	13.7
Queue Length 50th (ft)	85	0	50	0	36	85
Queue Length 95th (ft)	127	0	70	0	75	#212
Internal Link Dist (ft)	1250		1278			
Turn Bay Length (ft)		400		500		
Base Capacity (vph)	2423	1583	4434	1583	1800	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.12	0.20	0.14	0.27	0.69

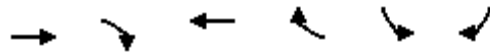
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

3: I-5 SB On-Ramp/I-5 SB Ramps & Arena Blvd

08/09/2017



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	520	581	995	1261	175	209
v/c Ratio	0.28	0.37	0.37	0.81	0.16	0.37
Control Delay	6.2	0.7	6.4	6.1	9.7	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.2	0.7	6.4	6.1	9.7	8.6
Queue Length 50th (ft)	28	0	40	0	9	13
Queue Length 95th (ft)	47	0	59	#41	32	62
Internal Link Dist (ft)	1167		1250			
Turn Bay Length (ft)						175
Base Capacity (vph)	2550	1551	3664	1551	1091	564
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.37	0.27	0.81	0.16	0.37

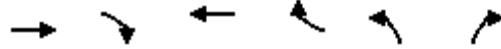
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

4: I-5 NB Ramps/I-5 NB On-Ramp & Arena Blvd

08/09/2017



Lane Group	EBT	EBR	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	547	146	1372	179	831	1218
v/c Ratio	0.43	0.09	0.59	0.11	0.54	0.84
Control Delay	14.0	0.1	14.4	0.1	12.2	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	0.1	14.4	0.1	12.2	15.7
Queue Length 50th (ft)	70	0	103	0	87	114
Queue Length 95th (ft)	107	0	136	0	156	#296
Internal Link Dist (ft)	1250		1278			
Turn Bay Length (ft)		400		500		
Base Capacity (vph)	2076	1583	3798	1583	1894	1707
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.09	0.36	0.11	0.44	0.71

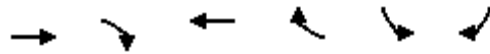
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

3: I-5 SB On-Ramp/I-5 SB Ramps & Arena Blvd

08/09/2017



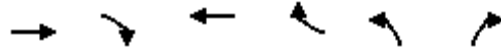
Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	596	683	1117	1176	173	209
v/c Ratio	0.38	0.44	0.50	0.76	0.17	0.39
Control Delay	7.2	0.9	7.7	3.9	10.0	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.2	0.9	7.7	3.9	10.0	9.1
Queue Length 50th (ft)	33	0	46	0	10	14
Queue Length 95th (ft)	60	0	74	0	31	62
Internal Link Dist (ft)	1167		1250			
Turn Bay Length (ft)						175
Base Capacity (vph)	3482	1551	5003	1551	1819	878
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.44	0.22	0.76	0.10	0.24

Intersection Summary

Queues

4: I-5 NB Ramps/I-5 NB On-Ramp & Arena Blvd

08/09/2017



Lane Group	EBT	EBR	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	592	175	1349	155	892	1156
v/c Ratio	0.47	0.11	0.58	0.10	0.59	0.82
Control Delay	14.3	0.1	14.3	0.1	12.7	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	0.1	14.3	0.1	12.7	15.4
Queue Length 50th (ft)	72	0	95	0	95	114
Queue Length 95th (ft)	120	0	137	0	170	237
Internal Link Dist (ft)	1250		1278			
Turn Bay Length (ft)		400		500		
Base Capacity (vph)	2038	1583	3730	1583	1998	1751
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.11	0.36	0.10	0.45	0.66

Intersection Summary