



April 11, 2012

Charles Allen, P.E.
Executive Director, Facilities and Operations
Foothill – De Anza Community College District
Building D160 – Plant Services
12345 El Monte Road
Los Altos Hills, CA 94002

Subject: Educational Center Initial Study/Mitigated Negative Declaration Response to Comments

Dear Charles,

The Initial Study/Proposed Mitigated Negative Declaration for the proposed Educational Center (State Clearinghouse Number: 2012032006) was circulated for 30-day public and agency review by the Office of Planning and Research (OPR) State Clearinghouse from Friday, March 2, 2012 to Monday, April 2, 2012. The public review period provided an opportunity for the public and agencies to review the issues addressed and to offer comments on any aspect of the process, and/or the adequacy of the evaluation and mitigation measures.

The Notice of Intent (NOI) to adopt the Mitigated Negative Declaration was sent to the State Clearinghouse; posted on the project site; and sent to interested local agencies and parties in accordance with Section 21091 of the State California Environmental Quality Act (CEQA) Guidelines.

The District received three written comment letters on the Initial Study/Mitigated Negative Declaration:

- Santa Clara Valley Transportation Authority (Date: April 2, 2012)
- State of California, Department of Transportation (Date: April 2, 2012)
- City of Sunnyvale (Date: April 4, 2012)

In addition, the District received a confirmation letter from the State Clearinghouse after the close of the public review period acknowledging that the District has complied with the State Clearinghouse requirements for draft environmental documents, pursuant to CEQA.

Responses to each comment letter are provided below:

Santa Clara Valley Transportation Authority

1. Based on an evaluation of the California Manual on Uniform Traffic Control Devices (CA MUTCD) pedestrian peak hour traffic signal warrant, low pedestrian volumes at this intersection do not warrant a traffic signal at the 11th Avenue/Innovation Way intersection. Also, current traffic control at this intersection consists of an all-way stop. All-way stop control requires all vehicles passing through this intersection to come to a complete stop before proceeding through the intersection. By definition, this level of traffic control creates gaps for pedestrians to cross the intersection. This is likely to be an acceptable condition in the short-term following opening of the proposed Educational Center. The District will continue to monitor pedestrian volumes at the intersection to determine whether a traffic signal meets the CA MUTCD pedestrian warrant in the future.
2. Comment noted regarding trip reduction strategies. As noted on page 25 of the project's Traffic Impact Analysis, the Moffett Park Specific Plan (MPSP) requires all new projects in the Moffett Park area of the City of Sunnyvale with a floor area ratio (FAR) of more than 35 percent to implement transportation demand management (TDM) programs that reduce daily and peak hour daily trips. However, the project site has an FAR of 35 percent or less. Therefore, the proposed Educational Center is not required to provide a TDM program under MPSP guidelines. However, the District plans to implement the Santa Clara Valley Transportation Authority's "Eco Pass" program, similar to the program that is currently in place at the De Anza Community College campus, which provides transit service at a lower fee for the student body. The District also plans to implement a parking permit program in order to facilitate the use of alternative transportation (e.g. transit or light rail) rather than parking at the project site.

State of California, Department of Transportation

1. The Traffix software output files for cumulative conditions, which would be considered a "worst case" scenario, have been attached to the letter as Attachment B. As noted in the following table, the proposed project would increase the 95 percent queue length for cumulative conditions by two vehicles in the AM peak hour at the Mathilda Avenue/State Route 237 Westbound ramps and by one vehicle during the AM peak hour on the Mathilda Avenue/State Route 237 Eastbound ramps. No increase in the queue is anticipated during the PM peak hour at either the Westbound or Eastbound ramps.

Intersection	Cumulative		Cumulative Plus Project		Increase due to Project (Vehicles)	
	AM	PM	AM	PM	AM	PM
Mathilda Avenue/State Route 237 Westbound Ramps	57	60	59	60	2	0
Mathilda Avenue/State Route 237 Eastbound Ramps	59	41	60	41	1	0

The City of Sunnyvale Traffic Impact Fee (TIF) program for transportation improvement mitigations was developed assuming a traffic baseline that included the Onizuka AFS when it was in operation. Estimated trip generation for the proposed project represents a fraction of the estimated trips for the former Air Force Station (23 percent of daily trips and approximately 16 to 17 percent of a.m./p.m. peak hour trips). Therefore, the proposed project would result in a less than significant impact since the proposed project would not increase the number of trips beyond those assumed in the TIF baseline analysis for the AFS use and does not contribute to the need for TIF-funded improvements.

City of Sunnyvale

- 1-2. Comment noted. The word acre was inadvertently excluded from the description of the 1,100 acre Moffett Park Specific Plan area. In addition, comments regarding the Onizuka AFS being excluded from the MPSP Development Reserve have been incorporated into page 1 of the Initial Study as follows:

The City of Sunnyvale adopted the 1,100-acre MPSP in the spring of 2004 to replace the former M-S (Manufacturing and Service) and M-3 (General Industrial) zoning districts. Buildout of the MPSP is anticipated over approximately twenty years. The sub-districts of the MPSP were designed to encourage corporate office and Class "A" office redevelopment to diversity the City's industrial base. The MPSP includes a provision for a Development Reserve to allow exemplary projects the benefit of additional floor area beyond the standard FAR restrictions of the sub-districts. The Development Reserve square footage was not applied to individual parcels or general areas, but rather to the entire MPSP area. However, the Onizuka AFS is excluded from accessing the MPSP Development Reserve. In addition to supporting Class "A" office development, the MPSP addresses transportation improvements, supports the use of public transit, and encourages sustainable design and green building techniques.

- 3 -4. The District appreciates the clarifications provided by the City. The following changes have been incorporated into page 2 of the Initial Study as follows:

The Onizuka Air Force Station (AFS) was identified for closure in 2006 with a closure date of September 13, 2011. A Draft Environmental Assessment/Finding of No Significant Impact (EA/FONSI) was prepared for the disposal and reuse of the Onizuka AFS in May 2009 and approved in May 2011. The EA/FONSI evaluated the environmental impacts of three alternatives considered by the adopted 2008 Onizuka AFS Redevelopment Plan for the disposal and reuse of the AFS. The proposed action called for the demolition of approximately 25 structures totaling approximately 558,000 square feet and the construction of approximately 243,326 square feet of new office space. The MPSP assumed that the existing condition of the Onizuka AFS at the time of preparation of the Specific Plan would remain in the future, which was an operating government facility of 558,000 square feet used primarily for office-type uses.

5. Comment noted. The proposed project would include the installation of all utilities, circulation improvements and any off-site improvements on Innovation Way. These clarifications have been incorporated into page 4 of the Initial Study as follows:

Off-site Improvements: Installation of all required utilities, circulation roads, and off-site improvements on Innovation Way. ~~The proposed project does not include any off-site improvements.~~

6. The "Environmental Factors Potentially Affected" included those environmental impacts whose environmental factors were considered "potentially significant," but were mitigated to a less than significant level with mitigation measures incorporated in the Initial Study. The "Environmental Factors Potentially Affected" has been modified herein by reference to de-select those environmental factors for air quality, cultural resources, geology/soils, hazards and hazardous materials, and transportation/traffic that have been mitigated to a less than significant level.
7. Comment noted. As the project site is located at the gateway to the project area for the *Moffett Park Specific Plan*, the District will consult with the City of Sunnyvale regarding the design of the project prior to construction.
8. Comment noted. The following revisions have been made to page 13 the Initial Study as follows to address parking supply at the project site.

Item #9, Transportation and Traffic (Less than Significant Impact): The MPSP does not specify on-site parking requirements for community colleges, but

the City's Municipal Code Section 19.46 includes requirements for educational institutions past twelfth grade. The proposed project exceeds the requirements of the City's Municipal Code and includes 556 parking spaces cars (10 per 1,000 square feet). The proposed would provide one space for each of the 35 proposed employees; at least one space for special purpose vehicles; and more than one space for every three seats of the 1,000 full-time equivalent student capacity of the proposed project. In comparison to the City of Sunnyvale Municipal Code, the Institute of Transportation Engineers (ITE) *Parking Generation, 3rd Edition* found an average peak period parking demand of only 0.21 spaces per student for a community college, which would be 210 spaces based on 1,000 full-time equivalent students.

In addition to on-site parking, the District plans to implement the Santa Clara Valley Transportation Authority's "Eco Pass" program, similar to the program that is currently in place at the District's De Anza Community College campus, which provides transit service to the student body at a lower fee. The District also plans to implement a parking permit program at the new educational campus in order to encourage the use of alternative transportation.

Therefore, the proposed parking is consistent with Section 19.46 of the City of Sunnyvale Municipal Code, the City's parking requirements and the ITE *Parking Generation Manual* for community colleges. Therefore, the proposed project would result in a less than significant impact to parking capacity within the project site.

9. Comment noted regarding construction noise occurring for the proposed project during a 36 month (three years) period. Construction activities would not occur on a daily basis during the three year construction period and therefore would be considered short-term in the fact that they will not continue in perpetuity. However, references to "short-term" construction activities have been removed from pages 13 to 14 of the Initial Study as follows:

Item #28, ~~Short-term~~ and Long Term Air Quality Emissions and Greenhouse Gas Emissions (Less than Significant Impact with Mitigation): An air quality analysis was prepared for the amended Redevelopment Plan by Environ on behalf of the City of Sunnyvale. The report concluded that the proposed project would result in both long-term operational and ~~short-term~~ construction emissions.

~~Short-term~~ Construction Emissions: The proposed project would include the construction emissions from demolition of the existing buildings, as well as grading and site preparation activities at the project site. The project site is nearly level and grading activities at the project site would be minor to prepare the project site for development of the educational center.

According to Table 3-1: Criteria Air Pollutants and Precursors and GHG Screening Level Sizes in the *BAAQMD CEQA Guidelines*, at 1,000 full-time equivalent students the proposed project is below the applicable criteria air pollutant thresholds for a college/university, which is estimated at 3,012 students.

In addition for all construction projects, the BAAQMD recommends implementation of all the basic construction mitigation measures, listed in Table 8-1 of the *BAAQMD CEQA Guidelines* in order to meet the threshold for fugitive dust whether or not construction-related emissions exceed applicable thresholds. The following mitigation measure would ensure that the proposed project would result in a less than significant impact during ~~short-term~~ construction activities.

10. Typical noise levels from construction activities were provided from the Federal Highway Administration, Roadway Construction Noise Model. The Initial Study has been revised to incorporate this source for Table 1 on page 14 of the Initial Study as follows:

Table 1: Typical Construction Equipment Noise Levels

Type of Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	88
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85
Scrapers	88
<i>Notes: dBA = A-weighted decibel</i>	
<i>Source: Federal Highway Administration, Roadway Construction Noise Model, May 2006</i>	

11. Consistent with the Foothill - De Anza Community College District/City of Sunnyvale agreement, the District shall cooperate with the City to ensure that all easements and dedications are obtained and granted with regard to Innovation Way such that the roadway is open to the public.
12. Comment noted. The term Traffic Report and Traffic Impact Analysis are used interchangeably. This comment does not affect the environmental analysis. However, the Initial Study has been revised accordingly.
13. Comment noted regarding the City's level of service and which intersections fall below the City's standards. Page 2 of the Initial Study notes that the City's Level of Service (LOS) standard is D and pages 21 through 22 describe which intersections fall below the

LOS threshold under Existing; Existing Plus Project; Background; Background Plus Project; Cumulative Conditions; and Cumulative Plus Project Conditions.

14. The District appreciates the City's clarification regarding the City's TIF program. The Initial Study has been modified to note that the City's TIF program is intended to fund roadway improvements to address traffic impacts from net new trips over the TIF land use and transportation baseline. Therefore, the proposed project does not add new trips over the baseline and actually represents a reduction in planned/assumed baseline trips. Therefore, it does not contribute to the need for TIF-funded improvements.
15. Mitigation Measure #4 includes an access driveway aligning with the 11th Avenue/Innovation Way intersection. The City's recommendations have been incorporated into the mitigation measure on page 23 of the Initial Study as follows:

Mitigation Measure #4

MM-4. Prior to operation of the proposed project, the District shall modify the main access point under one of the following options to promote safe driveway operations:

- 1) Provide an access driveway that aligns with the current 11th Avenue/Innovation Way intersection and provides adequate driveway throat length to avoid conflicts with queued exiting traffic and traffic utilizing intersecting drive aisles to promote safe driveway operations. This would necessitate the re-allocation of parking stalls within the project site, although there appears to be some room at the Mathilda Avenue (east) end of the site where displaced stalls could be shifted. The southbound approach of Innovation Way at 11th Avenue includes pavement area for a future left-turn pocket that could be re-striped for left turns into the project site.
 - 2) Modify the existing driveway to provide a right-in/right-out only to promote safe vehicle circulation to/from the currently proposed access that is offset from the 11th Avenue/Innovation Way intersection. Since Innovation Way provides direct access to both Mathilda Avenue and Moffett Park Drive, motorists entering and exiting the project site would have more than one option for ingress/egress to/from the project vicinity under the current configuration.
16. The *Moffett Park Specific Plan* shows a sidewalk along the project frontage of Innovation Way. However a bicycle lane is not shown as a future improvement in the *Moffett Park Specific Plan*. Regardless, the District will coordinate with the City of Sunnyvale as bike lanes on adjacent properties are developed to ensure there is continuous bicycle access along Innovation Way consistent with City policies as development proceeds along Innovation Way.

The City's Municipal Code and the Moffett Park Specific Plan do not include bicycle parking supply requirements for college uses. However, VTA TIA Guidelines recommend that college uses provide one Class I bicycle locker for every 30 employees and one bicycle parking spot for every nine student seats (25 percent Class I and 75 percent Class II). Class I bicycle facilities would protect the bicycle from vandalism, theft, and weather, and are appropriate for long-term storage. Class II facilities include bicycle racks to which a bicycle's frame and at least one wheel can be secured via a lock. The District will work with the City to ensure a sufficient number of Class I and Class II bicycle parking facilities are provided at the educational center prior to operation. The project description on page 3 of the Initial Study has been modified to reflect including bicycle parking at the proposed Educational Center as follows:

The Educational Center (hereinafter "proposed project") would be constructed in two phases. A site plan of the proposed project is presented in [Figure 3: Site Plan](#). The first phase of the proposed project would include:

- Demolition of all improvements located on the project site, which is approximately 532,892 square feet of existing buildings;
- Preparation of the project site for development including the installation of all required utilities, circulation roads, and off-site improvements on Innovation way;
- Construction of a two-story 55,000 square feet of educational space and a 556 space parking lot (10 cars per 1,000 square feet);
- Construction of a 16,000 square foot campus courtyard; and
- Installation of site landscaping and miscellaneous site improvements, including bicycle parking.

17. The pedestrian access point through the Ariba campus is a private walkway. Page 23 of the Initial Study has been revised as follows to reflect this clarification:

Pedestrian Access Evaluation: Sidewalks are provided along the project frontages of Innovation Way and Mathilda Avenue in the project vicinity. Mathilda Avenue connects pedestrians between the Lockheed Martin Transit Center, Innovation Way, and the project site. Access to the Moffett Park LRT Station is provided via sidewalks on Innovation Way and a private pedestrian path along the southern border of the nearby Ariba campus just north of Moffett Park Drive. In addition, a diagonal pathway through the Ariba campus provides a direct access to the Moffett Park light LRT Station.

18. As described above, the District plans to implement the Santa Clara Valley Transportation Authority's "Eco Pass" program, similar to the program that is currently in place at the District's De Anza Community College campus, which provides transit service at a lower fee for the student body. The District also plans to implement a

parking permit program at the new educational campus in order to encourage the use of alternative transportation.

19. Two boxes were checked under #54. However, as noted on page 30 of the Initial Study, the impacts to solid waste and landfill capacity would be considered less than significant. Therefore, this change has been clarified in the Initial Study.
20. Comment noted. Item #58 is addressed on page 31 and refers to the National Pollutant Discharge Elimination System (NPDES) permit requirements.
21. Comment noted. As noted by the City, the MPSP assumed that the existing condition of the Onizuka AFS at the time of preparation of the Specific Plan would remain in the future, which included an operating facility of 558,000 square feet of office uses. Therefore, the proposed project would represent a significant reduction over what was evaluated in the MPSP and EIR. Additional detail was added to page 30 of the Initial Study regarding the wastewater collection and conveyance system in the MPSP as follows:

The MPSP area is located at the northerly end of the City's drainage system near the water pollution control plant and is served by the interceptor sewers from three of the five primary sewer drainage areas. According to the MPSP, the total carrying capacities of the three primary interceptor sewers serving the Moffett Park Specific Plan area are: Borregas Sewer (17.0 million gallons per day); Lockheed Sewer (4.9 million gallons per day), and Lawrence Sewer (22.0 million gallons per day). Existing flow data generated within Moffett Park indicates an existing flow rate of 2.3 million gallons per day. During peak daytime periods, about 4.2 million gallons per day can be pumped from the Lawrence sewer to the Borregas sewer. The primary collector sewers located in the streets of Moffett Park range from 8-inch to 18-inch. Improvements required for the Moffett Park Specific Plan area have been evaluated based on buildout conditions for dry weather flows and wet weather flows during a 10-year, 4-hour storm event. Future impact analysis for the MPSP has been included within the citywide sewer system model.

22. The District will evaluate options for using reclaimed water on the project site, including connecting to existing reclaimed water lines located in the proximity to the project site.
- 23 - 24. The proposed project would reduce the amount of stormwater runoff from the project site with the demolition and removal of hardscape associated with the proposed project. The proposed project would be subject to the National Pollution Elimination System (NPDES) permit requirements. The City is correct regarding compliance with the Municipal Code and this has been stricken from page 31 of the Initial Study as follows:

~~In addition, the proposed project would comply with City of Sunnyvale Municipal Code 12.60 (BMP Guidance Manual for New and Redevelopment Projects) and the Blueprint for a Clean Bay to ensure that the water quality is maintained during construction and operation of the proposed project.~~

25. The proposed project would be constructed in conformance with the Uniform Building Code, Uniform Fire Code, and other applicable state and national codes. Fire protection measures would be provided in accordance with the State Architect, and other recognized fire protection standards, and the District will incorporate any site specific conditions outlined by the Fire Department.
26. The hazardous materials analysis in the Initial Study is based on the Final Environmental Condition of Property (ECP) Report and Environmental Baseline Study (EBS) that was prepared by the U.S. Air Force in August 2011. The ECP/EBS indicated that there were five above ground storage tanks. There were several releases that are described below and incorporated into pages 34 of the Initial Study:

- o Environmental Restoration Program: There have been several investigations of the environmental condition of the former Onizuka AFS. As a result, five sites were identified (AOC SD-1, AOC SD-2, AOC FS-1, AOC FS-2, and AOC FS-3). As shown in Figure 5: Areas of Concern, sites AOC SD-1 and AOC SD-2 were evaluated and contamination did not require remedial action. Specific information on these sites is incorporated herein.

Site AOC SD-1 is located near Facility 1042 and included filter backwash containing suspended solids and water treatment chemicals, which were contaminants of concern. Sample levels were found to be below action levels. Site AOC SD-2 is located on the north side of Facility 1005 and included wash water from antenna maintenance, which was found to be below action levels. Sites AOC FS-1 (Facility 1008), AOC FS-2 (Facility 1007), and AOC FS-3 (Facility 1009), addressed petroleum releases associated with above ground storage tanks. Site AOC FS-1 was located east of Facility 1004 and site AOC FS-2 is located at the former farm site south of Facility 1004. Remediation at these two sites was completed and the Regional Water Quality Control Board (RWQCB) concurred with the findings. Site AOC FS-3 is located near the antenna support structure and approximately 5 gallons of fuel were released at the site. However, the U.S. Air Force determined that there was not further action.

Comment noted regarding Lead Based Paints (LBPs). The following information regarding LBPs was not included in the ECP/EBS and has been incorporated into page 35 of the Initial Study from the Final Environmental Assessment.

- Lead Based Paints: A LBP survey of the exterior surfaces of 23 structures at the AFS was conducted in 2003. LPB was identified on the exterior surfaces of 8 of

the 23 structures surveyed including facilities 1001, 1002, 1003, 1004, 1010, 1013, 1016, and 1034. No LBPs were identified on the exterior surfaces of facilities 1005, 1006, 1007, 1008, 1009, 1012, 1018, 1020, 1021, 1022, 1035, 1042, 1043, 10031, and 10032.

Mitigation Measure #5 would require the District to prepare a remediation plan to ensure that these materials are removed of and disposed of by a licensed contractor at an approved landfill facility.

27. Comment noted regarding the recently approved project conditions for the Moffett Towers Expansion project, which included project conditions to add an additional left-turn lane at the Manilla Drive/Ellis Street intersections and bike lanes on the sharrows on Moffett Park Drive from Enterprise Way to Mathilda Avenue. Comments are incorporated by reference into the Traffic Impact Analysis.
28. The daily trips to the project site is described as the “net” trips based on a three percent transit reduction that was applied to the total trips from the *VTA Traffic Impact Analysis Guidelines* for employment near Light Rail Transit (LRT) or CalTrain within walking distance of 2,000 feet or less. This is described on page 21 of the Initial Study/Mitigated Negative Declaration and page 25 and 26 of the Traffic Impact Analysis.
29. The MPSP shows a sidewalk along the project frontage along Innovation Way. However a bicycle lane is not shown as a future improvement in the MPSP. Regardless, the District will coordinate with the City of Sunnyvale as bike lanes on adjacent properties are developed along the frontage of the Veterans Administration and the City’s property to ensure there is continuous bicycle access along Innovation Way consistent with City policies.
30. Comment is not specific as to where the MPSP EIR should be referenced. The MPSP EIR has been incorporated by reference into applicable sections of the Initial Study as described herein.
31. Comment is not specific as to what additional reference is required. All references have been included in the Initial Study/Proposed Mitigated Negative Declaration.
32. The discussion of hazardous materials addressed all facilities within the project site and adjacent to the project site to document both on-site and adjacent hazardous materials on the former Onizuka AFS.

The Draft Initial Study/Proposed Mitigated Negative Declaration together with the response to comments constitute the Final Mitigated Negative Declaration that will be considered for

Mr. Charles Allen, P.E.
Executive Director, Facilities and Operations
April 11, 2012
Page 12

adoption by the Board of Trustees. Changes to the text of the Initial Study are provided as a revised Initial Study and attached to this letter as Attachment C.

Should you have any questions or require additional information, please feel free to contact me at (831) 883-8187 or bwiseman@rbf.com.

Sincerely,



Bill Wiseman
Vice-President

Attachments:

Attachment A: Comment Letters

Attachment B: Traffic Output Sheets for the Mathilda Avenue/State Route 237 Ramps

Attachment C: Final Initial Study and Mitigated Negative Declaration

Attachment A
Comment Letters



April 2, 2012

Foothill De Anza Community College District
12345 El Monte Road
Los Altos Hills, CA 94022

Attention: Charles Allen, PE

Subject: Education Center at Onizuka

Dear Mr. Allen:

Santa Clara Valley Transportation Authority (VTA) staff have reviewed the Initial Study/Negative Declaration for a 55,000-square foot education center on a 9.2-acre site bounded by Innovation Way, Mathilda Avenue, Moffett Park Drive, and SR 237. We have the following comments.

Pedestrian Access to Transit

The TIA notes that sidewalks are provided on project street frontages and that "VTA LRT is within walking distance via sidewalks on Innovation Way and pedestrian paths through the nearby Ariba campus." Based on examination of the site plan and aerial images, the likely route via the Ariba campus would involve crossing the currently unsignalized intersection of 11th Avenue and Innovation Way to access the paths. Based on the increase in both pedestrian and auto traffic at this intersection due to the proposed project, VTA recommends that the District work with the City of Sunnyvale to analyze whether signalization would be appropriate at this intersection.

Parking Supply

The proposed project accommodates up to 1,000 students and includes 556 parking spaces. However, the Institute for Transportation Engineers (ITE) *Parking Generation*, 3rd Edition found an average peak period parking demand of only 0.21 spaces per student at suburban community college campuses (see p. 128-130). In light of this difference as well as the campus' strategic location near two light rail stations and several VTA bus lines, VTA recommends that the District work with the City of Sunnyvale to evaluate the appropriateness of the parking supply proposed for the campus, and consider strategies to reduce the demand for parking. VTA notes that although the TIA does not discuss parking charges, the District has successfully implemented parking charges at both the Foothill College and De Anza College campuses. VTA recommends that the District consider implementing a similar program at the Onizuka site to help reduce parking demand, cover the full costs of providing parking, and encourage use of transit, walking and biking to reach the campus.

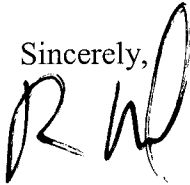
Foothill De Anza Community College District

April 2, 2012

Page 2

Thank you for the opportunity to review this project. If you have any questions, please call me at (408) 321-5784.

Sincerely,

A handwritten signature in black ink, appearing to read 'RM', is written over the word 'Sincerely,'.

Roy Molseed
Senior Environmental Planner

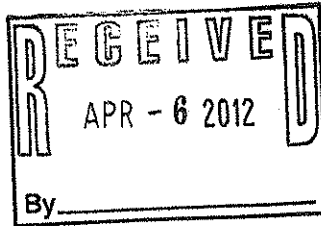
FHDA1201

DEPARTMENT OF TRANSPORTATION

111 GRAND AVENUE
P. O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-5541
FAX (510) 286-5559
TTY 711



*Flex your power!
Be energy efficient!*



April 2, 2012

SCL237191
SCL-237-2.995
SCH#2012032006

Mr. Charles Allen
Foothill De Anza Community College District
12345 El Monte Road, Building D-160
Los Altos Hills, CA 94002

Dear Mr. Allen:

Educational Center—Mitigated Negative Declaration

Thank you for including the California Department of Transportation (Department) in the environmental review process for the project referenced above.

Traffic Study

2 Please provide 95th percentile queuing analysis data for the intersections at Mathilda Avenue/State Route (SR) 237 westbound and eastbound ramps to determine whether there are mainline impacts to SR 237 resulting from queues at these ramps.

Should you have any questions regarding this letter, please call Keith Wayne of my staff at (510) 286-5737.

Sincerely,

A handwritten signature in black ink, appearing to read 'Gary Arnold'.

GARY ARNOLD
District Branch Chief
Local Development – Intergovernmental Review

c: State Clearinghouse



April 4, 2012

Charles Allen, P.E., Executive Director, Facilities and Operations
Foothill De Anza Community College District
Building D160 – Plant Services
12345 El Monte Road
Los Altos Hills, CA 94002

**RE: Educational Center for Foothill De Anza Community College District
at the former Onizuka Air Force Station**

Dear Mr. Allen,

The City of Sunnyvale looks forward to the redevelopment of the former Onizuka Air Force Station site and the addition of your Education Center to our community. Various departments have reviewed the Proposed Mitigated Negative Declaration and provided the following comments for your consideration:

1. Page 1 - Last paragraph, unclear reference to 1,100 MPSP. *(SM)*
2. Page 2 - First paragraph, should clarify that the Onizuka Air Force Station is excluded from accessing the MPSP Development Reserve. *(SM)*
3. Page 2 - The EA/FONSI was approved in May 2011. *(SM)*
4. Page 2 - Project Background – note in this section that the Moffett Park Specific Plan assumed that the existing condition of the Onizuka AFS at the time of preparation of the Plan would remain in the future, which was an operating government facility of 558,000 square feet used primarily for office-type uses. *(JW)*
5. Pages 3 and 4 - Project descriptions on page 3 include off-site improvements on Innovation Way, while page 4 indicates no off-site improvements. Verify and revise as needed. *(JC)*
6. Page 6 – The list on does not match check list on 8, 9 and 11. *(KB)*

7. Page 12 - Degradation of Visual Character – This discussion should acknowledge that the site is a highly visible site and an entry site to the Moffett Park area. There should also be a discussion about consultation with the City of Sunnyvale regarding design of the project. (SM)
8. Page 13 – Item #9 - Provide a better breakdown of the parking requirements based on City standards. (SM)
9. Pages 13-14 – Noise - Construction over 3 years is really not "temporary". The more relevant analysis is impacts to sensitive receptors. Suggest they do not refer to construction noise as temporary and distance to sensitive receptors. (KB)
10. Page 14- Table 1- Clarify what the noise levels are based on. Is it industry standards, maybe include a reference. (SM)
11. Transportation Discussion – This section should note that Innovation Way is currently privately owned and will need to be dedicated, to City standards, as part of the redevelopment of the project. (SM)
12. Page 19- Item #38 - Traffic Report should say Traffic Impact Analysis. (SM)
13. Page 21 - Traffic - Mentions net new vehicle trips as 1,146 and impacts of 116 each a.m. and p.m. additional trips at intersections. This discussion should note the LOS impacts at the intersections or at least identify which analysis triggers a significant impact. (KB)
14. Page 22 - Background Plus Project Conditions – Please add further explanation that the City's TIF is intended to fund roadway improvements to address traffic impacts from net new trips over the TIF land use and transportation baseline. Because the proposed project does not add net new trips over the baseline and actually represents a reduction in planned/assumed baseline trips, it does not contribute to the need for TIF-funded improvements. (JW)
15. Page 23 - Mitigation Measure # 4 – City staff generally concurs with the access recommendations, although option 1 should be modified to provide an access driveway with adequate driveway throat length to avoid conflicts with queued exiting traffic and traffic utilizing intersecting drive aisles. To provide optimal site access and traffic safety, City staff recommend that provision of an access driveway aligning with the 11th Avenue/Innovation Way intersection be included in the project. (JW)

16. Page 23 - Non Motorized Transportation – There are no bicycle facilities on Innovation Way, which directly serves the project site and provides connection to Moffett Park Drive and Mathilda Avenue for bicyclists. City policy is to provide bicycle lanes on all arterial and collector streets, and Innovation Way, although under private ownership, functions as a public collector street. Provision of bike lanes along the project frontage should be included as project mitigation. Also, because the project concept as currently proposed does not include sufficient information to assess the adequacy of bicycle parking, this should be considered a significant impact, and mitigation should be included to provide bicycle parking consistent with the VTA Transportation Impact Analysis guidelines. *(JW)*
17. Page 23 - Item #39 & #41 - Clarify if the diagonal pathway is truly a public access path. *(SM)*
18. Page 24 - Cause Degradation in Public Transit – City staff concurs with the conclusions of this section, but recommends that the project include transportation demand management measures such as providing direct transit and/or shuttle access to the site. It should be noted that the City requires 30% peak hour trip reduction via transportation demand management measures for land development within its purview. The proposed project should include a similar level of trip reduction. *(JW)*
19. Page 28 - Item #54 has two checked boxes. Verify and revise as needed. *(JC)*
20. Page 30 - Add a paragraph for item #58 under “Further Discussion” and refer to the current National Pollutant Discharge Elimination System (NPDES) permit requirements. *(JC)*
21. Page 30 – Add paragraph(s) in discussion of wastewater collection and conveyance system impacts, referring to MPSP EIR Mitigation 3.13-F2 and Exhibit 3.13-5, or MPSP Exhibit 4-16. *(JC)*
22. Page 30 - Violate Water Quality - The MPSP requires new development of 10,000 sf or more to connect to reclaimed water if feasible. A line currently exists on 11th avenue. Extension of the line and use for landscaping should be added as a mitigation. *(SM)*
23. Page 27- Geology – The discussion indicates that the project will comply with the City of Sunnyvale’s Municipal Code requirements for Stormwater (12.60); however, the District is not required to comply with City Codes. This should either be folded into a mitigation or statement can be added to the project description indicating what City requirements the project will be complying with. *(SM)*

24. Page 31- Hydrology - The discussion indicates that the project will comply with the City of Sunnyvale's Municipal Code requirements for Stormwater (12.60); however, the District is not required to comply with City Codes. This should either be folded into a mitigation or statement can be added to the project description indicating what City requirements the project will be complying with. *(SM)*
25. Page 32 - Public Services - The discussion indicates that the project will comply with the Department of Public Safety's requirements; however, the District is not required to comply with City Codes. This should either be folded into a mitigation measure or a statement can be added to the project description indicating what City requirements the project will be complying with. In addition, the discussion should also clarify that the project will also comply with the City's fire alarm requirements. *(SM,TF)*
26. Pages 34-35 - Haz Mat - Discussion does not match conclusions of the Final Environmental Assessment for Onizuka ("FEA") May 2011. Comparison is as follows. *(KB)*

Item	FEA	MND
Above ground storage tanks	6 total	Not sure FEA concluded no risk
Asbestos	6 buildings	Says 13 buildings, but seems to lump in lead, so if true, then p. 35 should mention lead based paint
Lead based paint	8/23 buildings	No discussion of LBP, but the FEA discussed it pretty extensively

27. TIA - General – Please note that the recently approved Moffett Towers Expansion project included project conditions to provide an additional eastbound left turn lane at Manila Drive/Ellis Street, and bike lanes and sharrows on Moffett Park Drive from Enterprise Way to Mathilda Avenue. *(JW)*
28. TIA - Page 1- Project Trip Generation – what is “a net of...daily vehicle trips...” ? Use of the word “net’ is confusing. *(JW)*
29. TIA - Page 51 – as noted in comment 4 above, City staff does not agree with the conclusion that bicycle access and parking to the site is adequate and a less than significant impact. *(JW)*

30. General - Consider referring to MPSP EIR where applicable with updated data. *(JC)*
31. General - Add additional reference source as needed in the last column of the checklist matrix. *(JC)*
32. General - Please clarify the property boundaries on all property illustrations and verify in text references. For example, the Hazardous Materials Discussion notes that the pharmacy is on the FHDA property, but it appears that it may be on the City/Southern portion. *(SM)*

Please feel free to me if you have questions or wish to discuss these comments further.

Sincerely,



Shaunn Mendrin, AICP
Senior Planner
Community Development Department
City of Sunnyvale

Comment Key:

(SM): Shaunn Mendrin, Planning

(KB): Kathy Berry, City Attorney

(JW): Jack Witthaus, Transportation

(JC): Judy Chu, Public Works

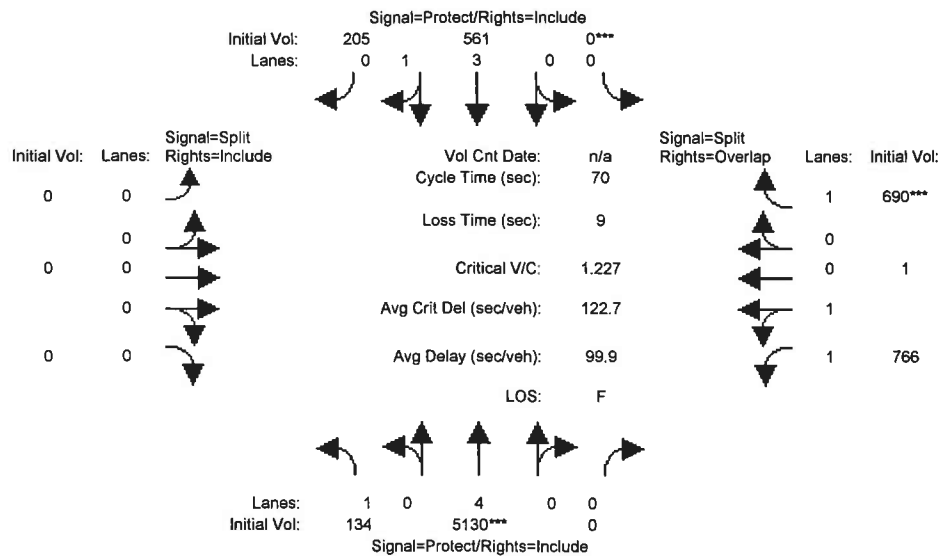
(TF): Todd Fekete, Public Safety

Attachment B
Traffix Output Sheets for the
Mathilda Avenue/State Route 237 Ramps

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps



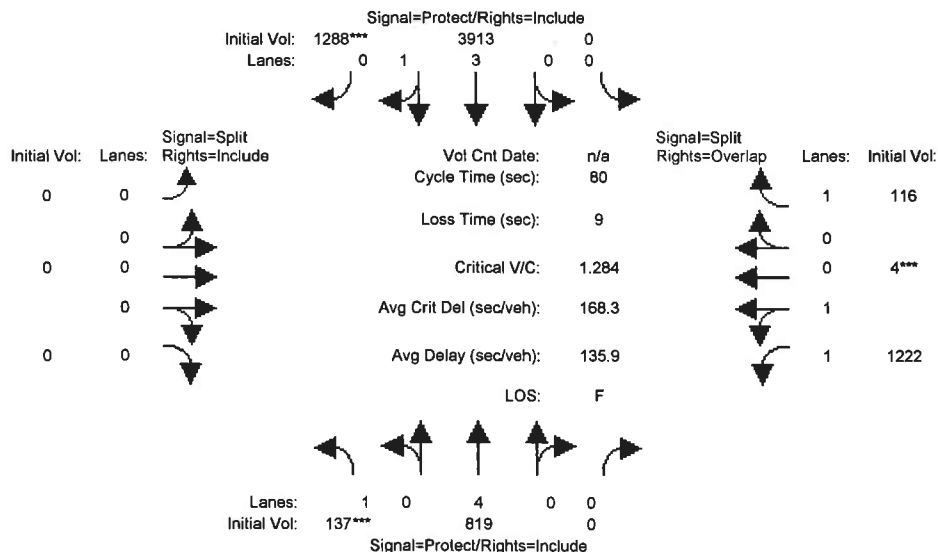
Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	134	2454	0	0	250	67	0	0	0	616	1	274
Growth 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
Initial Bse:	134	2454	0	0	250	67	0	0	0	616	1	274
Added Vol:	0	2483	0	0	295	114	0	0	0	150	0	416
Yahoo_NetAp:	0	193	0	0	16	24	0	0	0	0	0	0
Initial Fut:	134	5130	0	0	561	205	0	0	0	766	1	690
User 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
PHF 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
PHF Volume:	134	5130	0	0	561	205	0	0	0	766	1	690
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	5130	0	0	561	205	0	0	0	766	1	690
PCE 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
MLF 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
Final Volume:	134	5130	0	0	561	205	0	0	0	766	1	690
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5700	1750	0	0	0	3545	5	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.68	0.00	0.00	0.10	0.12	0.00	0.00	0.00	0.22	0.22	0.39
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	15.9	38.5	0.0	0.0	22.7	22.7	0.0	0.0	0.0	22.5	22.5	22.5
Volume/Cap:	0.34	1.23	0.00	0.00	0.30	0.36	0.00	0.00	0.00	0.67	0.67	1.23
Delay/Veh:	23.2	120	0.0	0.0	17.8	18.2	0.0	0.0	0.0	22.2	22.2	141.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.2	120	0.0	0.0	17.8	18.2	0.0	0.0	0.0	22.2	22.2	141.0
LOS by Move:	C	F	A	A	B	B-	A	A	A	C+	C+	F
HCM2k95thQ:	5	85	0	0	6	7	0	0	0	16	16	57

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps



Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Volume Module:												
Base Vol:	137	397	0	0	1800	475	0	0	0	924	4	39
Growth 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
Initial Bse:	137	397	0	0	1800	475	0	0	0	924	4	39
Added Vol:	0	389	0	0	2039	703	0	0	0	298	0	77
Yahoo_NetAp:	0	33	0	0	74	110	0	0	0	0	0	0
Initial Fut:	137	819	0	0	3913	1288	0	0	0	1222	4	116
User 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
PHF 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
PHF Volume:	137	819	0	0	3913	1288	0	0	0	1222	4	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	137	819	0	0	3913	1288	0	0	0	1222	4	116
PCE 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
MLF 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
Final Volume:	137	819	0	0	3913	1288	0	0	0	1222	4	116

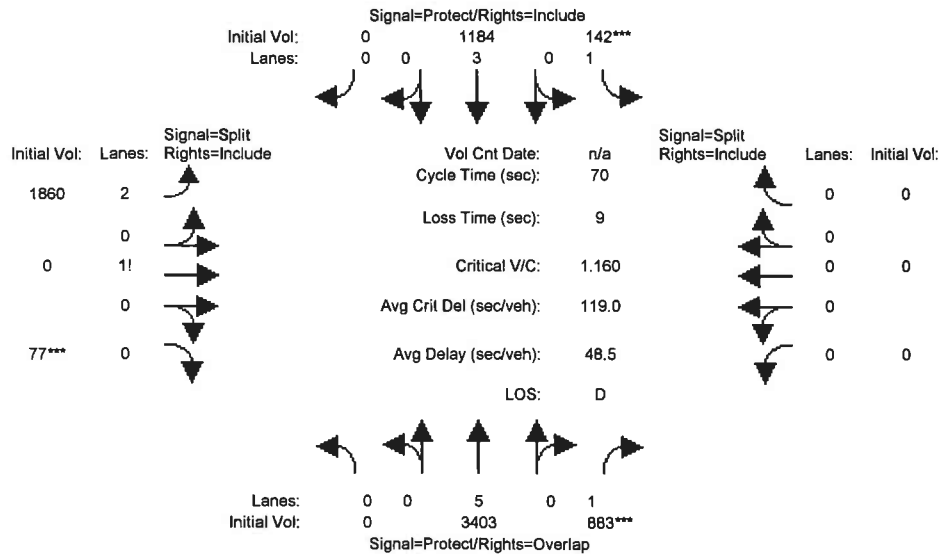
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5699	1800	0	0	0	3538	12	1750

Capacity Analysis Module:												
Vol/Sat:	0.08	0.11	0.00	0.00	0.69	0.72	0.00	0.00	0.00	0.35	0.35	0.07
Crit Moves:	****					****						
Green Time:	7.0	50.2	0.0	0.0	43.2	43.2	0.0	0.0	0.0	20.8	20.8	20.8
Volume/Cap:	0.89	0.17	0.00	0.00	1.27	1.33	0.00	0.00	0.00	1.33	1.33	0.25
Uniform Del:	36.1	6.2	0.0	0.0	18.4	18.4	0.0	0.0	0.0	29.6	29.6	23.4
IncrcmntDel:	43.4	0.0	0.0	0.0	125	148.6	0.0	0.0	0.0	154.3	154	0.3
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	79.5	6.3	0.0	0.0	143	167.0	0.0	0.0	0.0	183.9	184	23.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	79.5	6.3	0.0	0.0	143	167.0	0.0	0.0	0.0	183.9	184	23.7
LOS by Move:	E-	A	A	A	F	F	A	A	A	F	F	C
HCM2k95thQ:	9	4	0	0	97	109	0	0	0	60	60	5

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps



Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
	-----			-----			-----			-----					
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0			
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

Volume Module:

Base Vol:	0	1710	795	59	807	0	878	0	77	0	0	0
Growth 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
Initial Bse:	0	1710	795	59	807	0	878	0	77	0	0	0
Added Vol:	0	1615	88	83	361	0	867	0	0	0	0	0
Yahoo_NetAp:	0	78	0	0	16	0	115	0	0	0	0	0
Initial Fut:	0	3403	883	142	1184	0	1860	0	77	0	0	0
User 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
PHF 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
PHF Volume:	0	3403	883	142	1184	0	1860	0	77	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3403	883	142	1184	0	1860	0	77	0	0	0
PCE 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
MLF 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
Final Volume:	0	3403	883	142	1184	0	1860	0	77	0	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.86	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.90	0.00	0.10	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	4717	0	181	0	0	0

Capacity Analysis Module:

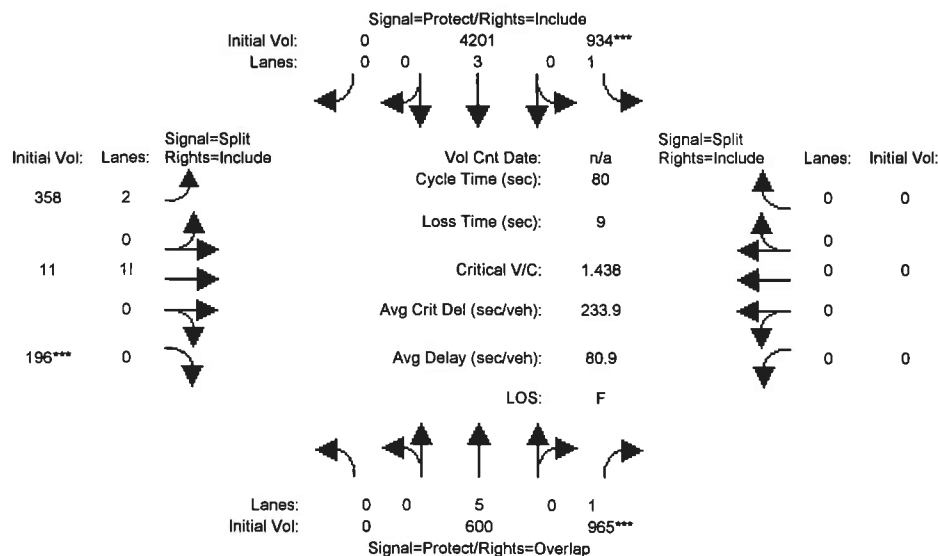
Vol/Sat:	0.00	0.36	0.50	0.08	0.21	0.00	0.39	0.00	0.42	0.00	0.00	0.00
Crit Moves:			****	****					****			
Green Time:	0.0	29.3	29.3	7.0	36.3	0.0	24.7	0.0	24.7	0.0	0.0	0.0
Volume/Cap:	0.00	0.86	1.20	0.81	0.40	0.00	1.12	0.00	1.20	0.00	0.00	0.00
Delay/Veh:	0.0	20.4	125.1	54.9	10.3	0.0	84.4	0.0	120.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	20.4	125.1	54.9	10.3	0.0	84.4	0.0	120.9	0.0	0.0	0.0
LOS by Move:	A	C+	F	D-	B+	A	F	A	F	A	A	A
HCM2k95thQ:	0	24	64	7	10	0	49	0	59	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps

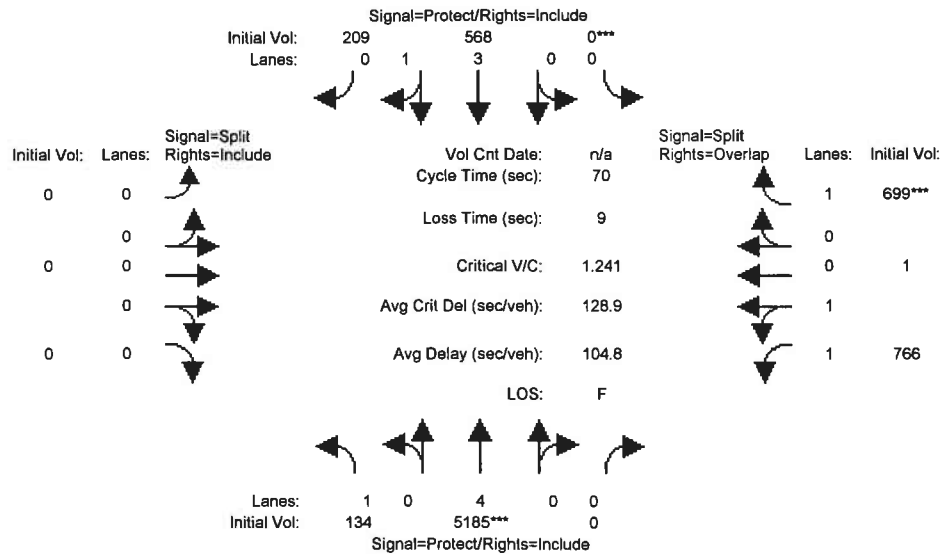


Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	341	607	384	2340	0	193	11	196	0	0	0
Growth 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
Initial Bse:	0	341	607	384	2340	0	193	11	196	0	0	0
Added Vol:	0	245	358	550	1787	0	145	0	0	0	0	0
Yahoo_NetAp:	0	14	0	0	74	0	20	0	0	0	0	0
Initial Fut:	0	600	965	934	4201	0	358	11	196	0	0	0
User 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
PHF 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
PHF Volume:	0	600	965	934	4201	0	358	11	196	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	600	965	934	4201	0	358	11	196	0	0	0
PCE 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
MLF 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
Final Volume:	0	600	965	934	4201	0	358	11	196	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.40	0.03	0.57	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	3776	58	1027	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.06	0.55	0.53	0.74	0.00	0.09	0.19	0.19	0.00	0.00	0.00
Crit Moves:			****	****					****			
Green Time:	0.0	30.7	30.7	29.7	60.4	0.0	10.6	10.6	10.6	0.0	0.0	0.0
Volume/Cap:	0.00	0.16	1.44	1.44	0.98	0.00	0.71	1.44	1.44	0.00	0.00	0.00
Uniform Del:	0.0	16.2	24.7	25.2	9.1	0.0	33.2	34.7	34.7	0.0	0.0	0.0
IncrcmntDel:	0.0	0.0	205.4	205.7	9.0	0.0	3.1	211	211.0	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Delay/Veh:	0.0	16.2	230.0	230.8	18.2	0.0	36.4	246	245.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	16.2	230.0	230.8	18.2	0.0	36.4	246	245.7	0.0	0.0	0.0
LOS by Move:	A	B	F	F	B-	A	D+	F	F	A	A	A
HCM2k95thQ:	0	4	98	93	50	0	11	41	41	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps



Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Volume Module:

Base Vol:	134	2454	0	0	250	67	0	0	0	616	1	274
Growth 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
Initial Bse:	134	2454	0	0	250	67	0	0	0	616	1	274
Added Vol:	0	2538	0	0	302	118	0	0	0	150	0	425
Yahoo_NetAp:	0	193	0	0	16	24	0	0	0	0	0	0
Initial Fut:	134	5185	0	0	568	209	0	0	0	766	1	699
User 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
PHF 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
PHF Volume:	134	5185	0	0	568	209	0	0	0	766	1	699
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	5185	0	0	568	209	0	0	0	766	1	699
PCE 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
MLF 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
Final Volume:	134	5185	0	0	568	209	0	0	0	766	1	699

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5700	1750	0	0	0	3545	5	1750

Capacity Analysis Module:

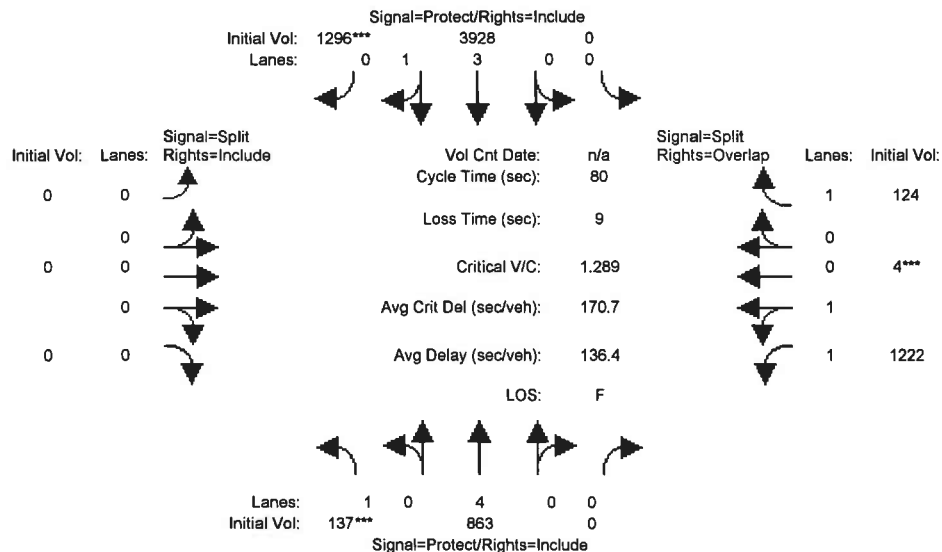
Vol/Sat:	0.08	0.68	0.00	0.00	0.10	0.12	0.00	0.00	0.00	0.22	0.22	0.40
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	15.8	38.5	0.0	0.0	22.6	22.6	0.0	0.0	0.0	22.5	22.5	22.5
Volume/Cap:	0.34	1.24	0.00	0.00	0.31	0.37	0.00	0.00	0.00	0.67	0.67	1.24
Delay/Veh:	23.2	127	0.0	0.0	17.9	18.3	0.0	0.0	0.0	22.1	22.1	146.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.2	127	0.0	0.0	17.9	18.3	0.0	0.0	0.0	22.1	22.1	146.8
LOS by Move:	C	F	A	A	B	B-	A	A	A	C+	C+	F
HCM2k95thQ:	5	88	0	0	6	7	0	0	0	16	16	59

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps



Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Volume Module:

Base Vol:	137	397	0	0	1800	475	0	0	0	924	4	39
Growth 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
Initial Bse:	137	397	0	0	1800	475	0	0	0	924	4	39
Added Vol:	0	433	0	0	2054	711	0	0	0	298	0	85
Yahoo_NetAp:	0	33	0	0	74	110	0	0	0	0	0	0
Initial Fut:	137	863	0	0	3928	1296	0	0	0	1222	4	124
User 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
PHF 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
PHF Volume:	137	863	0	0	3928	1296	0	0	0	1222	4	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	137	863	0	0	3928	1296	0	0	0	1222	4	124
PCE 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
MLF 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
Final Volume:	137	863	0	0	3928	1296	0	0	0	1222	4	124

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5699	1800	0	0	0	3538	12	1750

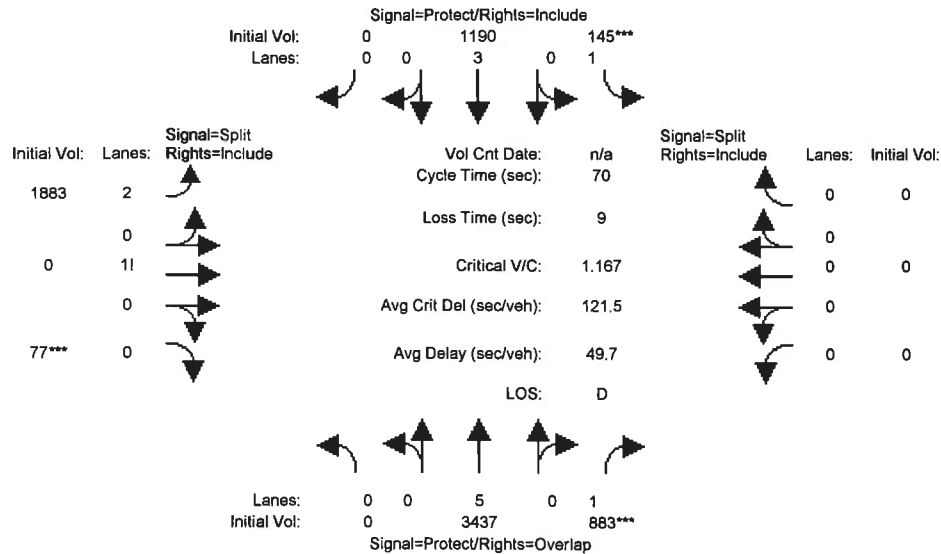
Capacity Analysis Module:

Vol/Sat:	0.08	0.11	0.00	0.00	0.69	0.72	0.00	0.00	0.00	0.35	0.35	0.07
Crit Moves:	****					****					****	
Green Time:	7.0	50.3	0.0	0.0	43.3	43.3	0.0	0.0	0.0	20.7	20.7	20.7
Volume/Cap:	0.89	0.18	0.00	0.00	1.27	1.33	0.00	0.00	0.00	1.33	1.33	0.27
Uniform Del:	36.1	6.2	0.0	0.0	18.4	18.4	0.0	0.0	0.0	29.6	29.6	23.6
IncramntDel:	43.4	0.0	0.0	0.0	126	151.1	0.0	0.0	0.0	156.7	157	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	79.5	6.3	0.0	0.0	144	169.5	0.0	0.0	0.0	186.4	186	23.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	79.5	6.3	0.0	0.0	144	169.5	0.0	0.0	0.0	186.4	186	23.9
LOS by Move:	E-	A	A	A	F	F	A	A	A	F	F	C
HCM2k95thQ:	9	4	0	0	98	111	0	0	0	60	60	6

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps



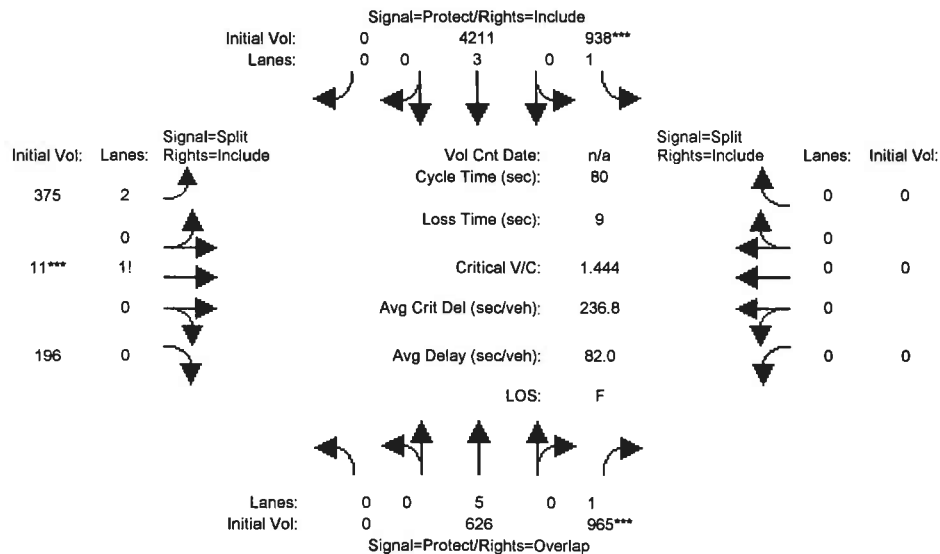
Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	1710	795	59	807	0	878	0	77	0	0	0
Growth 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
Initial Bse:	0	1710	795	59	807	0	878	0	77	0	0	0
Added Vol:	0	1649	88	86	367	0	890	0	0	0	0	0
Yahoo_NetAp:	0	78	0	0	16	0	115	0	0	0	0	0
Initial Fut:	0	3437	883	145	1190	0	1883	0	77	0	0	0
User 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
PHF 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
PHF Volume:	0	3437	883	145	1190	0	1883	0	77	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3437	883	145	1190	0	1883	0	77	0	0	0
PCE 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
MLF 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
Final Volume:	0	3437	883	145	1190	0	1883	0	77	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.86	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.90	0.00	0.10	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	4719	0	179	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.36	0.50	0.08	0.21	0.00	0.40	0.00	0.43	0.00	0.00	0.00
Crit Moves:	****			****			****			****		
Green Time:	0.0	29.2	29.2	7.0	36.2	0.0	24.8	0.0	24.8	0.0	0.0	0.0
Volume/Cap:	0.00	0.87	1.21	0.83	0.40	0.00	1.13	0.00	1.21	0.00	0.00	0.00
Delay/Veh:	0.0	20.9	127.8	57.7	10.4	0.0	87.0	0.0	123.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	20.9	127.8	57.7	10.4	0.0	87.0	0.0	123.4	0.0	0.0	0.0
LOS by Move:	A	C+	F	E+	B+	A	F	A	F	A	A	A
HCM2k95thQ:	0	25	64	8	10	0	50	0	60	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps



Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	341	607	384	2340	0	193	11	196	0	0	0
Growth 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
Initial Bse:	0	341	607	384	2340	0	193	11	196	0	0	0
Added Vol:	0	271	358	554	1797	0	162	0	0	0	0	0
Yahoo_NetAp:	0	14	0	0	74	0	20	0	0	0	0	0
Initial Fut:	0	626	965	938	4211	0	375	11	196	0	0	0
User 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
PHF 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
PHF Volume:	0	626	965	938	4211	0	375	11	196	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	626	965	938	4211	0	375	11	196	0	0	0
PCE 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
MLF 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
FinalVolume:	0	626	965	938	4211	0	375	11	196	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.41	0.03	0.56	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	3793	57	1008	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.07	0.55	0.54	0.74	0.00	0.10	0.19	0.19	0.00	0.00	0.00
Crit Moves:	****											
Green Time:	0.0	30.5	30.5	29.7	60.2	0.0	10.8	10.8	10.8	0.0	0.0	0.0
Volume/Cap:	0.00	0.17	1.44	1.44	0.98	0.00	0.73	1.44	1.44	0.00	0.00	0.00
Uniform Del:	0.0	16.4	24.7	25.2	9.3	0.0	33.2	34.6	34.6	0.0	0.0	0.0
IncrementDel:	0.0	0.0	208.3	208.6	9.8	0.0	3.6	214	213.5	0.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Delay/Veh:	0.0	16.4	233.1	233.7	19.2	0.0	36.8	248	248.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	16.4	233.1	233.7	19.2	0.0	36.8	248	248.1	0.0	0.0	0.0
LOS by Move:	A	B	F	F	B-	A	D+	F	F	A	A	A
HCM2k95thQ:	0	4	99	94	51	0	12	41	41	0	0	0

Attachment C
Final Initial Study

PROPOSED MITIGATED NEGATIVE DECLARATION

EDUCATIONAL CENTER

PREPARED FOR:

Foothill De Anza Community College District
Building D160 – Plant Services
12345 El Monte Road
Los Altos Hills, CA 94002
Tel: (650) 222-4570

PREPARED BY:

RBF Consulting

April 2012

EDUCATIONAL CENTER

PROPOSED MITIGATED NEGATIVE DECLARATION

PREPARED FOR:

Charles Allen, P.E., Executive Director
Facilities and Operations
Foothill De Anza Community College District
Building D160 – Plant Services
12345 El Monte Road
Los Altos Hills, CA 94002
Tel: (650) 222-4570

PREPARED BY:

RBF Consulting
3180 Imjin Road, Suite 110
Marina, CA 93933
Tel: (831) 883-8187

April 2012

Foothill DeAnza Community College District
NOTICE OF INTENT
to Adopt a Mitigated Negative Declaration for the Educational Center

Project Title: Educational Center

Project Proponent: Foothill DeAnza Community College District

Project Description: The Foothill-De Anza Community College District is proposing to construct an educational center within the Onizuka Air Force Station (AFS) redevelopment planning area. The proposed project would be constructed on a 9.2 acre site that has been acquired through a Public Benefit Conveyance application with the Department of Education and through agreements with the City of Sunnyvale.

The Educational Center would be constructed in two phases. The first phase of the proposed project would include:

- Demolition of improvements located on the project site to a maximum of approximately 532,892 square feet of existing buildings;
- Preparation of the project site for development including the installation of all required utilities, circulation roads, and off-site improvements on innovation way;
- Construction of a two-story 55,000 square feet of educational space and a 556 space parking lot (10 cars per 1,000 square feet);
- Construction of a 16,000 square foot campus courtyard; and
- Installation of site landscaping and miscellaneous site improvements.

At a later stage, an additional 55,000 square feet of educational space and a new four story parking structure would be constructed. However, given the uncertainties regarding timing and funding, this is not considered part of the proposed project.

Project Location: The proposed Educational Center is located within the Moffett Park Specific Plan (MPSP) area of the City of Sunnyvale within the former Onizuka AFS. The project site is bound by Innovation Way to the west and north, North Mathilda Avenue and the Santa Clara Valley Transportation Authority's light rail tracks to the east and south, and West Moffett Park Drive and California Highway 237 to the south. An existing Veteran's Administration building is located immediately north of the project site.

Hazardous Waste: Pursuant to Public Resources Code Section 15072(f)(5) and the California Government Code Section 65962.5, no presence of hazardous waste or substances as contained on the lists compiled pursuant to Section 65962.5 of the Government Code is known to exist on the project site.

The Foothill DeAnza Community College District has reviewed the project and is of the opinion that the project with mitigation measures will not have a significant effect on the environment. A copy of the Initial Study and Mitigated Negative Declaration are available for review by contacting Charles Allen, Executive Director, Facilities and Operations via email at allencharles@fhda.edu. In addition, the document is available for review at the Foothill De Anza Community College District, Building D160 – Plant Services, 12345 El Monte Road, Los Altos Hills, CA 94002, Monday through Friday, 8:00 AM to 5:00 PM. The public review period is from **Friday, March 2, 2012 to Monday, April 2, 2012**.

Charles Allen, P.E
Executive Director, Facilities

Dated: February 29, 2012
Published: March 2, 2012

EDUCATIONAL CENTER

PROPOSED MITIGATED NEGATIVE DECLARATION

PREPARED FOR:

Charles Allen, P.E., Executive Director
Facilities and Operations
Foothill De Anza Community College District
Building D160 – Plant Services
12345 El Monte Road
Los Altos Hills, CA 94002
Tel: (650) 222-4570

PREPARED BY:

RBF Consulting
3180 Imjin Road, Suite 110
Marina, CA 93933
Tel: (831) 883-8187

April 2012

Mitigated Negative Declaration

Educational Center

In Compliance with the California Environmental Quality Act (CEQA)

Lead Agency: Foothill DeAnza Community College District

Project Proponent: Foothill DeAnza Community College District
12345 El Monte Road
Los Altos Hills, CA 94002

Project Location: The proposed Educational Center is located within the Moffett Park Specific Plan (MPSP) Area of the City of Sunnyvale within the former Onizuka Air Force Station (AFS). The project site is bounded by Innovation Way to the west and north, North Mathilda Avenue and the Santa Clara Valley Transportation Authority's light rail tracks to the east and south, and West Moffett Park Drive and California Highway 237 to the south. An existing Veteran's Administration building is located immediately north of the project site.

Project Description: The Foothill De Anza Community College is proposing to construct an educational center within the Onizuka AFS redevelopment plan area. The proposed project would be constructed on a 9.2 acre (hereinafter "project site") site that has been acquired through a Public Benefit Conveyance application with the Department of Education and through agreements with the City of Sunnyvale.

The Educational Center would be constructed in two phases. The first phase of the proposed project would include:

- Demolition of improvements located on the project site to a maximum of 532,892 square feet of existing buildings;
- Preparation of the project site for development including the installation of all required utilities, circulation roads, and off-site improvements on innovation way;
- Construction of a two-story 55,000 square feet of educational space and a 556 space parking lot (10 cars per 1,000 square feet);
- Construction of a 16,000 square foot campus courtyard; and
- Installation of site landscaping and miscellaneous site improvements, including bicycle parking.

Once demolition of the structures within the project site is complete, the proposed project would be constructed. The educational center would offer several vocational and career programs (e.g. Emergency Medical Technician, Pharmacy Technician, Child Development), as well as general education curriculum needed to complete an Associate of Arts (AA) or Associate of Science (AS) degree.

At a later stage, an additional 55,000 square feet of educational space and a new four story parking structure would be constructed. However, given the uncertainties regarding timing and funding, this is not considered part of the proposed project.

The mission of the new educational center is to serve a diverse student population by offering support services and credit and noncredit programs in basic skill, transfer and workforce preparation, as well as not-for-credit fee-based community education. The target audiences are high school/regional occupation program graduates, workers who are training, retraining, or upgrading skills and lifelong learners.

Public Review Period: Begins – Friday, March 2, 2012
Ends – Monday, April 2, 2012

Address Where Written Comments May Be Sent:

Charles Allen, P.E., Executive Director, Facilities and Operations
Foothill De Anza Community College District
Building D160 – Plant Services
12345 El Monte Road
Los Altos Hills, CA 94002

Proposed Finding: The attached initial study indicates that the proposed project has the potential to result in significant adverse environmental impacts. However, the mitigation measures identified in the attached initial study reduce the potentially significant impacts to a less than significant level. There is no substantial evidence that in light of the whole record before the Foothill DeAnza Community College District (lead agency) that the proposed project with mitigation measures incorporated may have a significant effect on the environment. See the following mitigation measures:

Mitigation Measures:

Archaeological Resources

MM-1 If a significant archaeological resource is identified during grading, the District shall seek to avoid damaging effects to the resource. Preservation in place to maintain the relationship between the artifact(s) and the archaeological context is the preferred manner of mitigating impacts to an archaeological site. Preservation may be accomplished by:

- Planning construction to avoid the archaeological site,
- Incorporating the site within a park, green space, or other open space element,
- Covering the site with a layer of chemically stable soil, or
- Deeding the site into a permanent conservation easement.

When in-place mitigation is determined by the District to be infeasible, a data recovery plan, which makes provisions for adequate recovery of the scientifically consequential information about the site, shall be prepared and adopted prior to any additional excavation being undertaken. Such studies must be submitted to the California Historical Resources Regional Information Center. If Native American artifacts are indicated, the studies must be submitted to the Native American Heritage Commission. Identified cultural resources shall be recorded on form DPR 422 (archaeological sites).

Mitigation measures recommended by these two groups shall be required prior to resumption of construction activities. A data recovery plan and data recovery shall not be required if it is determined that testing or studies already completed have adequately recovered the necessary data, provided that the data have already been documented in another EIR or are available for review at the California Historical Resource Regional Information Center {CEQA Guidelines Section 15126.4 (b)}

Air Quality

MM-2 The District shall implement the BAAQMD's basic construction mitigation measures recommended for all projects into all construction contracts and during construction activities at the project site:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Geology and Soils

MM-3 The proposed shall be designed in accordance with the current edition of the California Building Code (CBC). The District shall consult with a qualified engineer to prepare a design level geotechnical report in accordance with the CBC for the proposed project. Certification shall be provided from a qualified professional that the proposed project has been constructed in accordance with the geotechnical report prior to operation of the proposed project.

Transportation and Circulation

MM-4 Prior to operation of the proposed project, the District shall modify the main access point under one of the following options to promote safe driveway operations:

- 1) Provide an access driveway that aligns with the current 11th Avenue/Innovation Way intersection and provides adequate driveway throat length to avoid conflicts with queued exiting traffic and traffic utilizing intersecting drive aisles. This would necessitate the re-allocation of parking stalls within the project site, although there appears to be some room at the Mathilda Avenue (east) end of the site where displaced stalls could be shifted. The southbound approach of Innovation Way at 11th Avenue includes pavement area for a future left-turn pocket that could be re-stripped for left turns into the project site.
- 2) Modify the existing driveway to provide a right-in/right-out only to promote safe vehicle circulation to/from the currently proposed access that is offset from the 11th Avenue/Innovation Way intersection. Since Innovation Way provides direct access to both Mathilda Avenue and Moffett Park Drive, motorists entering and exiting the project site would have more than one option for ingress/egress to/from the project vicinity under the current configuration.

Hazardous Materials

MM-5 Pursuant to Cal OSHA regulations and the BAAQMD, each structure within the project site shall be inspected by a qualified environmental specialist for the presence of Asbestos Containing Materials (ACMs) and Lead Based Paints (LBPs) prior to demolition. If ACMs and LBPs are found during the investigation, a remediation plan shall be developed to ensure that these materials are removed and disposed of by a licenses contractor at an approved landfill facility in accordance with all federal, state, and local laws and regulations prior to demolition.

EDUCATIONAL CENTER

FINAL INITIAL STUDY

PREPARED FOR:

Charles Allen, P.E., Executive Director
Facilities and Operations
Foothill De Anza Community College District
Building D160 – Plant Services
12345 El Monte Road
Los Altos Hills, CA 94002
Tel: (650) 222-4570

PREPARED BY:

RBF Consulting
3180 Imjin Road, Suite 110
Marina, CA 93933
Tel: (831) 883-8187

April 2012

Project Title	Educational Center
Lead Agency Name and Address	Foothill-De Anza Community College District
Contact Person	Charles Allen, P.E., Executive Director, Facilities and Operations
Phone Number	(650) 222-4570
Project Location	The proposed Educational Center is located within the Moffett Park Specific Plan (MPSP) Area of the City of Sunnyvale within the former Onizuka Air Force Station (AFS). The project site is bounded by Innovation Way to the west and north; North Mathilda Avenue and the Santa Clara Valley Transportation Authority's light rail tracks to the east and south; and West Moffett Park Drive and California Highway 237 to the south. An existing Veteran's Administration building is located immediately north of the project site. See Figure 1: Regional Location and Figure 2: Project Site, which shows an aerial of the project site and surrounding area.
Applicant's Name	Charles Allen, P.E., Executive Director, Facilities and Operations
Project Address	Foothill-De Anza Community College District Building D160 – Plant Services 12345 El Monte Road Los Altos Hills, CA 94002
Zoning	Moffett Park Industrial (MPI)
General Plan	Moffett Park Specific Plan
Other Public Agencies whose approval is required	City of Sunnyvale

PROJECT BACKGROUND:

The proposed Educational Center is located within the Moffett Park Specific Plan (MPSP) Area of the City of Sunnyvale within the former Onizuka Air Force Station (AFS). The project background as it relates to the MSPS and the Onizuka AFS is described below.

Moffett Park Specific Plan

The City of Sunnyvale adopted the 1,100-acre MPSP in the spring of 2004 to replace the former M-S (Manufacturing and Service) and M-3 (General Industrial) zoning districts. Buildout of the MPSP is anticipated over approximately twenty years. The sub-districts of the MPSP were designed to encourage corporate office and Class "A" office redevelopment to diversity the City's industrial base. The MPSP includes a provision for a Development Reserve to allow exemplary projects the benefit of additional floor area beyond the standard FAR

restrictions of the sub-districts. The Development Reserve square footage was not applied to individual parcels or general areas, but rather to the entire MPSP area. However, the Onizuka AFS is excluded from accessing the MPSP Development Reserve. In addition to supporting Class “A” office development, the MPSP addresses transportation improvements, supports the use of public transit, and encourages sustainable design and green building techniques.

In 2003, the City of Sunnyvale City Council certified the program-level Environmental Impact Report (EIR) for the MPSP. As part of the EIR, it was found that there were significant unavoidable environmental impacts resulting from the proposed MPSP. The City Council made statement of overriding considerations for the following unavoidable impacts and deemed them to be acceptable in view of the significant economic and social benefits with approval of the MPSP. Statement of overriding considerations were made by the City of Sunnyvale for the following significant and unavoidable impacts within the MPSP:

- o Air Quality: Future area source and vehicular emissions under the MPSP would result in significant and unavoidable air quality impacts.
- o Traffic and Circulation: Implementation of the MPSP resulted in significant and unavoidable impacts to the Central Expressway and Oakmead Parkway intersection and the Central Expressway and Bowers Avenue intersection. The Mathilda Avenue corridor would also result in a significant and unavoidable impact during the AM and PM peak hour.
- o Housing and Population: The MPSP would generate a significant number of jobs that would indirectly induce population and housing growth throughout the region.
- o Cumulative Growth Impacts: The MPSP would result in a significant and unavoidable impact to the overall cumulative impact in the region affecting air quality, transportation, and the jobs/housing ratio.

Since completion of the MPSP and EIR, the Jay Paul Company's Moffett Towers Lot 1 and Lot 3 were approved for rezoning of a portion of the Lockheed Martin campus, which required preparation of a subsequent EIR since Lot 3 was proposed at a higher density than what was evaluated in the MPSP. It was determined that the increased density would result in significant and unavoidable impacts and therefore, the City Council adopted statements of overriding considerations for these unavoidable environmental impacts.

Onizuka Base Realignment and Closure

The Onizuka Air Force Station (AFS) was identified for closure in 2006 with a closure date of September 13, 2011. A Draft Environmental Assessment/Finding of No Significant Impact (EA/FONSI) was prepared for the disposal and reuse of the Onizuka AFS in May 2009 and approved in May 2011. The EA/FONSI evaluated the environmental impacts of three alternatives considered by the adopted 2008 Onizuka AFS Redevelopment Plan for the disposal and reuse of the AFS. The proposed action called for the demolition of approximately 25 structures totaling approximately 558,000 square feet and the construction of approximately 243,326 square feet of new office space. The MPSP assumed that the existing condition of the Onizuka AFS at the time of preparation of the Specific Plan would remain in the future, which was an operating government facility of 558,000 square feet used primarily for office-type uses.

The Local Redevelopment Authority (LRA) adopted the Onizuka Air Force Station Redevelopment Plan (Redevelopment Plan) in 2008 with the preferred auto center land use. In 2009, the LRA conducted a refinement study to evaluate the feasibility of the preferred auto center use. The refinement study found that the preferred use was feasible, but it lacked support from local auto dealers due to limited size, costs, and economy. The LRA directed staff to amend the Redevelopment Plan to include one acre for emergency services, approximately four acres for the Veteran Administration (VA), approximately nine acres for educational use, and approximately four acres for uses consistent with the MPSP. The amended redevelopment plan identifies these uses as the preferred land uses for the project site. The Redevelopment Plan also accommodates alternative locations of the requested housing claims at the project site of approximately four acres and 96 homeless housing units located near East Maude Avenue and North Wolfe Road.

The City of Sunnyvale and the Onizuka AFS LRA went through a comprehensive planning process and prepared an amended redevelopment plan for the Onizuka AFS in December 2011. After eliminating potential land uses, considering the current site limitations, and which reuse option would best suit the community's interests, the LRA recommended educational use and emergency services as the City's preferred reuse options for the project site. The LRA supported a request for a Public Benefit Conveyance for educational uses to be prepared and submitted by the District to the Department of Education. After preparation of the amended Onizuka AFS Redevelopment Plan, the City of Sunnyvale prepared and adopted an Initial Study/Mitigated Negative Declaration (IS/MND) in December 2011. The IS/MND determined that the preferred uses would not have a significant impact on the environment.

DESCRIPTION OF THE PROPOSED PROJECT: The Foothill-De Anza Community College District (hereinafter "District") is proposing to construct an educational center (hereinafter "proposed project") within the Onizuka AFS redevelopment plan area. The proposed project would be constructed on a 9.2 acre site (hereinafter "project site") that has been acquired through a Public Benefit Conveyance application with the Department of Education and through agreements with the City of Sunnyvale. [Figure 2: Project Site](#) presents an aerial of the project site and surrounding area.

The Educational Center (hereinafter "proposed project") would be constructed in two phases. A site plan of the proposed project is presented in [Figure 3: Site Plan](#). The first phase of the proposed project would include:

- Demolition of all improvements located on the project site, which is approximately 532,892 square feet of existing buildings;
- Preparation of the project site for development including the installation of all required utilities, circulation roads, and off-site improvements on Innovation way;
- Construction of a two-story 55,000 square feet of educational space and a 556 space parking lot (10 cars per 1,000 square feet);
- Construction of a 16,000 square foot campus courtyard; and
- Installation of site landscaping and miscellaneous site improvements, including bicycle parking.

Once demolition of the structures within the project site is complete, the proposed project would be constructed. The educational center would offer several vocational and career programs (e.g. Emergency Medical Technician, Pharmacy Technician, Child Development), as well as general education curriculum needed to complete an Associate of Arts (AA) or Associate of Science (AS) degree.

At a later stage, an additional 55,000 square feet of educational space and a new four story parking structure would be constructed. However, given the uncertainties regarding timing and funding, this is not considered part of the proposed project.

The mission of the new educational center is to serve a diverse student population by offering support services and credit and noncredit programs in basic skill, transfer and workforce preparation, as well as not-for-credit fee-based community education. The target audiences are high school/regional occupation program graduates, workers who are training, retraining, or upgrading skills and lifelong learners.

DETAILED PROJECT DESCRIPTION:

On-site Development: The project site is 9.2 acres and includes approximately 532,892 square feet of existing buildings and associated improvements from the historical use of the former AFS. Very limited vegetation at the project site consists of landscaped areas consisting of on-native grasses, ornamental shrubs, and shade trees.

Construction Activities and Schedule: The District does not currently occupy the property, but will be receiving ownership in the Spring of 2012. Construction is anticipated to begin in August 2012 and will take approximately 36 months.

Surrounding Uses and Setting: The proposed educational center is located within the MPSP Area of the City of Sunnyvale within the former Onizuka Air Force Station (AFS). The project site is bounded by Innovation Way to the west and north, North Mathilda Avenue and the Santa Clara Valley Transportation Authority's light rail tracks to the east and south, and West Moffett Park Drive and California Highway 237 to the south. An existing Veteran's Administration building is located immediately north of the project site.

Off-site Improvements: ~~Installation of all required utilities, circulation roads, and off-site improvements on Innovation Way. The proposed project does not include any off-site improvements.~~

EVALUATION OF ENVIRONMENTAL IMPACTS:

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Potentially Significant Unless Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 17, “Earlier Analysis,” may be cross-referenced).
5. Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c) (3) (d). In this case, a brief discussion should identify the following:
6. Earlier Analysis Used. Identify and state where they are available for review.
7. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
8. Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project
9. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Hazards & Hazardous Materials	☐ Public Services
☐ Agricultural Resources	☐ Hydrology/Water Quality	☐ Recreation
☐ Air Quality	☐ Land Use/Planning	☐ Transportation/Traffic
☐ Biological Resources	☐ Mineral Resources	☐ Utilities/Service Systems
☐ Cultural Resources	☐ Noise	☐ Mandatory Findings of Significance
☐ Geology/Soils	☐ Population/Housing	

MANDATORY FINDINGS OF SIGNIFICANCE (see checklist for further information):

Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

☐ Yes
☒ No

Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of the past projects, the effects of other current projects, and the effects of probable future projects)?

☐ Yes
☒ No

Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

☐ Yes
☒ No

DETERMINATION:

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐

I find that the proposed project MAY have a "potential significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

☐

Checklist Preparer: Erika Spencer and Bill Wiseman
RBF Consulting

Date: February 28, 2012

Title: Charles Allen, P.E., Executive Director, Facilities and
Operations

Foothill De Anza Community College
District

Signature: 

Planning	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source Other Than Project Description and Plans
1. Aesthetics - Substantially damage scenic resources, including, but not limited to trees, historic buildings?	☐	☐	☒	☐	Sunnyvale General Plan Map, Open Space Sub-element www.sunnyvaleplanning.com Project Description
2. Aesthetics - Substantially degrade the existing visual character or quality of the site and its surroundings including significant adverse visual changes to neighborhood character?	☐	☐	☐	☒	Sunnyvale General Plan Map, Open Space Sub-element www.sunnyvaleplanning.com Project Description
3. Aesthetics - Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐	Sunnyvale General Plan Map, Open Space Sub-element www.sunnyvaleplanning.com Project Description
4. Population and Housing - Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure) in a way that is inconsistent with the Sunnyvale General Plan?	☐	☐	☒	☐	Sunnyvale Land Use and Transportation Element of the General Plan, General Plan Map www.sunnyvaleplanning.com Project Description
5. Population and Housing - Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	Housing Sub-Element, Land Use and Transportation Element and General Plan Map www.sunnyvaleplanning.com Project Description
6. Population and Housing - Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	Housing Sub-Element www.sunnyvaleplanning.com Project Description
7. Land Use Planning - Physically divide an established community?	☐	☐	☐	☒	Sunnyvale General Plan Map www.sunnyvaleplanning.com Project Description
8. Land Use Planning – Conflict with the Sunnyvale General Plan, Zoning Ordinance, San Francisco Bay Conservation and Development Commission (BCDC) area or related specific plan adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒	Sunnyvale Land Use and Transportation Element, Sunnyvale General Plan, Title 19 (Zoning) of the Sunnyvale Municipal Code http://qcode.us/codes/sunnyvale/view.php?topic=19&frames=off
9. Transportation and Traffic - Result in inadequate parking capacity?	☐	☐	☒	☐	Parking Requirements (Section 19.46) in the Sunnyvale Municipal Code http://qcode.us/codes/sunnyvale/view.php?topic=19-4-19_46&frames=off

Planning	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source Other Than Project Description and Plans
10. Hazards and Hazardous Materials - For a project located the Moffett Field AICUZ or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	Moffett Field AICUZ, Sunnyvale Zoning Map, Sunnyvale General Plan Map www.sunnyvaleplanning.com
11. Hazards and Hazardous Materials - For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	There are no private airstrips in or in the vicinity of Sunnyvale
12. Hazards and Hazardous Materials - For a project within the vicinity of Moffett Federal Airfield, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	Moffett Field AICUZ, Sunnyvale Zoning Map, Sunnyvale General Plan Map www.sunnyvaleplanning.com
13. Agricultural Resources - Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒	Sunnyvale Zoning Map www.sunnyvaleplanning.com
14. Noise - Exposure of persons to or generation of noise levels in excess of standards established in the Noise Sub-Element, Noise limits in the Sunnyvale Municipal Code, or applicable standards of the California Building Code?	☐	☐	☒	☐	Sunnyvale Noise Sub-element, SMC www.sunnyvaleplanning.com 19.42 Noise Ordinance http://qcode.us/codes/sunnyvale/view.php?topic=19&frames=off
15. Noise -Exposure of persons to or generation of excessive groundborne vibration?	☐	☐	☒	☐	Sunnyvale Noise Sub-Element www.sunnyvaleplanning.com Project Description
16. Noise - A substantial permanent or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	Sunnyvale Noise Sub-element www.sunnyvaleplanning.com
17. Biological Resources - Have a substantially adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S Wildlife Service?	☐	☐	☐	☒	General Plan Map Project Description
18. Biological Resources - Have a substantial adverse effect on federally	☐	☐	☐	☒	General Plan Map Project Description

Planning	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source Other Than Project Description and Plans
protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?					
19. Biological Resources -Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒	General Plan Map Project Description
20. Biological Resources - Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒	SMC 19.90 Tree Preservation Ordinance Sunnyvale Inventory of Heritage Trees
21. Biological Resources - Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒	Project Description
22. Historic and Cultural Resources - Cause a substantial adverse change in the significance of a historical resource or a substantial adverse change in an archeological resource?	☐	☐	☒	☐	Sunnyvale Heritage Preservation Sub-Element, Sunnyvale Inventory or Heritage Resources The United States Secretary of the Interior's "Guidelines for Rehabilitation" Criteria of the National Register of Historic Places
23. Historic and Cultural Resources - Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐	Project Description
24. Public Services - Would the project result in substantial adverse physical impacts associated with the provision of new or expanded public schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable performance objectives?	☐	☐	☐	☒	Project Description
25. Air Quality - Conflict with or obstruct implementation of the BAAQMD air quality plan? How close is the use to	☐	☐	☒	☐	BAAQMD CEQA Guidelines Sunnyvale General Plan Map Sunnyvale Air Quality Sub-Element

Planning	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source Other Than Project Description and Plans
a major road, hwy. or freeway?					www.sunnyvaleplanning.com
26. Air Quality - Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐	BAAQMD CEQA Guidelines Project Description
27. Air Quality - Would the project conflict with any applicable plan, policy or regulation of any agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐	BAAQMD CEQA Guidelines Project Description
28. Air Quality - Violate any air quality standard or contribute substantially to an existing or projected air quality violation.	☐	☒	☐	☐	BAAQMD CEQA Guidelines Sunnyvale Air Quality Sub-Element Project Description
29. Air Quality - Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐	BAAQMD CEQA Guidelines Sunnyvale Air Quality Sub-Element www.sunnyvaleplanning.com Project Description
30. Air Quality - Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐	BAAQMD CEQA Guidelines Sunnyvale Air Quality Sub-Element www.sunnyvaleplanning.com Project Description
31. Seismic Safety - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☒	☐	☐	Seismic Safety and Safety Sub-Element of the Sunnyvale General Plan www.sunnyvaleplanning.com
32. Seismic Safety - Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒	Seismic Safety and Safety Sub-Element of the Sunnyvale General Plan www.sunnyvaleplanning.com
33. Seismic Safety - Strong seismic ground shaking?	☐	☒	☐	☐	Seismic Safety and Safety Sub-Element of the Sunnyvale General Plan www.sunnyvaleplanning.com
34. Seismic Safety-Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐	Seismic Safety and Safety Sub-Element of the Sunnyvale General Plan www.sunnyvaleplanning.com

Further Discussion:

Item #1, Aesthetics (Less than Significant Impact): The 9.2 acre project site is located on the former Onizuka AFS and is located within the MPSP which is comprised primarily of commercial and industrial development. The project site includes 532,892 square feet of existing buildings and associated improvements from the historical use of the former AFS. Very limited vegetation at the project site consists of landscaped areas containing non-native grasses, ornamental shrubs, and shade trees.

During preparation of the EA/FONSI for the Onizuka Air Force Station Redevelopment Plan, the Air Force consulted with the VA, the City of Sunnyvale, and the State Historic Preservation Officer (SHPO) through the Section 106 process as required by the National Historic Preservation Act. It was determined that the historic significance of the project site resulted from the missions and operations conducted within the buildings rather than the structures themselves.

The discussions resulted in the following items to be preserved or recorded:

- o Relocation of the Challenger memorial to the Veterans Administration (VA) site, which is a responsibility of the VA.
- o Interpretive display documenting the history of the Onizuka AFS within the lobby of the VA building, which is the responsibility of the VA and subject to review and approval by SHPO.
- o The completion of a Historic American Buildings Survey (HABS) Level II type documentation, which is the responsibility of the Air Force.
- o Completion of a lesson plan documenting the role of the AFS in the cold war era, which is the responsibility of the Air Force and to be provided to school districts by the City of Sunnyvale.

The Air Force, VA, and California SHPO have all concurred with the recommended documentation steps through a Memorandum of Understanding in accordance with Section 106 of the National Historic Preservation Act and the Base Realignment and Closure process. Therefore, the proposed project would not substantially damage scenic resources, including but not limited to trees or historic buildings.

Item #2, Degradation of the Visual Character (No Impact): The project site is located within an urban area on the former Onizuka AFS. The proposed project includes the demolition of a maximum of 532,892 square feet of buildings and the construction of a two-story 55,000 square feet building with a 556 space parking lot. As the project site is already developed and the proposed project would be decreasing the amount development at the project site, the proposed project would not substantially degrade the existing visual character of the project site or surrounding area.

Item #3, Light and Glare (Less than Significant Impact): The project site is located within an urban area that is exposed to reflective lighting from surrounding uses within the MPSP project area. The proposed project would include outdoor security lighting for the proposed structures, as well as security lighting for the parking lot. However, light sources for the proposed project are not expected to be greater than the surrounding area and therefore the proposed project would have a less than significant impact on nighttime skies due to light and glare from the proposed project.

Item #4, Population and Housing (Less than Significant Impact): The MPSP EIR determined that the Specific Plan would generate a significant number of jobs that would indirectly induce population and housing growth throughout the region. A statement of overriding considerations was adopted by the City Council for the increase in population and housing growth. The proposed project includes construction of an educational center that would relocate programs from another facility in the region. As such, the population and housing impacts would be significantly less than what was evaluated in the MPSP EIR. Therefore, the proposed project would have a less than significant impact to population and housing growth.

Item #5 and #6, Population and Housing (No Impact): There is no housing located at the project site. Therefore, the proposed project would not displace people or existing housing from the project site.

Item #7 and #8, Land Use and Planning (No Impact): The project site is located within the MPSP planning area and is consistent with the Onizuka AFS Redevelopment Plan. The project site is zoned “Moffett Park Industrial.” Surrounding land uses include office uses to the west; VA buildings to the north; and commercial space and a hotel to the east of the project site. The proposed project would not physically divide an established community and conflict with the *City of Sunnyvale General Plan* or *Zoning Ordinance*.

Item #9, Transportation and Traffic (Less than Significant Impact): The MPSP does not specify on-site parking requirements for community colleges, but the City’s Municipal Code Section 19.46 includes requirements for educational institutions past twelfth grade. The proposed project exceeds the requirements of the City’s Municipal Code and includes 556 parking spaces cars (10 per 1,000 square feet). The proposed would provide one space for each of the 35 proposed employees; at least one space for special purpose vehicles; and more than one space for every three seats of the 1,000 full-time equivalent student capacity of the proposed project. In comparison to the City of Sunnyvale Municipal Code, the Institute of Transportation Engineers (ITE) *Parking Generation, 3rd Edition* found an average peak period parking demand of only 0.21 spaces per student for a community college, which would be 210 spaces based on 1,000 full-time equivalent students.

In addition to on-site parking, the District plans to implement the Santa Clara Valley Transportation Authority’s “Eco Pass” program, similar to the program that is currently in place at the District’s De Anza Community College campus, which provides transit service to the student body at a lower fee. The District also plans to implement a parking permit program at the new educational campus in order to encourage the use of alternative transportation.

Therefore, the proposed parking is consistent with Section 19.46 of the City of Sunnyvale Municipal Code, the City’s parking requirements and the ITE *Parking Generation Manual* for community colleges. Therefore, the proposed project would result in a less than significant impact to parking capacity within the project site.

Item #10 and #12, Hazards and Hazardous Materials (No Impact): The Moffett Field federal air field is located within three miles of the project site. According to the Moffett Field Air Installations Compatibility Use Zones (AICUZ) study map, the project site is not located within the safety hazard zone of the air field. Therefore, the proposed project would not result in a safety hazard for people residing or working in the project site.

Item #11, Private Airstrip (No Impact): There are no private airstrips located in the vicinity of the project site. Therefore, the proposed project would have no impact on private airstrips.

Item #13, Agricultural Resources (No Impact): The project site is located at the former Onizuka AFS and is not currently in agricultural production and/or zoned for agricultural use. Therefore, the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract.

Item #14, #15, and #16, Noise (Less than Significant Impact): The proposed project would result in and be exposed to long-term operational noise and short-term construction noise during demolition, grading and construction activities at the project site as described below:

Operational Noise Levels: The proposed project is an educational facility consisting largely of classrooms and associated administrative facilities. Due to the vicinity of State Route 237 located south of the project site and Highway 101 located west of the project site, the Noise Element of the *City of Sunnyvale General Plan* indicates that the projected noise levels from nearby highway noise at the project site would range from 60 L_{dn} to 69 L_{dn}. Noise sources created by traffic from the proposed project and operational activities at the proposed educational center and would not result in a significant increase in noise over existing conditions, which would be audible to the surrounding area.

In 1976, the State of California published guidelines for noise compatible land use planning. Generally, exterior noise exposures fall into three categories: normally acceptable, conditionally acceptable and unacceptable.

Each land use has a particular dBA range within each exterior noise exposure category. Educational uses are generally considered normally acceptable up to 60 dBA and conditionally acceptable up to 75 dBA provided that needed noise insulation features are included in the design. In addition, the Safety and Noise Element of the *City of Sunnyvale General Plan* addresses issues of land use compatibility, transportation noise, and community noise and establishes policies and standards to ensure that interior and exterior noise levels are within applicable standards. Policy SN-8.4 states “Prevent significant noise impacts from new development by applying state noise guidelines and Sunnyvale noise regulations in the evaluation of land use issues and proposals.”

The proposed project would be required to comply with the California Building Code and all State and Federal requirements to ensure that the interior of the proposed educational center meets applicable standards. Therefore, with insulation features would be incorporated into the architectural design of the proposed project, which would ensure that operational noise levels are less than significant.

Short-Term Construction Noise Levels: During the construction phase of the proposed project, development of the proposed project would result in construction noise and vibration from demolition, grading, etc. that would add to the noise environment in the immediate vicinity. Noise generated by construction equipment including earth movers, material handlers, and portable generators can reach high levels. Typical noise levels for individual pieces of construction equipment are summarized in [Table 1: Typical Construction Equipment Noise Levels](#) below.

Table 1: Typical Construction Equipment Noise Levels

Type of Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	88
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85
Scrapers	88
<i>Notes: dBA = A-weighted decibel</i>	
<i>Source: Federal Highway Administration, Roadway Construction Noise Model, May 2006</i>	

Individual equipment noise levels typically range from approximately 75 to 91 dBA at 50 feet. Typical operating cycles may involve two minutes of full power, followed by three or four minutes at lower power settings. Depending on the activities performed and equipment usage requirements, average-hourly noise levels at construction sites typically range from approximately 65 to 89 dBA L_{eq} at 50 feet. Assuming a maximum construction noise level of 89 dBA L_{eq} and an average attenuation rate of 6 dBA per doubling of distance from the source, construction activities located within approximately 1,500 feet of noise sensitive receptors could reach levels of approximately 60 dBA L_{eq} . There are no sensitive receptors in the vicinity of the project site except a hotel on North Mathilda Avenue, which is greater than 1,200 feet from the boundary of the project site. Therefore, the proposed project would have a less than significant impact to sensitive receptors during ~~short-term~~ construction activities associated with the proposed project.

Item #17 - #21, Biological Resources (No Impact): The project site is located in an urban area and was formerly the Onizuka AFS. Very limited vegetation at the project site consists of landscaped areas containing non-native grasses, ornamental shrubs, and shade trees. This vegetation will be removed as part of demolition activities and new landscaping will be installed as part of the new educational facility. There is no riparian habitat or wetlands located within or adjacent to the project site. Therefore, the proposed project would not result in an impact to riparian habitat, wetlands, or other sensitive natural communities; interfere with the movement of resident or migratory fish; conflict with local policies or ordinances protecting biological resources; and/or conflict with the provisions of an adopted habitat conservation plan.

Item #22 and #23, Historic and Cultural Resources (Less than Significant Impact with Mitigation):

During preparation of the EA/FONSI, the Air Force consulted with the VA, the City of Sunnyvale, and the State Historic Preservation Officer (SHPO) through the Section 106 process as required by the National Historic Preservation Act. It was determined that the historic significance of the site resulted from the missions and operations conducted within the buildings rather than the structures themselves and that a number of items be preserved and recorded (as noted above). The Air Force, VA, and California SHPO all concurred with the recommended documentation steps through a Memorandum of Understanding in accordance with Section 106 of the National Historic Preservation Act and the Base Realignment and Closure process. Therefore, the proposed project would not substantially damage historic buildings within the project site.

The project site is substantially disturbed from its prior use as an AFS and there are no known archaeological sites located within the project site. However, there still remains the possibility of the discovery of Native American remains during grading since there are archaeological sites in the region. In the event that human remains are discovered during ground disturbing activities, the District would comply with Public Resources Code 5097.98 and Section 15126.4 of the CEQA Guidelines relating to the disposition of Native American burials, which falls within the jurisdiction of the California Native American Heritage Council (NAHC). Implementation of the following mitigation measure would ensure that the proposed project would result in a less than significant impact to archaeological resources should they be encountered during grading and construction activities at the project site.

Mitigation Measure #1

MM-1 If a significant archaeological resource is identified during grading, the District shall seek to avoid damaging effects to the resource. Preservation in place to maintain the relationship between the artifact(s) and the archaeological context is the preferred manner of mitigating impacts to an archaeological site. Preservation may be accomplished by:

- o Planning construction to avoid the archaeological site,
- o Incorporating the site within a park, green space, or other open space element,
- o Covering the site with a layer of chemically stable soil, or
- o Deeding the site into a permanent conservation easement.

When in-place mitigation is determined by the District to be infeasible, a data recovery plan, which makes provisions for adequate recovery of the scientifically consequential information about the site, shall be prepared and adopted prior to any additional excavation being undertaken. Such studies must be submitted to the California Historical Resources Regional Information Center. If Native American artifacts are indicated, the studies must be submitted to the Native American Heritage Commission. Identified cultural resources shall be recorded on form DPR 422 (archaeological sites).

Mitigation measures recommended by these two groups shall be required prior to resumption of construction activities. A data recovery plan and data recovery shall not be required if it is determined that testing or studies already completed have adequately recovered the necessary data, provided that the data have already been documented in another EIR or are available for review at the California Historical Resource Regional Information Center [CEQA Guidelines Section 15126.4 (b)]

Item #24, Schools (No Impact): The proposed project includes construction of an educational center that would be operated by the District. The proposed project would not involve the construction of residential uses that would increase the demand for schools. Therefore, the proposed project would not increase the demand for schools or require the construction for any new facilities.

Item #25, Conflict with the Bay Area 2010 Clean Air Plan (Less than Significant Impact): The proposed area is located in the San Francisco Bay Area Air Basin for which The Bay Area Air Quality Management

District (BAAQMD) adopted the final Bay Area 2010 Clean Air Plan (Plan) (BAAQMD 2010). The Bay Area is designated as a non-attainment area with respect to state 1- and 8-hour ozone standards and federal 8-hour ozone standards. The 2010 Plan explains how the Bay Area plans to meet the state- and federal standards with regard to ozone, and also discusses related air quality issues of interest including the public involvement process; climate change; fine particulate matter; the BAAQMD's Community Air Risk Evaluation program; local benefits of ozone control measures; the environmental review process; national ozone standards; and photochemical modeling.

The Plan includes 55 control measures to improve air quality, protect public health, and protect the climate. The measures are divided into strategies relating to stationary sources, mobile sources, transportation, land use, and energy and climate. The proposed project does not include new stationary sources of air pollution, and the District does not have authority over land use or transportation issues. Therefore, the proposed project would not interfere with implementation of the control measures listed in the 2010 Plan and would have less than significant impact to the Plan.

Item #26 and #27, Greenhouse Gas Emissions (Less than Significant Impact): The BAAQMD's CEQA Guidelines threshold of significance note that a project would have a significant cumulative impact to greenhouse gases unless it can be shown that the project: 1) is in compliance with a Climate Action Plan; 2) project emissions of CO₂ equivalent greenhouse gases are less than 1,100 metric tons per year; or 3) project emissions of CO₂ equivalent greenhouse gases are less than 4.6 metric tons per year per service population (residents plus employees).

The City of Sunnyvale does not have a Climate Action Plan at this time. Therefore, project operational-related GHG emissions were calculated with the California Emission Estimator Model (CalEEMod) for the amended redevelopment plan by Environ on behalf of the City of Sunnyvale, which included the proposed project. Operational-related GHG emissions due to sources other than stationary sources were estimated at 2.7 metric tones (MT) CO₂e₇ per service population (SP) per year and are below BAAQMD's threshold of 4.6 MT per SP per year. Short-term construction emissions were estimated to be 1,016 MT. BAAQMD has not provided a significance threshold for construction-related GHG emissions, but requires that projects quantify and disclose such emissions. Therefore, the proposed project would result in a less than significant impact due to greenhouse gas emissions.

Item #28, ~~Short-term~~ and Long Term Air Quality Emissions and Greenhouse Gas Emissions (Less than Significant Impact with Mitigation): An air quality analysis was prepared for the amended Redevelopment Plan by Environ on behalf of the City of Sunnyvale. The report concluded that the proposed project would result in both long-term operational and ~~short-term~~ construction emissions.

~~Short-term~~ Construction Emissions: The proposed project would include the construction emissions from demolition of the existing buildings, as well as grading and site preparation activities at the project site. The project site is nearly level and grading activities at the project site would be minor to prepare the project site for development of the educational center.

According to Table 3-1: Criteria Air Pollutants and Precursors and GHG Screening Level Sizes in the BAAQMD CEQA Guidelines, at 1,000 full-time equivalent students the proposed project is below the applicable criteria air pollutant thresholds for a college/university, which is estimated at 3,012 students.

In addition for all construction projects, the BAAQMD recommends implementation of all the basic construction mitigation measures, listed in Table 8-1 of the BAAQMD CEQA Guidelines in order to meet the threshold for fugitive dust whether or not construction-related emissions exceed applicable thresholds. The following mitigation measure would ensure that the proposed project would result in a less than significant impact during ~~short-term~~ construction activities.

Mitigation Measure #2

MM-2 The District shall implement the BAAQMD's basic construction mitigation measures recommended for all projects into all construction contracts prior to demolition or construction activities at the project site:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

In addition to the implementation of the BAAQMD's fugitive dust measures, the proposed project would be required to comply with the BAAQMD's Regulation 11-2-401.3. This regulation requires that for every renovation involving the removal of 100 sq ft/linear foot or greater of Regulated ACM, and for every demolition (even when no asbestos is present), a notification must be made to the BAAQMD at least 10 working days prior to commencement of demolition/renovation.

Long-Term Operational Emissions: Operational related emissions are due to area sources (e.g. fuel combustion, use of consumer products, etc.) and mobile sources. Operational-related emissions of reactive organic gases (ROG), nitrogen oxides (NO_x), and particulate matter (PM₁₀ and PM_{2.5}) from the area and mobile sources were calculated using CalEEMod. The modeling conducted for the proposed project does not exceed the BAAQMD significance thresholds.

The proposed project would also result in Carbon Monoxide (CO) emissions from mobile sources. BAAQMD provides a screening methodology based on peak hourly traffic volumes to evaluate potential impacts of CO emissions from mobile sources. The screening methodology focuses on intersections and vehicle traffic exceeding 44,000 vehicles per hour that could violate or contribute to a violation of an ambient air quality standard for CO. Based on the size of the proposed project, estimated project-related traffic is approximately a net of 1,164 daily vehicle trips per day. This in conjunction with existing traffic in the area, it is not expected that any of the intersections near the project would experience more than 44,000 vehicles per hour at buildout. Thus, the proposed project is not anticipated to contribute to a violation of CO air quality standards.

Item #29, Cumulatively Considerable Net Increase in Criteria Pollutants (Less than Significant Impact): Because the air basin is in non-attainment for ozone and fine particulate matter (PM₁₀ and PM_{2.5}), the proposed project would have the potential to contribute to a cumulatively significant impact. As previously stated herein, "if all of the control measures indicated are implemented, then air pollutant emissions from construction activities will be considered a less than significant impact" (BAAQMD, 2010). The proposed project incorporates the basic construction mitigation measures in order to ensure that construction emissions are less than significant. In addition, operational source emissions were found to be less than significant and therefore, the proposed project would not result in a cumulatively considerable net increase in any criteria pollutant for which the Bay Area is in non-attainment (e.g. ozone, PM₁₀, PM_{2.5}).

Item #30, Expose Sensitive Receptors to Substantial Pollutant Concentrations (Less than Significant Impact): The BAAQMD CEQA Guidelines recommend evaluation of potential site health risk and hazard impacts to both on and off-site sensitive receptors. These sources include operational and construction activities associated with a project. The shortest distance between the fence line of construction and the nearest sensitive receptors for the educational land uses is less than the BAAQMD required minimum offset. However, the proposed project is below the applicable criteria air pollutant thresholds for a college/university; incorporates the BAAQMD basic construction mitigation measures; and does not include any operational sources that would require further evaluation. Therefore, the proposed project would result in a less than significant health impact to off-site sources.

Item #31, #33 and #34, Geology and Soils (Less than Significant Impact With Mitigation): The City of Sunnyvale is located between two active earthquake faults, the San Andreas Fault and the Calaveras Fault. Scientists have identified four fault segments on which they believe large earthquakes are most likely to occur. The USGS estimated that there is a 63 percent chance for at least one earthquake of magnitude 6.7 or larger to strike in the San Francisco Bay Area before the year 2037. Liquefaction describes the phenomenon in which groundshaking tightens cohesionless soil particles which induces excess pore pressure. These soils may acquire a high degree of mobility and lead to structurally damaging deformations. Liquefaction begins below the water table, but after liquefaction has developed, the groundwater table will rise and cause the overlying soil to mobilize. Liquefaction typically occurs in areas where the groundwater is less than 30 feet from the surface and where the soils are composed of poorly consolidated fine to medium sand. Conditions for potential liquefaction exist throughout the City of Sunnyvale but the potential is generally greatest north of U.S. 101. The following mitigation measure would ensure that the proposed project does not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture on a known earthquake fault or seismic ground shaking. In addition, the State of California requires that all construction comply with the latest version of the California Building Code, which includes special requirements for public school facilities. School requirements are more stringent than those required for general structures.

Mitigation Measure #3

MM-3 The proposed shall be designed in accordance with the current edition of the California Building Code (CBC). The District shall consult with a qualified engineer to prepare a design level geotechnical report in accordance with the CBC for the proposed project. Certification shall be provided from a qualified professional that the proposed project has been constructed in accordance with the geotechnical report prior to operation of the proposed project.

In addition, the proposed project would be required to comply with the Uniform Building Code, which would ensure that the effects of seismic shaking at the project site are minimized.

Item #32, Geology and Soils (No Impact): The project site is located two miles from the San Francisco Bay. The topography of the project site and surrounding area is generally level. The proposed project would not affect inundation by seiche, tsunami, or mudflow.

Transportation	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source Other Than Project Description and Plans
35. Exceeds the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all modes of transportation including nonmotorized travel and all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian walkways, bicycle paths, and mass transit?	☐	☐	☒	☐	City's Land Use and Transportation Element, Santa Clara County Transportation Plan, and AASHTO: A Policy on Geometric Design of Highways and Streets.
36. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measurements, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐	Santa Clara County Congestion Management Program and Technical Guidelines (for conducting TIA and LOS thresholds).
37. Results in a change in air traffic patterns, including either an increase in air traffic levels or a change in flight patterns or location that results in substantial safety risks to vehicles, bicycles, or pedestrians?	☐	☐	☒	☐	Sunnyvale General Plan including the Land Use and Transportation Element.
38. Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☒	☐	☐	~~Traffic Report~~ <u>Traffic Impact Analysis</u> , Conceptual Site Plan; City and CA Standard Plans & Standard Specifications.
39. Conflict with adopted policies, plans, or programs regarding public transit or nonmotorized transportation?	☐	☐	☒	☐	Sunnyvale Bicycle Plan, VTA Bicycle Technical Guidelines, and VTA Short Range Transit Plan.
40. Affect the multi-modal performance of the highway and/or street and/or rail and/or off-road nonmotorized trail transportation facilities, in terms of structural, operational, or perception-based measures of effectiveness (e.g. quality of service for nonmotorized and transit modes)?	☐	☐	☒	☐	VTA Community Design and Transportation Manual, and Sunnyvale Neighborhood Traffic Calming Program.

Transportation	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source Other Than Project Description and Plans
41. Reduce, sever, or eliminate pedestrian or bicycle circulation or access, or preclude future planned and approved bicycle or pedestrian circulation?	☐	☐	☒	☐	Sunnyvale Bicycle Plan, Pedestrian and Bicycle Opportunities Studies and associated capital projects.
42. Cause a degradation of the performance or availability of all transit including buses, light or heavy rail for people or goods movement?	☐	☐	☒	☐	VTA Transit Operations Performance Report, VTA Short Range Transit Plan, and Valley Transportation Plan for 2035.

Further Discussion:

Item #35 and #36, Potentially Exceed the Capacity of the Existing Circulation System or Conflict with an Applicable Congestion Management Plan (Less than Significant Impact): TJKM prepared a Transportation Impact Analysis (TIA) for the proposed project, which analyzed six study scenarios, 21 study intersections (of which one is project-only), and 11 freeway segments that would potentially be impacted by traffic from the proposed project. The TIA evaluated the operational effects from the proposed project based on established traffic operational thresholds for the Santa Clara County Valley Transportation Authority (VTA) Congestion Management Program (CMP), the City of Sunnyvale, and the City of Mountain View. The full TIA is included in the appendix.

Study Intersections: In consultation with the City of Sunnyvale the following 21 intersections were evaluated as shown in [Figure 4: Study Intersections](#). The study intersections are all located within the City of Sunnyvale, with exceptions noted below:

1. Enterprise Way/Manila Drive / Moffett Park Drive
2. US 101 Northbound On-Ramp / Moffett Park Drive
3. Innovation Way/Moffett Park Drive
4. Mathilda Avenue/Moffett Park Drive
5. Mathilda Avenue/SR 237 Westbound Ramps
6. Mathilda Avenue/SR 237 Eastbound Ramps
7. Mathilda Avenue/Ross Drive
8. Mathilda Avenue/US 101 Northbound Ramps
9. Mathilda Avenue/US 101 Southbound Ramps
10. Mathilda Avenue/Almanor Avenue / Ahwanee Avenue
11. Mathilda Avenue/Maude Avenue (CMP Intersection)
12. Mathilda Avenue/Indio Way
13. Mathilda Avenue/California Avenue
14. Ellis Street/Manila Drive (Mountain View intersection)
15. Ellis Street/US 101 Northbound Ramps (Mountain View intersection)
16. Ellis Street/US 101 Southbound Ramps (Mountain View intersection)
17. Ellis Street/Middlefield Road
18. SR 237 Westbound Ramps/Middlefield Road
19. SR 237 Eastbound Ramps/Middlefield Road
20. Mary Avenue/Maude Avenue
21. Innovation Way/Project Access (Project Intersection only)

Freeway Segments: The TIA evaluated traffic conditions at 11 study freeway segments that the proposed project may potentially impact, selected in consultation with City of Sunnyvale staff. The freeway segments analyzed included:

1. US 101, Montague Expressway to Great America Parkway
2. US 101, Great America Parkway to Lawrence Expressway
3. US 101, Lawrence Expressway to N. Fair Oaks Avenue
4. US 101, N. Fair Oaks Avenue to Mathilda Avenue
5. US 101, N. Mathilda Avenue to State Route (SR) 237
6. US 101, SR 237 to Moffett Boulevard
7. SR 237, Maude Avenue to US 101
8. SR 237, US 101 to Mathilda Avenue
9. SR 237, Mathilda Avenue to N. Fair Oaks Avenue
10. SR 237, N. Fair Oaks Avenue to Lawrence Expressway
11. SR 237, Lawrence Expressway to Great America Parkway

The proposed project is expected to generate a net of 1,164 daily vehicle trips, including 116 trips during the a.m. peak hour and 116 trips during the p.m. peak hour, after applying an applicable three (3) percent transit discount per Santa Clara Valley Transportation Authority (VTA) guidelines since the project site is located within 2,000 feet of the Moffett Park light rail transit (LRT) station.

Existing Conditions: Currently, all study intersections operate at acceptable level of service (LOS) during both weekday a.m. and p.m. peak hours based on City of Sunnyvale, Mountain View and VTA *Congestion Management Program* (CMP) traffic operational standards. Based on operational results reported in VTA's *2010 CMP Monitoring and Conformance Report*, the following freeway segments exceed the VTA CMP operational standard of LOS E ~~E or better~~ during specified peak hours:

- US 101 Southbound, Montague Expressway to Great America Parkway (p.m. peak hour)
- US 101 Southbound, Great America Parkway to Lawrence Expressway (p.m. peak hour)
- US 101 Northbound, N. Fair Oaks Avenue to Mathilda Avenue (a.m. peak hour)
- US 101 Northbound, Mathilda Avenue to SR 237 (a.m. peak hour)
- US 101 Northbound, SR 237 to Moffett Boulevard (a.m. and p.m. peak hours)
- SR 237 Westbound, Maude Avenue to US 101 (p.m. peak hour)
- SR 237 Eastbound, Mathilda Avenue to N. Fair Oaks Avenue (p.m. peak hour)
- SR 237 Westbound, Mathilda Avenue to N. Fair Oaks Avenue (a.m. peak hour)
- SR 237 Eastbound, N. Fair Oaks Avenue to Lawrence Expressway (p.m. peak hour)
- SR 237 Eastbound, Lawrence Expressway to Great America Parkway (p.m. peak hour)

Existing Plus Project Conditions: With the addition of traffic from the proposed project, all intersections are expected to continue operating at acceptable service levels of LOS D or better as under Existing Conditions. Therefore, the proposed project would result in a less than significant impact under Existing Plus Project Conditions and no mitigation measures are required.

In terms of freeway operations under this scenario, the proposed project is not expected to add trips greater than one percent of the capacity of any freeway segment already operating at LOS F under Existing Conditions per VTA CMP standards. Therefore, the addition of proposed project traffic would have a less than significant impact on the study freeway segments under Existing plus Project Conditions. As a result, no mitigation measures are necessary.

Background Conditions (2013): All study intersections are expected to operate within applicable jurisdictional standards, with the following exceptions:

- Enterprise Way/Manila Drive / Moffett Park Drive would operate a LOS F during a.m. peak hour
- Mathilda Avenue/Moffett Park Drive would operate at LOS F during a.m. and p.m. peak hours

- Mathilda Avenue / SR 237 Westbound Ramps would operate at LOS F during a.m. and p.m. peak hours
- Ellis Street / Manila Drive would operate at LOS F during p.m. peak hour

Background plus Project Conditions (2013): With the addition project traffic to baseline Background Conditions, the same four intersections are expected to continue operating at unacceptable levels of service under Background Plus Project Conditions (2013). The addition of project traffic constitutes a significant impact since the critical delay would increase by more than four seconds and the critical volume to capacity (v/c) ratio would increase by more than 0.01 seconds at the following two intersections:

- Mathilda Avenue/Moffett Park Drive, which is operating at LOS F during a.m. and p.m. peak hours
- Mathilda Avenue/SR 237 Westbound Ramps, which is operating at LOS F during a.m. and p.m. peak hours)

The City's Traffic Impact Fee (TIF) program for transportation improvement mitigations was developed assuming a traffic baseline that included the Onizuka AFS when it was in operation. Estimated trip generation for the proposed project represents a fraction of the estimated trips for the AFS (23 percent of daily trips and approximately 16 to 17 percent of a.m./p.m. peak hour trips). Therefore, the proposed project would result in a less than significant impact since the proposed project would not increase the number of trips beyond those assumed in the TIF baseline analysis for the AFS use and does not contribute to the need for TIF-funded improvements.

Cumulative Conditions (2016): All intersections are expected to operate within applicable jurisdictional standards, with the following exceptions:

- Enterprise Way/Manila Drive / Moffett Park Drive, which operates at LOS F during a.m. peak hour.
- Mathilda Avenue/Moffett Park Drive, which operates at LOS F during a.m. and p.m. peak hours.
- Mathilda Avenue/SR 237 Westbound Ramps, which operates at LOS F during a.m. and p.m. peak hours.
- Mathilda Avenue/SR 237 Eastbound Ramps, which operates at LOS F during p.m. peak hour.
- Ellis Street/Manila Drive, which operates at LOS F during p.m. peak hour.

Cumulative plus Project Conditions (2016): With the addition of project traffic to baseline Cumulative Conditions, the same five intersections from Cumulative/No Project Conditions would continue to operate at unacceptable conditions. The addition of project traffic constitutes a significant impact since the critical delay would increase by more than four seconds and the critical volume to capacity (v/c) ratio would increase by more than 0.01 seconds at the following two intersections:

- Mathilda Avenue/Moffett Park Drive, which operates at LOS F during a.m. and p.m. peak hours.
- Mathilda Avenue/SR 237 Westbound Ramps, which operates at LOS F during a.m. and p.m. peak hours.

However, as noted under Background Plus Project Conditions, the proposed project would have a less than significant impact since the proposed project would not increase the number of trips beyond those assumed in the TIF baseline analysis for the previous AFS. Therefore, no mitigation measures are necessary.

Item #37, Air Traffic Patterns (Less than Significant Impact): The Moffett Field federal air field is located within three miles of the project site. According to the Moffett Field Air Installations Compatibility Use Zones (AICUZ) study map, the project site is not located within the safety hazard zone of the air field. Therefore, the proposed project would have a less than significant impact on air traffic patterns.

Item #38, Design Hazards (Less than Significant Impact With Mitigation): TJKM evaluated the on-site circulation and external access to the project site based on the proposed site plan in the TIA. In terms of

external access, the proposed site plan shows a single two-way access driveway from Innovation Way north of and within approximately 200 feet of the intersection with 11th Avenue. The current conceptual driveway location is located within the functional area of the 11th Avenue/Innovation Way intersection, which could interfere and cause conflicts with traffic turning to/from an adjacent intersection. This would be considered a potentially significant safety hazard if the driveway were to operate at full inbound/outbound access. Implementation of the following mitigation measure would reduce the impact to a less than significant level by ensuring that the proposed main access does not result in a safety hazard for students and staff accessing the main entrance of the project site.

Mitigation Measure #4

MM-4 Prior to operation of the proposed project, the District shall modify the main access point under one of the following options to promote safe driveway operations:

- 1) Provide an access driveway that aligns with the current 11th Avenue/Innovation Way intersection and provides adequate driveway throat length to avoid conflicts with queued exiting traffic and traffic utilizing intersecting drive aisles to promote safe driveway operations. This would necessitate the re-allocation of parking stalls within the project site, although there appears to be some room at the Mathilda Avenue (east) end of the site where displaced stalls could be shifted. The southbound approach of Innovation Way at 11th Avenue includes pavement area for a future left-turn pocket that could be re-striped for left turns into the project site.
- 2) Modify the existing driveway to provide a right-in/right-out only to promote safe vehicle circulation to/from the currently proposed access that is offset from the 11th Avenue/Innovation Way intersection. Since Innovation Way provides direct access to both Mathilda Avenue and Moffett Park Drive, motorists entering and exiting the project site would have more than one option for ingress/egress to/from the project vicinity under the current configuration.

Item #39 - #41, Non Motorized Transportation (Less than Significant Impact): The project site is served by non-motorized transportation including pedestrian access, bicycle lanes and transit service that adequately serves the project site and surrounding area as described below. TJKM studied the non-motorized transportation facilities in the vicinity of the project site and evaluated the impact of the proposed project on these facilities.

Pedestrian Access Evaluation: Sidewalks are provided along the project frontages of Innovation Way and Mathilda Avenue in the project vicinity. Mathilda Avenue connects pedestrians between the Lockheed Martin Transit Center, Innovation Way, and the project site. Access to the Moffett Park LRT Station is provided via sidewalks on Innovation Way and a private pedestrian path along the southern border of the nearby Ariba campus just north of Moffett Park Drive. In addition, a diagonal pathway through the Ariba campus provides a direct access to the Moffett Park light LRT Station.

Bicycle Transportation: Bicycle facilities are classified in three ways: off-street paths separated from auto traffic (Class I), on-street striped lanes (Class II), and on-street signed routes in which bicycles share the roadway with other vehicles (Class III). Bicycle lanes in the project vicinity include Class II bicycle lanes that are provided along the following roadways:

- 11th Avenue between Enterprise Way and Innovation Way
- Enterprise Way between Manila Avenue and 5th Avenue
- Mathilda Avenue north of Bordeaux Drive
- Moffett Park Drive east of Bordeaux Drive
- Maude Avenue between SR 237 and Mary Avenue
- Ellis Street between Middlefield Road and US 101 southbound ramps
- Manila Drive between Ellis Street and Enterprise Way
- Bordeaux Drive between Moffett Park Drive and Java Drive

- Borregas Avenue between Maude Avenue and Caribbean Drive
- Middlefield Road west of Bernardo Avenue

Class III bicycle routes are designated along the following roadways:

- Mathilda Avenue between Bordeaux Drive to Innovation Way
- Mary Avenue south of Maude Avenue. The City of Sunnyvale is currently studying ways to accommodate Class II lanes along this roadway section.

In terms of Class I off-street bicycle paths, a discontinuous path extends from Garner Drive to Weddell Drive along the north side of US 101 east of Mathilda Avenue.

It should also be noted that VTA has adopted the *Santa Clara Countywide Bicycle Plan (CBP)*. The CBP guides the development of major bicycling facilities by designating Cross County Bicycle Corridors and identifying bicycle projects of countywide or intercity significance. Several of these routes travel through the study area, including routes along Mary Avenue, Maude Avenue, Middlefield Road, Ellis Street, and Manila Drive/Moffett Park Drive.

Pedestrian and bicycle volumes were collected at all study intersections in March and April 2011. Based on these volumes, it is noted that there is moderate bicycle use along Moffett Park Drive and Manila Drive during weekday peak hours. Most other study intersections currently experience low bicycle use. It is also noted that along Mathilda Avenue and Innovation Way, pedestrian volumes are low. From the collected pedestrian volumes, it appears that pedestrians typically use the existing marked crossings at most intersections.

The project site provides bicycle access via the Class II bicycle lanes on 11th Avenue and Enterprise Way. However, there are currently no bicycle lanes along Moffett Park Drive east of Enterprise Way. While not an ideal condition for bicyclists, the roadway is sufficiently wide to share with vehicles, but re-striping the road to accommodate bike lanes could be considered to further improve bicycle circulation within the project vicinity. The City of Sunnyvale has identified the construction of bicycle lanes on Moffett Park Drive as a future bicycle improvement. In the past, the City had not added a bicycle lane between Innovation Way and Mathilda Avenue due to lack of available right-of-way between the light-rail tracks and the SR 237 Westbound on-ramp. In the meantime, sharrows and signage will be used to alert motorists to the possible presence of bicyclists along this segment of Moffett Park Drive, while the City continues to study the possibility of adding bicycle lanes.

Overall, most of the existing infrastructure appropriately accommodates bicyclists and pedestrians, since the project site is located within a developed area. Therefore pedestrian and bicycle access in and around the project site is adequate and the proposed project would result in a less than significant impact to pedestrian and bicycle facilities in the project vicinity.

Item #42, Cause a Degradation in Public Transit (Less than Significant Impact): The project site is very well served by public transportation. The VTA, which operates bus and light rail service within Santa Clara County, runs multiple transit routes through the study area. VTA serves the project study area with seven fixed-route bus lines and one LRT line. Most of the bus routes operate only during weekdays. In addition, the project site is served by weekday commuter shuttles operated by the Altamont Commuter Express (ACE) and CalTrain. The project site is situated near both the Lockheed Martin and Moffett Park LRT Stations, both of which are stops on VTA Route 902. The Lockheed Martin Station is approximately 2,000-foot walking distance, while the Moffett Park Station is approximately 2,400 feet.

There are also other local shuttles that provide service within Moffett Park and to surrounding neighborhoods and major transit facilities. The Moffett Park Business & Transportation Association provides information on these shuttle programs to tenants in Moffett Park.

A proposed project is considered to have a significant impact on transit if it conflicts with existing or planned transit facilities, or is expected to generate additional transit trips and does not provide adequate facilities for pedestrians and bicyclists to access transit routes and stops.

VTA provided existing load factors (average number of riders per trip) for the transit routes within the study area (LRT Line 902 and Routes 26, 54, 120, 121, 122, 321, and 328). Light rail trains have seated capacities of 65 per car and buses have seated capacities of 38. The load factor for Line 902 at the Moffett Park Station is 0.34 (22 people). For Routes 26 and 54, the load factors are 0.49 (19 people) and 0.33 (13 people), respectively. The express routes have load factors between 0.38 (14 people) and 0.52 (20 people).

The transit service within the immediate project area operates well below capacity, and additional trips generated by the proposed project could be accommodated by existing light-rail and bus service. Existing service on light rail and Route 54 is adequate even if the full VTA TDM reductions were shifted to just these public transit lines and not to carpools, bicyclists, pedestrians, and other transit lines. The Moffett Park area also has a well-used shuttle system that would be able to accommodate additional riders.

The Lockheed Martin Transit Center, where most of the available transit service is focused, will be accessible to pedestrians and bicyclists generated by the proposed project, as the project site is located within a 1/2 mile from the transit center. Pedestrians and bicyclists would travel along Innovation Way to Mathilda Avenue to reach the transit center. Therefore, the proposed project would have a less than significant impact on transit service.

Building	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source Other Than Project Description and Plans

43. Hydrology and Water Quality - Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒	FEMA Flood Insurance Rate Map Effective 5/18/09 www.sunnyvaleplanning.com , California Building Code, Title 16 (Building) of the Sunnyvale Municipal Code Project Description
44. Hydrology and Water Quality - Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒	FEMA Flood Insurance Rate Map Effective 5/18/09 www.sunnyvaleplanning.com , California Building Code, Title 16 (Building) of the Sunnyvale Municipal Code Project Description
45. Hydrology and Water Quality - Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒	1995 ABAG Dam Inundation Map www.abag.ca.gov , California Building Code, Title 16 (Building) of the Sunnyvale Municipal Code Project Description
46. Geology and Soils - Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐	Sunnyvale Municipal Code 12.60, Storm Water Quality Best Sunnyvale Management Practices Guideline Manual Project Description
47. Geology and Soils - Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐	Safety and Seismic Safety Sub-Element, www.sunnyvaleplanning.com California Plumbing, Mechanical, and Electrical Codes and Title 16 (Building) of the Sunnyvale Municipal Code
48. Geology and Soils - Be located on expansive soil, as defined by the current building code, creating substantial risks to life or property?	☐	☐	☒	☐	California Plumbing, Mechanical, and Electrical Codes and Title 16 (Building) of the Sunnyvale Municipal Code

Further Discussion:

Item #43 and #44, 100-Year Floodplain (No Impact): The project site is developed and is not within a designated floodplain. Therefore, the proposed project would not place structures within a 100-year flood hazard area, which would impede or redirect flows.

Item #45, Flooding (No Impact): The project site is not behind a levee or downstream of a dam. Therefore, the proposed project would not expose people or structures to a significant risk of loss, injury or death involving flooding.

Item #46, Geology and Soils (Less than Significant Impact): The project site is located within the Guadalupe Slough watershed and is located east of the Steven's Creek Watershed. Most storm water that runs off the rooftops and ground surfaces at the project site is routed to an underground storm drain system which discharges to the Sunnyvale West Channel, which has adequate capacity to serve the project site. Storm water from the Sunnyvale West Channel empties into the Moffett Channel and from there flows to Guadalupe Slough, which discharges into San Francisco Bay, north of the project site.

Implementation of the proposed project would result in the removal and reconstruction of existing hardscape areas, which would be subject to the National Pollution Elimination System (NPDES) permit requirements during construction activities. The proposed project would include the demolition in the number of existing square footage of buildings and the removal of hardscape at the project site, which would subsequently result in an increase in pervious surfaces at the project site over existing conditions, subsequently reducing pollutant loads from the project site. The proposed project will not require an expansion of the existing treatment plant or stormwater since the stormwater is being infiltrated or treated prior to its release.

~~In addition, the proposed project would comply with City of Sunnyvale Municipal Code 12.60 (BMP Guidance Manual for New and Redevelopment Projects) and the Blueprint for a Clean Bay to ensure that the water quality is maintained during construction and operation of the proposed project.~~

Item #47 and #48, Geology and Soils (Less than Significant Impact): As described under Items #31 through #34, a soil/geotechnical report would be prepared for the proposed project and the recommendations from the report shall be incorporated into the project design. In addition, the proposed project would be required to comply with the California Building Code, which would ensure that the effects of liquefaction and expansive soils do not create substantial risks to life or property.

Engineering	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source Other Than Project Description and Plans
49. Utilities and Service Systems: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐	Project Description Sunnyvale Wastewater Management Sub-Element www.sunnyvaleplanning.com
50. Utilities and Service Systems: Require or result in construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	Project Description Sunnyvale Waste Water Management Sub-Element Water Resources Sub-Element www.sunnyvaleplanning.com Urban Water Management Plan
51. Utilities and Service Systems: Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	Project Description Sunnyvale Waste Water Management Sub-Element Water Resources Sub-Element www.sunnyvaleplanning.com
52. Utilities and Service Systems: Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐	Project Description Water Resources Sub-Element www.sunnyvaleplanning.com Urban Water Management Plan
53. Utilities and Service Systems: Result in a determination by the wastewater treatment provider which services or may serve the project determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐	Project Description Sunnyvale Wastewater Management Sub-Element www.sunnyvaleplanning.com
54. Utilities and Service Systems: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐	Sunnyvale Solid Waste Management Sub-Element www.sunnyvaleplanning.com
55. Hydrology and Water Quality - Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐	Regional Water Quality Control Board (RWQCB) Region 2 Municipal Regional Permit
56. Hydrology and Water Quality - Substantially degrade groundwater supplies or interfere substantially	☐	☐	☐	☒	Santa Clara Valley Water District Groundwater Protection Ordinance www.valleywater.org

Engineering	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source Other Than Project Description and Plans
with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?					
57. Hydrology and Water Quality - Otherwise substantially degrade water quality?	☐	☐	☒	☐	Project description Water Resources Sub-Element www.sunnyvaleplanning.com
58. Hydrology and Water Quality - Create or contribute runoff which would exceed the capacity of existing or planned storm water drainage systems in a manner which could create flooding or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐	RWQCB, Region 2 Municipal Regional Permit, Stormwater Quality BMP Guidance Manual for New and Redevelopment Projects www.sunnyvaleplanning.com
59. Hydrology and Water Quality - Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river?	☐	☐	☒	☐	Santa Clara Valley Water District (SCVWD) Guidelines and Standards for Land Use Near Streams www.valleywater.org City of Sunnyvale Stormwater Quality Best Management Practices (BMP) Guidance Manual for New and Redevelopment Projects www.sunnyvaleplanning.com
60. Utilities and Service Systems: Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐	Solid Waste Management Sub-Element of the Sunnyvale General Plan www.sunnyvaleplanning.com
61. Public Services Infrastructure? Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?	☐	☐	☐	☒	Project Description

Further Discussion:

Item #49, #50, #51, #52, #53, #55, Violate Water Quality Standards or Waste Discharge Requirements and Increase in Water and Wastewater (Less than Significant Impact): The proposed project would receive water and wastewater service from the City of Sunnyvale.

The City of Sunnyvale has four different sources of water supply readily available: local groundwater from eight operating wells, imported Central Valley Project and Delta water from the Santa Clara Valley Water District (SCVWD), Hetch Hetchy, and Sunol Valley water supply from the San Francisco Public Utilities Commission (SFPUC), and recycled water produced at the Sunnyvale Water Pollution Control Plant for non-potable use. The first three sources meet all State and Federal drinking water quality standards. Recycled water is used to irrigate landscaping, pursuant to compliance with applicable requirements under the City's permit with the Regional Water Quality Control Board. There are also about a dozen service area pockets in Sunnyvale receiving water from the California Water Service Company (City of Sunnyvale 2012).

The annually-updated 20-year water forecast for the City, which estimates the City's consumption requirements in future years, falls within the City's contract parameters, except for periods of drought and/or periods when the supply is reduced due to increases in government mandated Bay-Delta allocations for environmental protection concerns. Based on the most recent 20-year water forecast, the current citywide water demand is approximately 21,475 acre-feet per year (AFY). In 2031, the estimated citywide demand would be approximately 25,968 AFY (or approximately 4,493 AFY more than current conditions. Barring catastrophic events, the City has adequate supply commitments and facilities to reliably meet the projected water needs of its residents and businesses for the foreseeable future (City of Sunnyvale 2008).

Wastewater draining from indoor sources in the City of Sunnyvale flows through sewer pipes that direct the wastewater to the Donald M. Somers Water Pollution Control Plant for treatment before being discharged to the San Francisco Bay. Originally constructed in 1956, the plant utilizes primary, secondary and tertiary treatment processes to treat the wastewater. The objective of the Plant is to remove pollutants and produce a high quality effluent suitable either for safe discharge to the South San Francisco Bay or for non-potable uses. The final upgrade to increase the Plant to its present capacity of 29.5 MGD was completed in 1984. In addition to wastewater treatment, services include regulatory permitting and inspections of pretreatment facilities and storm water management for business and industry in Sunnyvale, information on water pollution prevention and environmental education services to schools and youth. As described in the *City of Sunnyvale General Plan*, existing flow at the Water Pollution Control Plant is approximately 16.2 MGD per day. Based on the existing flow, the Water Pollution Control Plant has approximately 13.3 million gallons per day (MGD) of unused capacity.

The MPSP area is located at the northerly end of the City's drainage system near the water pollution control plant and is served by the interceptor sewers from three of the five primary sewer drainage areas. According to the MPSP, the total carrying capacities of the three primary interceptor sewers serving the Moffett Park Specific Plan area are: Borregas Sewer (17.0 million gallons per day); Lockheed Sewer (4.9 million gallons per day), and Lawrence Sewer (22.0 million gallons per day). Existing flow data generated within Moffett Park indicates an existing flow rate of 2.3 million gallons per day. During peak daytime periods, about 4.2 million gallons per day can be pumped from the Lawrence sewer to the Borregas sewer. The primary collector sewers located in the streets of Moffett Park range from 8-inch to 18-inch. Improvements required for the Moffett Park Specific Plan area have been evaluated based on buildout conditions for dry weather flows and wet weather flows during a 10-year, 4-hour storm event. Future impact analysis for the MPSP has been included within the citywide sewer system model.

The proposed project is consistent with the MPSP and the *City of Sunnyvale General Plan* and therefore would result in a less than significant impact to the City's water system, storm drainage system, and water pollution control plant. In addition, as the proposed project would connect to the City's water and wastewater system, it would not violate water quality standards or waste discharge requirements.

Item #56, Degrade Groundwater Supplies or Interfere with Groundwater Recharge (No Impact): The project site is currently developed and the majority of the project site is covered with hardscape. The proposed project would include the demolition of a maximum of 532,892 square feet of existing buildings and removal and reconstruction of the hardscape for construction of the proposed project. The proposed project is anticipated to reduce the amount of impervious surfaces with the demolition of buildings and hardscape within the project site, which would subsequently improve groundwater recharge. In addition, the proposed project would not include the use of hazardous materials, which have the potential to degrade groundwater supplies. Therefore, the proposed project would not interfere with groundwater recharge and/or groundwater quality at the project site.

Item #54 and #60, Solid Waste and Landfill Capacity (Less than Significant Impact): The City of Sunnyvale provides refuse collection service throughout the City. The Solid Waste Division of the Utilities Department operates the solid waste management system. Key services include collection of: garbage from residents, businesses and institutions; recyclables from single-family and multi-family residences, City facilities and schools; and yard trimmings from single-family residences. The Solid Waste Division also operates the Sunnyvale Materials Recovery and Transfer Station (SMaRT Station) under a Memorandum of Understanding among the cities of Mountain View, Palo Alto and Sunnyvale.

The buildings at the project site would be demolished. The demolition contractor would be required to transport and dispose of all demolition debris and hazardous waste off-site at an approved or permitted facility. As a means to reduce the amount of demolition debris disposed, concrete would be separated, ground up, and stockpiled for future use. Some building materials (e.g. wood and metal) would be recycled to the extent possible.

Solid waste from operation of the proposed project would be taken to the SMaRT station in the City of Sunnyvale. After materials are removed for recycling, the remainder of the refuse is disposed of at the Kirby Canyon Landfill located in the City of Morgan Hill, approximately 27 miles south of the project site. The landfill has a remaining capacity (at approximately 57,271,507 cubic yards) to serve the proposed project. The landfill complies with all federal, state and local statutes and regulations related to solid waste. Therefore, the proposed project would result in a less than significant impact related to solid waste.

Item #57 to #59, Hydrology and Water Quality (Less than Significant Impact): The project site is located within the Guadalupe Slough watershed and is located east of the Steven's Creek Watershed. Most storm water that runs off the rooftops and ground surfaces at the project site is routed to an underground storm drain system which discharges to the Sunnyvale West Channel. Storm water from the Sunnyvale West Channel empties into the Moffett Channel and from there flows to Guadalupe Slough, which discharges into San Francisco Bay, north of the project site.

Implementation of the proposed project would result in the removal and reconstruction of existing hardscape areas, which would be subject to the National Pollution Elimination System (NPDES) permit requirements during construction activities at the project site. The proposed project will not require an expansion of the City's existing treatment plant or stormwater system since the stormwater is being infiltrated or treated prior to its release.

~~In addition, the proposed project would comply with City of Sunnyvale Municipal Code 12.60 (BMP Guidance Manual for New and Redevelopment Projects) and the Blueprint for a Clean Bay to ensure that the water quality is maintained during construction and operation of the proposed project.~~

Item #61, Public Services Infrastructure (No Impact): The project site is located within the MPSP area. The infrastructure in the vicinity of the project site is adequate to serve the proposed project. Therefore, the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered public services infrastructure.

Public Safety – Hazardous Materials	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source Other Than Project Description and Plans
62. Public Services Police and Fire protection - Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?	☐	☐	☐	☒	Sunnyvale Law Enforcement Sub-Element Sunnyvale Fire Services Sub-Element Safety and Seismic Safety Sub-Element www.sunnyvaleplanning.com
63. Public Services Police and Fire protection - Would the project result in inadequate emergency access?	☐	☒	☐	☐	California Building Code SMC Section 16.52 Fire Code

Further Discussion:

Item #62, Public Services (No Impact): Police and fire protection services in the City of Sunnyvale are provided by the City of Sunnyvale Department of Public Safety. The proposed project would result in the need for police and fire protection services. Project plans would meet the Department's requirements for minimum fire flow, hydrant spacing, the provision of automatic fire sprinkler systems, hose valves/standpipes, and minimum turning radius and turnaround areas for access. The proposed project would not result in the need to construct new or altered fire protection or police facilities and therefore the proposed project would have a less than significant impact to the public safety department.

Item #63, Inadequate Emergency Access (Less than Significant Impact With Mitigation): With implementation of Mitigation Measure #3, the proposed project would provide adequate emergency access to the project site. No additional mitigation measures necessary.

Public Safety – Hazardous Materials	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source Other Than Project Description and Plans
64. Hazards and Hazardous Materials - Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	☐	☐	☒	☐	Project Description
65. Hazards and Hazardous Materials - Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	☐	☐	☒	☐	Project Description Department of the Army. Final Supplemental Environmental Condition of the Property Report and Environmental Baseline Survey
66. Hazards and Hazardous Materials - Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐	Project Description Department of the Army. Final Supplemental Environmental Condition of the Property Report and Environmental Baseline Survey
67. Hazards and Hazardous Materials - Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result would it create a significant hazard to the public or the environment?	☐	☐	☒	☐	Project Description Hazardous Waste & Substances List (State of California) List of Known Contaminants in Sunnyvale Department of the Army. Final Supplemental Environmental Condition of the Property Report and Environmental Baseline Survey
68. Hazards and Hazardous Materials - Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒	Seismic Safety and Safety Sub-Element of the Sunnyvale General Plan www.sunnyvaleplanning.com

Further Discussion:

Item #64 and #66, Hazardous Materials Use (Less than Significant Impact): The proposed project would include storage of minor hazardous materials, which may include batteries, herbicides/pesticides, and commercial cleaning products associated with operation of the proposed educational center. However all hazardous materials used within the project site for maintenance, etc. would be required to comply with the City of Sunnyvale Fire Department requirements and the Environmental Protection Agency's Emergency Planning and Community Right-to-Know Act (EPCRA), which would safeguard students and staff at the project site from exposure to hazardous materials.

Item #65 - #67, Hazardous Materials (Less than Significant Impact): The former Onizuka AFS used hazardous materials at the site as part of daily activities. An Environmental Condition of Property (ECP) Report and Environmental Baseline Survey (EBS) were prepared in April 2007 by the Department of the Air Force to document the environmental condition of property at Onizuka AFS for use by the Air Force in making decisions concerning real property transactions. The Department of the Air Force prepared an updated ECP/EBS based

on information obtained through a records search, interviews, visual site inspections (VSIs), and visual reconnaissance surveys (VRSs) conducted in May 2011. The records search included a review of available Air Force and other agency records, including environmental restoration and compliance reports; records, audits, surveys, and inspection reports within the installation files and regulator files; and an analysis of aerial photographs. Interviews with employees at Onizuka AFS were also conducted. A summary of the ECP/EBS is provided below. [Figure 5: Areas of Concern](#) shows the facilities on Onizuka AFS, as well as the potential areas of concern noted in the ECP/EBS prepared by the Department of the Air Force.

- o Hazardous Materials Management: A Hazardous Materials Pharmacy was established at Building 1007 within the project site, which was a staging area to hold materials for use and disposal. The most commonly used hazardous materials at the AFS included: cleaning compounds, compressed gases, paints, thinners, and batteries. Other facilities that used hazardous materials within the project site included Building 1003, 1004, 1006, 1013, 1025, 1035, 1040, 1042, and 10031. All hazardous materials were disposed of at a permitted facility and no evidence of a release was identified.
- o Petroleum Substances: Facility 1008 houses two aboveground storage tanks (ASTs) that contained jet propulsion fuel. Several releases of petroleum fuel have been identified that affect Facilities 1007, 1008, and 1009.
- o Aboveground Storage Tank Sites: Thirteen ASTs are/were associated with the former AFS. Two of the ASTs are in service, four are inactive, and seven have been removed. Facility 1008 houses two inactive 30,000-gallon ASTs that were used as a backup fuel source for the power plant. Facility 1004 includes four ASTs; two inactive ASTs stored used oil, one stores propane, and one stores diesel fuel. No evidence or documentation of a release was identified for these ASTs. Prior to 1988, petroleum fuel was stored in five 50,000-gallon ASTs and two 10,000-gallon ASTs within the installation fuel farm. These tanks were removed in 1988 as a result of a release of approximately 1,600 gallons of petroleum fuel. Environmental investigation after tank and soil removal activities were complete concluded that no semi-volatile organic compounds were found and therefore no known risk to human and ecological receptors ~~were~~ was identified.
- o Underground Storage Tank Sites (USTs): Five USTs were associated with the former AFS. Two 30,000-gallon USTs formerly used to store petroleum fuel and emergency cooling water and two 31,000-gallon USTs were removed in 1994. The removal and closure of the four USTs was coordinated with the City of Sunnyvale, Department of Public Safety, and Santa Clara Valley Water District. One 865-gallon UST used to store filtrate was removed in 1987 during the removal of the ASTs at the fuel farm.
- o Environmental Restoration Program: There have been several investigations of the environmental condition of the former Onizuka AFS. As a result, five sites were identified ([AOC SD-1](#), [AOC SD-2](#), [AOC FS-1](#), [AOC FS-2](#), and [AOC FS-3](#)). As shown in [Figure 5: Areas of Concern](#), sites [AOC SD-1](#) and [AOC SD-2](#) were evaluated and contamination did not require remedial action. Site AOC SD-1 is located near Facility 1042 and included filter backwash containing suspended solids and water treatment chemicals, which were contaminants of concern. Sample levels were found to be below action levels. Site AOC SD-2 is located on the north side of Facility 1005 and included wash water from antenna maintenance, which was found to be below action levels. Sites AOC FS-1 (Facility 1008), AOC FS-2 (Facility 1007), and AOC FS-3 (Facility 1009), addressed petroleum releases associated with above ground storage tanks. Site AOC FS-1 was located east of Facility 1004 and site AOC FS-2 is located at the former farm site south of Facility 1004. Remediation at these two sites was completed and the Regional Water Quality Control Board (RWQCB) concurred with the findings. Site AOC FS-3 is located near the antenna support structure and approximately 5 gallons of fuel were released at the site. However, the U.S. Air Force determined that there was no further action required.
- o Grease Traps: One grease trap and one oil interceptor were used at Onizuka AFS. An inactive grease trap is located at the dining facility (Facility 1006) and an oil interceptor was located at the paint shop

(Facility 1040). Based on the types of operation (food preparation) at Facility 1006, improper discharge to this grease trap is not anticipated. The oil interceptor at Facility 1040 was removed in October 2010. Based on soil sample results collected during removal activities, there was no indication of a release from the oil interceptor. The RWQCB has concurred that no further action is required at this site.

- o Groundwater Contamination: The project site is located within the Santa Clara Valley groundwater basin within a northwest-southeast orientated valley bounded by the Diablo Valley range to the east and the Santa Cruz Mountains to the west. Extensive groundwater investigations have been performed at the neighboring Moffett Federal Airfield to delineate and characterize the groundwater contamination associated with past activities at the Naval Air Station. A trichloroethene (TCE) groundwater plume exists to the west of the AFS. However, the groundwater contamination does not affect the project site because the groundwater flow gradient is north toward the San Francisco Bay and not towards the project site. Investigations at the AFS have not provided any evidence of groundwater contamination from past or present activities at the project site.
- o Asbestos Containing Materials (ACM): Asbestos-Containing Material (ACM) has been identified in 13 of the 23 structures surveyed including Facilities 1001, 1002, 1003, 1004, 1005, 1006, 1008, 1010, 1013, 1018, 1020, 10031, and 10032. No ACM was identified on or in Facilities 1007, 1009, 1012, 1015, 1016, 1021, 1022, 1034, 1035, 1040, 1042, 1043, and 1045. ACM within Facility 1018 (tile, linoleum, joint compound, paint specks, and mastic) was abated during renovation activities.
- o Lead Based Paints: A LBP survey of the exterior surfaces of 23 structures at the AFS was conducted in 2003. LPB was identified on the exterior surfaces of 8 of the 23 structures surveyed including facilities 1001, 1002, 1003, 1004, 1010, 1013, 1016, and 1034. No LBPs were identified on the exterior surfaces of facilities 1005, 1006, 1007, 1008, 1009, 1012, 1018, 1020, 1021, 1022, 1035, 1042, 1043, 10031, and 10032.

Formal closure of the hazardous waste accumulation area adjacent to Facility 1007 is required upon closure of the AFS and would be completed prior to development of the proposed project.

As ACM would likely be encountered during demolition activities at existing structures, demolition activities associated with the structures identified as having ACM would be subject to applicable federal, state and local regulations to minimize the potential risk to human health and the environment, including BAAQMD's Regulation 11-2-401.3 as described under Item #28. In addition, due to the age of the structures Lead Based Paints (LBPs) may be encountered during demolition activities. The following mitigation measure would ensure that potential impacts due to ACM and LBP are reduced to a less than significant level.

Mitigation Measure #5

MM-5 Pursuant to Cal OSHA regulations and the BAAQMD, each structure within the project site shall be inspected by a qualified environmental specialist for the presence of Asbestos Containing Materials (ACMs) and Lead Based Paints (LBPs) prior to demolition. If ACMs and LBPs are found during the investigation, a remediation plan shall be developed to ensure that these materials are removed and disposed of by a licenses contractor at an approved landfill facility in accordance with all federal, state, and local laws and regulations prior to demolition.

Item #68, Emergency Response Plan or Emergency Evacuation Plan (No Impact): The proposed project would not Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Community Services	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source Other Than Project Description and Plans
69. Public Services - Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?	☐	☐	☒	☐	Open Space & Recreation Sub-Element www.sunnyvaleplanning.com Project Description
70. Recreation - Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒	Open Space & Recreation Sub-Element www.sunnyvaleplanning.com Project Description
71. Recreation - Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒	Open Space & Recreation Sub-Element www.sunnyvaleplanning.com Project Description

Item #69, Public Services Parks (No Impact): The City of Sunnyvale operates 17 public park facilities located throughout the City providing a variety of recreational opportunities for residents and visitors. The proposed project would not involve the construction of residences that would directly affect parks or increase demand for recreational services. Therefore, the proposed project would not increase the demand for parks in the city and/or result in the need for new or altered parks.

Items #70, #71. Recreation (No Impact): The proposed project would not involve the construction of residential uses that would increase the demand for recreation facilities. Therefore, the proposed project would not increase the demand for recreation facilities, nor would it alter existing recreation facilities or require the construction for any new facilities.

City of Sunnyvale General Plan:

- A. General Plan Map
- B. Air Quality Sub-Element (1993)
- C. Arts Sub-Element (1995)
- D. Community Design Sub-Element (1990)
- E. Community Engagement Sub-Element (2007)
- F. Fire Services Sub-Element (1995)
- G. Community Vision (2007)
- H. Fiscal Sub-Element (2006)
- I. Heritage Preservation Sub-Element (1995)
- J. Housing & Community Revitalization Sub-Element (2009)
- K. Land Use & Transportation Sub-Element (1997)
Revised 4/28/09 with Allocation of Street Space Policies
- L. Law Enforcement Sub-Element (1995)
- M. Legislative Management Sub-Element (1999)
- N. Library Sub-Element (2003)
- O. Noise Sub-Element (1997)
- P. Open Space and Recreation Sub-Element (2006) *Updated with Parks of the Future Study 4/28/2009. Revised 4/24/09.*
- Q. Safety & Seismic Safety Sub-Element (2008)
- R. Socio-Economic Sub-Element (1989)
- S. Solid Waste Management Sub-Element (1996)
- T. Support Services Sub-Element (1988)
- U. Surface Run-off Sub-Element (1993)
- V. Wastewater Management Sub-Element (1996)
- W. Water Resources Sub-Element (2008)

City of Sunnyvale Municipal Code:

- A. Title 8 Health and Sanitation
- B. Title 9 Public Peace, Safety or Welfare
- C. Title 10 Vehicles and Traffic
- D. Title 12 Water and Sewers
- E. Chapter 12.60 Storm Water Management
- F. Title 13 Streets and Sidewalks
- G. Title 16 Buildings and Construction
- H. Chapter 16.52 Fire Code
- I. Title 18 Subdivisions
- J. Title 19 Zoning
- K. Chapter 19.29 Moffett Park Specific plan District
- L. Chapter 19.39 Green Building Regulations
- M. Chapter 19.42 Operating Standards
- N. Chapter 19.54 Wireless Telecommunication Facilities
- O. Chapter 19.81 Streamside Development Review
- P. Chapter 19.96 Heritage Preservation
- Q. Title 20 Hazardous Materials

Specific Plans:

- A. Moffett Park Specific Plan

Maps:

- A. General Plan Map
- B. Zoning Map
- C. City of Sunnyvale Aerial Maps
- D. Flood Insurance Rate Maps (FEMA)
- E. Santa Clara County Assessors Parcel
- F. Utility Maps
- G. Air Installations Compatible Use Zones (AICUZ) Study Map
- H. Noise Sub-Element Appendix A 2010 Noise Conditions Map

Lists / Inventories:

- A. Sunnyvale Cultural Resources Inventory List
- B. Heritage Landmark Designation List
- C. Santa Clara County Heritage Resource Inventory
- D. Hazardous Waste & Substances Sites List (State of California)
- E. List of Known Contaminants in Sunnyvale
- F. USFWS / CA Dept. F&G Endangered and Threatened Animals of California
<http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEAnimals.pdf>
- G. USFWS / CA Dept. F&G Endangered, Threatened and Rare Plants of California
<http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEPlants.pdf>

Legislation / Acts / Bills / Resource Agency**Codes and Permits:**

- A. Subdivision Map Act
- B. San Francisco Bay Region
Municipal Regional Stormwater NPDES Permit
- C. Santa Clara County Valley Water District
Groundwater Protection Ordinance
- D. The Hazardous Waste and Substance Site List
www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm
- E. The Leaking Underground Petroleum Storage Tank List
www.geotracker.waterboards.ca.gov
- F. The Federal EPA Superfund List
www.epa.gov/region9/cleanup/california.html
Section 404 of Clean Water Act

Transportation:

- A. California Department of Transportation
Highway Design Manual
- B. California Department of Transportation Traffic Manual

ENVIRONMENTAL CHECKLIST REFERENCE LIST

- C. California Department of Transportation Standard Plans & Standard Specifications
- D. Highway Capacity Manual
- E. Institute of Transportation Engineers - Trip Generation Manual & Trip Generation Handbook
- F. Institute of Transportation Engineers - Traffic Engineering Handbook
- G. Institute of Transportation Engineers - Manual of Traffic Engineering Studies
- H. Institute of Transportation Engineers - Transportation Planning Handbook
- I. Institute of Transportation Engineers - Manual of Traffic Signal Design
- J. Institute of Transportation Engineers - Transportation and Land Development
- K. U.S. Dept. of Transportation Federal Highway Administration Manual on Uniform Traffic Control Devices for Street and Highways & CA Supplements
- L. California Vehicle Code
- M. Santa Clara County Congestion Management Program and Technical Guidelines
- N. Santa Clara County Transportation Agency Short Range Transit Plan
- O. Santa Clara County Transportation Plan for 2035
- P. Traffic Volume Studies, City of Sunnyvale Public works Department of Traffic Engineering Division
- Q. Statewide Integrated Traffic Records System
- R. Sunnyvale Zoning Ordinance – including Titles 10 & 13
- S. City of Sunnyvale General Plan – land Use and Transportation Element
- T. City of Sunnyvale Bicycle Plan
- U. City of Sunnyvale Neighborhood Traffic Calming Program
- V. Valley Transportation Authority Bicycle Technical Guidelines
- W. Valley Transportation Authority Community Design & Transportation – Manual of Best Practices for Integrating Transportation and Land Use
- X. Santa Clara County Sub-Regional Deficiency Plan
- Y. City of Sunnyvale Deficiency Plan
- Z. AASHTO: A Policy on Geometric Design of Highways and Streets
- AA. City of Sunnyvale Pedestrian and Bicycle Opportunities Studies
- BB. Valley Transportation Authority Operations Performance Report

Public Works:

- A. Standard Specifications and Details of the Department of Public Works
- B. Storm Drain Master Plan
- C. Sanitary Sewer Master Plan
- D. Water Master Plan
- E. Solid Waste Management Plan of Santa Clara County
- F. Geotechnical Investigation Reports
- G. Engineering Division Project Files
- H. Subdivision and Parcel Map Files

Miscellaneous Agency Plans:

- A. ABAG Projections 2010
- B. Bay Area Clean Air Plan
- C. BAAQMD CEQA Guidelines
- D. Criteria of the National Register of Historic Places

Building Safety:

- A. California Building Code
- B. California Energy Code
- C. California Plumbing Code
- D. California Mechanical Code
- E. California Electrical Code
- F. California Fire Code
- G. Title 16.52 Sunnyvale Municipal Code
- H. Title 16.53 Sunnyvale Municipal Code
- I. Title 16.54 Sunnyvale Municipal Code
- J. Title 19 California Code of Regulations

Guidelines and Best Management Practices

- A. Storm Water Quality Best Management Practices Guidelines Manual 2007
- B. Sunnyvale Citywide Design Guidelines
- C. Blueprint for a Clean Bay
- D. SCVWD Guidelines and Standards for Land Use Near Streams
- E. The United States Secretary of the Interior 's Guidelines for Rehabilitation
- F. Criteria of the National Register of Historic Places

Additional Project References:

- A. Project Description
- B. Project Traffic Impact Analysis
- C. Project Air Quality Analysis
- D. Field Inspection
- E. Project Site Plan dated November 2011
- F. Project construction schedule

ENVIRONMENTAL CHECKLIST REFERENCE LIST

Other:

City of Sunnyvale Community Development Department. *Onizuka Air Force Station Local Redevelopment Authority Amended Redevelopment Plan*. December 13, 2011.

City of Sunnyvale. *Amendment to the Onizuka Air Force Station Redevelopment Plan Initial Study*. November 2011.

Department of the Air Force. *Draft Environmental Assessment, Disposal and Reuse of the Onizuka Air Force Station, Sunnyvale, CA*. May 2009.

TJKM. *Transportation Impact Analysis for the Educational Center*. February 2012.

Department of the Army. *Final Supplemental Environmental Condition of the Property Report and Environmental Baseline Survey, Onizuka Air Force Station, Sunnyvale, California*. August 2011

APPENDIX
TRAFFIC IMPACT ANALYSIS



Source: Foothill De Anza College District

Draft Report

Transportation Impact Analysis for Educational Center

For Foothill De Anza
Community College
District

In the City of Sunnyvale

February 13, 2012



Vision That Moves Your Community

Draft Report

Transportation Impact Analysis for Educational Center

For Foothill De Anza Community College District

In the City of Sunnyvale

February 13, 2012



www.tjkm.com

Prepared by:
TJKM Transportation Consultants
3875 Hopyard Road
Suite 200
Pleasanton, CA 94588-8526
Tel: 925.463.0611
Fax: 925.463.3690

Table of Contents

Executive Summary.....	1
Introduction.....	1
Project Trip Generation.....	1
Existing Conditions.....	1
Existing plus Project Conditions.....	2
Background Conditions (2013).....	2
Background plus Project Conditions (2013)	2
Cumulative Conditions (2016).....	3
Cumulative plus Project Conditions (2016)	3
Vehicle Access Evaluation	3
Pedestrian and Bicycle Access Evaluation	3
Transit Access.....	4
Onsite Vehicle Parking.....	4
Onsite Bicycle Parking	4
Level of Service Analysis Methodology.....	7
Signalized Intersections.....	7
Unsignalized Intersections.....	7
Level of Service Threshold Criteria.....	7
Signalized Intersections	7
Unsignalized Intersections	8
Freeway Segments.....	8
Study Traffic Analysis Scenarios	8
Study Intersections	9
Study Freeway Segments.....	9
Existing Conditions.....	10
Existing Roadway System and Setting.....	10
Existing Bicycle Facilities.....	11
Existing Pedestrian Facilities	12
Existing Transit Service.....	13
Existing Traffic Volumes	14
Intersection Level of Service Analysis Results (Existing Conditions)	14
Qualitative Evaluation of Mathilda Avenue Corridor Existing Traffic Operations	15
Field Observations	16
Freeway Level of Service Analysis Results (Existing Conditions).....	17
Existing plus Project Conditions	25
Project Location and Proposal.....	25
Trip Generation – Proposed Project	25
Project Trip Distribution and Assignment.....	26
Intersection Level of Service Analysis Results (Existing plus Project Conditions)	26
Freeway Level of Service Analysis Results (Existing plus Project Conditions).....	28
Background Conditions.....	34
Background No Project Traffic Volumes	34
Background Traffic Growth	34
Approved and Not Occupied Developments.....	34
Background Transportation Improvements.....	34
Intersection Level of Service Analysis Results (Background No Project Conditions)	35

Background plus Project Conditions	38
Intersection Level of Service Analysis Results (Background plus Project Conditions)	38
Intersection Mitigation Improvement Measures (Background plus Project Conditions)	40
Cumulative Conditions.....	42
Cumulative No Project Traffic Volumes	42
Cumulative Traffic Growth	42
Approved and Not Occupied Developments.....	42
Cumulative Transportation Improvements	42
Intersection Level of Service Analysis Results (Cumulative No Project Conditions)	42
Cumulative plus Project Conditions	46
Intersection Level of Service Analysis Results (Cumulative plus Project Conditions)	46
Intersection Mitigation Improvement Measures (Cumulative plus Project Conditions)	48
Site Access and Multi-Modal Evaluation.....	50
Site Access Evaluation.....	50
Vehicle Access Evaluation.....	50
Pedestrian Access Evaluation.....	50
Bicycle Access Evaluation	50
Transit Access.....	51
Parking Assessment	51
Vehicle Parking.....	51
Bicycle Parking.....	52
Study References	53
TJKM Personnel.....	53
Persons Consulted.....	53
References	53

List of Appendices

- Appendix A – Level of Service Methodology
- Appendix B – Level of Service Worksheets: Existing Conditions
- Appendix C – Level of Service Worksheets: Existing plus Project Conditions
- Appendix D – Level of Service Worksheets: Background Conditions
- Appendix E – Level of Service Worksheets: Background plus Project Conditions
- Appendix F – Level of Service Worksheets: Cumulative Conditions
- Appendix G – Level of Service Worksheets: Cumulative plus Project Conditions



List of Figures

Figure 1: Vicinity Map	5
Figure 2: Project Site Plan.....	6
Figure 3: Existing Bicycle Facilities.....	20
Figure 4: Existing Pedestrian and Bicycle Volumes.....	21
Figure 5: Existing Transit Service.....	22
Figure 6: Existing Conditions Traffic Volumes, Lane Geometry, and Traffic Controls	23
Figure 7: Mathilda Avenue Roadway Diagram.....	24
Figure 8: Project Trip Distribution.....	31
Figure 9: Project Trip Assignment.....	32
Figure 10: Existing plus Project Intersection Peak Hour Volumes	33
Figure 11: Background No Project Intersection Peak Hour Volumes.....	37
Figure 12: Background plus Project Intersection Peak Hour Volumes	41
Figure 13: Cumulative No Project Intersection Peak Hour Volumes	45
Figure 14: Cumulative plus Project Intersection Peak Hour Volumes	49

List of Tables

Table I: Existing Transit Service within Study Area.....	13
Table II: Intersection Levels of Service – Existing Conditions.....	14
Table III: Freeway Levels of Service – Existing Conditions	18
Table IV: Proposed Project Trip Generation	26
Table V: Intersection Levels of Service – Existing plus Project Conditions	27
Table VI: Freeway Levels of Service – Existing plus Project Conditions.....	28
Table VII: Intersection Levels of Service – Background No Project Conditions	35
Table VIII: Intersection Levels of Service – Background plus Project Conditions.....	39
Table IX: Intersection Levels of Service – Cumulative No Project Conditions.....	43
Table X: Intersection Levels of Service – Cumulative plus Project Conditions.....	47

Executive Summary

Introduction

This report presents the results of TJKM's transportation impact analysis for the proposed mixed-use Educational Center in the City of Sunnyvale. This proposed project is located within the Moffett Park Specific Plan (MPSP) Area of the City of Sunnyvale and on the site of the former Onizuka Air Force Station (AFS). The project site is bounded by Innovation Way to the west and north, North Mathilda Avenue and the Santa Clara Valley Transportation Authority's light rail tracks to the east and south, and West Moffett Park Drive and California Highway 237 to the south. An existing Veteran's Administration building is located immediately north of the project site.

The proposed project consists of redeveloping a 9.56-acre portion of the AFS and constructing an education building of 55,000 gross square feet on two floors that can accommodate a student population of up to 1,000 full time equivalent students. Approximately 556 onsite parking spaces would also be provided for the proposed education center. Figure 1 illustrates the location of the proposed project and its vicinity. Figure 2 shows the proposed Educational Center site plan.

This report includes traffic analysis results for six study scenarios, 21 study intersections (of which one is project-only), and 11 freeway segments that would potentially be impacted by proposed project traffic. For the purposes of this analysis, potential traffic operational effects from the Educational Center are identified based on established traffic operational thresholds for the Santa Clara County Valley Transportation Authority (VTA) Congestion Management Program (CMP), the City of Sunnyvale, and the City of Mountain View. For study intersections or freeway segments exceeding these thresholds, transportation improvements are then identified and evaluated for the potential to bring overall level of service (LOS) back within acceptable thresholds.

The report also includes evaluations and recommendations concerning project site access for vehicles, transit, bicycle, and pedestrians; and evaluation of onsite vehicle and bicycle parking supply.

Project Trip Generation

The proposed Educational Center is expected to generate a net of 1,164 daily vehicle trips, including 116 during the a.m. peak hour and 116 during the p.m. peak hour, after applying an applicable three (3) percent transit discount per Santa Clara Valley Transportation Authority (VTA) guidelines. The project is located within 2,000 feet of the Moffett Park light rail transit (LRT) station.

Existing Conditions

Currently, all study intersections operate at acceptable level of service (LOS) during both weekday a.m. and p.m. peak hours based on City of Sunnyvale, Mountain View and VTA Congestion Management Program (CMP) traffic operational standards.

Based on operational results reported in VTA's *2010 CMP Monitoring and Conformance Report*, the following freeway segments exceed the VTA CMP operational standard of LOS E or better during specified peak hours:

- US 101 Southbound, Montague Expressway to Great America Parkway (p.m. peak hour)
- US 101 Southbound, Great America Parkway to Lawrence Expressway (p.m. peak hour)
- US 101 Northbound, N. Fair Oaks Avenue to Mathilda Avenue (a.m. peak hour)
- US 101 Northbound, Mathilda Avenue to SR 237 (a.m. peak hour)
- US 101 Northbound, SR 237 to Moffett Boulevard (a.m. and p.m. peak hours)

- SR 237 Westbound, Maude Avenue to US 101 (p.m. peak hour)
- SR 237 Eastbound, Mathilda Avenue to N. Fair Oaks Avenue (p.m. peak hour)
- SR 237 Westbound, Mathilda Avenue to N. Fair Oaks Avenue (a.m. peak hour)
- SR 237 Eastbound, N. Fair Oaks Avenue to Lawrence Expressway (p.m. peak hour)
- SR 237 Eastbound, Lawrence Expressway to Great America Parkway (p.m. peak hour)

Existing plus Project Conditions

With the addition of traffic from the proposed Educational Center, all intersections are expected to continue operating at acceptable service levels of LOS D or better as under Existing Conditions. Therefore, the proposed project is expected to have a less-than-significant impact with respect to project traffic under Existing plus Project Conditions, and no mitigations are required.

In terms of freeway operations under this scenario, the proposed project is not expected to add trips greater than one percent of the capacity of any freeway segment already operating at LOS F under Existing Conditions per VTA CMP standards. Therefore, the addition of proposed project traffic is expected to result in a less-than-significant impact for the study freeway segments under Existing plus Project Conditions. As a result, no mitigation measures are required.

Background Conditions (2013)

All study intersections are expected to operate within applicable jurisdictional standards, with the following exceptions:

- Enterprise Way / Manila Drive / Moffett Park Drive (LOS F during a.m. peak hour)
- Mathilda Avenue / Moffett Park Drive (LOS F during a.m. and p.m. peak hours)
- Mathilda Avenue / SR 237 Westbound Ramps (LOS F during a.m. and p.m. peak hours)
- Ellis Street / Manila Drive (LOS F during p.m. peak hour)

Background plus Project Conditions (2013)

With the addition of traffic from the proposed Educational Center to baseline Background Conditions, the same four intersections from Background No Project Conditions are expected to continue operating unacceptably. The addition of project traffic constitutes a significant impact since critical delay would increase by more than four seconds and critical volume-to-capacity (v/c) would increase by more than 0.01 at the following two intersections:

- Mathilda Avenue / Moffett Park Drive (LOS F during a.m. and p.m. peak hours)
- Mathilda Avenue / SR 237 Westbound Ramps (LOS F during a.m. and p.m. peak hours)

However, it should be noted that although the proposed project under these circumstances would typically require mitigation, the City's Traffic Impact Fee (TIF) program for transportation improvement mitigations was developed assuming a traffic baseline that included the Onizuka Air Force Base when it was in operation. Estimated trip generation for the proposed Educational Center represents a fraction of the estimated trips for the AFS (23 percent of daily trips and approximately 16 to 17 percent of a.m. / p.m. peak hour trips). Therefore, the proposed project is considered to have less-than-significant impact since the proposed project would not increase the number of trips beyond those assumed in the TIF baseline analysis for the previous AFS use. Thus, no mitigations due to project traffic are required under this scenario.

Cumulative Conditions (2016)

All intersections are expected to operate within applicable jurisdictional standards, with the following exceptions:

- Enterprise Way / Manila Drive / Moffett Park Drive (LOS F during a.m. peak hour)
- Mathilda Avenue / Moffett Park Drive (LOS F during a.m. and p.m. peak hours)
- Mathilda Avenue / SR 237 Westbound Ramps (LOS F during a.m. and p.m. peak hours)
- Mathilda Avenue / SR 237 Eastbound Ramps (LOS F during p.m. peak hour)
- Ellis Street / Manila Drive (LOS F during p.m. peak hour)

Cumulative plus Project Conditions (2016)

With the addition of traffic from the proposed Educational Center to baseline Cumulative Conditions, the same five intersections from Cumulative No Project Conditions are expected to continue operating unacceptably. The addition of project traffic constitutes a significant impact since critical delay would increase by more than four seconds and critical volume-to-capacity (v/c) would increase by more than 0.01 at the following two intersections:

- Mathilda Avenue / Moffett Park Drive (LOS F during a.m. and p.m. peak hours)
- Mathilda Avenue / SR 237 Westbound Ramps (LOS F during a.m. and p.m. peak hours)

However, as noted under Background plus Project Conditions, the proposed project is considered to have less-than-significant impact since the proposed project would not increase the number of trips beyond those assumed in the TIF baseline analysis for the previous Air Base use. Thus, no mitigations due to project traffic are required under this scenario.

Vehicle Access Evaluation

In terms of external access, TJKM recommends that if possible, a full access driveway for the project site be provided that aligns with the current 11th Avenue / Innovation Way intersection to promote safe driveway operations. This would necessitate moving the driveway from its current conceptual plan location within approximately 200 feet and north of this intersection, as well as reallocating parking stalls in the conceptual plan. Moving stalls towards the Mathilda Avenue (east) end of the site appears to be feasible. TJKM also notes that the southbound approach of Innovation Way at 11th Avenue includes pavement area for a future left turn pocket that could be restriped for left turns into a realigned project site driveway.

If it is determined that relocating the driveway from the current conceptual plan location is not feasible, TJKM recommends that the driveway at that location operate as right-in/right-out only, in order to avoid potential conflicts with turning vehicles at the nearby 11th Avenue / Innovation Way intersection. Since Innovation Way provides direct access to both Mathilda Avenue and Moffett Park Drive, motorists entering and exiting the project site would have more than one option for ingress/egress to/from the project vicinity under the current conceptual configuration.

Pedestrian and Bicycle Access Evaluation

In terms of pedestrian facilities, the project site has good accessibility. Sidewalks are provided along the project frontages of Innovation Way and Mathilda Avenue. Mathilda Avenue connects pedestrians between the Lockheed Martin Transit Center, Innovation Way, and the project site. Also, VTA LRT is within walking distance via sidewalks on Innovation Way and pedestrian paths through the nearby Ariba campus.

In terms of bicycle access to the project site, there are Class II bicycle lanes on 11th Avenue and Enterprise Way. However, there are currently no bicycle lanes along Moffett Park Drive east of Enterprise Way. The City of Sunnyvale has identified the construction of bicycle lanes on Moffett Park Drive as a future bicycle improvement. In the meantime, sharrows and signage will be used to alert motorists to the possible presence of bicyclists along this segment of Moffett Park Drive, while the City continues to study the possibility of adding bicycle lanes.

Transit Access

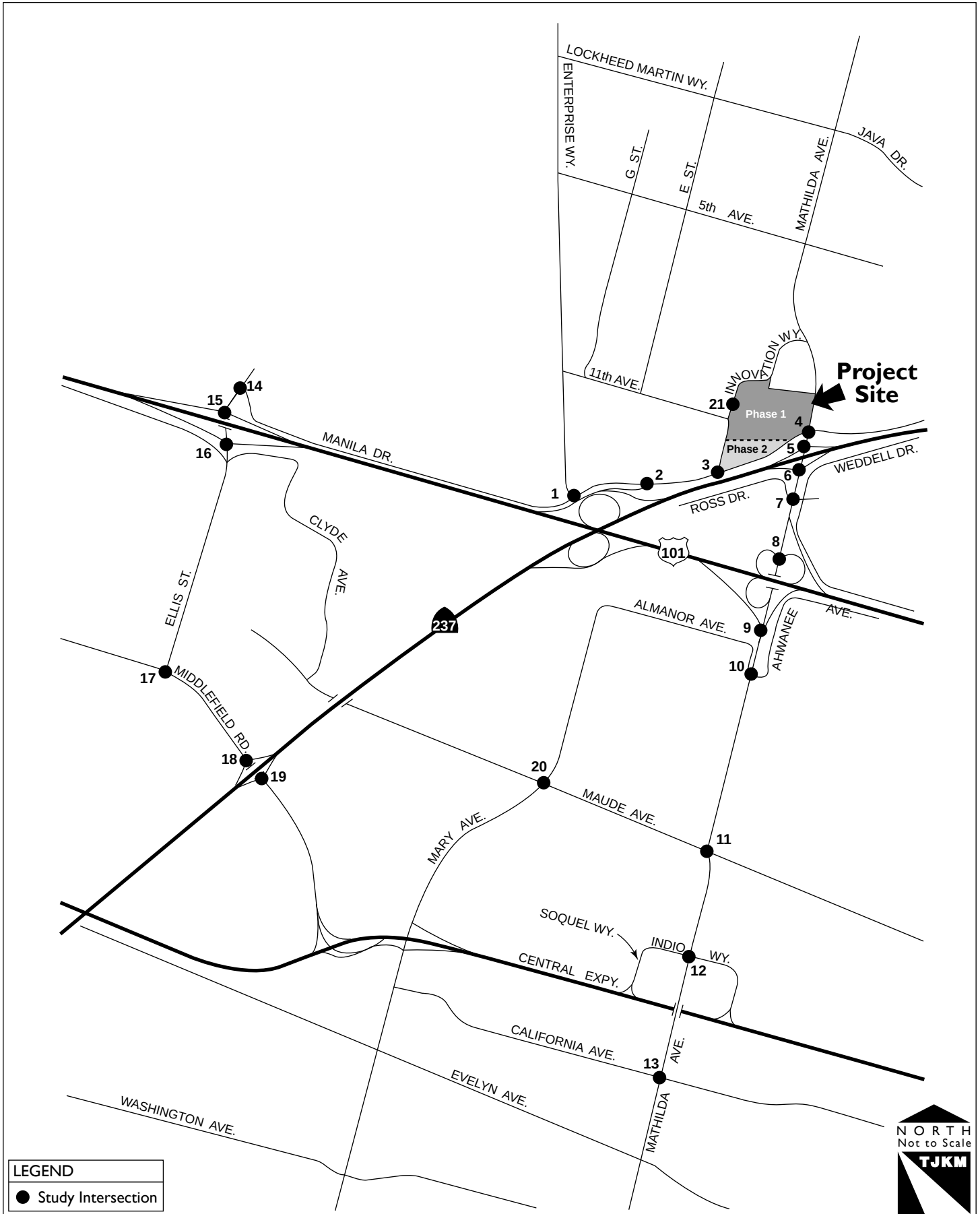
The proposed Educational Center would not have a potentially significant impact on transit service, as service within the immediate project area operates well below capacity, and therefore additional trips generated by the proposed project could be accommodated by existing light-rail and bus service. Also, the Moffett Park area operates a well-used shuttle system that would be able to accommodate additional riders. Furthermore, the Lockheed Martin Transit Center, where most of the available transit service is focused, will be accessible to pedestrians and bicyclists generated by the proposed project.

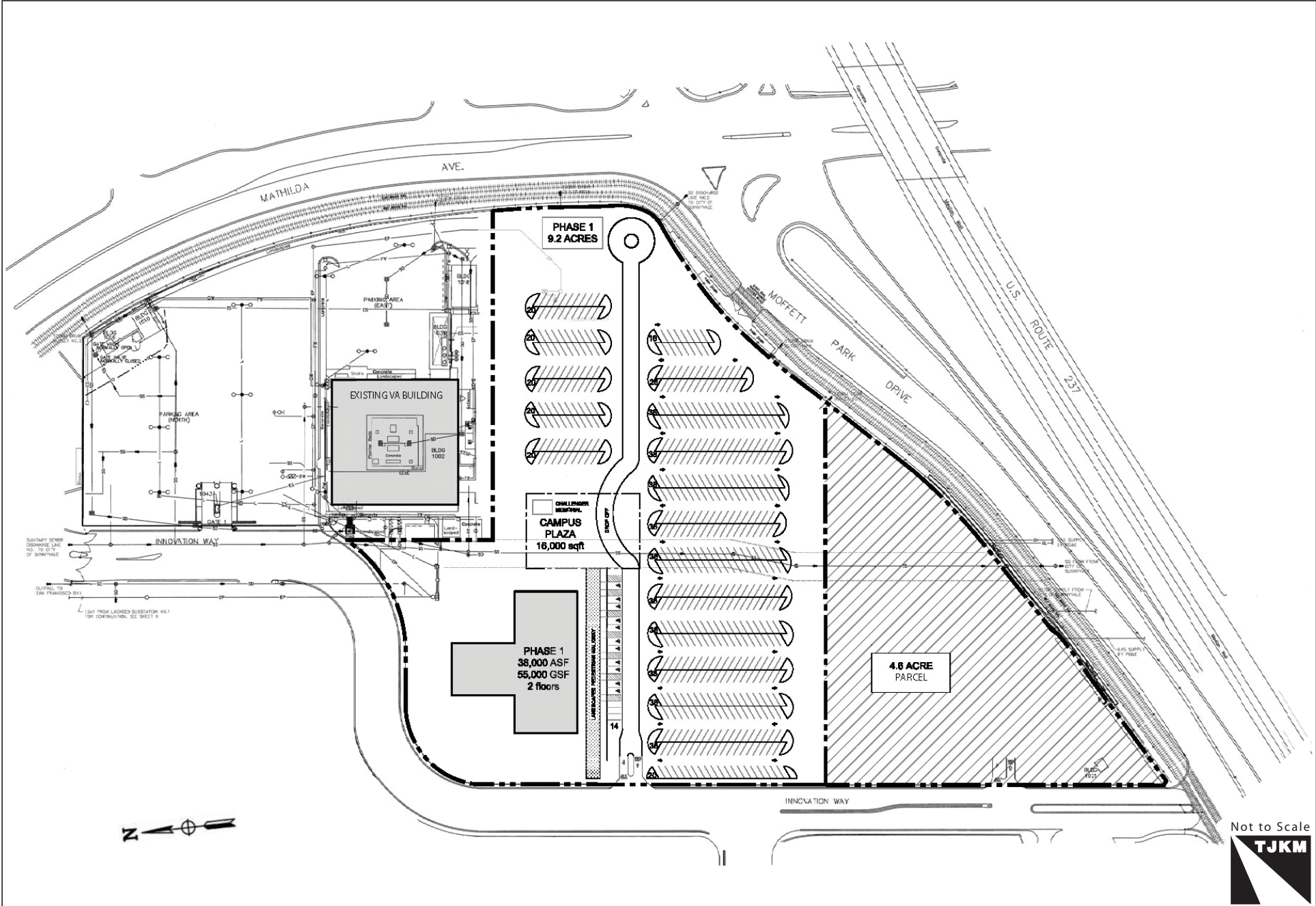
Onsite Vehicle Parking

The proposed project is expected to provide approximately 500 onsite parking stalls according to the latest conceptual site plan. The City of Sunnyvale Municipal Code requires onsite parking for colleges based on the number of fixed seats, open area or seating space, employees, and campus special purpose vehicles. Since the proposed project is conceptual and does not yet include employee totals, it is not possible to fully evaluate the recommended amount of onsite vehicle parking stalls. TJKM recommends that the District work with the City to ensure a sufficient number of onsite vehicle parking stalls on campus.

Onsite Bicycle Parking

The VTA Traffic Impact Analysis (TIA) guidelines recommend that college uses provide one Class I bicycle locker for every 30 employees and one bicycle parking spot for every nine student seats (25 percent Class I and 75 percent Class II). Class II facilities include bicycle racks. Since the proposed project is conceptual and does not yet include employee totals, it is not possible to fully evaluate the recommended amount of onsite bicycle parking. TJKM recommends that the District work with the City to ensure a sufficient number of Class I and II bicycle parking facilities on campus.





Level of Service Analysis Methodology

Level of service is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers. The level of service generally describes these conditions in terms of such factors as speed and travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience and safety. The operational levels of service (LOS) are given letter designations from “A” to “F,” with “A” representing the best operating conditions (free-flow) and “F” the worst (severely congested flow with high delays). Intersections generally are the capacity-controlling locations with respect to traffic operations on arterial and collector streets.

Signalized Intersections

The study intersections under traffic signal control were analyzed using the Highway Capacity Manual 2000 (HCM 2000) Operations Method contained in the standard traffic software TRAFFIX. This methodology determines LOS based on average control delay per vehicle for the overall intersection during peak hour intersection operating conditions. LOS “A” indicates free flow conditions with little or no delay, while LOS “F” indicates jammed conditions with excessive delay and long back-ups. The methodology is described in detail in Appendix A.

Unsignalized Intersections

The operating conditions at the study intersections with minor stop-controlled approaches (one-way or two-way) were evaluated using the HCM 2000 Unsignalized Methodology, also contained in TRAFFIX. For two-way stop controlled intersections, LOS is based on and reported for the worse of the two minor approaches. For all-way stop controlled intersections, LOS is based on the average control delay experienced on all approaches. The methods rank level of service on an “A” through “F” scale (similar to that used for signalized intersections) to describe travel delay and congestion. The methodologies for unsignalized intersections are also presented in Appendix A.

Level of Service Threshold Criteria

The study intersections fall within City of Sunnyvale and Mountain View jurisdiction but are subject to different traffic operational standards depending on whether they are monitored as part of the Santa Clara County Valley Transportation Authority (VTA) Congestion Management Program (CMP).

Signalized Intersections

The City of Sunnyvale and Mountain View level of service (LOS) traffic operational standard for intersections is LOS D, except for City of Sunnyvale intersections that are designated as regionally significant and have a LOS E standard. For purposes of this study, regionally significant facilities include intersections along Mathilda Avenue and freeway ramp junctions at SR 237 and US 101. Traffic impacts due to implementation of proposed project occur when:

- Non-regionally significant intersection operations deteriorate from LOS D or better (acceptable) under the baseline conditions to LOS E or F (unacceptable), or
- Regionally significant intersection operations deteriorate from LOS E or better (acceptable) to LOS F (unacceptable)
- Unacceptable operations are exacerbated by increasing average critical delay by more than four (4) seconds and increasing the critical volume-to-capacity (v/c) ratio by 0.01 or more at an intersection operating at LOS E or F (LOS F for regionally significant intersections).

Unsignalized Intersections

The Cities of Sunnyvale and Mountain View have not officially adopted significance criteria for unsignalized intersections. Based on previous TIA studies in these jurisdictions, significant impacts are defined to occur when the addition of project traffic causes the average intersections delay for an all-way stop-controlled intersections or the most critical movement/approach for side-street stop-controlled intersections to degrade to LOS F and the intersections satisfies any MUTCD traffic signal warrant.

Freeway Segments

According to VTA's 2010 *Transportation Impact Analysis Guidelines*, a freeway segment analysis should be conducted if a proposed project meets one of the following criteria:

- It is expected to add traffic equal to at least one percent of a freeway segment's capacity.
- It is adjacent to one of the freeway segment's access or egress points.
- Based on engineering judgment, Lead Agency staff determines that the freeway segment should be included in the analysis.

For mixed-flow lanes, freeway segment capacities are defined as 2,200 vehicles per hour per lane (vphpl) for four-lane freeway segments and 2,300 vphpl for six-lane freeway segments. Capacities of high-occupancy vehicle (HOV) lanes are defined as between 1,800 and 1,900 vphpl.

Study Traffic Analysis Scenarios

The study evaluated traffic operational conditions under the following six (6) analysis scenarios:

1. *Existing Conditions* – this scenario is based on existing 2011 roadway conditions and traffic counts collected as part of previous Moffett Park area traffic studies, including for the Onizuka Air Force Station Reuse Plan and proposed Ariba development.
2. *Existing plus Project Conditions* – this scenario is identical to Existing Conditions, but with the addition of traffic generated by the proposed 1,000-full-time equivalent student population at the Educational Center.
3. *Background Conditions* – this scenario is based on existing traffic volumes that are factored using annual growth rates based on the City traffic model to year 2013. The scenario includes approved City of Sunnyvale developments that are not yet built or occupied, but does not include the proposed project.
4. *Background plus Project Conditions* – this scenario is identical to Background Conditions, but with the addition of traffic generated by the proposed 1,000 full-time equivalent student population at the Educational Center.
5. *Cumulative Conditions* – this scenario is based on existing traffic volumes that are factored using annual growth rates based on the City traffic model to year 2016. The scenario includes approved City of Sunnyvale developments that are not yet built or occupied, but does not include the proposed project. It also includes 52,000 square feet of office as envisioned under the Onizuka Air Force Station Reuse Plan.
6. *Cumulative plus Project Conditions* - this scenario is identical to Cumulative Conditions, but with the addition of traffic generated by the proposed 1,000 full-time equivalent student population at the Educational Center.

Study Intersections

The study focused on evaluating traffic conditions at 21 study intersections that the proposed project may potentially impact (see Figure 1), selected in consultation with City of Sunnyvale staff. The study intersections are all located within the City of Sunnyvale, with exceptions noted below:

1. Enterprise Way / Manila Drive / Moffett Park Drive
2. US 101 Northbound On-Ramp / Moffett Park Drive
3. Innovation Way / Moffett Park Drive
4. Mathilda Avenue / Moffett Park Drive
5. Mathilda Avenue / SR 237 Westbound Ramps
6. Mathilda Avenue / SR 237 Eastbound Ramps
7. Mathilda Avenue / Ross Drive
8. Mathilda Avenue / US 101 Northbound Ramps
9. Mathilda Avenue / US 101 Southbound Ramps
10. Mathilda Avenue / Almanor Avenue / Ahwanee Avenue
11. Mathilda Avenue / Maude Avenue (CMP Intersection)
12. Mathilda Avenue / Indio Way
13. Mathilda Avenue / California Avenue
14. Ellis Street / Manila Drive (Mountain View intersection)
15. Ellis Street / US 101 Northbound Ramps (Mountain View intersection)
16. Ellis Street / US 101 Southbound Ramps (Mountain View intersection)
17. Ellis Street / Middlefield Road
18. SR 237 Westbound Ramps / Middlefield Road
19. SR 237 Eastbound Ramps / Middlefield Road
20. Mary Avenue / Maude Avenue
21. Innovation Way / Project Access (Project Intersection only)

Study Freeway Segments

The study focused on evaluating traffic conditions at 11 study freeway segments that the proposed project may potentially impact, selected in consultation with City of Sunnyvale staff. The freeway segments analyzed are:

1. US 101, Montague Expressway to Great America Parkway
2. US 101, Great America Parkway to Lawrence Expressway
3. US 101, Lawrence Expressway to N. Fair Oaks Avenue
4. US 101, N. Fair Oaks Avenue to Mathilda Avenue
5. US 101, N. Mathilda Avenue to State Route (SR) 237
6. US 101, SR 237 to Moffett Boulevard
7. SR 237, Maude Avenue to US 101
8. SR 237, US 101 to Mathilda Avenue
9. SR 237, Mathilda Avenue to N. Fair Oaks Avenue
10. SR 237, N. Fair Oaks Avenue to Lawrence Expressway
11. SR 237, Lawrence Expressway to Great America Parkway

Existing Conditions

This section describes existing conditions in the project site vicinity, including roadway facilities, bicycle and pedestrian facilities, and available transit service. In addition, existing traffic volumes and operations are presented for both study intersection and freeway segments, including the results of level of service calculations.

Existing Roadway System and Setting

Regional facilities providing access to the Educational Center site include the State Route 237 (SR 237) and US 101 freeways, as well as Central Expressway. Roadways providing local access include Mathilda Avenue, Moffett Park Drive/Manila Drive, 11th Avenue, Innovation Way, Enterprise Way, Middlefield Road, Ellis Street, Mary Avenue, and Maude Avenue. Descriptions of each roadway facility are presented below.

SR 237 is located immediately south of the project site and provides regional freeway access between the Cities of Mountain View and Milpitas. It is an east-west freeway with two mixed-flow lanes and one high occupancy vehicle (HOV) lane in each direction. The HOV lanes are restricted to vehicles with two or more persons (carpool, vanpool, and buses) or motorcycles during the morning (5:00 a.m. to 9:00 a.m.) and evening (3:00 p.m. to 7:00 p.m.) commute periods. Access from SR 237 in the project vicinity is provided by interchanges with Ellis Street (via US 101), Mathilda Avenue, Fair Oaks Avenue, and Lawrence Expressway. Near the project site, SR 237 currently averages approximately 90,000 daily vehicles.

US 101 is located west of the project site and provides regional freeway access north through the City of San Francisco and south through the City of San Jose. Near the project site, US 101 is oriented in an east-west direction with approximately 140,000 existing daily vehicles. The freeway consists of three mixed-flow lanes and one HOV lane in each direction. Similar to SR 237, interchanges at Ellis Street, Mathilda Avenue, Fair Oaks Avenue, and Lawrence Expressway provide local access to the project site.

Mathilda Avenue is a six-lane north-south arterial that also provides local connections to the SR 237 and US 101 freeways. North of SR 237, Mathilda Avenue connects with Caribbean Drive, which is an extension of Lawrence Expressway. To the south, Mathilda Avenue passes through central Sunnyvale and becomes Sunnyvale-Saratoga Road, providing access to I-280 and SR 85. Mathilda Avenue is a City of Sunnyvale designated route for trucks over three tons in weight. The roadway averages approximately 45,000 weekday vehicles south of SR 237.

Moffett Park Drive/Manila Drive is a two-lane, east-west roadway located just south of the Educational Center site. Moffett Park Drive/Manila Drive provides direct access to the project site via freeway interchanges at SR 237 (except for the westbound off-ramp) and US 101. Moffett Park Drive/Manila Drive has an approximate average daily traffic (ADT) of 5,000 vehicles. Moffett Park Drive connects to Mathilda Avenue east of the project site, extending easterly to Caribbean Drive. Manila Drive extends west of the project site to Moffett Park Boulevard in the City of Mountain View. Currently, there is no access available to Moffett Park Drive west of Mathilda Avenue from the SR 237 westbound off-ramp, as vertical delineators prohibit access to Mathilda Avenue's northbound left-turn lane.

11th Avenue is a four-lane, east-west roadway that extends from Enterprise Way to its terminus at Innovation Way just west of the project site.

Innovation Way is a four-lane, north-south roadway that extends from Moffett Park Drive to Mathilda Avenue and forms the western border of the project site. The City of Sunnyvale recently reopened Innovation Way to public access between Mathilda Avenue and 11th Avenue.

Enterprise Way is a four-lane, north-south roadway that connects to Moffett Park/Manila Drive and ultimately provides regional access to US 101 and SR 237. There is an existing security gate located on Enterprise Way approximately 2,500 feet north of the 11th Avenue intersection (just south of 5th Avenue), which restricts access into the Lockheed Martin complex.

Middlefield Road is a four-lane, east-west roadway that connects the cities of Redwood City and Palo Alto to Central Expressway in the City of Sunnyvale. The roadway has a partial interchange at SR 237, with a complementary partial interchange at Maude Avenue nearby. Middlefield Road provides local connections to the project site via Ellis Street and Manila Drive.

Ellis Street is a four-lane, north-south roadway that connects Middlefield Road with Moffett Field Air Station. At the northern terminus of the roadway, a security station restricts access to the Air Station, thereby requiring all other vehicles to travel eastbound via Manila Drive towards the project site. Ellis Street has a full access interchange with the US 101 freeway.

Mary Avenue is a four-lane, north-south roadway that extends from Homestead Road in the City of Cupertino to Almanor Avenue (just north of Maude Avenue). Existing ADT on Mary Avenue is approximately 12,000 vehicles near the project site. Mary Avenue also provides access to Central Expressway via a signalized intersection. There are future plans to extend Mary Avenue northerly via a new bridge over US 101, SR 237, and Moffett Park Drive before terminating at 11th Avenue as part of the Mary Avenue Extension Project. The City of Sunnyvale is currently preparing a revised environmental document for this project, and it has identified the Extension as a fiscally constrained improvement project. Currently, the Extension's construction timeline is uncertain; therefore, it is not included as a future transportation improvement under the Background No Project and Background plus Project scenarios.

Maude Avenue is a four-lane, east-west roadway from SR 237 in the west to Wolfe Road in the east. It also has a partial interchange with SR 237, complementing the Middlefield Road interchange. Existing ADT on Maude Avenue near the project site is approximately 15,000 vehicles on an average weekday.

Existing Bicycle Facilities

Bicycle facilities are classified in three ways: off-street paths separated from auto traffic (Class I), on-street striped lanes (Class II), and on-street signed routes in which bicycles share the roadway with other vehicles (Class III). Currently near the project site, Class II bicycle lanes are provided along the following roadways:

- 11th Avenue between Enterprise Way and Innovation Way
- Enterprise Way between Manila Avenue and 5th Avenue
- Mathilda Avenue north of Bordeaux Drive
- Moffett Park Drive east of Bordeaux Drive
- Maude Avenue between SR 237 and Mary Avenue
- Ellis Street between Middlefield Road and US 101 southbound ramps
- Manila Drive between Ellis Street and Enterprise Way
- Bordeaux Drive between Moffett Park Drive and Java Drive

- Borregas Avenue between Maude Avenue and Caribbean Drive
- Middlefield Road west of Bernardo Avenue

Class III bicycle routes are designated along the following roadways:

- Mathilda Avenue between Bordeaux Drive to Innovation Way
- Mary Avenue south of Maude Avenue. The City of Sunnyvale is currently studying ways to accommodate Class II lanes along this roadway section.

In terms of Class I off-street bicycle paths, a discontinuous path extends from Garner Drive to Weddell Drive along the north side of US 101 east of Mathilda Avenue. Figure 3 shows the location of all existing bicycle facilities within the study area.

It should also be noted that VTA has adopted the Santa Clara Countywide Bicycle Plan (CBP). The CBP guides the development of major bicycling facilities by designating Cross County Bicycle Corridors and identifying bicycle projects of countywide or intercity significance. Several of these routes travel through the study area, including routes along Mary Avenue, Maude Avenue, Middlefield Road, Ellis Street, and Manila Drive/Moffett Park Drive.

Pedestrian and bicycle volumes were collected at all study intersections in March and April 2011 and are shown in Figure 4. Based on these volumes, it is noted that there is moderate bicycle use along Moffett Park Drive and Manila Drive during weekday peak hours. Most other study intersections currently experience low bicycle use. It is also noted that along Mathilda Avenue and Innovation Way, pedestrian volumes are low. From the collected pedestrian volumes, it appears that pedestrians typically use the existing marked crossings at most intersections.

Existing Pedestrian Facilities

Pedestrian facilities typically consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. Near the project site, sidewalks are provided on both sides of Innovation Way, 11th Avenue, and Mathilda Avenue. Mathilda Avenue provides pedestrian connections between the Lockheed Martin Transit Center, Innovation Way, and the project site. Access to VTA's Moffett Park Light Rail Transit (LRT) station just south of the nearby Ariba campus site is provided via sidewalks on Innovation Way and a pedestrian path just north of Moffett Park Drive and the light rail tracks. Currently, no sidewalks exist on Moffett Park Drive/Manila Drive, though the City has identified sidewalks on Moffett Park/Manila Drive as a future pedestrian improvement. Most study intersections in the project vicinity include crosswalks and pedestrian signals on all approaches.

At the Mathilda Avenue/SR 237 interchange, north-south pedestrian movements are limited to the east side of Mathilda Avenue and east-west crossings of Mathilda Avenue are prohibited within the interchange area. The next closest east-west crossing is the crosswalk on the north leg of the Mathilda Avenue/Moffett Park Drive intersection. North of this intersection, sidewalks are located on both sides of Mathilda Avenue. South of the SR 237 interchange, sidewalks continue on only the east side of Mathilda Avenue until south of the US 101 interchange, where sidewalks resume on both sides of Mathilda Avenue. The City has identified a future pedestrian improvement that would provide sidewalks on both sides of Mathilda Avenue between Moffett Park Drive and US 101. This future project is included in the City's transportation impact fee (TIF) program.

At the Enterprise Way/Manila Drive intersection, crosswalks and pedestrian signals are provided only in the east-west direction. In addition, a multi-use pedestrian/bicycle bridge crosses SR 237 east of Mathilda Avenue, providing a pedestrian/bicycle connection between Moffett Park to the north and the residential neighborhoods to the south.

Existing Transit Service

The proposed Educational Center site is very well served by public transportation. The Santa Clara Valley Transportation Authority (VTA), which operates bus and light rail service within Santa Clara County, runs multiple transit routes through the study area. VTA serves the project study area with seven fixed-route bus lines and one light rail transit (LRT) line. Most of the bus routes operate only during weekdays. In addition, the project site is served by weekday commuter shuttles operated by Altamont Commuter Express (ACE) and CalTrain. The project site is situated near both the Lockheed Martin and Moffett Park LRT Stations, both of which are stops on VTA Route 902. The Lockheed Martin Station is approximately 2,000-foot walking distance, while the Moffett Park Station is approximately 2,400 feet.

There are also other local shuttles that provide service within Moffett Park and to surrounding neighborhoods and major transit facilities. The Moffett Park Business & Transportation Association provides information on these shuttle programs to tenants in Moffett Park.

Table I summarizes the destinations, days and hours of operation, and service headways for the bus routes and LRT line serving the immediate project area. Figure 5 depicts the locations of the public transportation routes in relation to the project site.

Table I: Existing Transit Service within Study Area

Route	From	To	Weekdays			Weekends	
			Average Peak Load Factor	Operating Hours	Peak Headway (min)	Operating Hours	Headway (min)
LRT – 902	Downtown Mountain View	Winchester	0.34	4:46a – 12:39a	15	6:04a – 12:39a	30
26	Eastridge Transit Center	Lockheed Martin Transit Center	0.49	5:23a – 11:49p	30	6:28a – 10:53p	30-60
54	De Anza College	Lockheed Martin Transit Center	0.33	6:03a – 9:29p	30	7:51a – 7:51p	45-60
120	Fremont BART Station	Lockheed Martin Transit Center	0.49	6:14a – 9:17a 4:07p – 7:06p	4 SB runs (a.m.) 4 NB runs (p.m.)	No Service	
121	Gilroy Transit Center	Lockheed Martin Transit Center	0.52	4:31a – 8:45a 2:51p – 7:30p	30-60	No Service	
122	Santa Teresa LRT Station	Lockheed Martin Transit Center	0.38	5:53a – 6:43a 4:46p – 5:43p	1 NB run (a.m.) 1 SB run (p.m.)	No Service	
321	Great Mall / Main Transit Center	Lockheed Martin Transit Center	0.08	8:10a – 8:44a 5:45p – 6:27p	1 WB run (a.m.) 1 EB run (p.m.)	No Service	
328	South San Jose	Lockheed Martin Transit Center	0.24	6:00a – 7:02a 5:06p – 6:09p	1 NB run (a.m.) 1 SB run (p.m.)	No Service	
826 (ACE)	ACE Great America Station	Lockheed Martin Transit Center	N/A	6:14a – 9:02a 3:10p – 5:37p	3 WB runs (a.m.) 3 EB runs (p.m.)	No Service	
Mary/Moffett Area CalTrain Shuttle	Mountain View CalTrain Station	Alma Plaza	N/A	6:35a – 10:23a 3:00p – 6:30p	4 NB runs (a.m.) 4 SB runs (p.m.)	No Service	

Notes: 1. Average peak load factor is the ratio of the average peak number of on-board passengers aboard during the peak period to supply of seats.
2. Headways are defined as the time interval between two transit vehicles traveling in the same direction over the same route.
N/A = not available
Sources: VTA, CalTrain, November 2011.

Existing Traffic Volumes

As part of recent transportation impact analysis studies within the Moffett Park Specific Plan (MPSP) area, weekday a.m. (7:00 to 9:00) and p.m. (4:00 to 6:00) peak period intersection vehicle turning movement counts were collected in March and April 2011. Figure 6 shows the existing weekday a.m. and p.m. peak one hour turning movement volumes at the study intersections, as well as lane configurations and traffic control devices.

Intersection Level of Service Analysis Results (Existing Conditions)

Traffic operations for the study intersections were evaluated under Existing Conditions for the weekday a.m. and p.m. peak hours. Table II summarizes the results of the intersection analysis under Existing Conditions. Detailed LOS calculations are contained in Appendix B. Currently, all study intersections are operating at LOS D or better during both weekday a.m. and p.m. peak hours, which meets City of Sunnyvale and VTA CMP standards.

Table II: Intersection Levels of Service – Existing Conditions

Intersection		Peak Hour	Intersection Control	Existing Conditions	
				Delay	LOS
1	Enterprise Way / Manila Drive / Moffett Park Drive	A.M.	Signal	12.4	B
		P.M.		10.9	B+
2	US 101 Northbound On-Ramp / Moffett Park Drive	A.M.	Signal	1.3	A
		P.M.		7.5	A
3	Innovation Way / Moffett Park Drive	A.M.	Signal	6.1	A
		P.M.		12.2	B
4	Mathilda Avenue / Moffett Park Drive	A.M.	Signal	18.6	B-
		P.M.		26.8	C
5	Mathilda Avenue / SR 237 Westbound Ramps	A.M.	Signal	13	B
		P.M.		20	B-
6	Mathilda Avenue / SR 237 Eastbound Ramps	A.M.	Signal	14.5	B
		P.M.		14.4	B
7	Mathilda Avenue / Ross Drive	A.M.	Signal	12.2	B
		P.M.		12.7	B
8	Mathilda Avenue / US 101 Northbound Ramps	A.M.	Uncontrolled	N/A	N/A
		P.M.		N/A	N/A
9	Mathilda Avenue / US 101 Southbound Ramps	A.M.	Uncontrolled	N/A	N/A
		P.M.		N/A	N/A
10	Mathilda Avenue / Almanor Avenue / Ahwanee Avenue	A.M.	Signal	22.1	C+
		P.M.		20.5	C+
11	Mathilda Avenue / Maude Avenue (CMP Intersection)	A.M.	Signal	42.9	D
		P.M.		27.7	C
12	Mathilda Avenue / Indio Way	A.M.	Signal	17	B
		P.M.		14.6	B

Table continued next page.

Table II (continued): Intersection Levels of Service – Existing Conditions

	<i>Intersection</i>	<i>Peak Hour</i>	<i>Intersection Control</i>	<i>Existing Conditions</i>	
				<i>Delay</i>	<i>LOS</i>
13	Mathilda Avenue / California Avenue	A.M.	Signal	17.8	B
		P.M.		18.2	B-
14	Ellis Street / Manila Drive (Mountain View intersection)	A.M.	All-Way Stop	8.1	A
		P.M.		9.8	A
15	Ellis Street / US 101 Northbound Ramps (Mountain View intersection)	A.M.	Signal	16.4	B
		P.M.		22.2	C+
16	Ellis Street / US 101 Southbound Ramps (Mountain View intersection)	A.M.	Signal	17.5	B
		P.M.		12.9	B
17	Ellis Street / Middlefield Road	A.M.	Signal	14.1	B
		P.M.		21.6	C+
18	SR 237 Westbound Ramps / Middlefield Road	A.M.	Signal	18.7	B-
		P.M.		18.8	B-
19	SR 237 Eastbound Ramps / Middlefield Road	A.M.	Signal	19.9	B-
		P.M.		15.9	B
20	Mary Avenue / Maude Avenue	A.M.	Signal	26.5	C
		P.M.		23.6	C
21	Innovation Way / Project Access (Project Intersection only)	A.M.	Side Street Stop	5.2	A
		P.M.		4.3	B

Notes: 1) LOS=Level of Service, Delay = Average control delay per vehicle
2) Signalized and all-way stop controlled intersections – Delay / LOS is for overall intersection
3) Unsignalized one- and two-way stop controlled intersections – Delay / LOS is for critical minor stop-controlled approach.
4) **Bold** indicates LOS exceeds applicable jurisdictional standards for operating conditions.
N/A = not applicable

Qualitative Evaluation of Mathilda Avenue Corridor Existing Traffic Operations

The study intersections along Mathilda Avenue between Moffett Park Drive and Almanor Avenue are closely spaced. Figure 7 shows the spacing between these intersections and the lane geometry for each. This corridor experiences traffic operational issues beyond simple intersection LOS primarily due to weaving vehicles. The TRAFFIX analysis software program does not accurately capture the operations of the Mathilda Avenue corridor since it does not evaluate the interactions of closely spaced and coordinated intersections. To supplement the TRAFFIX analysis results, prior studies used Synchro / SimTraffic operations analysis software programs to evaluate existing operations along the Mathilda Avenue corridor.

Based on prior studies, it was determined that the Mathilda Avenue corridor between Moffett Park Drive and Ross Drive operates at acceptable service levels during the a.m. peak hour. The Mathilda Avenue/Moffett Park Drive intersection operates at unacceptable LOS during the p.m. peak hour, while the remaining corridor intersections operate at acceptable LOS. According to prior Synchro analysis, the overall coordinated signal system for the Mathilda Avenue corridor operates at LOS B during both peak periods.

Other previous analysis used SimTraffic software to evaluate the effectiveness of signal coordination and queuing impacts along the corridor. The analysis revealed that some queuing beyond the provided storage lengths occurs during the a.m. peak hour for the northbound approach at the Mathilda Avenue/Ross Drive intersection, as well as during the p.m. peak hour for the westbound approach and southbound through movement at the Mathilda Avenue/Moffett Park Drive intersection. However, these queues did not extend more than three car lengths (about 75 feet) beyond available storage capacities.

The intersection turning movement volumes from these preceding area studies were compared to the 2011 counts collected for this TIA report. On average the 2011 a.m. peak hour volumes are about nine percent lower and the 2011 p.m. peak hour volumes are about two percent higher than the volumes collected for prior studies. Overall, this demonstrates that the Synchro and SimTraffic results from prior studies are applicable to the results for this TIA report. The sections below detail field observation highlights in terms of queuing and weaving issues for the Mathilda Avenue corridor.

Field Observations

Field observations at the study intersections were conducted for the Ariba and Onizuka Air Force Station TIAs during weekday a.m. and p.m. peak hours in March / April 2011 and November 2011. In most cases, the intersections were observed to operate at the calculated levels of service for both peak hours. However, there were differences between the observed and calculated operations at some intersections. During both a.m. and p.m. peak commute periods, operations at the intersections of Mathilda Avenue/Moffett Park Drive, Mathilda Avenue/SR 237 Westbound Ramps, and Mathilda Avenue/SR 237 Eastbound Ramps experienced high traffic volumes with long queues and congestion.

Mathilda Avenue, from Moffett Park Drive to Ross Drive: There are four closely spaced, signalized intersections within a distance of 750 feet along this segment of Mathilda Avenue. These intersections carry traffic from three major regional roadways: SR 237, US 101, and Mathilda Avenue. The combination of heavy traffic volumes and close intersection spacing make lane changes difficult for drivers. The weaving maneuvers for each intersection are described below. In addition, several through lanes on Mathilda Avenue ultimately become turn lanes at downstream intersections (also known as trap lanes). Because of the existing roadway configuration, a large number of weaving maneuvers occur and vehicles spill back to adjacent intersections resulting in travel delays. TRAFFIX software cannot fully account for these complex maneuvers; therefore, other factors and analysis methods were considered when interpreting the LOS results.

Mathilda Avenue/Moffett Park Drive: During the a.m. peak hour, at the Mathilda Avenue/Moffett Park Drive intersection, the northbound through and left-turn movements were the heaviest movements observed. Due to the short storage length of 90 feet between Moffett Park Drive and the westbound SR 237 ramps, northbound traffic frequently spills back to the Mathilda Avenue/SR 237 westbound ramps intersection.

During the p.m. peak hour, southbound Mathilda through traffic was observed to not efficiently utilize available traffic signal green time due to queue spill back from the downstream intersection of Mathilda Avenue/SR 237 Eastbound Ramps. This frequently led to southbound through traffic blocking the Moffett Park Drive intersection, which in turn impedes westbound traffic from making left turns. It was observed that the westbound left-turn movement had a large queue and only about half of the queue was able to clear during each green phase (cycle). This standing queue resulted in two or three cars per cycle entering the intersection under a red signal indication from westbound Moffett Park Drive.

Mathilda Avenue/SR 237 Westbound Ramps: Under current conditions, westbound SR 237 off-ramp traffic cannot access westbound Moffett Park Drive. Vertical delineators prohibit the right-turning ramp traffic from utilizing the northbound left turn lanes for Moffett Park Drive. Vehicles would otherwise have to cross three lanes of through traffic on Mathilda Avenue to access the left-turn lanes in a maneuver of less than 100 feet.

Mathilda Avenue/SR 237 Eastbound Ramps: During the a.m. peak period, heavy traffic was observed at this intersection. However, there was minimal congestion with no illegal movements observed. During the p.m. peak period, the southbound through and left-turn lanes have limited storage capacity to handle the demand from Moffett Park. The limited capacity leads to vehicles spilling back upstream to the intersection at Moffett Park Drive.

Mathilda Avenue/Ross Drive: During the a.m. peak period, the heaviest traffic observed was for the northbound through movements. Specifically, lane utilization was found to be greatest in the outer through lane, with vehicles lining up in order to access the SR 237 eastbound on-ramp at the next intersection. Queues occasionally backed up near the northbound off-ramp, but cleared within two minutes. In the p.m. peak hour, no major queues or delays were observed. Southbound traffic is held at the SR 237 eastbound off-ramp signalized intersection, and as a result approaches the Mathilda Avenue/Ross Drive intersection in smaller platoons, which minimizes potential delay and queuing problems.

Freeway Level of Service Analysis Results (Existing Conditions)

Traffic operations for the study freeway segments were evaluated under Existing Conditions for the weekday a.m. and p.m. peak hours. Table III shows Existing Conditions freeway LOS for the mixed-flow lanes based on freeway segment densities as reported in VTA's *2010 CMP Monitoring and Conformance Report*. According to the table, the following freeway segments exceed the VTA operational standard of LOS E or better during specified peak hours:

- US 101 Southbound, Montague Expressway to Great America Parkway (p.m. peak hour)
- US 101 Southbound, Great America Parkway to Lawrence Expressway (p.m. peak hour)
- US 101 Northbound, N. Fair Oaks Avenue to Mathilda Avenue (a.m. peak hour)
- US 101 Northbound, Mathilda Avenue to SR 237 (a.m. peak hour)
- US 101 Northbound, SR 237 to Moffett Boulevard (a.m. and p.m. peak hours)
- SR 237 Westbound, Maude Avenue to US 101 (p.m. peak hour)
- SR 237 Eastbound, Mathilda Avenue to N. Fair Oaks Avenue (p.m. peak hour)
- SR 237 Westbound, Mathilda Avenue to N. Fair Oaks Avenue (a.m. peak hour)
- SR 237 Eastbound, N. Fair Oaks Avenue to Lawrence Expressway (p.m. peak hour)
- SR 237 Eastbound, Lawrence Expressway to Great America Parkway (p.m. peak hour)

Table III: Freeway Levels of Service – Existing Conditions

Freeway Segment	Direction	Capacity (vphpl)	Peak Hour	Existing Conditions (Year 2010)				
				Lanes	Average Speed	Volume	Density (pcpmpl)	LOS
US 101, Montague Expressway to Great America Parkway	NB	6,900	A.M.	3	55	6,600	40.0	D
			P.M.	3	50	6,600	44.0	D
	SB	6,900	A.M.	3	66	4,760	24.0	C
			P.M.	3	18	4,700	87.0	F
US 101, Great America Parkway to Lawrence Expressway	NB	6,900	A.M.	3	46	6,490	47.0	E
			P.M.	3	50	6,600	44.0	E
	SB	6,900	A.M.	3	62	6,510	35.0	D
			P.M.	3	18	4,760	88.1	F
US 101, Lawrence Expressway to N. Fair Oaks Ave	NB	6,900	A.M.	3	37	6,110	55.0	E
			P.M.	3	63	6,430	34.0	D
	SB	6,900	A.M.	3	66	4,360	22.0	C
			P.M.	3	55	6,600	40.0	D
US 101, N. Fair Oaks Ave to Mathilda Ave	NB	6,900	A.M.	3	29	5,750	66.1	F
			P.M.	3	65	5,850	30.0	D
	SB	6,900	A.M.	3	65	5,850	30.0	D
			P.M.	3	65	5,850	30.0	D
US 101, N. Mathilda Ave to SR 237	NB	6,900	A.M.	3	34	6,020	59.0	F
			P.M.	3	66	4,160	21.0	C
	SB	6,900	A.M.	3	66	4,950	25.0	C
			P.M.	3	66	5,510	27.8	D
US 101, SR 237 to Moffett Blvd	NB	6,900	A.M.	3	23	5,320	77.1	F
			P.M.	3	27	5,590	69.0	F
	SB	6,900	A.M.	3	61	6,590	36.0	D
			P.M.	3	61	6,590	36.0	D
SR 237, Maude Ave to US 101	EB	4,400	A.M.	2	52	4,370	42.0	D
			P.M.	2	66	2,780	21.1	B
	WB	4,400	A.M.	2	64	4,100	32.0	D
			P.M.	2	27	3,680	68.1	F
SR 237, US 101 to Mathilda Ave	EB	4,400	A.M.	2	58	4,410	38.0	D
			P.M.	2	41	4,190	51.1	E
	WB	4,400	A.M.	2	51	4,390	43.0	E
			P.M.	2	57	4,450	39.0	D

Table continued next page.

Table III (continued): Freeway Levels of Service – Existing Conditions

Freeway Segment	Direction	Capacity (vphpl)	Peak Hour	Existing Conditions (Year 2010)				
				Lanes	Average Speed	Volume	Density (pcpmpl)	LOS
SR 237, Mathilda Ave. to N. Fair Oaks Ave	EB	4,600	A.M.	2	50	4,400	44.0	D
			P.M.	2	28	3,760	67.1	F
	WB	6,900	A.M.	3	15	4,320	96.0	F
			P.M.	3	64	6,340	33.0	D
SR 237, N. Fair Oaks Ave to Lawrence Expressway	EB	4,600	A.M.	2	54	4,430	41.0	D
			P.M.	2	13	2,660	102.3	F
	WB	4,600	A.M.	2	38	4,110	54.1	E
			P.M.	2	62	4,340	35.0	D
SR 237, Lawrence Expressway to Great America Parkway	EB	4,600	A.M.	2	61	4,400	36.1	D
			P.M.	2	15	2,880	96.0	F
	WB	4,600	A.M.	2	64	4,230	33.0	D
			P.M.	2	54	4,430	41.0	D

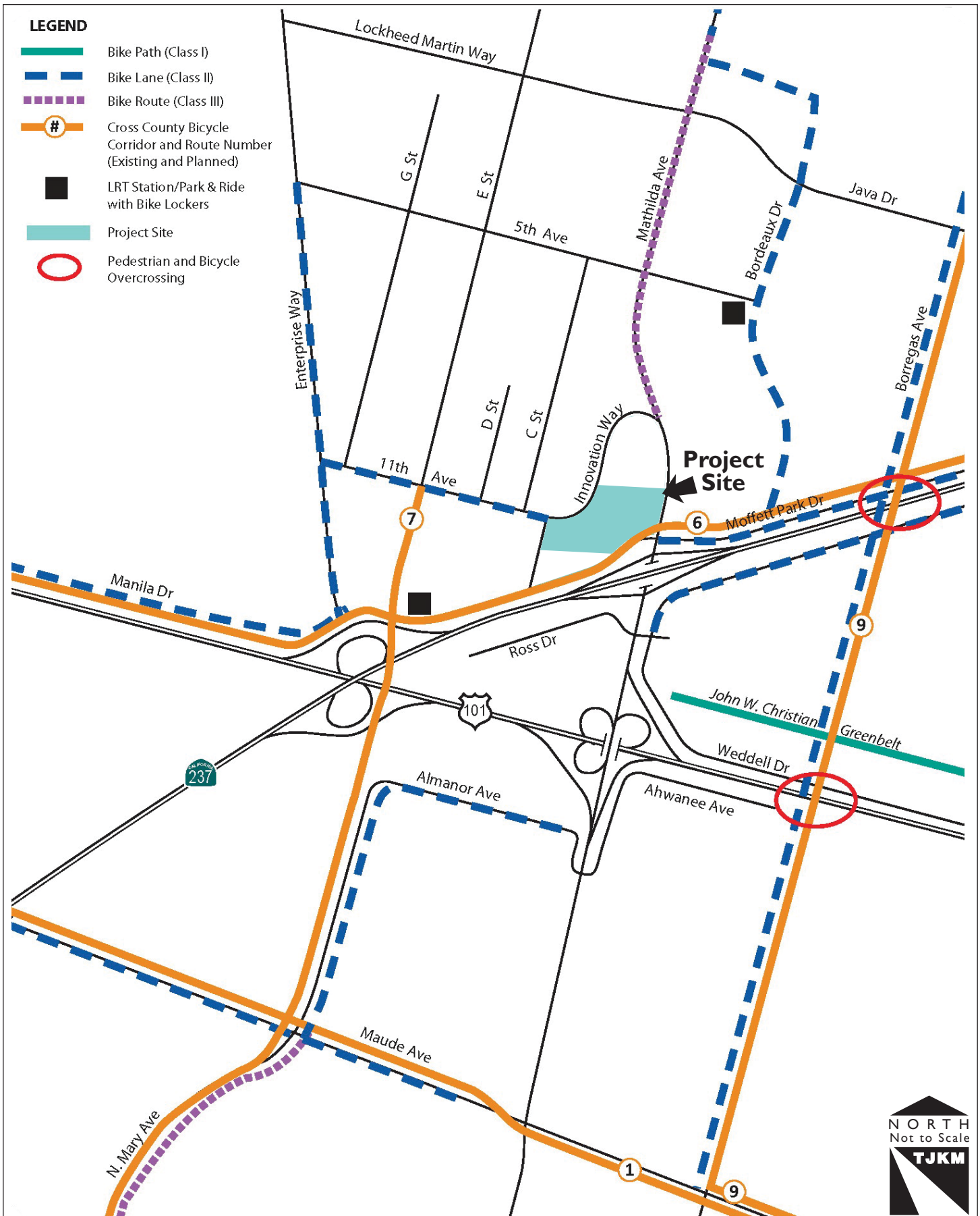
- Notes: 1) Capacity in vehicles per hour per lane.
2) Lanes are shown for mixed-flow only since project trips are assumed as added to mixed-flow lanes only.
3) Average speed in miles per hour (mph).
4) Volume in vehicles.
5) Density equal to passenger cars per mile per lane (pcpmpl).
6) LOS = level of service.

Source: VTA Monitoring and Conformance Report, VTA, May 2011.

City of Sunnyvale - Transportation Impact Analysis for Educational Center

Existing Bicycle Facilities

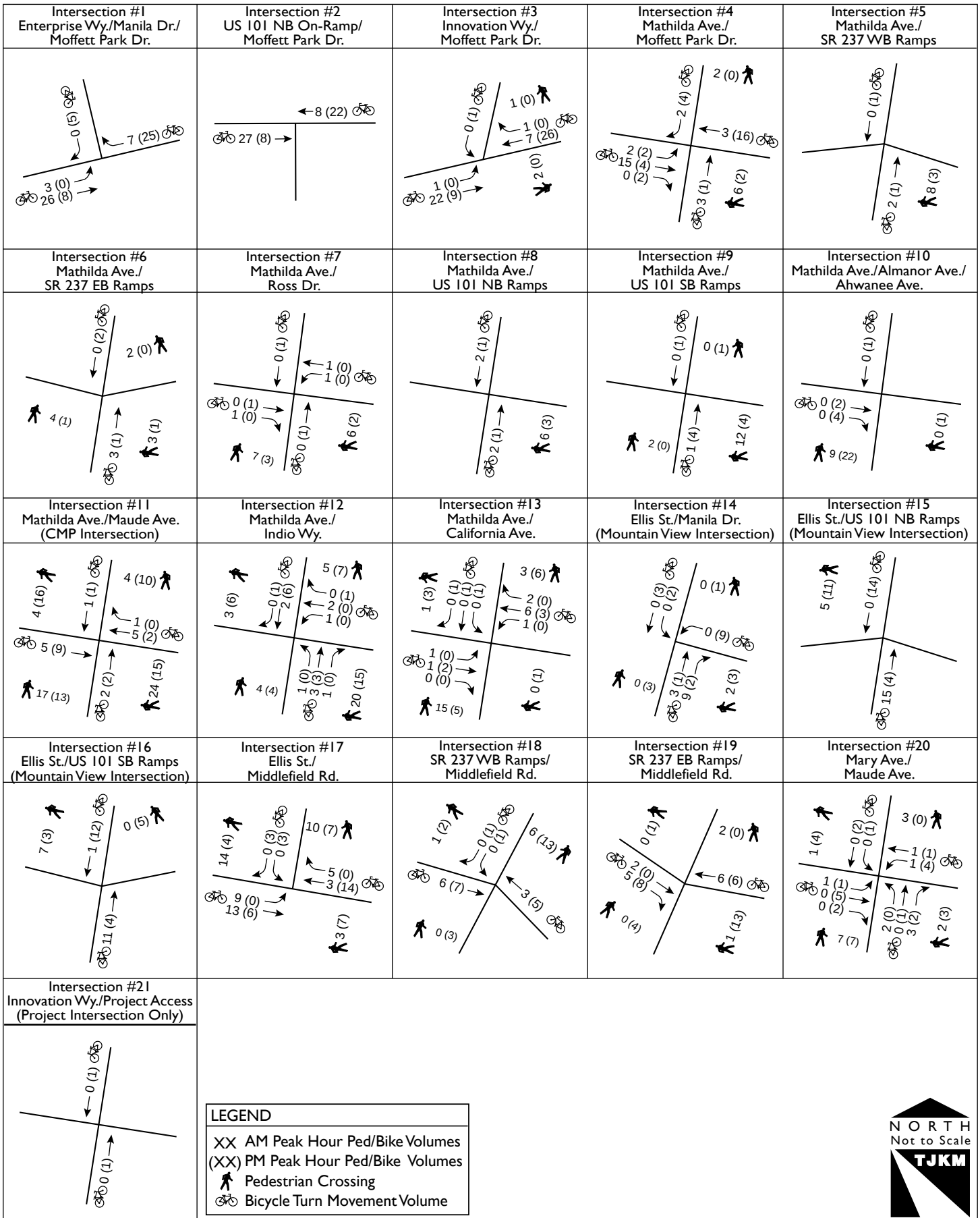
Figure
3



City of Sunnyvale - Transportation Impact Analysis for Educational Center

Existing Pedestrian and Bicycle Volumes

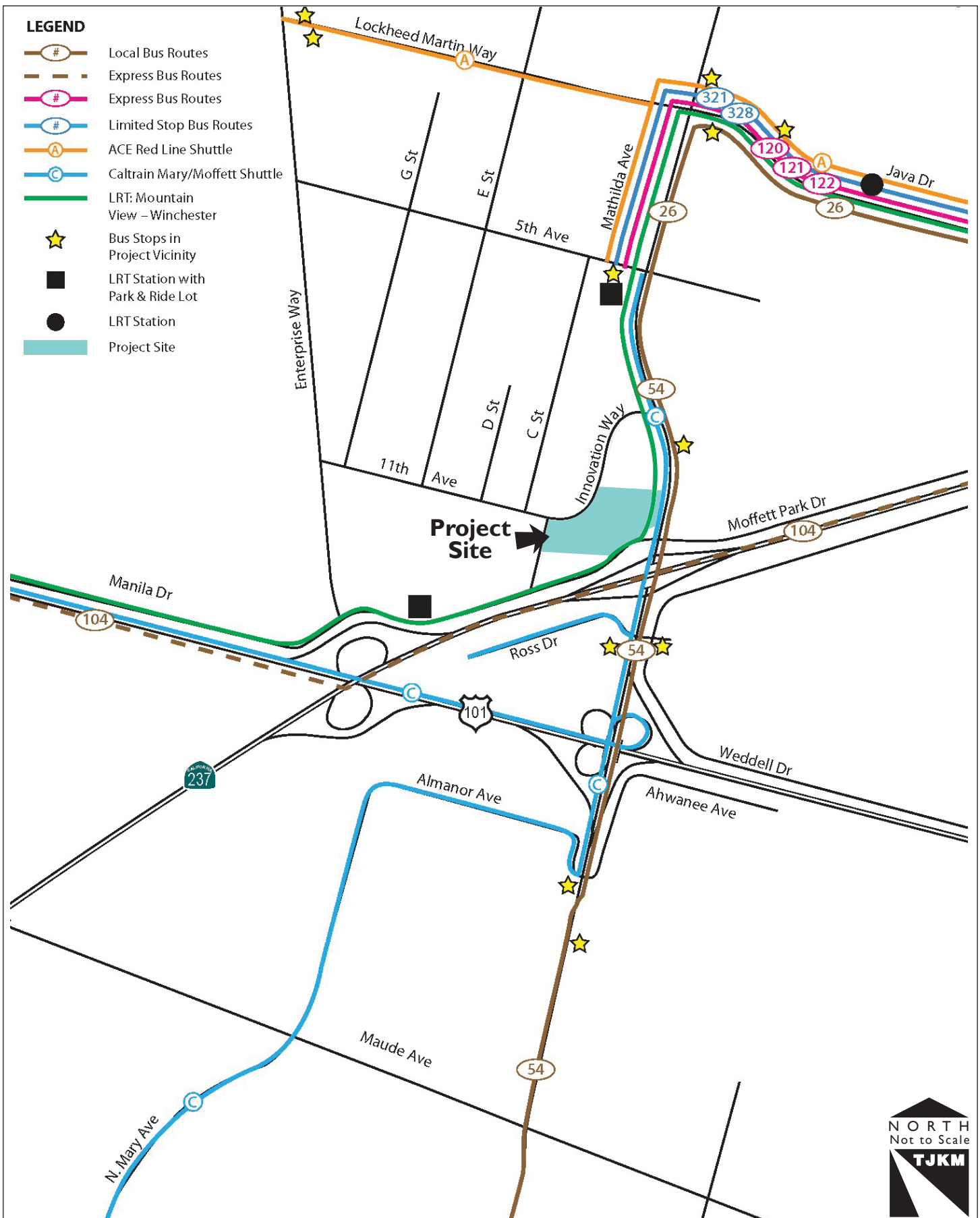
Figure
4



City of Sunnyvale - Transportation Impact Analysis for Educational Center

Existing Transit Service

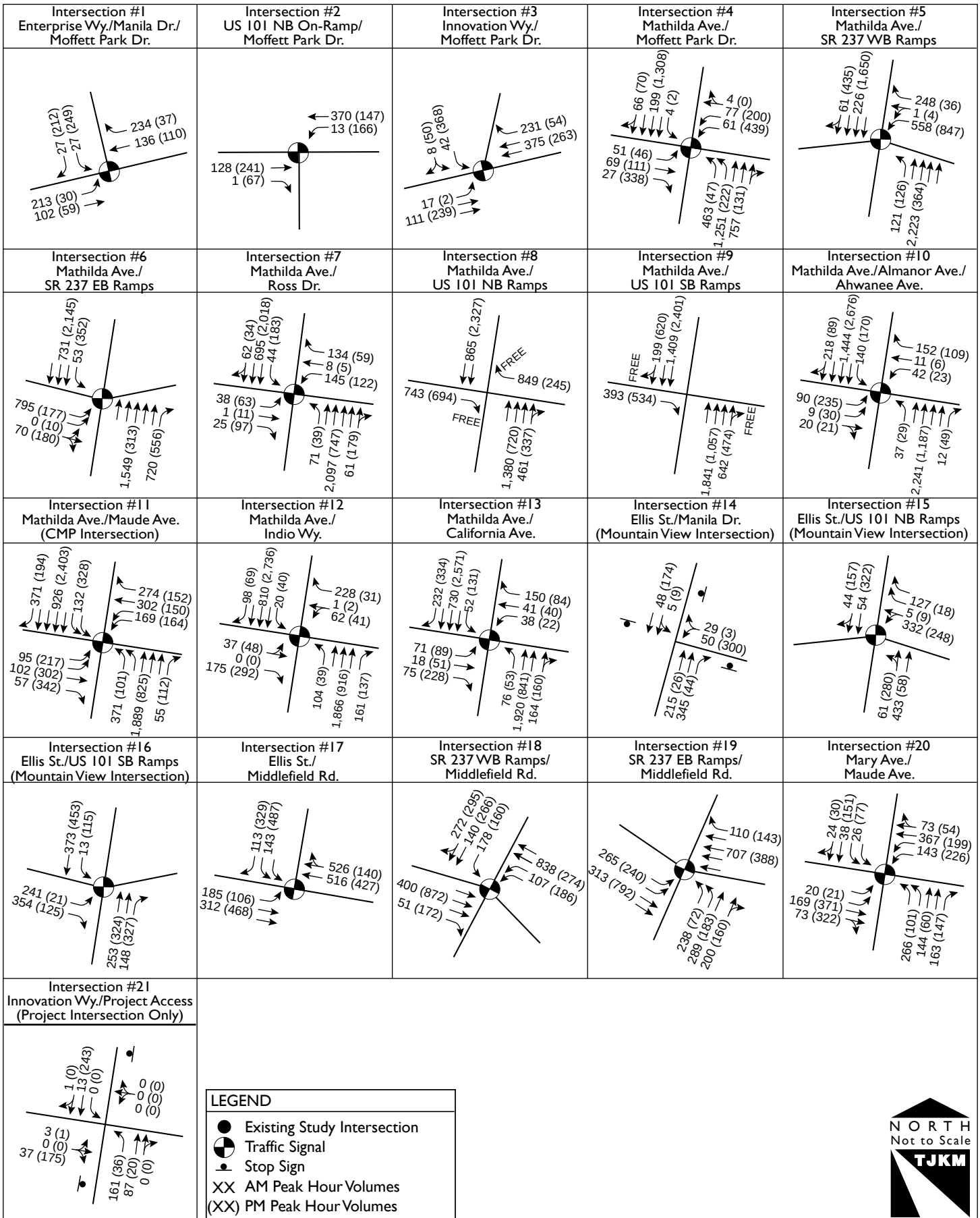
Figure
5

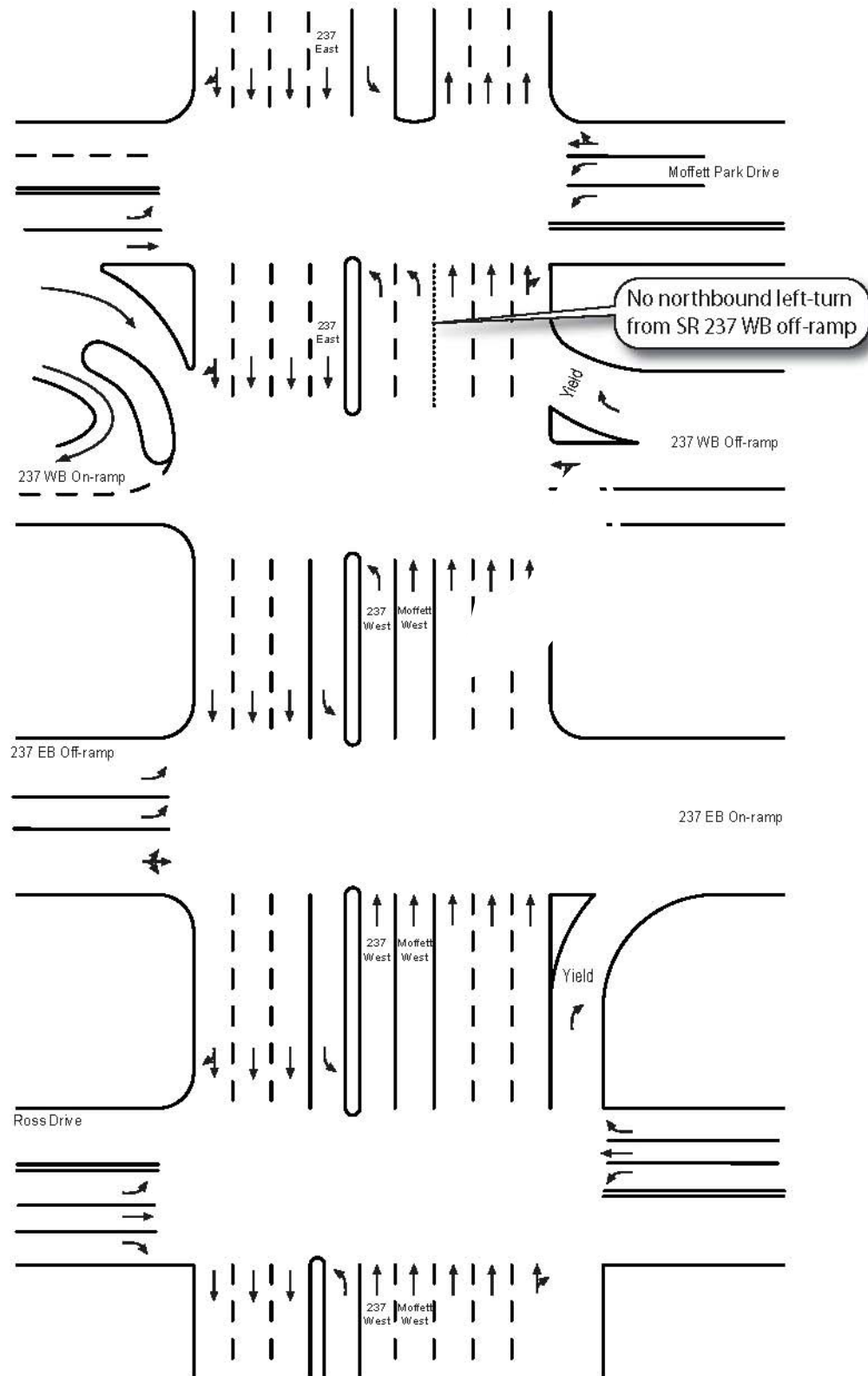


City of Sunnyvale - Transportation Impact Analysis for Educational Center

Existing Intersection Lane Configurations, Traffic Controls, and Peak Hour Traffic Volumes

Figure
6





Existing plus Project Conditions

This analysis scenario is similar to Existing Conditions, but with the addition of traffic expected to be generated by the proposed Educational Center.

Project Location and Proposal

The proposed Educational Center is located within the Moffett Park Specific Plan (MPSP) Area of the City of Sunnyvale. More specifically, the project site is located within the former Onizuka Air Force Station. The project site is bounded by Innovation Way to the west and north, North Mathilda Avenue and the Santa Clara Valley Transportation Authority's light rail tracks to the east and south, and West Moffett Park Drive and California Highway 237 to the south. An existing Veteran's Administration building is located immediately north of the project site.

The proposed project consists of redeveloping a 9.56-acre portion of the AFS and constructing an education building of 55,000 gross square feet on two floors that can accommodate a student population of up to 1,000 full time equivalent students. Approximately 556 onsite parking spaces would also be provided for the proposed education center.

Trip Generation – Proposed Project

TJKM developed expected trip generation for the proposed project based on published data in the Institute of Transportation Engineers' (ITE) reference Trip Generation (8th Edition, 2008) and consistent with the recent Onizuka Air Force Station Reuse Plan TIA.

In terms of trip reduction strategies, it should be noted that the Moffett Park Specific Plan (MPSP) requires all new projects in the Moffett Park area of Sunnyvale with a floor area ratio (FAR) of more than 35 percent to implement transportation demand management (TDM) programs that reduce daily and peak hour vehicle trips. However, according to the Onizuka Air Force Station Reuse Plan TIA, the Onizuka Reuse Plan project site is limited to development with an FAR of 35 percent or less. Therefore, the Educational Center project site is not required to provide a TDM program under MPSP guidelines. The District currently does not provide transit subsidies or TDM incentives to students or faculty. As a result, for purposes of this TIA, TJKM conservatively assumed no TDM-related trip discounts for the proposed project trip generation.

Since the proposed project is within 2,000 feet of the Moffett Park LRT Station, the project is eligible for a three percent trip reduction per VTA Traffic Analysis Guidelines. TJKM therefore applied a three percent trip reduction to the project trip generation to account for potential LRT use by District students, faculty, and other employees.

Table IV shows expected trip generation for the proposed project, including the LRT trip discount. With all discounts, the proposed Educational Center is expected to generate a net of 1,164 daily vehicle trips, including 116 during the a.m. peak hour and 116 during the p.m. peak hour.

Table IV: Proposed Project Trip Generation

Land Use (ITE Code)	Size	Daily		A.M. Peak Hour				P.M. Peak Hour			
		Rate	Trips	Rate	In Trips	Out Trips	Total Trips	In	Trips	Out Trips	Total Trips
Community College Campus (540)	1,000 students	1.20	1,200	0.12	98	22	120	0.12	77	43	120
3% VTA LRT Reduction			-36		-3	-1	-4		-3	-1	-4
Totals (With LRT Discount)			1,164		95	21	116		74	42	116

Note: Transit Reduction from VTA Traffic Impact Analysis Guidelines for employment near LRT or CalTrain within 2,000 feet or less walking distance.

Sources: Trip Generation Manual (ITE, 8th Edition, 2008)

Project Trip Distribution and Assignment

Trip distribution is a process that determines in what proportion vehicles would be expected to travel between a project site and various destinations outside the project study area. The process of trip assignment determines the various routes that vehicles would take from the project site to each destination using the calculated trip distribution.

Trip distribution assumptions for the proposed Educational Center were developed and based on the trip distributions assumed for the college campus in the Sunnyvale Air Force Station Reuse Plan TIA. It was assumed that the Education Center would attract trips primarily from local jurisdictions south and west of the project site, such as Sunnyvale, Mountain View, Palo Alto, and Cupertino). Figure 8 illustrates the trip distribution percentages developed for the proposed Educational Center. Figure 9 shows the project trip assignments for the study intersections based on these trip distributions.

The assigned project trips were then added to Existing Conditions traffic volumes to generate Existing plus Project traffic volumes. Figure 10 shows the resulting traffic volumes at the study intersections under Existing plus Project Conditions. The intersection traffic controls and lane geometries assumed under this analysis scenario are the same as under the Existing Conditions analysis scenario.

Intersection Level of Service Analysis Results (Existing plus Project Conditions)

The intersection LOS analysis results for both Existing and Existing plus Project Conditions are summarized in Table V. Detailed calculation sheets for Existing plus Project Conditions are contained in Appendix C. All intersections are expected to continue operating at acceptable service levels of LOS D or better as under Existing Conditions. Therefore, the proposed project is expected to have a less-than-significant impact with respect to project traffic under Existing plus Project Conditions, and no mitigations are required.

Table V: Intersection Levels of Service – Existing plus Project Conditions

Intersection		Peak Hour	Intersection Control	Existing Conditions		Existing plus Project Conditions				
				Delay	LOS	Delay	LOS	Δ in Crit. V/C	Δ in Crit. Delay	Signal Warrant Met?
1	Enterprise Way / Manila Drive / Moffett Park Drive	A.M.	Signal	12.4	B	12.5	B	+0.009	-0.0	N/A
		P.M.		10.9	B+	11.2	B+	+0.009	+0.4	N/A
2	US 101 Northbound On-Ramp / Moffett Park Drive	A.M.	Signal	1.3	A	1.3	A	+0.002	+0.1	N/A
		P.M.		7.5	A	7.4	A	+0.003	+0.0	N/A
3	Innovation Way / Moffett Park Drive	A.M.	Signal	6.1	A	6.2	A	+0.005	+0.4	N/A
		P.M.		12.2	B	12	B	+0.009	-0.1	N/A
4	Mathilda Avenue / Moffett Park Drive	A.M.	Signal	18.6	B-	18.7	B-	+0.009	-0.0	N/A
		P.M.		26.8	C	27.6	C	+0.011	+0.1	N/A
5	Mathilda Avenue / SR 237 Westbound Ramps	A.M.	Signal	13	B	13	B	+0.008	-0.1	N/A
		P.M.		20	B-	19.8	B-	+0.003	-0.0	N/A
6	Mathilda Avenue / SR 237 Eastbound Ramps	A.M.	Signal	14.5	B	14.7	B	+0.006	+0.3	N/A
		P.M.		14.4	B	14.7	B	+0.007	+0.4	N/A
7	Mathilda Avenue / Ross Drive	A.M.	Signal	12.2	B	12.1	B	+0.004	-0.1	N/A
		P.M.		12.7	B	12.7	B	+0.002	+0.0	N/A
8	Mathilda Avenue / US 101 Northbound Ramps	A.M.	Uncontrolled	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		P.M.		N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	Mathilda Avenue / US 101 Southbound Ramps	A.M.	Uncontrolled	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		P.M.		N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	Mathilda Avenue / Almanor Avenue / Ahwanee Avenue	A.M.	Signal	22.1	C+	22.1	C+	+0.002	-0.1	N/A
		P.M.		20.5	C+	20.4	C+	+0.001	-0.0	N/A
11	Mathilda Avenue / Maude Avenue (CMP Intersection)	A.M.	Signal	42.9	D	43	D	+0.003	+0.2	N/A
		P.M.		27.7	C	27.7	C	+0.001	-0.0	N/A
12	Mathilda Avenue / Indio Way	A.M.	Signal	17	B	17	B	+0.002	-0.0	N/A
		P.M.		14.6	B	14.6	B	+0.001	+0.0	N/A
13	Mathilda Avenue / California Avenue	A.M.	Signal	17.8	B	17.7	B	+0.002	-0.0	N/A
		P.M.		18.2	B-	18.2	B-	+0.001	+0.0	N/A
14	Ellis Street / Manila Drive (Mountain View intersection)	A.M.	All-Way Stop	8.1	A	8.1	A	+0.001	+0.0	No
		P.M.		9.8	A	9.9	A	+0.012	+0.1	No
15	Ellis Street / US 101 Northbound Ramps (Mountain View intersection)	A.M.	Signal	16.4	B	16.5	B	+0.006	+0.0	N/A
		P.M.		22.2	C+	22.1	C+	+0.003	-0.0	N/A
16	Ellis Street / US 101 Southbound Ramps (Mountain View intersection)	A.M.	Signal	17.5	B	17.6	B	+0.000	+0.0	N/A
		P.M.		12.9	B	12.9	B	+0.002	-0.0	N/A

Table continued next page.

Table V (continued): Intersection Levels of Service – Existing plus Project Conditions

Intersection	Peak Hour	Intersection Control	Existing Conditions		Existing plus Project Conditions				
			Delay	LOS	Delay	LOS	Δ in Crit. V/C	Δ in Crit. Delay	Signal Warrant Met?
17	Ellis Street / Middlefield Road	A.M.	14.1	B	14.1	B	+0.008	+0.0	N/A
		P.M.	21.6	C+	21.6	C+	+0.003	-0.0	N/A
18	SR 237 Westbound Ramps / Middlefield Road	A.M.	18.7	B-	18.8	B-	+0.000	+0.0	N/A
		P.M.	18.8	B-	18.8	B-	+0.000	+0.0	N/A
19	SR 237 Eastbound Ramps / Middlefield Road	A.M.	19.9	B-	19.9	B-	+0.000	+0.0	N/A
		P.M.	15.9	B	15.9	B	+0.000	+0.0	N/A
20	Mary Avenue / Maude Avenue	A.M.	26.5	C	26.5	C	+0.000	+0.0	N/A
		P.M.	23.6	C	23.6	C	+0.003	+0.1	N/A
21	Innovation Way / Project Access (Project Intersection only)	A.M.	5.2	A	5	B	+0.000	-0.2	N/A
		P.M.	4.3	B	4.4	B	+0.000	+0.1	N/A

Notes: 1) LOS=Level of Service, Delay = Average control delay per vehicle
 2) Signalized and all-way stop controlled intersections – Delay / LOS is for overall intersection
 3) Unsignalized one- and two-way stop controlled intersections – Delay / LOS is for critical minor stop-controlled approach.
 4) **Bold** indicates LOS exceeds applicable jurisdictional standards for operating conditions.
 N/A = not applicable

Freeway Level of Service Analysis Results (Existing plus Project Conditions)

Traffic operations for the study freeway segments were evaluated under Existing plus Project Conditions for the weekday a.m. and p.m. peak hours. For conservative analysis purposes, project trips were only assigned to the mixed-flow lanes, and none were assigned to the high-occupancy vehicle (HOV) lanes.

Table VI shows the estimated number of project trips added to each study freeway segment, as well estimated freeway densities and service levels under Existing plus Project Conditions expected to result from proposed project traffic.

Table VI: Freeway Levels of Service – Existing plus Project Conditions

Freeway Segment	Direction	Capacity (vphpl)	Peak Hour	Existing Conditions (2010)					Existing plus Project Conditions			
				Lanes	Average Speed	Volume	Density (pcpmpl)	LOS	Project Trips	Density (pcpmpl)	LOS	% Impact
US 101, Montague Expressway to Great America Parkway	NB	6,900	A.M.	3	55	6,600	40.0	D	10	40.1	D	0.15%
			P.M.	3	50	6,600	44.0	D	8	44.1	D	0.12%
	SB	6,900	A.M.	3	66	4,760	24.0	C	2	24.1	C	0.04%
			P.M.	3	18	4,700	87.0	F	4	87.1	F	0.09%

Table continued next page.

Table VI (continued): Freeway Levels of Service – Existing plus Project Conditions

Freeway Segment	Direction	Capacity (vphpl)	Peak Hour	Existing Conditions (2010)					Existing plus Project Conditions			
				Lanes	Average Speed	Volume	Density (pcpmpl)	LOS	Project Trips	Density (pcpmpl)	LOS	% Impact
US 101, Great America Parkway to Lawrence Expressway	NB	6,900	A.M.	3	46	6,490	47.0	E	10	47.1	E	0.15%
			P.M.	3	50	6,600	44.0	E	8	44.1	E	0.12%
	SB	6,900	A.M.	3	62	6,510	35.0	D	2	35.0	D	0.03%
			P.M.	3	18	4,760	88.1	F	4	88.2	F	0.08%
US 101, Lawrence Expwy. to N. Fair Oaks Ave	NB	6,900	A.M.	3	37	6,110	55.0	E	9	55.1	E	0.15%
			P.M.	3	63	6,430	34.0	D	8	34.1	D	0.12%
	SB	6,900	A.M.	3	66	4,360	22.0	C	2	22.0	C	0.05%
			P.M.	3	55	6,600	40.0	D	7	40.0	D	0.11%
US 101, N. Fair Oaks Ave to Mathilda Ave	NB	6,900	A.M.	3	29	5,750	66.1	F	9	66.2	F	0.16%
			P.M.	3	65	5,850	30.0	D	7	30.0	D	0.12%
	SB	6,900	A.M.	3	65	5,850	30.0	D	5	30.0	D	0.09%
			P.M.	3	65	5,850	30.0	D	11	30.1	D	0.19%
US 101, N. Mathilda Ave to SR 237	NB	6,900	A.M.	3	34	6,020	59.0	F	1	59.0	F	0.02%
			P.M.	3	66	4,160	21.0	C	2	21.0	C	0.05%
	SB	6,900	A.M.	3	66	4,950	25.0	C	0	25.0	C	0.00%
			P.M.	3	66	5,510	27.8	D	0	27.8	D	0.00%
US 101, SR 237 to Moffett Blvd	NB	6,900	A.M.	3	23	5,320	77.1	F	1	77.1	F	0.02%
			P.M.	3	27	5,590	69.0	F	2	69.0	F	0.04%
	SB	6,900	A.M.	3	61	6,590	36.0	D	0	36.0	D	0.00%
			P.M.	3	61	6,590	36.0	D	0	36.0	D	0.00%
SR 237, Maude Ave to US 101	EB	4,400	A.M.	2	52	4,370	42.0	D	11	42.1	D	0.25%
			P.M.	2	66	2,780	21.1	B	9	21.1	B	0.32%
	WB	4,400	A.M.	2	64	4,100	32.0	D	13	32.1	D	0.32%
			P.M.	2	27	3,680	68.1	F	13	68.4	F	0.35%
SR 237, US 101 to Mathilda Ave	EB	4,400	A.M.	2	58	4,410	38.0	D	33	38.3	D	0.75%
			P.M.	2	41	4,190	51.1	E	27	51.4	E	0.64%
	WB	4,400	A.M.	2	51	4,390	43.0	E	13	43.2	E	0.30%
			P.M.	2	57	4,450	39.0	D	21	39.2	D	0.47%
SR 237, Mathilda Ave. to N. Fair Oaks Ave	EB	4,600	A.M.	2	50	4,400	44.0	D	2	44.0	D	0.05%
			P.M.	2	28	3,760	67.1	F	4	67.2	F	0.11%
	WB	6,900	A.M.	3	15	4,320	96.0	F	10	96.2	F	0.23%
			P.M.	3	64	6,340	33.0	D	8	33.1	D	0.13%

Table continued next page.

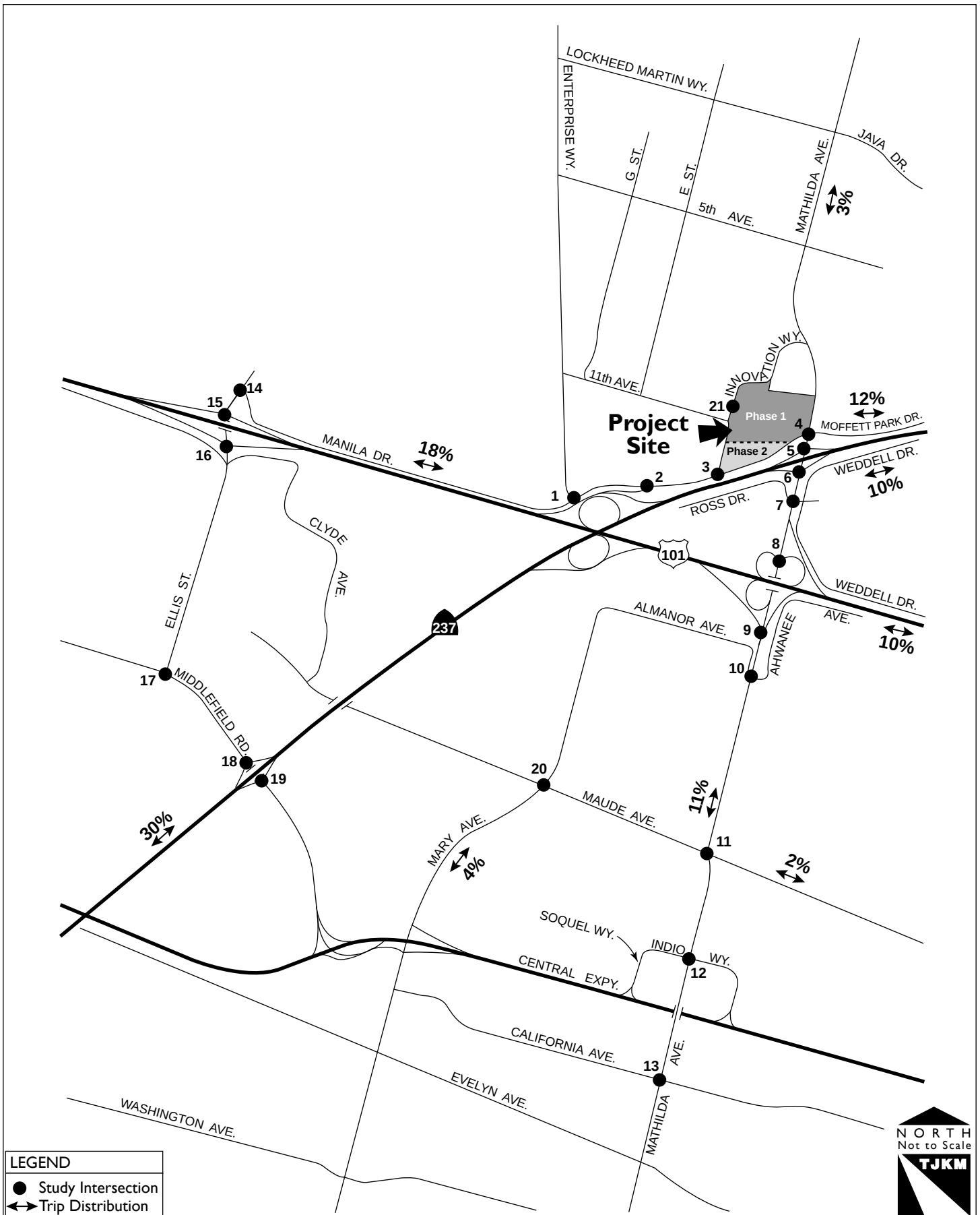
Table VI (continued): Freeway Levels of Service – Existing plus Project Conditions

Freeway Segment	Direction	Capacity (vphpl)	Peak Hour	Existing Conditions (2010)					Existing plus Project Conditions			
				Lanes	Average Speed	Volume	Density (pcpmpl)	LOS	Project Trips	Density (pcpmpl)	LOS	% Impact
SR 237, N. Fair Oaks Ave to Lawrence Expwy	EB	4,600	A.M.	2	54	4,430	41.0	D	2	41.0	D	0.05%
			P.M.	2	13	2,660	102.3	F	4	102.5	F	0.15%
	WB	4,600	A.M.	2	38	4,110	54.1	E	10	54.2	E	0.24%
			P.M.	2	62	4,340	35.0	D	8	35.1	D	0.18%
SR 237, Lawrence Expwy to Great America Parkway	EB	4,600	A.M.	2	61	4,400	36.1	D	2	36.1	D	0.05%
			P.M.	2	15	2,880	96.0	F	4	96.1	F	0.14%
	WB	4,600	A.M.	2	64	4,230	33.0	D	22	33.2	D	0.52%
			P.M.	2	54	4,430	41.0	D	17	41.2	D	0.38%

- Notes: 1) Capacity in vehicles per hour per lane.
2) Lanes are shown for mixed-flow only since project trips are assumed as added to mixed-flow lanes only.
3) Average speed in miles per hour (mph).
4) Volume in vehicles.
5) Density equal to passenger cars per mile per lane (pcpmpl).
6) LOS = level of service.
7) Project trips added to individual mixed-flow freeway segments.
8) Percent impact on mixed flow lanes determined by dividing the added project trips by the freeway segment's mixed-flow capacity.

Source: VTA Monitoring and Conformance Report, VTA, May 2011.

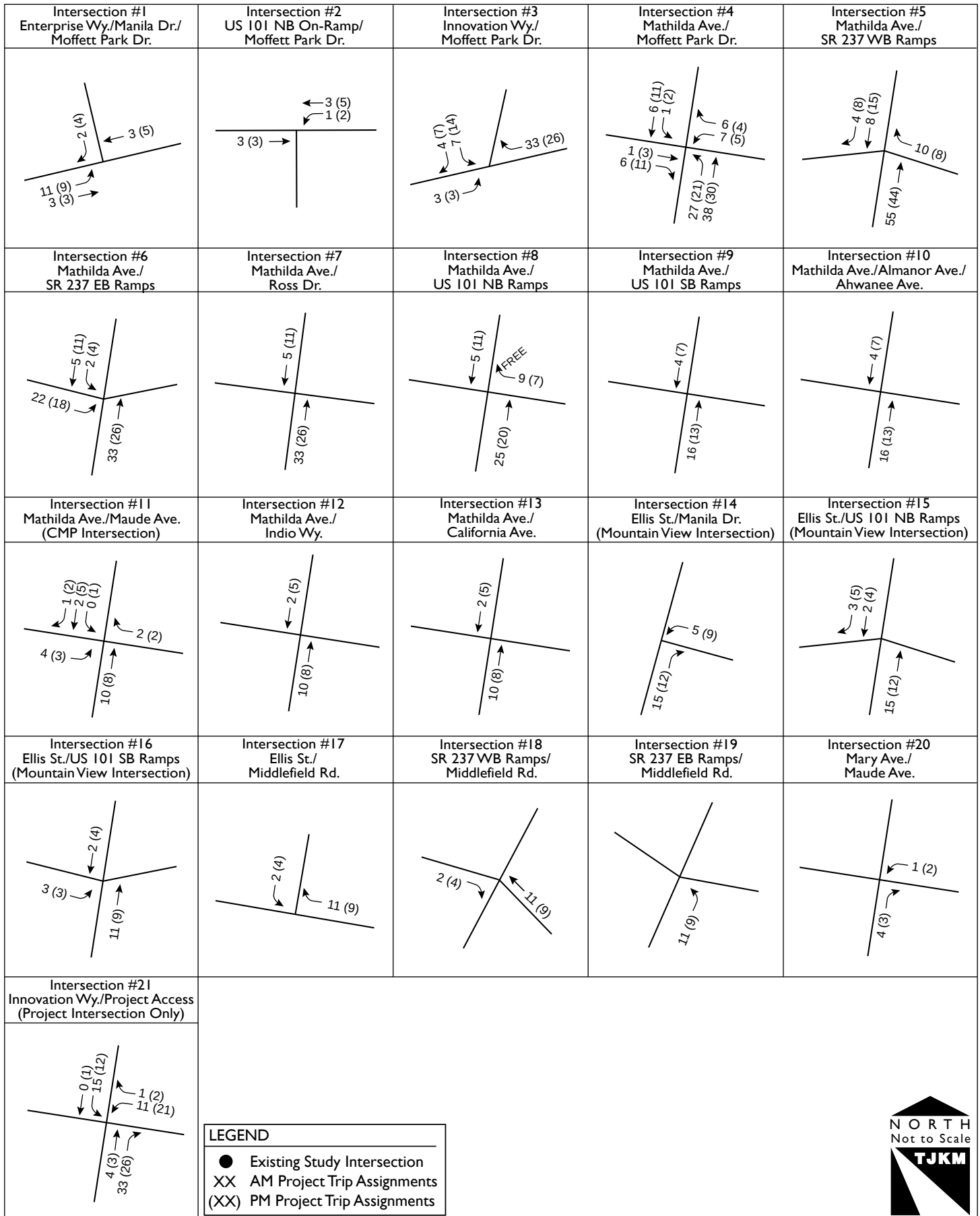
Based on the preceding freeway analysis, the proposed project is not expected to add trips greater than one percent of the capacity of any freeway segment already operating at LOS F under Existing Conditions. Therefore, the addition of proposed project traffic is expected to result in a less-than-significant impact for the study freeway segments under Existing plus Project Conditions. As a result, no mitigation measures are required.



City of Sunnyvale - Transportation Impact Analysis for Educational Center

Project Trip Assignment

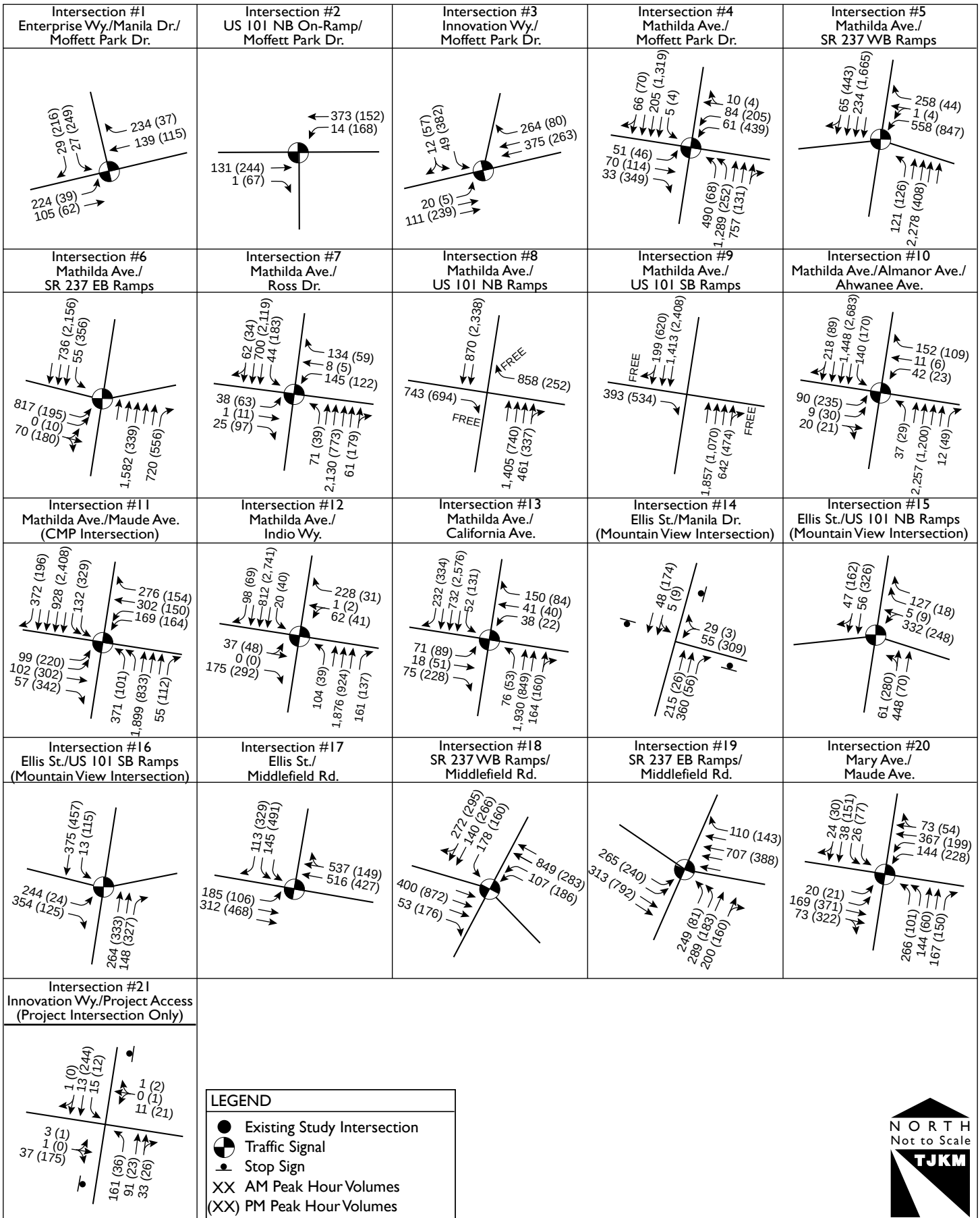
Figure
9



City of Sunnyvale - Transportation Impact Analysis for Educational Center

Existing plus Project Intersection Peak Hour Volumes

Figure
10



Background Conditions

This section details expected traffic conditions at the study intersections under Background No Project Conditions. This analysis scenario is defined as conditions prior to completion of the proposed project in 2013. Traffic volumes under Background No Project Conditions consist of existing traffic volumes multiplied by a growth factor derived from the City of Sunnyvale travel demand model plus traffic generated by approved developments in the study area that are not yet built or occupied.

Background No Project Traffic Volumes

Background Traffic Growth

Growth factors were developed from the City traffic model to estimate regional traffic growth in the study area and were applied to all turning movements at the study intersections. Based on the City model and roadway classifications, TJKM applied an annual growth factor of 2% during the a.m. peak hour and 1.75% during the p.m. peak hour for arterials, 2.28% during the a.m. peak hour and 2.34% during the p.m. peak hour for collectors, and 0.5% during both a.m. and p.m. peak hours for local streets.

Approved and Not Occupied Developments

According to City staff, there are several approved and not occupied developments within the study area. Significant approved developments assumed under this analysis scenario include:

- Moffett Tower campus (1.7 million square feet (sq. ft.) unoccupied building space and 330,000 sq. ft. for recently approved Building D)
- Ariba campus expansion (200,000 sq. ft.)
- Yahoo (200,000 sq. ft. expansion, recently approved)
- Redevelopment of Town Center Mall (284 residential units, 16-screen theater, 275,000 sq. ft. office, one million sq. ft. retail)
- Additional office space at Lockheed Martin site
- Network Appliances buildout (one million sq. ft. R&D)
- 111 Java Drive (387,000 sq. ft. of R&D)
- 120,000 sq. ft. medical office building for Palo Alto Medical Foundation

Background Transportation Improvements

For the year 2013, no approved and funded transportation network improvements were assumed to be completed prior to proposed project completion. Therefore, TJKM assumed the existing conditions roadway network, traffic controls, and lane geometries for Background Conditions.

Figure 11 shows the Background No Project traffic volumes at the study intersections resulting from the above growth factors and approved development traffic. This figure also shows traffic controls and lane geometries at the study intersections.

Intersection Level of Service Analysis Results (Background No Project Conditions)

Table VII shows the results of the LOS analysis conducted for the study intersections under Background No Project Conditions. Detailed calculation sheets are contained in Appendix D. All intersections are expected to operate within applicable jurisdictional standards, with the following exceptions:

- Enterprise Way / Manila Drive / Moffett Park Drive (LOS F during a.m. peak hour)
- Mathilda Avenue / Moffett Park Drive (LOS F during a.m. and p.m. peak hours)
- Mathilda Avenue / SR 237 Westbound Ramps (LOS F during a.m. and p.m. peak hours)
- Ellis Street / Manila Drive (LOS F during p.m. peak hour)

Table VII: Intersection Levels of Service – Background No Project Conditions

Intersection		Peak Hour	Intersection Control	Background Conditions	
				Delay	LOS
1	Enterprise Way / Manila Drive / Moffett Park Drive	A.M.	Signal	87.4	F
		P.M.		15.0	B
2	US 101 Northbound On-Ramp / Moffett Park Drive	A.M.	Signal	3.4	A
		P.M.		14.0	B
3	Innovation Way / Moffett Park Drive	A.M.	Signal	7.0	A
		P.M.		15.2	B
4	Mathilda Avenue / Moffett Park Drive	A.M.	Signal	217.9	F
		P.M.		250.7	F
5	Mathilda Avenue / SR 237 Westbound Ramps	A.M.	Signal	87.9	F
		P.M.		119.3	F
6	Mathilda Avenue / SR 237 Eastbound Ramps	A.M.	Signal	40.1	D
		P.M.		71.6	E
7	Mathilda Avenue / Ross Drive	A.M.	Signal	11.1	B+
		P.M.		40.4	D
8	Mathilda Avenue / US 101 Northbound Ramps	A.M.	Uncontrolled	N/A	N/A
		P.M.		N/A	N/A
9	Mathilda Avenue / US 101 Southbound Ramps	A.M.	Uncontrolled	N/A	N/A
		P.M.		N/A	N/A
10	Mathilda Avenue / Almanor Avenue / Ahwanee Avenue	A.M.	Signal	20.6	C+
		P.M.		21.1	C+
11	Mathilda Avenue / Maude Avenue (CMP Intersection)	A.M.	Signal	49.2	D
		P.M.		31.3	C
12	Mathilda Avenue / Indio Way	A.M.	Signal	16.0	B+
		P.M.		17.7	B
13	Mathilda Avenue / California Avenue	A.M.	Signal	18.2	B-
		P.M.		34.9	C-

Table continued next page.

Table VIII (continued): Intersection Levels of Service – Background No Project Conditions

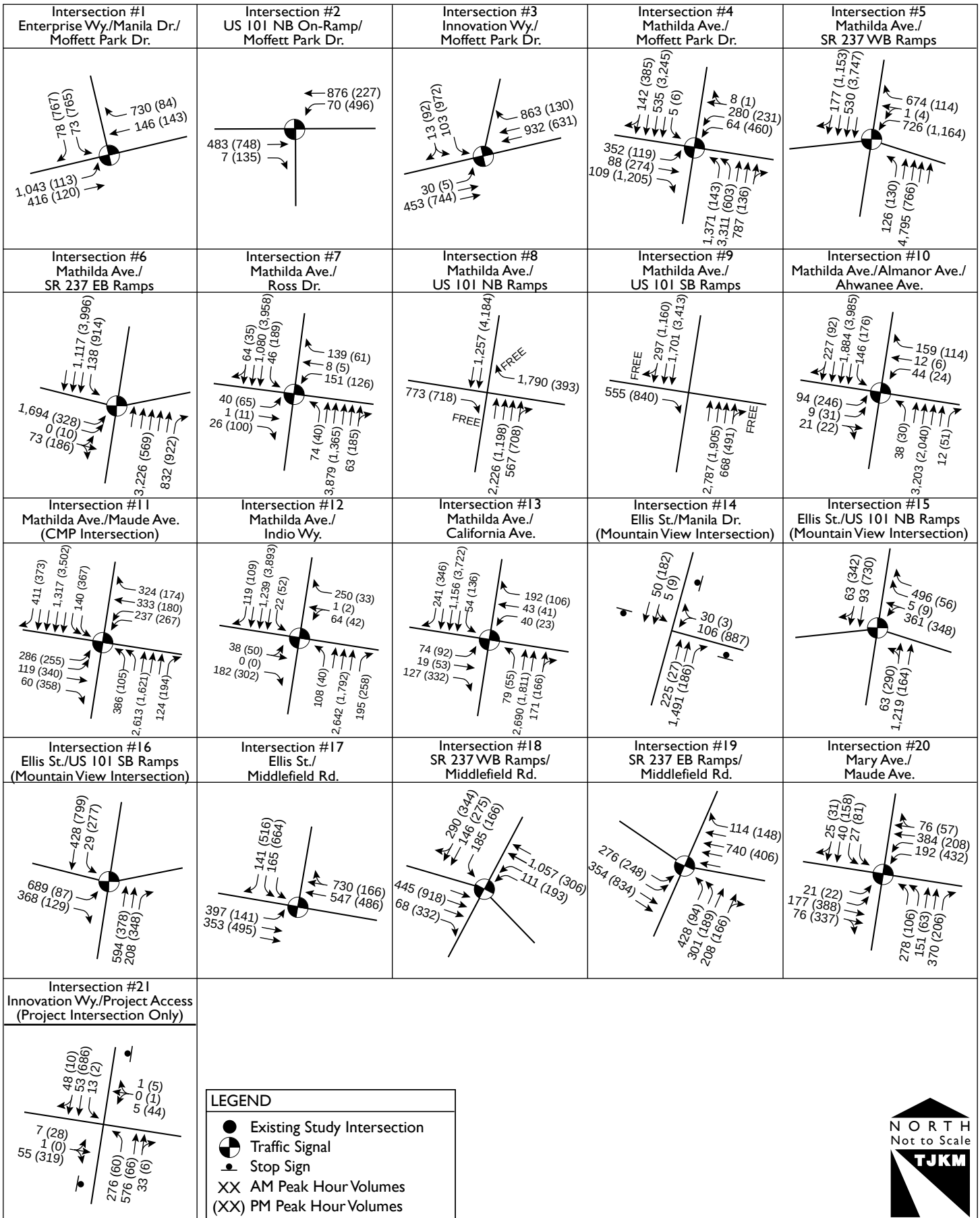
<i>Intersection</i>		<i>Peak Hour</i>	<i>Intersection Control</i>	<i>Background Conditions</i>	
				<i>Delay</i>	<i>LOS</i>
14	Ellis Street / Manila Drive (Mountain View intersection)	A.M.	All-Way Stop	8.4	A
		P.M.		89.9	F
15	Ellis Street / US 101 Northbound Ramps (Mountain View intersection)	A.M.	Signal	19.2	B-
		P.M.		24.8	C
16	Ellis Street / US 101 Southbound Ramps (Mountain View intersection)	A.M.	Signal	20.9	C+
		P.M.		13.7	B
17	Ellis Street / Middlefield Road	A.M.	Signal	22.2	C+
		P.M.		23.5	C
18	SR 237 Westbound Ramps / Middlefield Road	A.M.	Signal	15.5	B
		P.M.		18.8	B-
19	SR 237 Eastbound Ramps / Middlefield Road	A.M.	Signal	19.9	B-
		P.M.		16.0	B
20	Mary Avenue / Maude Avenue	A.M.	Signal	27.5	C
		P.M.		26.2	C
21	Innovation Way / Project Access (Project Intersection only)	A.M.	Side Street Stop	3.0	D
		P.M.		7.2	D

- Notes:
- 1) LOS=Level of Service, Delay = Average control delay per vehicle
 - 2) Signalized and four-way stop controlled intersections – Delay / LOS is for overall intersection
 - 3) Unsignalized one- and two-way stop controlled intersections – Delay / LOS is for critical minor stop-controlled approach.
 - 4) **Bold** indicates LOS exceeds applicable jurisdictional standards for operating conditions.

City of Sunnyvale - Transportation Impact Analysis for Educational Center

Background No Project Intersection Peak Hour Volumes

Figure
11



Background plus Project Conditions

This analysis scenario is similar to Background Conditions, but with the addition of traffic expected to be generated by the proposed Educational Center. Trip generation, distribution, and assignment for the proposed project are identical to that assumed under Existing plus Project Conditions. Figure 12 shows Background plus Project traffic volumes, lane geometries, and traffic controls.

Intersection Level of Service Analysis Results (Background plus Project Conditions)

The intersection LOS analysis results for both Background No Project and Background plus Project Conditions are summarized in Table VIII. Detailed calculation sheets for Background plus Project Conditions are contained in Appendix E. The same four intersections from Background No Project Conditions are expected to continue operating unacceptably:

- Enterprise Way / Manila Drive / Moffett Park Drive (LOS F during a.m. peak hour). However, the critical delay is expected to increase by less than four seconds (3.3) and critical volume-to-capacity (v/c) is expected to increase by less than 0.01. Therefore, the impact is less-than-significant, and no mitigation due to project traffic is required.
- Mathilda Avenue / Moffett Park Drive (LOS F during a.m. and p.m. peak hours) – the addition of project traffic constitutes a significant impact since critical delay would increase more than four seconds and critical v/c would increase more than 0.01 in the a.m. peak hour.
- Mathilda Avenue / SR 237 Westbound Ramps (LOS F during a.m. and p.m. peak hours) – the addition of project traffic constitutes a significant impact since critical delay would increase more than four seconds and critical v/c would increase more than 0.01 in the a.m. peak hour.
- Ellis Street / Manila Drive (LOS F during p.m. peak hour). While critical v/c at this intersection is expected to increase by more than 0.01 with the addition of project traffic, critical delay would increase by less than four seconds (3.8). Therefore, the impact is less-than-significant, and no mitigation due to project traffic is required.

Table VIII: Intersection Levels of Service – Background plus Project Conditions

Intersection		Peak Hour	Intersection Control	Background Conditions		Background plus Project Conditions				
				Delay	LOS	Delay	LOS	Δ in Crit. V/C	Δ in Crit. Delay	Signal Warrant Met?
1	Enterprise Way / Manila Drive / Moffett Park Drive	A.M.	Signal	87.4	F	89.7	F	+0.008	+3.3	N/A
		P.M.		15.0	B	15.3	B	+0.009	+0.4	N/A
2	US 101 Northbound On-Ramp / Moffett Park Drive	A.M.	Signal	3.4	A	3.4	A	+0.002	+0.0	N/A
		P.M.		14.0	B	14.1	B	+0.003	+0.1	N/A
3	Innovation Way / Moffett Park Drive	A.M.	Signal	7.0	A	7.3	A	+0.026	+0.5	N/A
		P.M.		15.2	B	15.2	B	+0.009	+0.2	N/A
4	Mathilda Avenue / Moffett Park Drive	A.M.	Signal	217.9	F	222.4	F	+0.018	+5.5	N/A
		P.M.		250.7	F	252.3	F	+0.011	+3.4	N/A
5	Mathilda Avenue / SR 237 Westbound Ramps	A.M.	Signal	87.9	F	92.8	F	+0.014	+6.2	N/A
		P.M.		119.3	F	119.9	F	+0.003	+2.4	N/A
6	Mathilda Avenue / SR 237 Eastbound Ramps	A.M.	Signal	40.1	D	41.2	D	+0.007	+2.4	N/A
		P.M.		71.6	E	72.5	E	+0.007	+2.9	N/A
7	Mathilda Avenue / Ross Drive	A.M.	Signal	11.1	B+	11.1	B+	+0.004	+0.1	N/A
		P.M.		40.4	D	41.0	D	+0.002	+1.1	N/A
8	Mathilda Avenue / US 101 Northbound Ramps	A.M.	Uncontrolled	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		P.M.		N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	Mathilda Avenue / US 101 Southbound Ramps	A.M.	Uncontrolled	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		P.M.		N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	Mathilda Avenue / Almanor Avenue / Ahwanee Avenue	A.M.	Signal	20.6	C+	20.6	C+	+0.002	-0.0	N/A
		P.M.		21.1	C+	21.1	C+	+0.001	+0.0	N/A
11	Mathilda Avenue / Maude Avenue (CMP Intersection)	A.M.	Signal	49.2	D	49.4	D	+0.003	+0.2	N/A
		P.M.		31.3	C	31.3	C	+0.001	+0.0	N/A
12	Mathilda Avenue / Indio Way	A.M.	Signal	16.0	B+	15.9	B+	+0.002	-0.0	N/A
		P.M.		17.7	B	17.7	B	+0.001	+0.1	N/A
13	Mathilda Avenue / California Avenue	A.M.	Signal	18.2	B-	18.2	B-	+0.002	-0.0	N/A
		P.M.		34.9	C-	35.0	D+	+0.001	+0.3	N/A
14	Ellis Street / Manila Drive (Mountain View intersection)	A.M.	All-Way Stop	8.4	A	8.1	A	+0.007	+0.0	Yes
		P.M.		89.9	F	93.7	F	+0.012	+3.8	No
15	Ellis Street / US 101 Northbound Ramps (Mountain View intersection)	A.M.	Signal	19.2	B-	19.4	B-	+0.006	+0.2	N/A
		P.M.		24.8	C	24.9	C	+0.003	+0.1	N/A
16	Ellis Street / US 101 Southbound Ramps (Mountain View intersection)	A.M.	Signal	20.9	C+	21.0	C+	+0.005	+0.2	N/A
		P.M.		13.7	B	13.7	B	+0.002	+0.0	N/A

Table continued next page.

Table VIII (continued): Intersection Levels of Service – Background plus Project Conditions

	Intersection	Peak Hour	Intersection Control	Background Conditions		Background plus Project Conditions				
				Delay	LOS	Delay	LOS	Δ in Crit. V/C	Δ in Crit. Delay	Signal Warrant Met?
17	Ellis Street / Middlefield Road	A.M.	Signal	22.2	C+	22.6	C+	+0.008	+0.6	N/A
		P.M.		23.5	C	23.6	C	+0.003	+0.0	N/A
18	SR 237 Westbound Ramps / Middlefield Road	A.M.	Signal	15.5	B	15.4	B	+0.003	-0.0	N/A
		P.M.		18.8	B-	18.8	B-	+0.000	+0.1	N/A
19	SR 237 Eastbound Ramps / Middlefield Road	A.M.	Signal	19.9	B-	19.9	B-	+0.004	+0.0	N/A
		P.M.		16.0	B	16.0	B	+0.000	+0.0	N/A
20	Mary Avenue / Maude Avenue	A.M.	Signal	27.5	C	27.5	C	+0.003	+0.0	N/A
		P.M.		26.2	C	26.3	C	+0.003	+0.1	N/A
21	Innovation Way / Project Access (Project Intersection only)	A.M.	Side Street Stop	3.0	D	3.5	E	+0.000	+0.5	N/A
		P.M.		7.2	D	7.8	D	+0.000	+0.6	N/A

- Notes: 1) LOS=Level of Service, Delay = Average control delay per vehicle
2) Signalized and four-way stop controlled intersections – Delay / LOS is for overall intersection
3) Unsignalized one- and two-way stop controlled intersections – Delay / LOS is for critical minor stop-controlled approach.
4) **Bold** indicates LOS exceeds applicable jurisdictional standards for operating conditions.

Intersection Mitigation Improvement Measures (Background plus Project Conditions)

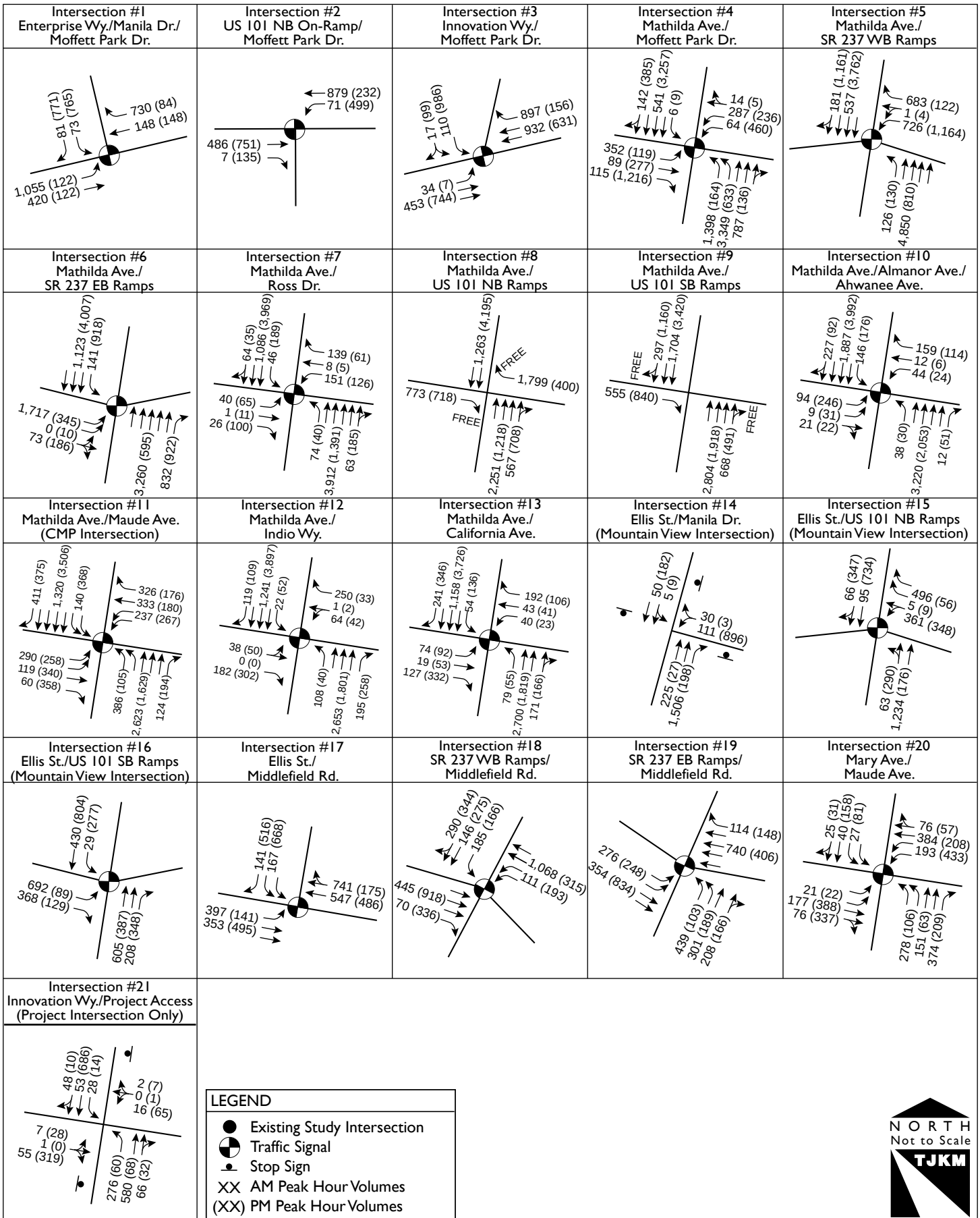
Two intersections were found to have significant impacts under this scenario (Mathilda Avenue / Moffett Park Drive and Mathilda Avenue / SR 237 Westbound Ramps), since critical delay would increase more than four seconds and critical v/c would increase more than 0.01. However, it is important to note that the City's Traffic Impact Fee (TIF) program was developed when the Onizuka Air Force Base was in operation. The TIF, with its associated transportation improvements and fee structure, accounted for the amount of traffic that the Air Force uses were generating in their baseline analysis.

Based on analysis presented in the Onizuka Redevelopment Traffic Analysis Technical Memorandum, the Air Force uses were estimated to generate 4,970 daily vehicle trips, 736 a.m. peak hour trips (648 inbound and 88 outbound) and 700 p.m. peak hour trips (119 inbound and 581 outbound). The trips generated by the Air Base uses on the site are greater than those expected to be generated by the proposed Educational Center (1,164 net new daily vehicle trips, including 116 during both a.m. and p.m. peak hours). Therefore, the addition of traffic generated by the proposed project is considered to have less-than-significant impact, because the proposed uses would not increase the number of trips beyond those assumed in the TIF baseline analysis for the previous Air Base use. Thus, no mitigations due to project traffic are required.

City of Sunnyvale - Transportation Impact Analysis for Educational Center

Background plus Project Intersection Peak Hour Volumes

Figure
12



Cumulative Conditions

This section details expected traffic conditions at the study intersections under Cumulative No Project Conditions. This analysis scenario is defined as baseline conditions prior to completion of the proposed project in 2016. Traffic volumes under Cumulative No Project Conditions consist of existing traffic volumes multiplied by an annual growth factor derived from the City of Sunnyvale travel demand model plus traffic generated by approved developments in the study area that are not yet built or occupied.

Cumulative No Project Traffic Volumes

Cumulative Traffic Growth

TJKM used the same annual growth factors developed from the City traffic model as summarized under Background Conditions. These factors were applied to all existing conditions turning movements at the study intersections to estimate regional traffic growth to year 2016.

Approved and Not Occupied Developments

TJKM assumed the same approved developments under this scenario as those identified under Background Conditions, with one addition. According to City staff, the office portion of the Onizuka Air Force Station Reuse Plan (52,000 SF office) is expected to be completed by 2016. Project traffic from this additional anticipated development was added to the study intersections under Cumulative No Project Conditions.

Cumulative Transportation Improvements

For the year 2016, no approved and funded transportation network improvements were assumed to be completed prior to proposed project completion. Therefore, TJKM assumed the existing conditions roadway network, traffic controls, and lane geometries for Cumulative Conditions.

Figure 13 shows the Cumulative No Project traffic volumes at the study intersections resulting from the above growth factors and approved development traffic. This figure also shows traffic controls and lane geometries at the study intersections.

Intersection Level of Service Analysis Results (Cumulative No Project Conditions)

Table IX summarizes the results of the LOS analysis conducted for the study intersections under Cumulative No Project Conditions. Detailed calculation sheets are contained in Appendix F. All intersections are expected to operate within applicable jurisdictional standards, with the following exceptions:

- Enterprise Way / Manila Drive / Moffett Park Drive (LOS F during a.m. peak hour)
- Mathilda Avenue / Moffett Park Drive (LOS F during a.m. and p.m. peak hours)
- Mathilda Avenue / SR 237 Westbound Ramps (LOS F during a.m. and p.m. peak hours)
- Mathilda Avenue / SR 237 Eastbound Ramps (LOS F during p.m. peak hour)
- Ellis Street / Manila Drive (LOS F during p.m. peak hour)

Table IX: Intersection Levels of Service – Cumulative No Project Conditions

<i>Intersection</i>		<i>Peak Hour</i>	<i>Intersection Control</i>	<i>Cumulative Conditions</i>	
				<i>Delay</i>	<i>LOS</i>
1	Enterprise Way / Manila Drive / Moffett Park Drive	A.M.	Signal	93.6	F
		P.M.		15.9	B
2	US 101 Northbound On-Ramp / Moffett Park Drive	A.M.	Signal	3.4	A
		P.M.		14.6	B
3	Innovation Way / Moffett Park Drive	A.M.	Signal	7.1	A
		P.M.		15.5	B
4	Mathilda Avenue / Moffett Park Drive	A.M.	Signal	234.1	F
		P.M.		268.9	F
5	Mathilda Avenue / SR 237 Westbound Ramps	A.M.	Signal	99.9	F
		P.M.		136.4	F
6	Mathilda Avenue / SR 237 Eastbound Ramps	A.M.	Signal	48.5	D
		P.M.		82.0	F
7	Mathilda Avenue / Ross Drive	A.M.	Signal	11.4	B+
		P.M.		50.9	D
8	Mathilda Avenue / US 101 Northbound Ramps	A.M.	Uncontrolled	N/A	N/A
		P.M.		N/A	N/A
9	Mathilda Avenue / US 101 Southbound Ramps	A.M.	Uncontrolled	N/A	N/A
		P.M.		N/A	N/A
10	Mathilda Avenue / Almanor Avenue / Ahwanee Avenue	A.M.	Signal	21.5	C+
		P.M.		22.8	C+
11	Mathilda Avenue / Maude Avenue (CMP Intersection)	A.M.	Signal	51.5	D-
		P.M.		34.5	C-
12	Mathilda Avenue / Indio Way	A.M.	Signal	16.7	B
		P.M.		22.2	C+
13	Mathilda Avenue / California Avenue	A.M.	Signal	19.1	B-
		P.M.		45.9	D
14	Ellis Street / Manila Drive (Mountain View intersection)	A.M.	All-Way Stop	8.5	A
		P.M.		106.0	F
15	Ellis Street / US 101 Northbound Ramps (Mountain View intersection)	A.M.	Signal	20.3	C+
		P.M.		26.0	C
16	Ellis Street / US 101 Southbound Ramps (Mountain View intersection)	A.M.	Signal	21.6	C+
		P.M.		13.9	B
17	Ellis Street / Middlefield Road	A.M.	Signal	24.2	C
		P.M.		24.1	C

Table continued next page.

Table IX (continued): Intersection Levels of Service – Cumulative No Project Conditions

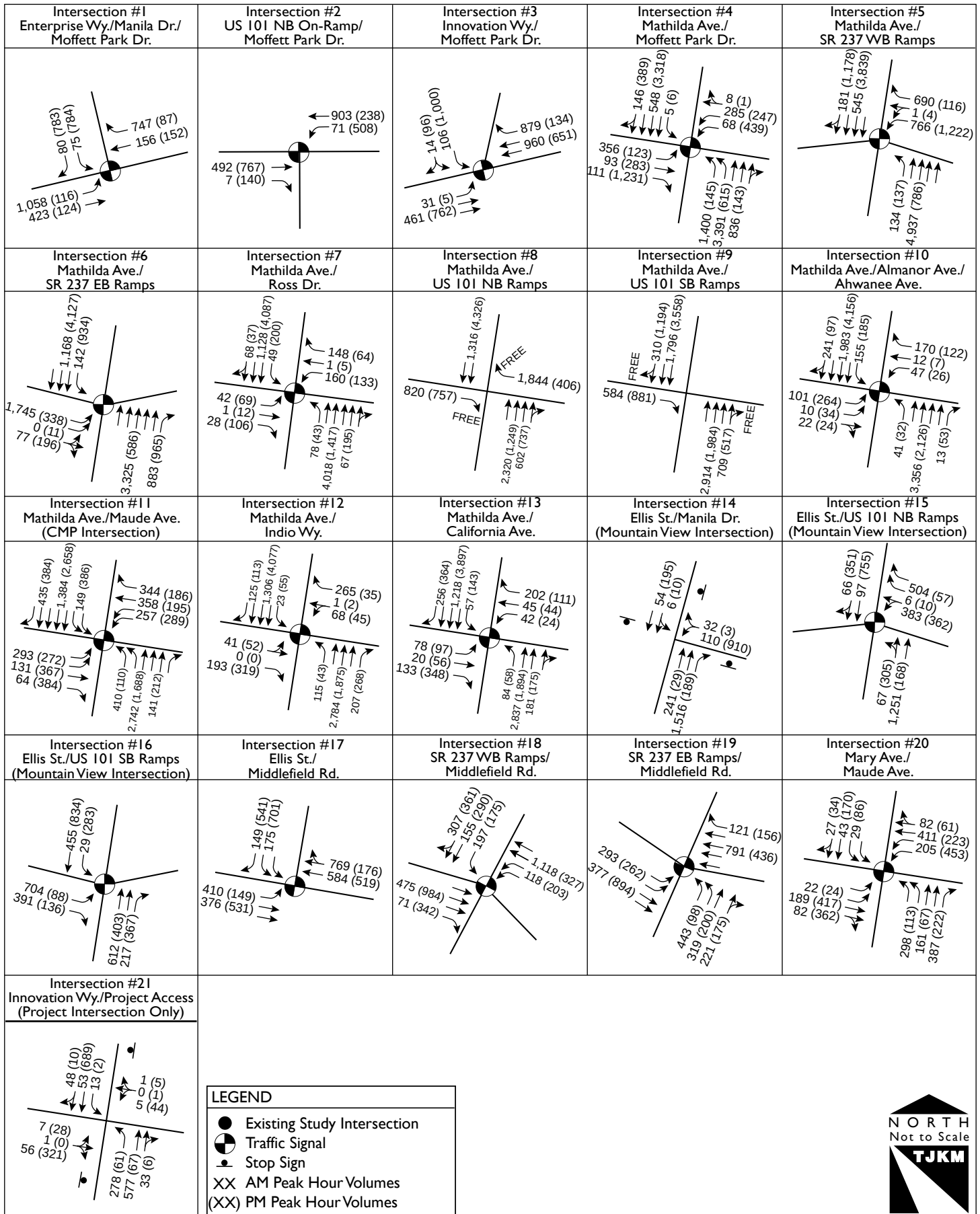
<i>Intersection</i>		<i>Peak Hour</i>	<i>Intersection Control</i>	<i>Cumulative Conditions</i>	
				<i>Delay</i>	<i>LOS</i>
18	SR 237 Westbound Ramps / Middlefield Road	A.M.	Signal	15.7	B
		P.M.		19.1	B-
19	SR 237 Eastbound Ramps / Middlefield Road	A.M.	Signal	20.0	C+
		P.M.		14.9	B
20	Mary Avenue / Maude Avenue	A.M.	Signal	27.7	C
		P.M.		26.8	C
21	Innovation Way / Project Access (Project Intersection only)	A.M.	Side Street Stop	3.0	D
		P.M.		7.9	D

- Notes:
- 1) LOS=Level of Service, Delay = Average control delay per vehicle
 - 2) Signalized and four-way stop controlled intersections – Delay / LOS is for overall intersection
 - 3) Unsignalized one- and two-way stop controlled intersections – Delay / LOS is for critical minor stop-controlled approach.
 - 4) **Bold** indicates LOS exceeds applicable jurisdictional standards for operating conditions.

City of Sunnyvale - Transportation Impact Analysis for Educational Center

Cumulative Intersection Lane Configurations, Traffic Controls, and Peak Hour Traffic Volumes

Figure
13



Cumulative plus Project Conditions

This analysis scenario is similar to Cumulative Baseline Conditions, but with the addition of traffic generated by the proposed Educational Center. Trip generation, distribution, and assignment for the proposed project are identical to that assumed under Existing plus Project Conditions. Figure 14 shows Cumulative plus Project traffic volumes, lane geometries, and traffic controls.

Intersection Level of Service Analysis Results (Cumulative plus Project Conditions)

The LOS analysis results for both Cumulative No Project and Cumulative plus Project Conditions are summarized in Table X. Detailed calculations are contained in Appendix G. The same five intersections from Cumulative No Project Conditions are expected to continue operating unacceptably:

- Enterprise Way / Manila Drive / Moffett Park Drive (LOS F during a.m. peak hour). However, the critical delay is expected to increase by less than four seconds (3.3) and critical volume-to-capacity (v/c) is expected to increase by less than 0.01. Therefore, the impact is less-than-significant, and no mitigation due to project traffic is required.
- Mathilda Avenue / Moffett Park Drive (LOS F during a.m. and p.m. peak hours) – the addition of project traffic constitutes a significant impact since critical delay would increase more than four seconds and critical v/c would increase more than 0.01 in the a.m. peak hour.
- Mathilda Avenue / SR 237 Westbound Ramps (LOS F during a.m. and p.m. peak hours) – the addition of project traffic constitutes a significant impact since critical delay would increase more than four seconds and critical v/c would increase more than 0.01 in the a.m. peak hour.
- Mathilda Avenue / SR 237 Eastbound Ramps (LOS F during p.m. peak hour). However, the critical delay is expected to increase by less than four seconds (2.9) and critical volume-to-capacity (v/c) is expected to increase by less than 0.01. Therefore, the impact is less-than-significant, and no mitigation due to project traffic is required.
- Ellis Street / Manila Drive (LOS F during p.m. peak hour). While critical v/c at this intersection is expected to increase by more than 0.01 with the addition of project traffic, critical delay would increase by four seconds (but not more than). Therefore, the impact is less-than-significant, and no mitigation due to project traffic is required.

Table X: Intersection Levels of Service – Cumulative plus Project Conditions

	Intersection	Peak Hour	Intersection Control	Cumulative Conditions		Cumulative plus Project Conditions				
				Delay	LOS	Delay	LOS	Δ in Crit. V/C	Δ in Crit. Delay	Signal Warrant Met?
1	Enterprise Way / Manila Drive / Moffett Park Drive	A.M.	Signal	93.6	F	95.9	F	+0.008	+3.3	N/A
		P.M.		15.9	B	15.9	B	+0.011	+0.4	N/A
2	US 101 Northbound On-Ramp / Moffett Park Drive	A.M.	Signal	3.4	A	3.4	A	+0.002	+0.0	N/A
		P.M.		14.6	B	14.6	B	+0.004	+0.2	N/A
3	Innovation Way / Moffett Park Drive	A.M.	Signal	7.1	A	7.4	A	+0.026	+0.6	N/A
		P.M.		15.5	B	15.5	B	+0.011	+0.2	N/A
4	Mathilda Avenue / Moffett Park Drive	A.M.	Signal	234.1	F	238.6	F	+0.018	+5.5	N/A
		P.M.		268.9	F	268.9	F	+0.009	+3.3	N/A
5	Mathilda Avenue / SR 237 Westbound Ramps	A.M.	Signal	99.9	F	104.8	F	+0.014	+6.3	N/A
		P.M.		136.4	F	136.4	F	+0.005	+2.4	N/A
6	Mathilda Avenue / SR 237 Eastbound Ramps	A.M.	Signal	48.5	D	49.7	D	+0.007	+2.5	N/A
		P.M.		82.0	F	82.0	F	+0.007	+2.9	N/A
7	Mathilda Avenue / Ross Drive	A.M.	Signal	11.4	B+	11.4	B+	+0.004	+0.1	N/A
		P.M.		50.9	D	50.9	D	+0.002	+1.1	N/A
8	Mathilda Avenue / US 101 Northbound Ramps	A.M.	Uncontrolled	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		P.M.		N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	Mathilda Avenue / US 101 Southbound Ramps	A.M.	Uncontrolled	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		P.M.		N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	Mathilda Avenue / Almanor Avenue / Ahwanee Avenue	A.M.	Signal	21.5	C+	21.5	C+	+0.002	+0.0	N/A
		P.M.		22.8	C+	22.8	C+	+0.001	+0.1	N/A
11	Mathilda Avenue / Maude Avenue (CMP Intersection)	A.M.	Signal	51.5	D-	51.7	D-	+0.003	+0.3	N/A
		P.M.		34.5	C-	34.5	C-	+0.001	+0.1	N/A
12	Mathilda Avenue / Indio Way	A.M.	Signal	16.7	B	16.7	B	+0.002	+0.0	N/A
		P.M.		22.2	C+	22.2	C+	+0.001	+0.2	N/A
13	Mathilda Avenue / California Avenue	A.M.	Signal	19.1	B-	19.1	B-	+0.002	+0.0	N/A
		P.M.		45.9	D	45.9	D	+0.001	+0.4	N/A
14	Ellis Street / Manila Drive (Mountain View intersection)	A.M.	All-Way Stop	8.5	A	8.5	A	+0.007	+0.0	Yes
		P.M.		106.0	F	106.0	F	+0.012	+4.0	Yes
15	Ellis Street / US 101 Northbound Ramps (Mountain View intersection)	A.M.	Signal	20.3	C+	20.6	C+	+0.006	+0.2	N/A
		P.M.		26.0	C	26.0	C	+0.003	+0.1	N/A
16	Ellis Street / US 101 Southbound Ramps (Mountain View intersection)	A.M.	Signal	21.6	C+	21.6	C+	+0.005	+0.2	N/A
		P.M.		13.9	B	13.9	B	+0.004	+0.0	N/A

Table continued next page.

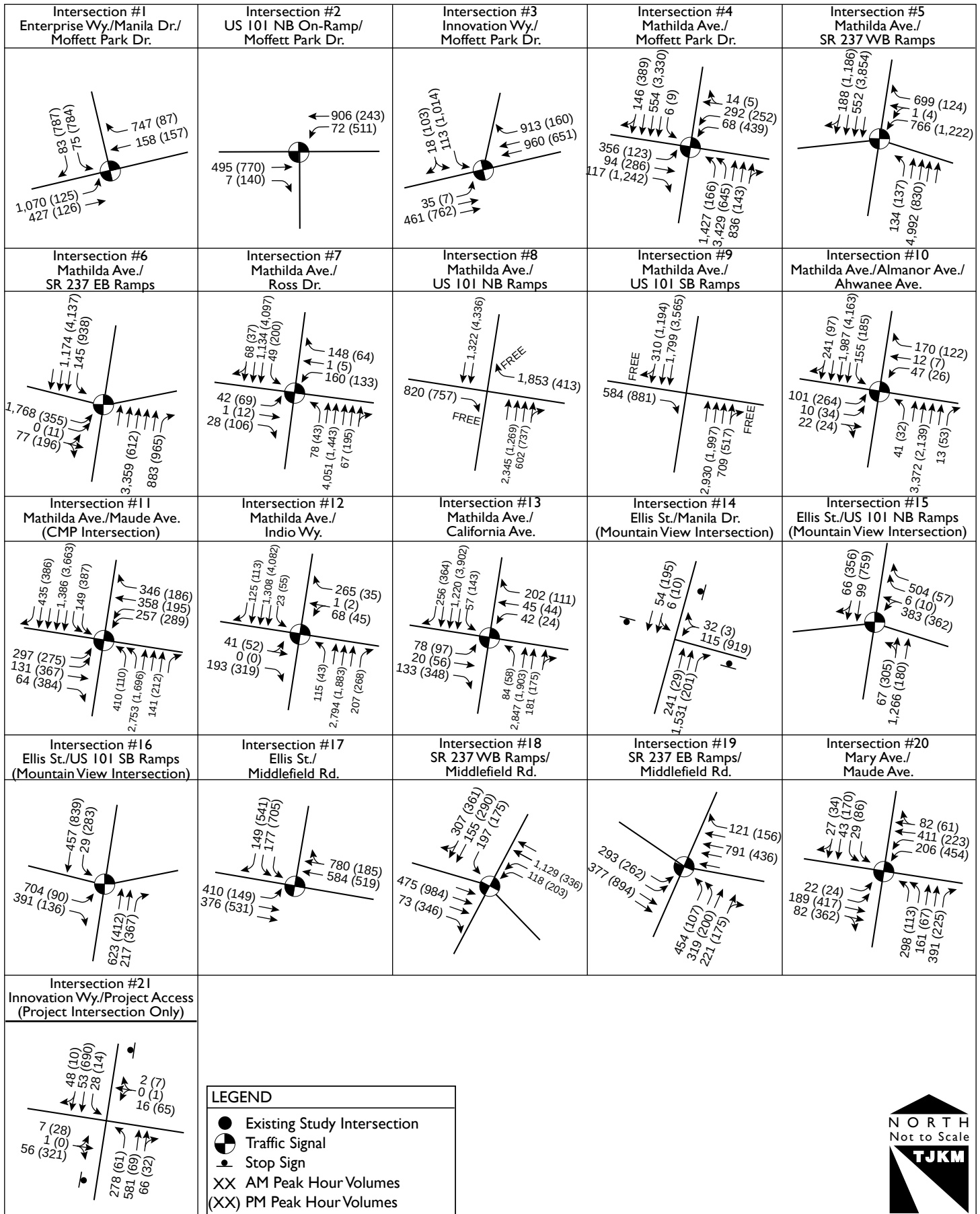
Table X (continued): Intersection Levels of Service – Cumulative plus Project Conditions

Intersection		Peak Hour	Intersection Control	Cumulative Conditions		Cumulative plus Project Conditions				
				Delay	LOS	Delay	LOS	Δ in Crit. V/C	Δ in Crit. Delay	Signal Warrant Met?
17	Ellis Street / Middlefield Road	A.M.	Signal	24.2	C	24.7	C	+0.008	+0.9	N/A
		P.M.		24.1	C	24.1	C	+0.003	+0.1	N/A
18	SR 237 Westbound Ramps / Middlefield Road	A.M.	Signal	15.7	B	15.7	B	+0.003	-0.0	N/A
		P.M.		19.1	B-	19.1	B-	+0.003	+0.1	N/A
19	SR 237 Eastbound Ramps / Middlefield Road	A.M.	Signal	20.0	C+	20.0	C+	+0.000	+0.0	N/A
		P.M.		14.9	B	14.9	B	+0.000	+0.0	N/A
20	Mary Avenue / Maude Avenue	A.M.	Signal	27.7	C	27.7	C	+0.003	+0.0	N/A
		P.M.		26.8	C	26.8	C	+0.002	+0.1	N/A
21	Innovation Way / Project Access (Project Intersection only)	A.M.	One-Way Stop	3.0	D	3.5	E	+0.000	+0.5	N/A
		P.M.		7.9	D	7.9	D	+0.000	+0.6	N/A

- Notes: 1) LOS=Level of Service, Delay = Average control delay per vehicle
2) Signalized and four-way stop controlled intersections – Delay / LOS is for overall intersection
3) Unsignalized one- and two-way stop controlled intersections – Delay / LOS is for critical minor stop-controlled approach.
4) **Bold** indicates LOS exceeds applicable jurisdictional standards for operating conditions.

Intersection Mitigation Improvement Measures (Cumulative plus Project Conditions)

Two intersections were found to have significant impacts under this scenario (Mathilda Avenue / Moffett Park Drive and Mathilda Avenue / SR 237 Westbound Ramps), since critical delay would increase by more than four seconds and critical v/c would increase more than 0.01. However, as previously discussed under Background Conditions, the addition of proposed project traffic is considered to have a **less-than-significant** impact overall, since total expected project trips would not exceed the trip allowed under the Air Base uses that were assumed in the baseline analysis of the City of Sunnyvale TIF program. Therefore, no mitigations due to project traffic are required.



Site Access and Multi-Modal Evaluation

Site Access Evaluation

Figure 2 shows the conceptual plan for the Educational Center. TJKM reviewed internal and external access for the project site for vehicles, pedestrians, and bicycles.

Vehicle Access Evaluation

In terms of external access, the project conceptual plan shows a single two-way access driveway from Innovation Way north of and within approximately 200 feet of the intersection with 11th Avenue. As an alternate option, the District may want to consider aligning this driveway with the 11th Avenue / Innovation Way intersection. A primary issue with the current conceptual driveway location is that it is located within the functional area of the 11th Avenue / Innovation Way intersection. In traffic engineering terms, the functional area is where the location of potential driveways may interfere and cause conflicts with turning traffic to/from an adjacent intersection. With the current proposed driveway location about 200 feet north of the intersection, it would not be advisable for the driveway to operate at full inbound/outbound access.

TJKM recommends that if possible, a full access driveway for the project site be provided that aligns with the current 11th Avenue / Innovation Way intersection to promote safe driveway operations. This would necessitate the reallocation of parking stalls within the project site, although there appears to be some room at the Mathilda Avenue (east) end of the site where displaced stalls could be shifted. TJKM notes that the southbound approach of Innovation Way at 11th Avenue includes pavement area for a future left turn pocket that could be restriped for left turns into the project site.

Otherwise, as a second option, in order to promote safe vehicle circulation to/from the currently proposed access that is offset from the 11th Avenue / Innovation Way intersection, TJKM recommends that the driveway operate as right-in/right-out only. Since Innovation Way provides direct access to both Mathilda Avenue and Moffett Park Drive, motorists entering and exiting the project site would have more than one option for ingress/egress to/from the project vicinity under the current configuration.

Pedestrian Access Evaluation

In terms of pedestrian facilities, sidewalks are provided along the project frontages of Innovation Way and Mathilda Avenue. Mathilda Avenue connects pedestrians between the Lockheed Martin Transit Center, Innovation Way, and the project site. Access to the Moffett Park LRT Station is provided via sidewalks on Innovation Way and a pedestrian path along the southern border of the nearby Ariba campus just north of Moffett Park Drive. In addition, a diagonal pathway through the Ariba campus provides a direct access to the Moffett Park light LRT Station.

Bicycle Access Evaluation

The proposed project site provides bicycle access via the Class II bicycle lanes on 11th Avenue and Enterprise Way. However, there are currently no bicycle lanes along Moffett Park Drive east of Enterprise Way. While not an ideal condition for bicyclists, the roadway is sufficiently wide to share with vehicles, but re-striping the road to accommodate bike lanes could be considered to further improve bicycle circulation within the project vicinity. The City of Sunnyvale has identified the construction of bicycle lanes on Moffett Park Drive as a future bicycle improvement. In the past, the City had not added a bicycle lane between Innovation Way and Mathilda Avenue due to lack of available right-of-way between the light-rail tracks and the SR 237 Westbound on-ramp. In the meantime, sharrows and signage will be used to alert motorists to the possible presence of

bicyclists along this segment of Moffett Park Drive, while the City continues to study the possibility of adding bicycle lanes.

Overall, most of the existing infrastructure appropriately accommodates bicyclists and pedestrians, since the project site is located within a developed area.

Transit Access

A proposed project is considered to have a significant impact on transit if it conflicts with existing or planned transit facilities, or is expected to generate additional transit trips and does not provide adequate facilities for pedestrians and bicyclists to access transit routes and stops. Based on these criteria, the proposed Educational Center would not have a potentially significant impact on transit service.

VTa provided existing load factors (average number of riders per trip) for the transit routes within the study area (LRT Line 902 and Routes 26, 54, 120, 121, 122, 321, and 328). Light rail trains have seated capacities of 65 per car and buses have seated capacities of 38. The load factor for Line 902 at the Moffett Park Station is 0.34 (22 people). For Routes 26 and 54, the load factors are 0.49 (19 people) and 0.33 (13 people), respectively. The express routes have load factors between 0.38 (14 people) and 0.52 (20 people).

The transit service within the immediate project area operates well below capacity, and additional trips generated by the proposed project could be accommodated by existing light-rail and bus service. Existing service on light rail and Route 54 is adequate even if the full VTA TDM reductions were shifted to just these public transit lines and not to carpools, bicyclists, pedestrians, and other transit lines. The Moffett Park area also has a well-used shuttle system (see Existing Conditions and Figure 5) that would be able to accommodate additional riders.

The Lockheed Martin Transit Center, where most of the available transit service is focused, will be accessible to pedestrians and bicyclists generated by the proposed project, as the project site is located within a 1/2 mile from the transit center. Pedestrians and bicyclists would travel along Innovation Way to Mathilda Avenue to reach the transit center.

Parking Assessment

Vehicle Parking

TJKM consulted the MPSP and the City of Sunnyvale Municipal Code regarding off-street parking and bicycle requirements for the proposed project. The MPSP does not specify on-site parking requirements for community colleges, but the City Municipal Code Section 19.46 requires education institutions past twelfth grade to supply onsite parking at the following rates:

- 1 space per every 3 fixed seats, plus
- 1 space per 21 square feet of open area or seating space, plus
- 1 space per employee, plus
- 1 space per special purpose vehicle

Since the proposed project is conceptual and does not yet include employee totals, it is not possible to fully evaluate the recommended amount of vehicle parking. TJKM does note, however, that the conceptual plan shows approximately 500 parking spaces. TJKM recommends that the District work with the City to ensure a sufficient number of onsite vehicle parking stalls on campus.

Bicycle Parking

The City Municipal Code and MPSP do not include parking supply requirements for college uses. However, VTA TIA guidelines recommend that college uses provide one Class I bicycle locker for every 30 employees and one bicycle parking spot for every nine student seats (25 percent Class I and 75 percent Class II). Class I bicycle parking facilities protect the entire bicycle from vandalism, theft, and weather, and are appropriate for long-term storage. Class II facilities include bicycle racks to which a bicycle's frame and at least one wheel can be secured via lock. Since the proposed project is conceptual and does not yet include employee totals, it is not possible to fully evaluate the recommended amount of bicycle parking. TJKM recommends that the District work with the City to ensure a sufficient number of Class I and II bicycle parking facilities on campus.

Study References

TJKM Personnel

Chris Kinzel, P.E.	Principal-In-Charge
Andrew Kluter, P.E.	Project Manager
Pawan Mulukutla	Senior Transportation Engineer
Jeffrey Lacap	Assistant Transportation Engineer
Dan Harrison	Graphics
Margie Pfaff	Word Processing

Persons Consulted

Charles Allen	Foothill De Anza Community College District
Art Heinrich	Foothill De Anza Community College District
Bill Wiseman	Vice President, RBF Consulting
Erika Spencer	Senior Planner, RBF Consulting
Jack Witthaus	Traffic and Transportation Manager, City of Sunnyvale

References

- *Ariba and Moffett Towers Expansion Transportation Impact Analysis*. Fehr & Peers, July 2011.
- *City of Sunnyvale Municipal Code*, accessed online February 2012.
- *Highway Capacity Manual*, Transportation Research Board, Washington, D.C., 2000.
- *Moffett Park Specific Plan*, 2004.
- *Onizuka Air Force Station Redevelopment Plan Transportation Impact Analysis*, Administrative Draft. Fehr & Peers, November 2011.
- *Onizuka Redevelopment Traffic Analysis Technical Memorandum*, Fehr & Peers, March 2008.
- *Santa Clara Valley Transportation Authority Transportation Impact Analysis Guidelines*.
- *Trip Generation (8th Edition)*, Institute of Transportation Engineers, 2008.

Appendix A – Level of Service Methodology

APPENDIX A

LEVEL OF SERVICE

The description and procedures for calculating capacity and level of service (LOS) are found in Transportation Research Board, *Highway Capacity Manual 2000*. *Highway Capacity Manual 2000* represents the latest research on capacity and quality of service for transportation facilities.

Quality of service requires quantitative measures to characterize operational conditions within a traffic stream. LOS is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

Six levels of service are defined for each type of facility that has analysis procedures available. Letters designate each level, from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each LOS represents a range of operating conditions and the driver's perception of these conditions. Safety is not included in the measures that establish service levels.

A general description of service levels for various types of facilities is shown in Table A-I

Table A-I: Level of Service Description

Facility Type	<i>Uninterrupted Flow</i>	<i>Interrupted Flow</i>
	Freeways Multi-lane Highways Two-lane Highways Urban Streets	Signalized Intersections Unsignalized Intersections Two-way Stop Control All-way Stop Control
LOS		
A	Free-flow	Very low delay.
B	Stable flow. Presence of other users noticeable.	Low delay.
C	Stable flow. Comfort and convenience starts to decline.	Acceptable delay.
D	High-density stable flow.	Tolerable delay.
E	Unstable flow.	Limit of acceptable delay.
F	Forced or breakdown flow.	Unacceptable delay

Source: *Highway Capacity Manual 2000*

Urban Streets

The term "urban streets" refers to urban arterials and collectors, including those in downtown areas.

Arterial streets are roads that primarily serve longer through trips. However, providing access to abutting commercial and residential land uses is also an important function of arterials.

Collector streets provide both land access and traffic circulation within residential, commercial and industrial areas. Their access function is more important than that of arterials, and unlike arterials their operation is not always dominated by traffic signals.

Downtown streets are signalized facilities that often resemble arterials. They not only move through traffic but also provide access to local businesses for passenger cars, transit buses, and trucks.

Pedestrian conflicts and lane obstructions created by stopping or standing buses, trucks and parking vehicles that cause turbulence in the traffic flow are typical of downtown streets.

The speed of vehicles on urban streets is influenced by three main factors, street environment, interaction among vehicles and traffic control. As a result, these factors also affect quality of service.

The street environment includes the geometric characteristics of the facility, the character of roadside activity and adjacent land uses. Thus, the environment reflects the number and width of lanes, type of median, driveway density, spacing between signalized intersections, existence of parking, level of pedestrian activity and speed limit.

The interaction among vehicles is determined by traffic density, the proportion of trucks and buses, and turning movements. This interaction affects the operation of vehicles at intersections and, to a lesser extent, between signals.

Traffic control (including signals and signs) forces a portion of all vehicles to slow or stop. The delays and speed changes caused by traffic control devices reduce vehicle speeds, however, such controls are needed to establish right-of-way.

The average travel speed for through vehicles along an urban street is the determinant of the operating LOS. The travel speed along a segment, section or entire length of an urban street is dependent on the running speed between signalized intersections and the amount of control delay incurred at signalized intersections.

LOS A describes primarily free-flow operations. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.

LOS B describes reasonably unimpeded operations. The ability to maneuver within the traffic stream is only slightly restricted, and control delays at signalized intersections are not significant.

LOS C describes stable operations, however, ability to maneuver and change lanes in midblock location may be more restricted than at LOS B. Longer queues, adverse signal coordination, or both may contribute to lower travel speeds.

LOS D borders on a range in which in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors.

LOS E is characterized by significant delays and lower travel speeds. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.

LOS F is characterized by urban street flow at extremely low speeds. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.

The methodology to determine LOS stratifies urban streets into four classifications. The classifications are complex, and are related to functional and design categories. Table A-II describes the functional and design categories, while Table A-III relates these to the urban street classification.

Once classified, the urban street is divided into segments for analysis. An urban street segment is a one-way section of street encompassing a series of blocks or links terminating at a signalized intersection. Adjacent segments of urban streets may be combined to form larger street sections, provided that the segments have similar demand flows and characteristics.

Levels of service are related to the average travel speed of vehicles along the urban street segment or section.

Travel times for existing conditions are obtained by field measurements. The maximum-car technique is used. The vehicle is driven at the posted speed limit unless impeded by actual traffic conditions. In the maximum-car technique, a safe level of vehicular operation is maintained by observing proper following distances and by changing speeds at reasonable rates of acceleration and deceleration. The maximum-car technique provides the best base for measuring traffic performance.

An observer records the travel time and locations and duration of delay. The beginning and ending points are the centers of intersections. Delays include times waiting in queues at signalized intersections. The travel speed is determined by dividing the length of the segment by the travel time. Once the travel speed on the arterial is determined, the LOS is found by comparing the speed to the criteria in Table A-IV. LOS criteria vary for the different classifications of urban street, reflecting differences in driver expectations.

Table A-II: Functional and Design Categories for Urban Streets

Criterion	Functional Category			
	Principal Arterial	Minor Arterial		
Mobility function	Very important	Important		
Access function	Very minor	Substantial		
Points connected	Freeways, important activity centers, major traffic generators	Principal arterials		
Predominant trips served	Relatively long trips between major points and through trips entering, leaving, and passing through city	Trips of moderate length within relatively small geographical areas		
Criterion	Design Category			
	High-Speed	Suburban	Intermediate	Urban
Driveway access density	Very low density	Low density	Moderate density	High density
Arterial type	Multilane divided; undivided or two-lane with shoulders	Multilane divided; undivided or two-lane with shoulders	Multilane divided or undivided; one way, two lane	Undivided one way; two way, two or more lanes
Parking	No	No	Some	Usually
Separate left-turn lanes	Yes	Yes	Usually	Some
Signals per mile	0.5 to 2	1 to 5	4 to 10	6 to 12
Speed limits	45 to 55 mph	40 to 45 mph	30 to 40 mph	25 to 35 mph
Pedestrian activity	Very little	Little	Some	Usually
Roadside development	Low density	Low to medium density	Medium to moderate density	High density

Source: Highway Capacity Manual 2000

Table A-III: Urban Street Class based on Function and Design Categories

Design Category	Functional Category	
	Principal Arterial	Minor Arterial
High-Speed	I	Not applicable
Suburban	II	II
Intermediate	II	III or IV
Urban	III or IV	IV

Source: Highway Capacity Manual 2000

Table A-IV: Urban Street Levels of Service by Class

Urban Street Class	I	II	III	IV
Range of Free Flow Speeds (mph)	45 to 55	35 to 45	30 to 35	25 to 35
Typical Free Flow Speed (mph)	50	40	33	30
LOS	Average Travel Speed (mph)			
A	>42	>35	>30	>25
B	>34	>28	>24	>19
C	>27	>22	>18	>13
D	>21	>17	>14	>9
E	>16	>13	>10	>7
F	≤16	≤13	≤10	≤7

Source: Highway Capacity Manual 2000

Interrupted Flow

One of the more important elements limiting, and often interrupting the flow of traffic on a highway is the intersection. Flow on an interrupted facility is usually dominated by points of fixed operation such as traffic signals, stop and yield signs. These all operate quite differently and have differing impacts on overall flow.

Signalized Intersections

The capacity of a highway is related primarily to the geometric characteristics of the facility, as well as to the composition of the traffic stream on the facility. Geometrics are a fixed, or non-varying, characteristic of a facility.

At the signalized intersection, an additional element is introduced into the concept of capacity: time allocation. A traffic signal essentially allocates time among conflicting traffic movements seeking use of the same physical space. The way in which time is allocated has a significant impact on the operation of the intersection and on the capacity of the intersection and its approaches.

LOS for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, *i. e.*, in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, LOS criteria for traffic signals are stated in terms of average control delay per vehicle, typically for a 15-minute analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the ratio of green time to cycle length and the volume to capacity ratio for the lane group.

For each intersection analyzed the average control delay per vehicle per approach is determined for the peak hour. A weighted average of control delay per vehicle is then determined for the intersection. A LOS designation is given to the control delay to better describe the level of operation. A description of levels of service for signalized intersections can be found in Table A-V

Table A-V: Description of Level of Service for Signalized Intersections

LOS	Description
A	Very low control delay, up to 10 seconds per vehicle. Progression is extremely favorable, and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	Control delay greater than 10 and up to 20 seconds per vehicle. There is good progression or short cycle lengths or both. More vehicles stop causing higher levels of delay.
C	Control delay greater than 20 and up to 35 seconds per vehicle. Higher delays are caused by fair progression or longer cycle lengths or both. Individual cycle failures may begin to appear. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflow occurs. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	Control delay greater than 35 and up to 55 seconds per vehicle. The influence of congestions becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volumes. Many vehicles stop, the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Control delay greater than 55 and up to 80 seconds per vehicle. The limit of acceptable delay. High delays usually indicate poor progression, long cycle lengths, and high volumes. Individual cycle failures are frequent.
F	Control delay in excess of 80 seconds per vehicle. Unacceptable to most drivers. Oversaturation, arrival flow rates exceed the capacity of the intersection. Many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to higher delay.

Source: *Highway Capacity Manual 2000*

The use of control delay, which may also be referred to as signal delay, was introduced in the 1997 update to the *Highway Capacity Manual*, and represents a departure from previous updates. In the third edition, published in 1985 and the 1994 update to the third edition, delay only included stopped delay. Thus, the LOS criteria listed in Table A-V differs from earlier criteria.

Unsignalized Intersections

The current procedures on unsignalized intersections were first introduced in the 1997 update to the *Highway Capacity Manual* and represent a revision of the methodology published in the 1994 update to the 1985 *Highway Capacity Manual*. The revised procedures use control delay as a measure of effectiveness to determine LOS. Delay is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, *i. e.*, in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Control delay is the increased time of travel for a vehicle approaching and passing through an unsignalized intersection, compared with a free-flow vehicle if it were not required to slow or stop at the intersection.

Two-Way Stop Controlled Intersections

Two-way stop controlled intersections in which stop signs are used to assign the right-of-way, are the most prevalent type of intersection in the United States. At two-way stop-controlled intersections the stop-controlled approaches are referred as the minor street approaches and can be either public streets or private driveways. The approaches that are not controlled by stop signs are referred to as the major street approaches.

The capacity of movements subject to delay are determined using the "critical gap" method of capacity analysis. Expected average control delay based on movement volume and movement capacity is calculated. A LOS designation is given to the expected control delay for each minor movement. LOS is not defined for the intersection as a whole. Control delay is the increased time of travel for a vehicle approaching and passing through a stop-controlled intersection, compared with a free-flow vehicle if it were not required to slow or stop at the intersection. A description of levels of service for two-way stop-controlled intersections is found in Table A-VI.

Table A-VI: Description of Level of Service for Two-Way Stop Controlled Intersections

LOS	Description
A	Very low control delay less than 10 seconds per vehicle for each movement subject to delay.
B	Low control delay greater than 10 and up to 15 seconds per vehicle for each movement subject to delay.
C	Acceptable control delay greater than 15 and up to 25 seconds per vehicle for each movement subject to delay.
D	Tolerable control delay greater than 25 and up to 35 seconds per vehicle for each movement subject to delay.
E	Limit of tolerable control delay greater than 35 and up to 50 seconds per vehicle for each movement subject to delay.
F	Unacceptable control delay in excess of 50 seconds per vehicle for each movement subject to delay.

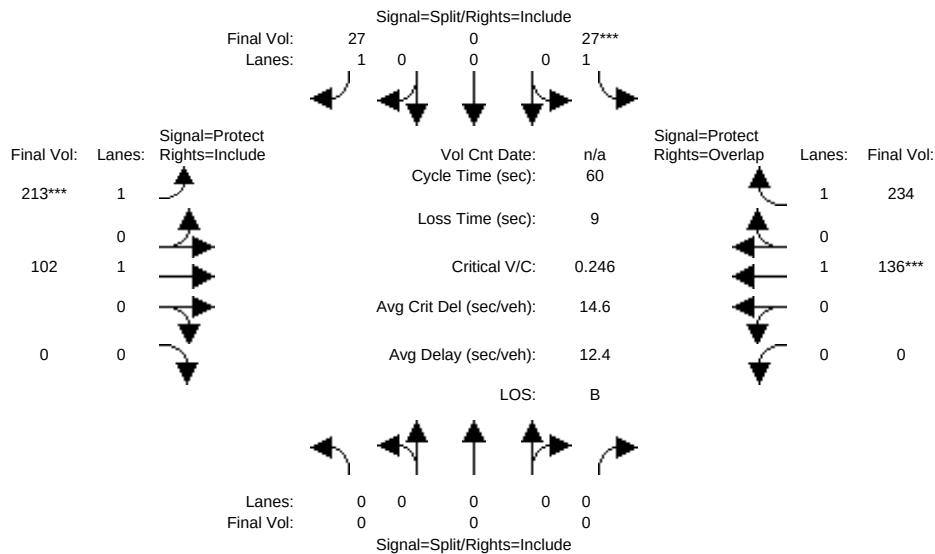
Source: *Highway Capacity Manual 2000*

Appendix B – Level of Service Worksheets: Existing Conditions

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1: Enterprise Way/Moffett Park Drive

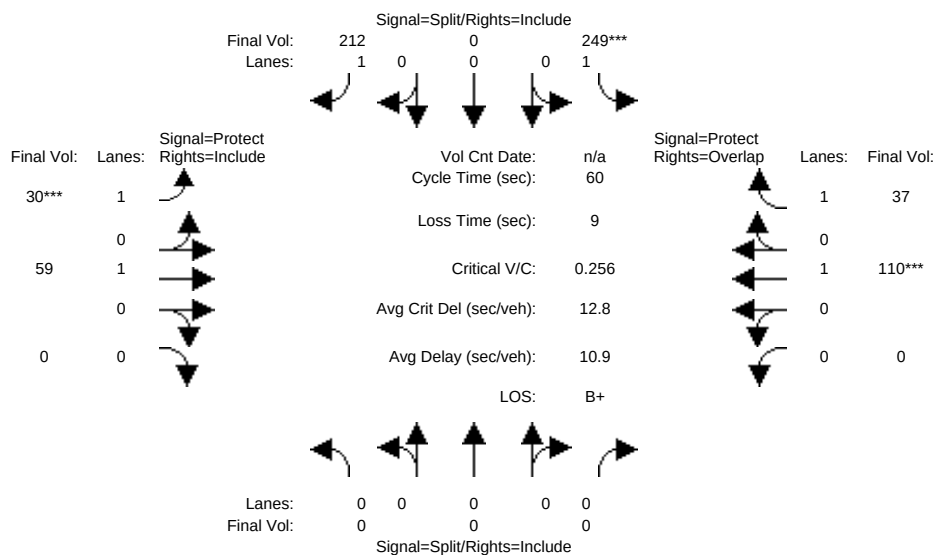


Street Name:	Enterprise Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	27	0	27	213	102	0	0	136	234
Growth 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
Initial Bse:	0	0	0	27	0	27	213	102	0	0	136	234
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	27	0	27	213	102	0	0	136	234
User 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
PHF 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
PHF Volume:	0	0	0	27	0	27	213	102	0	0	136	234
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	27	0	27	213	102	0	0	136	234
PCE 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
MLF 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
Final Volume:	0	0	0	27	0	27	213	102	0	0	136	234
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.12	0.05	0.00	0.00	0.07	0.13
Crit Moves:				****			****			****		
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	25.8	41.0	0.0	0.0	15.2	25.2
Volume/Cap:	0.00	0.00	0.00	0.09	0.00	0.09	0.28	0.08	0.00	0.00	0.28	0.32
Delay/Veh:	0.0	0.0	0.0	21.3	0.0	21.3	11.3	3.2	0.0	0.0	18.4	11.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.3	0.0	21.3	11.3	3.2	0.0	0.0	18.4	11.9
LOS by Move:	A	A	A	C+	A	C+	B+	A	A	A	B-	B+
HCM2kAvgQ:	0	0	0	1	0	1	3	1	0	0	2	3
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1: Enterprise Way/Moffett Park Drive



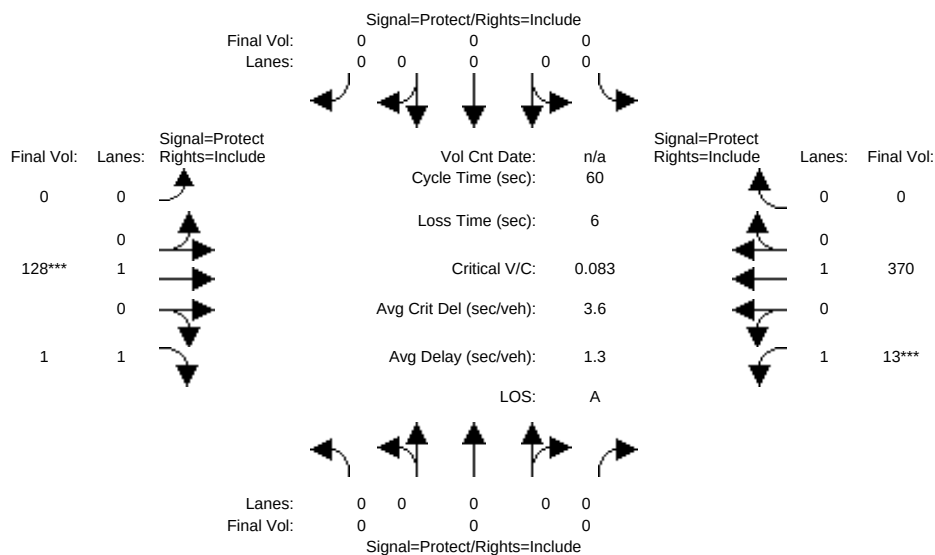
Street Name:	Enterprise Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	249	0	212	30	59	0	0	110	37
Growth 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
Initial Bse:	0	0	0	249	0	212	30	59	0	0	110	37
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	249	0	212	30	59	0	0	110	37
User 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
PHF 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
PHF Volume:	0	0	0	249	0	212	30	59	0	0	110	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	249	0	212	30	59	0	0	110	37
PCE 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
MLF 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
Final Volume:	0	0	0	249	0	212	30	59	0	0	110	37
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.14	0.00	0.12	0.02	0.03	0.00	0.00	0.06	0.02
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	31.3	0.0	31.3	7.0	19.7	0.0	0.0	12.7	44.0
Volume/Cap:	0.00	0.00	0.00	0.27	0.00	0.23	0.15	0.09	0.00	0.00	0.27	0.03
Uniform Del:	0.0	0.0	0.0	8.0	0.0	7.8	23.8	14.0	0.0	0.0	19.8	2.2
IncrementDel:	0.0	0.0	0.0	0.2	0.0	0.1	0.3	0.1	0.0	0.0	0.4	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	8.2	0.0	8.0	24.2	14.0	0.0	0.0	20.1	2.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	8.2	0.0	8.0	24.2	14.0	0.0	0.0	20.1	2.2
LOS by Move:	A	A	A	A	A	A	C	B	A	A	C+	A
HCM2kAvgQ:	0	0	0	3	0	2	1	1	0	0	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #2: US-101 NB On-Ramp/Moffett Park Drive

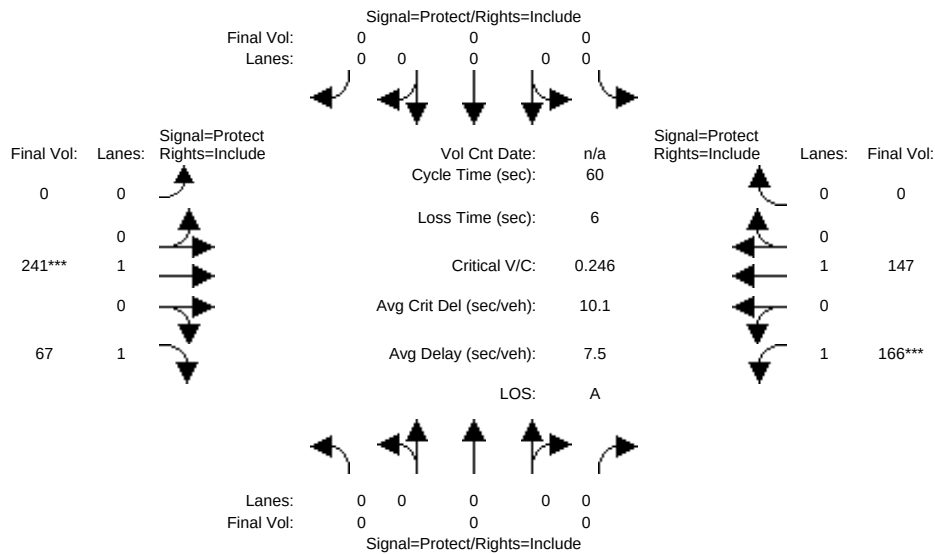


Street Name:	US-101 NB On-Ramp						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	128	1	13	370	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	128	1	13	370	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	128	1	13	370	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	0	0	128	1	13	370	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	128	1	13	370	0
PCE 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
MLF 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
Final Volume:	0	0	0	0	0	0	0	128	1	13	370	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	0	0	0	0	1900	1750	1750	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.01	0.19	0.00
Crit Moves:								****		****		
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	47.0	7.0	54.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.06	0.22	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.4	23.7	0.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.4	23.7	0.4	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	1	0	0	1	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #2: US-101 NB On-Ramp/Moffett Park Drive



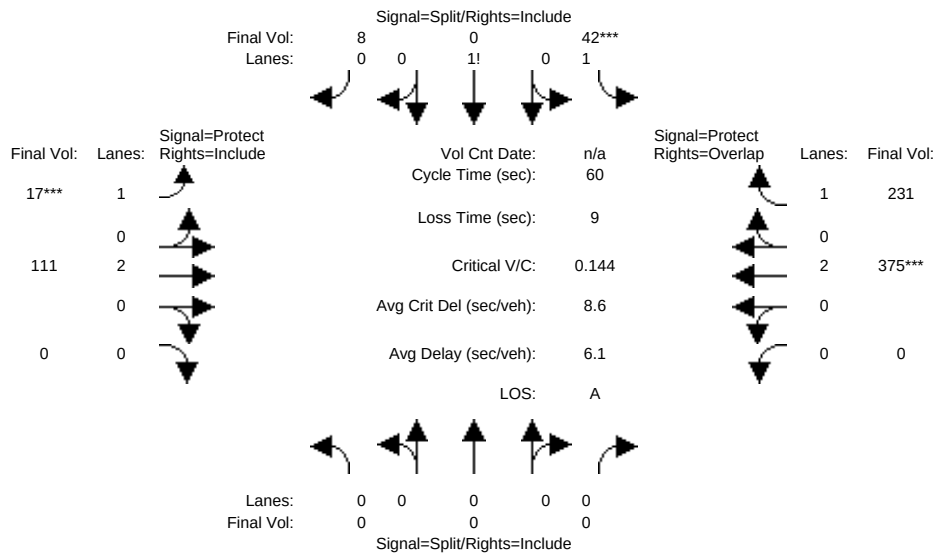
Street Name:	US-101 NB On-Ramp						Moffett Park Drive								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0	0	0	0	0	0	0	10	10	7	10	0	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:															
Base Vol:	0	0	0	0	0	0	0	241	67	166	147	0	0	0	0
Growth 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	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	241	67	166	147	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	241	67	166	147	0	0	0	0
User 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	1.00	1.00	1.00
PHF 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	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	241	67	166	147	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	241	67	166	147	0	0	0	0
PCE 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	1.00	1.00	1.00
MLF 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	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	241	67	166	147	0	0	0	0
Saturation Flow Module:															
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	1.00	0.92	0.92
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00
Final Sat.:	0	0	0	0	0	0	0	1900	1750	1750	1900	0	0	0	0
Capacity Analysis Module:															
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.04	0.09	0.08	0.00	0.00	0.00	0.00
Crit Moves:	*****														
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.9	30.9	23.1	54.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.07	0.25	0.09	0.00	0.00	0.00	0.00
Uniform Del:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	7.3	12.5	0.3	0.0	0.0	0.0	0.0
IncrcmntDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	7.4	12.7	0.3	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	7.4	12.7	0.3	0.0	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	B	A	A	A	A	A
HCM2kAvqQ:	0	0	0	0	0	0	0	2	1	2	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #3: Innovation Way/Moffett Park Drive

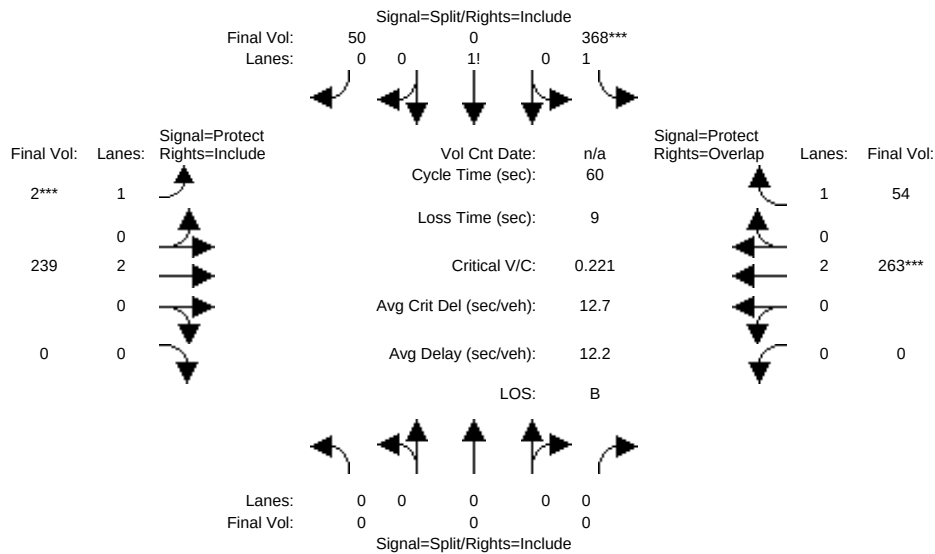


Street Name:	Innovation Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	42	0	8	17	111	0	0	375	231
Growth 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
Initial Bse:	0	0	0	42	0	8	17	111	0	0	375	231
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	42	0	8	17	111	0	0	375	231
User 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
PHF 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
PHF Volume:	0	0	0	42	0	8	17	111	0	0	375	231
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	42	0	8	17	111	0	0	375	231
PCE 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
MLF 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
Final Volume:	0	0	0	42	0	8	17	111	0	0	375	231
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.72	0.00	0.28	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3017	0	483	1750	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.02	0.01	0.03	0.00	0.00	0.10	0.13
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	7.0	41.0	0.0	0.0	34.0	44.0
Volume/Cap:	0.00	0.00	0.00	0.08	0.00	0.10	0.08	0.04	0.00	0.00	0.17	0.18
Delay/Veh:	0.0	0.0	0.0	21.2	0.0	21.3	23.8	3.1	0.0	0.0	6.3	2.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.2	0.0	21.3	23.8	3.1	0.0	0.0	6.3	2.5
LOS by Move:	A	A	A	C+	A	C+	C	A	A	A	A	A
HCM2kAvgQ:	0	0	0	0	0	1	0	0	0	0	2	1
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #3: Innovation Way/Moffett Park Drive



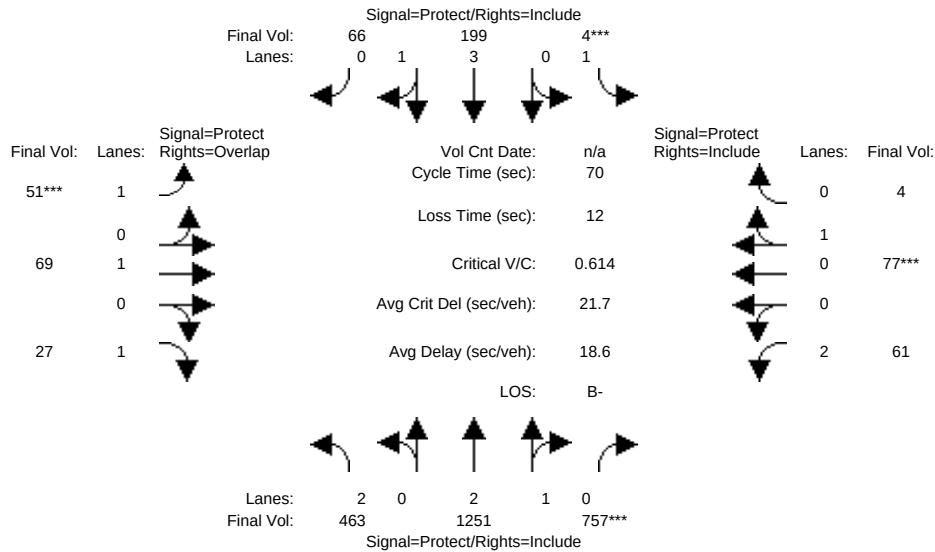
Street Name:	Innovation Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	368	0	50	2	239	0	0	263	54
Growth 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
Initial Bse:	0	0	0	368	0	50	2	239	0	0	263	54
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	368	0	50	2	239	0	0	263	54
User 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
PHF 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
PHF Volume:	0	0	0	368	0	50	2	239	0	0	263	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	368	0	50	2	239	0	0	263	54
PCE 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
MLF 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
FinalVolume:	0	0	0	368	0	50	2	239	0	0	263	54
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.79	0.00	0.21	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3126	0	374	1750	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.12	0.00	0.13	0.00	0.06	0.00	0.00	0.07	0.03
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	29.0	0.0	29.0	7.0	22.0	0.0	0.0	15.0	44.0
Volume/Cap:	0.00	0.00	0.00	0.24	0.00	0.28	0.01	0.17	0.00	0.00	0.28	0.04
Uniform Del:	0.0	0.0	0.0	9.1	0.0	9.2	23.4	12.8	0.0	0.0	18.1	2.2
IncrementDel:	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.2	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	9.2	0.0	9.3	23.5	12.9	0.0	0.0	18.3	2.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	9.2	0.0	9.3	23.5	12.9	0.0	0.0	18.3	2.2
LOS by Move:	A	A	A	A	A	A	C	B	A	A	B-	A
HCM2kAvgQ:	0	0	0	3	0	3	0	1	0	0	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #4: Mathilda Avenue/Moffett Park Drive

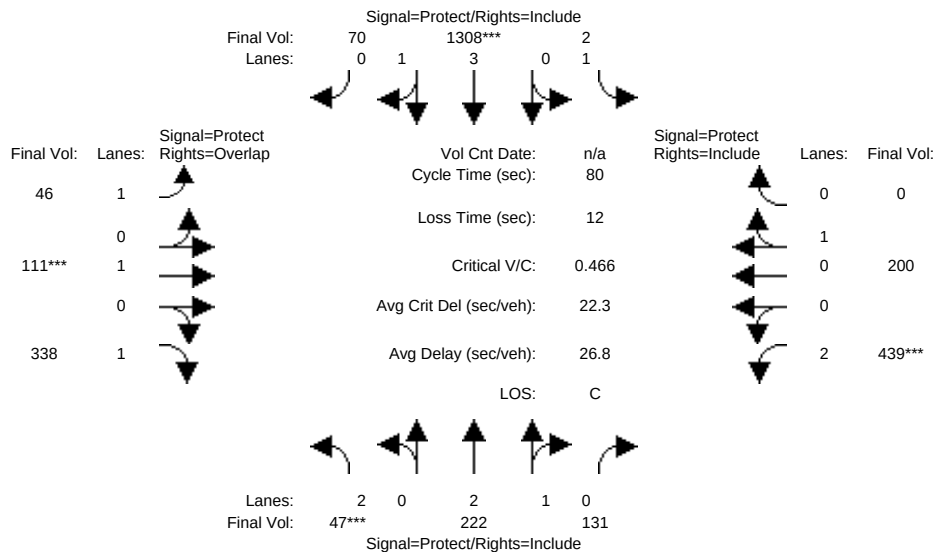


Street Name:	Mathilda Avenue						Moffett Park Drive								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
-----	-----			-----			-----			-----			-----		
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10
Y+R:	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
-----	-----			-----			-----			-----			-----		
Volume Module:															
Base Vol:	463	1251	757		4	199	66		51	69	27		61	77	4
Growth 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
Initial Bse:	463	1251	757		4	199	66		51	69	27		61	77	4
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0
Initial Fut:	463	1251	757		4	199	66		51	69	27		61	77	4
User 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
PHF 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
PHF Volume:	463	1251	757		4	199	66		51	69	27		61	77	4
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0
Reduced Vol:	463	1251	757		4	199	66		51	69	27		61	77	4
PCE 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
MLF 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
FinalVolume:	463	1251	757		4	199	66		51	69	27		61	77	4
-----	-----			-----			-----			-----			-----		
Saturation Flow Module:															
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900
Adjustment:	0.83	1.00	0.92		0.92	1.00	0.95		0.92	1.00	0.92		0.83	0.95	0.95
Lanes:	2.00	2.00	1.00		1.00	3.00	1.00		1.00	1.00	1.00		2.00	0.95	0.05
Final Sat.:	3150	3800	1750		1750	5700	1800		1750	1900	1750		3150	1711	89
-----	-----			-----			-----			-----			-----		
Capacity Analysis Module:															
Vol/Sat:	0.15	0.33	0.43		0.00	0.03	0.04		0.03	0.04	0.02		0.02	0.05	0.05
Crit Moves:			****		****				****				****		
Green Time:	20.8	34.0	34.0		7.0	20.2	20.2		7.0	10.0	30.8		7.0	10.0	10.0
Volume/Cap:	0.49	0.68	0.89		0.02	0.12	0.13		0.29	0.25	0.04		0.19	0.32	0.32
Delay/Veh:	20.7	14.4	21.2		28.5	18.4	18.4		30.1	27.2	11.2		29.2	27.6	27.6
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
AdjDel/Veh:	20.7	14.4	21.2		28.5	18.4	18.4		30.1	27.2	11.2		29.2	27.6	27.6
LOS by Move:	C+	B	C+		C	B-	B-		C	C	B+		C	C	C
HCM2kAvgQ:	5	10	18		0	1	1		1	1	0		1	2	2
Note: Queue reported is the number of cars per lane.															

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #4: Mathilda Avenue/Moffett Park Drive



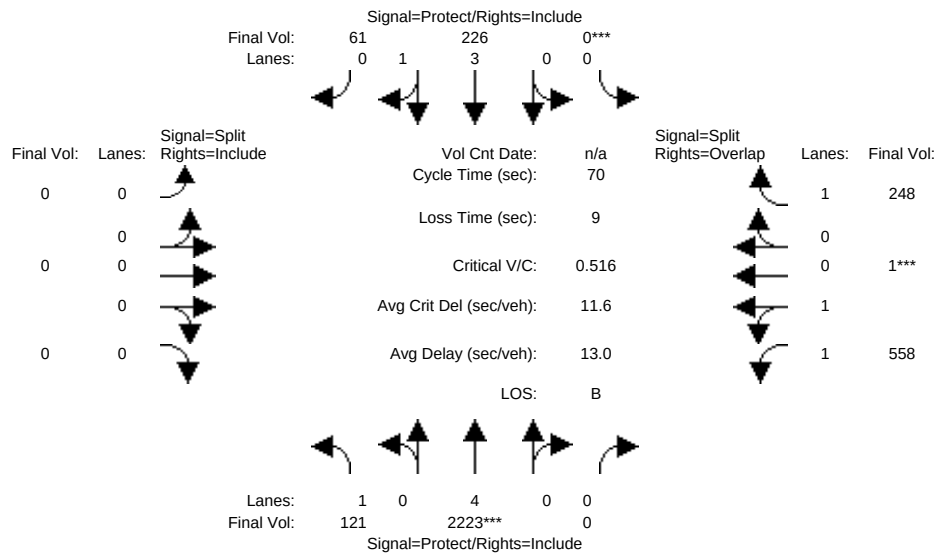
Street Name:	Mathilda Avenue						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	47	222	131	2	1308	70	46	111	338	439	200	0
Growth 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
Initial Bse:	47	222	131	2	1308	70	46	111	338	439	200	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	222	131	2	1308	70	46	111	338	439	200	0
User 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
PHF 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
PHF Volume:	47	222	131	2	1308	70	46	111	338	439	200	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	222	131	2	1308	70	46	111	338	439	200	0
PCE 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
MLF 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
Final Volume:	47	222	131	2	1308	70	46	111	338	439	200	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.99	0.95	0.92	1.00	0.92	0.83	0.95	0.92
Lanes:	2.00	2.00	1.00	1.00	3.79	0.21	1.00	1.00	1.00	2.00	1.00	0.00
Final Sat.:	3150	3800	1750	1750	7118	381	1750	1900	1750	3150	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.07	0.00	0.18	0.18	0.03	0.06	0.19	0.14	0.11	0.00
Crit Moves:	****			****			****			****		
Green Time:	7.0	21.2	21.2	14.8	29.0	29.0	13.2	10.0	17.0	22.0	18.8	0.0
Volume/Cap:	0.17	0.22	0.28	0.01	0.51	0.51	0.16	0.47	0.91	0.51	0.47	0.00
Uniform Del:	33.8	23.0	23.4	26.6	19.9	19.9	28.7	32.5	30.7	24.4	26.3	0.0
IncrementDel:	0.3	0.1	0.1	0.0	0.2	0.2	0.3	1.5	25.5	0.5	0.8	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	34.1	23.0	23.5	26.6	20.1	20.1	28.9	34.0	56.2	24.9	27.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.1	23.0	23.5	26.6	20.1	20.1	28.9	34.0	56.2	24.9	27.2	0.0
LOS by Move:	C-	C	C	C	C+	C+	C	C-	E+	C	C	A
HCM2kAvgQ:	1	2	3	0	7	7	1	3	10	6	5	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps

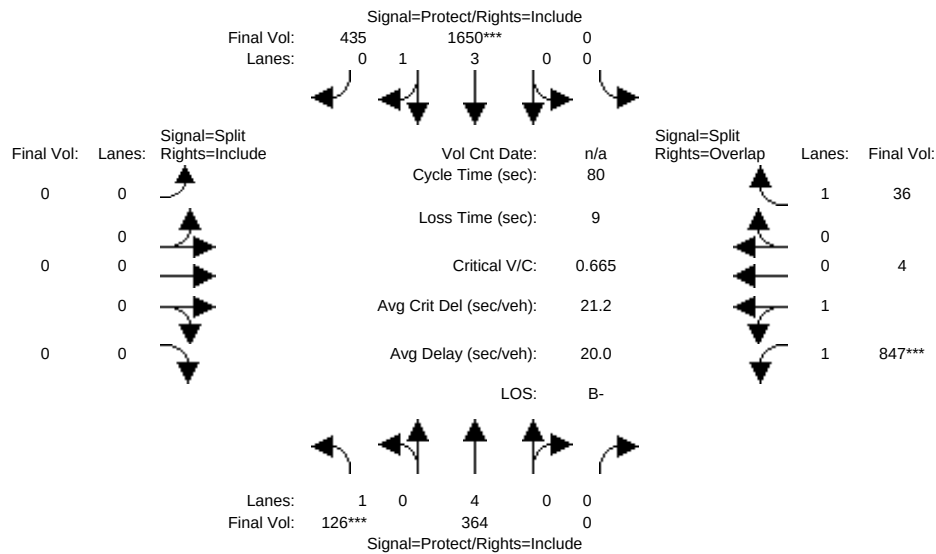


Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	121	2223	0	0	226	61	0	0	0	558	1	248
Growth 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
Initial Bse:	121	2223	0	0	226	61	0	0	0	558	1	248
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	121	2223	0	0	226	61	0	0	0	558	1	248
User 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
PHF 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
PHF Volume:	121	2223	0	0	226	61	0	0	0	558	1	248
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	121	2223	0	0	226	61	0	0	0	558	1	248
PCE 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
MLF 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
Final Volume:	121	2223	0	0	226	61	0	0	0	558	1	248
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.11	0.89	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5903	1593	0	0	0	3544	6	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.29	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.16	0.16	0.14
Crit Moves:	****			****						****		
Green Time:	16.3	39.7	0.0	0.0	23.3	23.3	0.0	0.0	0.0	21.3	21.3	21.3
Volume/Cap:	0.30	0.52	0.00	0.00	0.11	0.11	0.00	0.00	0.00	0.52	0.52	0.46
Delay/Veh:	22.5	9.4	0.0	0.0	16.2	16.2	0.0	0.0	0.0	20.5	20.5	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.5	9.4	0.0	0.0	16.2	16.2	0.0	0.0	0.0	20.5	20.5	20.3
LOS by Move:	C+	A	A	A	B	B	A	A	A	C+	C+	C+
HCM2kAvgQ:	2	7	0	0	1	1	0	0	0	6	6	5
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps



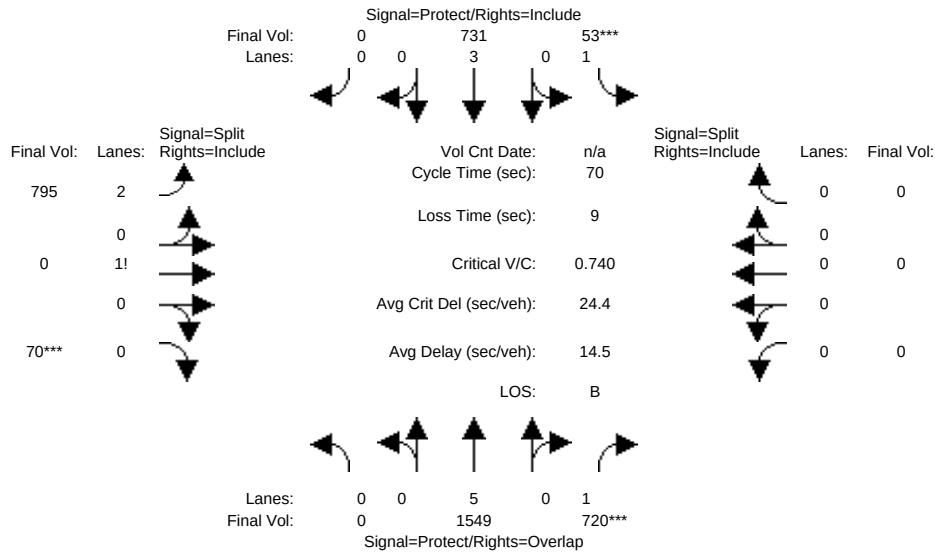
Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	126	364	0	0	1650	435	0	0	0	847	4	36
Growth 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
Initial Bse:	126	364	0	0	1650	435	0	0	0	847	4	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	126	364	0	0	1650	435	0	0	0	847	4	36
User 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
PHF 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
PHF Volume:	126	364	0	0	1650	435	0	0	0	847	4	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	126	364	0	0	1650	435	0	0	0	847	4	36
PCE 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
MLF 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
Final Volume:	126	364	0	0	1650	435	0	0	0	847	4	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.13	0.87	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5933	1564	0	0	0	3533	17	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.05	0.00	0.00	0.28	0.28	0.00	0.00	0.00	0.24	0.24	0.02
Crit Moves:	****				****					****		
Green Time:	8.7	42.1	0.0	0.0	33.5	33.5	0.0	0.0	0.0	28.9	28.9	28.9
Volume/Cap:	0.66	0.09	0.00	0.00	0.66	0.66	0.00	0.00	0.00	0.66	0.66	0.06
Uniform Del:	34.3	9.4	0.0	0.0	18.7	18.7	0.0	0.0	0.0	21.5	21.5	16.7
IncrcmntDel:	8.6	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	1.3	1.3	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	42.9	9.4	0.0	0.0	19.3	19.3	0.0	0.0	0.0	22.8	22.8	16.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.9	9.4	0.0	0.0	19.3	19.3	0.0	0.0	0.0	22.8	22.8	16.7
LOS by Move:	D	A	A	A	B-	B-	A	A	A	C+	C+	B
HCM2kAvgQ:	3	1	0	0	10	10	0	0	0	10	10	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps

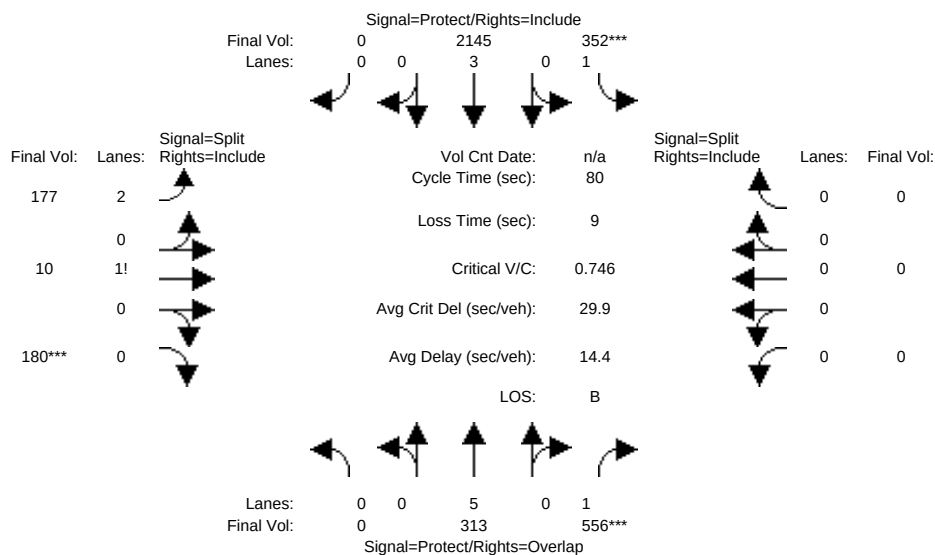


Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	1549	720	53	731	0	795	0	70	0	0	0
Growth 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
Initial Bse:	0	1549	720	53	731	0	795	0	70	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1549	720	53	731	0	795	0	70	0	0	0
User 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
PHF 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
PHF Volume:	0	1549	720	53	731	0	795	0	70	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1549	720	53	731	0	795	0	70	0	0	0
PCE 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
MLF 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
Final Volume:	0	1549	720	53	731	0	795	0	70	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.85	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.80	0.00	0.20	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	4550	0	344	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.16	0.41	0.03	0.13	0.00	0.17	0.00	0.20	0.00	0.00	0.00
Crit Moves:			****	****					****			
Green Time:	0.0	36.1	36.1	7.0	43.1	0.0	17.9	0.0	17.9	0.0	0.0	0.0
Volume/Cap:	0.00	0.32	0.80	0.30	0.21	0.00	0.68	0.00	0.80	0.00	0.00	0.00
Delay/Veh:	0.0	9.8	18.9	30.2	5.9	0.0	25.1	0.0	28.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.8	18.9	30.2	5.9	0.0	25.1	0.0	28.6	0.0	0.0	0.0
LOS by Move:	A	A	B-	C	A	A	C	A	C	A	A	A
HCM2kAvgQ:	0	4	14	1	2	0	8	0	10	0	0	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps



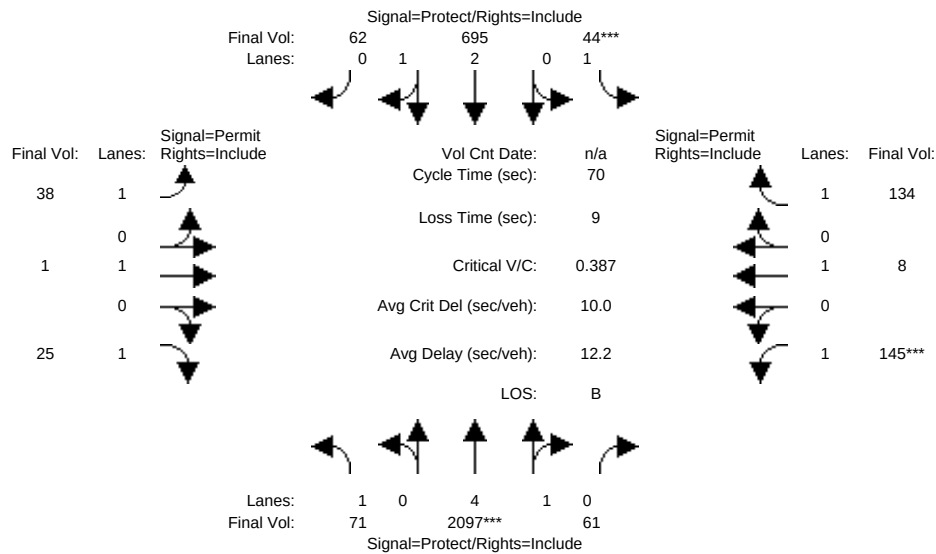
Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	313	556	352	2145	0	177	10	180	0	0	0
Growth 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
Initial Bse:	0	313	556	352	2145	0	177	10	180	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	313	556	352	2145	0	177	10	180	0	0	0
User 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
PHF 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
PHF Volume:	0	313	556	352	2145	0	177	10	180	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	313	556	352	2145	0	177	10	180	0	0	0
PCE 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
MLF 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
Final Volume:	0	313	556	352	2145	0	177	10	180	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.26	0.04	0.70	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	3563	70	1259	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.03	0.32	0.20	0.38	0.00	0.05	0.14	0.14	0.00	0.00	0.00
Crit Moves:			****	****					****			
Green Time:	0.0	34.1	34.1	21.6	55.7	0.0	15.3	15.3	15.3	0.0	0.0	0.0
Volume/Cap:	0.00	0.08	0.75	0.75	0.54	0.00	0.26	0.75	0.75	0.00	0.00	0.00
Uniform Del:	0.0	13.6	19.3	26.7	5.9	0.0	27.5	30.5	30.5	0.0	0.0	0.0
IncrementDel:	0.0	0.0	4.1	6.4	0.2	0.0	0.1	6.2	6.2	0.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Delay/Veh:	0.0	13.6	23.4	33.1	6.1	0.0	27.6	36.6	36.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.6	23.4	33.1	6.1	0.0	27.6	36.6	36.6	0.0	0.0	0.0
LOS by Move:	A	B	C	C-	A	A	C	D+	D+	A	A	A
HCM2kAvgQ:	0	1	13	9	8	0	2	8	8	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #7: Mathilda Avenue/Ross Drive

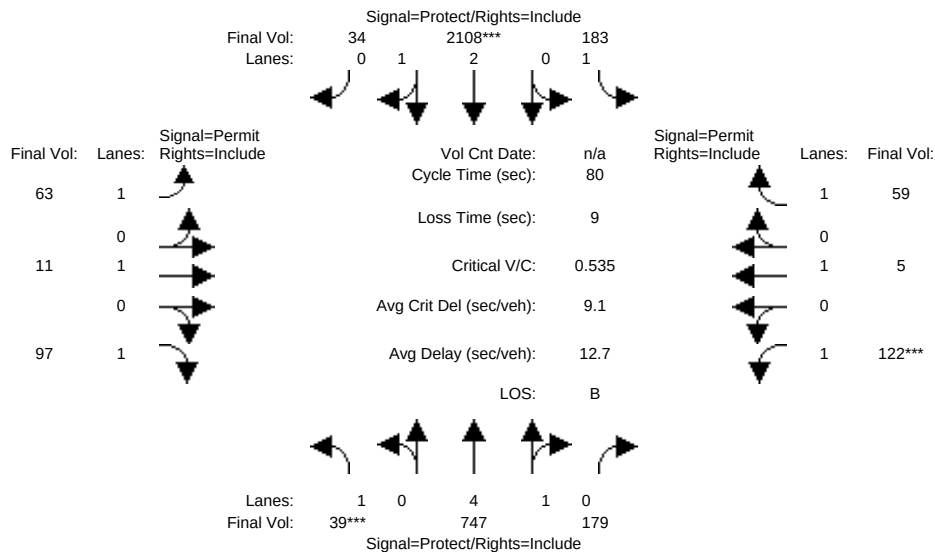


Street Name:	Mathilda Avenue						Ross Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	71	2097	61	44	695	62	38	1	25	145	8	134
Growth 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
Initial Bse:	71	2097	61	44	695	62	38	1	25	145	8	134
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	2097	61	44	695	62	38	1	25	145	8	134
User 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
PHF 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
PHF Volume:	71	2097	61	44	695	62	38	1	25	145	8	134
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	2097	61	44	695	62	38	1	25	145	8	134
PCE 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
MLF 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
Final Volume:	71	2097	61	44	695	62	38	1	25	145	8	134
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	4.85	0.15	1.00	2.75	0.25	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	9134	266	1750	5141	459	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.23	0.03	0.14	0.14	0.02	0.00	0.01	0.08	0.00	0.08
Crit Moves:	****			****			****			****		
Green Time:	19.2	39.7	39.7	7.0	27.5	27.5	14.3	14.3	14.3	14.3	14.3	14.3
Volume/Cap:	0.15	0.41	0.41	0.25	0.34	0.34	0.11	0.00	0.07	0.41	0.02	0.37
Delay/Veh:	19.3	8.6	8.6	29.8	15.0	15.0	22.8	22.2	22.5	24.9	22.3	24.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.3	8.6	8.6	29.8	15.0	15.0	22.8	22.2	22.5	24.9	22.3	24.6
LOS by Move:	B-	A	A	C	B	B	C+	C+	C+	C	C+	C
HCM2kAvgQ:	1	5	5	1	4	4	1	0	1	3	0	3
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #7: Mathilda Avenue/Ross Drive



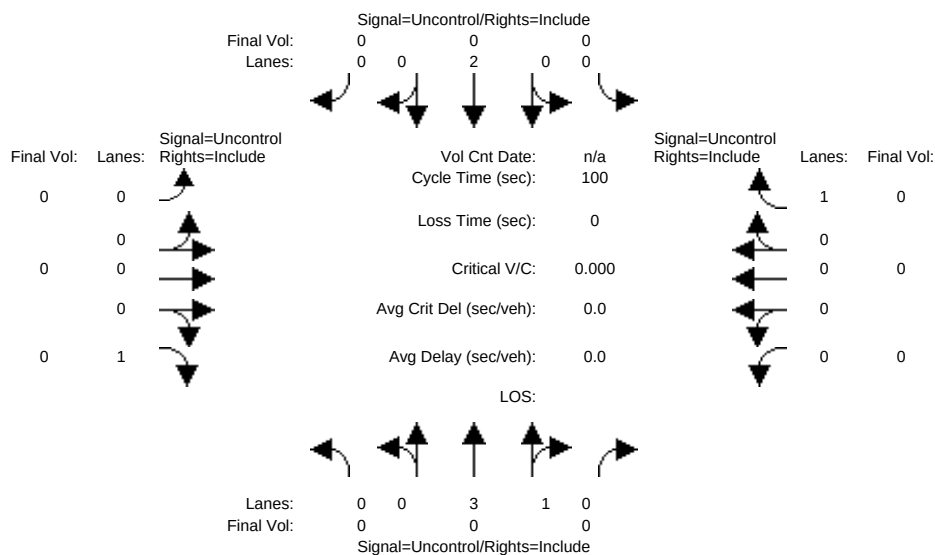
Street Name:	Mathilda Avenue						Ross Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	39	747	179	183	2108	34	63	11	97	122	5	59
Growth 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
Initial Bse:	39	747	179	183	2108	34	63	11	97	122	5	59
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	747	179	183	2108	34	63	11	97	122	5	59
User 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
PHF 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
PHF Volume:	39	747	179	183	2108	34	63	11	97	122	5	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	747	179	183	2108	34	63	11	97	122	5	59
PCE 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
MLF 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
Final Volume:	39	747	179	183	2108	34	63	11	97	122	5	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	4.00	1.00	1.00	2.95	0.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	7597	1800	1750	5511	89	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.10	0.38	0.38	0.04	0.01	0.06	0.07	0.00	0.03
Crit Moves:	****				****					****		
Green Time:	7.0	33.2	33.2	27.8	54.0	54.0	10.0	10.0	10.0	10.0	10.0	10.0
Volume/Cap:	0.25	0.24	0.24	0.30	0.57	0.57	0.29	0.05	0.44	0.56	0.02	0.27
Uniform Del:	34.1	15.2	15.2	19.0	6.8	6.8	31.8	30.8	32.4	32.9	30.7	31.7
IncrcmntDel:	0.9	0.0	0.0	0.3	0.2	0.2	0.7	0.1	1.4	3.2	0.0	0.7
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	34.9	15.2	15.2	19.3	7.0	7.0	32.5	30.9	33.9	36.1	30.7	32.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.9	15.2	15.2	19.3	7.0	7.0	32.5	30.9	33.9	36.1	30.7	32.4
LOS by Move:	C-	B	B	B-	A	A	C-	C	C-	D+	C	C-
HCM2kAvgQ:	1	3	3	3	9	9	2	0	3	4	0	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #8: Mathilda Avenue/US-101 Northbound Ramps

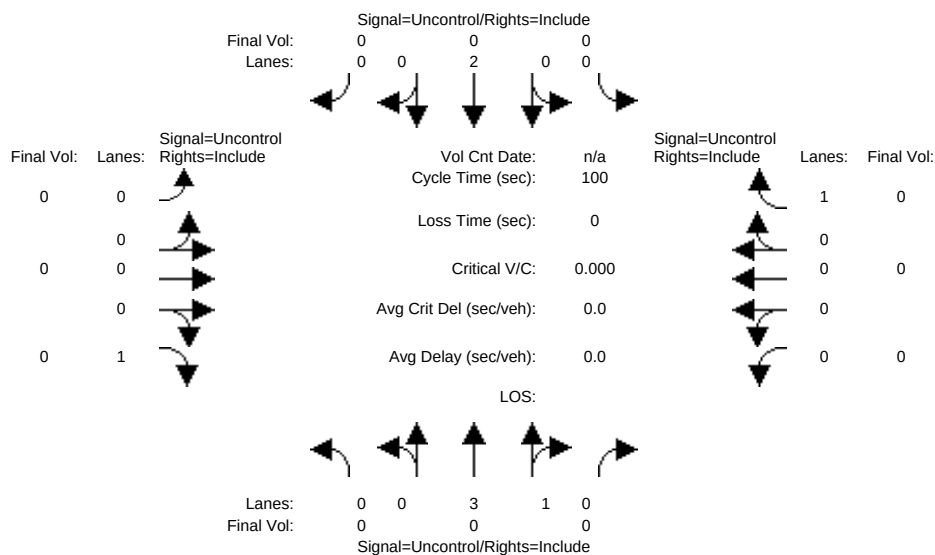


Street Name:	Mathilda Avenue						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1380	461	0	865	0	0	0	743	0	0	849
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1380	461	0	865	0	0	0	743	0	0	849
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #8: Mathilda Avenue/US-101 Northbound Ramps

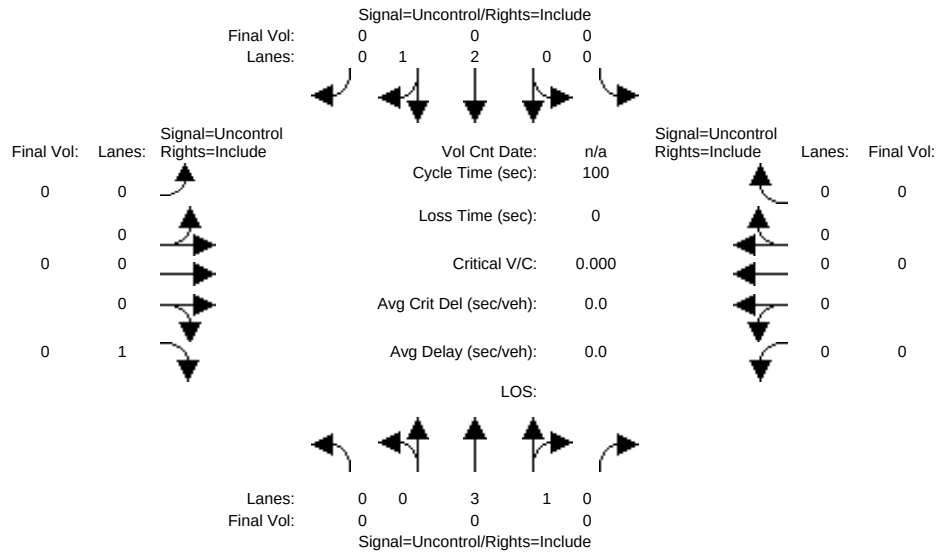


Street Name:	Mathilda Avenue						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	720	337	0	2327	0	0	0	694	0	0	245
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	720	337	0	2327	0	0	0	694	0	0	245
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #9: Mathilda Avenue/US-101 Southbound Ramps

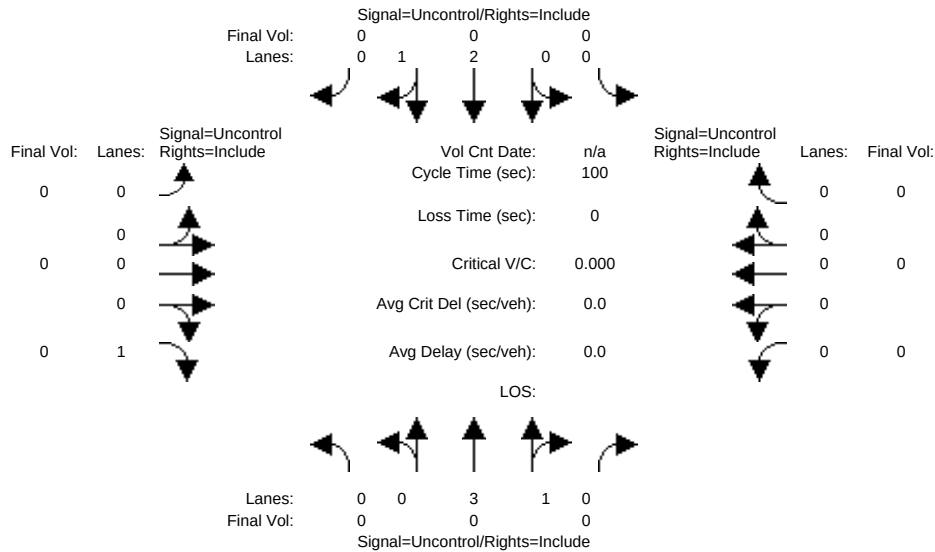


Street Name:	Mathilda Avenue						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1841	642	0	1409	199	0	0	393	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1841	642	0	1409	199	0	0	393	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #9: Mathilda Avenue/US-101 Southbound Ramps

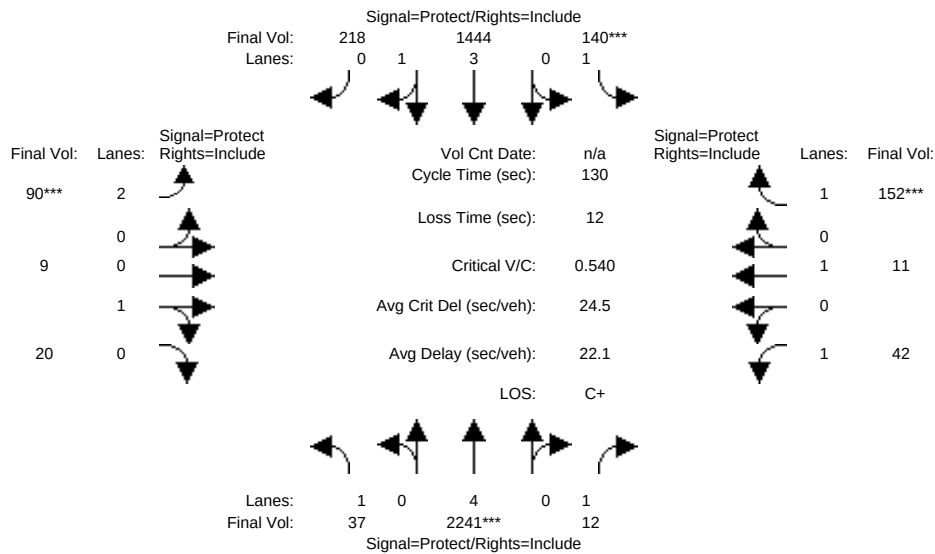


Street Name:	Mathilda Avenue						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1057	474	0	2401	620	0	0	534	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1057	474	0	2401	620	0	0	534	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #10: Mathilda Avenue/Ahwanee Avenue-Almanor Ave

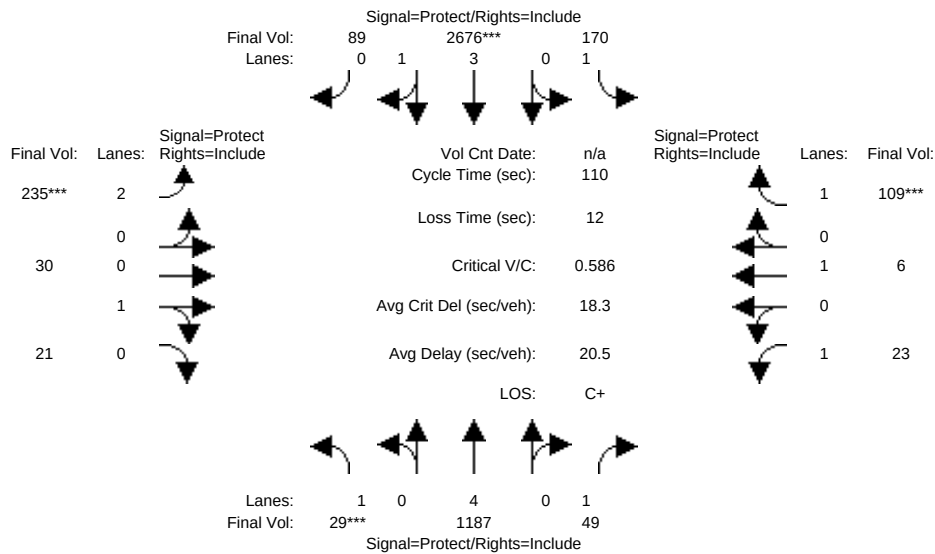


Street Name:	Mathilda Avenue						Ahwanee Avenue-Almanor Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	37	2241	12	140	1444	218	90	9	20	42	11	152
Growth 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
Initial Bse:	37	2241	12	140	1444	218	90	9	20	42	11	152
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	37	2241	12	140	1444	218	90	9	20	42	11	152
User 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
PHF 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
PHF Volume:	37	2241	12	140	1444	218	90	9	20	42	11	152
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	2241	12	140	1444	218	90	9	20	42	11	152
PCE 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
MLF 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
Final Volume:	37	2241	12	140	1444	218	90	9	20	42	11	152
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	1.00	4.00	1.00	1.00	3.45	0.55	2.00	0.31	0.69	1.00	1.00	1.00
Final Sat.:	1750	7600	1750	1750	6515	984	3150	559	1241	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.29	0.01	0.08	0.22	0.22	0.03	0.02	0.02	0.02	0.01	0.09
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	17.6	70.9	70.9	19.2	72.5	72.5	7.0	16.4	16.4	11.5	20.9	20.9
Volume/Cap:	0.16	0.54	0.01	0.54	0.40	0.40	0.53	0.13	0.13	0.27	0.04	0.54
Delay/Veh:	49.9	19.2	13.5	53.6	16.4	16.4	63.1	50.7	50.7	56.3	46.1	52.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.9	19.2	13.5	53.6	16.4	16.4	63.1	50.7	50.7	56.3	46.1	52.3
LOS by Move:	D	B-	B	D-	B	B	E	D	D	E+	D	D-
HCM2kAvgQ:	1	14	0	6	9	9	3	1	1	2	0	7
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #10: Mathilda Avenue/Ahwanee Avenue-Almanor Ave



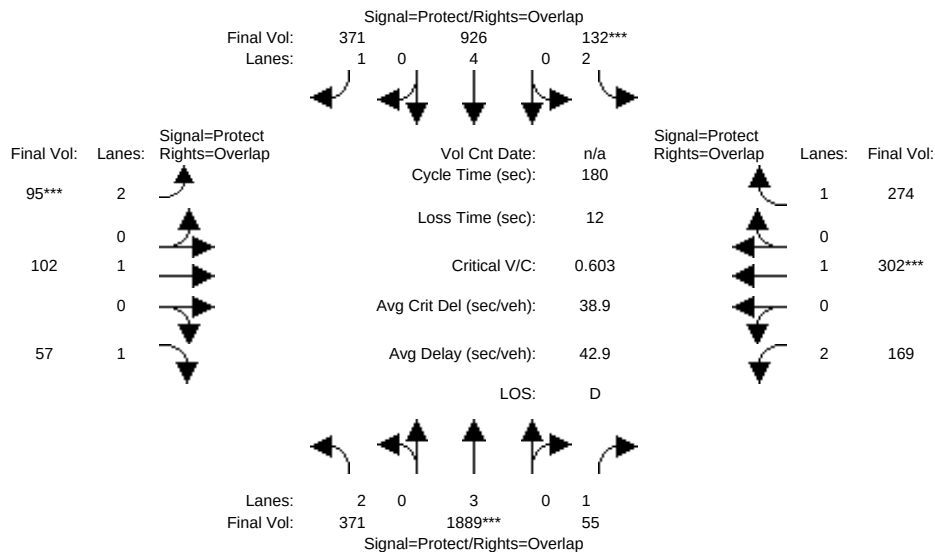
Street Name:	Mathilda Avenue						Ahwanee Avenue-Almanor Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	29	1187	49	170	2676	89	235	30	21	23	6	109
Growth 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
Initial Bse:	29	1187	49	170	2676	89	235	30	21	23	6	109
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	1187	49	170	2676	89	235	30	21	23	6	109
User 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
PHF 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
PHF Volume:	29	1187	49	170	2676	89	235	30	21	23	6	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	1187	49	170	2676	89	235	30	21	23	6	109
PCE 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
MLF 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
Final Volume:	29	1187	49	170	2676	89	235	30	21	23	6	109
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	1.00	4.00	1.00	1.00	3.87	0.13	2.00	0.59	0.41	1.00	1.00	1.00
Final Sat.:	1750	7600	1750	1750	7258	241	3150	1059	741	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.16	0.03	0.10	0.37	0.37	0.07	0.03	0.03	0.01	0.00	0.06
Crit Moves:	****			****			****					****
Green Time:	7.0	45.2	45.2	28.1	66.4	66.4	13.4	14.5	14.5	10.1	11.2	11.2
Volume/Cap:	0.26	0.38	0.07	0.38	0.61	0.61	0.61	0.22	0.22	0.14	0.03	0.61
Uniform Del:	49.0	22.6	19.6	33.7	13.7	13.7	45.8	42.7	42.7	45.9	44.5	47.3
IncrcmntDel:	1.2	0.1	0.0	0.5	0.2	0.2	2.9	0.5	0.5	0.4	0.1	6.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	50.3	22.7	19.7	34.3	14.0	14.0	48.7	43.1	43.1	46.3	44.6	53.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.3	22.7	19.7	34.3	14.0	14.0	48.7	43.1	43.1	46.3	44.6	53.4
LOS by Move:	D	C+	B-	C-	B	B	D	D	D	D	D	D-
HCM2kAvgQ:	1	7	1	5	14	14	6	2	2	1	0	5

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #11: Mathilda Avenue/Maude Avenue

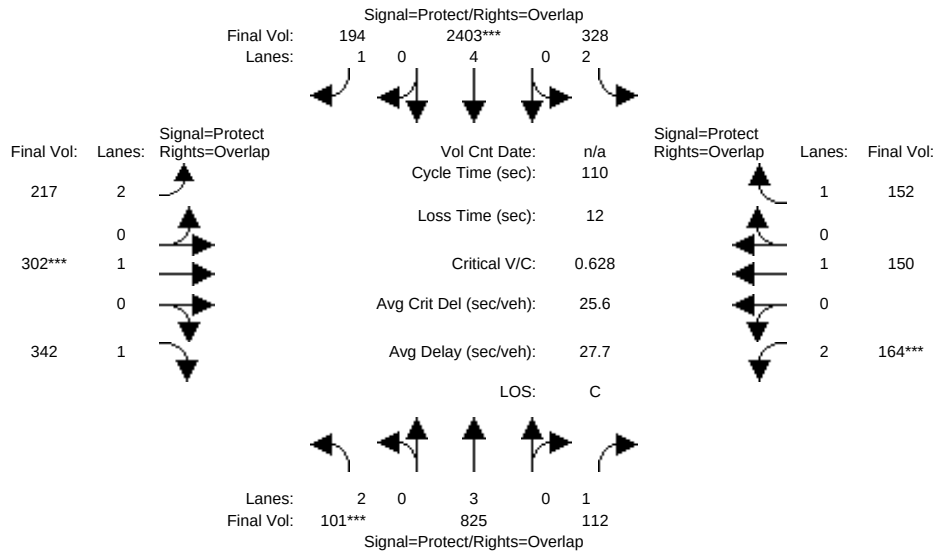


Street Name:	Mathilda Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	371	1889	55	132	926	371	95	102	57	169	302	274
Growth 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
Initial Bse:	371	1889	55	132	926	371	95	102	57	169	302	274
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	371	1889	55	132	926	371	95	102	57	169	302	274
User 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
PHF 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
PHF Volume:	371	1889	55	132	926	371	95	102	57	169	302	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	371	1889	55	132	926	371	95	102	57	169	302	274
PCE 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
MLF 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
Final Volume:	371	1889	55	132	926	371	95	102	57	169	302	274
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	4.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	3150	5700	1750	3150	7600	1750	3150	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.33	0.03	0.04	0.12	0.21	0.03	0.05	0.03	0.05	0.16	0.16
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	43.8	99.0	126.7	12.5	67.7	76.7	9.0	28.7	72.6	27.8	47.5	60.0
Volume/Cap:	0.48	0.60	0.04	0.60	0.32	0.50	0.60	0.34	0.08	0.35	0.60	0.47
Delay/Veh:	60.6	28.1	8.2	93.0	40.2	40.0	99.6	70.1	33.4	70.0	63.3	50.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.6	28.1	8.2	93.0	40.2	40.0	99.6	70.1	33.4	70.0	63.3	50.1
LOS by Move:	E	C	A	F	D	D	F	E	C	E	E	D
HCM2kAvgQ:	10	24	1	4	9	16	3	5	2	5	15	13
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #11: Mathilda Avenue/Maude Avenue



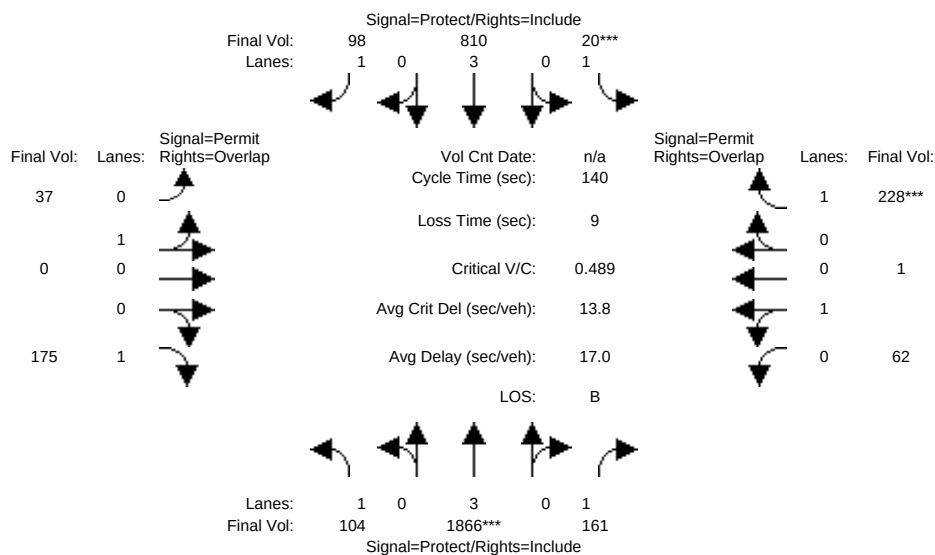
Street Name:	Mathilda Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	101	825	112	328	2403	194	217	302	342	164	150	152
Growth 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
Initial Bse:	101	825	112	328	2403	194	217	302	342	164	150	152
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	101	825	112	328	2403	194	217	302	342	164	150	152
User 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
PHF 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
PHF Volume:	101	825	112	328	2403	194	217	302	342	164	150	152
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	825	112	328	2403	194	217	302	342	164	150	152
PCE 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
MLF 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
Final Volume:	101	825	112	328	2403	194	217	302	342	164	150	152
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	4.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	3150	5700	1750	3150	7600	1750	3150	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.14	0.06	0.10	0.32	0.11	0.07	0.16	0.20	0.05	0.08	0.09
Crit Moves:	***			***			***			***		
Green Time:	7.0	35.8	44.8	25.8	54.6	70.3	15.7	27.4	34.4	9.0	20.7	46.5
Volume/Cap:	0.50	0.44	0.16	0.44	0.64	0.17	0.48	0.64	0.62	0.64	0.42	0.21
Uniform Del:	49.8	29.3	20.6	36.0	20.4	8.1	43.4	36.8	32.3	48.9	39.3	20.1
IncrementDel:	2.0	0.2	0.1	0.4	0.4	0.1	0.8	2.9	2.3	5.2	0.8	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	51.9	29.4	20.7	36.4	20.8	8.1	44.2	39.7	34.5	54.2	40.1	20.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.9	29.4	20.7	36.4	20.8	8.1	44.2	39.7	34.5	54.2	40.1	20.2
LOS by Move:	D-	C	C+	D+	C+	A	D	D	C-	D-	D	C+
HCM2kAvgQ:	2	7	2	5	15	3	4	9	11	4	5	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #12: Mathilda Avenue/Indio Way

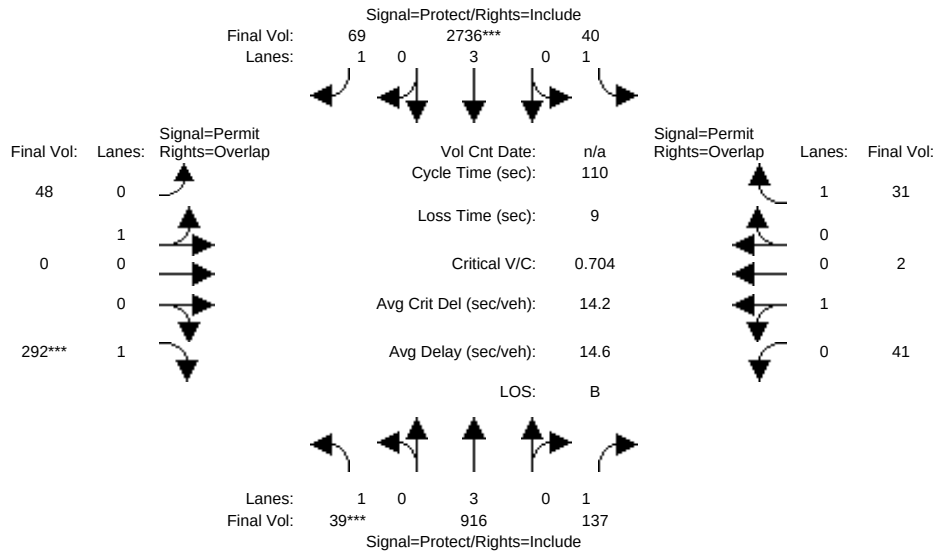


Street Name:	Mathilda Avenue						Indio Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	104	1866	161	20	810	98	37	0	175	62	1	228
Growth 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
Initial Bse:	104	1866	161	20	810	98	37	0	175	62	1	228
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	104	1866	161	20	810	98	37	0	175	62	1	228
User 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
PHF 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
PHF Volume:	104	1866	161	20	810	98	37	0	175	62	1	228
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	1866	161	20	810	98	37	0	175	62	1	228
PCE 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
MLF 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
Final Volume:	104	1866	161	20	810	98	37	0	175	62	1	228
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.00	1.00	0.98	0.02	1.00
Final Sat.:	1750	5700	1750	1750	5700	1750	1800	0	1750	1771	29	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.33	0.09	0.01	0.14	0.06	0.02	0.00	0.10	0.04	0.04	0.13
Crit Moves:	****			****						****		
Green Time:	31.4	99.6	99.6	7.0	75.2	75.2	24.4	0.0	55.8	24.4	24.4	31.4
Volume/Cap:	0.26	0.46	0.13	0.23	0.26	0.10	0.12	0.00	0.25	0.20	0.20	0.58
Delay/Veh:	45.1	8.8	6.5	65.2	17.6	16.0	48.9	0.0	28.3	49.8	49.8	50.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.1	8.8	6.5	65.2	17.6	16.0	48.9	0.0	28.3	49.8	49.8	50.6
LOS by Move:	D	A	A	E	B	B	D	A	C	D	D	D
HCM2kAvgQ:	4	11	2	1	6	2	1	0	5	2	2	10
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #12: Mathilda Avenue/Indio Way



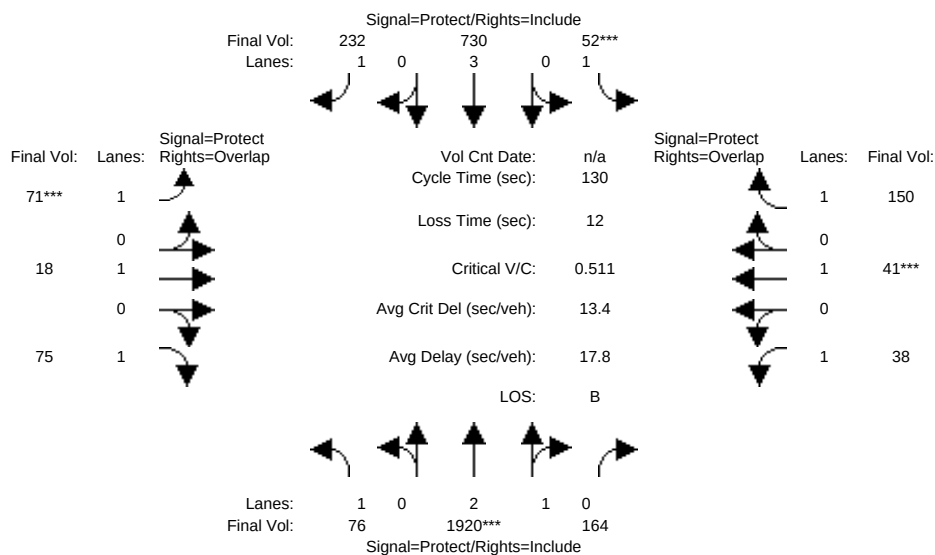
Street Name:	Mathilda Avenue						Indio Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	39	916	137	40	2736	69	48	0	292	41	2	31
Growth 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
Initial Bse:	39	916	137	40	2736	69	48	0	292	41	2	31
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	916	137	40	2736	69	48	0	292	41	2	31
User 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
PHF 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
PHF Volume:	39	916	137	40	2736	69	48	0	292	41	2	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	916	137	40	2736	69	48	0	292	41	2	31
PCE 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
MLF 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
Final Volume:	39	916	137	40	2736	69	48	0	292	41	2	31
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.00	1.00	0.95	0.05	1.00
Final Sat.:	1750	5700	1750	1750	5700	1750	1800	0	1750	1716	84	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.16	0.08	0.02	0.48	0.04	0.03	0.00	0.17	0.02	0.02	0.02
Crit Moves:	****			****					****			
Green Time:	7.0	60.4	60.4	23.9	77.4	77.4	16.6	0.0	23.6	16.6	16.6	40.6
Volume/Cap:	0.35	0.29	0.14	0.11	0.68	0.06	0.18	0.00	0.78	0.16	0.16	0.05
Uniform Del:	49.3	13.3	12.1	34.5	9.3	5.0	40.7	0.0	40.7	40.6	40.6	22.3
IncrementDel:	1.9	0.1	0.1	0.1	0.5	0.0	0.3	0.0	9.8	0.3	0.3	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	51.2	13.4	12.2	34.6	9.8	5.1	41.0	0.0	50.5	40.9	40.9	22.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.2	13.4	12.2	34.6	9.8	5.1	41.0	0.0	50.5	40.9	40.9	22.3
LOS by Move:	D-	B	B	C-	A	A	D	A	D	D	D	C+
HCM2kAvgQ:	1	5	2	1	17	1	2	0	12	1	1	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #13: Mathilda Avenue/California Way

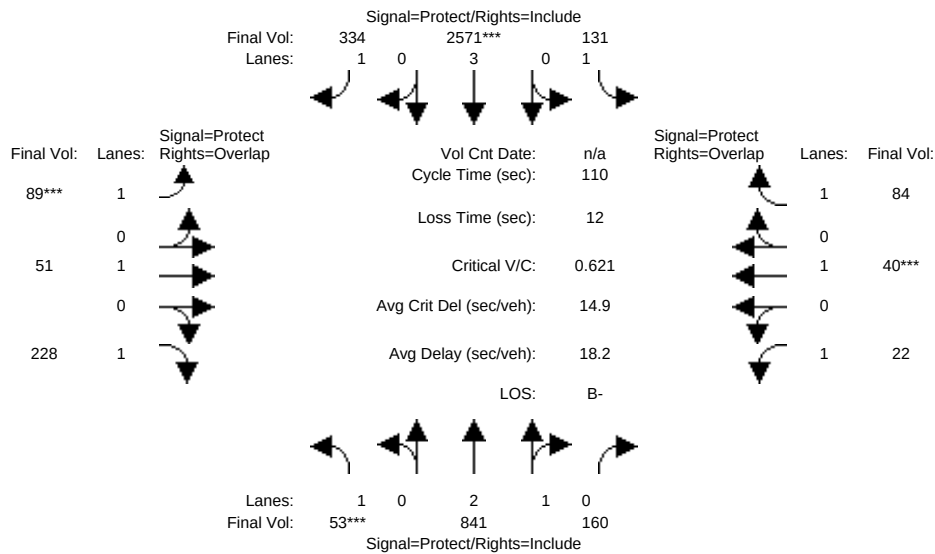


Street Name:	Mathilda Avenue						California Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	76	1920	164	52	730	232	71	18	75	38	41	150
Growth 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
Initial Bse:	76	1920	164	52	730	232	71	18	75	38	41	150
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	76	1920	164	52	730	232	71	18	75	38	41	150
User 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
PHF 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
PHF Volume:	76	1920	164	52	730	232	71	18	75	38	41	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	76	1920	164	52	730	232	71	18	75	38	41	150
PCE 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
MLF 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
Final Volume:	76	1920	164	52	730	232	71	18	75	38	41	150
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.76	0.24	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5159	441	1750	5700	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.37	0.37	0.03	0.13	0.13	0.04	0.01	0.04	0.02	0.02	0.09
Crit Moves:	****			****			****			****		
Green Time:	28.3	90.8	90.8	7.3	69.8	69.8	9.9	11.7	40.0	8.2	10.0	17.3
Volume/Cap:	0.20	0.53	0.53	0.53	0.24	0.25	0.53	0.11	0.14	0.34	0.28	0.65
Delay/Veh:	41.8	9.5	9.5	65.3	16.0	16.2	61.9	54.6	32.6	60.2	57.7	59.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.8	9.5	9.5	65.3	16.0	16.2	61.9	54.6	32.6	60.2	57.7	59.6
LOS by Move:	D	A	A	E	B	B	E	D-	C-	E	E+	E+
HCM2kAvgQ:	3	13	13	2	5	5	4	1	2	2	2	7
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #13: Mathilda Avenue/California Way



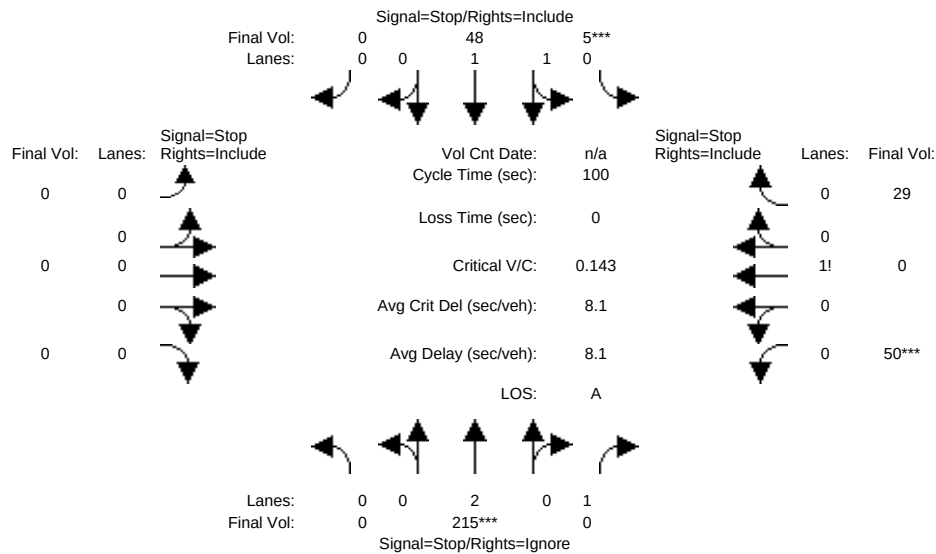
Street Name:	Mathilda Avenue						California Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	53	841	160	131	2571	334	89	51	228	22	40	84
Growth 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
Initial Bse:	53	841	160	131	2571	334	89	51	228	22	40	84
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	841	160	131	2571	334	89	51	228	22	40	84
User 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
PHF 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
PHF Volume:	53	841	160	131	2571	334	89	51	228	22	40	84
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	841	160	131	2571	334	89	51	228	22	40	84
PCE 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
MLF 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
Final Volume:	53	841	160	131	2571	334	89	51	228	22	40	84
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.50	0.50	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	4704	895	1750	5700	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.18	0.07	0.45	0.19	0.05	0.03	0.13	0.01	0.02	0.05
Crit Moves:	****			****			****			****		
Green Time:	7.0	56.2	56.2	23.5	72.8	72.8	8.2	11.1	18.1	7.1	10.0	33.5
Volume/Cap:	0.48	0.35	0.35	0.35	0.68	0.29	0.68	0.27	0.79	0.20	0.23	0.16
Uniform Del:	49.7	16.0	16.0	36.7	11.5	7.8	49.6	45.7	44.1	48.8	46.4	27.9
IncrementDel:	3.2	0.1	0.1	0.6	0.5	0.1	13.7	0.7	13.7	0.9	0.7	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	52.9	16.1	16.1	37.3	12.0	7.9	63.4	46.4	57.8	49.6	47.1	28.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.9	16.1	16.1	37.3	12.0	7.9	63.4	46.4	57.8	49.6	47.1	28.0
LOS by Move:	D-	B	B	D+	B+	A	E	D	E+	D	D	C
HCM2kAvgQ:	3	7	7	4	17	5	5	2	10	1	1	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #14: Ellis Street/Manila Drive



Street Name:	Ellis Street						Manila Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	215	345	5	48	0	0	0	0	50	0	29
Growth 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
Initial Bse:	0	215	345	5	48	0	0	0	0	50	0	29
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	215	345	5	48	0	0	0	0	50	0	29
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	215	0	5	48	0	0	0	0	50	0	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	215	0	5	48	0	0	0	0	50	0	29
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	215	0	5	48	0	0	0	0	50	0	29
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.19	1.81	0.00	0.00	0.00	0.00	0.63	0.00	0.37
Final Sat.:	0	1508	882	135	1310	0	0	0	0	497	0	288
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.14	0.00	0.04	0.04	xxxx	xxxx	xxxx	xxxx	0.10	xxxx	0.10
Crit Moves:		****		****						****		
Delay/Veh:	0.0	8.2	0.0	7.8	7.8	0.0	0.0	0.0	0.0	7.9	0.0	7.9
Delay 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
AdjDel/Veh:	0.0	8.2	0.0	7.8	7.8	0.0	0.0	0.0	0.0	7.9	0.0	7.9
LOS by Move:	*	A	*	A	A	*	*	*	*	A	*	A
ApproachDel:		8.2			7.8		xxxxxx				7.9	
Delay Adj:		1.00			1.00		xxxxxx				1.00	
ApprAdjDel:		8.2			7.8		xxxxxx				7.9	
LOS by Appr:		A			A		*				A	
AllWayAvgQ:	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Ellis Street/Manila Drive

Future Volume Alternative: Peak Hour Warrant NOT Met

```

-----|-----|-----|-----|-----|
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:          0  0  2  0  1      0  1  1  0  0      0  0  0  0  0      0  0  1!  0  0
Initial Vol:    0  215  345      5  48  0      0  0  0  0      50  0  29
-----|-----|-----|-----|-----|
Major Street Volume:                613
Minor Approach Volume:                79
Minor Approach Volume Threshold: 453
-----|-----|-----|-----|-----|

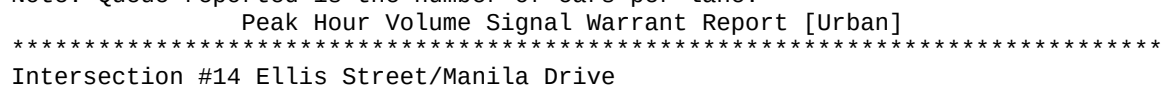
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Intersection #14: Ellis Street/Manila Drive



Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	0	2	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0
Initial Vol:	0		26		44	9		174		0	0		0		0	300		0		3

Major Street Volume: 303
 Minor Approach Volume: 183
 Minor Approach Volume Threshold: 668

SIGNAL WARRANT DISCLAIMER

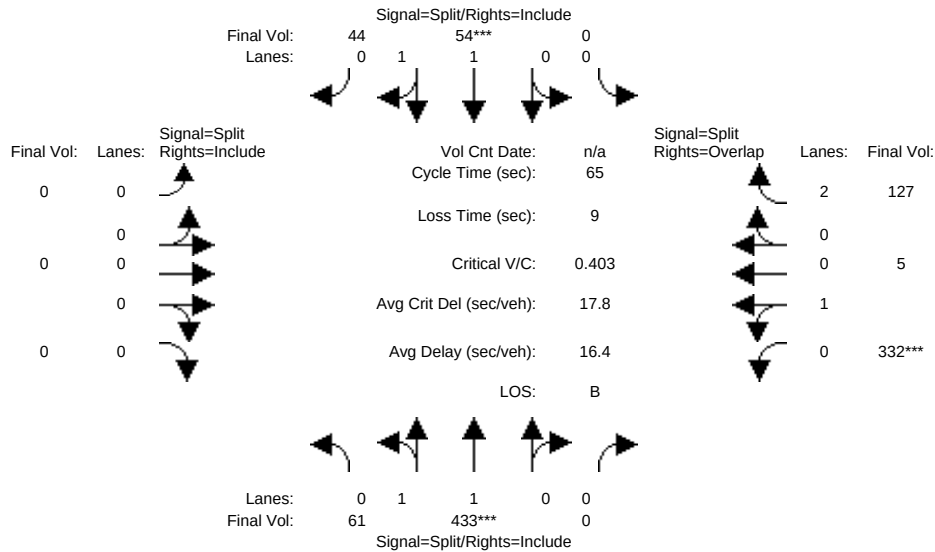
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #15: Ellis Street/US-101 Northbound Ramps

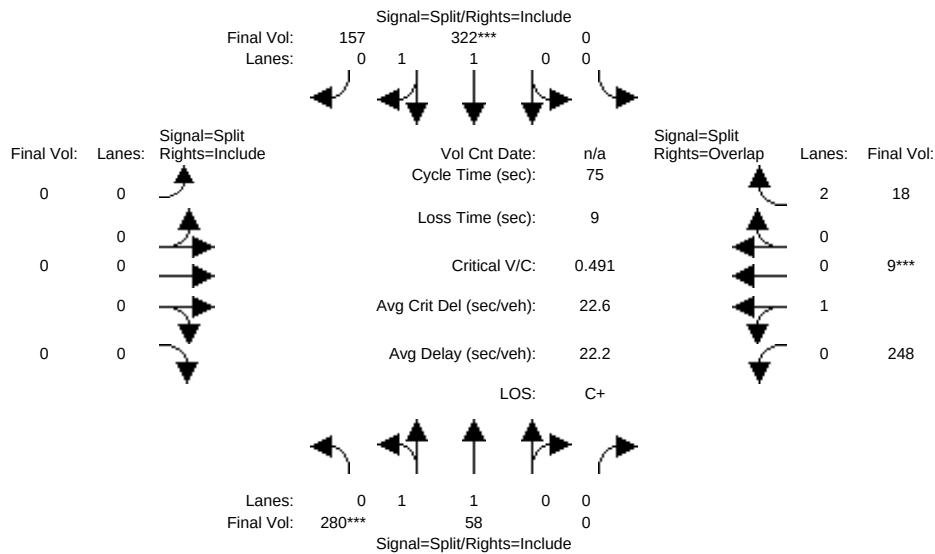


Street Name:	Ellis Street						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	61	433	0	0	54	44	0	0	0	332	5	127
Growth 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
Initial Bse:	61	433	0	0	54	44	0	0	0	332	5	127
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	433	0	0	54	44	0	0	0	332	5	127
User 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
PHF 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
PHF Volume:	61	433	0	0	54	44	0	0	0	332	5	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	433	0	0	54	44	0	0	0	332	5	127
PCE 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
MLF 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
Final Volume:	61	433	0	0	54	44	0	0	0	332	5	127
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.95	0.95	0.83
Lanes:	0.25	1.75	0.00	0.00	1.08	0.92	0.00	0.00	0.00	0.99	0.01	2.00
Final Sat.:	457	3243	0	0	2038	1660	0	0	0	1773	27	3150
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.19	0.19	0.04
Crit Moves:	****			****			****			****		
Green Time:	19.1	19.1	0.0	0.0	10.0	10.0	0.0	0.0	0.0	26.9	26.9	36.9
Volume/Cap:	0.45	0.45	0.00	0.00	0.17	0.17	0.00	0.00	0.00	0.45	0.45	0.07
Delay/Veh:	19.0	19.0	0.0	0.0	24.0	24.0	0.0	0.0	0.0	14.2	14.2	6.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.0	19.0	0.0	0.0	24.0	24.0	0.0	0.0	0.0	14.2	14.2	6.4
LOS by Move:	B-	B-	A	A	C	C	A	A	A	B	B	A
HCM2kAvgQ:	4	4	0	0	1	1	0	0	0	5	5	1
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #15: Ellis Street/US-101 Northbound Ramps



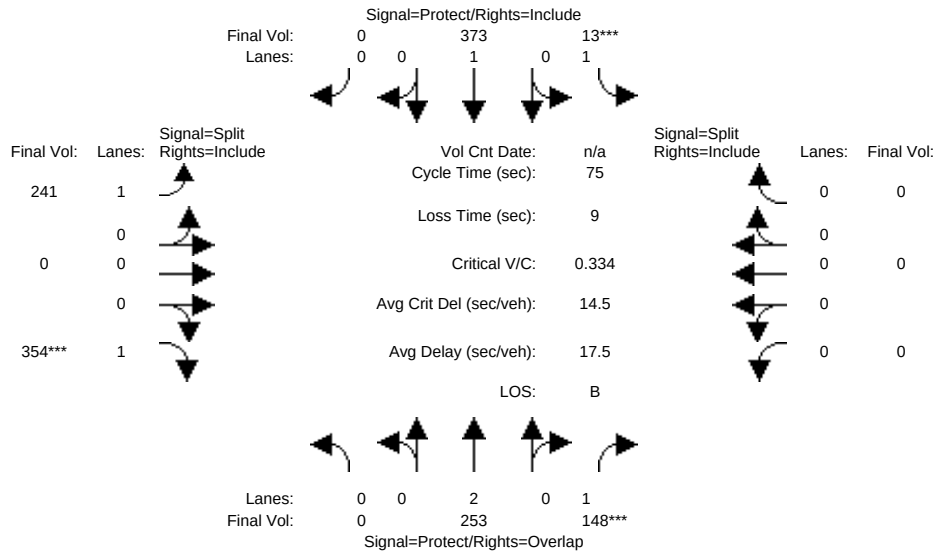
Street Name:	Ellis Street						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	280	58	0	0	322	157	0	0	0	248	9	18
Growth 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
Initial Bse:	280	58	0	0	322	157	0	0	0	248	9	18
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	280	58	0	0	322	157	0	0	0	248	9	18
User 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
PHF 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
PHF Volume:	280	58	0	0	322	157	0	0	0	248	9	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	280	58	0	0	322	157	0	0	0	248	9	18
PCE 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
MLF 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
Final Volume:	280	58	0	0	322	157	0	0	0	248	9	18
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.92	1.00	0.92	0.95	0.95	0.83
Lanes:	1.00	1.00	0.00	0.00	1.33	0.67	0.00	0.00	0.00	0.96	0.04	2.00
Final Sat.:	1750	1900	0	0	2486	1212	0	0	0	1737	63	3150
Capacity Analysis Module:												
Vol/Sat:	0.16	0.03	0.00	0.00	0.13	0.13	0.00	0.00	0.00	0.14	0.14	0.01
Crit Moves:	****				****					****		
Green Time:	24.4	24.4	0.0	0.0	19.8	19.8	0.0	0.0	0.0	21.8	21.8	41.6
Volume/Cap:	0.49	0.09	0.00	0.00	0.49	0.49	0.00	0.00	0.00	0.49	0.49	0.01
Uniform Del:	20.3	17.6	0.0	0.0	23.4	23.4	0.0	0.0	0.0	22.0	22.0	7.5
IncrementDel:	0.6	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.7	0.7	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	20.9	17.6	0.0	0.0	23.8	23.8	0.0	0.0	0.0	22.7	22.7	7.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.9	17.6	0.0	0.0	23.8	23.8	0.0	0.0	0.0	22.7	22.7	7.5
LOS by Move:	C+	B	A	A	C	C	A	A	A	C+	C+	A
HCM2kAvgQ:	6	1	0	0	5	5	0	0	0	6	6	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #16: Ellis Street/US-101 Southbound Ramps

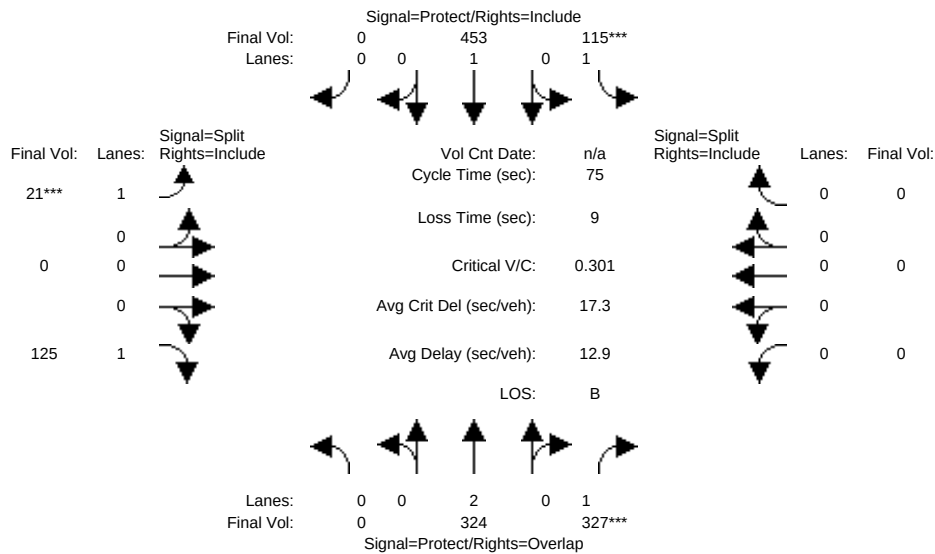


Street Name:	Ellis Street						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	253	148	13	373	0	241	0	354	0	0	0
Growth 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
Initial Bse:	0	253	148	13	373	0	241	0	354	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	253	148	13	373	0	241	0	354	0	0	0
User 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
PHF 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
PHF Volume:	0	253	148	13	373	0	241	0	354	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	253	148	13	373	0	241	0	354	0	0	0
PCE 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
MLF 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
Final Volume:	0	253	148	13	373	0	241	0	354	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	1750	1750	1900	0	1750	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.07	0.08	0.01	0.20	0.00	0.14	0.00	0.20	0.00	0.00	0.00
Crit Moves:			****		****				****			
Green Time:	0.0	17.4	17.4	7.0	24.4	0.0	41.6	0.0	41.6	0.0	0.0	0.0
Volume/Cap:	0.00	0.29	0.36	0.08	0.60	0.00	0.25	0.00	0.36	0.00	0.00	0.00
Delay/Veh:	0.0	23.9	24.7	31.3	22.9	0.0	8.8	0.0	9.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	23.9	24.7	31.3	22.9	0.0	8.8	0.0	9.6	0.0	0.0	0.0
LOS by Move:	A	C	C	C	C+	A	A	A	A	A	A	A
HCM2kAvgQ:	0	2	3	0	7	0	3	0	5	0	0	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #16: Ellis Street/US-101 Southbound Ramps



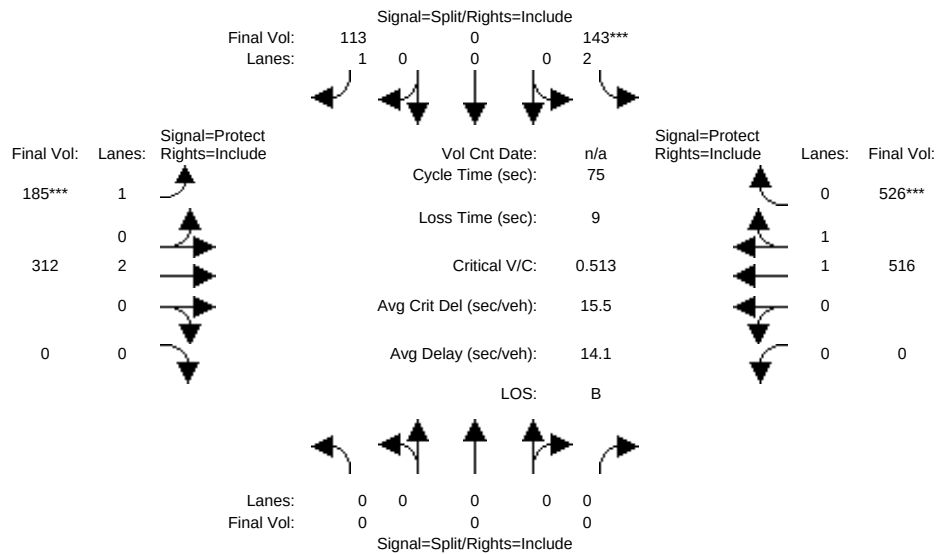
Street Name:	Ellis Street						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	324	327	115	453	0	21	0	125	0	0	0
Growth 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
Initial Bse:	0	324	327	115	453	0	21	0	125	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	324	327	115	453	0	21	0	125	0	0	0
User 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
PHF 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
PHF Volume:	0	324	327	115	453	0	21	0	125	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	324	327	115	453	0	21	0	125	0	0	0
PCE 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
MLF 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
Final Volume:	0	324	327	115	453	0	21	0	125	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	1750	1750	1900	0	1750	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.19	0.07	0.24	0.00	0.01	0.00	0.07	0.00	0.00	0.00
Crit Moves:												
Green Time:	0.0	35.6	35.6	12.5	48.2	0.0	17.8	0.0	17.8	0.0	0.0	0.0
Volume/Cap:	0.00	0.18	0.39	0.39	0.37	0.00	0.05	0.00	0.30	0.00	0.00	0.00
Uniform Del:	0.0	11.3	12.7	27.8	6.3	0.0	22.1	0.0	23.5	0.0	0.0	0.0
IncrementDel:	0.0	0.0	0.3	0.9	0.2	0.0	0.1	0.0	0.4	0.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	0.0	11.3	13.0	28.7	6.5	0.0	22.1	0.0	23.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	11.3	13.0	28.7	6.5	0.0	22.1	0.0	23.9	0.0	0.0	0.0
LOS by Move:	A	B+	B	C	A	A	C+	A	C	A	A	A
HCM2kAvgQ:	0	2	5	2	5	0	0	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #17: Ellis Street/Middlefield Road



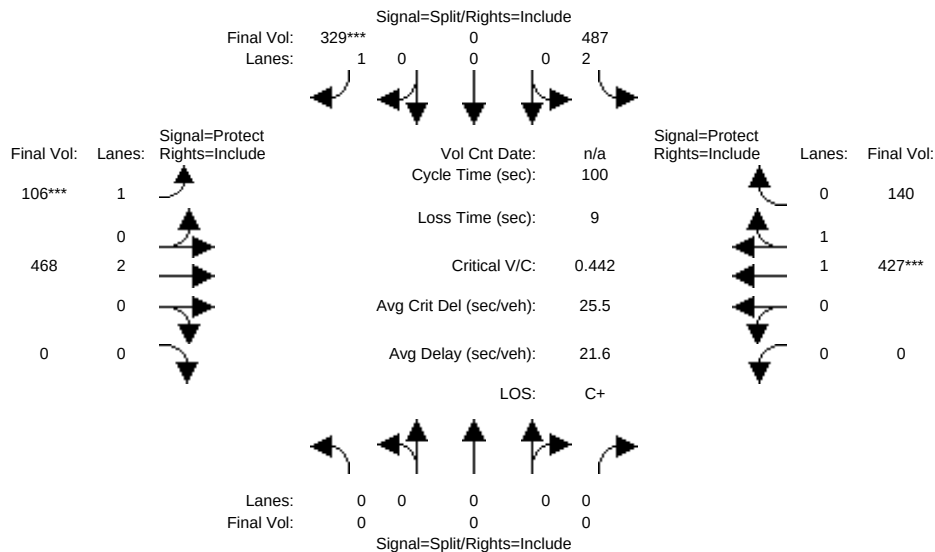
Street Name:	Ellis Street						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	143	0	113	185	312	0	0	516	526
Growth 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
Initial Bse:	0	0	0	143	0	113	185	312	0	0	516	526
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	143	0	113	185	312	0	0	516	526
User 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
PHF 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
PHF Volume:	0	0	0	143	0	113	185	312	0	0	516	526
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	143	0	113	185	312	0	0	516	526
PCE 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
MLF 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
Final Volume:	0	0	0	143	0	113	185	312	0	0	516	526
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	3150	0	1750	1750	3800	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.06	0.11	0.08	0.00	0.00	0.27	0.30
Crit Moves:				****			****					****
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	14.6	56.0	0.0	0.0	41.4	41.4
Volume/Cap:	0.00	0.00	0.00	0.34	0.00	0.48	0.54	0.11	0.00	0.00	0.49	0.54
Delay/Veh:	0.0	0.0	0.0	30.0	0.0	31.7	29.0	2.6	0.0	0.0	10.5	11.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	30.0	0.0	31.7	29.0	2.6	0.0	0.0	10.5	11.1
LOS by Move:	A	A	A	C	A	C	C	A	A	A	B+	B+
HCM2kAvgQ:	0	0	0	2	0	3	5	1	0	0	7	8

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #17: Ellis Street/Middlefield Road



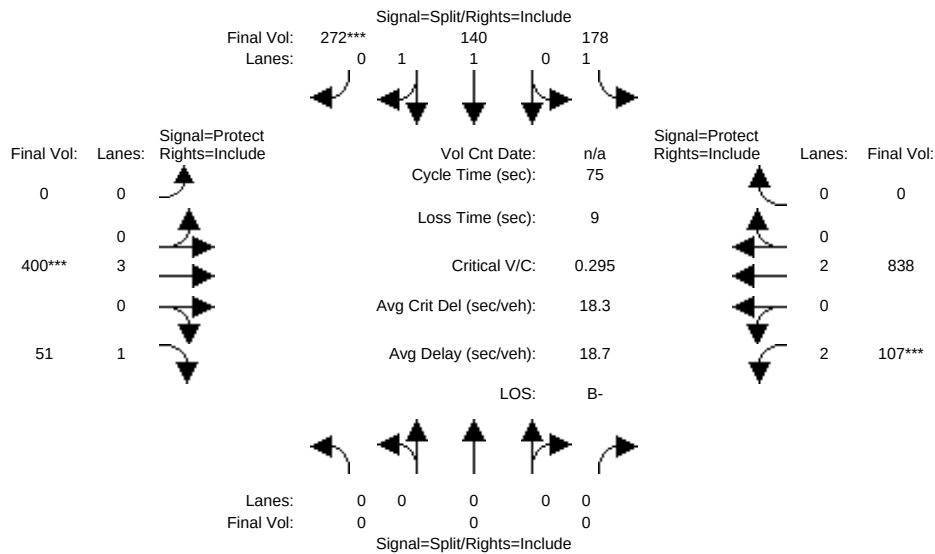
Street Name:	Ellis Street						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	487	0	329	106	468	0	0	427	140
Growth 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
Initial Bse:	0	0	0	487	0	329	106	468	0	0	427	140
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	487	0	329	106	468	0	0	427	140
User 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
PHF 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
PHF Volume:	0	0	0	487	0	329	106	468	0	0	427	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	487	0	329	106	468	0	0	427	140
PCE 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
MLF 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
Final Volume:	0	0	0	487	0	329	106	468	0	0	427	140
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	1.49	0.51
Final Sat.:	0	0	0	3150	0	1750	1750	3800	0	0	2786	913
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.15	0.00	0.19	0.06	0.12	0.00	0.00	0.15	0.15
Crit Moves:				****			****			****		
Green Time:	0.0	0.0	0.0	42.6	0.0	42.6	13.7	48.4	0.0	0.0	34.7	34.7
Volume/Cap:	0.00	0.00	0.00	0.36	0.00	0.44	0.44	0.25	0.00	0.00	0.44	0.44
Uniform Del:	0.0	0.0	0.0	19.5	0.0	20.3	39.6	15.2	0.0	0.0	25.2	25.2
IncrementDel:	0.0	0.0	0.0	0.2	0.0	0.4	1.3	0.1	0.0	0.0	0.2	0.2
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	19.7	0.0	20.7	40.9	15.2	0.0	0.0	25.4	25.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	19.7	0.0	20.7	40.9	15.2	0.0	0.0	25.4	25.4
LOS by Move:	A	A	A	B-	A	C+	D	B	A	A	C	C
HCM2kAvgQ:	0	0	0	6	0	7	4	4	0	0	7	7

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #18: Middlefield Road/SR-237 Westbound On-Ramp



Street Name:	SR-237 Westbound On-Ramp						Middlefield Road								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R

Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0			
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

Volume Module:															
Base Vol:	0	0	0	178	140	272	0	400	51	107	838	0			
Growth 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			
Initial Bse:	0	0	0	178	140	272	0	400	51	107	838	0			
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0			
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0			
Initial Fut:	0	0	0	178	140	272	0	400	51	107	838	0			
User 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			
PHF 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			
PHF Volume:	0	0	0	178	140	272	0	400	51	107	838	0			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	0	0	0	178	140	272	0	400	51	107	838	0			
PCE 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			
MLF 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			
FinalVolume:	0	0	0	178	140	272	0	400	51	107	838	0			

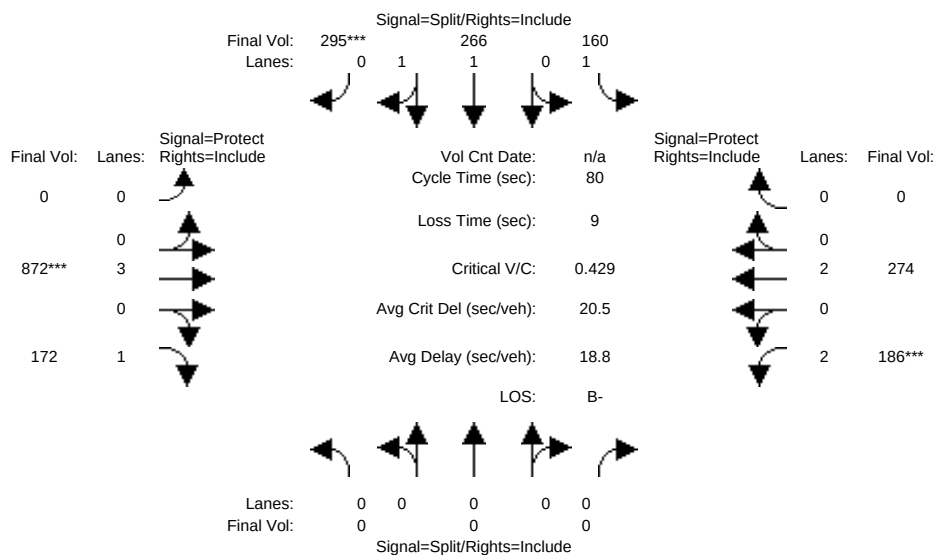
Saturation Flow Module:															
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92			
Lanes:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	3.00	1.00	2.00	2.00	0.00			
Final Sat.:	0	0	0	1750	1900	1750	0	5700	1750	3150	3800	0			

Capacity Analysis Module:															
Vol/Sat:	0.00	0.00	0.00	0.10	0.07	0.16	0.00	0.07	0.03	0.03	0.22	0.00			
Crit Moves:						****		****		****					
Green Time:	0.0	0.0	0.0	39.5	39.5	39.5	0.0	17.8	17.8	8.6	26.5	0.0			
Volume/Cap:	0.00	0.00	0.00	0.19	0.14	0.29	0.00	0.29	0.12	0.29	0.62	0.00			
Delay/Veh:	0.0	0.0	0.0	9.4	9.1	10.1	0.0	23.5	22.6	30.8	21.1	0.0			
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
AdjDel/Veh:	0.0	0.0	0.0	9.4	9.1	10.1	0.0	23.5	22.6	30.8	21.1	0.0			
LOS by Move:	A	A	A	A	A	B+	A	C	C+	C	C+	A			
HCM2kAvgQ:	0	0	0	2	2	4	0	2	1	1	8	0			
Note: Queue reported is the number of cars per lane.															

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #18: Middlefield Road/SR-237 Westbound On-Ramp



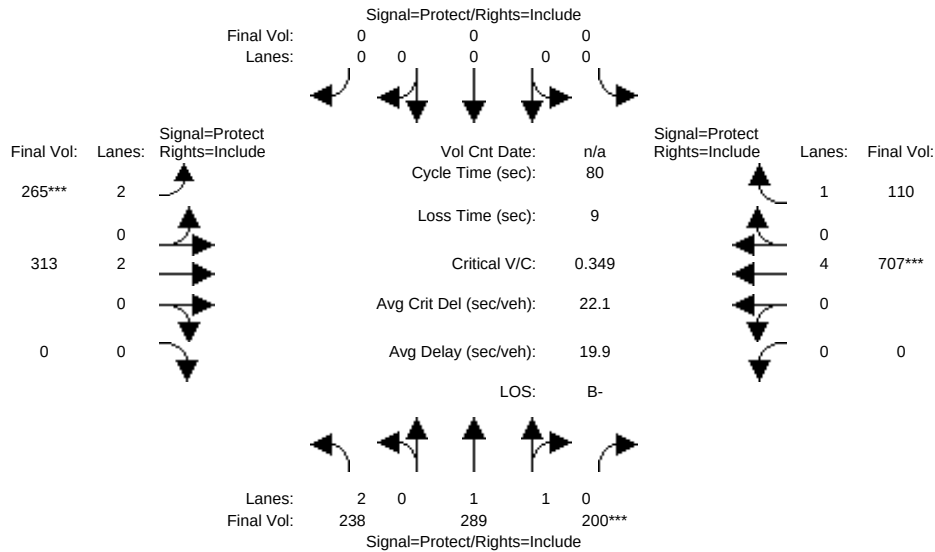
Street Name:	SR-237 Westbound On-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	160	266	295	0	872	172	186	274	0
Growth 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
Initial Bse:	0	0	0	160	266	295	0	872	172	186	274	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	160	266	295	0	872	172	186	274	0
User 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
PHF 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
PHF Volume:	0	0	0	160	266	295	0	872	172	186	274	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	160	266	295	0	872	172	186	274	0
PCE 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
MLF 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
Final Volume:	0	0	0	160	266	295	0	872	172	186	274	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	3.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	1750	1900	1750	0	5700	1750	3150	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.09	0.14	0.17	0.00	0.15	0.10	0.06	0.07	0.00
Crit Moves:						****		****		****		
Green Time:	0.0	0.0	0.0	31.4	31.4	31.4	0.0	28.5	28.5	11.0	39.6	0.0
Volume/Cap:	0.00	0.00	0.00	0.23	0.36	0.43	0.00	0.43	0.28	0.43	0.15	0.00
Uniform Del:	0.0	0.0	0.0	16.2	17.1	17.7	0.0	19.5	18.4	31.6	11.0	0.0
IncrcmntDel:	0.0	0.0	0.0	0.2	0.1	0.2	0.0	0.1	0.2	0.7	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	0.0	0.0	0.0	16.4	17.3	17.9	0.0	19.7	18.6	32.3	11.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.4	17.3	17.9	0.0	19.7	18.6	32.3	11.1	0.0
LOS by Move:	A	A	A	B	B	B	A	B-	B-	C-	B+	A
HCM2kAvgQ:	0	0	0	3	5	6	0	5	3	2	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #19: Middlefield Road/SR-237 Eastbound Off-Ramp

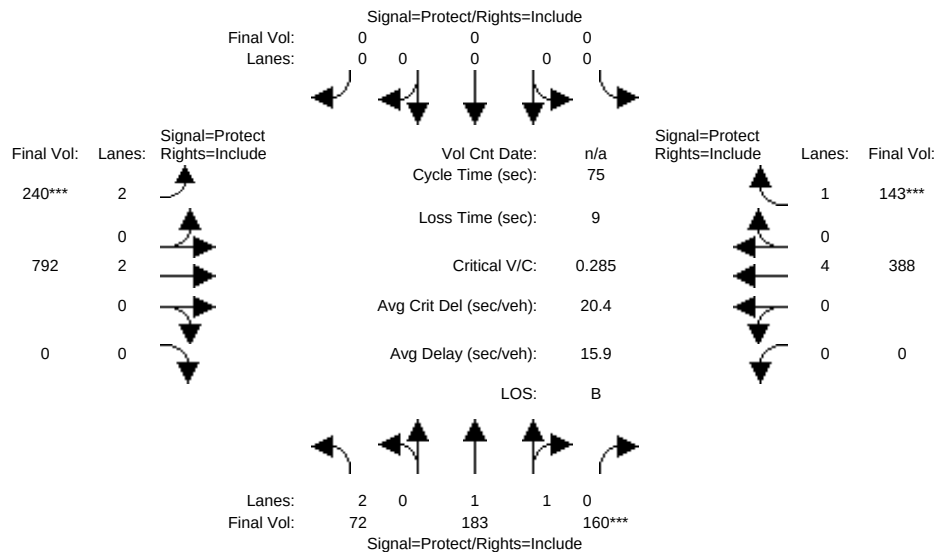


Street Name:	SR-237 Eastbound Off-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	238	289	200	0	0	0	265	313	0	0	707	110
Growth 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
Initial Bse:	238	289	200	0	0	0	265	313	0	0	707	110
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	238	289	200	0	0	0	265	313	0	0	707	110
User 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
PHF 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
PHF Volume:	238	289	200	0	0	0	265	313	0	0	707	110
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	238	289	200	0	0	0	265	313	0	0	707	110
PCE 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
MLF 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
Final Volume:	238	289	200	0	0	0	265	313	0	0	707	110
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.16	0.84	0.00	0.00	0.00	2.00	2.00	0.00	0.00	4.00	1.00
Final Sat.:	3150	2186	1513	0	0	0	3150	3800	0	0	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.13	0.13	0.00	0.00	0.00	0.08	0.08	0.00	0.00	0.09	0.06
Crit Moves:			****				****				****	
Green Time:	30.3	30.3	30.3	0.0	0.0	0.0	19.3	40.7	0.0	0.0	21.3	21.3
Volume/Cap:	0.20	0.35	0.35	0.00	0.00	0.00	0.35	0.16	0.00	0.00	0.35	0.24
Delay/Veh:	16.8	17.9	17.9	0.0	0.0	0.0	25.4	10.6	0.0	0.0	23.8	23.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.8	17.9	17.9	0.0	0.0	0.0	25.4	10.6	0.0	0.0	23.8	23.2
LOS by Move:	B	B	B	A	A	A	C	B+	A	A	C	C
HCM2kAvgQ:	2	5	5	0	0	0	3	2	0	0	4	2
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #19: Middlefield Road/SR-237 Eastbound Off-Ramp



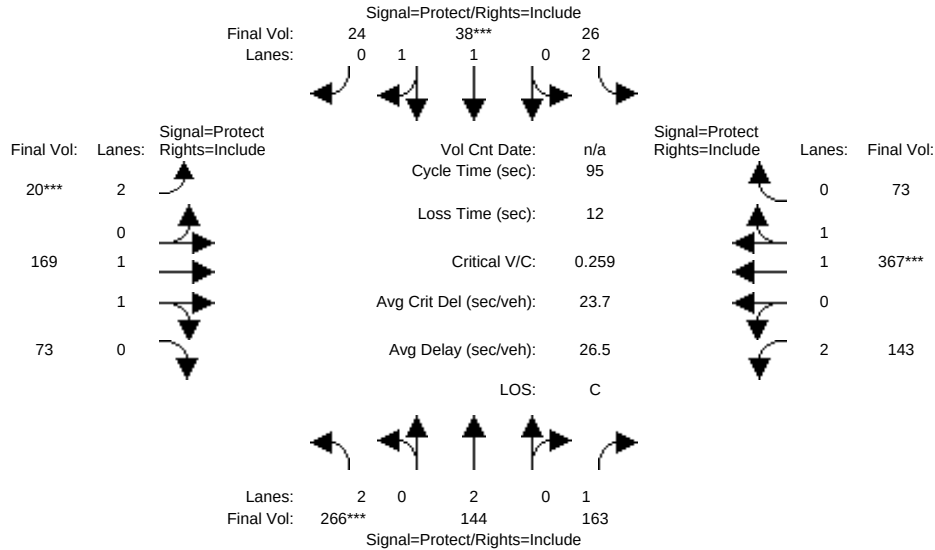
Street Name:	SR-237 Eastbound Off-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	72	183	160	0	0	0	240	792	0	0	388	143
Growth 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
Initial Bse:	72	183	160	0	0	0	240	792	0	0	388	143
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	72	183	160	0	0	0	240	792	0	0	388	143
User 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
PHF 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
PHF Volume:	72	183	160	0	0	0	240	792	0	0	388	143
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	183	160	0	0	0	240	792	0	0	388	143
PCE 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
MLF 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
Final Volume:	72	183	160	0	0	0	240	792	0	0	388	143
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.95	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.04	0.96	0.00	0.00	0.00	2.00	2.00	0.00	0.00	4.00	1.00
Final Sat.:	3150	1973	1725	0	0	0	3150	3800	0	0	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.09	0.09	0.00	0.00	0.00	0.08	0.21	0.00	0.00	0.05	0.08
Crit Moves:			****				****					****
Green Time:	24.4	24.4	24.4	0.0	0.0	0.0	20.1	41.6	0.0	0.0	21.5	21.5
Volume/Cap:	0.07	0.28	0.28	0.00	0.00	0.00	0.28	0.38	0.00	0.00	0.18	0.28
Uniform Del:	17.5	18.8	18.8	0.0	0.0	0.0	21.8	9.4	0.0	0.0	20.1	20.8
IncrementDel:	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	17.5	18.9	18.9	0.0	0.0	0.0	22.0	9.5	0.0	0.0	20.1	21.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.5	18.9	18.9	0.0	0.0	0.0	22.0	9.5	0.0	0.0	20.1	21.1
LOS by Move:	B	B-	B-	A	A	A	C+	A	A	A	C+	C+
HCM2kAvgQ:	1	3	3	0	0	0	3	5	0	0	2	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #20: Mary Avenue/Maude Avenue

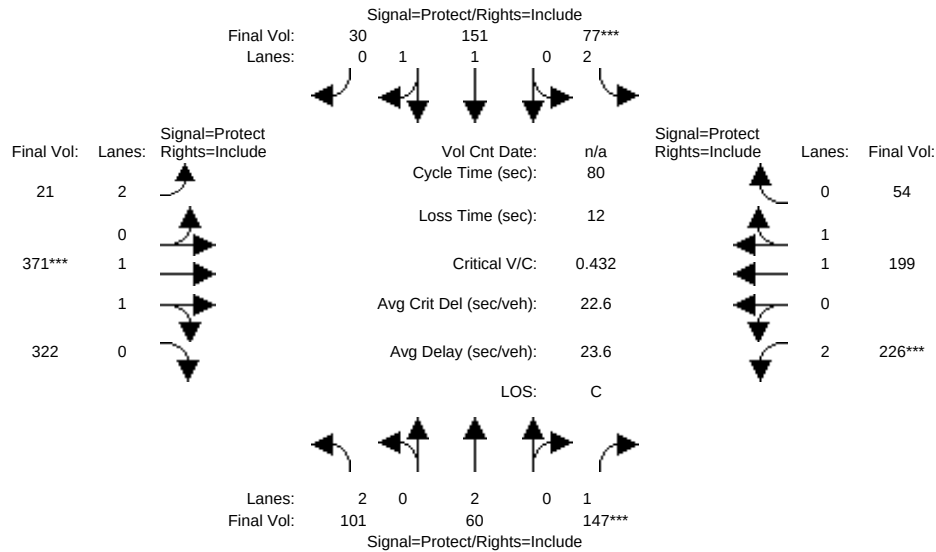


Street Name:	Mary Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	266	144	163	26	38	24	20	169	73	143	367	73
Growth 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
Initial Bse:	266	144	163	26	38	24	20	169	73	143	367	73
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	266	144	163	26	38	24	20	169	73	143	367	73
User 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
PHF 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
PHF Volume:	266	144	163	26	38	24	20	169	73	143	367	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	266	144	163	26	38	24	20	169	73	143	367	73
PCE 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
MLF 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
Final Volume:	266	144	163	26	38	24	20	169	73	143	367	73
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.83	0.99	0.95	0.83	0.98	0.95
Lanes:	2.00	2.00	1.00	2.00	1.20	0.80	2.00	1.38	0.62	2.00	1.66	0.34
Final Sat.:	3150	3800	1750	3150	2267	1432	3150	2583	1116	3150	3086	614
Capacity Analysis Module:												
Vol/Sat:	0.08	0.04	0.09	0.01	0.02	0.02	0.01	0.07	0.07	0.05	0.12	0.12
Crit Moves:	****			****			****			****		
Green Time:	27.4	22.0	22.0	15.4	10.0	10.0	7.0	26.8	26.8	18.8	38.6	38.6
Volume/Cap:	0.29	0.16	0.40	0.05	0.16	0.16	0.09	0.23	0.23	0.23	0.29	0.29
Delay/Veh:	26.4	29.2	31.6	33.7	38.9	38.9	41.2	26.3	26.3	32.2	19.1	19.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.4	29.2	31.6	33.7	38.9	38.9	41.2	26.3	26.3	32.2	19.1	19.1
LOS by Move:	C	C	C	C-	D+	D+	D	C	C	C-	B-	B-
HCM2kAvgQ:	4	2	5	0	1	1	0	3	3	2	4	4
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #20: Mary Avenue/Maude Avenue



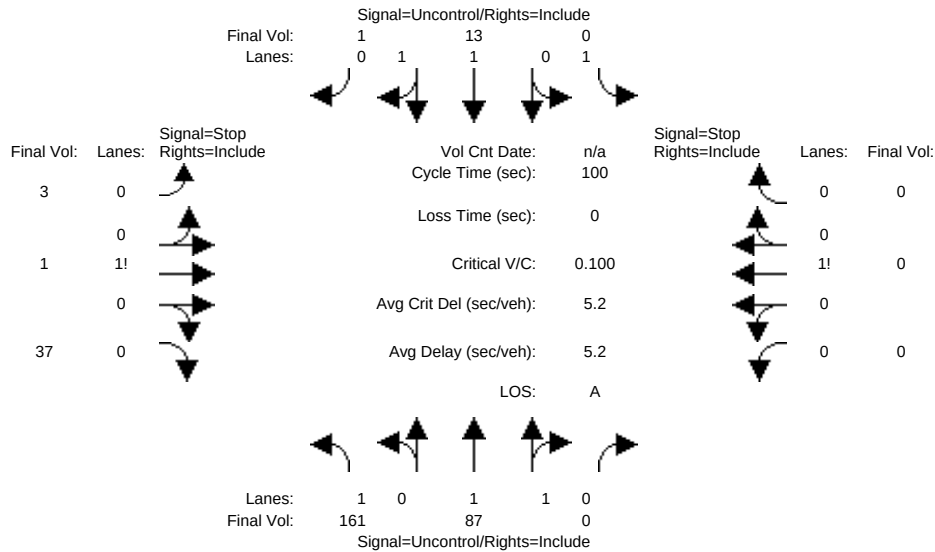
Street Name:	Mary Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	101	60	147	77	151	30	21	371	322	226	199	54
Growth 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
Initial Bse:	101	60	147	77	151	30	21	371	322	226	199	54
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	101	60	147	77	151	30	21	371	322	226	199	54
User 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
PHF 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
PHF Volume:	101	60	147	77	151	30	21	371	322	226	199	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	60	147	77	151	30	21	371	322	226	199	54
PCE 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
MLF 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
Final Volume:	101	60	147	77	151	30	21	371	322	226	199	54
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.95	0.83	0.98	0.95
Lanes:	2.00	2.00	1.00	2.00	1.66	0.34	2.00	1.05	0.95	2.00	1.56	0.44
Final Sat.:	3150	3800	1750	3150	3086	613	3150	1980	1718	3150	2910	790
Capacity Analysis Module:												
Vol/Sat:	0.03	0.02	0.08	0.02	0.05	0.05	0.01	0.19	0.19	0.07	0.07	0.07
Crit Moves:	****											
Green Time:	9.0	14.9	14.9	7.0	12.9	12.9	19.0	33.3	33.3	12.8	27.1	27.1
Volume/Cap:	0.28	0.08	0.45	0.28	0.30	0.30	0.03	0.45	0.45	0.45	0.20	0.20
Uniform Del:	32.5	26.9	28.9	34.1	29.6	29.6	23.4	16.8	16.8	30.4	18.8	18.8
IncrementDel:	0.4	0.1	1.0	0.6	0.3	0.3	0.0	0.2	0.2	0.6	0.1	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	33.0	26.9	29.9	34.7	29.9	29.9	23.5	17.0	17.0	31.1	18.9	18.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.0	26.9	29.9	34.7	29.9	29.9	23.5	17.0	17.0	31.1	18.9	18.9
LOS by Move:	C-	C	C	C-	C	C	C	B	B	C	B-	B-
HCM2kAvgQ:	2	1	4	1	2	2	0	6	6	3	2	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #21: Innovation Way/Site Access



Street Name:	Innovation Way						Site Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	161	87	0	0	13	1	3	1	37	0	0	0
Growth 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
Initial Bse:	161	87	0	0	13	1	3	1	37	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	161	87	0	0	13	1	3	1	37	0	0	0
User 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
PHF 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
PHF Volume:	161	87	0	0	13	1	3	1	37	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	161	87	0	0	13	1	3	1	37	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	14	xxxx	xxxxx	xxxx	xxxx	xxxxx	379	423	7	416	423	44
Potent Cap.:	1617	xxxx	xxxxx	xxxx	xxxx	xxxxx	601	526	1080	526	526	1024
Move Cap.:	1617	xxxx	xxxxx	xxxx	xxxx	xxxxx	555	474	1080	468	473	1024
Volume/Cap:	0.10	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	0.00	0.03	0.00	0.00	0.00
Level of Service Module:												
2Way95thQ:	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	981	xxxxx	xxxx	0	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	8.8	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			8.8			xxxxxx		
ApproachLOS:	*			*			A			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	161	87			0	0	13			1	3	1			37	0	0			0
ApproachDel:	xxxxxx				xxxxxx				8.8				xxxxxx							

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=41]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=303]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	161	87			0	0	13			1	3	1			37	0	0			0

Major Street Volume: 262

Minor Approach Volume: 41

Minor Approach Volume Threshold: 746

SIGNAL WARRANT DISCLAIMER

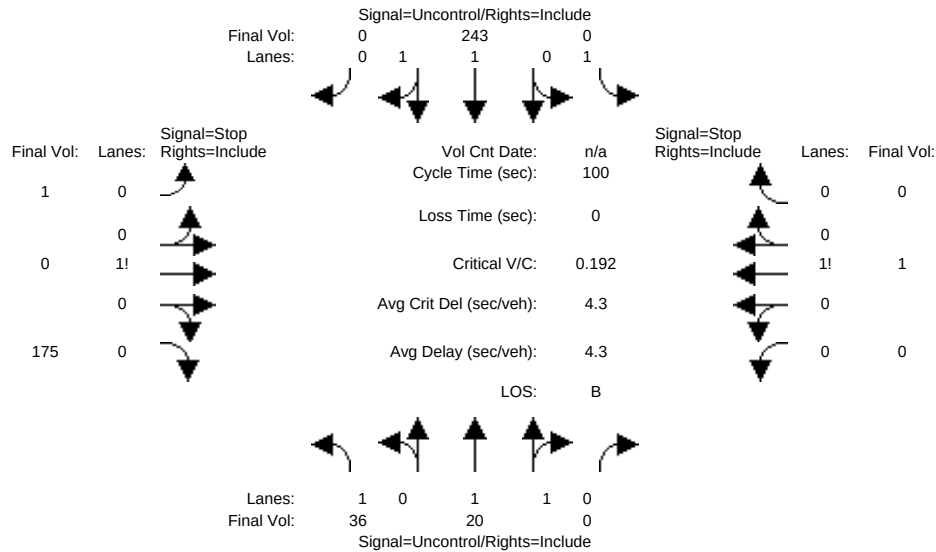
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #21: Innovation Way/Site Access



Street Name:	Innovation Way						Site Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	36	20	0	0	243	0	1	0	175	0	1	0
Growth 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
Initial Bse:	36	20	0	0	243	0	1	0	175	0	1	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	20	0	0	243	0	1	0	175	0	1	0
User 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
PHF 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
PHF Volume:	36	20	0	0	243	0	1	0	175	0	1	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	36	20	0	0	243	0	1	0	175	0	1	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	6.5	6.9	xxxxx	6.5	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	4.0	xxxxx
Capacity Module:												
Cnflct Vol:	243	xxxx	xxxxx	xxxx	xxxx	xxxxx	326	335	122	xxxx	335	xxxxx
Potent Cap.:	1335	xxxx	xxxxx	xxxx	xxxx	xxxxx	609	589	913	xxxx	589	xxxxx
Move Cap.:	1335	xxxx	xxxxx	xxxx	xxxx	xxxxx	596	573	913	xxxx	573	xxxxx
Volume/Cap:	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.00	0.19	xxxx	0.00	xxxx
Level of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0.0	xxxxx
Control Del:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.3	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	B	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	911	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.7	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.9	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx				9.9			11.3	
ApproachLOS:	*			*				A			B	

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound									
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R					

Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign									
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0					
Initial Vol:	36	20			0	0	243			0	1	0	175			0	0	1		0					
ApproachDel:	xxxxxx					xxxxxx					9.9					11.3									

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.5]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=176]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=476]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=1]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=476]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	36		20		0	0		243		0	1		0		175	0		1		0

Major Street Volume: 299

Minor Approach Volume: 176

Minor Approach Volume Threshold: 701

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

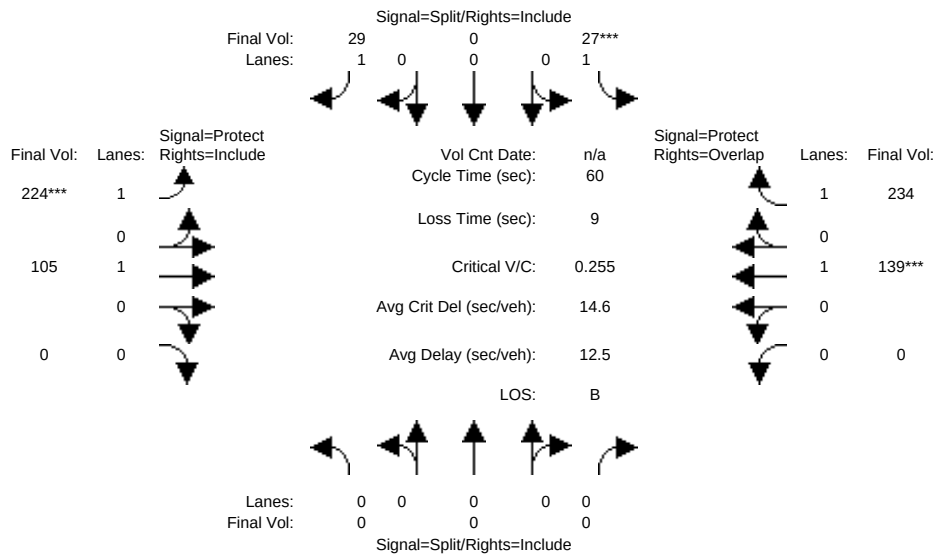
The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Appendix C – Level of Service Worksheets: Existing plus Project
Conditions

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #1: Enterprise Way/Moffett Park Drive

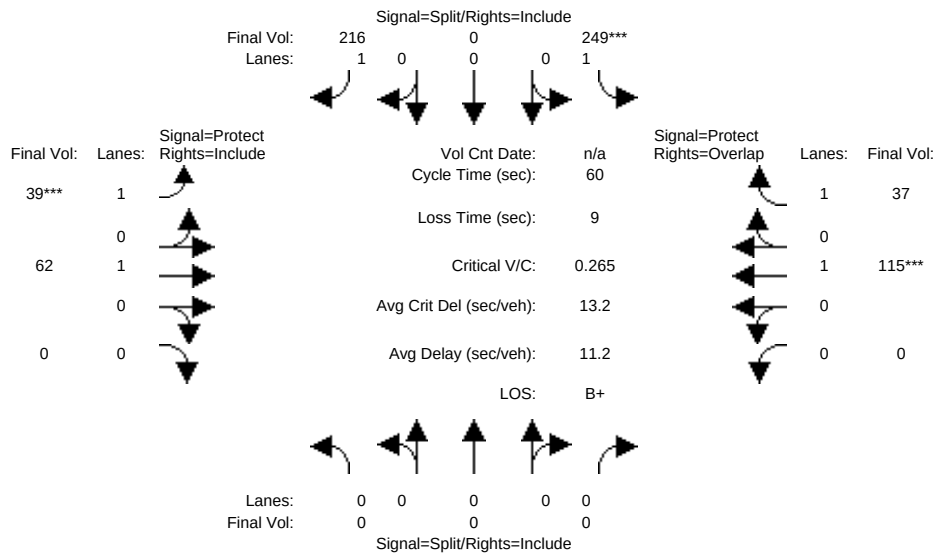


Street Name:	Enterprise Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	27	0	27	213	102	0	0	136	234
Growth 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
Initial Bse:	0	0	0	27	0	27	213	102	0	0	136	234
Added Vol:	0	0	0	0	0	2	11	3	0	0	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	27	0	29	224	105	0	0	139	234
User 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
PHF 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
PHF Volume:	0	0	0	27	0	29	224	105	0	0	139	234
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	27	0	29	224	105	0	0	139	234
PCE 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
MLF 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
Final Volume:	0	0	0	27	0	29	224	105	0	0	139	234
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.13	0.06	0.00	0.00	0.07	0.13
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	26.1	41.0	0.0	0.0	14.9	24.9
Volume/Cap:	0.00	0.00	0.00	0.09	0.00	0.10	0.29	0.08	0.00	0.00	0.29	0.32
Delay/Veh:	0.0	0.0	0.0	21.3	0.0	21.3	11.2	3.2	0.0	0.0	18.6	12.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.3	0.0	21.3	11.2	3.2	0.0	0.0	18.6	12.1
LOS by Move:	A	A	A	C+	A	C+	B+	A	A	A	B-	B
HCM2kAvgQ:	0	0	0	1	0	1	3	1	0	0	2	3
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #1: Enterprise Way/Moffett Park Drive



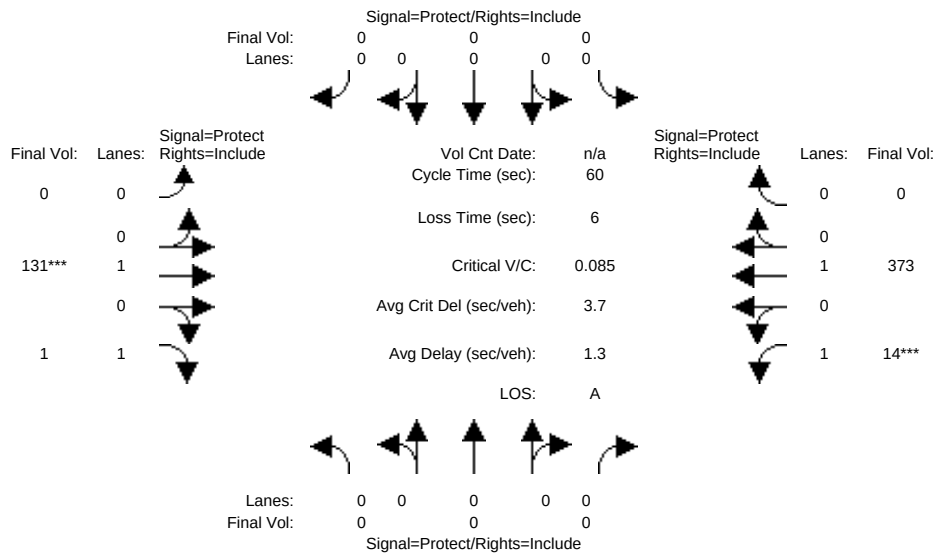
Street Name:	Enterprise Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	249	0	212	30	59	0	0	110	37
Growth 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
Initial Bse:	0	0	0	249	0	212	30	59	0	0	110	37
Added Vol:	0	0	0	0	0	4	9	3	0	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	249	0	216	39	62	0	0	115	37
User 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
PHF 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
PHF Volume:	0	0	0	249	0	216	39	62	0	0	115	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	249	0	216	39	62	0	0	115	37
PCE 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
MLF 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
Final Volume:	0	0	0	249	0	216	39	62	0	0	115	37
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.14	0.00	0.12	0.02	0.03	0.00	0.00	0.06	0.02
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	30.9	0.0	30.9	7.0	20.1	0.0	0.0	13.1	44.0
Volume/Cap:	0.00	0.00	0.00	0.28	0.00	0.24	0.19	0.10	0.00	0.00	0.28	0.03
Uniform Del:	0.0	0.0	0.0	8.2	0.0	8.1	23.9	13.7	0.0	0.0	19.5	2.2
IncrementDel:	0.0	0.0	0.0	0.2	0.0	0.1	0.5	0.1	0.0	0.0	0.4	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	8.4	0.0	8.2	24.4	13.8	0.0	0.0	19.8	2.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	8.4	0.0	8.2	24.4	13.8	0.0	0.0	19.8	2.2
LOS by Move:	A	A	A	A	A	A	C	B	A	A	B-	A
HCM2kAvgQ:	0	0	0	3	0	2	1	1	0	0	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #2: US-101 NB On-Ramp/Moffett Park Drive

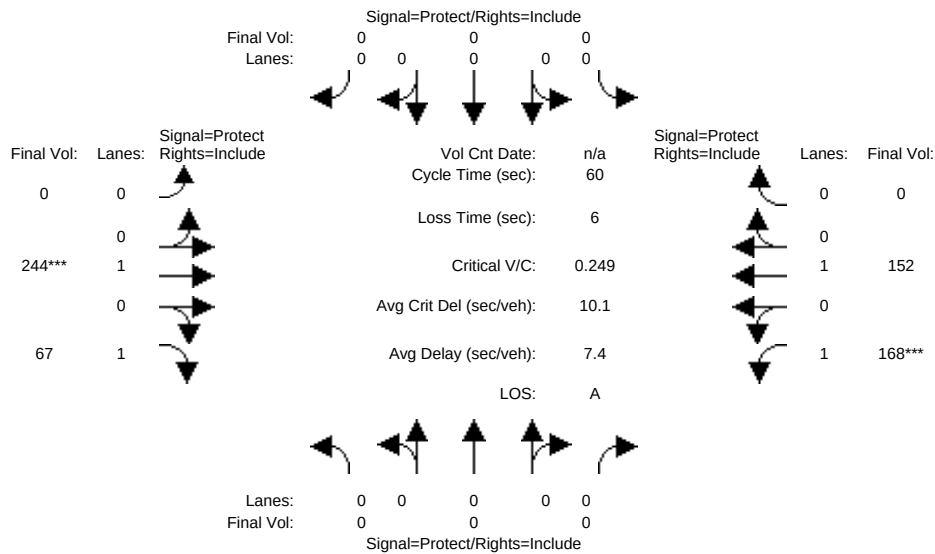


Street Name:	US-101 NB On-Ramp						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	128	1	13	370	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	128	1	13	370	0
Added Vol:	0	0	0	0	0	0	0	3	0	1	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	131	1	14	373	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	0	0	131	1	14	373	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	131	1	14	373	0
PCE 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
MLF 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
Final Volume:	0	0	0	0	0	0	0	131	1	14	373	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	0	0	0	0	1900	1750	1750	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.01	0.20	0.00
Crit Moves:								****		****		
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	47.0	7.0	54.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.07	0.22	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.4	23.7	0.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.4	23.7	0.4	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	1	0	0	1	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #2: US-101 NB On-Ramp/Moffett Park Drive



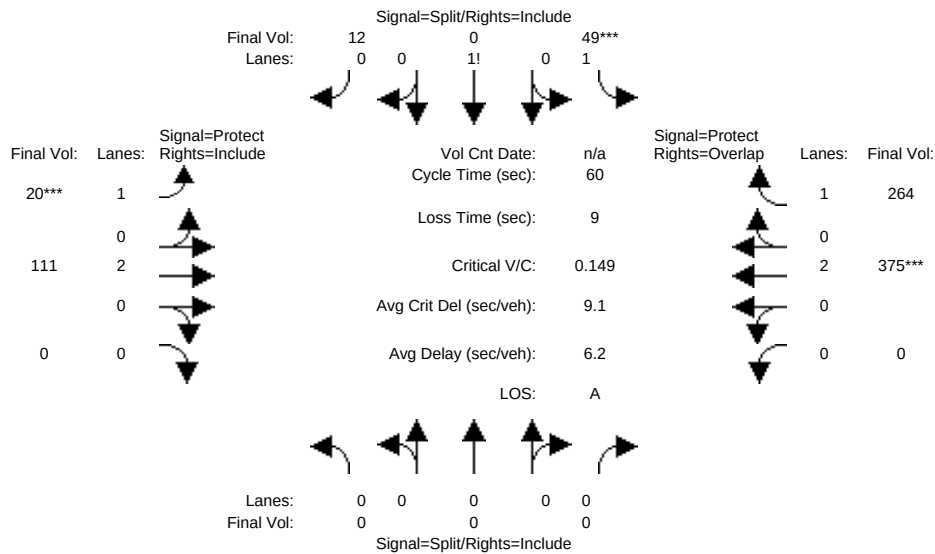
Street Name:	US-101 NB On-Ramp						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	241	67	166	147	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	241	67	166	147	0
Added Vol:	0	0	0	0	0	0	0	3	0	2	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	244	67	168	152	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	0	0	244	67	168	152	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	244	67	168	152	0
PCE 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
MLF 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
Final Volume:	0	0	0	0	0	0	0	244	67	168	152	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	0	0	0	0	1900	1750	1750	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.04	0.10	0.08	0.00
Crit Moves:								****		****		
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.9	30.9	23.1	54.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.07	0.25	0.09	0.00
Uniform Del:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	7.3	12.6	0.3	0.0
IncrcmntDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	7.4	12.7	0.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	7.4	12.7	0.3	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	B	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	2	1	2	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #3: Innovation Way/Moffett Park Drive

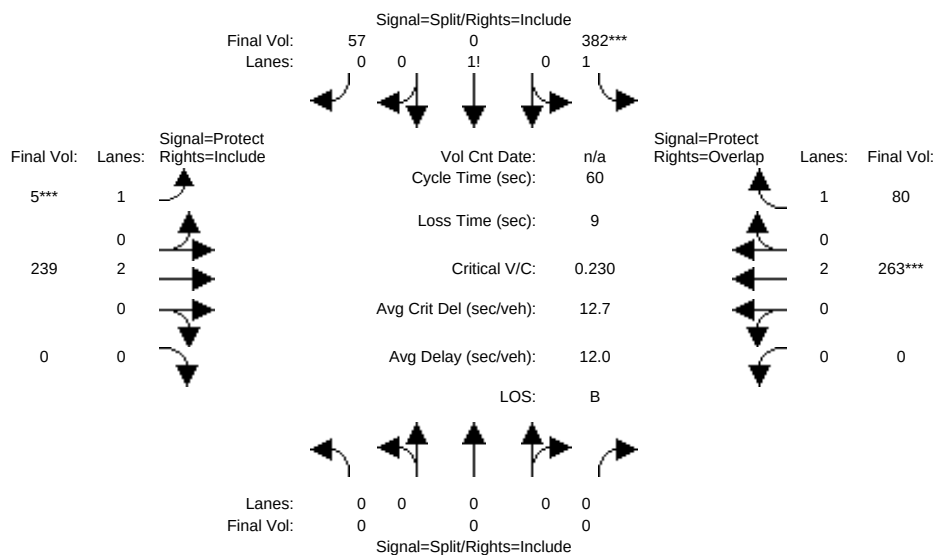


Street Name:	Innovation Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	42	0	8	17	111	0	0	375	231
Growth 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
Initial Bse:	0	0	0	42	0	8	17	111	0	0	375	231
Added Vol:	0	0	0	7	0	4	3	0	0	0	0	33
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	49	0	12	20	111	0	0	375	264
User 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
PHF 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
PHF Volume:	0	0	0	49	0	12	20	111	0	0	375	264
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	49	0	12	20	111	0	0	375	264
PCE 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
MLF 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
Final Volume:	0	0	0	49	0	12	20	111	0	0	375	264
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.67	0.00	0.33	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	2925	0	575	1750	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.03	0.00	0.00	0.10	0.15
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	7.0	41.0	0.0	0.0	34.0	44.0
Volume/Cap:	0.00	0.00	0.00	0.10	0.00	0.13	0.10	0.04	0.00	0.00	0.17	0.21
Delay/Veh:	0.0	0.0	0.0	21.3	0.0	21.4	23.9	3.1	0.0	0.0	6.3	2.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.3	0.0	21.4	23.9	3.1	0.0	0.0	6.3	2.6
LOS by Move:	A	A	A	C+	A	C+	C	A	A	A	A	A
HCM2kAvgQ:	0	0	0	1	0	1	0	0	0	0	2	2
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #3: Innovation Way/Moffett Park Drive



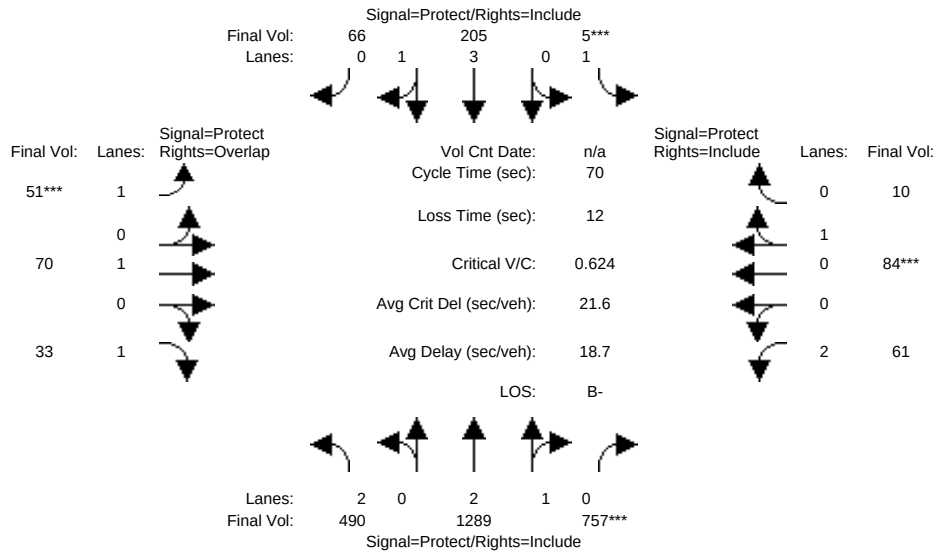
Street Name:	Innovation Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	368	0	50	2	239	0	0	263	54
Growth 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
Initial Bse:	0	0	0	368	0	50	2	239	0	0	263	54
Added Vol:	0	0	0	14	0	7	3	0	0	0	0	26
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	382	0	57	5	239	0	0	263	80
User 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
PHF 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
PHF Volume:	0	0	0	382	0	57	5	239	0	0	263	80
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	382	0	57	5	239	0	0	263	80
PCE 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
MLF 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
FinalVolume:	0	0	0	382	0	57	5	239	0	0	263	80
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.77	0.00	0.23	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3098	0	402	1750	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.12	0.00	0.14	0.00	0.06	0.00	0.00	0.07	0.05
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	29.6	0.0	29.6	7.0	21.4	0.0	0.0	14.4	44.0
Volume/Cap:	0.00	0.00	0.00	0.25	0.00	0.29	0.02	0.18	0.00	0.00	0.29	0.06
Uniform Del:	0.0	0.0	0.0	8.8	0.0	9.0	23.5	13.2	0.0	0.0	18.6	2.2
IncrcmntDel:	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.2	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	8.9	0.0	9.1	23.5	13.3	0.0	0.0	18.8	2.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	8.9	0.0	9.1	23.5	13.3	0.0	0.0	18.8	2.3
LOS by Move:	A	A	A	A	A	A	C	B	A	A	B-	A
HCM2kAvgQ:	0	0	0	3	0	3	0	1	0	0	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #4: Mathilda Avenue/Moffett Park Drive

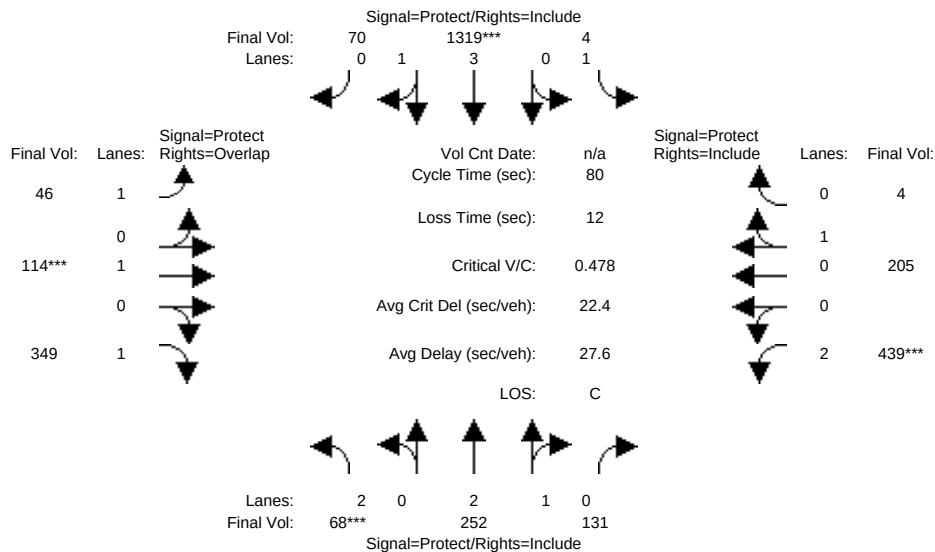


Street Name:	Mathilda Avenue						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	463	1251	757	4	199	66	51	69	27	61	77	4
Growth 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
Initial Bse:	463	1251	757	4	199	66	51	69	27	61	77	4
Added Vol:	27	38	0	1	6	0	0	1	6	0	7	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	490	1289	757	5	205	66	51	70	33	61	84	10
User 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
PHF 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
PHF Volume:	490	1289	757	5	205	66	51	70	33	61	84	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	490	1289	757	5	205	66	51	70	33	61	84	10
PCE 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
MLF 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
Final Volume:	490	1289	757	5	205	66	51	70	33	61	84	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	2.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.89	0.11
Final Sat.:	3150	3800	1750	1750	5697	1800	1750	1900	1750	3150	1609	191
Capacity Analysis Module:												
Vol/Sat:	0.16	0.34	0.43	0.00	0.04	0.04	0.03	0.04	0.02	0.02	0.05	0.05
Crit Moves:			****	****			****				****	
Green Time:	21.4	34.0	34.0	7.0	19.6	19.6	7.0	10.0	31.4	7.0	10.0	10.0
Volume/Cap:	0.51	0.70	0.89	0.03	0.13	0.13	0.29	0.26	0.04	0.19	0.37	0.37
Delay/Veh:	20.5	14.8	21.1	28.5	18.8	18.8	30.1	27.2	10.9	29.2	28.0	28.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.5	14.8	21.1	28.5	18.8	18.8	30.1	27.2	10.9	29.2	28.0	28.0
LOS by Move:	C+	B	C+	C	B-	B-	C	C	B+	C	C	C
HCM2kAvgQ:	5	11	18	0	1	1	1	1	0	1	2	2
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #4: Mathilda Avenue/Moffett Park Drive



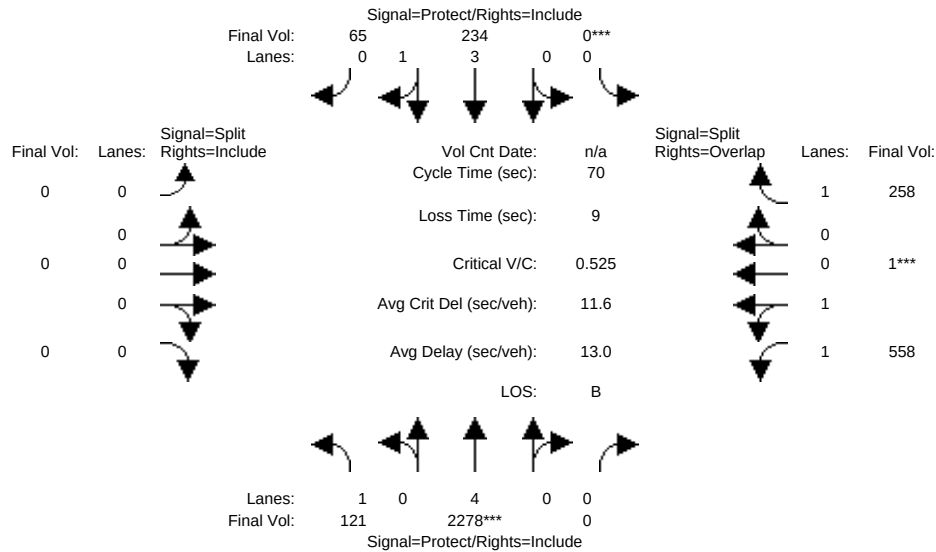
Street Name:	Mathilda Avenue						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	47	222	131	2	1308	70	46	111	338	439	200	0
Growth 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
Initial Bse:	47	222	131	2	1308	70	46	111	338	439	200	0
Added Vol:	21	30	0	2	11	0	0	3	11	0	5	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68	252	131	4	1319	70	46	114	349	439	205	4
User 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
PHF 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
PHF Volume:	68	252	131	4	1319	70	46	114	349	439	205	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	252	131	4	1319	70	46	114	349	439	205	4
PCE 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
MLF 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
Final Volume:	68	252	131	4	1319	70	46	114	349	439	205	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.99	0.95	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	2.00	1.00	1.00	3.79	0.21	1.00	1.00	1.00	2.00	0.98	0.02
Final Sat.:	3150	3800	1750	1750	7121	378	1750	1900	1750	3150	1766	34
Capacity Analysis Module:												
Vol/Sat:	0.02	0.07	0.07	0.00	0.19	0.19	0.03	0.06	0.20	0.14	0.12	0.12
Crit Moves:	****			****			****			****		
Green Time:	7.0	21.2	21.2	14.9	29.1	29.1	13.1	10.0	17.0	21.9	18.8	18.8
Volume/Cap:	0.25	0.25	0.28	0.01	0.51	0.51	0.16	0.48	0.94	0.51	0.50	0.50
Uniform Del:	34.0	23.1	23.3	26.6	19.9	19.9	28.7	32.6	31.0	24.5	26.5	26.5
IncrementDel:	0.5	0.1	0.1	0.0	0.2	0.2	0.3	1.5	31.3	0.5	0.9	0.9
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	34.5	23.2	23.4	26.6	20.0	20.0	29.0	34.1	62.3	25.0	27.4	27.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.5	23.2	23.4	26.6	20.0	20.0	29.0	34.1	62.3	25.0	27.4	27.4
LOS by Move:	C-	C	C	C	C+	C+	C	C-	E	C	C	C
HCM2kAvgQ:	1	2	3	0	7	7	1	3	11	6	5	5

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps

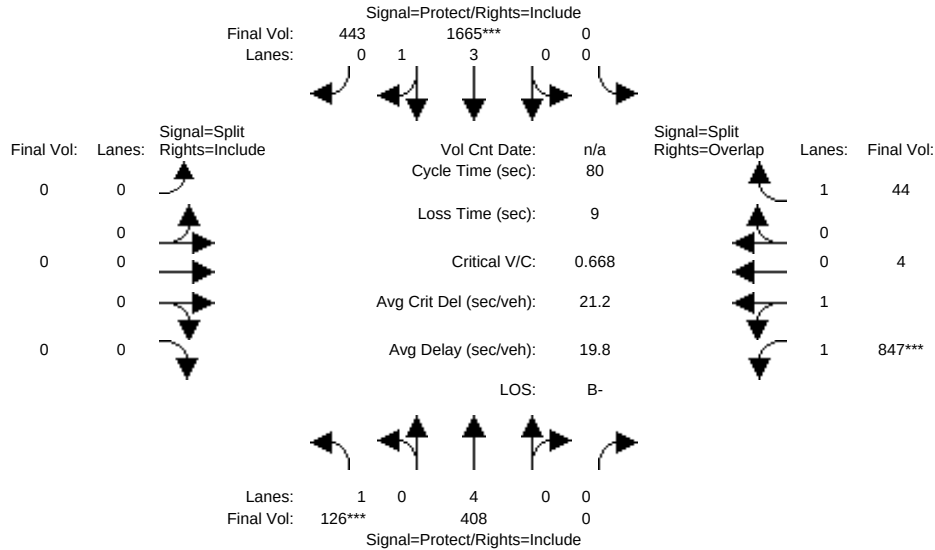


Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	121	2223	0	0	226	61	0	0	0	558	1	248
Growth 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
Initial Bse:	121	2223	0	0	226	61	0	0	0	558	1	248
Added Vol:	0	55	0	0	8	4	0	0	0	0	0	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	121	2278	0	0	234	65	0	0	0	558	1	258
User 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
PHF 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
PHF Volume:	121	2278	0	0	234	65	0	0	0	558	1	258
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	121	2278	0	0	234	65	0	0	0	558	1	258
PCE 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
MLF 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
Final Volume:	121	2278	0	0	234	65	0	0	0	558	1	258
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.09	0.91	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5867	1630	0	0	0	3544	6	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.30	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.16	0.16	0.15
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	16.5	40.0	0.0	0.0	23.5	23.5	0.0	0.0	0.0	21.0	21.0	21.0
Volume/Cap:	0.29	0.52	0.00	0.00	0.12	0.12	0.00	0.00	0.00	0.52	0.52	0.49
Delay/Veh:	22.4	9.3	0.0	0.0	16.1	16.1	0.0	0.0	0.0	20.8	20.8	20.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.4	9.3	0.0	0.0	16.1	16.1	0.0	0.0	0.0	20.8	20.8	20.8
LOS by Move:	C+	A	A	A	B	B	A	A	A	C+	C+	C+
HCM2kAvgQ:	2	7	0	0	1	1	0	0	0	6	6	5
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps



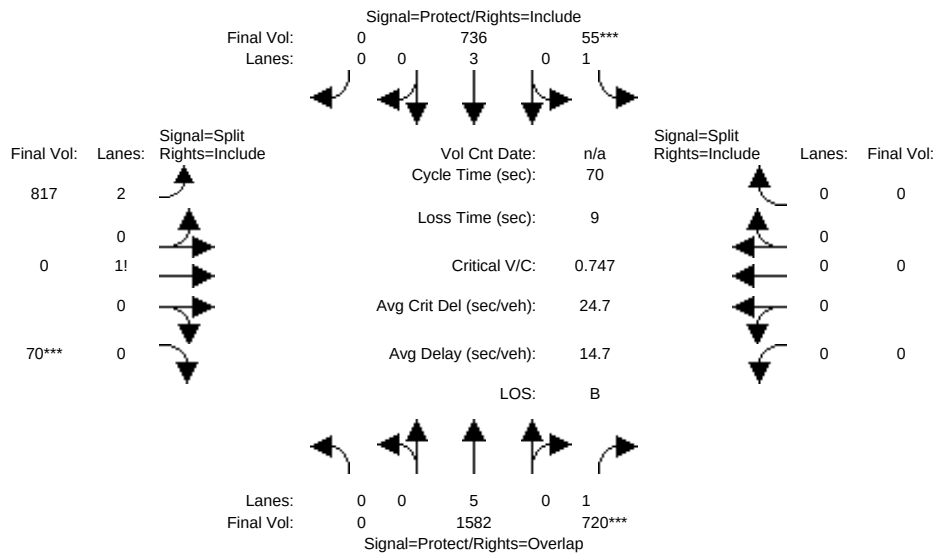
Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	126	364	0	0	1650	435	0	0	0	847	4	36
Growth 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
Initial Bse:	126	364	0	0	1650	435	0	0	0	847	4	36
Added Vol:	0	44	0	0	15	8	0	0	0	0	0	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	126	408	0	0	1665	443	0	0	0	847	4	44
User 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
PHF 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
PHF Volume:	126	408	0	0	1665	443	0	0	0	847	4	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	126	408	0	0	1665	443	0	0	0	847	4	44
PCE 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
MLF 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
Final Volume:	126	408	0	0	1665	443	0	0	0	847	4	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.12	0.88	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5921	1575	0	0	0	3533	17	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.05	0.00	0.00	0.28	0.28	0.00	0.00	0.00	0.24	0.24	0.03
Crit Moves:	****				****					****		
Green Time:	8.6	42.3	0.0	0.0	33.7	33.7	0.0	0.0	0.0	28.7	28.7	28.7
Volume/Cap:	0.67	0.10	0.00	0.00	0.67	0.67	0.00	0.00	0.00	0.67	0.67	0.07
Uniform Del:	34.3	9.4	0.0	0.0	18.7	18.7	0.0	0.0	0.0	21.6	21.6	16.9
IncrementDel:	8.9	0.0	0.0	0.0	0.6	0.6	0.0	0.0	0.0	1.4	1.4	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	43.2	9.4	0.0	0.0	19.2	19.2	0.0	0.0	0.0	23.0	23.0	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.2	9.4	0.0	0.0	19.2	19.2	0.0	0.0	0.0	23.0	23.0	16.9
LOS by Move:	D	A	A	A	B-	B-	A	A	A	C	C	B
HCM2kAvgQ:	3	1	0	0	11	11	0	0	0	10	10	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps



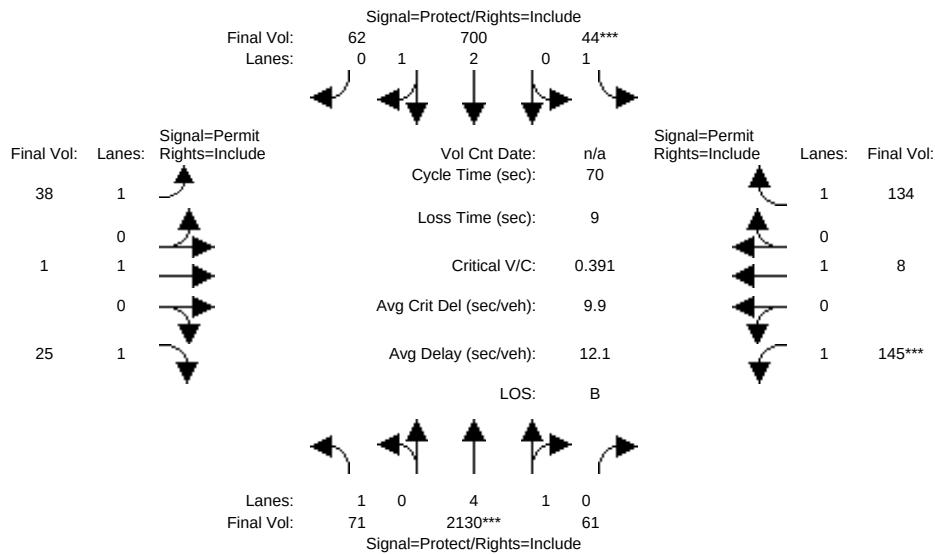
Street Name:				Mathilda Avenue				SR-237 Eastbound Ramps											
Approach:				North Bound				South Bound				East Bound				West Bound			
Movement:				L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	
				-----				-----				-----				-----			
Min. Green:				0	10	10		7	10	0		10	0	10		0	0	0	
Y+R:				0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	
				-----				-----				-----				-----			
Volume Module:																			
Base Vol:				0	1549	720		53	731	0		795	0	70		0	0	0	
Growth 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	
Initial Bse:				0	1549	720		53	731	0		795	0	70		0	0	0	
Added Vol:				0	33	0		2	5	0		22	0	0		0	0	0	
PasserByVol:				0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:				0	1582	720		55	736	0		817	0	70		0	0	0	
User 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	
PHF 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	
PHF Volume:				0	1582	720		55	736	0		817	0	70		0	0	0	
Reduct Vol:				0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:				0	1582	720		55	736	0		817	0	70		0	0	0	
PCE 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	
MLF 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	
FinalVolume:				0	1582	720		55	736	0		817	0	70		0	0	0	
				-----				-----				-----				-----			
Saturation Flow Module:																			
Sat/Lane:				1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:				0.92	1.00	0.92		0.92	1.00	0.92		0.85	1.00	0.92		0.92	1.00	0.92	
Lanes:				0.00	5.00	1.00		1.00	3.00	0.00		2.81	0.00	0.19		0.00	0.00	0.00	
Final Sat.:				0	9500	1750		1750	5700	0		4557	0	337		0	0	0	
				-----				-----				-----				-----			
Capacity Analysis Module:																			
Vol/Sat:				0.00	0.17	0.41		0.03	0.13	0.00		0.18	0.00	0.21		0.00	0.00	0.00	
Crit Moves:						****		****						****					
Green Time:				0.0	35.9	35.9		7.0	42.9	0.0		18.1	0.0	18.1		0.0	0.0	0.0	
Volume/Cap:				0.00	0.32	0.80		0.31	0.21	0.00		0.69	0.00	0.80		0.00	0.00	0.00	
Delay/Veh:				0.0	10.0	19.4		30.3	6.1	0.0		25.1	0.0	28.6		0.0	0.0	0.0	
User DelAdj:				1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:				0.0	10.0	19.4		30.3	6.1	0.0		25.1	0.0	28.6		0.0	0.0	0.0	
LOS by Move:				A	B+	B-		C	A	A		C	A	C		A	A	A	
HCM2kAvgQ:				0	4	15		1	2	0		8	0	10		0	0	0	
Note: Queue reported is the number of cars per lane.																			

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #7: Mathilda Avenue/Ross Drive

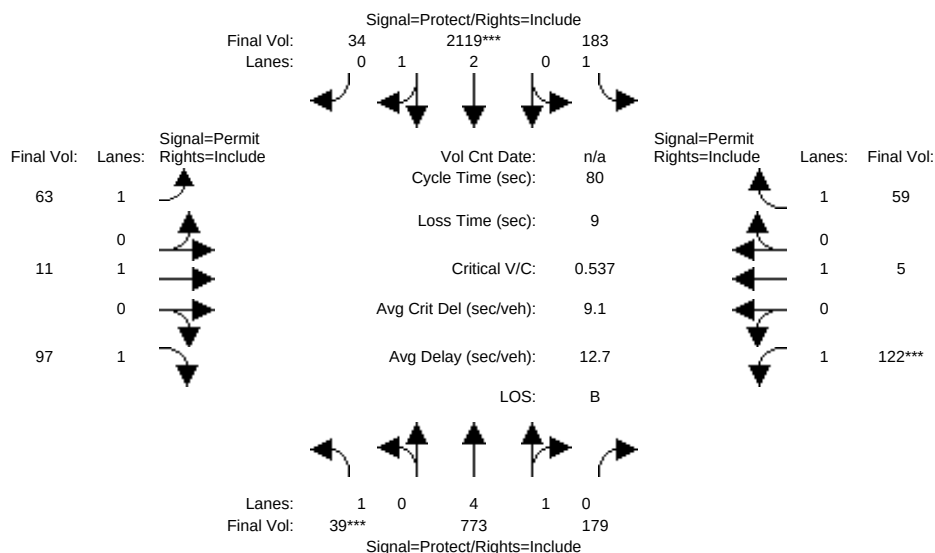


Street Name:	Mathilda Avenue						Ross Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	71	2097	61	44	695	62	38	1	25	145	8	134
Growth 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
Initial Bse:	71	2097	61	44	695	62	38	1	25	145	8	134
Added Vol:	0	33	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	2130	61	44	700	62	38	1	25	145	8	134
User 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
PHF 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
PHF Volume:	71	2130	61	44	700	62	38	1	25	145	8	134
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	2130	61	44	700	62	38	1	25	145	8	134
PCE 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
MLF 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
Final Volume:	71	2130	61	44	700	62	38	1	25	145	8	134
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	4.85	0.15	1.00	2.75	0.25	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	9138	262	1750	5144	456	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.23	0.03	0.14	0.14	0.02	0.00	0.01	0.08	0.00	0.08
Crit Moves:	****			****			****			****		
Green Time:	19.3	39.8	39.8	7.0	27.6	27.6	14.2	14.2	14.2	14.2	14.2	14.2
Volume/Cap:	0.15	0.41	0.41	0.25	0.35	0.35	0.11	0.00	0.07	0.41	0.02	0.38
Delay/Veh:	19.3	8.5	8.5	29.8	15.0	15.0	22.9	22.3	22.7	25.1	22.4	24.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.3	8.5	8.5	29.8	15.0	15.0	22.9	22.3	22.7	25.1	22.4	24.8
LOS by Move:	B-	A	A	C	B	B	C+	C+	C+	C	C+	C
HCM2kAvgQ:	1	5	5	1	4	4	1	0	1	3	0	3
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #7: Mathilda Avenue/Ross Drive



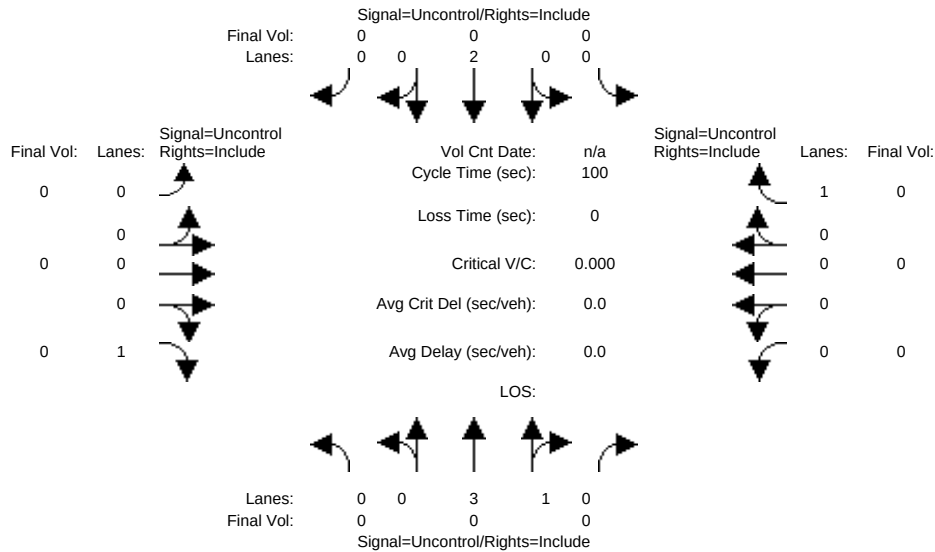
Street Name:	Mathilda Avenue						Ross Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	39	747	179	183	2108	34	63	11	97	122	5	59
Growth 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
Initial Bse:	39	747	179	183	2108	34	63	11	97	122	5	59
Added Vol:	0	26	0	0	11	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	773	179	183	2119	34	63	11	97	122	5	59
User 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
PHF 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
PHF Volume:	39	773	179	183	2119	34	63	11	97	122	5	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	773	179	183	2119	34	63	11	97	122	5	59
PCE 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
MLF 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
Final Volume:	39	773	179	183	2119	34	63	11	97	122	5	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	4.02	0.98	1.00	2.95	0.05	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	7629	1767	1750	5511	88	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.10	0.38	0.38	0.04	0.01	0.06	0.07	0.00	0.03
Crit Moves:	****				****					****		
Green Time:	7.0	33.2	33.2	27.8	54.0	54.0	10.0	10.0	10.0	10.0	10.0	10.0
Volume/Cap:	0.25	0.24	0.24	0.30	0.57	0.57	0.29	0.05	0.44	0.56	0.02	0.27
Uniform Del:	34.1	15.2	15.2	19.0	6.9	6.9	31.8	30.8	32.4	32.9	30.7	31.7
IncrementDel:	0.9	0.0	0.0	0.3	0.2	0.2	0.7	0.1	1.4	3.2	0.0	0.7
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	34.9	15.3	15.3	19.3	7.1	7.1	32.5	30.9	33.9	36.1	30.7	32.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.9	15.3	15.3	19.3	7.1	7.1	32.5	30.9	33.9	36.1	30.7	32.4
LOS by Move:	C-	B	B	B-	A	A	C-	C	C-	D+	C	C-
HCM2kAvgQ:	1	3	3	3	9	9	2	0	3	4	0	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #8: Mathilda Avenue/US-101 Northbound Ramps

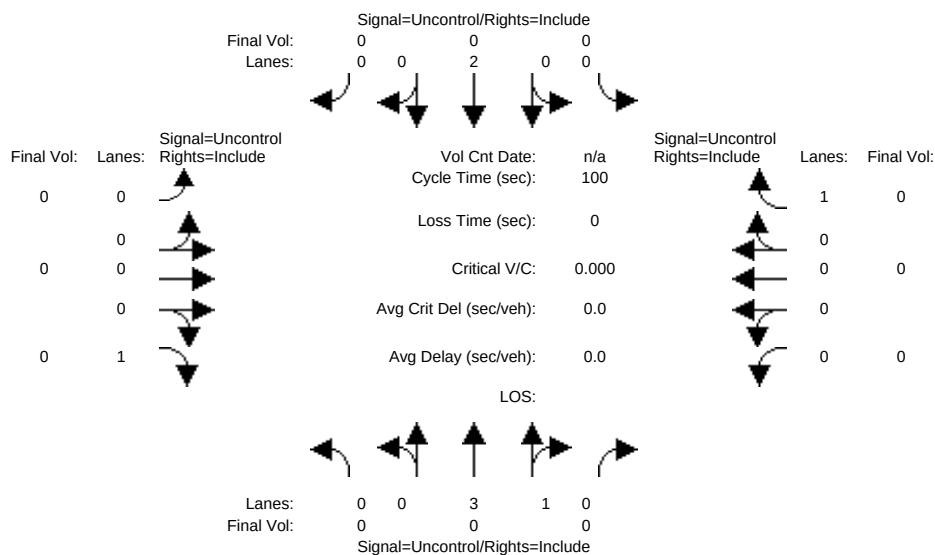


Street Name:	Mathilda Avenue						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1380	461	0	865	0	0	0	743	0	0	849
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1380	461	0	865	0	0	0	743	0	0	849
Added Vol:	0	25	0	0	5	0	0	0	0	0	0	9
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #8: Mathilda Avenue/US-101 Northbound Ramps

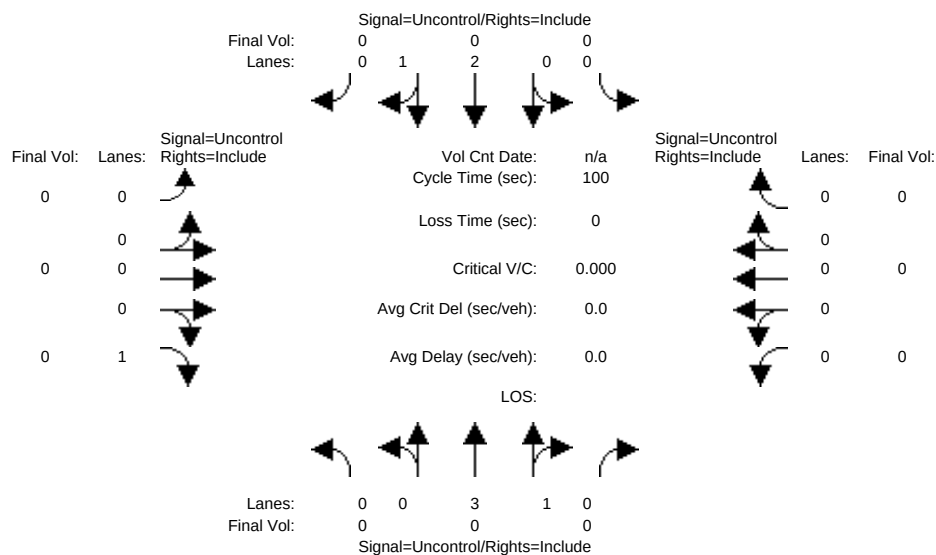


Street Name:	Mathilda Avenue						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	720	337	0	2327	0	0	0	694	0	0	245
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	720	337	0	2327	0	0	0	694	0	0	245
Added Vol:	0	20	0	0	11	0	0	0	0	0	0	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #9: Mathilda Avenue/US-101 Southbound Ramps

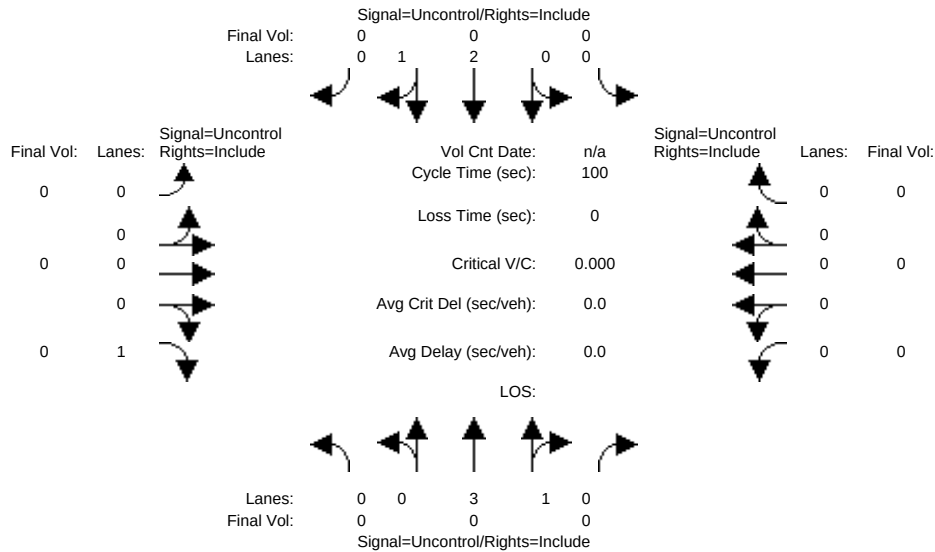


Street Name:	Mathilda Avenue						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1841	642	0	1409	199	0	0	393	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1841	642	0	1409	199	0	0	393	0	0	0
Added Vol:	0	16	0	2	4	0	9	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #9: Mathilda Avenue/US-101 Southbound Ramps

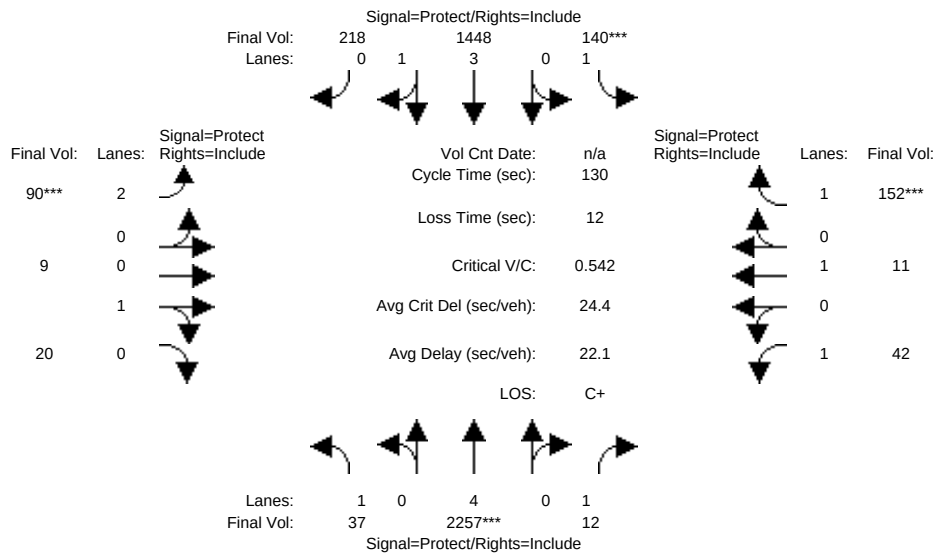


Street Name:	Mathilda Avenue						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1057	474	0	2401	620	0	0	534	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1057	474	0	2401	620	0	0	534	0	0	0
Added Vol:	0	13	0	4	7	0	7	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #10: Mathilda Avenue/Ahwanee Avenue-Almanor Ave

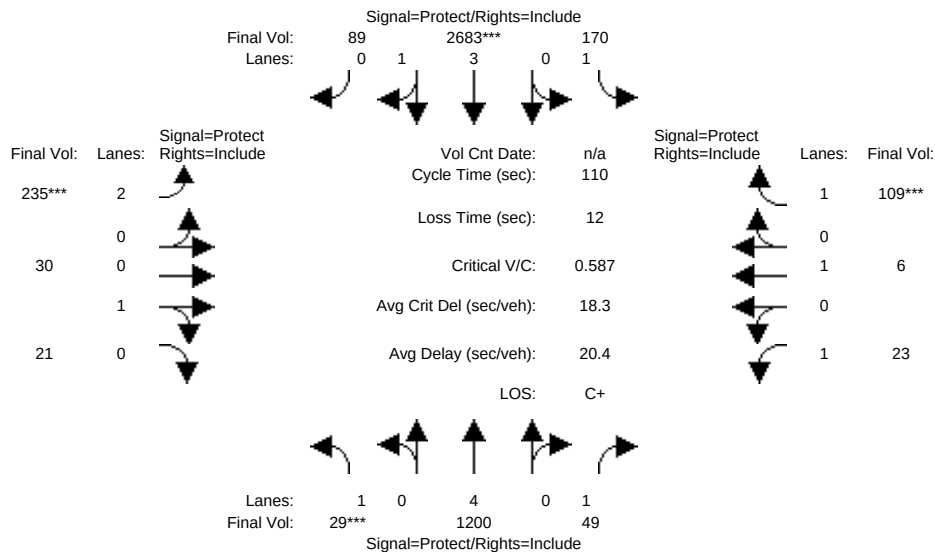


Street Name:	Mathilda Avenue						Ahwanee Avenue-Almanor Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	37	2241	12	140	1444	218	90	9	20	42	11	152
Growth 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
Initial Bse:	37	2241	12	140	1444	218	90	9	20	42	11	152
Added Vol:	0	16	0	0	4	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	37	2257	12	140	1448	218	90	9	20	42	11	152
User 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
PHF 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
PHF Volume:	37	2257	12	140	1448	218	90	9	20	42	11	152
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	2257	12	140	1448	218	90	9	20	42	11	152
PCE 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
MLF 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
Final Volume:	37	2257	12	140	1448	218	90	9	20	42	11	152
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	1.00	4.00	1.00	1.00	3.45	0.55	2.00	0.31	0.69	1.00	1.00	1.00
Final Sat.:	1750	7600	1750	1750	6517	981	3150	559	1241	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.30	0.01	0.08	0.22	0.22	0.03	0.02	0.02	0.02	0.01	0.09
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	17.6	71.1	71.1	19.1	72.6	72.6	7.0	16.3	16.3	11.4	20.8	20.8
Volume/Cap:	0.16	0.54	0.01	0.54	0.40	0.40	0.53	0.13	0.13	0.27	0.04	0.54
Delay/Veh:	50.0	19.1	13.5	53.7	16.3	16.3	63.1	50.8	50.8	56.4	46.2	52.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.0	19.1	13.5	53.7	16.3	16.3	63.1	50.8	50.8	56.4	46.2	52.4
LOS by Move:	D	B-	B	D-	B	B	E	D	D	E+	D	D-
HCM2kAvgQ:	1	14	0	6	9	9	3	1	1	2	0	7
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #10: Mathilda Avenue/Ahwanee Avenue-Almanor Ave



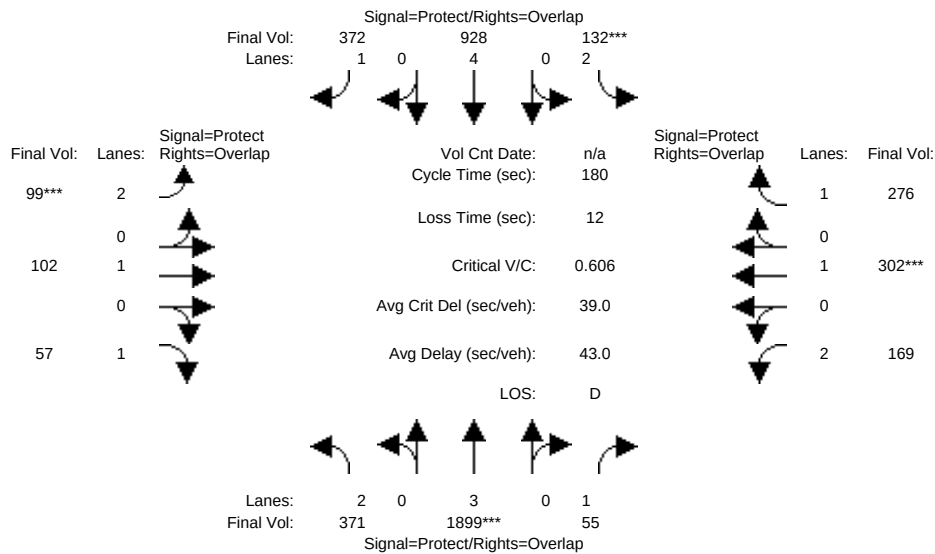
Street Name:	Mathilda Avenue						Ahwanee Avenue-Almanor Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	29	1187	49	170	2676	89	235	30	21	23	6	109
Growth 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
Initial Bse:	29	1187	49	170	2676	89	235	30	21	23	6	109
Added Vol:	0	13	0	0	7	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	1200	49	170	2683	89	235	30	21	23	6	109
User 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
PHF 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
PHF Volume:	29	1200	49	170	2683	89	235	30	21	23	6	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	1200	49	170	2683	89	235	30	21	23	6	109
PCE 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
MLF 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
Final Volume:	29	1200	49	170	2683	89	235	30	21	23	6	109
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	1.00	4.00	1.00	1.00	3.87	0.13	2.00	0.59	0.41	1.00	1.00	1.00
Final Sat.:	1750	7600	1750	1750	7259	241	3150	1059	741	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.16	0.03	0.10	0.37	0.37	0.07	0.03	0.03	0.01	0.00	0.06
Crit Moves:	****			****			****					****
Green Time:	7.0	45.4	45.4	28.0	66.4	66.4	13.4	14.5	14.5	10.1	11.2	11.2
Volume/Cap:	0.26	0.38	0.07	0.38	0.61	0.61	0.61	0.22	0.22	0.14	0.03	0.61
Uniform Del:	49.0	22.5	19.5	33.9	13.7	13.7	45.8	42.7	42.7	45.9	44.5	47.3
IncrementDel:	1.2	0.1	0.0	0.5	0.3	0.3	2.9	0.5	0.5	0.4	0.1	6.2
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	50.3	22.6	19.5	34.4	14.0	14.0	48.7	43.2	43.2	46.4	44.6	53.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.3	22.6	19.5	34.4	14.0	14.0	48.7	43.2	43.2	46.4	44.6	53.5
LOS by Move:	D	C+	B-	C-	B	B	D	D	D	D	D	D-
HCM2kAvgQ:	1	7	1	5	15	15	6	2	2	1	0	5

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #11: Mathilda Avenue/Maude Avenue

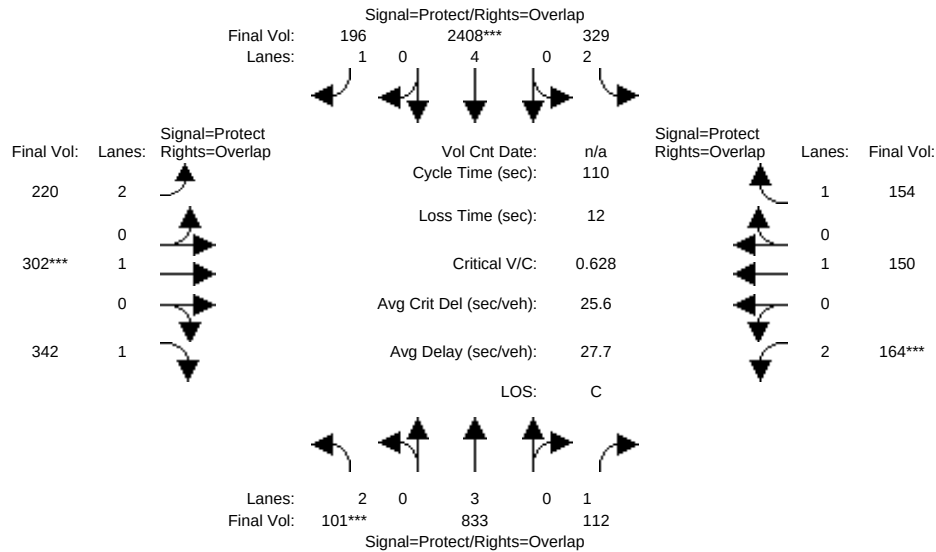


Street Name:	Mathilda Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	371	1889	55	132	926	371	95	102	57	169	302	274
Growth 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
Initial Bse:	371	1889	55	132	926	371	95	102	57	169	302	274
Added Vol:	0	10	0	0	2	1	4	0	0	0	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	371	1899	55	132	928	372	99	102	57	169	302	276
User 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
PHF 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
PHF Volume:	371	1899	55	132	928	372	99	102	57	169	302	276
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	371	1899	55	132	928	372	99	102	57	169	302	276
PCE 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
MLF 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
Final Volume:	371	1899	55	132	928	372	99	102	57	169	302	276
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	4.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	3150	5700	1750	3150	7600	1750	3150	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.33	0.03	0.04	0.12	0.21	0.03	0.05	0.03	0.05	0.16	0.16
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	43.9	99.0	126.8	12.5	67.5	76.9	9.3	28.8	72.7	27.8	47.2	59.7
Volume/Cap:	0.48	0.61	0.04	0.61	0.33	0.50	0.61	0.34	0.08	0.35	0.61	0.48
Delay/Veh:	60.5	28.2	8.2	93.3	40.3	39.9	99.1	70.1	33.3	70.0	63.6	50.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.5	28.2	8.2	93.3	40.3	39.9	99.1	70.1	33.3	70.0	63.6	50.5
LOS by Move:	E	C	A	F	D	D	F	E	C	E	E	D
HCM2kAvgQ:	10	24	1	4	9	16	3	5	2	5	15	13
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #11: Mathilda Avenue/Maude Avenue



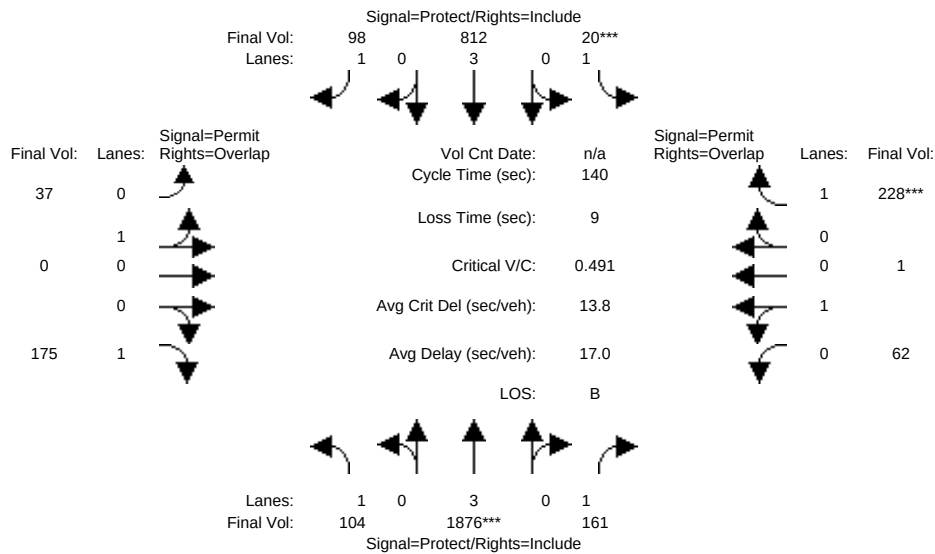
Street Name:	Mathilda Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	101	825	112	328	2403	194	217	302	342	164	150	152
Growth 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
Initial Bse:	101	825	112	328	2403	194	217	302	342	164	150	152
Added Vol:	0	8	0	1	5	2	3	0	0	0	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	101	833	112	329	2408	196	220	302	342	164	150	154
User 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
PHF 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
PHF Volume:	101	833	112	329	2408	196	220	302	342	164	150	154
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	833	112	329	2408	196	220	302	342	164	150	154
PCE 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
MLF 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
Final Volume:	101	833	112	329	2408	196	220	302	342	164	150	154
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	4.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	3150	5700	1750	3150	7600	1750	3150	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.15	0.06	0.10	0.32	0.11	0.07	0.16	0.20	0.05	0.08	0.09
Crit Moves:	***			***			***			***		
Green Time:	7.0	35.9	44.9	25.7	54.6	70.4	15.8	27.4	34.4	9.0	20.6	46.3
Volume/Cap:	0.50	0.45	0.16	0.45	0.64	0.17	0.49	0.64	0.62	0.64	0.42	0.21
Uniform Del:	49.8	29.2	20.6	36.1	20.4	8.0	43.4	36.9	32.3	48.9	39.5	20.3
IncrementDel:	2.0	0.2	0.1	0.4	0.4	0.1	0.8	2.9	2.3	5.3	0.8	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	51.9	29.4	20.7	36.5	20.8	8.1	44.2	39.8	34.6	54.2	40.3	20.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.9	29.4	20.7	36.5	20.8	8.1	44.2	39.8	34.6	54.2	40.3	20.4
LOS by Move:	D-	C	C+	D+	C+	A	D	D	C-	D-	D	C+
HCM2kAvgQ:	2	7	2	5	15	3	4	9	11	4	5	4

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #12: Mathilda Avenue/Indio Way

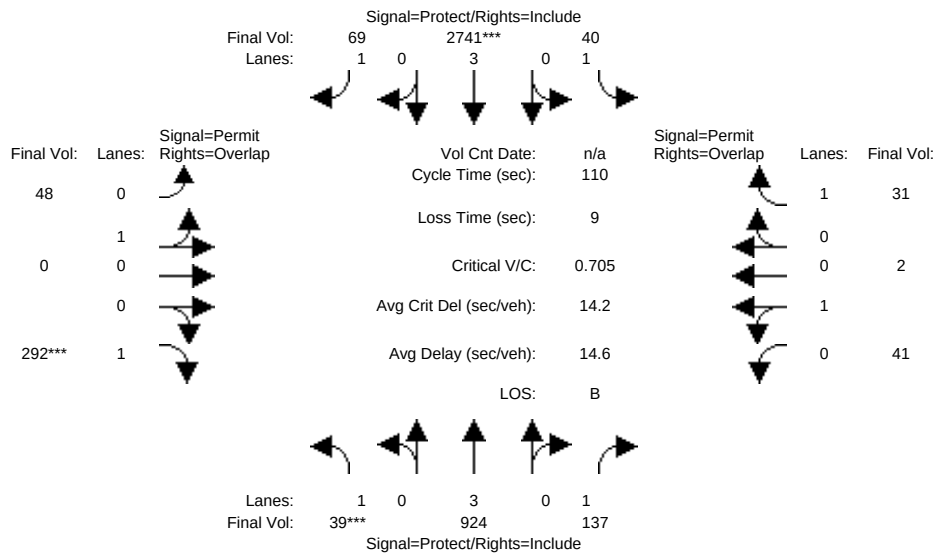


Street Name:	Mathilda Avenue						Indio Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	104	1866	161	20	810	98	37	0	175	62	1	228
Growth 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
Initial Bse:	104	1866	161	20	810	98	37	0	175	62	1	228
Added Vol:	0	10	0	0	2	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	104	1876	161	20	812	98	37	0	175	62	1	228
User 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
PHF 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
PHF Volume:	104	1876	161	20	812	98	37	0	175	62	1	228
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	1876	161	20	812	98	37	0	175	62	1	228
PCE 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
MLF 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
Final Volume:	104	1876	161	20	812	98	37	0	175	62	1	228
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.00	1.00	0.98	0.02	1.00
Final Sat.:	1750	5700	1750	1750	5700	1750	1800	0	1750	1771	29	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.33	0.09	0.01	0.14	0.06	0.02	0.00	0.10	0.04	0.04	0.13
Crit Moves:	****			****								****
Green Time:	31.4	99.7	99.7	7.0	75.3	75.3	24.3	0.0	55.7	24.3	24.3	31.3
Volume/Cap:	0.26	0.46	0.13	0.23	0.26	0.10	0.12	0.00	0.25	0.20	0.20	0.58
Delay/Veh:	45.1	8.7	6.4	65.2	17.5	15.9	49.0	0.0	28.4	49.8	49.8	50.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.1	8.7	6.4	65.2	17.5	15.9	49.0	0.0	28.4	49.8	49.8	50.7
LOS by Move:	D	A	A	E	B	B	D	A	C	D	D	D
HCM2kAvgQ:	4	11	2	1	6	2	1	0	5	2	2	10
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #12: Mathilda Avenue/Indio Way



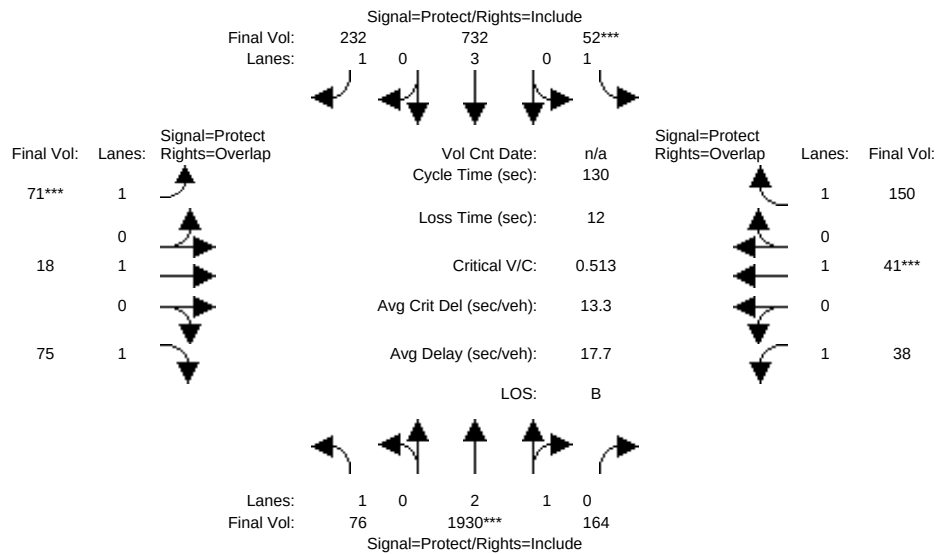
Street Name:	Mathilda Avenue						Indio Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	39	916	137	40	2736	69	48	0	292	41	2	31
Growth 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
Initial Bse:	39	916	137	40	2736	69	48	0	292	41	2	31
Added Vol:	0	8	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	924	137	40	2741	69	48	0	292	41	2	31
User 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
PHF 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
PHF Volume:	39	924	137	40	2741	69	48	0	292	41	2	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	924	137	40	2741	69	48	0	292	41	2	31
PCE 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
MLF 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
Final Volume:	39	924	137	40	2741	69	48	0	292	41	2	31
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.00	1.00	0.95	0.05	1.00
Final Sat.:	1750	5700	1750	1750	5700	1750	1800	0	1750	1716	84	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.16	0.08	0.02	0.48	0.04	0.03	0.00	0.17	0.02	0.02	0.02
Crit Moves:	****			****					****			
Green Time:	7.0	60.6	60.6	23.8	77.4	77.4	16.6	0.0	23.6	16.6	16.6	40.4
Volume/Cap:	0.35	0.29	0.14	0.11	0.68	0.06	0.18	0.00	0.78	0.16	0.16	0.05
Uniform Del:	49.3	13.2	12.0	34.6	9.3	5.0	40.7	0.0	40.7	40.6	40.6	22.4
IncrementDel:	1.9	0.1	0.1	0.1	0.5	0.0	0.3	0.0	9.9	0.3	0.3	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	51.2	13.3	12.1	34.7	9.8	5.1	41.0	0.0	50.6	40.9	40.9	22.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.2	13.3	12.1	34.7	9.8	5.1	41.0	0.0	50.6	40.9	40.9	22.4
LOS by Move:	D-	B	B	C-	A	A	D	A	D	D	D	C+
HCM2kAvgQ:	1	5	2	1	17	1	2	0	12	1	1	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #13: Mathilda Avenue/California Way

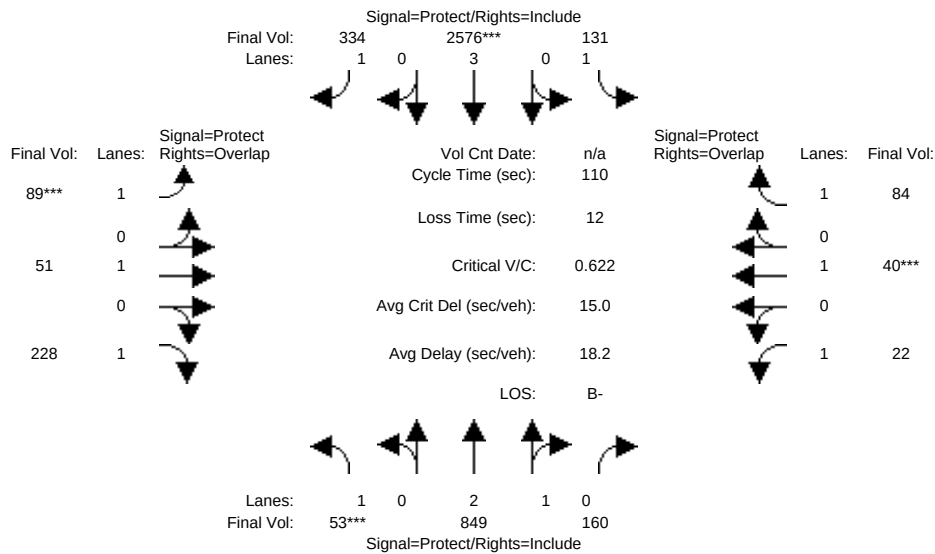


Street Name:	Mathilda Avenue						California Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	76	1920	164	52	730	232	71	18	75	38	41	150
Growth 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
Initial Bse:	76	1920	164	52	730	232	71	18	75	38	41	150
Added Vol:	0	10	0	0	2	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	76	1930	164	52	732	232	71	18	75	38	41	150
User 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
PHF 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
PHF Volume:	76	1930	164	52	732	232	71	18	75	38	41	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	76	1930	164	52	732	232	71	18	75	38	41	150
PCE 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
MLF 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
Final Volume:	76	1930	164	52	732	232	71	18	75	38	41	150
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.76	0.24	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5161	439	1750	5700	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.37	0.37	0.03	0.13	0.13	0.04	0.01	0.04	0.02	0.02	0.09
Crit Moves:	****			****			****			****		
Green Time:	28.3	90.9	90.9	7.2	69.8	69.8	9.9	11.7	40.0	8.2	10.0	17.2
Volume/Cap:	0.20	0.53	0.53	0.53	0.24	0.25	0.53	0.11	0.14	0.35	0.28	0.65
Delay/Veh:	41.8	9.5	9.5	65.5	16.0	16.2	62.1	54.6	32.6	60.2	57.7	59.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.8	9.5	9.5	65.5	16.0	16.2	62.1	54.6	32.6	60.2	57.7	59.7
LOS by Move:	D	A	A	E	B	B	E	D-	C-	E	E+	E+
HCM2kAvgQ:	3	13	13	2	5	5	4	1	2	2	2	7
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #13: Mathilda Avenue/California Way



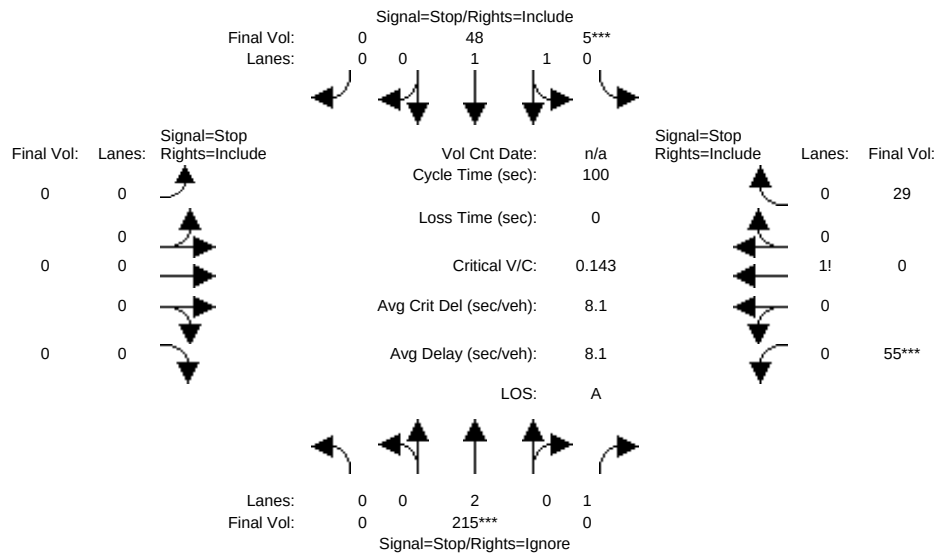
Street Name:	Mathilda Avenue						California Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	53	841	160	131	2571	334	89	51	228	22	40	84
Growth 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
Initial Bse:	53	841	160	131	2571	334	89	51	228	22	40	84
Added Vol:	0	8	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	849	160	131	2576	334	89	51	228	22	40	84
User 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
PHF 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
PHF Volume:	53	849	160	131	2576	334	89	51	228	22	40	84
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	849	160	131	2576	334	89	51	228	22	40	84
PCE 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
MLF 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
Final Volume:	53	849	160	131	2576	334	89	51	228	22	40	84
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.51	0.49	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	4711	888	1750	5700	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.18	0.07	0.45	0.19	0.05	0.03	0.13	0.01	0.02	0.05
Crit Moves:	****			****			****			****		
Green Time:	7.0	56.4	56.4	23.4	72.8	72.8	8.2	11.1	18.1	7.1	10.0	33.4
Volume/Cap:	0.48	0.35	0.35	0.35	0.68	0.29	0.68	0.27	0.79	0.20	0.23	0.16
Uniform Del:	49.7	15.9	15.9	36.8	11.5	7.8	49.6	45.7	44.1	48.8	46.4	28.0
IncrementDel:	3.2	0.1	0.1	0.6	0.5	0.1	13.9	0.7	13.8	0.9	0.7	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	52.9	16.0	16.0	37.4	12.0	7.9	63.5	46.4	57.9	49.6	47.1	28.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.9	16.0	16.0	37.4	12.0	7.9	63.5	46.4	57.9	49.6	47.1	28.1
LOS by Move:	D-	B	B	D+	B+	A	E	D	E+	D	D	C
HCM2kAvgQ:	3	7	7	4	17	5	5	2	10	1	1	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing Plus Project AM

Intersection #14: Ellis Street/Manila Drive



Street Name:	Ellis Street						Manila Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	215	345	5	48	0	0	0	0	50	0	29
Growth 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
Initial Bse:	0	215	345	5	48	0	0	0	0	50	0	29
Added Vol:	0	0	15	0	0	0	0	0	0	5	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	215	360	5	48	0	0	0	0	55	0	29
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	215	0	5	48	0	0	0	0	55	0	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	215	0	5	48	0	0	0	0	55	0	29
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	215	0	5	48	0	0	0	0	55	0	29
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.19	1.81	0.00	0.00	0.00	0.00	0.65	0.00	0.35
Final Sat.:	0	1501	879	135	1306	0	0	0	0	512	0	270
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.14	0.00	0.04	0.04	xxxx	xxxx	xxxx	xxxx	0.11	xxxx	0.11
Crit Moves:		****		****						****		
Delay/Veh:	0.0	8.2	0.0	7.8	7.8	0.0	0.0	0.0	0.0	7.9	0.0	7.9
Delay 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
AdjDel/Veh:	0.0	8.2	0.0	7.8	7.8	0.0	0.0	0.0	0.0	7.9	0.0	7.9
LOS by Move:	*	A	*	A	A	*	*	*	*	A	*	A
ApproachDel:		8.2			7.8		xxxxxx				7.9	
Delay Adj:		1.00			1.00		xxxxxx				1.00	
ApprAdjDel:		8.2			7.8		xxxxxx				7.9	
LOS by Appr:		A			A		*				A	
AllWayAvgQ:	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Ellis Street/Manila Drive

Future Volume Alternative: Peak Hour Warrant NOT Met

```

-----|-----|-----|-----|-----|
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:          0  0  2  0  1      0  1  1  0  0      0  0  0  0  0      0  0  1!  0  0
Initial Vol:    0  215  360      5  48  0      0  0  0  0      55  0  29
-----|-----|-----|-----|-----|
Major Street Volume:                628
Minor Approach Volume:                84
Minor Approach Volume Threshold: 445
-----

```

SIGNAL WARRANT DISCLAIMER

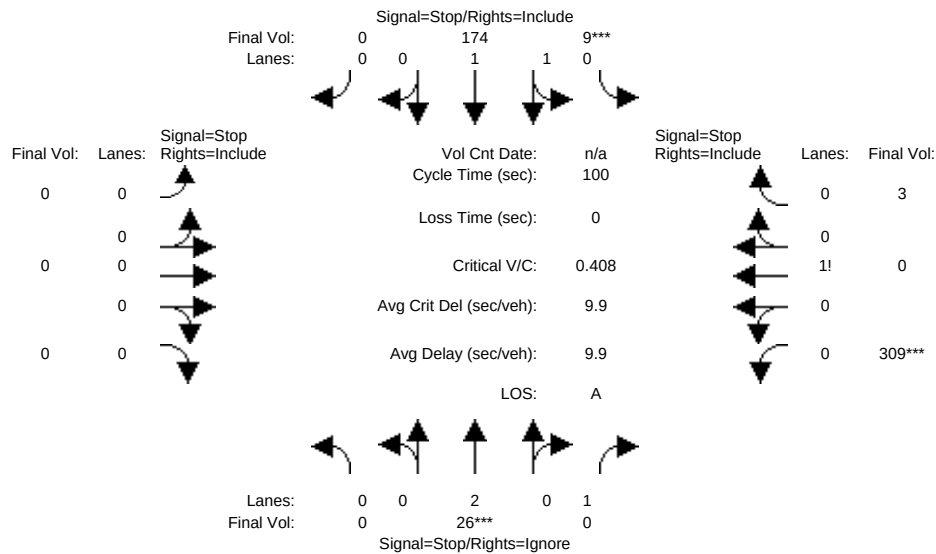
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing Plus Project PM

Intersection #14: Ellis Street/Manila Drive



Street Name:	Ellis Street						Manila Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	26	44	9	174	0	0	0	0	300	0	3
Growth 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
Initial Bse:	0	26	44	9	174	0	0	0	0	300	0	3
Added Vol:	0	0	12	0	0	0	0	0	0	9	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	26	56	9	174	0	0	0	0	309	0	3
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	26	0	9	174	0	0	0	0	309	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	26	0	9	174	0	0	0	0	309	0	3
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	26	0	9	174	0	0	0	0	309	0	3
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.10	1.90	0.00	0.00	0.00	0.00	0.99	0.00	0.01
Final Sat.:	0	1251	713	64	1241	0	0	0	0	758	0	7
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.02	0.00	0.14	0.14	xxxx	xxxx	xxxx	xxxx	0.41	xxxx	0.41
Crit Moves:		****		****						****		
Delay/Veh:	0.0	8.2	0.0	8.8	8.8	0.0	0.0	0.0	0.0	10.6	0.0	10.6
Delay 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
AdjDel/Veh:	0.0	8.2	0.0	8.8	8.8	0.0	0.0	0.0	0.0	10.6	0.0	10.6
LOS by Move:	*	A	*	A	A	*	*	*	*	B	*	B
ApproachDel:		8.2			8.8		xxxxxx				10.6	
Delay Adj:		1.00			1.00		xxxxxx				1.00	
ApprAdjDel:		8.2			8.8		xxxxxx				10.6	
LOS by Appr:		A			A		*				B	
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.6	0.6	0.6

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Ellis Street/Manila Drive

Future Volume Alternative: Peak Hour Warrant NOT Met

```

-----|-----|-----|-----|-----|
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:          0  0  2  0  1      0  1  1  0  0      0  0  0  0  0      0  0  1! 0  0
Initial Vol:    0   26   56      9 174   0      0   0   0   0      309  0   3
-----|-----|-----|-----|-----|
Major Street Volume:                312
Minor Approach Volume:              183
Minor Approach Volume Threshold: 659
-----

```

SIGNAL WARRANT DISCLAIMER

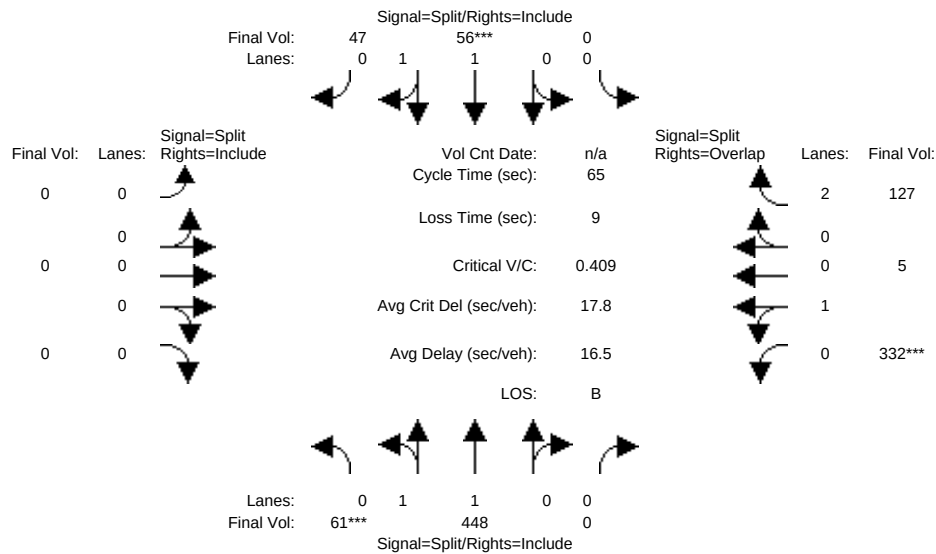
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #15: Ellis Street/US-101 Northbound Ramps

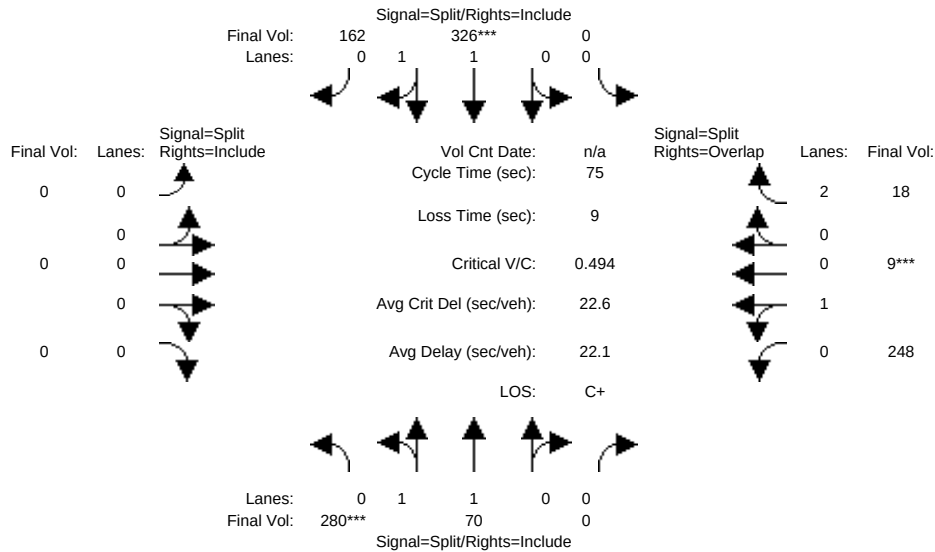


Street Name:		Ellis Street						US-101 Northbound Ramps								
Approach:		North Bound			South Bound			East Bound			West Bound					
Movement:		L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
		-----			-----			-----			-----			-----		
Min. Green:		10		10		0	0		10		10	0		0		10
Y+R:		0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0
		-----			-----			-----			-----			-----		
Volume Module:																
Base Vol:		61		433		0	0		54		44	0		0		332
Growth Adj:		1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:		61		433		0	0		54		44	0		0		332
Added Vol:		0		15		0	0		2		3	0		0		0
PasserByVol:		0		0		0	0		0		0	0		0		0
Initial Fut:		61		448		0	0		56		47	0		0		332
User Adj:		1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:		1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:		61		448		0	0		56		47	0		0		332
Reduct Vol:		0		0		0	0		0		0	0		0		0
Reduced Vol:		61		448		0	0		56		47	0		0		332
PCE Adj:		1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:		1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:		61		448		0	0		56		47	0		0		332
		-----			-----			-----			-----			-----		
Saturation Flow Module:																
Sat/Lane:		1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:		0.95		0.98		0.92	0.92		1.00		0.95	0.92		0.95		0.83
Lanes:		0.25		1.75		0.00	0.00		1.06		0.94	0.00		0.00		2.00
Final Sat.:		443		3256		0	0		2010		1687	0		0		1773
		-----			-----			-----			-----			-----		
Capacity Analysis Module:																
Vol/Sat:		0.14		0.14		0.00	0.00		0.03		0.03	0.00		0.00		0.04
Crit Moves:		****							****							****
Green Time:		19.5		19.5		0.0	0.0		10.0		10.0	0.0		0.0		26.5
Volume/Cap:		0.46		0.46		0.00	0.00		0.18		0.18	0.00		0.00		0.46
Delay/Veh:		18.8		18.8		0.0	0.0		24.1		24.1	0.0		0.0		14.5
User DelAdj:		1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:		18.8		18.8		0.0	0.0		24.1		24.1	0.0		0.0		14.5
LOS by Move:		B-		B-		A	A		C		C	A		A		B
HCM2kAvgQ:		4		4		0	0		1		1	0		0		6
Note: Queue reported is the number of cars per lane.																

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #15: Ellis Street/US-101 Northbound Ramps



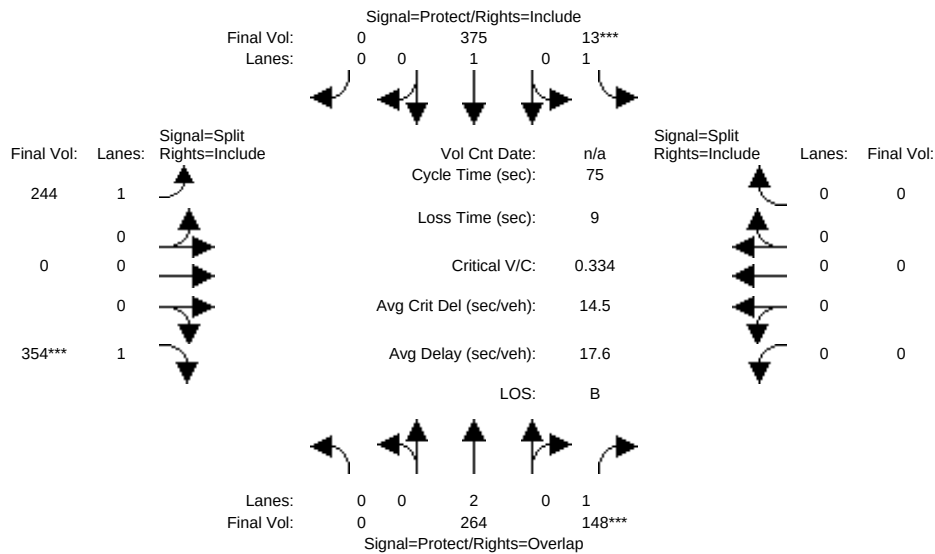
Street Name:	Ellis Street						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	280	58	0	0	322	157	0	0	0	248	9	18
Growth 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
Initial Bse:	280	58	0	0	322	157	0	0	0	248	9	18
Added Vol:	0	12	0	0	4	5	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	280	70	0	0	326	162	0	0	0	248	9	18
User 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
PHF 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
PHF Volume:	280	70	0	0	326	162	0	0	0	248	9	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	280	70	0	0	326	162	0	0	0	248	9	18
PCE 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
MLF 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
Final Volume:	280	70	0	0	326	162	0	0	0	248	9	18
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.92	1.00	0.92	0.95	0.95	0.83
Lanes:	1.00	1.00	0.00	0.00	1.32	0.68	0.00	0.00	0.00	0.96	0.04	2.00
Final Sat.:	1750	1900	0	0	2471	1228	0	0	0	1737	63	3150
Capacity Analysis Module:												
Vol/Sat:	0.16	0.04	0.00	0.00	0.13	0.13	0.00	0.00	0.00	0.14	0.14	0.01
Crit Moves:	****				****					****		
Green Time:	24.3	24.3	0.0	0.0	20.0	20.0	0.0	0.0	0.0	21.7	21.7	41.7
Volume/Cap:	0.49	0.11	0.00	0.00	0.49	0.49	0.00	0.00	0.00	0.49	0.49	0.01
Uniform Del:	20.4	17.8	0.0	0.0	23.2	23.2	0.0	0.0	0.0	22.1	22.1	7.4
IncramntDel:	0.5	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.7	0.7	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	21.0	17.8	0.0	0.0	23.6	23.6	0.0	0.0	0.0	22.9	22.9	7.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.0	17.8	0.0	0.0	23.6	23.6	0.0	0.0	0.0	22.9	22.9	7.4
LOS by Move:	C+	B	A	A	C	C	A	A	A	C+	C+	A
HCM2kAvgQ:	6	1	0	0	5	5	0	0	0	6	6	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #16: Ellis Street/US-101 Southbound Ramps

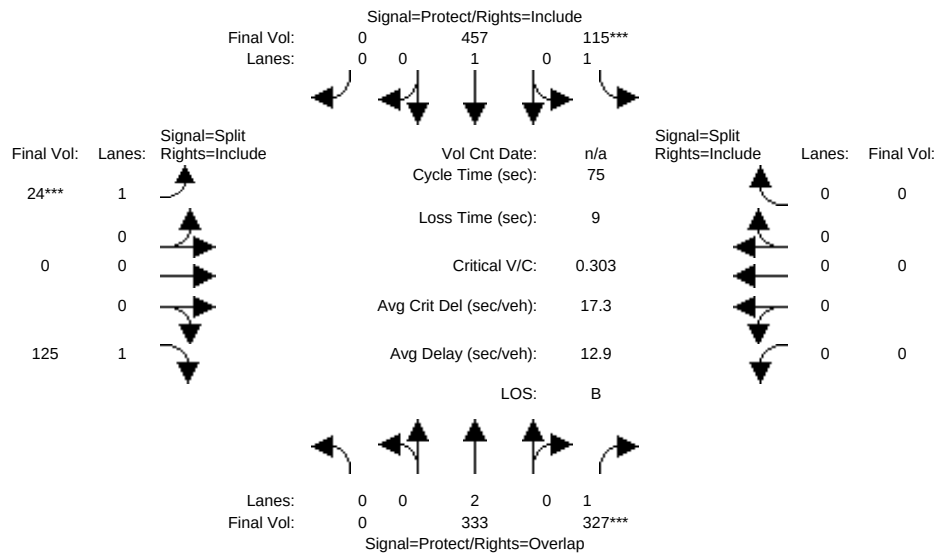


Street Name:	Ellis Street						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	253	148	13	373	0	241	0	354	0	0	0
Growth 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
Initial Bse:	0	253	148	13	373	0	241	0	354	0	0	0
Added Vol:	0	11	0	0	2	0	3	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	264	148	13	375	0	244	0	354	0	0	0
User 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
PHF 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
PHF Volume:	0	264	148	13	375	0	244	0	354	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	264	148	13	375	0	244	0	354	0	0	0
PCE 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
MLF 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
Final Volume:	0	264	148	13	375	0	244	0	354	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	1750	1750	1900	0	1750	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.07	0.08	0.01	0.20	0.00	0.14	0.00	0.20	0.00	0.00	0.00
Crit Moves:			****		****				****			
Green Time:	0.0	17.4	17.4	7.0	24.4	0.0	41.6	0.0	41.6	0.0	0.0	0.0
Volume/Cap:	0.00	0.30	0.36	0.08	0.61	0.00	0.25	0.00	0.36	0.00	0.00	0.00
Delay/Veh:	0.0	24.0	24.7	31.3	23.0	0.0	8.8	0.0	9.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	24.0	24.7	31.3	23.0	0.0	8.8	0.0	9.6	0.0	0.0	0.0
LOS by Move:	A	C	C	C	C	A	A	A	A	A	A	A
HCM2kAvgQ:	0	2	3	0	7	0	3	0	5	0	0	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #16: Ellis Street/US-101 Southbound Ramps



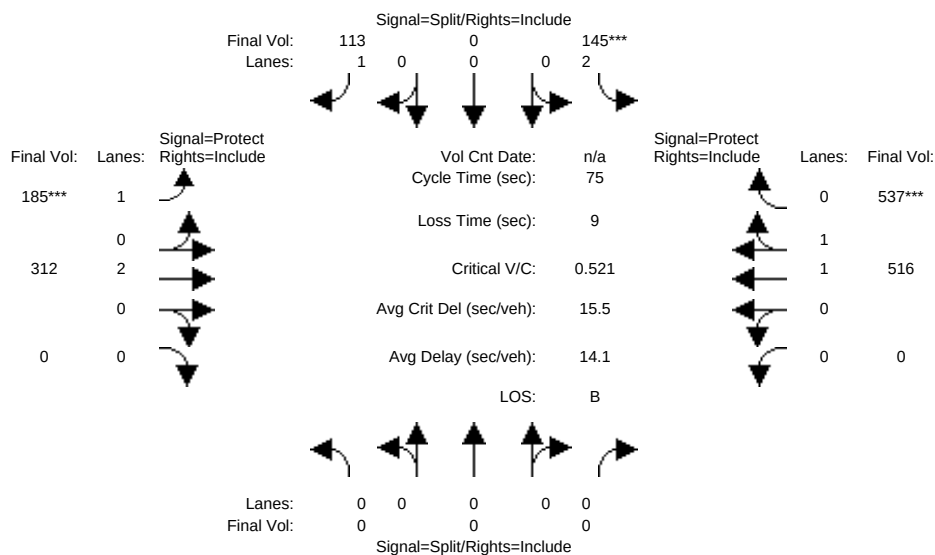
Street Name:	Ellis Street						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	324	327	115	453	0	21	0	125	0	0	0
Growth 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
Initial Bse:	0	324	327	115	453	0	21	0	125	0	0	0
Added Vol:	0	9	0	0	4	0	3	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	333	327	115	457	0	24	0	125	0	0	0
User 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
PHF 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
PHF Volume:	0	333	327	115	457	0	24	0	125	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	333	327	115	457	0	24	0	125	0	0	0
PCE 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
MLF 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
Final Volume:	0	333	327	115	457	0	24	0	125	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	1750	1750	1900	0	1750	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.19	0.07	0.24	0.00	0.01	0.00	0.07	0.00	0.00	0.00
Crit Moves:			****	****			****					
Green Time:	0.0	35.7	35.7	12.6	48.3	0.0	17.7	0.0	17.7	0.0	0.0	0.0
Volume/Cap:	0.00	0.18	0.39	0.39	0.37	0.00	0.06	0.00	0.30	0.00	0.00	0.00
Uniform Del:	0.0	11.3	12.6	27.8	6.3	0.0	22.2	0.0	23.6	0.0	0.0	0.0
IncrementDel:	0.0	0.0	0.3	0.9	0.2	0.0	0.1	0.0	0.4	0.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	0.0	11.3	12.9	28.7	6.5	0.0	22.2	0.0	24.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	11.3	12.9	28.7	6.5	0.0	22.2	0.0	24.0	0.0	0.0	0.0
LOS by Move:	A	B+	B	C	A	A	C+	A	C	A	A	A
HCM2kAvgQ:	0	2	5	2	5	0	0	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #17: Ellis Street/Middlefield Road



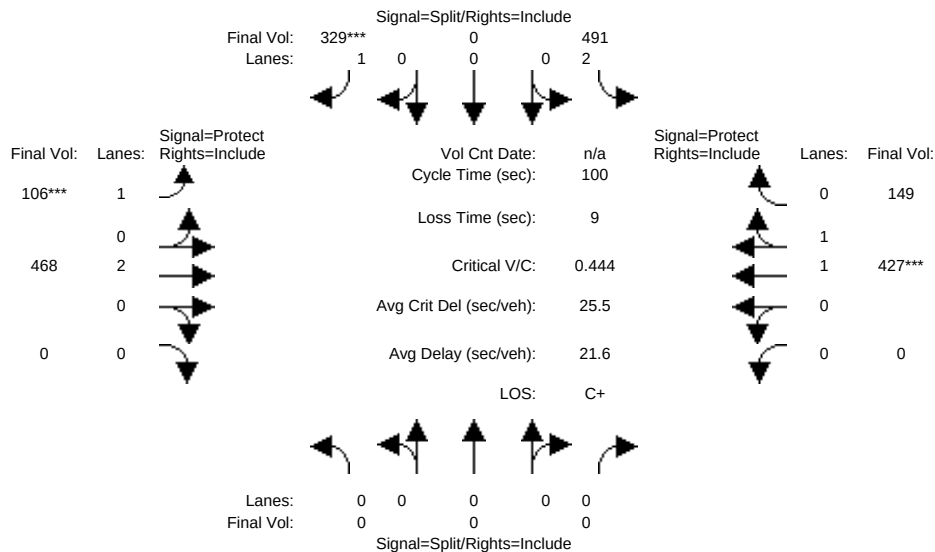
Street Name:	Ellis Street						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	143	0	113	185	312	0	0	516	526
Growth 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
Initial Bse:	0	0	0	143	0	113	185	312	0	0	516	526
Added Vol:	0	0	0	2	0	0	0	0	0	0	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	145	0	113	185	312	0	0	516	537
User 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
PHF 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
PHF Volume:	0	0	0	145	0	113	185	312	0	0	516	537
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	145	0	113	185	312	0	0	516	537
PCE 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
MLF 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
Final Volume:	0	0	0	145	0	113	185	312	0	0	516	537
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	3150	0	1750	1750	3800	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.06	0.11	0.08	0.00	0.00	0.27	0.31
Crit Moves:				****			****					****
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	14.3	56.0	0.0	0.0	41.7	41.7
Volume/Cap:	0.00	0.00	0.00	0.35	0.00	0.48	0.55	0.11	0.00	0.00	0.49	0.55
Delay/Veh:	0.0	0.0	0.0	30.0	0.0	31.7	29.4	2.6	0.0	0.0	10.4	11.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	30.0	0.0	31.7	29.4	2.6	0.0	0.0	10.4	11.1
LOS by Move:	A	A	A	C	A	C	C	A	A	A	B+	B+
HCM2kAvgQ:	0	0	0	2	0	3	5	1	0	0	7	8

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #17: Ellis Street/Middlefield Road



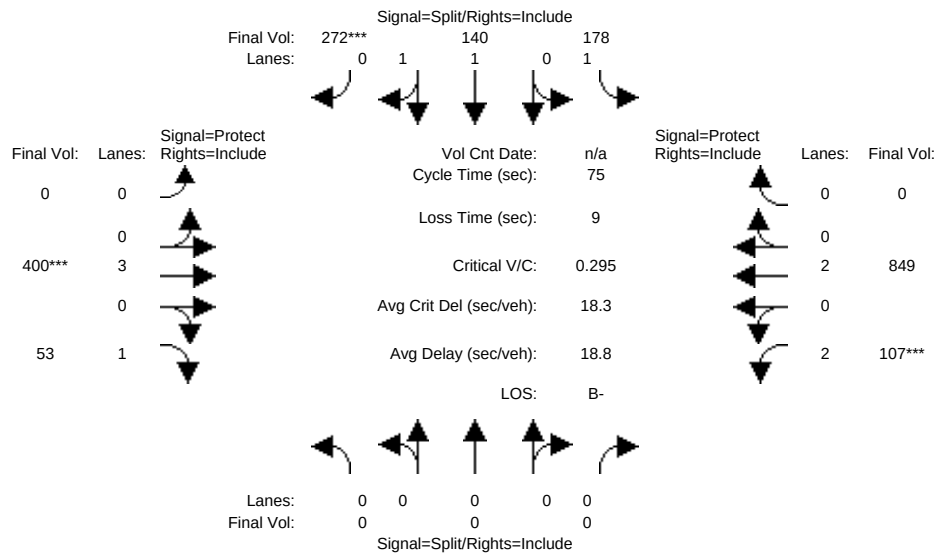
Street Name: Ellis Street Middlefield Road												
Approach: North Bound			South Bound			East Bound			West Bound			
Movement: L - T - R			L - T - R			L - T - R			L - T - R			
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	487	0	329	106	468	0	0	427	140
Growth 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
Initial Bse:	0	0	0	487	0	329	106	468	0	0	427	140
Added Vol:	0	0	0	4	0	0	0	0	0	0	0	9
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	491	0	329	106	468	0	0	427	149
User 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
PHF 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
PHF Volume:	0	0	0	491	0	329	106	468	0	0	427	149
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	491	0	329	106	468	0	0	427	149
PCE 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
MLF 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
Final Volume:	0	0	0	491	0	329	106	468	0	0	427	149
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	1.47	0.53
Final Sat.:	0	0	0	3150	0	1750	1750	3800	0	0	2742	957
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.16	0.00	0.19	0.06	0.12	0.00	0.00	0.16	0.16
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	42.3	0.0	42.3	13.6	48.7	0.0	0.0	35.0	35.0
Volume/Cap:	0.00	0.00	0.00	0.37	0.00	0.44	0.44	0.25	0.00	0.00	0.44	0.44
Uniform Del:	0.0	0.0	0.0	19.7	0.0	20.5	39.7	15.0	0.0	0.0	25.0	25.0
IncrementDel:	0.0	0.0	0.0	0.2	0.0	0.4	1.3	0.1	0.0	0.0	0.2	0.2
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	19.9	0.0	20.9	41.0	15.1	0.0	0.0	25.2	25.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	19.9	0.0	20.9	41.0	15.1	0.0	0.0	25.2	25.2
LOS by Move:	A	A	A	B-	A	C+	D	B	A	A	C	C
HCM2kAvgQ:	0	0	0	6	0	8	4	4	0	0	7	7

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #18: Middlefield Road/SR-237 Westbound On-Ramp



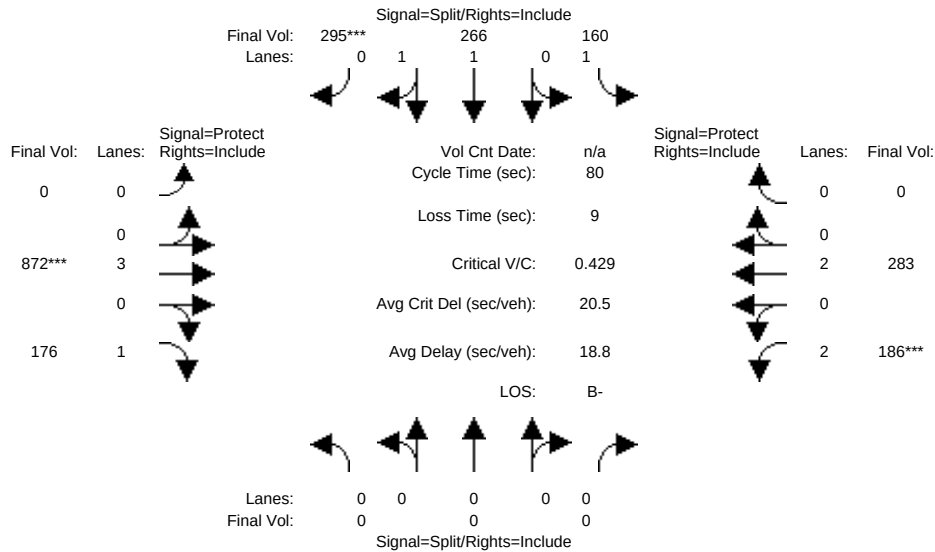
Street Name:	SR-237 Westbound On-Ramp						Middlefield Road									
Approach:	North Bound			South Bound			East Bound			West Bound						
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	
Min. Green:	0		0		0	10		10		10	0		7		10	0
Y+R:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0	0.0
Volume Module:																
Base Vol:	0		0		0	178		140		272	0		400		51	107 838 0
Growth 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
Initial Bse:	0		0		0	178		140		272	0		400		51	107 838 0
Added Vol:	0		0		0	0		0		0	0		0		2	0 11 0
PasserByVol:	0		0		0	0		0		0	0		0		0	0 0 0
Initial Fut:	0		0		0	178		140		272	0		400		53	107 849 0
User 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
PHF 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
PHF Volume:	0		0		0	178		140		272	0		400		53	107 849 0
Reduct Vol:	0		0		0	0		0		0	0		0		0	0 0 0
Reduced Vol:	0		0		0	178		140		272	0		400		53	107 849 0
PCE 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
MLF 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
FinalVolume:	0		0		0	178		140		272	0		400		53	107 849 0
Saturation Flow Module:																
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900 1900 1900
Adjustment:	0.92		1.00		0.92	0.92		1.00		0.92	0.92		1.00		0.83	1.00 0.92
Lanes:	0.00		0.00		0.00	1.00		1.00		1.00	0.00		3.00		1.00	2.00 2.00 0.00
Final Sat.:	0		0		0	1750		1900		1750	0		5700		1750	3150 3800 0
Capacity Analysis Module:																
Vol/Sat:	0.00		0.00		0.00	0.10		0.07		0.16	0.00		0.07		0.03	0.03 0.22 0.00
Crit Moves:										****			****		****	
Green Time:	0.0		0.0		0.0	39.5		39.5		39.5	0.0		17.8		17.8	8.6 26.5 0.0
Volume/Cap:	0.00		0.00		0.00	0.19		0.14		0.29	0.00		0.29		0.13	0.29 0.63 0.00
Delay/Veh:	0.0		0.0		0.0	9.4		9.1		10.1	0.0		23.5		22.6	30.8 21.2 0.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00 1.00 1.00
AdjDel/Veh:	0.0		0.0		0.0	9.4		9.1		10.1	0.0		23.5		22.6	30.8 21.2 0.0
LOS by Move:	A		A		A	A		A		B+	A		C		C+	C C+ A
HCM2kAvgQ:	0		0		0	2		2		4	0		2		1	1 8 0
Note: Queue reported is the number of cars per lane.																

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #18: Middlefield Road/SR-237 Westbound On-Ramp



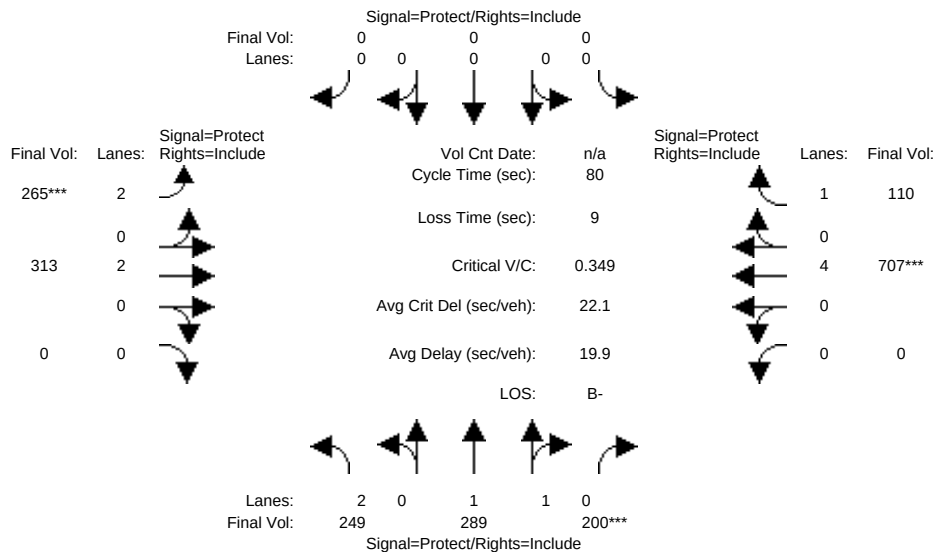
SR-237 Westbound On-Ramp							Middlefield Road											
North Bound				South Bound			East Bound			West Bound								
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R			
Min. Green:	0		0		0	10		10		10	0		7		10	0		
Y+R:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0	0.0		
Volume Module:																		
Base Vol:	0		0		0	160		266		295	0		872		172	186	274	0
Growth 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
Initial Bse:	0		0		0	160		266		295	0		872		172	186	274	0
Added Vol:	0		0		0	0		0		0	0		0		4	0	9	0
PasserByVol:	0		0		0	0		0		0	0		0		0	0	0	0
Initial Fut:	0		0		0	160		266		295	0		872		176	186	283	0
User 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
PHF 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
PHF Volume:	0		0		0	160		266		295	0		872		176	186	283	0
Reduct Vol:	0		0		0	0		0		0	0		0		0	0	0	0
Reduced Vol:	0		0		0	160		266		295	0		872		176	186	283	0
PCE 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
MLF 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
FinalVolume:	0		0		0	160		266		295	0		872		176	186	283	0
Saturation Flow Module:																		
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900	1900	1900
Adjustment:	0.92		1.00		0.92	0.92		1.00		0.92	0.92		1.00		0.92	0.83	1.00	0.92
Lanes:	0.00		0.00		0.00	1.00		1.00		1.00	0.00		3.00		1.00	2.00	2.00	0.00
Final Sat.:	0		0		0	1750		1900		1750	0		5700		1750	3150	3800	0
Capacity Analysis Module:																		
Vol/Sat:	0.00		0.00		0.00	0.09		0.14		0.17	0.00		0.15		0.10	0.06	0.07	0.00
Crit Moves:										****						****		
Green Time:	0.0		0.0		0.0	31.4		31.4		31.4	0.0		28.5		28.5	11.0	39.6	0.0
Volume/Cap:	0.00		0.00		0.00	0.23		0.36		0.43	0.00		0.43		0.28	0.43	0.15	0.00
Uniform Del:	0.0		0.0		0.0	16.2		17.1		17.7	0.0		19.5		18.4	31.6	11.0	0.0
IncrcmntDel:	0.0		0.0		0.0	0.2		0.1		0.2	0.0		0.1		0.2	0.7	0.0	0.0
InitQueuDel:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0	0.0	0.0	0.0
Delay Adj:	0.00		0.00		0.00	1.00		1.00		1.00	0.00		1.00		1.00	1.00	1.00	0.00
Delay/Veh:	0.0		0.0		0.0	16.4		17.3		17.9	0.0		19.7		18.7	32.3	11.1	0.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0		0.0		0.0	16.4		17.3		17.9	0.0		19.7		18.7	32.3	11.1	0.0
LOS by Move:	A		A		A	B		B		B	A		B-		B-	C-	B+	A
HCM2kAvqQ:	0		0		0	3		5		6	0		5		3	2	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #19: Middlefield Road/SR-237 Eastbound Off-Ramp

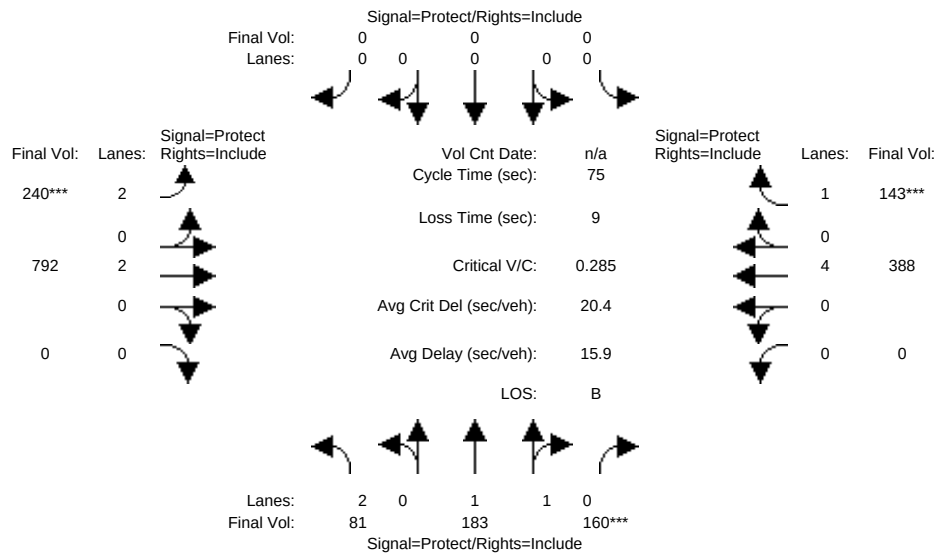


Street Name:	SR-237 Eastbound Off-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	238	289	200	0	0	0	265	313	0	0	707	110
Growth 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
Initial Bse:	238	289	200	0	0	0	265	313	0	0	707	110
Added Vol:	11	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	249	289	200	0	0	0	265	313	0	0	707	110
User 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
PHF 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
PHF Volume:	249	289	200	0	0	0	265	313	0	0	707	110
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	249	289	200	0	0	0	265	313	0	0	707	110
PCE 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
MLF 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
Final Volume:	249	289	200	0	0	0	265	313	0	0	707	110
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.16	0.84	0.00	0.00	0.00	2.00	2.00	0.00	0.00	4.00	1.00
Final Sat.:	3150	2186	1513	0	0	0	3150	3800	0	0	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.13	0.13	0.00	0.00	0.00	0.08	0.08	0.00	0.00	0.09	0.06
Crit Moves:			****				****				****	
Green Time:	30.3	30.3	30.3	0.0	0.0	0.0	19.3	40.7	0.0	0.0	21.3	21.3
Volume/Cap:	0.21	0.35	0.35	0.00	0.00	0.00	0.35	0.16	0.00	0.00	0.35	0.24
Delay/Veh:	16.8	17.9	17.9	0.0	0.0	0.0	25.4	10.6	0.0	0.0	23.8	23.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.8	17.9	17.9	0.0	0.0	0.0	25.4	10.6	0.0	0.0	23.8	23.2
LOS by Move:	B	B	B	A	A	A	C	B+	A	A	C	C
HCM2kAvgQ:	3	5	5	0	0	0	3	2	0	0	4	2
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #19: Middlefield Road/SR-237 Eastbound Off-Ramp



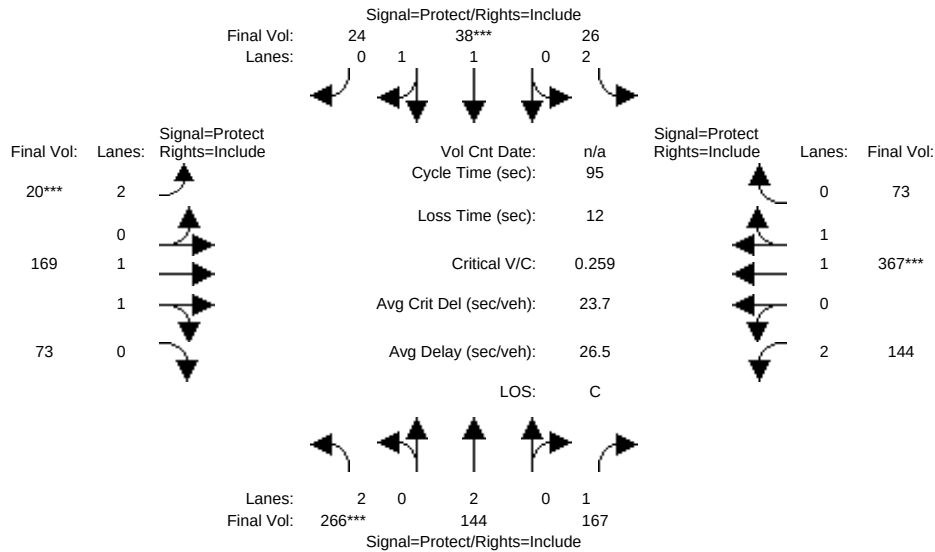
Street Name:	SR-237 Eastbound Off-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	72	183	160	0	0	0	240	792	0	0	388	143
Growth 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
Initial Bse:	72	183	160	0	0	0	240	792	0	0	388	143
Added Vol:	9	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	183	160	0	0	0	240	792	0	0	388	143
User 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
PHF 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
PHF Volume:	81	183	160	0	0	0	240	792	0	0	388	143
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	183	160	0	0	0	240	792	0	0	388	143
PCE 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
MLF 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
Final Volume:	81	183	160	0	0	0	240	792	0	0	388	143
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.95	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.04	0.96	0.00	0.00	0.00	2.00	2.00	0.00	0.00	4.00	1.00
Final Sat.:	3150	1973	1725	0	0	0	3150	3800	0	0	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.09	0.00	0.00	0.00	0.08	0.21	0.00	0.00	0.05	0.08
Crit Moves:			****				****					****
Green Time:	24.4	24.4	24.4	0.0	0.0	0.0	20.1	41.6	0.0	0.0	21.5	21.5
Volume/Cap:	0.08	0.28	0.28	0.00	0.00	0.00	0.28	0.38	0.00	0.00	0.18	0.28
Uniform Del:	17.5	18.8	18.8	0.0	0.0	0.0	21.8	9.4	0.0	0.0	20.1	20.8
IncrementDel:	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	17.5	18.9	18.9	0.0	0.0	0.0	22.0	9.5	0.0	0.0	20.1	21.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.5	18.9	18.9	0.0	0.0	0.0	22.0	9.5	0.0	0.0	20.1	21.1
LOS by Move:	B	B-	B-	A	A	A	C+	A	A	A	C+	C+
HCM2kAvgQ:	1	3	3	0	0	0	3	5	0	0	2	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #20: Mary Avenue/Maude Avenue

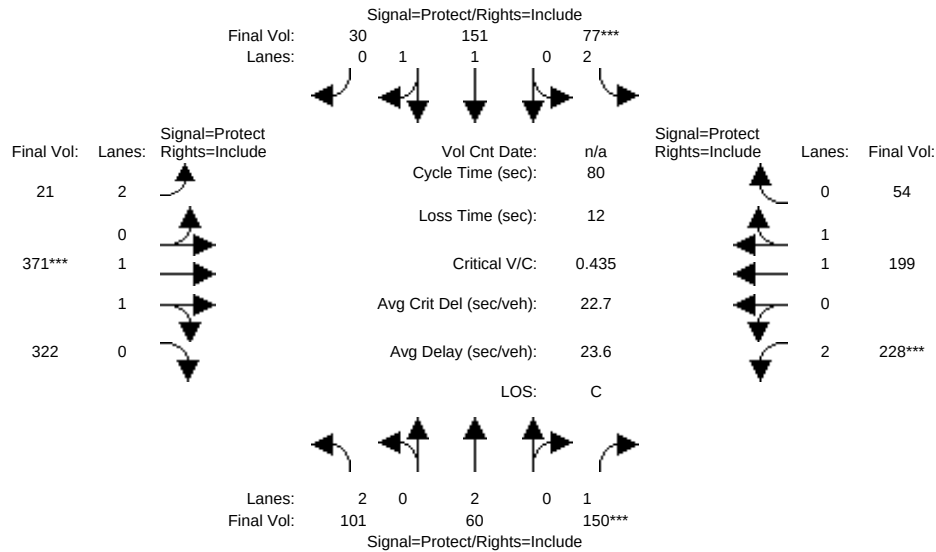


Street Name: Mary Avenue Maude Avenue												
Approach: North Bound			South Bound			East Bound			West Bound			
Movement: L - T - R			L - T - R			L - T - R			L - T - R			
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	266	144	163	26	38	24	20	169	73	143	367	73
Growth 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
Initial Bse:	266	144	163	26	38	24	20	169	73	143	367	73
Added Vol:	0	0	4	0	0	0	0	0	0	1	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	266	144	167	26	38	24	20	169	73	144	367	73
User 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
PHF 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
PHF Volume:	266	144	167	26	38	24	20	169	73	144	367	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	266	144	167	26	38	24	20	169	73	144	367	73
PCE 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
MLF 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
Final Volume:	266	144	167	26	38	24	20	169	73	144	367	73
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.83	0.99	0.95	0.83	0.98	0.95
Lanes:	2.00	2.00	1.00	2.00	1.20	0.80	2.00	1.38	0.62	2.00	1.66	0.34
Final Sat.:	3150	3800	1750	3150	2267	1432	3150	2583	1116	3150	3086	614
Capacity Analysis Module:												
Vol/Sat:	0.08	0.04	0.10	0.01	0.02	0.02	0.01	0.07	0.07	0.05	0.12	0.12
Crit Moves:	****			****			****			****		
Green Time:	27.4	22.0	22.0	15.4	10.0	10.0	7.0	26.8	26.8	18.8	38.6	38.6
Volume/Cap:	0.29	0.16	0.41	0.05	0.16	0.16	0.09	0.23	0.23	0.23	0.29	0.29
Delay/Veh:	26.4	29.2	31.7	33.7	38.9	38.9	41.2	26.3	26.3	32.2	19.1	19.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.4	29.2	31.7	33.7	38.9	38.9	41.2	26.3	26.3	32.2	19.1	19.1
LOS by Move:	C	C	C	C-	D+	D+	D	C	C	C-	B-	B-
HCM2kAvgQ:	4	2	5	0	1	1	0	3	3	2	4	4
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #20: Mary Avenue/Maude Avenue



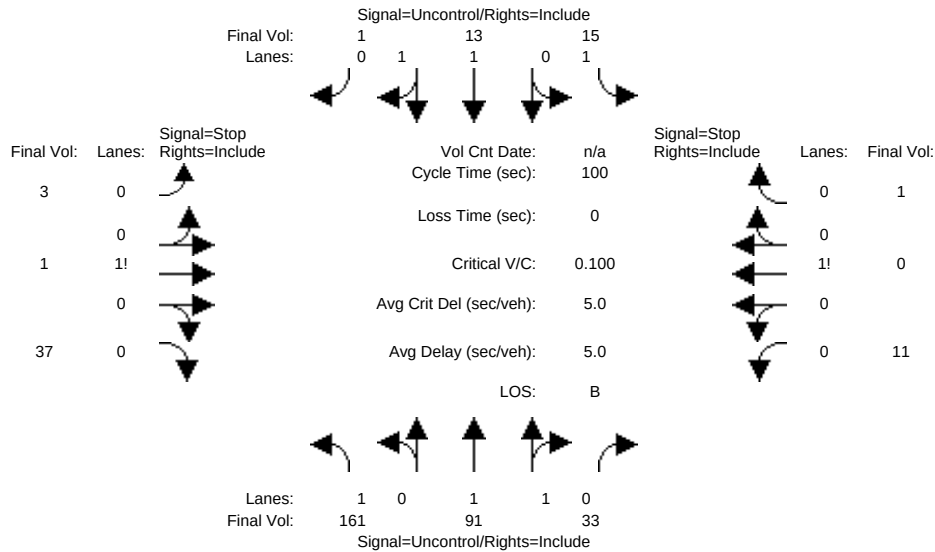
Street Name:	Mary Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	101	60	147	77	151	30	21	371	322	226	199	54
Growth 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
Initial Bse:	101	60	147	77	151	30	21	371	322	226	199	54
Added Vol:	0	0	3	0	0	0	0	0	0	2	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	101	60	150	77	151	30	21	371	322	228	199	54
User 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
PHF 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
PHF Volume:	101	60	150	77	151	30	21	371	322	228	199	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	60	150	77	151	30	21	371	322	228	199	54
PCE 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
MLF 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
Final Volume:	101	60	150	77	151	30	21	371	322	228	199	54
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.95	0.83	0.98	0.95
Lanes:	2.00	2.00	1.00	2.00	1.66	0.34	2.00	1.05	0.95	2.00	1.56	0.44
Final Sat.:	3150	3800	1750	3150	3086	613	3150	1980	1718	3150	2910	790
Capacity Analysis Module:												
Vol/Sat:	0.03	0.02	0.09	0.02	0.05	0.05	0.01	0.19	0.19	0.07	0.07	0.07
Crit Moves:			****			****			****			****
Green Time:	9.1	15.1	15.1	7.0	13.0	13.0	18.9	33.1	33.1	12.8	27.0	27.0
Volume/Cap:	0.28	0.08	0.45	0.28	0.30	0.30	0.03	0.45	0.45	0.45	0.20	0.20
Uniform Del:	32.4	26.7	28.8	34.1	29.5	29.5	23.5	16.9	16.9	30.4	18.9	18.9
IncrementDel:	0.4	0.1	1.0	0.6	0.3	0.3	0.0	0.2	0.2	0.7	0.1	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	32.9	26.8	29.8	34.7	29.8	29.8	23.5	17.1	17.1	31.1	18.9	18.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.9	26.8	29.8	34.7	29.8	29.8	23.5	17.1	17.1	31.1	18.9	18.9
LOS by Move:	C-	C	C	C-	C	C	C	B	B	C	B-	B-
HCM2kAvgQ:	2	1	4	1	2	2	0	7	7	3	2	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #21: Innovation Way/Site Access



Street Name:	Innovation Way						Site Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	161	87	0	0	13	1	3	1	37	0	0	0
Growth 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
Initial Bse:	161	87	0	0	13	1	3	1	37	0	0	0
Added Vol:	0	4	33	15	0	0	0	0	0	11	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	161	91	33	15	13	1	3	1	37	11	0	1
User 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
PHF 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
PHF Volume:	161	91	33	15	13	1	3	1	37	11	0	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	161	91	33	15	13	1	3	1	37	11	0	1
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflct Vol:	14	xxxx	xxxxx	124	xxxx	xxxxx	411	490	7	467	474	62
Potent Cap.:	1617	xxxx	xxxxx	1475	xxxx	xxxxx	530	482	1080	484	492	996
Move Cap.:	1617	xxxx	xxxxx	1475	xxxx	xxxxx	485	430	1080	428	439	996
Volume/Cap:	0.10	xxxx	xxxx	0.01	xxxx	xxxx	0.01	0.00	0.03	0.03	0.00	0.00
Level of Service Module:												
2Way95thQ:	0.3	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	959	xxxxx	xxxx	449	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	8.9	xxxxx	xxxxx	13.2	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx				8.9			13.2	
ApproachLOS:	*			*				A			B	

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	1	0	0	0	1	1	0
Initial Vol:	161	91			33	15	13			1	3	1			37	11	0			1
ApproachDel:	xxxxxx				xxxxxx				8.9				13.2							

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=41]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=367]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=12]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=367]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	1	0	0	0	1	1	0
Initial Vol:	161	91			33	15	13			1	3	1			37	11	0			1

Major Street Volume: 314

Minor Approach Volume: 41

Minor Approach Volume Threshold: 684

SIGNAL WARRANT DISCLAIMER

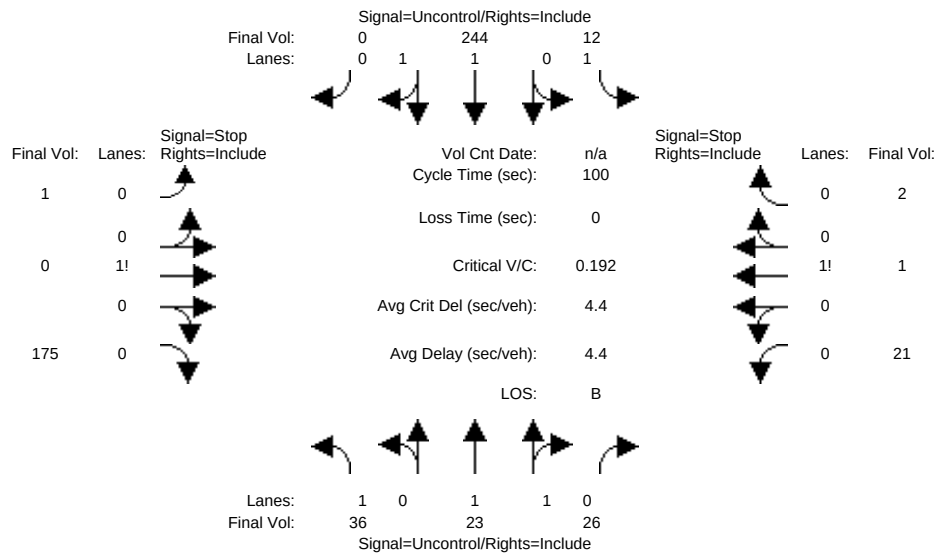
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #21: Innovation Way/Site Access



Street Name:	Innovation Way						Site Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	36	20	0	0	243	0	1	0	175	0	1	0
Growth 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
Initial Bse:	36	20	0	0	243	0	1	0	175	0	1	0
Added Vol:	0	3	26	12	1	0	0	0	0	21	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	23	26	12	244	0	1	0	175	21	1	2
User 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
PHF 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
PHF Volume:	36	23	26	12	244	0	1	0	175	21	1	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	36	23	26	12	244	0	1	0	175	21	1	2
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflct Vol:	244	xxxx	xxxxx	49	xxxx	xxxxx	352	389	122	254	376	25
Potent Cap.:	1334	xxxx	xxxxx	1571	xxxx	xxxxx	583	549	913	684	558	1053
Move Cap.:	1334	xxxx	xxxxx	1571	xxxx	xxxxx	566	530	913	538	539	1053
Volume/Cap:	0.03	xxxx	xxxx	0.01	xxxx	xxxx	0.00	0.00	0.19	0.04	0.00	0.00
Level of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.8	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	909	xxxxx	xxxx	561	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.7	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.9	xxxxx	xxxxx	11.7	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx				9.9			11.7	
ApproachLOS:	*			*				A			B	

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	36	23			26	12	244			0	1	0	175			21	1			2
ApproachDel:	xxxxxx					xxxxxx					9.9					11.7				

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.5]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=176]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=541]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=24]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=541]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	36	23			26	12	244			0	1	0	175			21	1			2

Major Street Volume: 341

Minor Approach Volume: 176

Minor Approach Volume Threshold: 655

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

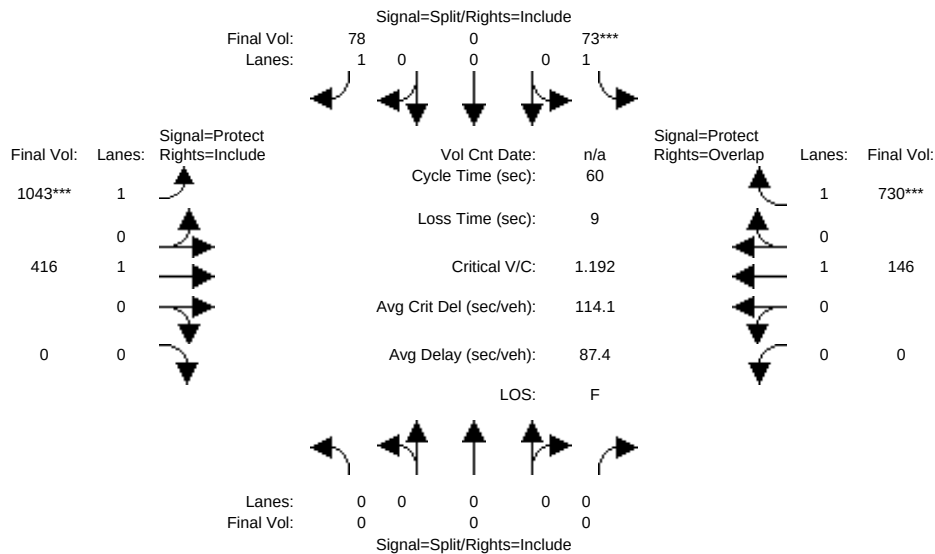
The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Appendix D – Level of Service Worksheets: Background Conditions

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #1: Enterprise Way/Moffett Park Drive

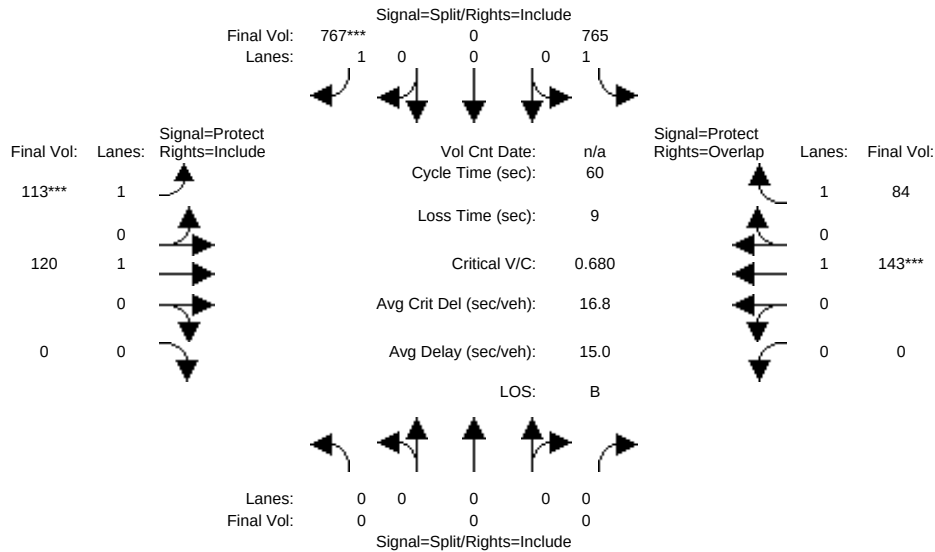


Street Name:	Enterprise Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	28	0	28	223	107	0	0	142	245
Growth 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
Initial Bse:	0	0	0	28	0	28	223	107	0	0	142	245
Added Vol:	0	0	0	45	0	50	820	309	0	0	4	485
Yahoo:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	73	0	78	1043	416	0	0	146	730
User 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
PHF 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
PHF Volume:	0	0	0	73	0	78	1043	416	0	0	146	730
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	73	0	78	1043	416	0	0	146	730
PCE 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
MLF 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
Final Volume:	0	0	0	73	0	78	1043	416	0	0	146	730
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.04	0.00	0.04	0.60	0.22	0.00	0.00	0.08	0.42
Crit Moves:				****				****				****
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	28.9	41.0	0.0	0.0	12.1	22.1
Volume/Cap:	0.00	0.00	0.00	0.25	0.00	0.27	1.24	0.32	0.00	0.00	0.38	1.13
Delay/Veh:	0.0	0.0	0.0	22.2	0.0	22.3	133.1	4.0	0.0	0.0	21.3	96.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.2	0.0	22.3	133.1	4.0	0.0	0.0	21.3	96.2
LOS by Move:	A	A	A	C+	A	C+	F	A	A	A	C+	F
HCM2kAvgQ:	0	0	0	1	0	2	51	3	0	0	2	27
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #1: Enterprise Way/Moffett Park Drive



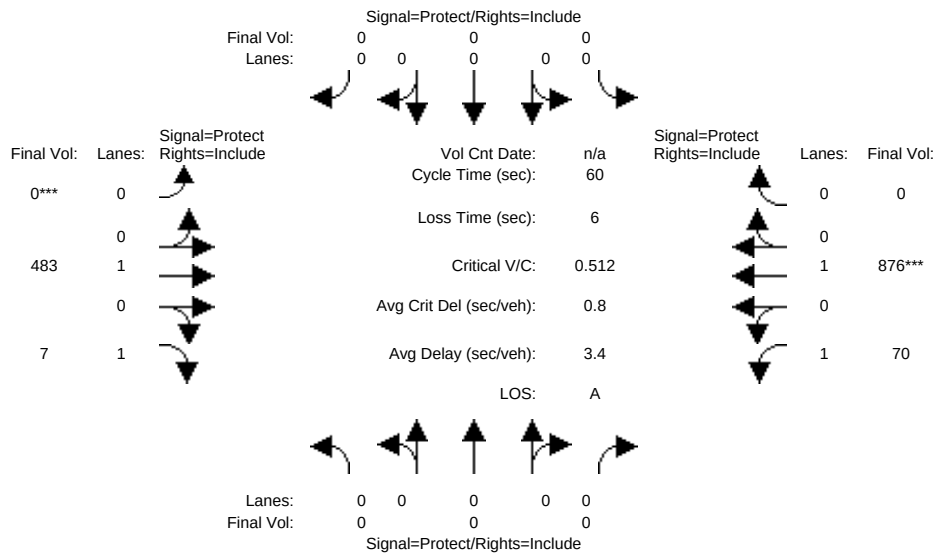
Street Name:	Enterprise Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	261	0	222	31	62	0	0	115	39
Growth 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
Initial Bse:	0	0	0	261	0	222	31	62	0	0	115	39
Added Vol:	0	0	0	504	0	545	82	58	0	0	28	45
Yahoo:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	765	0	767	113	120	0	0	143	84
User 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
PHF 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
PHF Volume:	0	0	0	765	0	767	113	120	0	0	143	84
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	765	0	767	113	120	0	0	143	84
PCE 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
MLF 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
Final Volume:	0	0	0	765	0	767	113	120	0	0	143	84
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.44	0.00	0.44	0.06	0.06	0.00	0.00	0.08	0.05
Crit Moves:				****			****			****		
Green Time:	0.0	0.0	0.0	34.0	0.0	34.0	7.0	17.0	0.0	0.0	10.0	44.0
Volume/Cap:	0.00	0.00	0.00	0.77	0.00	0.77	0.55	0.22	0.00	0.00	0.45	0.07
Uniform Del:	0.0	0.0	0.0	10.0	0.0	10.0	25.0	16.4	0.0	0.0	22.5	2.2
IncrementDel:	0.0	0.0	0.0	3.8	0.0	3.8	3.3	0.2	0.0	0.0	1.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	13.8	0.0	13.9	28.3	16.7	0.0	0.0	23.6	2.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.8	0.0	13.9	28.3	16.7	0.0	0.0	23.6	2.3
LOS by Move:	A	A	A	B	A	B	C	B	A	A	C	A
HCM2kAvgQ:	0	0	0	14	0	14	3	2	0	0	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #2: US-101 NB On-Ramp/Moffett Park Drive

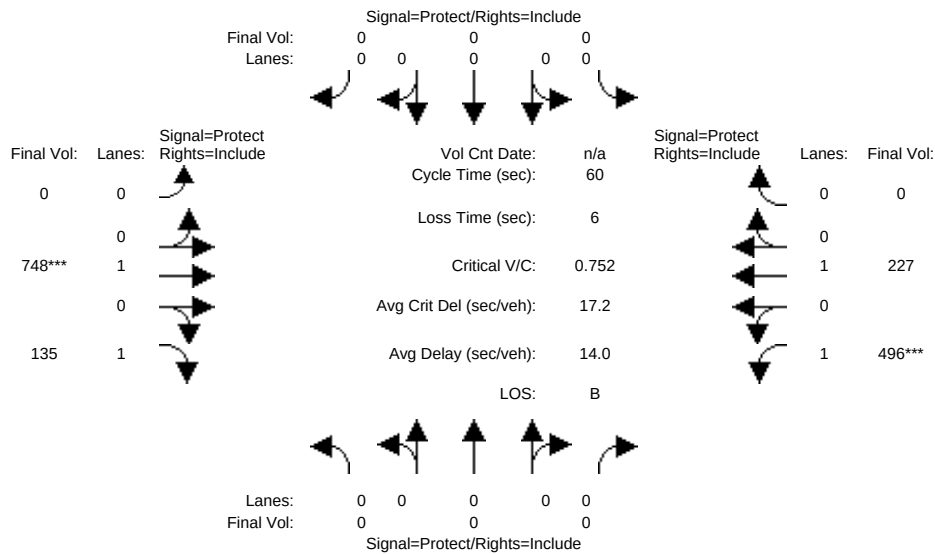


Street Name:	US-101 NB On-Ramp						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	134	1	14	387	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	134	1	14	387	0
Added Vol:	0	0	0	0	0	0	0	349	6	56	489	0
Yahoo:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	483	7	70	876	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	0	0	483	7	70	876	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	483	7	70	876	0
PCE 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
MLF 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
Final Volume:	0	0	0	0	0	0	0	483	7	70	876	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	0	0	0	0	1900	1750	1750	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.04	0.46	0.00
Crit Moves:							****			****		
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	37.0	17.0	54.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.01	0.14	0.51	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	4.4	16.2	0.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	4.4	16.2	0.8	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	B	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	5	0	1	3	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #2: US-101 NB On-Ramp/Moffett Park Drive



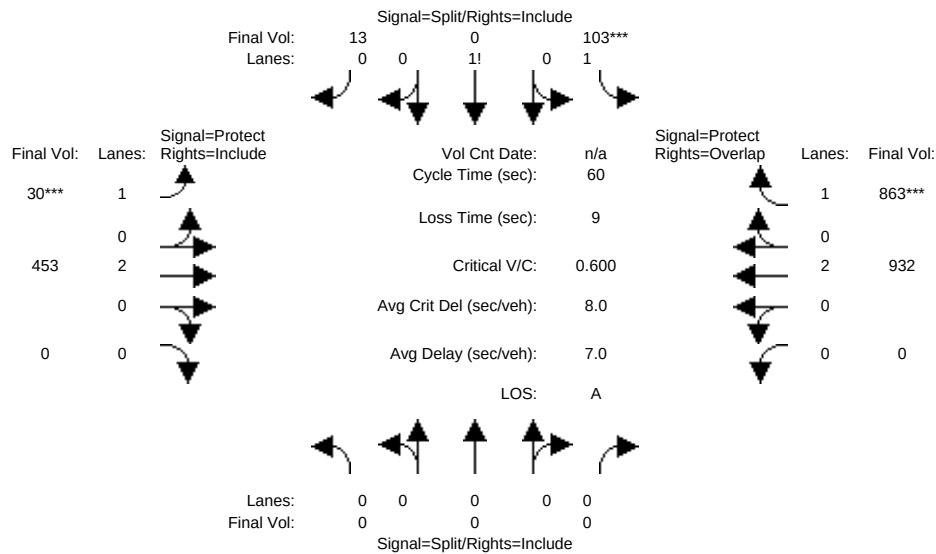
Street Name:	US-101 NB On-Ramp						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	252	70	174	154	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	252	70	174	154	0
Added Vol:	0	0	0	0	0	0	0	496	65	322	73	0
Yahoo:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	748	135	496	227	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	0	0	748	135	496	227	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	748	135	496	227	0
PCE 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
MLF 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
Final Volume:	0	0	0	0	0	0	0	748	135	496	227	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	0	0	0	0	1900	1750	1750	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.08	0.28	0.12	0.00
Crit Moves:								***		***		
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.4	31.4	22.6	54.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.15	0.75	0.13	0.00
Uniform Del:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2	7.4	16.3	0.3	0.0
IncrcmntDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.1	4.9	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5	7.5	21.1	0.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5	7.5	21.1	0.4	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C+	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	11	1	9	1	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #3: Innovation Way/Moffett Park Drive



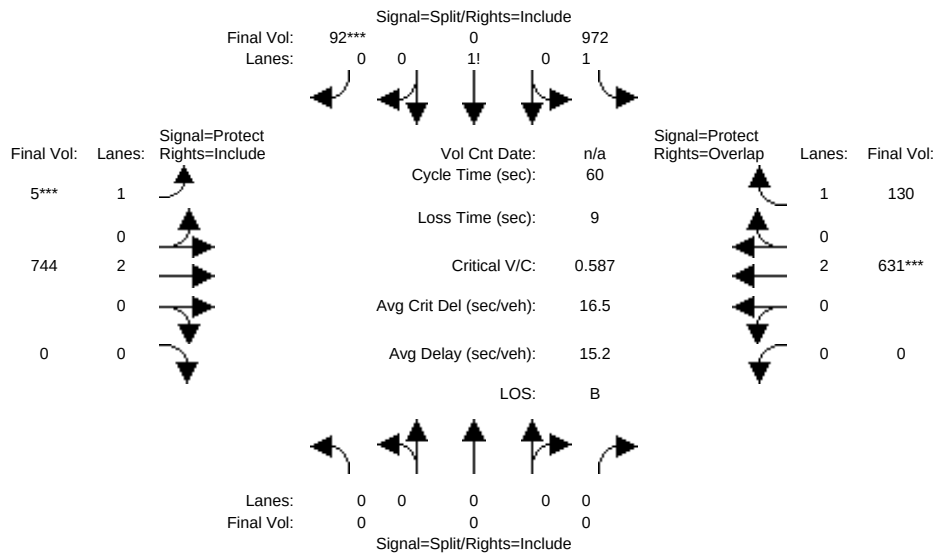
Street Name:	Innovation Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	44	0	8	18	116	0	0	392	242
Growth 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
Initial Bse:	0	0	0	44	0	8	18	116	0	0	392	242
Added Vol:	0	0	0	59	0	5	12	337	0	0	540	621
Yahoo:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	103	0	13	30	453	0	0	932	863
User 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
PHF 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
PHF Volume:	0	0	0	103	0	13	30	453	0	0	932	863
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	103	0	13	30	453	0	0	932	863
PCE 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
MLF 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
Final Volume:	0	0	0	103	0	13	30	453	0	0	932	863
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.80	0.00	0.20	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3147	0	353	1750	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.04	0.02	0.12	0.00	0.00	0.25	0.49
Crit Moves:				****			****					****
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	7.0	41.0	0.0	0.0	34.0	44.0
Volume/Cap:	0.00	0.00	0.00	0.20	0.00	0.22	0.15	0.17	0.00	0.00	0.43	0.67
Delay/Veh:	0.0	0.0	0.0	21.7	0.0	21.8	24.2	3.4	0.0	0.0	7.6	5.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.7	0.0	21.8	24.2	3.4	0.0	0.0	7.6	5.6
LOS by Move:	A	A	A	C+	A	C+	C	A	A	A	A	A
HCM2kAvgQ:	0	0	0	1	0	1	1	1	0	0	4	8

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #3: Innovation Way/Moffett Park Drive



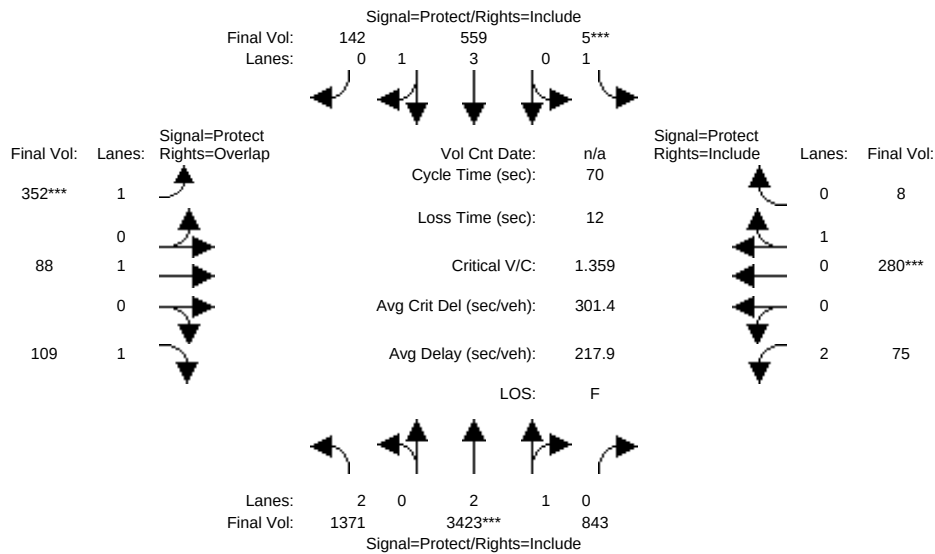
Street Name:	Innovation Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	385	0	52	2	250	0	0	275	57
Growth 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
Initial Bse:	0	0	0	385	0	52	2	250	0	0	275	57
Added Vol:	0	0	0	587	0	40	3	494	0	0	356	73
Yahoo:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	972	0	92	5	744	0	0	631	130
User 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
PHF 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
PHF Volume:	0	0	0	972	0	92	5	744	0	0	631	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	972	0	92	5	744	0	0	631	130
PCE 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
MLF 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
Final Volume:	0	0	0	972	0	92	5	744	0	0	631	130
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.84	0.00	0.16	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3221	0	279	1750	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.30	0.00	0.33	0.00	0.20	0.00	0.00	0.17	0.07
Crit Moves:						****					****	
Green Time:	0.0	0.0	0.0	29.3	0.0	29.3	7.0	21.7	0.0	0.0	14.7	44.0
Volume/Cap:	0.00	0.00	0.00	0.62	0.00	0.68	0.02	0.54	0.00	0.00	0.68	0.10
Uniform Del:	0.0	0.0	0.0	11.3	0.0	11.7	23.5	15.2	0.0	0.0	20.5	2.3
IncrcmntDel:	0.0	0.0	0.0	0.7	0.0	1.2	0.0	0.4	0.0	0.0	2.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	12.0	0.0	12.9	23.5	15.6	0.0	0.0	22.5	2.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	12.0	0.0	12.9	23.5	15.6	0.0	0.0	22.5	2.3
LOS by Move:	A	A	A	B+	A	B	C	B	A	A	C+	A
HCM2kAvgQ:	0	0	0	9	0	10	0	5	0	0	5	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #4: Mathilda Avenue/Moffett Park Drive

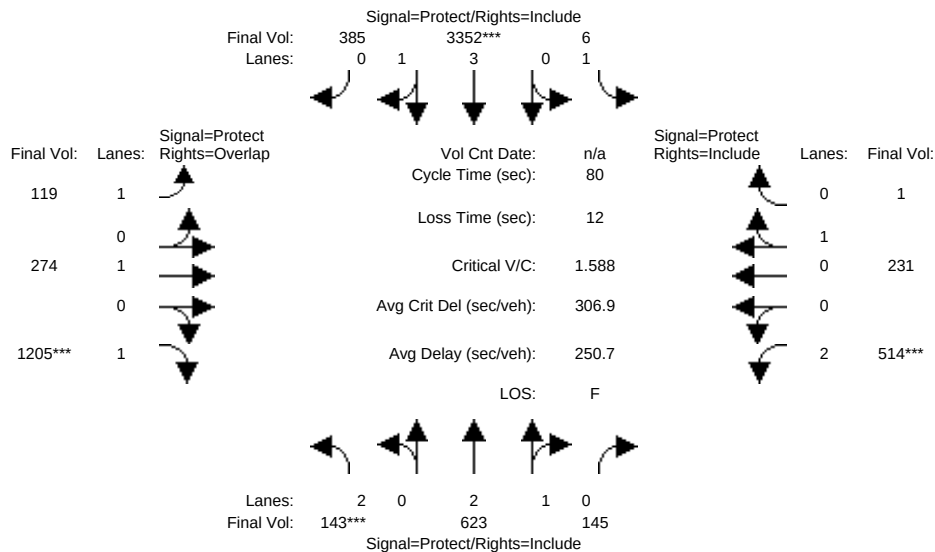


Street Name:	Mathilda Avenue						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	482	1301	787	4	207	69	53	72	28	64	81	4
Growth 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
Initial Bse:	482	1301	787	4	207	69	53	72	28	64	81	4
Added Vol:	889	2010	0	1	328	73	299	16	81	0	199	4
Yahoo:	0	112	56	0	24	0	0	0	0	11	0	0
Initial Fut:	1371	3423	843	5	559	142	352	88	109	75	280	8
User 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
PHF 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
PHF Volume:	1371	3423	843	5	559	142	352	88	109	75	280	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1371	3423	843	5	559	142	352	88	109	75	280	8
PCE 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
MLF 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
Final Volume:	1371	3423	843	5	559	142	352	88	109	75	280	8
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.95	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	2.39	0.61	1.00	3.16	0.84	1.00	1.00	1.00	2.00	0.97	0.03
Final Sat.:	3150	4492	1106	1750	5978	1519	1750	1900	1750	3150	1750	50
Capacity Analysis Module:												
Vol/Sat:	0.44	0.76	0.76	0.00	0.09	0.09	0.20	0.05	0.06	0.02	0.16	0.16
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	29.4	32.4	32.4	7.0	10.0	10.0	8.6	10.9	40.4	7.6	10.0	10.0
Volume/Cap:	1.03	1.64	1.64	0.03	0.65	0.65	1.64	0.30	0.11	0.22	1.12	1.12
Delay/Veh:	54.5	311	310.5	28.5	29.8	29.8	340.8	26.7	6.7	28.8	122	122.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.5	311	310.5	28.5	29.8	29.8	340.8	26.7	6.7	28.8	122	122.2
LOS by Move:	D-	F	F	C	C	C	F	C	A	C	F	F
HCM2kAvgQ:	21	99	99	0	4	4	27	2	1	1	14	14
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #4: Mathilda Avenue/Moffett Park Drive



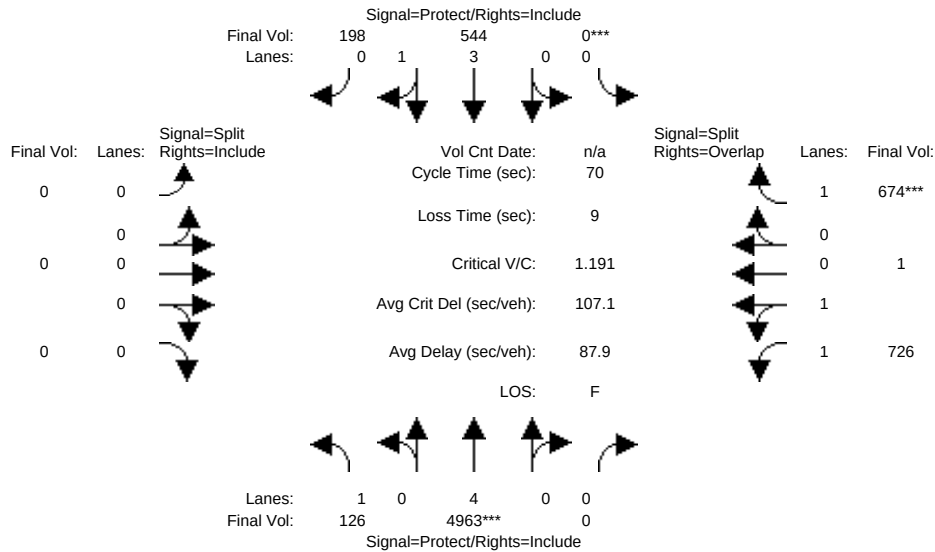
Street Name:	Mathilda Avenue						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	49	230	136	2	1354	72	48	116	354	460	209	0
Growth 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
Initial Bse:	49	230	136	2	1354	72	48	116	354	460	209	0
Added Vol:	94	373	0	4	1891	313	71	158	851	0	22	1
Yahoo:	0	20	9	0	107	0	0	0	0	54	0	0
Initial Fut:	143	623	145	6	3352	385	119	274	1205	514	231	1
User 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
PHF 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
PHF Volume:	143	623	145	6	3352	385	119	274	1205	514	231	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	623	145	6	3352	385	119	274	1205	514	231	1
PCE 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
MLF 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
Final Volume:	143	623	145	6	3352	385	119	274	1205	514	231	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	2.41	0.59	1.00	3.57	0.43	1.00	1.00	1.00	2.00	0.99	0.01
Final Sat.:	3150	4541	1057	1750	6726	773	1750	1900	1750	3150	1792	8
Capacity Analysis Module:												
Vol/Sat:	0.05	0.14	0.14	0.00	0.50	0.50	0.07	0.14	0.69	0.16	0.13	0.13
Crit Moves:	****			****					****	****		
Green Time:	7.0	19.0	19.0	12.1	24.1	24.1	14.9	29.0	36.0	7.9	22.0	22.0
Volume/Cap:	0.52	0.58	0.58	0.02	1.66	1.66	0.36	0.40	1.53	1.66	0.47	0.47
Uniform Del:	34.9	27.0	27.0	28.9	28.0	28.0	28.4	19.0	22.0	36.1	24.1	24.1
IncrementDel:	1.7	0.6	0.6	0.0	297	297.1	0.7	0.4	244.2	309.1	0.7	0.7
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	36.6	27.6	27.6	28.9	325	325.1	29.1	19.3	266.2	345.2	24.8	24.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.6	27.6	27.6	28.9	325	325.1	29.1	19.3	266.2	345.2	24.8	24.8
LOS by Move:	D+	C	C	C	F	F	C	B-	F	F	C	C
HCM2kAvgQ:	2	6	6	0	68	68	3	5	87	24	5	5

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps

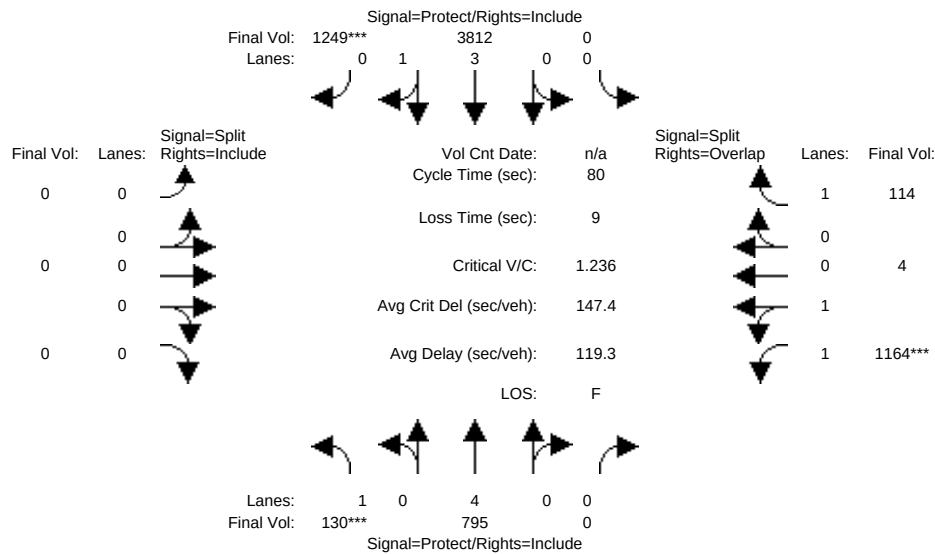


Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	126	2312	0	0	235	63	0	0	0	580	1	258
Growth 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
Initial Bse:	126	2312	0	0	235	63	0	0	0	580	1	258
Added Vol:	0	2483	0	0	295	114	0	0	0	146	0	416
Yahoo:	0	168	0	0	14	21	0	0	0	0	0	0
Initial Fut:	126	4963	0	0	544	198	0	0	0	726	1	674
User 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
PHF 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
PHF Volume:	126	4963	0	0	544	198	0	0	0	726	1	674
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	126	4963	0	0	544	198	0	0	0	726	1	674
PCE 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
MLF 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
Final Volume:	126	4963	0	0	544	198	0	0	0	726	1	674
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5700	1750	0	0	0	3545	5	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.65	0.00	0.00	0.10	0.11	0.00	0.00	0.00	0.20	0.20	0.39
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	15.8	38.4	0.0	0.0	22.6	22.6	0.0	0.0	0.0	22.6	22.6	22.6
Volume/Cap:	0.32	1.19	0.00	0.00	0.30	0.35	0.00	0.00	0.00	0.63	0.63	1.19
Delay/Veh:	23.1	105	0.0	0.0	17.8	18.2	0.0	0.0	0.0	21.3	21.3	126.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.1	105	0.0	0.0	17.8	18.2	0.0	0.0	0.0	21.3	21.3	126.4
LOS by Move:	C	F	A	A	B	B-	A	A	A	C+	C+	F
HCM2kAvgQ:	2	51	0	0	3	3	0	0	0	8	8	34
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps



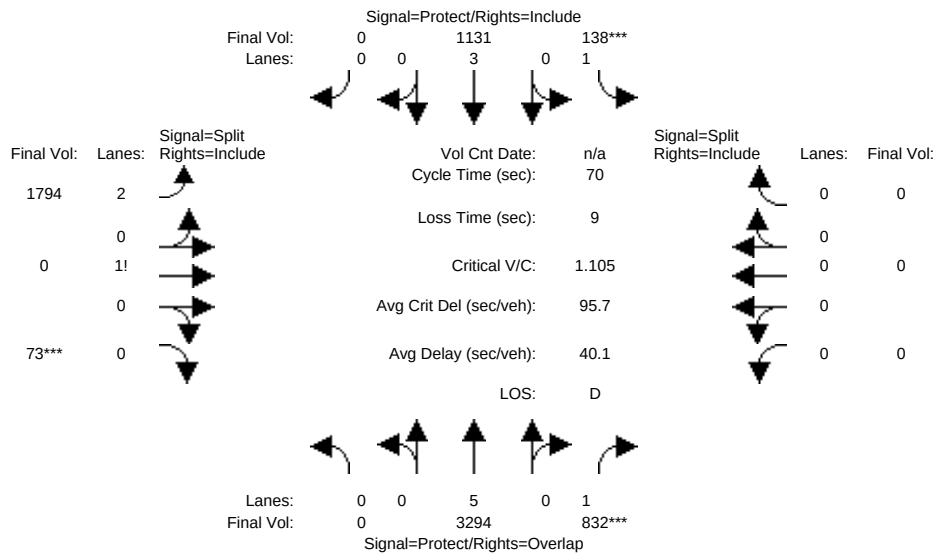
Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	130	377	0	0	1708	450	0	0	0	877	4	37
Growth 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
Initial Bse:	130	377	0	0	1708	450	0	0	0	877	4	37
Added Vol:	0	389	0	0	2039	703	0	0	0	287	0	77
Yahoo:	0	29	0	0	65	96	0	0	0	0	0	0
Initial Fut:	130	795	0	0	3812	1249	0	0	0	1164	4	114
User 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
PHF 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
PHF Volume:	130	795	0	0	3812	1249	0	0	0	1164	4	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	795	0	0	3812	1249	0	0	0	1164	4	114
PCE 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
MLF 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
Final Volume:	130	795	0	0	3812	1249	0	0	0	1164	4	114
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5699	1800	0	0	0	3538	12	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.10	0.00	0.00	0.67	0.69	0.00	0.00	0.00	0.33	0.33	0.07
Crit Moves:	***					***				***		
Green Time:	7.0	50.4	0.0	0.0	43.4	43.4	0.0	0.0	0.0	20.6	20.6	20.6
Volume/Cap:	0.85	0.17	0.00	0.00	1.23	1.28	0.00	0.00	0.00	1.28	1.28	0.25
Uniform Del:	36.0	6.1	0.0	0.0	18.3	18.3	0.0	0.0	0.0	29.7	29.7	23.6
IncrementDel:	33.6	0.0	0.0	0.0	107	127.4	0.0	0.0	0.0	133.9	134	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	69.5	6.1	0.0	0.0	125	145.7	0.0	0.0	0.0	163.6	164	23.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.5	6.1	0.0	0.0	125	145.7	0.0	0.0	0.0	163.6	164	23.9
LOS by Move:	E	A	A	A	F	F	A	A	A	F	F	C
HCM2kAvgQ:	4	2	0	0	59	65	0	0	0	35	35	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps

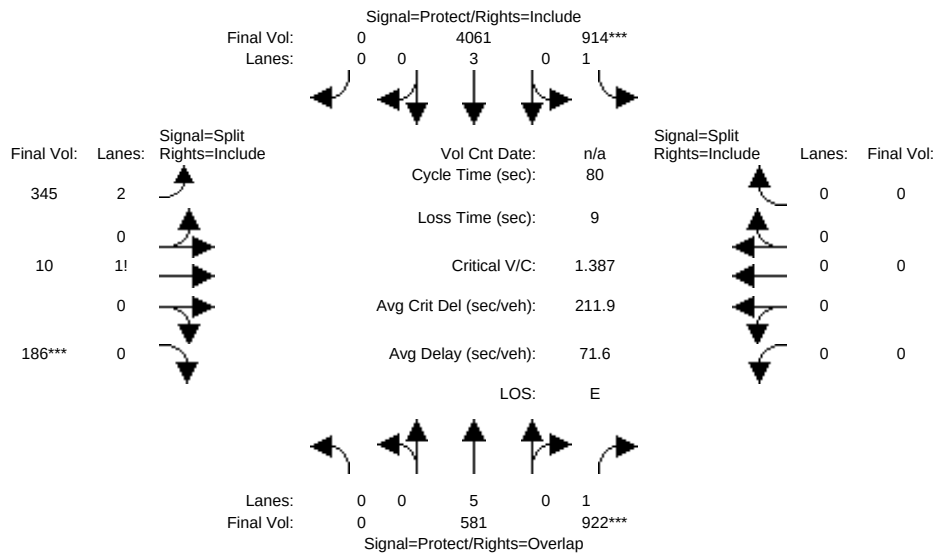


Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	1611	749	55	760	0	827	0	73	0	0	0
Growth 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
Initial Bse:	0	1611	749	55	760	0	827	0	73	0	0	0
Added Vol:	0	1615	83	83	357	0	867	0	0	0	0	0
Yahoo:	0	68	0	0	14	0	100	0	0	0	0	0
Initial Fut:	0	3294	832	138	1131	0	1794	0	73	0	0	0
User 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
PHF 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
PHF Volume:	0	3294	832	138	1131	0	1794	0	73	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3294	832	138	1131	0	1794	0	73	0	0	0
PCE 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
MLF 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
Final Volume:	0	3294	832	138	1131	0	1794	0	73	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.86	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.90	0.00	0.10	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	4720	0	179	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.48	0.08	0.20	0.00	0.38	0.00	0.41	0.00	0.00	0.00
Crit Moves:			****	****					****			
Green Time:	0.0	29.0	29.0	7.0	36.0	0.0	25.0	0.0	25.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.84	1.15	0.79	0.39	0.00	1.07	0.00	1.15	0.00	0.00	0.00
Delay/Veh:	0.0	20.0	102.0	51.7	10.4	0.0	63.9	0.0	96.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	20.0	102.0	51.7	10.4	0.0	63.9	0.0	96.1	0.0	0.0	0.0
LOS by Move:	A	C+	F	D-	B+	A	E	A	F	A	A	A
HCM2kAvgQ:	0	13	34	4	5	0	27	0	33	0	0	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps



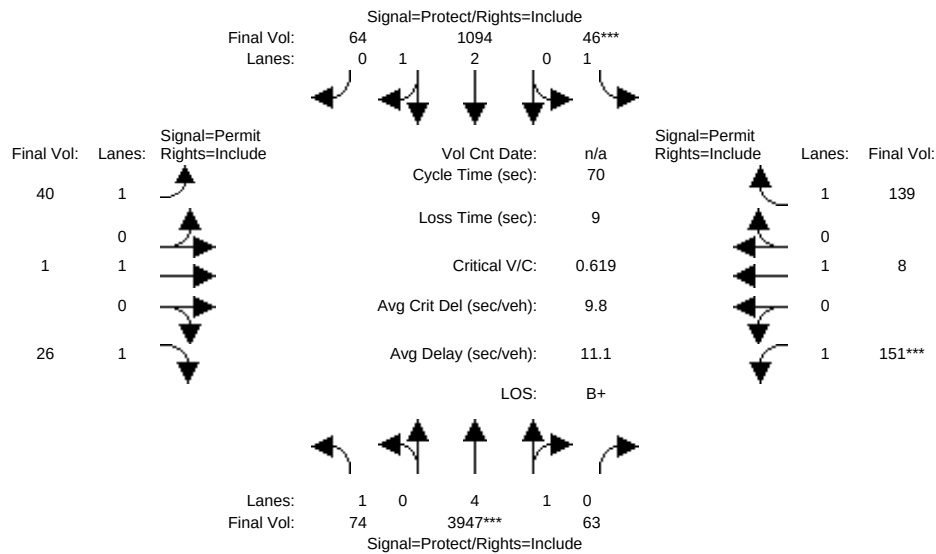
Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	324	575	364	2220	0	183	10	186	0	0	0
Growth 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
Initial Bse:	0	324	575	364	2220	0	183	10	186	0	0	0
Added Vol:	0	245	347	550	1776	0	145	0	0	0	0	0
Yahoo:	0	12	0	0	65	0	17	0	0	0	0	0
Initial Fut:	0	581	922	914	4061	0	345	10	186	0	0	0
User 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
PHF 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
PHF Volume:	0	581	922	914	4061	0	345	10	186	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	581	922	914	4061	0	345	10	186	0	0	0
PCE 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
MLF 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
Final Volume:	0	581	922	914	4061	0	345	10	186	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.40	0.03	0.57	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	3782	55	1023	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.06	0.53	0.52	0.71	0.00	0.09	0.18	0.18	0.00	0.00	0.00
Crit Moves:			****	****					****			
Green Time:	0.0	30.4	30.4	30.1	60.5	0.0	10.5	10.5	10.5	0.0	0.0	0.0
Volume/Cap:	0.00	0.16	1.39	1.39	0.94	0.00	0.70	1.39	1.39	0.00	0.00	0.00
Uniform Del:	0.0	16.4	24.8	24.9	8.3	0.0	33.2	34.8	34.8	0.0	0.0	0.0
IncrementDel:	0.0	0.0	183.4	183.5	5.1	0.0	2.8	189	189.4	0.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Delay/Veh:	0.0	16.4	208.2	208.4	13.4	0.0	36.0	224	224.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	16.4	208.2	208.4	13.4	0.0	36.0	224	224.2	0.0	0.0	0.0
LOS by Move:	A	B	F	F	B	A	D+	F	F	A	A	A
HCM2kAvgQ:	0	2	59	57	27	0	6	23	23	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #7: Mathilda Avenue/Ross Drive

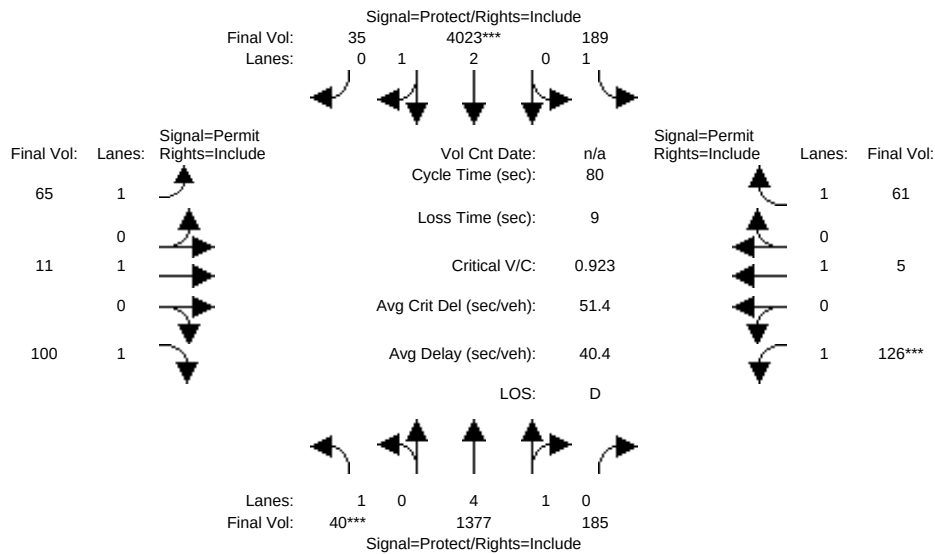


Street Name:	Mathilda Avenue						Ross Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	74	2181	63	46	723	64	40	1	26	151	8	139
Growth 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
Initial Bse:	74	2181	63	46	723	64	40	1	26	151	8	139
Added Vol:	0	1698	0	0	357	0	0	0	0	0	0	0
Yahoo:	0	68	0	0	14	0	0	0	0	0	0	0
Initial Fut:	74	3947	63	46	1094	64	40	1	26	151	8	139
User 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
PHF 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
PHF Volume:	74	3947	63	46	1094	64	40	1	26	151	8	139
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	3947	63	46	1094	64	40	1	26	151	8	139
PCE 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
MLF 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
Final Volume:	74	3947	63	46	1094	64	40	1	26	151	8	139
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	4.92	0.08	1.00	2.83	0.17	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	9252	148	1750	5290	309	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.43	0.43	0.03	0.21	0.21	0.02	0.00	0.01	0.09	0.00	0.08
Crit Moves:	****			****			****			****		
Green Time:	16.6	44.0	44.0	7.0	34.4	34.4	10.0	10.0	10.0	10.0	10.0	10.0
Volume/Cap:	0.18	0.68	0.68	0.26	0.42	0.42	0.16	0.00	0.10	0.60	0.03	0.56
Delay/Veh:	21.5	8.7	8.7	29.9	11.5	11.5	26.6	25.7	26.3	32.3	25.9	30.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.5	8.7	8.7	29.9	11.5	11.5	26.6	25.7	26.3	32.3	25.9	30.7
LOS by Move:	C+	A	A	C	B+	B+	C	C	C	C-	C	C
HCM2kAvgQ:	1	11	11	1	5	5	1	0	1	4	0	4
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #7: Mathilda Avenue/Ross Drive



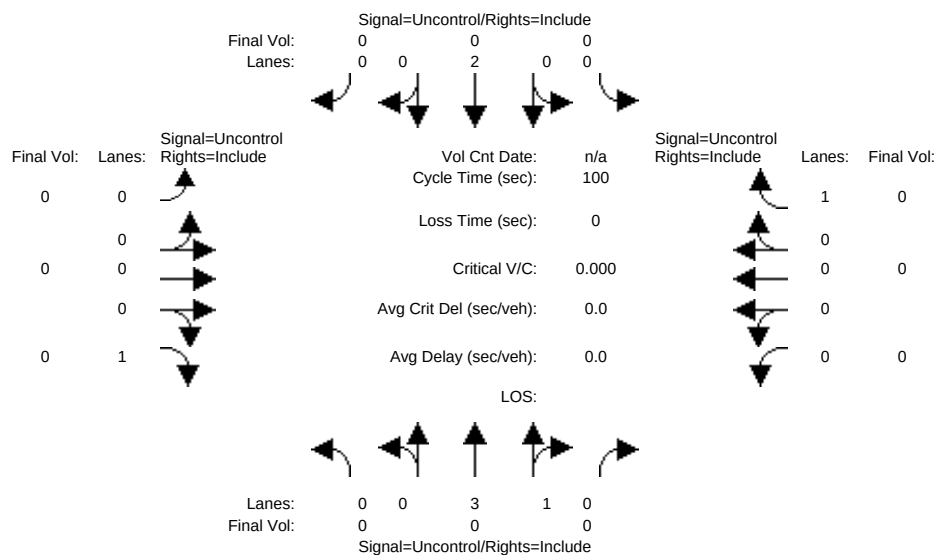
Street Name:	Mathilda Avenue						Ross Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	40	773	185	189	2182	35	65	11	100	126	5	61
Growth 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
Initial Bse:	40	773	185	189	2182	35	65	11	100	126	5	61
Added Vol:	0	592	0	0	1776	0	0	0	0	0	0	0
Yahoo:	0	12	0	0	65	0	0	0	0	0	0	0
Initial Fut:	40	1377	185	189	4023	35	65	11	100	126	5	61
User 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
PHF 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
PHF Volume:	40	1377	185	189	4023	35	65	11	100	126	5	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	1377	185	189	4023	35	65	11	100	126	5	61
PCE 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
MLF 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
Final Volume:	40	1377	185	189	4023	35	65	11	100	126	5	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	4.38	0.62	1.00	2.97	0.03	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	8285	1113	1750	5552	48	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.17	0.17	0.11	0.72	0.72	0.04	0.01	0.06	0.07	0.00	0.03
Crit Moves:	****			****						****		
Green Time:	7.0	37.0	37.0	24.0	54.0	54.0	10.0	10.0	10.0	10.0	10.0	10.0
Volume/Cap:	0.26	0.36	0.36	0.36	1.07	1.07	0.30	0.05	0.46	0.58	0.02	0.28
Uniform Del:	34.1	13.9	13.9	22.0	13.0	13.0	31.8	30.8	32.5	33.0	30.7	31.7
IncrementDel:	0.9	0.1	0.1	0.4	39.0	39.0	0.8	0.1	1.5	3.7	0.0	0.7
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	35.0	13.9	13.9	22.4	52.0	52.0	32.6	30.9	34.0	36.7	30.7	32.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.0	13.9	13.9	22.4	52.0	52.0	32.6	30.9	34.0	36.7	30.7	32.4
LOS by Move:	C-	B	B	C+	D-	D-	C-	C	C-	D+	C	C-
HCM2kAvgQ:	1	5	5	4	44	44	2	0	3	4	0	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Background AM

Intersection #8: Mathilda Avenue/US-101 Northbound Ramps

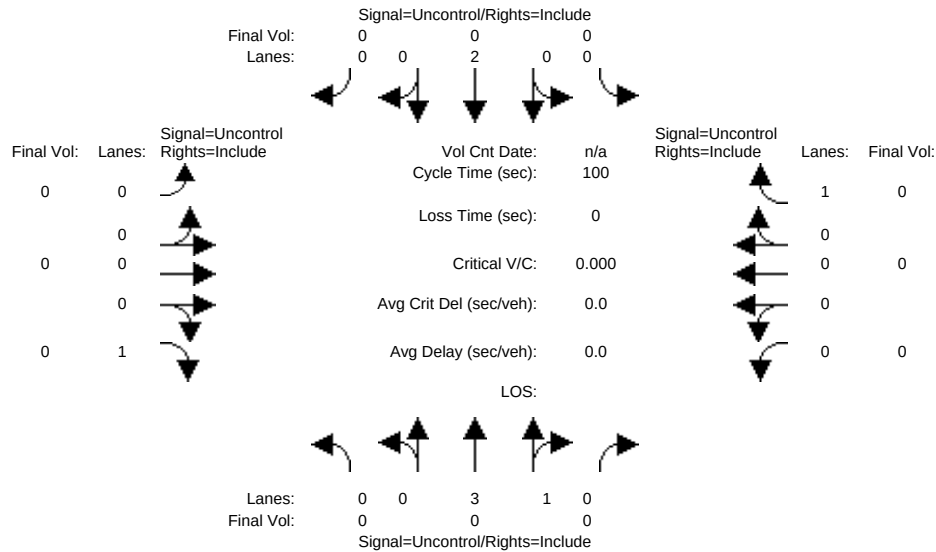


Street Name:	Mathilda Avenue						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1435	479	0	900	0	0	0	773	0	0	883
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1435	479	0	900	0	0	0	773	0	0	883
Added Vol:	0	791	88	0	357	0	0	0	0	0	0	907
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Background PM

Intersection #8: Mathilda Avenue/US-101 Northbound Ramps

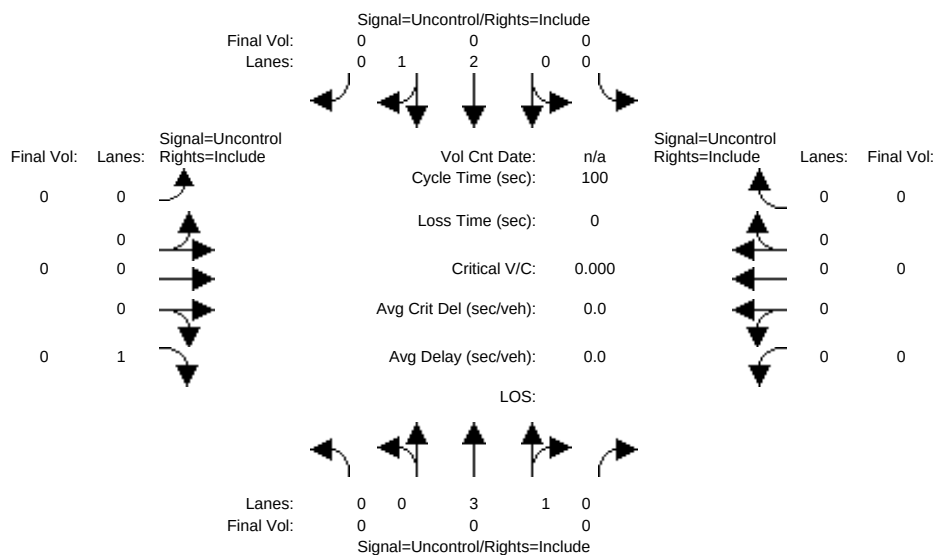


Street Name:	Mathilda Avenue						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	745	349	0	2408	0	0	0	718	0	0	254
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	745	349	0	2408	0	0	0	718	0	0	254
Added Vol:	0	453	359	0	1776	0	0	0	0	0	0	139
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Background AM

Intersection #9: Mathilda Avenue/US-101 Southbound Ramps

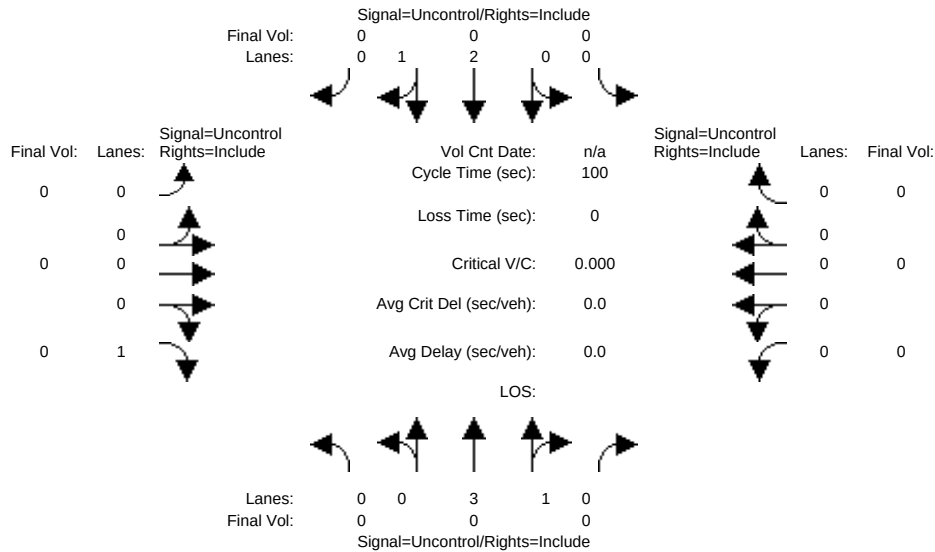


Street Name:	Mathilda Avenue						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1915	668	0	1465	207	0	0	409	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1915	668	0	1465	207	0	0	409	0	0	0
Added Vol:	0	872	0	31	236	90	7	0	146	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Background PM

Intersection #9: Mathilda Avenue/US-101 Southbound Ramps

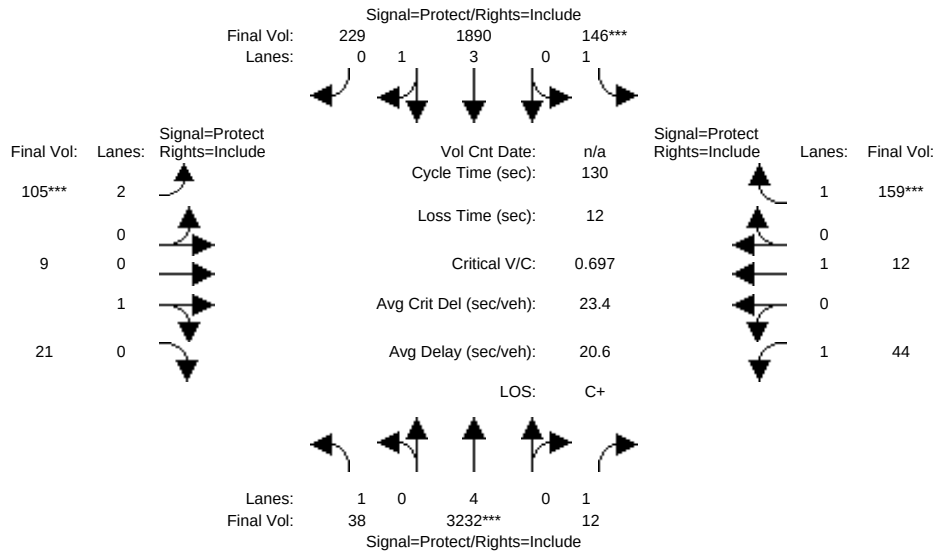


Street Name:	Mathilda Avenue						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1094	491	0	2485	642	0	0	553	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1094	491	0	2485	642	0	0	553	0	0	0
Added Vol:	0	811	0	330	928	518	1	0	287	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #10: Mathilda Avenue/Ahwanee Avenue-Almanor Ave

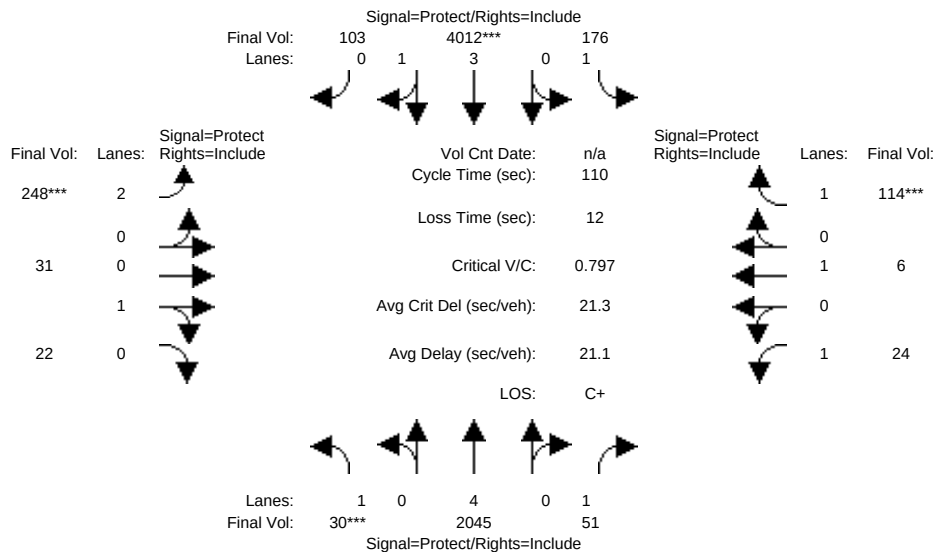


Street Name:	Mathilda Avenue						Ahwanee Avenue-Almanor Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	38	2331	12	146	1502	227	94	9	21	44	12	159
Growth 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
Initial Bse:	38	2331	12	146	1502	227	94	9	21	44	12	159
Added Vol:	0	872	0	0	382	0	0	0	0	0	0	0
Yahoo:	0	29	0	0	6	2	11	0	0	0	0	0
Initial Fut:	38	3232	12	146	1890	229	105	9	21	44	12	159
User 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
PHF 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
PHF Volume:	38	3232	12	146	1890	229	105	9	21	44	12	159
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	3232	12	146	1890	229	105	9	21	44	12	159
PCE 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
MLF 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
Final Volume:	38	3232	12	146	1890	229	105	9	21	44	12	159
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	1.00	4.00	1.00	1.00	3.55	0.45	2.00	0.30	0.70	1.00	1.00	1.00
Final Sat.:	1750	7600	1750	1750	6688	810	3150	540	1260	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.43	0.01	0.08	0.28	0.28	0.03	0.02	0.02	0.03	0.01	0.09
Crit Moves:	****			****			****					****
Green Time:	15.1	78.7	78.7	15.4	79.1	79.1	7.0	14.0	14.0	9.8	16.8	16.8
Volume/Cap:	0.19	0.70	0.01	0.70	0.46	0.46	0.62	0.15	0.15	0.33	0.05	0.70
Delay/Veh:	52.4	18.1	10.2	65.4	14.0	14.0	67.0	53.0	53.0	58.5	49.7	63.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.4	18.1	10.2	65.4	14.0	14.0	67.0	53.0	53.0	58.5	49.7	63.7
LOS by Move:	D-	B-	B+	E	B	B	E	D-	D-	E+	D	E
HCM2kAvgQ:	1	21	0	6	11	11	4	1	1	2	0	8
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

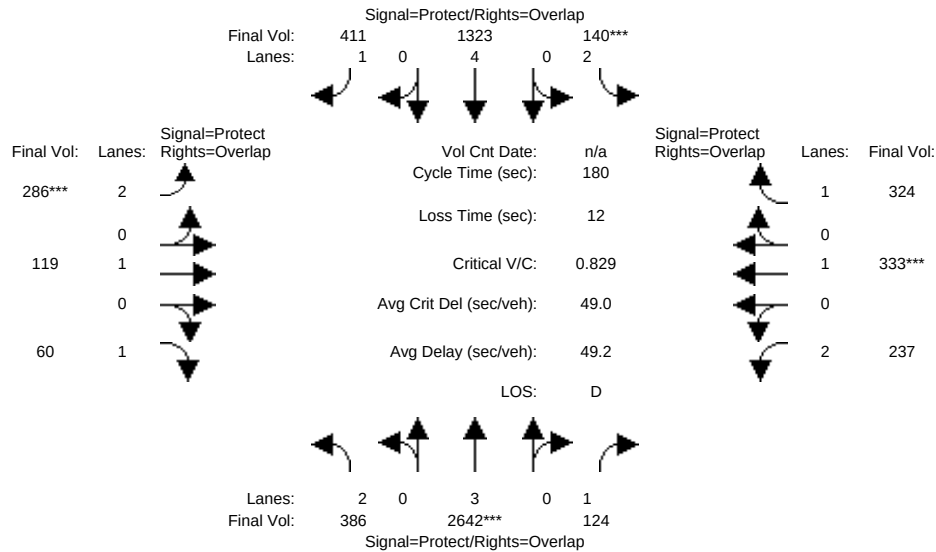
Intersection #10: Mathilda Avenue/Ahwanee Avenue-Almanor Ave



Street Name:	Mathilda Avenue						Ahwanee Avenue-Almanor Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	30	1229	51	176	2770	92	246	31	22	24	6	114
Growth 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
Initial Bse:	30	1229	51	176	2770	92	246	31	22	24	6	114
Added Vol:	0	811	0	0	1215	0	0	0	0	0	0	0
Yahoo:	0	5	0	0	27	11	2	0	0	0	0	0
Initial Fut:	30	2045	51	176	4012	103	248	31	22	24	6	114
User 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
PHF 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
PHF Volume:	30	2045	51	176	4012	103	248	31	22	24	6	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	2045	51	176	4012	103	248	31	22	24	6	114
PCE 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
MLF 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
Final Volume:	30	2045	51	176	4012	103	248	31	22	24	6	114
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	1.00	4.00	1.00	1.00	3.90	0.10	2.00	0.58	0.42	1.00	1.00	1.00
Final Sat.:	1750	7600	1750	1750	7312	188	3150	1053	747	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.27	0.03	0.10	0.55	0.55	0.08	0.03	0.03	0.01	0.00	0.07
Crit Moves:	****			****			****					****
Green Time:	7.0	56.7	56.7	21.2	70.8	70.8	10.2	11.9	11.9	8.3	10.0	10.0
Volume/Cap:	0.27	0.52	0.06	0.52	0.85	0.85	0.85	0.27	0.27	0.18	0.03	0.72
Uniform Del:	49.1	17.7	13.3	39.9	15.4	15.4	49.2	45.1	45.1	47.7	45.6	48.6
IncrementDel:	1.3	0.1	0.0	1.5	1.6	1.6	20.7	0.8	0.8	0.7	0.1	14.5
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	50.4	17.8	13.3	41.4	17.0	17.0	69.9	45.9	45.9	48.3	45.7	63.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.4	17.8	13.3	41.4	17.0	17.0	69.9	45.9	45.9	48.3	45.7	63.1
LOS by Move:	D	B	B	D	B	B	E	D	D	D	D	E
HCM2kAvgQ:	1	11	1	5	26	26	7	2	2	1	0	6

Note: Queue reported is the number of cars per lane.

Intersection #11: Mathilda Avenue/Maude Avenue

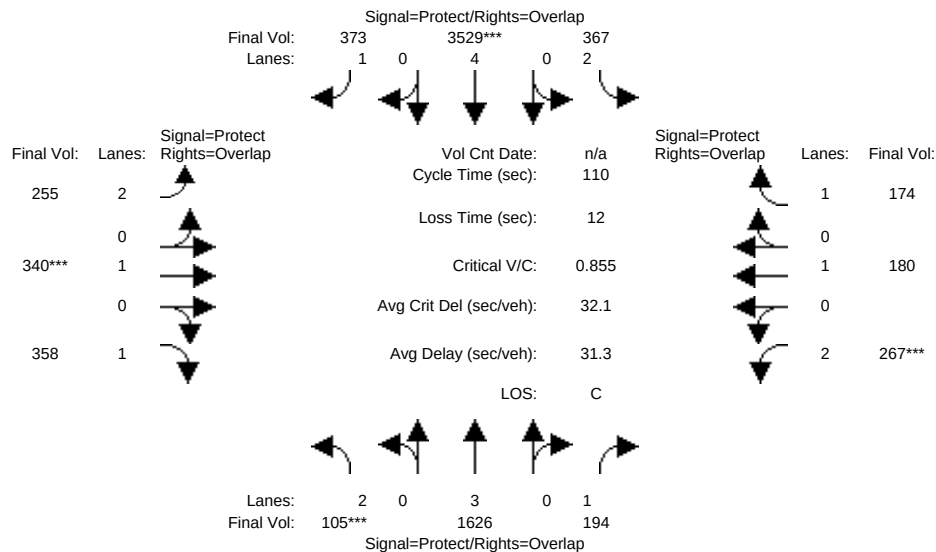


Licensed to TJKM, PLEASANTON, CA

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #11: Mathilda Avenue/Maude Avenue



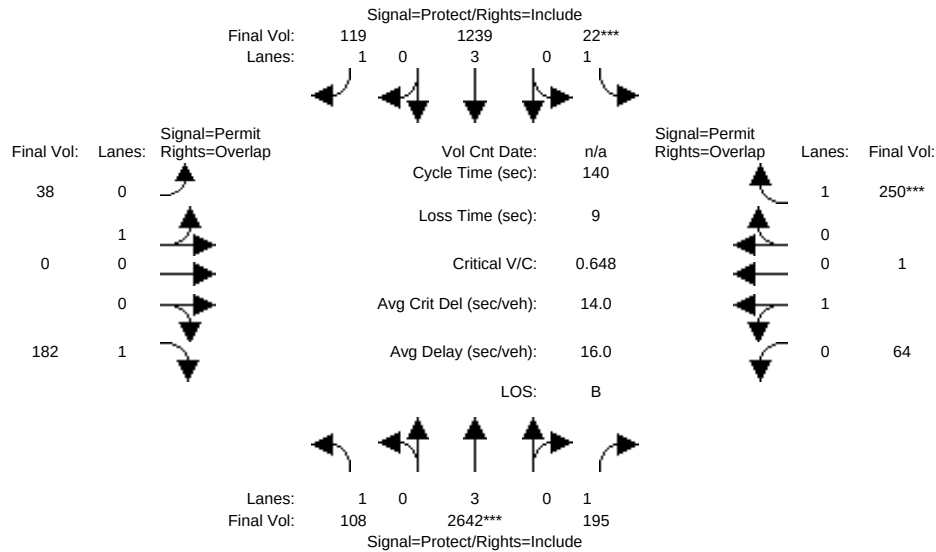
Street Name:	Mathilda Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	105	854	116	339	2487	201	227	316	358	172	157	159
Growth 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
Initial Bse:	105	854	116	339	2487	201	227	316	358	172	157	159
Added Vol:	0	767	78	28	1015	172	28	24	0	95	23	15
Yahoo:	0	5	0	0	27	0	0	0	0	0	0	0
Initial Fut:	105	1626	194	367	3529	373	255	340	358	267	180	174
User 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
PHF 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
PHF Volume:	105	1626	194	367	3529	373	255	340	358	267	180	174
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	105	1626	194	367	3529	373	255	340	358	267	180	174
PCE 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
MLF 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
Final Volume:	105	1626	194	367	3529	373	255	340	358	267	180	174
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	4.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	3150	5700	1750	3150	7600	1750	3150	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.29	0.11	0.12	0.46	0.21	0.08	0.18	0.20	0.08	0.09	0.10
Crit Moves:	****			****			****			****		
Green Time:	7.0	46.2	56.8	18.9	58.0	73.2	15.2	22.4	29.4	10.6	17.8	36.6
Volume/Cap:	0.52	0.68	0.21	0.68	0.88	0.32	0.59	0.88	0.77	0.88	0.59	0.30
Uniform Del:	49.9	25.9	14.5	42.7	22.9	7.8	44.5	42.5	37.2	49.1	42.7	27.2
IncrementDel:	2.5	0.8	0.1	3.5	2.5	0.2	2.1	20.1	7.5	24.3	2.9	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	52.4	26.7	14.6	46.2	25.5	8.0	46.5	62.6	44.6	73.3	45.6	27.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.4	26.7	14.6	46.2	25.5	8.0	46.5	62.6	44.6	73.3	45.6	27.5
LOS by Move:	D-	C	B	D	C	A	D	E	D	E	D	C
HCM2kAvgQ:	2	15	4	7	26	5	5	12	12	8	6	5

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #12: Mathilda Avenue/Indio Way

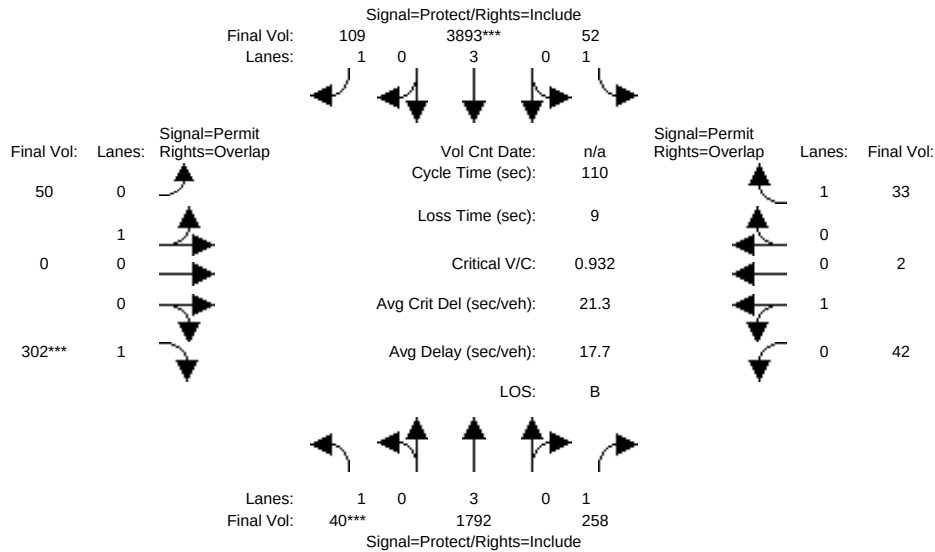


Street Name:	Mathilda Avenue						Indio Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	108	1941	167	21	842	102	38	0	182	64	1	237
Growth 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
Initial Bse:	108	1941	167	21	842	102	38	0	182	64	1	237
Added Vol:	0	701	28	1	397	17	0	0	0	0	0	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	2642	195	22	1239	119	38	0	182	64	1	250
User 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
PHF 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
PHF Volume:	108	2642	195	22	1239	119	38	0	182	64	1	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	108	2642	195	22	1239	119	38	0	182	64	1	250
PCE 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
MLF 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
Final Volume:	108	2642	195	22	1239	119	38	0	182	64	1	250
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.00	1.00	0.98	0.02	1.00
Final Sat.:	1750	5700	1750	1750	5700	1750	1800	0	1750	1772	28	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.46	0.11	0.01	0.22	0.07	0.02	0.00	0.10	0.04	0.04	0.14
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	24.4	103	103.3	7.0	85.9	85.9	20.7	0.0	45.1	20.7	20.7	27.7
Volume/Cap:	0.35	0.63	0.15	0.25	0.35	0.11	0.14	0.00	0.32	0.24	0.24	0.72
Delay/Veh:	51.6	9.3	5.5	65.5	13.4	11.3	52.2	0.0	36.2	53.2	53.2	59.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.6	9.3	5.5	65.5	13.4	11.3	52.2	0.0	36.2	53.2	53.2	59.8
LOS by Move:	D-	A	A	E	B	B+	D-	A	D+	D-	D-	E+
HCM2kAvgQ:	4	18	3	1	8	2	2	0	6	3	3	12
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #12: Mathilda Avenue/Indio Way



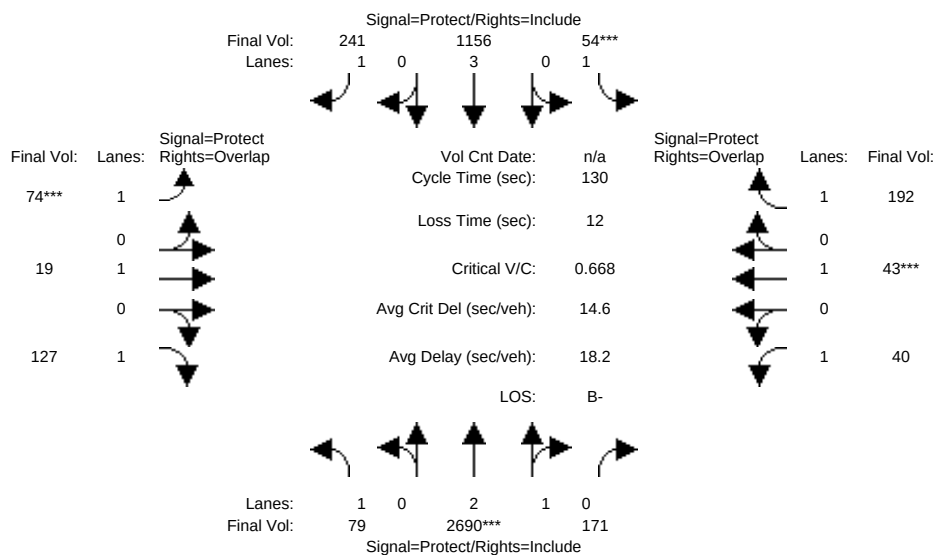
Street Name:	Mathilda Avenue						Indio Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	40	948	142	41	2832	71	50	0	302	42	2	32
Growth 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
Initial Bse:	40	948	142	41	2832	71	50	0	302	42	2	32
Added Vol:	0	844	116	11	1061	38	0	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	40	1792	258	52	3893	109	50	0	302	42	2	33
User 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
PHF 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
PHF Volume:	40	1792	258	52	3893	109	50	0	302	42	2	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	1792	258	52	3893	109	50	0	302	42	2	33
PCE 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
MLF 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
Final Volume:	40	1792	258	52	3893	109	50	0	302	42	2	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.00	1.00	0.95	0.05	1.00
Final Sat.:	1750	5700	1750	1750	5700	1750	1800	0	1750	1718	82	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.31	0.15	0.03	0.68	0.06	0.03	0.00	0.17	0.02	0.02	0.02
Crit Moves:	****			****					****			
Green Time:	7.0	73.2	73.2	14.8	81.1	81.1	12.9	0.0	19.9	12.9	12.9	27.8
Volume/Cap:	0.36	0.47	0.22	0.22	0.93	0.08	0.24	0.00	0.95	0.21	0.21	0.07
Uniform Del:	49.4	9.0	7.2	42.4	12.0	4.1	44.1	0.0	44.6	43.9	43.9	31.3
IncrementDel:	2.0	0.1	0.1	0.5	4.2	0.0	0.6	0.0	37.9	0.5	0.5	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	51.3	9.1	7.3	42.9	16.2	4.1	44.6	0.0	82.5	44.4	44.4	31.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.3	9.1	7.3	42.9	16.2	4.1	44.6	0.0	82.5	44.4	44.4	31.4
LOS by Move:	D-	A	A	D	B	A	D	A	F	D	D	C
HCM2kAvgQ:	1	9	4	2	36	1	2	0	15	2	2	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #13: Mathilda Avenue/California Way

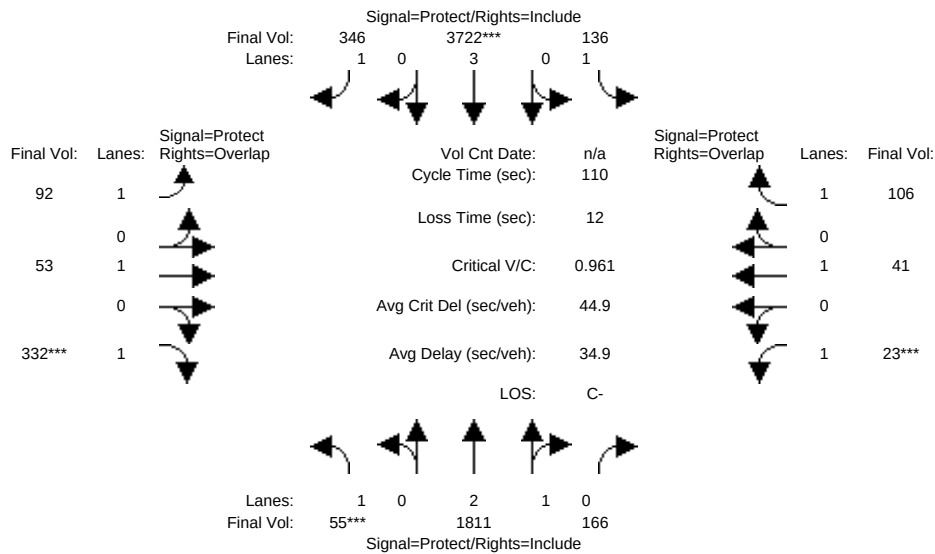


Street Name:	Mathilda Avenue						California Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	79	1997	171	54	759	241	74	19	78	40	43	156
Growth 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
Initial Bse:	79	1997	171	54	759	241	74	19	78	40	43	156
Added Vol:	0	693	0	0	397	0	0	0	49	0	0	36
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	79	2690	171	54	1156	241	74	19	127	40	43	192
User 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
PHF 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
PHF Volume:	79	2690	171	54	1156	241	74	19	127	40	43	192
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	2690	171	54	1156	241	74	19	127	40	43	192
PCE 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
MLF 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
Final Volume:	79	2690	171	54	1156	241	74	19	127	40	43	192
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.81	0.19	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5265	335	1750	5700	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.51	0.51	0.03	0.20	0.14	0.04	0.01	0.07	0.02	0.02	0.11
Crit Moves:	****			****			****			****		
Green Time:	21.0	93.3	93.3	7.0	79.2	79.2	7.7	10.4	31.5	7.3	10.0	17.0
Volume/Cap:	0.28	0.71	0.71	0.57	0.33	0.23	0.71	0.12	0.30	0.41	0.29	0.84
Delay/Veh:	48.4	11.2	11.2	68.3	12.5	11.6	80.6	55.9	40.7	62.0	57.8	78.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.4	11.2	11.2	68.3	12.5	11.6	80.6	55.9	40.7	62.0	57.8	78.2
LOS by Move:	D	B+	B+	E	B	B+	F	E+	D	E	E+	E-
HCM2kAvgQ:	3	23	23	2	7	5	5	1	4	2	2	11
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #13: Mathilda Avenue/California Way



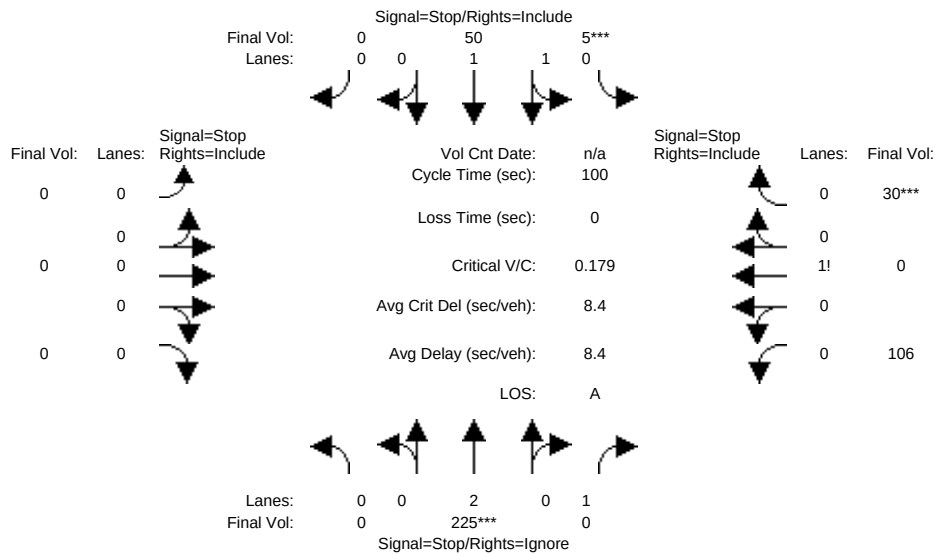
Street Name:	Mathilda Avenue						California Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	55	870	166	136	2661	346	92	53	236	23	41	87
Growth 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
Initial Bse:	55	870	166	136	2661	346	92	53	236	23	41	87
Added Vol:	0	941	0	0	1061	0	0	0	96	0	0	19
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	55	1811	166	136	3722	346	92	53	332	23	41	106
User 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
PHF 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
PHF Volume:	55	1811	166	136	3722	346	92	53	332	23	41	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	1811	166	136	3722	346	92	53	332	23	41	106
PCE 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
MLF 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
Final Volume:	55	1811	166	136	3722	346	92	53	332	23	41	106
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.74	0.26	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5129	470	1750	5700	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.35	0.35	0.08	0.65	0.20	0.05	0.03	0.19	0.01	0.02	0.06
Crit Moves:	****			****					****	****		
Green Time:	7.0	63.4	63.4	14.0	70.4	70.4	8.5	13.6	20.6	7.0	12.1	26.1
Volume/Cap:	0.49	0.61	0.61	0.61	1.02	0.31	0.68	0.23	1.01	0.21	0.20	0.26
Uniform Del:	49.8	15.2	15.2	45.5	19.8	8.9	49.4	43.5	44.7	48.9	44.5	34.1
IncrementDel:	3.4	0.4	0.4	5.0	20.3	0.2	13.4	0.5	53.1	0.9	0.5	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	53.2	15.6	15.6	50.4	40.1	9.0	62.8	43.9	97.8	49.8	45.0	34.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.2	15.6	15.6	50.4	40.1	9.0	62.8	43.9	97.8	49.8	45.0	34.4
LOS by Move:	D-	B	B	D	D	A	E	D	F	D	D	C-
HCM2kAvgQ:	3	15	15	4	46	5	5	2	18	1	1	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Background AM

Intersection #14: Ellis Street/Manila Drive



Street Name:	Ellis Street						Manila Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	225	361	5	50	0	0	0	0	52	0	30
Growth 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
Initial Bse:	0	225	361	5	50	0	0	0	0	52	0	30
Added Vol:	0	0	1130	0	0	0	0	0	0	54	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	225	1491	5	50	0	0	0	0	106	0	30
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	225	0	5	50	0	0	0	0	106	0	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	225	0	5	50	0	0	0	0	106	0	30
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	225	0	5	50	0	0	0	0	106	0	30
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.18	1.82	0.00	0.00	0.00	0.00	0.78	0.00	0.22
Final Sat.:	0	1451	844	125	1260	0	0	0	0	593	0	168
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.16	0.00	0.04	0.04	xxxx	xxxx	xxxx	xxxx	0.18	xxxx	0.18
Crit Moves:	****			****								****
Delay/Veh:	0.0	8.4	0.0	8.0	8.0	0.0	0.0	0.0	0.0	8.5	0.0	8.5
Delay 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
AdjDel/Veh:	0.0	8.4	0.0	8.0	8.0	0.0	0.0	0.0	0.0	8.5	0.0	8.5
LOS by Move:	*	A	*	A	A	*	*	*	*	A	*	A
ApproachDel:	8.4			8.0			xxxxxx			8.5		
Delay Adj:	1.00			1.00			xxxxxx			1.00		
ApprAdjDel:	8.4			8.0			xxxxxx			8.5		
LOS by Appr:	A			A			*			A		
AllWayAvgQ:	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Ellis Street/Manila Drive

Future Volume Alternative: Peak Hour Warrant Met

```

-----|-----|-----|-----|-----|
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:          0  0  2  0  1      0  1  1  0  0      0  0  0  0  0      0  0  1!  0  0
Initial Vol:    0  225  1491      5  50      0      0  0  0      106  0  30
-----|-----|-----|-----|-----|
Major Street Volume:                1771
Minor Approach Volume:                136
Minor Approach Volume Threshold: 88 [less than minimum of 100]
-----|-----|-----|-----|-----|

```

SIGNAL WARRANT DISCLAIMER

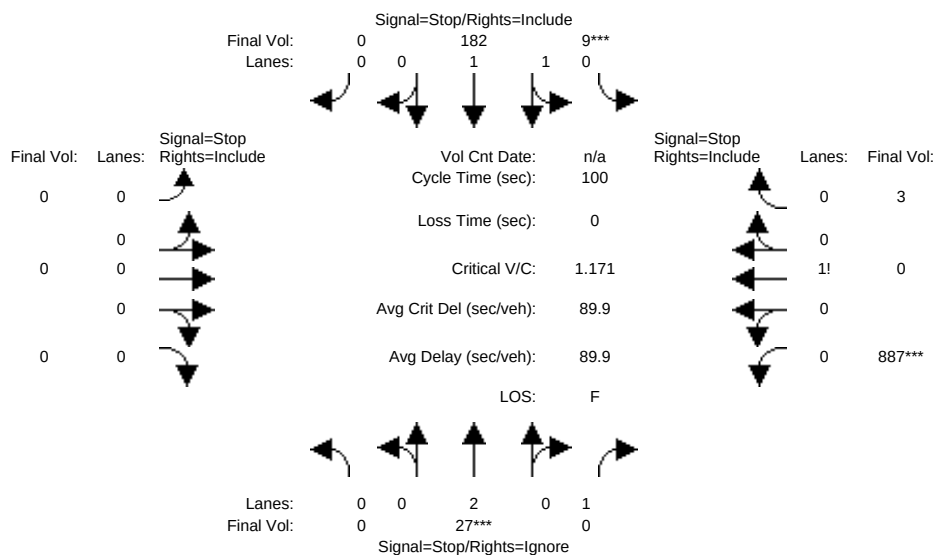
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Background PM

Intersection #14: Ellis Street/Manila Drive



Street Name:	Ellis Street						Manila Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	27	46	9	182	0	0	0	0	314	0	3
Growth 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
Initial Bse:	0	27	46	9	182	0	0	0	0	314	0	3
Added Vol:	0	0	140	0	0	0	0	0	0	573	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	27	186	9	182	0	0	0	0	887	0	3
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	27	0	9	182	0	0	0	0	887	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	27	0	9	182	0	0	0	0	887	0	3
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	27	0	9	182	0	0	0	0	887	0	3
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.09	1.91	0.00	0.00	0.00	0.00	0.99	0.00	0.01
Final Sat.:	0	1067	595	53	1067	0	0	0	0	757	0	3
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.03	0.00	0.17	0.17	xxxx	xxxx	xxxx	xxxx	1.17	xxxx	1.17
Crit Moves:	****			****						****		
Delay/Veh:	0.0	9.6	0.0	10.5	10.4	0.0	0.0	0.0	0.0	109.4	0.0	109.4
Delay 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
AdjDel/Veh:	0.0	9.6	0.0	10.5	10.4	0.0	0.0	0.0	0.0	109.4	0.0	109.4
LOS by Move:	*	A	*	B	B	*	*	*	*	F	*	F
ApproachDel:	9.6			10.5			xxxxxx			109.4		
Delay Adj:	1.00			1.00			xxxxxx			1.00		
ApprAdjDel:	9.6			10.5			xxxxxx			109.4		
LOS by Appr:	A			B			*			F		
AllWayAvgQ:	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	21.5	21.5	21.5

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Ellis Street/Manila Drive

Future Volume Alternative: Peak Hour Warrant NOT Met

```

-----|-----|-----|-----|-----|
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:          0  0  2  0  1      0  1  1  0  0      0  0  0  0  0      0  0  1!  0  0
Initial Vol:    0   27   186      9  182   0      0   0   0      887   0   3
-----|-----|-----|-----|-----|
Major Street Volume:                890
Minor Approach Volume:              213
Minor Approach Volume Threshold: 329
-----|-----|-----|-----|-----|

```

SIGNAL WARRANT DISCLAIMER

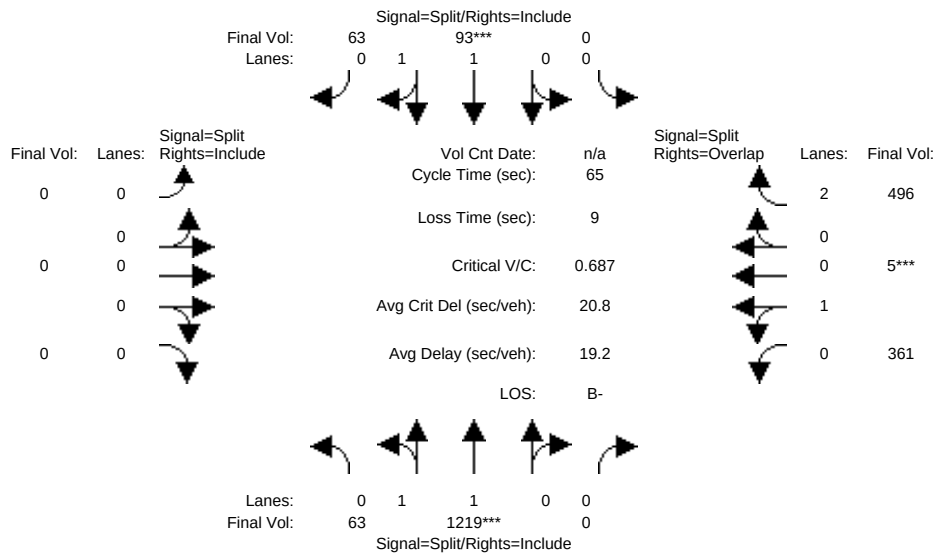
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #15: Ellis Street/US-101 Northbound Ramps



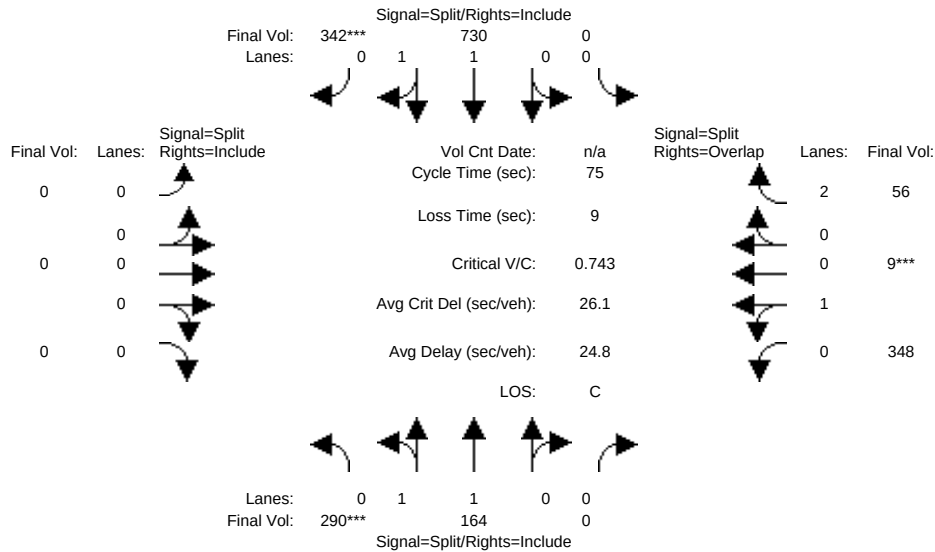
Street Name:	Ellis Street						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	63	453	0	0	56	46	0	0	0	345	5	132
Growth 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
Initial Bse:	63	453	0	0	56	46	0	0	0	345	5	132
Added Vol:	0	766	0	0	37	17	0	0	0	16	0	364
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	63	1219	0	0	93	63	0	0	0	361	5	496
User 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
PHF 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
PHF Volume:	63	1219	0	0	93	63	0	0	0	361	5	496
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	1219	0	0	93	63	0	0	0	361	5	496
PCE 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
MLF 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
Final Volume:	63	1219	0	0	93	63	0	0	0	361	5	496
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.92	0.92	0.99	0.95	0.92	1.00	0.92	0.95	0.95	0.83
Lanes:	0.10	1.90	0.00	0.00	1.17	0.83	0.00	0.00	0.00	0.99	0.01	2.00
Final Sat.:	182	3518	0	0	2205	1493	0	0	0	1775	25	3150
Capacity Analysis Module:												
Vol/Sat:	0.35	0.35	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.20	0.20	0.16
Crit Moves:	****			****			****			****		
Green Time:	29.0	29.0	0.0	0.0	10.0	10.0	0.0	0.0	0.0	17.0	17.0	27.0
Volume/Cap:	0.78	0.78	0.00	0.00	0.27	0.27	0.00	0.00	0.00	0.78	0.78	0.38
Delay/Veh:	17.7	17.7	0.0	0.0	24.6	24.6	0.0	0.0	0.0	30.2	30.2	13.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.7	17.7	0.0	0.0	24.6	24.6	0.0	0.0	0.0	30.2	30.2	13.4
LOS by Move:	B	B	A	A	C	C	A	A	A	C	C	B
HCM2kAvgQ:	11	11	0	0	2	2	0	0	0	9	9	4

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #15: Ellis Street/US-101 Northbound Ramps



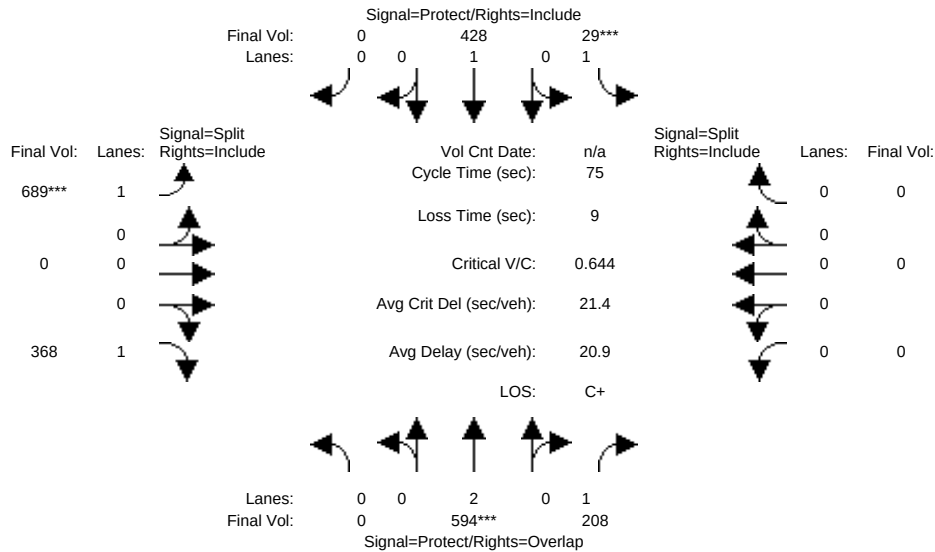
Street Name:	Ellis Street						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	290	61	0	0	337	162	0	0	0	257	9	19
Growth 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
Initial Bse:	290	61	0	0	337	162	0	0	0	257	9	19
Added Vol:	0	103	0	0	393	180	0	0	0	91	0	37
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	290	164	0	0	730	342	0	0	0	348	9	56
User 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
PHF 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
PHF Volume:	290	164	0	0	730	342	0	0	0	348	9	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	290	164	0	0	730	342	0	0	0	348	9	56
PCE 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
MLF 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
Final Volume:	290	164	0	0	730	342	0	0	0	348	9	56
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.92	1.00	0.92	0.95	0.95	0.83
Lanes:	1.00	1.00	0.00	0.00	1.34	0.66	0.00	0.00	0.00	0.97	0.03	2.00
Final Sat.:	1750	1900	0	0	2519	1180	0	0	0	1755	45	3150
Capacity Analysis Module:												
Vol/Sat:	0.17	0.09	0.00	0.00	0.29	0.29	0.00	0.00	0.00	0.20	0.20	0.02
Crit Moves:	***					***					***	
Green Time:	16.7	16.7	0.0	0.0	29.3	29.3	0.0	0.0	0.0	20.0	20.0	49.3
Volume/Cap:	0.74	0.39	0.00	0.00	0.74	0.74	0.00	0.00	0.00	0.74	0.74	0.03
Uniform Del:	27.1	24.8	0.0	0.0	19.6	19.6	0.0	0.0	0.0	25.1	25.1	4.5
IncrementDel:	4.9	0.2	0.0	0.0	2.1	2.1	0.0	0.0	0.0	6.2	6.2	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	32.0	25.0	0.0	0.0	21.8	21.8	0.0	0.0	0.0	31.3	31.3	4.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.0	25.0	0.0	0.0	21.8	21.8	0.0	0.0	0.0	31.3	31.3	4.5
LOS by Move:	C-	C		A	A	C+	A	A	A	C	C	A
HCM2kAvgQ:	7	3	0	0	12	12	0	0	0	10	10	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #16: Ellis Street/US-101 Southbound Ramps

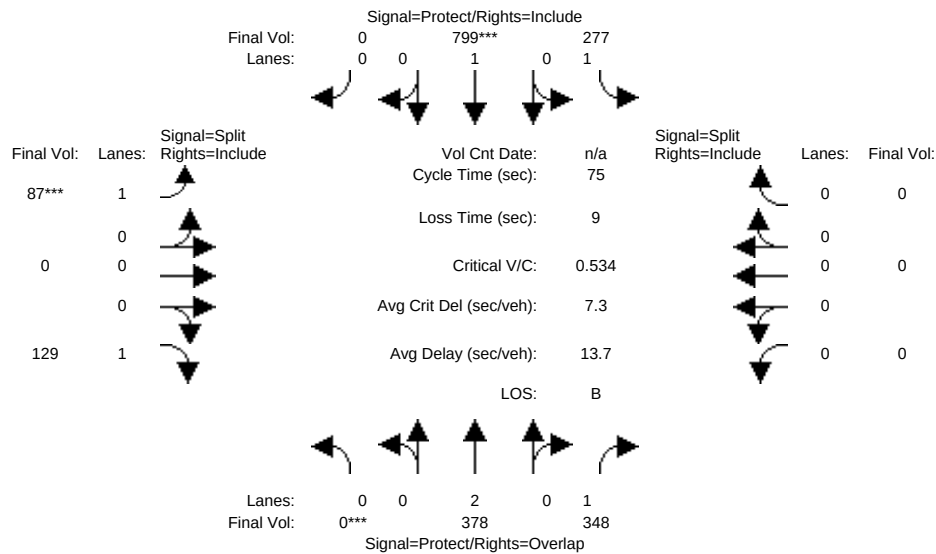


Street Name:	Ellis Street						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	265	154	14	390	0	251	0	368	0	0	0
Growth 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
Initial Bse:	0	265	154	14	390	0	251	0	368	0	0	0
Added Vol:	0	329	54	15	38	0	438	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	594	208	29	428	0	689	0	368	0	0	0
User 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
PHF 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
PHF Volume:	0	594	208	29	428	0	689	0	368	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	594	208	29	428	0	689	0	368	0	0	0
PCE 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
MLF 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
Final Volume:	0	594	208	29	428	0	689	0	368	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	1750	1750	1900	0	1750	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.16	0.12	0.02	0.23	0.00	0.39	0.00	0.21	0.00	0.00	0.00
Crit Moves:	****			****			****			****		
Green Time:	0.0	16.8	16.8	7.0	23.8	0.0	42.2	0.0	42.2	0.0	0.0	0.0
Volume/Cap:	0.00	0.70	0.53	0.18	0.71	0.00	0.70	0.00	0.37	0.00	0.00	0.00
Delay/Veh:	0.0	29.4	27.1	31.9	26.5	0.0	14.1	0.0	9.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	29.4	27.1	31.9	26.5	0.0	14.1	0.0	9.3	0.0	0.0	0.0
LOS by Move:	A	C	C	C	C	A	B	A	A	A	A	A
HCM2kAvgQ:	0	7	5	1	9	0	13	0	5	0	0	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #16: Ellis Street/US-101 Southbound Ramps



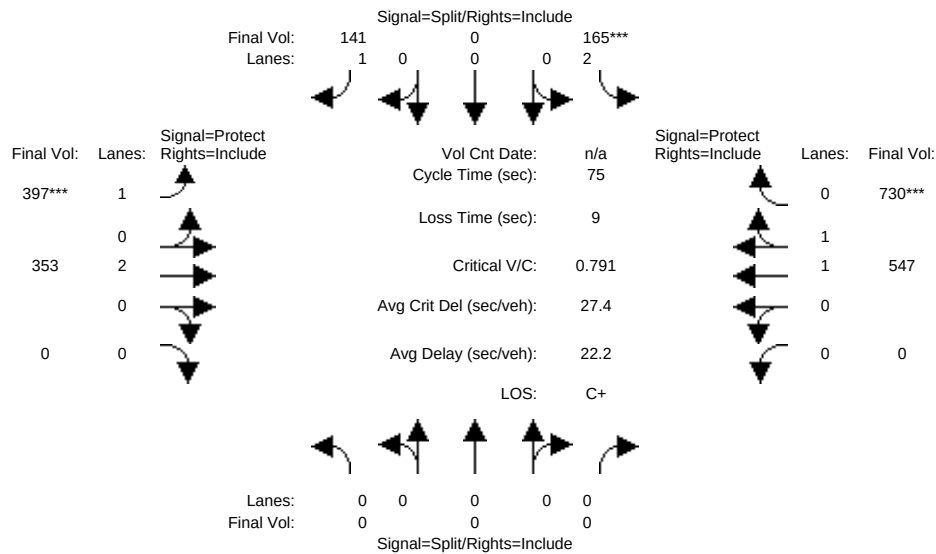
Street Name:	Ellis Street						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	339	338	119	474	0	22	0	129	0	0	0
Growth 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
Initial Bse:	0	339	338	119	474	0	22	0	129	0	0	0
Added Vol:	0	39	10	158	325	0	65	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	378	348	277	799	0	87	0	129	0	0	0
User 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
PHF 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
PHF Volume:	0	378	348	277	799	0	87	0	129	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	378	348	277	799	0	87	0	129	0	0	0
PCE 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
MLF 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
Final Volume:	0	378	348	277	799	0	87	0	129	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	1750	1750	1900	0	1750	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.10	0.20	0.16	0.42	0.00	0.05	0.00	0.07	0.00	0.00	0.00
Crit Moves:	****			****			****					
Green Time:	0.0	31.0	31.0	24.7	55.7	0.0	10.3	0.0	10.3	0.0	0.0	0.0
Volume/Cap:	0.00	0.24	0.48	0.48	0.57	0.00	0.36	0.00	0.53	0.00	0.00	0.00
Uniform Del:	0.0	14.3	16.1	20.1	4.3	0.0	29.3	0.0	30.1	0.0	0.0	0.0
IncrementDel:	0.0	0.1	0.5	0.6	0.5	0.0	0.9	0.0	2.3	0.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	0.0	14.4	16.6	20.7	4.8	0.0	30.2	0.0	32.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.4	16.6	20.7	4.8	0.0	30.2	0.0	32.4	0.0	0.0	0.0
LOS by Move:	A	B	B	C+	A	A	C	A	C-	A	A	A
HCM2kAvgQ:	0	3	6	5	8	0	2	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #17: Ellis Street/Middlefield Road

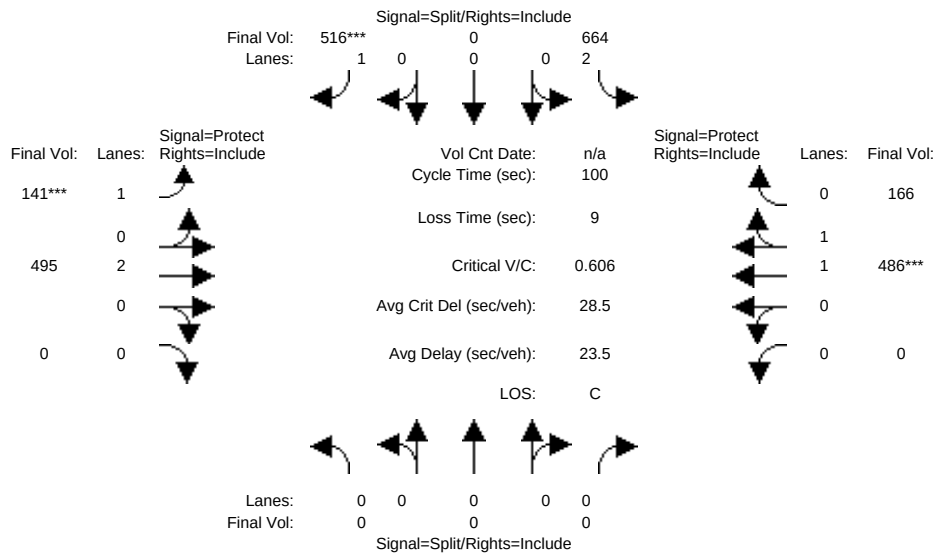


Street Name:				Ellis Street				Middlefield Road															
Approach:				North Bound		South Bound		East Bound			West Bound												
Movement:				L	-	T	-	R	L	-	T	-	R	L	-	T	-	R					
Min. Green:				0		0		0	10		0		10	7		10		0	0		10		10
Y+R:				0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0
Volume Module:																							
Base Vol:				0		0		0	150		0		118	194		326		0	0		540		550
Growth 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
Initial Bse:				0		0		0	150		0		118	194		326		0	0		540		550
Added Vol:				0		0		0	15		0		23	203		27		0	0		7		180
PasserByVol:				0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:				0		0		0	165		0		141	397		353		0	0		547		730
User 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
PHF 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
PHF Volume:				0		0		0	165		0		141	397		353		0	0		547		730
Reduct Vol:				0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:				0		0		0	165		0		141	397		353		0	0		547		730
PCE 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
MLF 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
FinalVolume:				0		0		0	165		0		141	397		353		0	0		547		730
Saturation Flow Module:																							
Sat/Lane:				1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:				0.92		1.00		0.92	0.83		1.00		0.92	0.92		1.00		0.92	0.92		1.00		0.92
Lanes:				0.00		0.00		0.00	2.00		0.00		1.00	1.00		2.00		0.00	0.00		1.00		1.00
Final Sat.:				0		0		0	3150		0		1750	1750		3800		0	0		1900		1750
Capacity Analysis Module:																							
Vol/Sat:				0.00		0.00		0.00	0.05		0.00		0.08	0.23		0.09		0.00	0.00		0.29		0.42
Crit Moves:									****				****										****
Green Time:				0.0		0.0		0.0	10.0		0.0		10.0	19.7		56.0		0.0	0.0		36.3		36.3
Volume/Cap:				0.00		0.00		0.00	0.39		0.00		0.60	0.86		0.12		0.00	0.00		0.60		0.86
Delay/Veh:				0.0		0.0		0.0	30.3		0.0		35.1	41.7		2.7		0.0	0.0		14.5		22.6
User DelAdj:				1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:				0.0		0.0		0.0	30.3		0.0		35.1	41.7		2.7		0.0	0.0		14.5		22.6
LOS by Move:				A		A		A	C		A		D+	D		A		A	A		B		C+
HCM2kAvgQ:				0		0		0	2		0		3	13		1		0	0		9		17
Note: Queue reported is the number of cars per lane.																							

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #17: Ellis Street/Middlefield Road



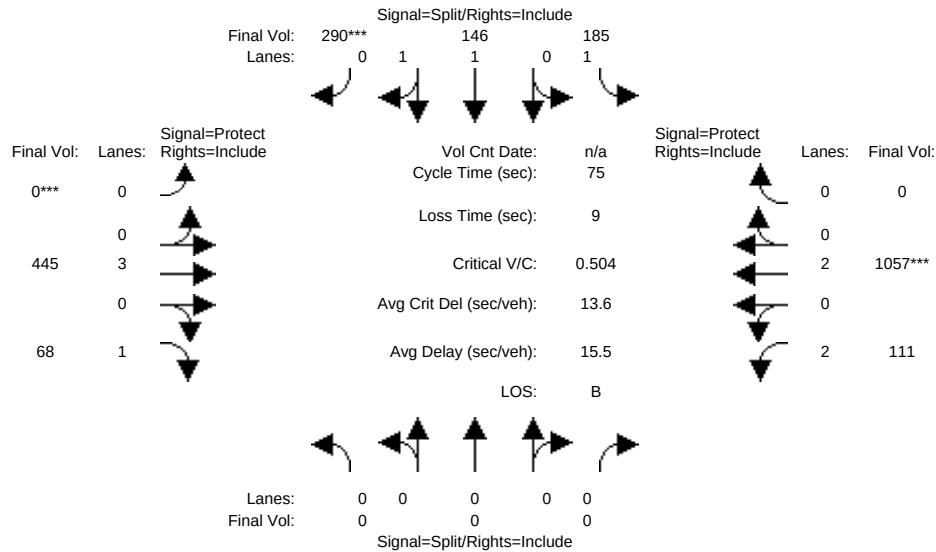
Street Name:	Ellis Street						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	510	0	344	111	490	0	0	447	147
Growth 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
Initial Bse:	0	0	0	510	0	344	111	490	0	0	447	147
Added Vol:	0	0	0	154	0	172	30	5	0	0	39	19
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	664	0	516	141	495	0	0	486	166
User 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
PHF 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
PHF Volume:	0	0	0	664	0	516	141	495	0	0	486	166
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	664	0	516	141	495	0	0	486	166
PCE 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
MLF 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
FinalVolume:	0	0	0	664	0	516	141	495	0	0	486	166
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	1.48	0.52
Final Sat.:	0	0	0	3150	0	1750	1750	3800	0	0	2757	942
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.21	0.00	0.29	0.08	0.13	0.00	0.00	0.18	0.18
Crit Moves:				****			****			****		
Green Time:	0.0	0.0	0.0	48.6	0.0	48.6	13.3	42.4	0.0	0.0	29.1	29.1
Volume/Cap:	0.00	0.00	0.00	0.43	0.00	0.61	0.61	0.31	0.00	0.00	0.61	0.61
Uniform Del:	0.0	0.0	0.0	16.7	0.0	18.7	40.9	19.1	0.0	0.0	30.5	30.5
IncrcmntDel:	0.0	0.0	0.0	0.2	0.0	1.3	4.5	0.1	0.0	0.0	1.0	1.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	16.9	0.0	20.0	45.4	19.2	0.0	0.0	31.5	31.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.9	0.0	20.0	45.4	19.2	0.0	0.0	31.5	31.5
LOS by Move:	A	A	A	B	A	B-	D	B-	A	A	C	C
HCM2kAvgQ:	0	0	0	8	0	12	5	5	0	0	9	9

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #18: Middlefield Road/SR-237 Westbound On-Ramp



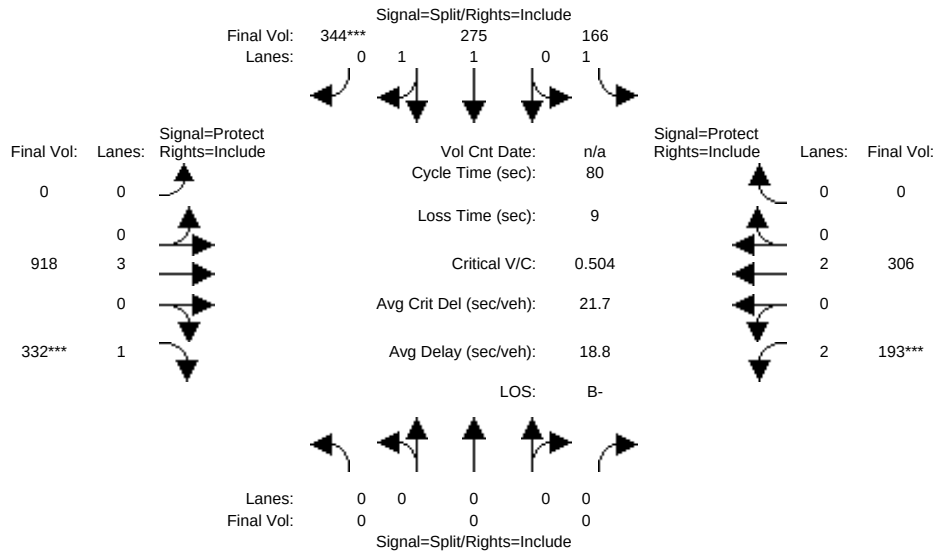
Street Name:	SR-237 Westbound On-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	185	146	283	0	418	53	111	877	0
Growth 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
Initial Bse:	0	0	0	185	146	283	0	418	53	111	877	0
Added Vol:	0	0	0	0	0	7	0	27	15	0	180	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	185	146	290	0	445	68	111	1057	0
User 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
PHF 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
PHF Volume:	0	0	0	185	146	290	0	445	68	111	1057	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	185	146	290	0	445	68	111	1057	0
PCE 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
MLF 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
Final Volume:	0	0	0	185	146	290	0	445	68	111	1057	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	3.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	1750	1900	1750	0	5700	1750	3150	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.08	0.17	0.00	0.08	0.04	0.04	0.28	0.00
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	24.6	24.6	24.6	0.0	24.3	24.3	17.0	41.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.32	0.23	0.50	0.00	0.24	0.12	0.16	0.50	0.00
Delay/Veh:	0.0	0.0	0.0	19.2	18.4	20.7	0.0	18.6	17.9	23.3	10.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	19.2	18.4	20.7	0.0	18.6	17.9	23.3	10.6	0.0
LOS by Move:	A	A	A	B-	B-	C+	A	B-	B	C	B+	A
HCM2kAvgQ:	0	0	0	4	3	6	0	2	1	1	7	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #18: Middlefield Road/SR-237 Westbound On-Ramp



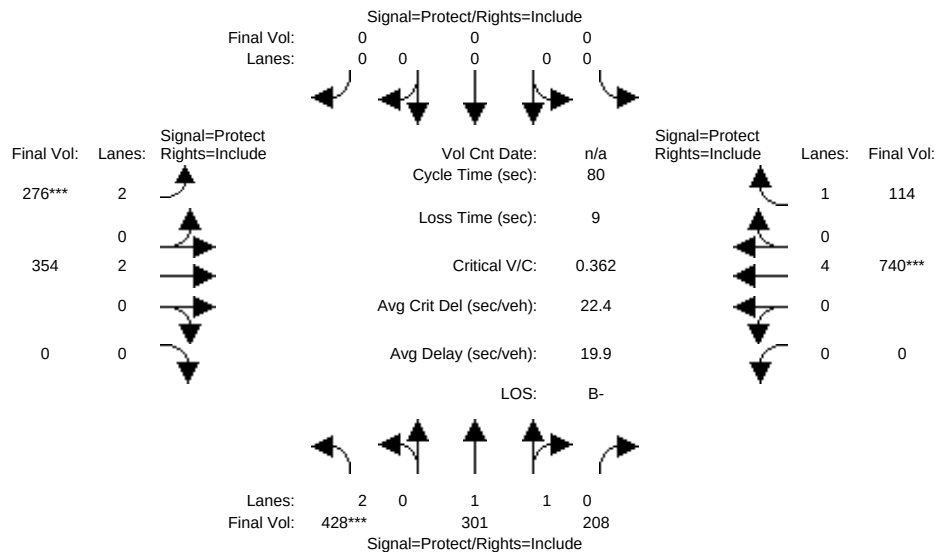
Street Name:	SR-237 Westbound On-Ramp						Middlefield Road											
Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R			
Min. Green:	0		0		0	10		10		10	0		7		10	0		
Y+R:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0	0.0		
Volume Module:																		
Base Vol:	0		0		0	166		275		305	0		913		178	193	287	0
Growth 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
Initial Bse:	0		0		0	166		275		305	0		913		178	193	287	0
Added Vol:	0		0		0	0		0		39	0		5		154	0	19	0
PasserByVol:	0		0		0	0		0		0	0		0		0	0	0	0
Initial Fut:	0		0		0	166		275		344	0		918		332	193	306	0
User 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
PHF 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
PHF Volume:	0		0		0	166		275		344	0		918		332	193	306	0
Reduct Vol:	0		0		0	0		0		0	0		0		0	0	0	0
Reduced Vol:	0		0		0	166		275		344	0		918		332	193	306	0
PCE 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
MLF 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
FinalVolume:	0		0		0	166		275		344	0		918		332	193	306	0
Saturation Flow Module:																		
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900	1900	1900
Adjustment:	0.92		1.00		0.92	0.92		1.00		0.92	0.92		1.00		0.92	0.83	1.00	0.92
Lanes:	0.00		0.00		0.00	1.00		1.00		1.00	0.00		3.00		1.00	2.00	2.00	0.00
Final Sat.:	0		0		0	1750		1900		1750	0		5700		1750	3150	3800	0
Capacity Analysis Module:																		
Vol/Sat:	0.00		0.00		0.00	0.09		0.14		0.20	0.00		0.16		0.19	0.06	0.08	0.00
Crit Moves:										****					****	****		
Green Time:	0.0		0.0		0.0	31.2		31.2		31.2	0.0		30.1		30.1	9.7	39.8	0.0
Volume/Cap:	0.00		0.00		0.00	0.24		0.37		0.50	0.00		0.43		0.50	0.50	0.16	0.00
Uniform Del:	0.0		0.0		0.0	16.5		17.4		18.5	0.0		18.6		19.2	32.9	11.0	0.0
IncrcmntDel:	0.0		0.0		0.0	0.2		0.1		0.3	0.0		0.1		0.6	1.1	0.0	0.0
InitQueuDel:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0	0.0	0.0	0.0
Delay Adj:	0.00		0.00		0.00	1.00		1.00		1.00	0.00		1.00		1.00	1.00	1.00	0.00
Delay/Veh:	0.0		0.0		0.0	16.6		17.6		18.9	0.0		18.7		19.8	34.0	11.0	0.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0		0.0		0.0	16.6		17.6		18.9	0.0		18.7		19.8	34.0	11.0	0.0
LOS by Move:	A		A		A	B		B		B-	A		B-		B-	C-	B+	A
HCM2kAvqQ:	0		0		0	3		5		7	0		5		7	3	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #19: Middlefield Road/SR-237 Eastbound Off-Ramp



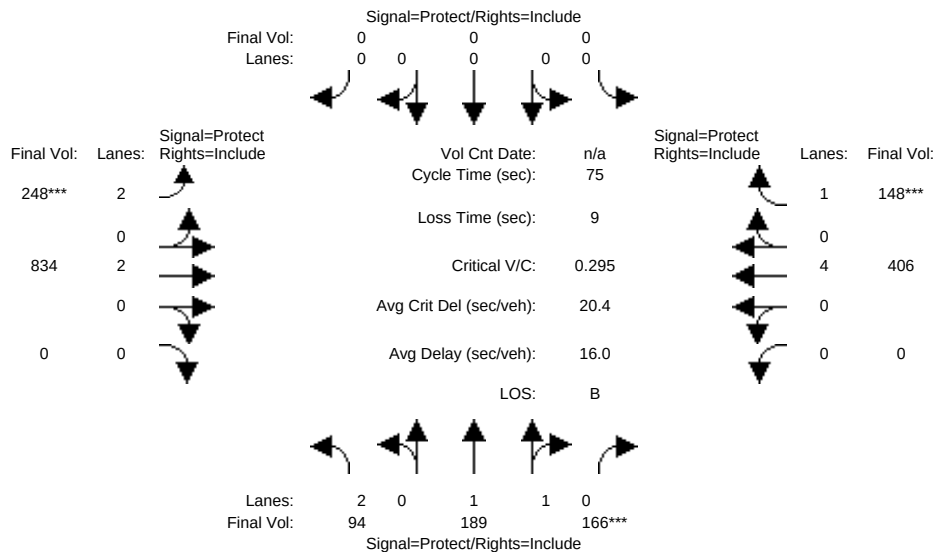
Street Name:	SR-237 Eastbound Off-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	248	301	208	0	0	0	276	327	0	0	740	114
Growth 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
Initial Bse:	248	301	208	0	0	0	276	327	0	0	740	114
Added Vol:	180	0	0	0	0	0	0	27	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	428	301	208	0	0	0	276	354	0	0	740	114
User 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
PHF 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
PHF Volume:	428	301	208	0	0	0	276	354	0	0	740	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	428	301	208	0	0	0	276	354	0	0	740	114
PCE 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
MLF 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
Final Volume:	428	301	208	0	0	0	276	354	0	0	740	114
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.16	0.84	0.00	0.00	0.00	2.00	2.00	0.00	0.00	4.00	1.00
Final Sat.:	3150	2187	1511	0	0	0	3150	3800	0	0	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.14	0.00	0.00	0.00	0.09	0.09	0.00	0.00	0.10	0.07
Crit Moves:	****						****				****	
Green Time:	30.1	30.1	30.1	0.0	0.0	0.0	19.4	40.9	0.0	0.0	21.5	21.5
Volume/Cap:	0.36	0.37	0.37	0.00	0.00	0.00	0.36	0.18	0.00	0.00	0.36	0.24
Delay/Veh:	18.2	18.2	18.2	0.0	0.0	0.0	25.5	10.6	0.0	0.0	23.8	23.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.2	18.2	18.2	0.0	0.0	0.0	25.5	10.6	0.0	0.0	23.8	23.1
LOS by Move:	B-	B-	B-	A	A	A	C	B+	A	A	C	C
HCM2kAvgQ:	5	5	5	0	0	0	3	2	0	0	4	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #19: Middlefield Road/SR-237 Eastbound Off-Ramp



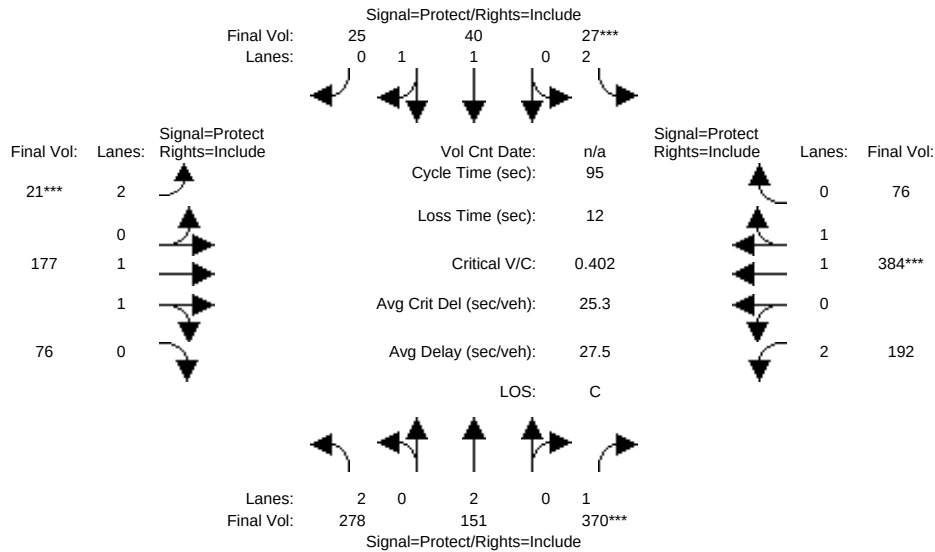
Street Name:	SR-237 Eastbound Off-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	75	189	166	0	0	0	248	829	0	0	406	148
Growth 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
Initial Bse:	75	189	166	0	0	0	248	829	0	0	406	148
Added Vol:	19	0	0	0	0	0	0	5	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	94	189	166	0	0	0	248	834	0	0	406	148
User 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
PHF 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
PHF Volume:	94	189	166	0	0	0	248	834	0	0	406	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	189	166	0	0	0	248	834	0	0	406	148
PCE 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
MLF 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
Final Volume:	94	189	166	0	0	0	248	834	0	0	406	148
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.95	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.04	0.96	0.00	0.00	0.00	2.00	2.00	0.00	0.00	4.00	1.00
Final Sat.:	3150	1969	1729	0	0	0	3150	3800	0	0	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.10	0.00	0.00	0.00	0.08	0.22	0.00	0.00	0.05	0.08
Crit Moves:			****				****					****
Green Time:	24.4	24.4	24.4	0.0	0.0	0.0	20.0	41.6	0.0	0.0	21.5	21.5
Volume/Cap:	0.09	0.29	0.29	0.00	0.00	0.00	0.29	0.40	0.00	0.00	0.19	0.29
Uniform Del:	17.6	18.9	18.9	0.0	0.0	0.0	21.9	9.5	0.0	0.0	20.1	20.8
IncrementDel:	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	17.6	19.0	19.0	0.0	0.0	0.0	22.1	9.7	0.0	0.0	20.2	21.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.6	19.0	19.0	0.0	0.0	0.0	22.1	9.7	0.0	0.0	20.2	21.2
LOS by Move:	B	B-	B-	A	A	A	C+	A	A	A	C+	C+
HCM2kAvgQ:	1	3	3	0	0	0	3	5	0	0	2	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #20: Mary Avenue/Maude Avenue

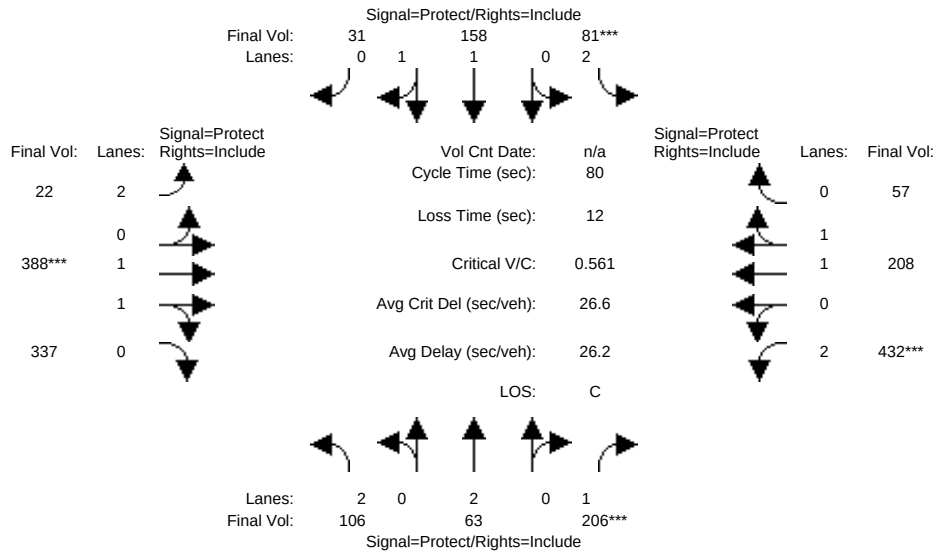


Street Name:	Mary Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	278	151	170	27	40	25	21	177	76	150	384	76
Growth 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
Initial Bse:	278	151	170	27	40	25	21	177	76	150	384	76
Added Vol:	0	0	200	0	0	0	0	0	0	42	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	278	151	370	27	40	25	21	177	76	192	384	76
User 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
PHF 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
PHF Volume:	278	151	370	27	40	25	21	177	76	192	384	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	278	151	370	27	40	25	21	177	76	192	384	76
PCE 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
MLF 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
Final Volume:	278	151	370	27	40	25	21	177	76	192	384	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.83	0.98	0.95	0.83	0.98	0.95
Lanes:	2.00	2.00	1.00	2.00	1.21	0.79	2.00	1.38	0.62	2.00	1.66	0.34
Final Sat.:	3150	3800	1750	3150	2276	1422	3150	2588	1111	3150	3088	611
Capacity Analysis Module:												
Vol/Sat:	0.09	0.04	0.21	0.01	0.02	0.02	0.01	0.07	0.07	0.06	0.12	0.12
Crit Moves:			****	****			****				****	
Green Time:	23.0	43.4	43.4	7.0	27.4	27.4	7.0	19.1	19.1	13.4	25.6	25.6
Volume/Cap:	0.36	0.09	0.46	0.12	0.06	0.06	0.09	0.34	0.34	0.43	0.46	0.46
Delay/Veh:	30.2	14.6	18.2	41.3	24.5	24.5	41.2	32.8	32.8	38.0	29.3	29.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.2	14.6	18.2	41.3	24.5	24.5	41.2	32.8	32.8	38.0	29.3	29.3
LOS by Move:	C	B	B-	D	C	C	D	C-	C-	D+	C	C
HCM2kAvgQ:	4	1	8	1	1	1	0	3	3	3	5	5
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #20: Mary Avenue/Maude Avenue



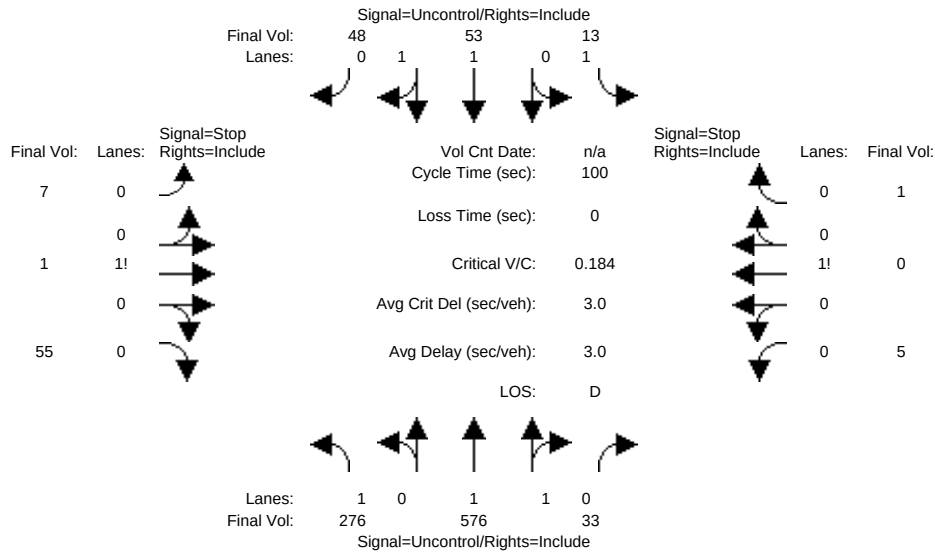
Street Name: Mary Avenue												
Approach: North Bound						Maude Avenue						
Movement: L - T - R						East Bound West Bound						
L - T - R						L - T - R L - T - R						
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	106	63	154	81	158	31	22	388	337	237	208	57
Growth 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
Initial Bse:	106	63	154	81	158	31	22	388	337	237	208	57
Added Vol:	0	0	52	0	0	0	0	0	0	195	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	106	63	206	81	158	31	22	388	337	432	208	57
User 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
PHF 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
PHF Volume:	106	63	206	81	158	31	22	388	337	432	208	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	63	206	81	158	31	22	388	337	432	208	57
PCE 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
MLF 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
Final Volume:	106	63	206	81	158	31	22	388	337	432	208	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.95	0.83	0.98	0.95
Lanes:	2.00	2.00	1.00	2.00	1.66	0.34	2.00	1.05	0.95	2.00	1.56	0.44
Final Sat.:	3150	3800	1750	3150	3093	607	3150	1979	1719	3150	2904	796
Capacity Analysis Module:												
Vol/Sat:	0.03	0.02	0.12	0.03	0.05	0.05	0.01	0.20	0.20	0.14	0.07	0.07
Crit Moves:			****	****				****		****		
Green Time:	9.4	15.9	15.9	7.0	13.5	13.5	18.6	26.5	26.5	18.6	26.5	26.5
Volume/Cap:	0.29	0.08	0.59	0.29	0.30	0.30	0.03	0.59	0.59	0.59	0.22	0.22
Uniform Del:	32.2	26.1	29.1	34.2	29.1	29.1	23.8	22.2	22.2	27.3	19.3	19.3
IncrcmntDel:	0.4	0.0	2.7	0.6	0.3	0.3	0.0	0.8	0.8	1.3	0.1	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	32.6	26.1	31.8	34.8	29.4	29.4	23.8	23.0	23.0	28.6	19.3	19.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.6	26.1	31.8	34.8	29.4	29.4	23.8	23.0	23.0	28.6	19.3	19.3
LOS by Move:	C-	C	C	C-	C	C	C	C	C	C	B-	B-
HCM2kAvgQ:	2	1	6	1	2	2	0	8	8	6	2	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Background AM

Intersection #21: Innovation Way/Site Access



Street Name:	Innovation Way						Site Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	163	88	0	0	13	1	3	1	37	0	0	0
Growth 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
Initial Bse:	163	88	0	0	13	1	3	1	37	0	0	0
Added Vol:	113	488	33	13	40	47	4	0	18	5	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	276	576	33	13	53	48	7	1	55	5	0	1
User 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
PHF 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
PHF Volume:	276	576	33	13	53	48	7	1	55	5	0	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	276	576	33	13	53	48	7	1	55	5	0	1
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflct Vol:	101	xxxx	xxxxx	609	xxxx	xxxxx	943	1264	51	1198	1272	305
Potent Cap.:	1504	xxxx	xxxxx	979	xxxx	xxxxx	220	171	1013	144	169	697
Move Cap.:	1504	xxxx	xxxxx	979	xxxx	xxxxx	187	138	1013	115	136	697
Volume/Cap:	0.18	xxxx	xxxx	0.01	xxxx	xxxx	0.04	0.01	0.05	0.04	0.00	0.00
Level of Service Module:												
2Way95thQ:	0.7	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	8.7	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	637	xxxxx	xxxx	134	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.3	xxxxx	xxxxx	33.2	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			11.3			33.2		
ApproachLOS:	*			*			B			D		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

```

-----|-----|-----|-----|-----|
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:        Uncontrolled      Uncontrolled      Stop Sign      Stop Sign
Lanes:          1 0 1 1 0      1 0 1 1 0      0 0 1! 0 0      0 0 1! 0 0
Initial Vol:    276 576      33 13 53 48      7 1 55      5 0 1
ApproachDel:    xxxxxx      xxxxxx      11.3      33.2
-----|-----|-----|-----|-----|

```

```

Approach[eastbound][lanes=1][control=Stop Sign]

```

```

Signal Warrant Rule #1: [vehicle-hours=0.2]

```

```

    FAIL - Vehicle-hours less than 4 for one lane approach.

```

```

Signal Warrant Rule #2: [approach volume=63]

```

```

    FAIL - Approach volume less than 100 for one lane approach.

```

```

Signal Warrant Rule #3: [approach count=4][total volume=1068]

```

```

    SUCCEED - Total volume greater than or equal to 800 for intersection
              with four or more approaches.
-----|-----|-----|-----|-----|

```

```

Approach[westbound][lanes=1][control=Stop Sign]

```

```

Signal Warrant Rule #1: [vehicle-hours=0.1]

```

```

    FAIL - Vehicle-hours less than 4 for one lane approach.

```

```

Signal Warrant Rule #2: [approach volume=6]

```

```

    FAIL - Approach volume less than 100 for one lane approach.

```

```

Signal Warrant Rule #3: [approach count=4][total volume=1068]

```

```

    SUCCEED - Total volume greater than or equal to 800 for intersection
              with four or more approaches.
-----|-----|-----|-----|-----|

```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

```

*****

```

Intersection #21 Innovation Way/Site Access

```

*****

```

Future Volume Alternative: Peak Hour Warrant NOT Met

```

-----|-----|-----|-----|-----|
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:        Uncontrolled      Uncontrolled      Stop Sign      Stop Sign
Lanes:          1 0 1 1 0      1 0 1 1 0      0 0 1! 0 0      0 0 1! 0 0
Initial Vol:    276 576      33 13 53 48      7 1 55      5 0 1
-----|-----|-----|-----|-----|

```

```

Major Street Volume:      999

```

```

Minor Approach Volume:    63

```

```

Minor Approach Volume Threshold: 285
-----|-----|-----|-----|-----|

```

SIGNAL WARRANT DISCLAIMER

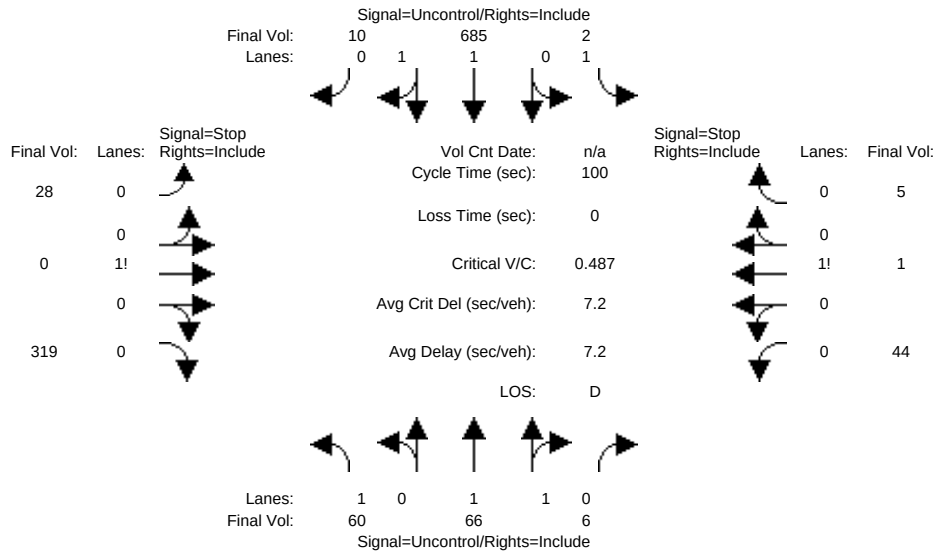
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Background PM

Intersection #21: Innovation Way/Site Access



Street Name:	Innovation Way						Site Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	36	20	0	0	245	0	1	0	177	0	1	0
Growth 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
Initial Bse:	36	20	0	0	245	0	1	0	177	0	1	0
Added Vol:	24	46	6	2	440	10	27	0	142	44	0	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	60	66	6	2	685	10	28	0	319	44	1	5
User 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
PHF 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
PHF Volume:	60	66	6	2	685	10	28	0	319	44	1	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	60	66	6	2	685	10	28	0	319	44	1	5
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	695	xxxx	xxxxx	72	xxxx	xxxxx	848	886	348	536	888	36
Potent Cap.:	910	xxxx	xxxxx	1541	xxxx	xxxxx	258	286	654	432	285	1035
Move Cap.:	910	xxxx	xxxxx	1541	xxxx	xxxxx	243	266	654	210	266	1035
Volume/Cap:	0.07	xxxx	xxxx	0.00	xxxx	xxxx	0.12	0.00	0.49	0.21	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.2	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	9.2	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	576	xxxxx	xxxx	229	xxxxx
SharedQueue:	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	4.0	xxxxxx	xxxxxx	0.8	xxxxxx
Shrd ConDel:	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	20.3	xxxxxx	xxxxxx	25.0	xxxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			20.3			25.0		
ApproachLOS:	*			*			C			D		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound									
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R					

Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign									
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1!	0	0	0	0	1!	0	0					
Initial Vol:	60		66		6	2		685		10	28		0		319	44		1		5					
ApproachDel:	xxxxxx					xxxxxx					20.3					25.0									

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=2.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=347]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1226]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.3]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=50]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1226]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	60		66		6	2		685		10	28		0		319	44		1		5

Major Street Volume: 829

Minor Approach Volume: 347

Minor Approach Volume Threshold: 349

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

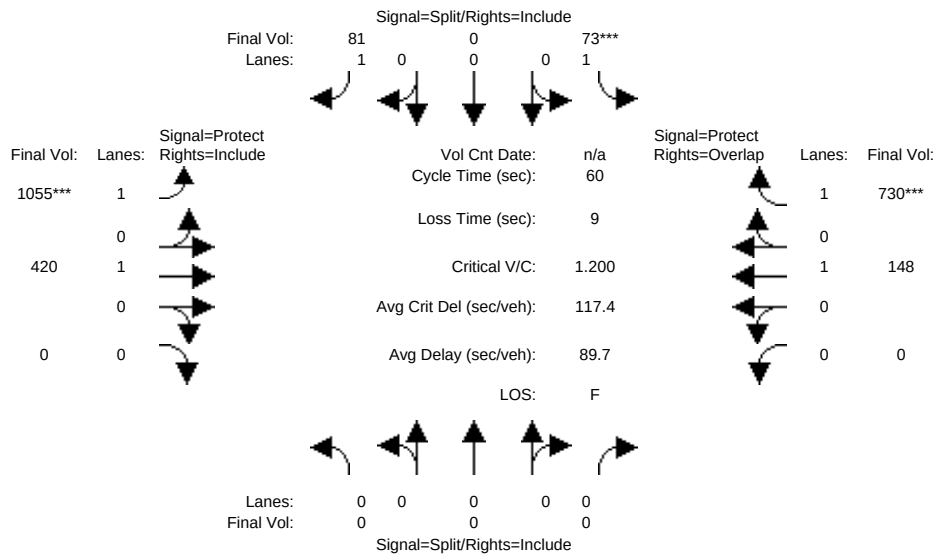
The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Appendix E – Level of Service Worksheets: Background plus
Project Conditions

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #1: Enterprise Way/Moffett Park Drive

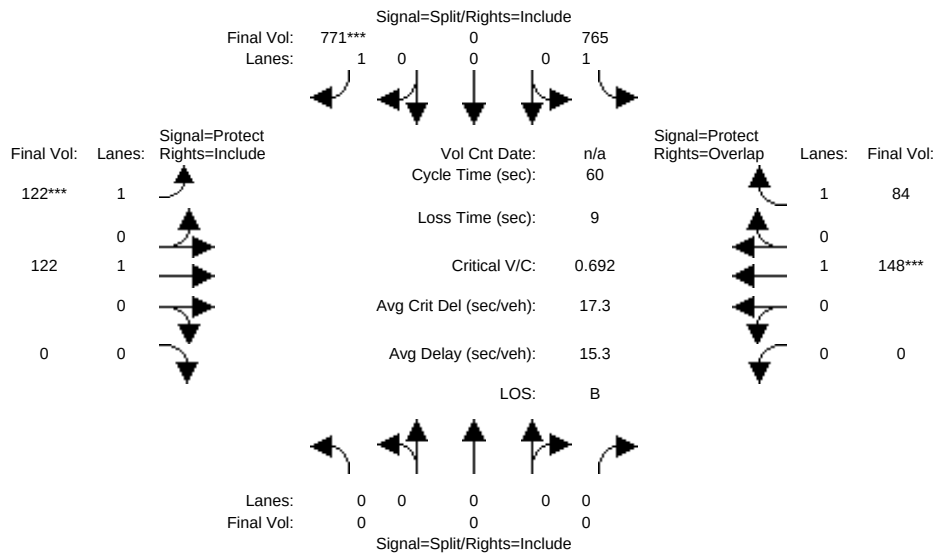


Street Name:	Enterprise Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	28	0	28	223	107	0	0	142	245
Growth 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
Initial Bse:	0	0	0	28	0	28	223	107	0	0	142	245
Added Vol:	0	0	0	45	0	53	832	313	0	0	6	485
Yahoo:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	73	0	81	1055	420	0	0	148	730
User 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
PHF 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
PHF Volume:	0	0	0	73	0	81	1055	420	0	0	148	730
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	73	0	81	1055	420	0	0	148	730
PCE 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
MLF 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
Final Volume:	0	0	0	73	0	81	1055	420	0	0	148	730
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.04	0.00	0.05	0.60	0.22	0.00	0.00	0.08	0.42
Crit Moves:				****			****					****
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	29.0	41.0	0.0	0.0	12.0	22.0
Volume/Cap:	0.00	0.00	0.00	0.25	0.00	0.28	1.25	0.32	0.00	0.00	0.39	1.14
Delay/Veh:	0.0	0.0	0.0	22.2	0.0	22.4	137.3	4.0	0.0	0.0	21.5	98.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.2	0.0	22.4	137.3	4.0	0.0	0.0	21.5	98.2
LOS by Move:	A	A	A	C+	A	C+	F	A	A	A	C+	F
HCM2kAvgQ:	0	0	0	1	0	2	52	3	0	0	2	28
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #1: Enterprise Way/Moffett Park Drive



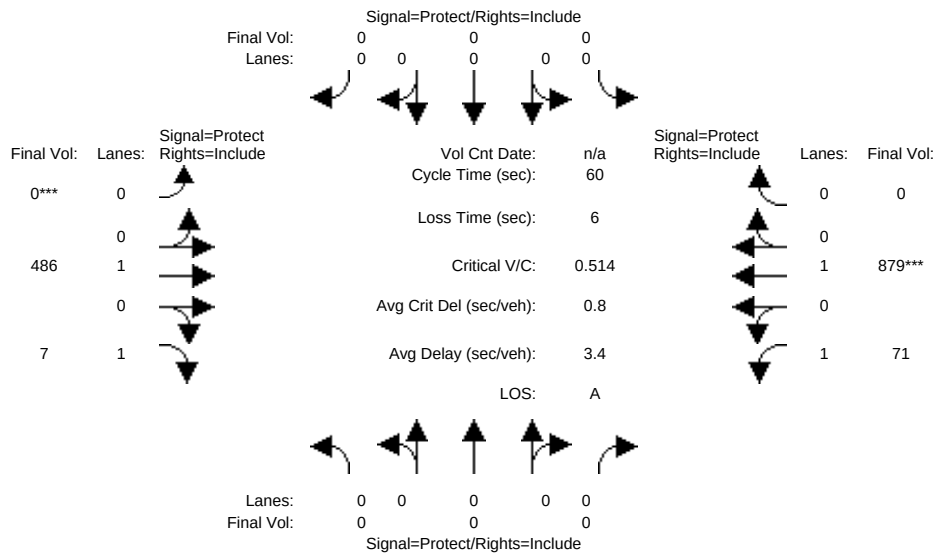
Street Name:	Enterprise Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	261	0	222	31	62	0	0	115	39
Growth 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
Initial Bse:	0	0	0	261	0	222	31	62	0	0	115	39
Added Vol:	0	0	0	504	0	549	91	60	0	0	33	45
Yahoo:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	765	0	771	122	122	0	0	148	84
User 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
PHF 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
PHF Volume:	0	0	0	765	0	771	122	122	0	0	148	84
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	765	0	771	122	122	0	0	148	84
PCE 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
MLF 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
Final Volume:	0	0	0	765	0	771	122	122	0	0	148	84
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.44	0.00	0.44	0.07	0.06	0.00	0.00	0.08	0.05
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	34.0	0.0	34.0	7.0	17.0	0.0	0.0	10.0	44.0
Volume/Cap:	0.00	0.00	0.00	0.77	0.00	0.78	0.60	0.23	0.00	0.00	0.47	0.07
Uniform Del:	0.0	0.0	0.0	10.0	0.0	10.1	25.2	16.5	0.0	0.0	22.6	2.2
IncrementDel:	0.0	0.0	0.0	3.8	0.0	4.0	4.8	0.2	0.0	0.0	1.1	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	13.8	0.0	14.0	30.0	16.7	0.0	0.0	23.7	2.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.8	0.0	14.0	30.0	16.7	0.0	0.0	23.7	2.3
LOS by Move:	A	A	A	B	A	B	C	B	A	A	C	A
HCM2kAvgQ:	0	0	0	14	0	14	3	2	0	0	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #2: US-101 NB On-Ramp/Moffett Park Drive

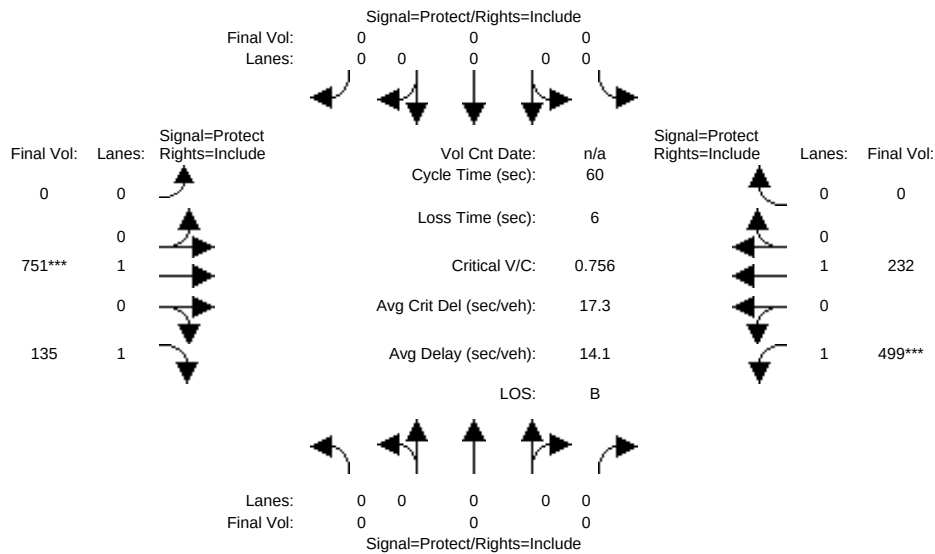


Street Name:	US-101 NB On-Ramp						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	134	1	14	387	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	134	1	14	387	0
Added Vol:	0	0	0	0	0	0	0	352	6	57	492	0
Yahoo:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	486	7	71	879	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	0	0	486	7	71	879	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	486	7	71	879	0
PCE 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
MLF 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
Final Volume:	0	0	0	0	0	0	0	486	7	71	879	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	0	0	0	0	1900	1750	1750	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.04	0.46	0.00
Crit Moves:							****				****	
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.1	37.1	16.9	54.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.01	0.14	0.51	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	4.4	16.3	0.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	4.4	16.3	0.8	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	B	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	5	0	1	3	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #2: US-101 NB On-Ramp/Moffett Park Drive



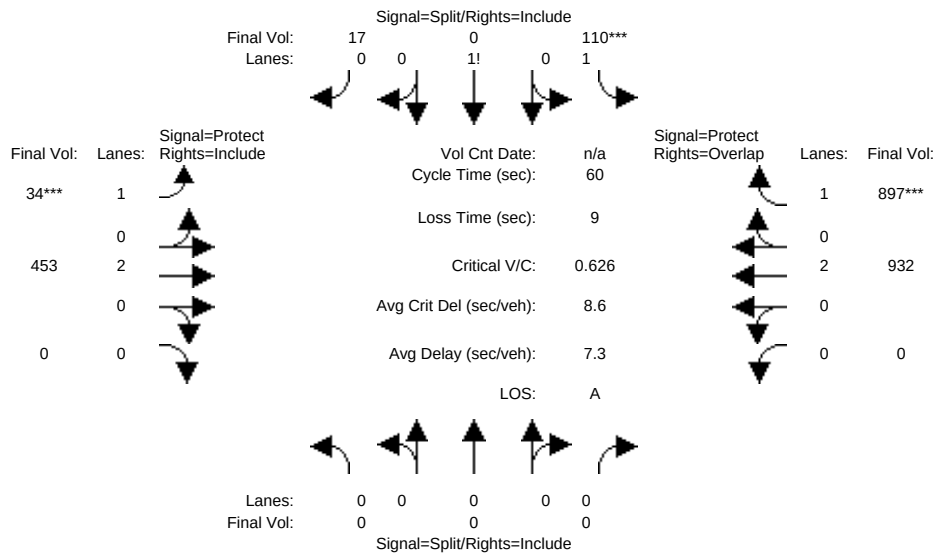
Street Name:	US-101 NB On-Ramp						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	252	70	174	154	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	252	70	174	154	0
Added Vol:	0	0	0	0	0	0	0	499	65	325	78	0
Yahoo:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	751	135	499	232	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	0	0	751	135	499	232	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	751	135	499	232	0
PCE 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
MLF 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
Final Volume:	0	0	0	0	0	0	0	751	135	499	232	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	0	0	0	0	1900	1750	1750	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.08	0.29	0.12	0.00
Crit Moves:								****		****		
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.4	31.4	22.6	54.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.15	0.76	0.14	0.00
Uniform Del:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.3	7.4	16.3	0.3	0.0
IncrcmntDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.1	5.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.7	7.5	21.3	0.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.7	7.5	21.3	0.4	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C+	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	11	1	9	1	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #3: Innovation Way/Moffett Park Drive



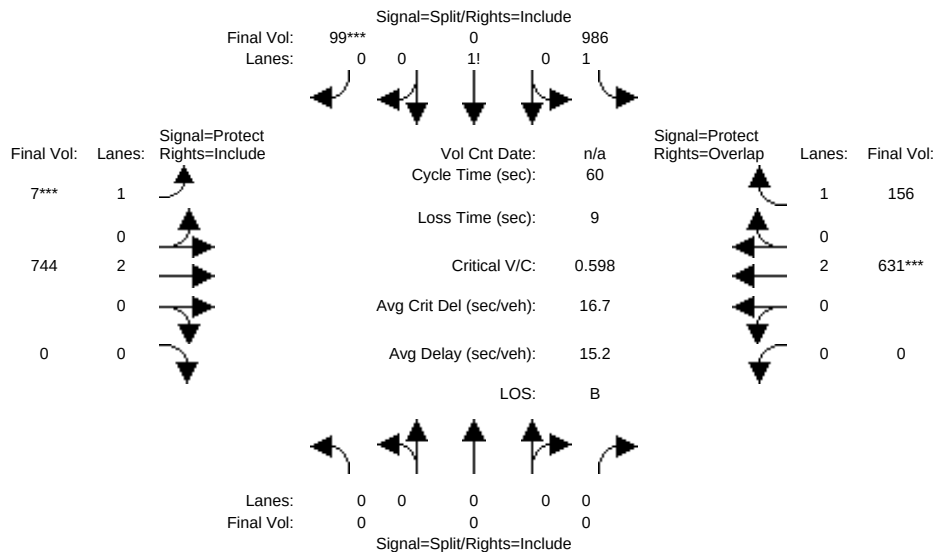
Street Name:	Innovation Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	44	0	8	18	116	0	0	392	242
Growth 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
Initial Bse:	0	0	0	44	0	8	18	116	0	0	392	242
Added Vol:	0	0	0	66	0	9	16	337	0	0	540	655
Yahoo:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	110	0	17	34	453	0	0	932	897
User 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
PHF 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
PHF Volume:	0	0	0	110	0	17	34	453	0	0	932	897
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	110	0	17	34	453	0	0	932	897
PCE 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
MLF 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
Final Volume:	0	0	0	110	0	17	34	453	0	0	932	897
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.76	0.00	0.24	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3087	0	413	1750	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.04	0.00	0.04	0.02	0.12	0.00	0.00	0.25	0.51
Crit Moves:				****			****					****
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	7.0	41.0	0.0	0.0	34.0	44.0
Volume/Cap:	0.00	0.00	0.00	0.21	0.00	0.25	0.17	0.17	0.00	0.00	0.43	0.70
Delay/Veh:	0.0	0.0	0.0	21.8	0.0	22.0	24.3	3.4	0.0	0.0	7.6	6.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.8	0.0	22.0	24.3	3.4	0.0	0.0	7.6	6.1
LOS by Move:	A	A	A	C+	A	C+	C	A	A	A	A	A
HCM2kAvgQ:	0	0	0	1	0	1	1	1	0	0	4	9

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #3: Innovation Way/Moffett Park Drive



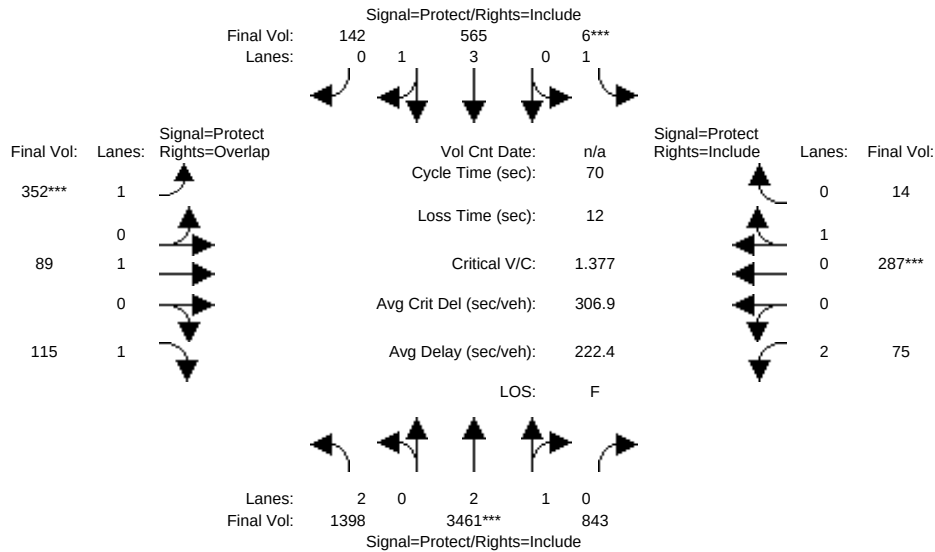
Street Name:	Innovation Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	385	0	52	2	250	0	0	275	57
Growth 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
Initial Bse:	0	0	0	385	0	52	2	250	0	0	275	57
Added Vol:	0	0	0	601	0	47	5	494	0	0	356	99
Yahoo:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	986	0	99	7	744	0	0	631	156
User 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
PHF 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
PHF Volume:	0	0	0	986	0	99	7	744	0	0	631	156
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	986	0	99	7	744	0	0	631	156
PCE 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
MLF 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
Final Volume:	0	0	0	986	0	99	7	744	0	0	631	156
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.83	0.00	0.17	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3207	0	293	1750	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.31	0.00	0.34	0.00	0.20	0.00	0.00	0.17	0.09
Crit Moves:						****					****	
Green Time:	0.0	0.0	0.0	29.5	0.0	29.5	7.0	21.5	0.0	0.0	14.5	44.0
Volume/Cap:	0.00	0.00	0.00	0.62	0.00	0.69	0.03	0.55	0.00	0.00	0.69	0.12
Uniform Del:	0.0	0.0	0.0	11.2	0.0	11.7	23.5	15.4	0.0	0.0	20.7	2.3
IncrementDel:	0.0	0.0	0.0	0.7	0.0	1.3	0.1	0.5	0.0	0.0	2.2	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	11.9	0.0	13.0	23.6	15.8	0.0	0.0	22.9	2.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	11.9	0.0	13.0	23.6	15.8	0.0	0.0	22.9	2.4
LOS by Move:	A	A	A	B+	A	B	C	B	A	A	C+	A
HCM2kAvgQ:	0	0	0	9	0	10	0	5	0	0	5	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #4: Mathilda Avenue/Moffett Park Drive

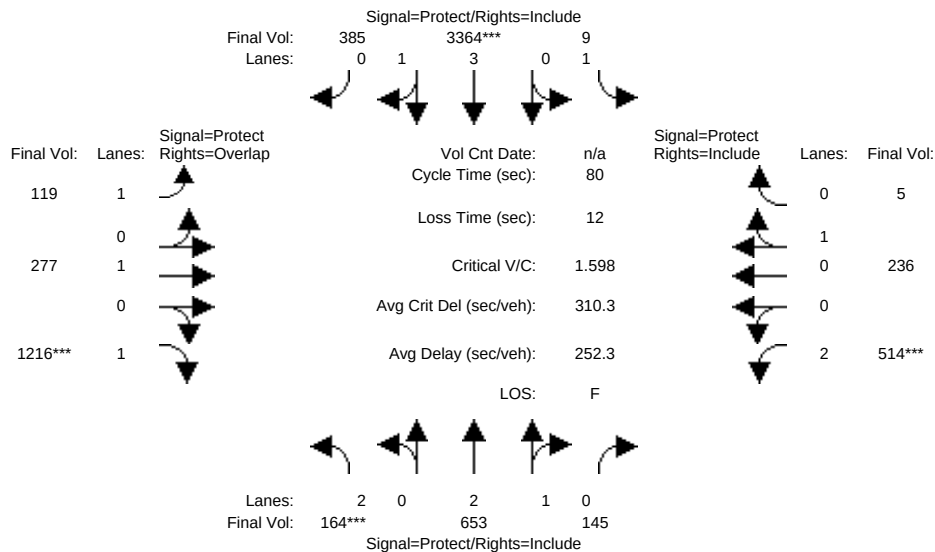


Street Name:	Mathilda Avenue						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	482	1301	787	4	207	69	53	72	28	64	81	4
Growth 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
Initial Bse:	482	1301	787	4	207	69	53	72	28	64	81	4
Added Vol:	916	2048	0	2	334	73	299	17	87	0	206	10
Yahoo:	0	112	56	0	24	0	0	0	0	11	0	0
Initial Fut:	1398	3461	843	6	565	142	352	89	115	75	287	14
User 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
PHF 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
PHF Volume:	1398	3461	843	6	565	142	352	89	115	75	287	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1398	3461	843	6	565	142	352	89	115	75	287	14
PCE 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
MLF 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
Final Volume:	1398	3461	843	6	565	142	352	89	115	75	287	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.95	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	2.39	0.61	1.00	3.16	0.84	1.00	1.00	1.00	2.00	0.95	0.05
Final Sat.:	3150	4502	1096	1750	5991	1506	1750	1900	1750	3150	1716	84
Capacity Analysis Module:												
Vol/Sat:	0.44	0.77	0.77	0.00	0.09	0.09	0.20	0.05	0.07	0.02	0.17	0.17
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	29.5	32.5	32.5	7.0	10.0	10.0	8.5	10.9	40.4	7.6	10.0	10.0
Volume/Cap:	1.05	1.66	1.66	0.03	0.66	0.66	1.66	0.30	0.11	0.22	1.17	1.17
Delay/Veh:	60.3	316	315.7	28.5	29.9	29.9	346.0	26.8	6.8	28.8	140	140.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.3	316	315.7	28.5	29.9	29.9	346.0	26.8	6.8	28.8	140	140.2
LOS by Move:	E	F	F	C	C	C	F	C	A	C	F	F
HCM2kAvgQ:	23	101	101	0	4	4	27	2	1	1	16	16
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #4: Mathilda Avenue/Moffett Park Drive



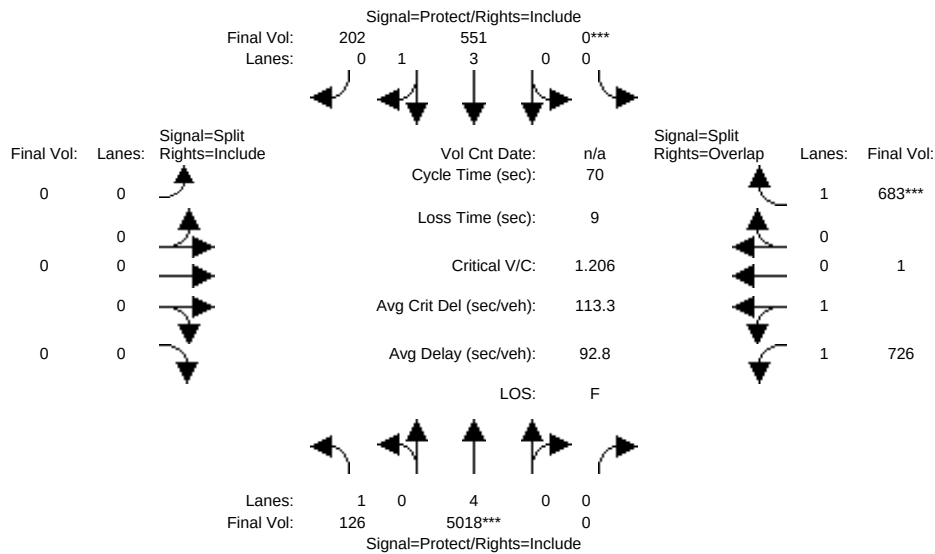
Street Name:	Mathilda Avenue						Moffett Park Drive								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	7		10		10	7		10		10	7		10		10
Y+R:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0
Volume Module:															
Base Vol:	49		230		136	2		1354		72	48		116		354
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	49		230		136	2		1354		72	48		116		354
Added Vol:	115		403		0	7		1903		313	71		161		862
Yahoo:	0		20		9	0		107		0	0		0		54
Initial Fut:	164		653		145	9		3364		385	119		277		1216
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	164		653		145	9		3364		385	119		277		1216
Reduct Vol:	0		0		0	0		0		0	0		0		0
Reduced Vol:	164		653		145	9		3364		385	119		277		1216
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	164		653		145	9		3364		385	119		277		1216
Saturation Flow Module:															
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.83		0.99		0.95	0.92		0.99		0.95	0.92		1.00		0.92
Lanes:	2.00		2.43		0.57	1.00		3.57		0.43	1.00		1.00		1.00
Final Sat.:	3150		4581		1017	1750		6729		770	1750		1900		1750
Capacity Analysis Module:															
Vol/Sat:	0.05		0.14		0.14	0.01		0.50		0.50	0.07		0.15		0.69
Crit Moves:	****					****					****				****
Green Time:	7.0		19.2		19.2	11.8		24.0		24.0	14.6		29.2		36.2
Volume/Cap:	0.60		0.59		0.59	0.03		1.67		1.67	0.37		0.40		1.54
Uniform Del:	35.1		26.9		26.9	29.2		28.0		28.0	28.7		18.9		21.9
IncrementDel:	3.5		0.7		0.7	0.1		302		301.8	0.7		0.4		248.1
InitQueueDel:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0
Delay Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Delay/Veh:	38.6		27.7		27.7	29.3		330		329.8	29.4		19.3		270.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	38.6		27.7		27.7	29.3		330		329.8	29.4		19.3		270.0
LOS by Move:	D+		C		C	C		F		F	C		B-		F
HCM2kAvgQ:	2		6		6	0		69		69	3		5		88

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps

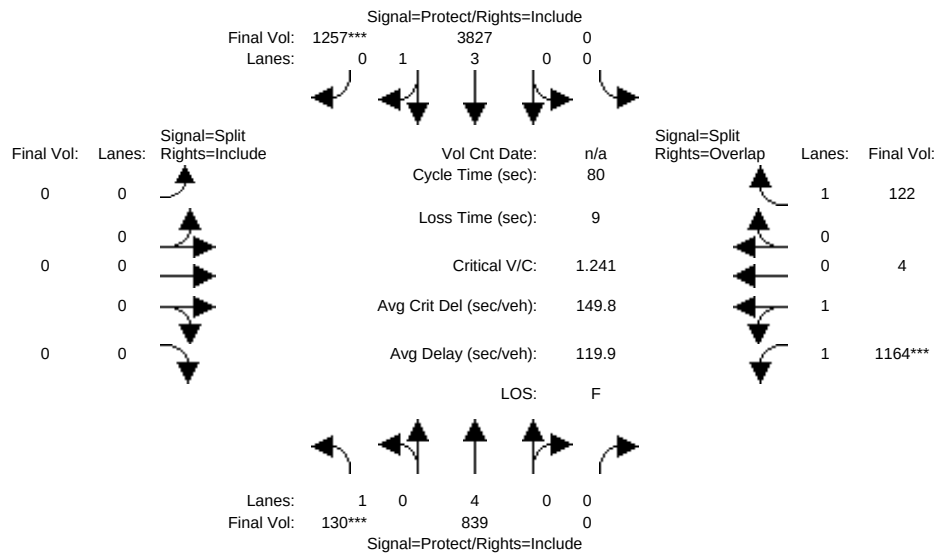


Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	126	2312	0	0	235	63	0	0	0	580	1	258
Growth 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
Initial Bse:	126	2312	0	0	235	63	0	0	0	580	1	258
Added Vol:	0	2538	0	0	302	118	0	0	0	146	0	425
Yahoo:	0	168	0	0	14	21	0	0	0	0	0	0
Initial Fut:	126	5018	0	0	551	202	0	0	0	726	1	683
User 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
PHF 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
PHF Volume:	126	5018	0	0	551	202	0	0	0	726	1	683
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	126	5018	0	0	551	202	0	0	0	726	1	683
PCE 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
MLF 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
Final Volume:	126	5018	0	0	551	202	0	0	0	726	1	683
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5700	1750	0	0	0	3545	5	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.66	0.00	0.00	0.10	0.12	0.00	0.00	0.00	0.20	0.20	0.39
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	15.8	38.3	0.0	0.0	22.6	22.6	0.0	0.0	0.0	22.7	22.7	22.7
Volume/Cap:	0.32	1.21	0.00	0.00	0.30	0.36	0.00	0.00	0.00	0.63	0.63	1.21
Delay/Veh:	23.1	111	0.0	0.0	17.9	18.3	0.0	0.0	0.0	21.3	21.3	132.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.1	111	0.0	0.0	17.9	18.3	0.0	0.0	0.0	21.3	21.3	132.1
LOS by Move:	C	F	A	A	B	B-	A	A	A	C+	C+	F
HCM2kAvgQ:	2	53	0	0	3	3	0	0	0	8	8	35
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps



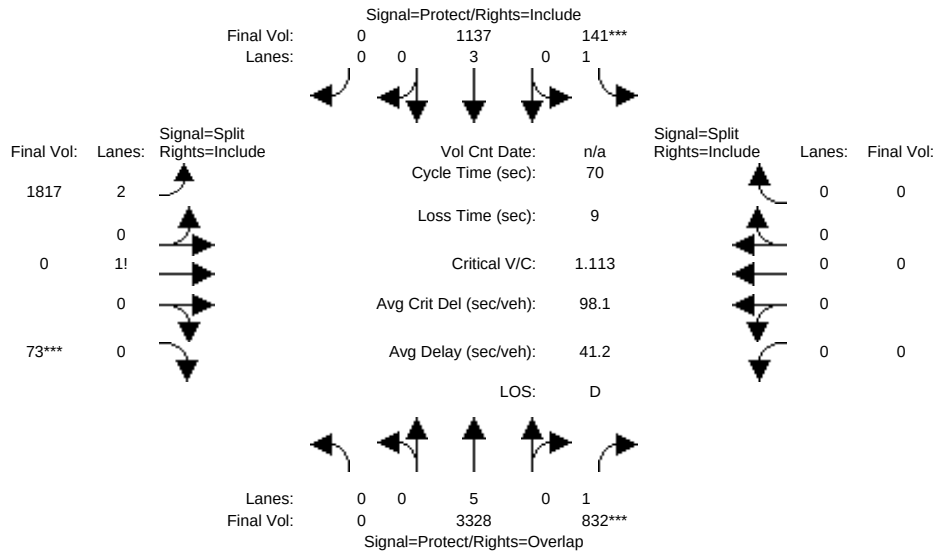
Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	130	377	0	0	1708	450	0	0	0	877	4	37
Growth 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
Initial Bse:	130	377	0	0	1708	450	0	0	0	877	4	37
Added Vol:	0	433	0	0	2054	711	0	0	0	287	0	85
Yahoo:	0	29	0	0	65	96	0	0	0	0	0	0
Initial Fut:	130	839	0	0	3827	1257	0	0	0	1164	4	122
User 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
PHF 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
PHF Volume:	130	839	0	0	3827	1257	0	0	0	1164	4	122
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	839	0	0	3827	1257	0	0	0	1164	4	122
PCE 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
MLF 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
Final Volume:	130	839	0	0	3827	1257	0	0	0	1164	4	122
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5699	1800	0	0	0	3538	12	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.11	0.00	0.00	0.67	0.70	0.00	0.00	0.00	0.33	0.33	0.07
Crit Moves:	***					***				***		
Green Time:	7.0	50.5	0.0	0.0	43.5	43.5	0.0	0.0	0.0	20.5	20.5	20.5
Volume/Cap:	0.85	0.17	0.00	0.00	1.23	1.28	0.00	0.00	0.00	1.28	1.28	0.27
Uniform Del:	36.0	6.1	0.0	0.0	18.2	18.2	0.0	0.0	0.0	29.8	29.8	23.8
IncrementDel:	33.6	0.0	0.0	0.0	108	129.9	0.0	0.0	0.0	136.3	136	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	69.5	6.1	0.0	0.0	126	148.2	0.0	0.0	0.0	166.0	166	24.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.5	6.1	0.0	0.0	126	148.2	0.0	0.0	0.0	166.0	166	24.1
LOS by Move:	E	A	A	A	F	F	A	A	A	F	F	C
HCM2kAvgQ:	4	2	0	0	59	66	0	0	0	35	35	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps

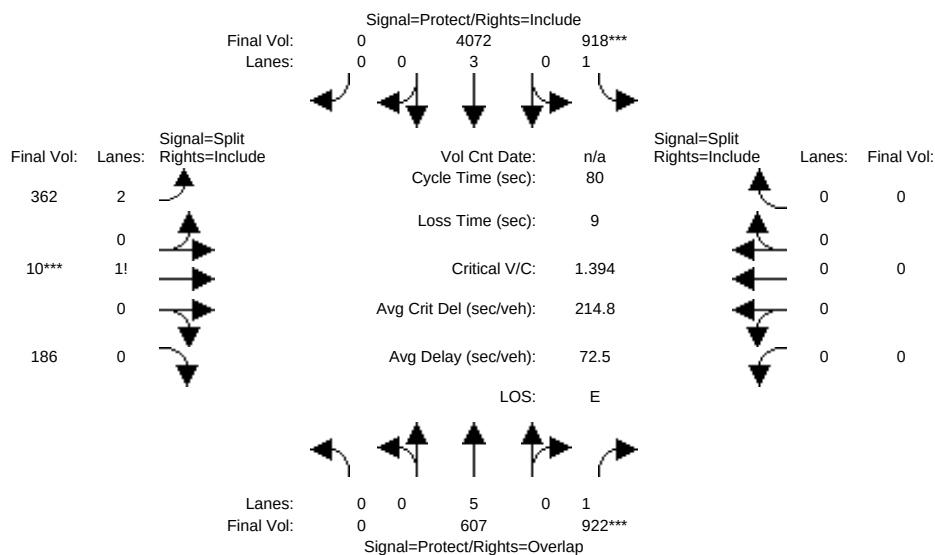


Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	1611	749	55	760	0	827	0	73	0	0	0
Growth 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
Initial Bse:	0	1611	749	55	760	0	827	0	73	0	0	0
Added Vol:	0	1649	83	86	363	0	890	0	0	0	0	0
Yahoo:	0	68	0	0	14	0	100	0	0	0	0	0
Initial Fut:	0	3328	832	141	1137	0	1817	0	73	0	0	0
User 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
PHF 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
PHF Volume:	0	3328	832	141	1137	0	1817	0	73	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3328	832	141	1137	0	1817	0	73	0	0	0
PCE 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
MLF 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
Final Volume:	0	3328	832	141	1137	0	1817	0	73	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.86	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.90	0.00	0.10	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	4722	0	176	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.48	0.08	0.20	0.00	0.38	0.00	0.41	0.00	0.00	0.00
Crit Moves:			****	****					****			
Green Time:	0.0	28.9	28.9	7.0	35.9	0.0	25.1	0.0	25.1	0.0	0.0	0.0
Volume/Cap:	0.00	0.85	1.15	0.81	0.39	0.00	1.07	0.00	1.15	0.00	0.00	0.00
Delay/Veh:	0.0	20.5	104.6	54.1	10.5	0.0	66.2	0.0	98.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	20.5	104.6	54.1	10.5	0.0	66.2	0.0	98.5	0.0	0.0	0.0
LOS by Move:	A	C+	F	D-	B+	A	E	A	F	A	A	A
HCM2kAvgQ:	0	13	35	4	5	0	27	0	34	0	0	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps



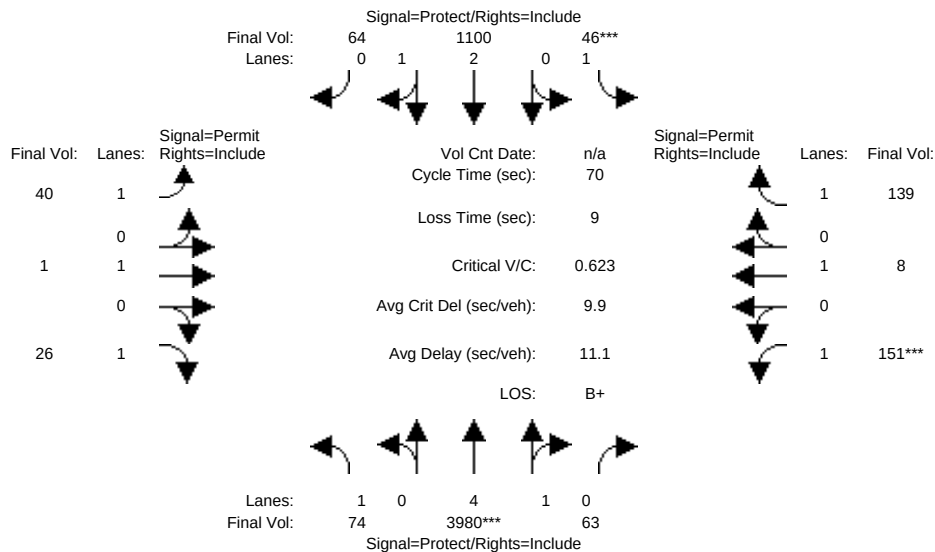
Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	324	575	364	2220	0	183	10	186	0	0	0
Growth 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
Initial Bse:	0	324	575	364	2220	0	183	10	186	0	0	0
Added Vol:	0	271	347	554	1787	0	162	0	0	0	0	0
Yahoo:	0	12	0	0	65	0	17	0	0	0	0	0
Initial Fut:	0	607	922	918	4072	0	362	10	186	0	0	0
User 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
PHF 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
PHF Volume:	0	607	922	918	4072	0	362	10	186	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	607	922	918	4072	0	362	10	186	0	0	0
PCE 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
MLF 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
Final Volume:	0	607	922	918	4072	0	362	10	186	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.41	0.03	0.56	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	3800	54	1003	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.06	0.53	0.52	0.71	0.00	0.10	0.19	0.19	0.00	0.00	0.00
Crit Moves:			****	****				****				
Green Time:	0.0	30.2	30.2	30.1	60.4	0.0	10.6	10.6	10.6	0.0	0.0	0.0
Volume/Cap:	0.00	0.17	1.39	1.39	0.95	0.00	0.72	1.39	1.39	0.00	0.00	0.00
Uniform Del:	0.0	16.5	24.9	24.9	8.4	0.0	33.2	34.7	34.7	0.0	0.0	0.0
IncrementDel:	0.0	0.0	186.3	186.4	5.5	0.0	3.2	192	191.9	0.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Delay/Veh:	0.0	16.6	211.2	211.3	14.0	0.0	36.4	227	226.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	16.6	211.2	211.3	14.0	0.0	36.4	227	226.5	0.0	0.0	0.0
LOS by Move:	A	B	F	F	B	A	D+	F	F	A	A	A
HCM2kAvgQ:	0	2	59	58	27	0	6	23	23	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #7: Mathilda Avenue/Ross Drive



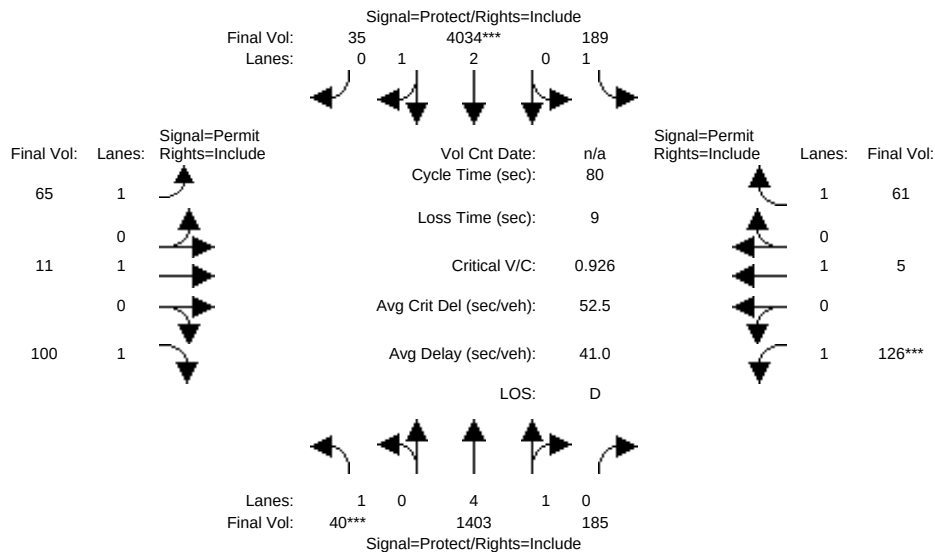
Street Name:	Mathilda Avenue						Ross Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	74	2181	63	46	723	64	40	1	26	151	8	139
Growth 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
Initial Bse:	74	2181	63	46	723	64	40	1	26	151	8	139
Added Vol:	0	1731	0	0	363	0	0	0	0	0	0	0
Yahoo:	0	68	0	0	14	0	0	0	0	0	0	0
Initial Fut:	74	3980	63	46	1100	64	40	1	26	151	8	139
User 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
PHF 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
PHF Volume:	74	3980	63	46	1100	64	40	1	26	151	8	139
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	3980	63	46	1100	64	40	1	26	151	8	139
PCE 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
MLF 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
Final Volume:	74	3980	63	46	1100	64	40	1	26	151	8	139
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	4.92	0.08	1.00	2.83	0.17	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	9253	146	1750	5292	308	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.43	0.43	0.03	0.21	0.21	0.02	0.00	0.01	0.09	0.00	0.08
Crit Moves:	****			****			****			****		
Green Time:	16.6	44.0	44.0	7.0	34.4	34.4	10.0	10.0	10.0	10.0	10.0	10.0
Volume/Cap:	0.18	0.68	0.68	0.26	0.42	0.42	0.16	0.00	0.10	0.60	0.03	0.56
Delay/Veh:	21.5	8.8	8.8	29.9	11.5	11.5	26.6	25.7	26.3	32.3	25.9	30.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.5	8.8	8.8	29.9	11.5	11.5	26.6	25.7	26.3	32.3	25.9	30.7
LOS by Move:	C+	A	A	C	B+	B+	C	C	C	C-	C	C
HCM2kAvgQ:	1	11	11	1	5	5	1	0	1	4	0	4

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #7: Mathilda Avenue/Ross Drive



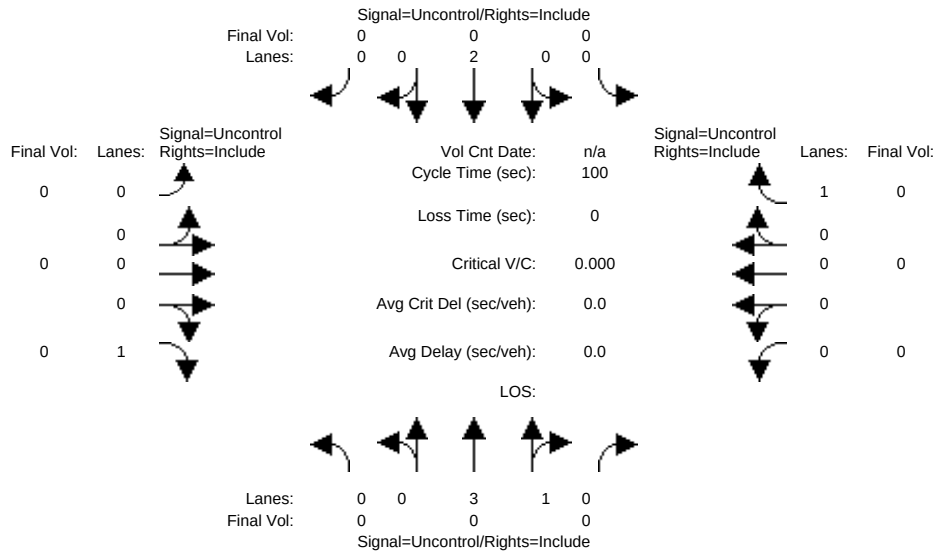
Street Name:	Mathilda Avenue						Ross Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	40	773	185	189	2182	35	65	11	100	126	5	61
Growth 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
Initial Bse:	40	773	185	189	2182	35	65	11	100	126	5	61
Added Vol:	0	618	0	0	1787	0	0	0	0	0	0	0
Yahoo:	0	12	0	0	65	0	0	0	0	0	0	0
Initial Fut:	40	1403	185	189	4034	35	65	11	100	126	5	61
User 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
PHF 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
PHF Volume:	40	1403	185	189	4034	35	65	11	100	126	5	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	1403	185	189	4034	35	65	11	100	126	5	61
PCE 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
MLF 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
Final Volume:	40	1403	185	189	4034	35	65	11	100	126	5	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	4.39	0.61	1.00	2.97	0.03	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	8303	1095	1750	5552	48	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.17	0.17	0.11	0.73	0.73	0.04	0.01	0.06	0.07	0.00	0.03
Crit Moves:	****			****						****		
Green Time:	7.0	37.2	37.2	23.8	54.0	54.0	10.0	10.0	10.0	10.0	10.0	10.0
Volume/Cap:	0.26	0.36	0.36	0.36	1.08	1.08	0.30	0.05	0.46	0.58	0.02	0.28
Uniform Del:	34.1	13.8	13.8	22.1	13.0	13.0	31.8	30.8	32.5	33.0	30.7	31.7
IncrementDel:	0.9	0.1	0.1	0.4	40.2	40.2	0.8	0.1	1.5	3.7	0.0	0.7
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	35.0	13.8	13.8	22.6	53.2	53.2	32.6	30.9	34.0	36.7	30.7	32.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.0	13.8	13.8	22.6	53.2	53.2	32.6	30.9	34.0	36.7	30.7	32.4
LOS by Move:	C-	B	B	C+	D-	D-	C-	C	C-	D+	C	C-
HCM2kAvgQ:	1	5	5	4	45	45	2	0	3	4	0	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Background Plus Project AM

Intersection #8: Mathilda Avenue/US-101 Northbound Ramps

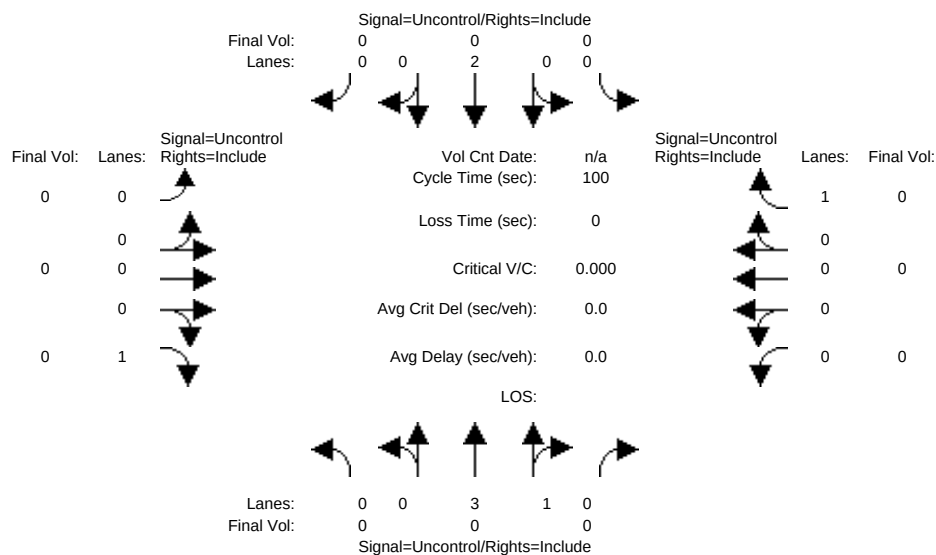


Street Name:	Mathilda Avenue						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1435	479	0	900	0	0	0	773	0	0	883
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1435	479	0	900	0	0	0	773	0	0	883
Added Vol:	0	816	88	0	363	0	0	0	0	0	0	916
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Background Plus Project PM

Intersection #8: Mathilda Avenue/US-101 Northbound Ramps

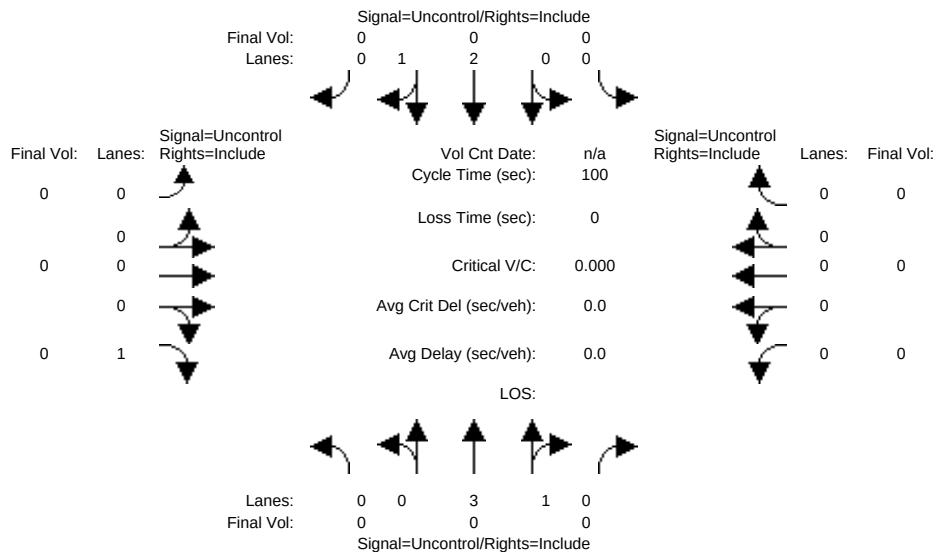


Street Name:	Mathilda Avenue						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	745	349	0	2408	0	0	0	718	0	0	254
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	745	349	0	2408	0	0	0	718	0	0	254
Added Vol:	0	473	359	0	1787	0	0	0	0	0	0	146
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Background Plus Project AM

Intersection #9: Mathilda Avenue/US-101 Southbound Ramps

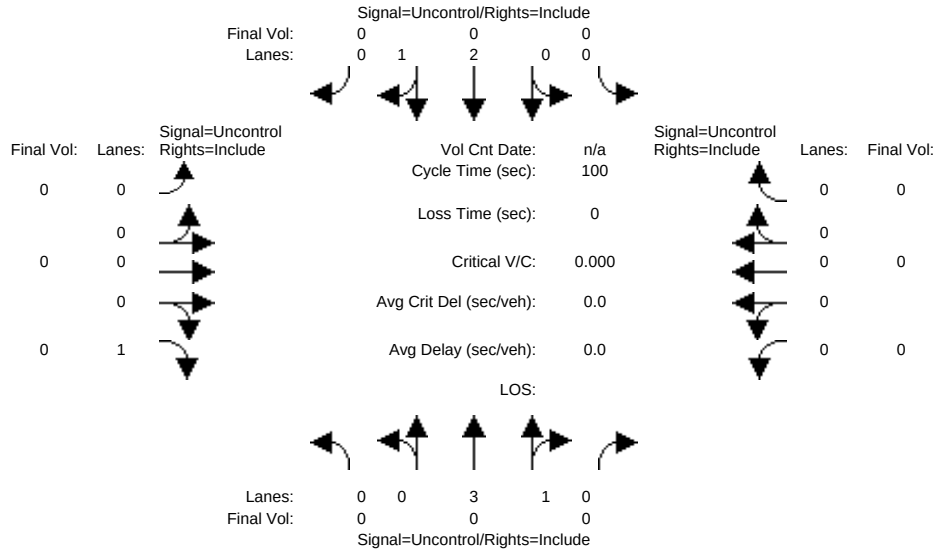


Street Name:	Mathilda Avenue						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1915	668	0	1465	207	0	0	409	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1915	668	0	1465	207	0	0	409	0	0	0
Added Vol:	0	889	0	33	239	90	15	0	146	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Background Plus Project PM

Intersection #9: Mathilda Avenue/US-101 Southbound Ramps

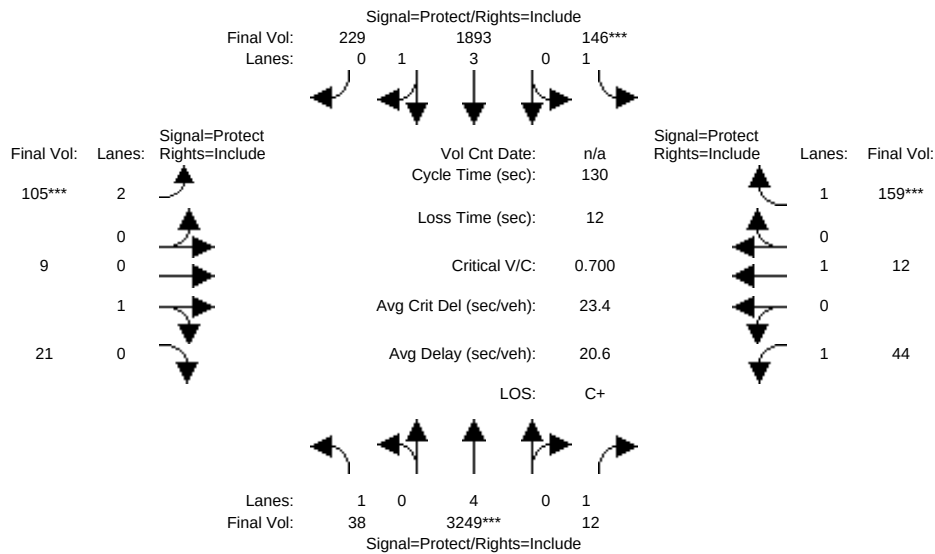


Street Name:	Mathilda Avenue						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1094	491	0	2485	642	0	0	553	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1094	491	0	2485	642	0	0	553	0	0	0
Added Vol:	0	824	0	334	935	518	8	0	287	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #10: Mathilda Avenue/Ahwanee Avenue-Almanor Ave

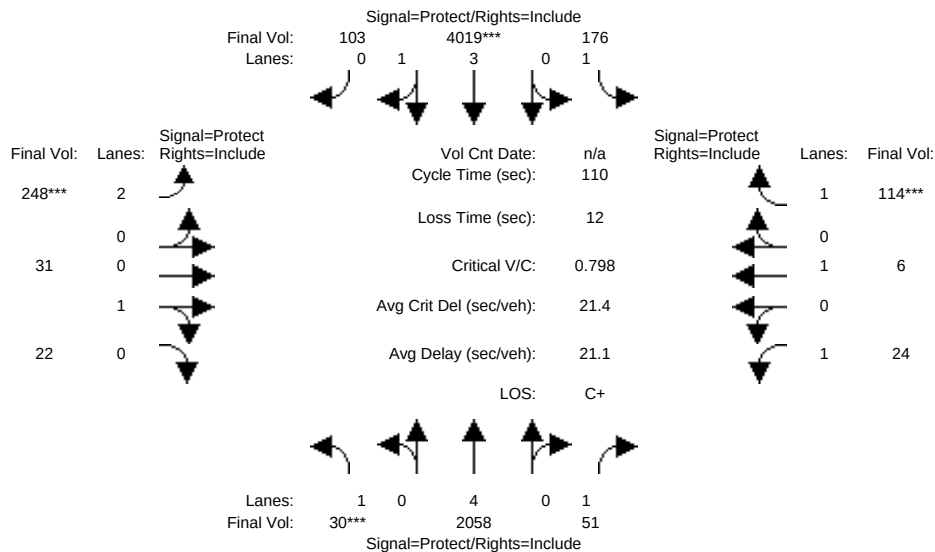


Street Name:	Mathilda Avenue						Ahwanee Avenue-Almanor Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	38	2331	12	146	1502	227	94	9	21	44	12	159
Growth 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
Initial Bse:	38	2331	12	146	1502	227	94	9	21	44	12	159
Added Vol:	0	889	0	0	385	0	0	0	0	0	0	0
Yahoo:	0	29	0	0	6	2	11	0	0	0	0	0
Initial Fut:	38	3249	12	146	1893	229	105	9	21	44	12	159
User 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
PHF 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
PHF Volume:	38	3249	12	146	1893	229	105	9	21	44	12	159
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	3249	12	146	1893	229	105	9	21	44	12	159
PCE 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
MLF 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
Final Volume:	38	3249	12	146	1893	229	105	9	21	44	12	159
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	1.00	4.00	1.00	1.00	3.55	0.45	2.00	0.30	0.70	1.00	1.00	1.00
Final Sat.:	1750	7600	1750	1750	6689	809	3150	540	1260	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.43	0.01	0.08	0.28	0.28	0.03	0.02	0.02	0.03	0.01	0.09
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	15.1	78.9	78.9	15.4	79.2	79.2	7.0	14.0	14.0	9.8	16.8	16.8
Volume/Cap:	0.19	0.70	0.01	0.70	0.46	0.46	0.62	0.16	0.16	0.33	0.05	0.70
Delay/Veh:	52.4	18.1	10.1	65.6	13.9	13.9	67.0	53.0	53.0	58.5	49.7	64.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.4	18.1	10.1	65.6	13.9	13.9	67.0	53.0	53.0	58.5	49.7	64.0
LOS by Move:	D-	B-	B+	E	B	B	E	D-	D-	E+	D	E
HCM2kAvgQ:	1	21	0	6	11	11	4	1	1	2	0	8
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #10: Mathilda Avenue/Ahwanee Avenue-Almanor Ave



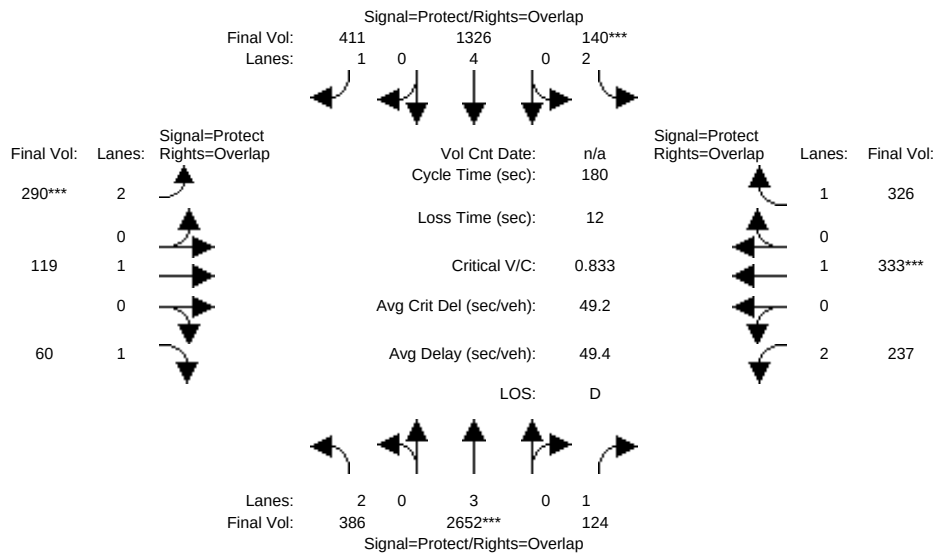
Street Name:	Mathilda Avenue						Ahwanee Avenue-Almanor Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	30	1229	51	176	2770	92	246	31	22	24	6	114
Growth 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
Initial Bse:	30	1229	51	176	2770	92	246	31	22	24	6	114
Added Vol:	0	824	0	0	1222	0	0	0	0	0	0	0
Yahoo:	0	5	0	0	27	11	2	0	0	0	0	0
Initial Fut:	30	2058	51	176	4019	103	248	31	22	24	6	114
User 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
PHF 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
PHF Volume:	30	2058	51	176	4019	103	248	31	22	24	6	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	2058	51	176	4019	103	248	31	22	24	6	114
PCE 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
MLF 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
Final Volume:	30	2058	51	176	4019	103	248	31	22	24	6	114
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	1.00	4.00	1.00	1.00	3.90	0.10	2.00	0.58	0.42	1.00	1.00	1.00
Final Sat.:	1750	7600	1750	1750	7312	187	3150	1053	747	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.27	0.03	0.10	0.55	0.55	0.08	0.03	0.03	0.01	0.00	0.07
Crit Moves:	****			****			****					****
Green Time:	7.0	56.8	56.8	21.1	70.9	70.9	10.1	11.9	11.9	8.3	10.0	10.0
Volume/Cap:	0.27	0.52	0.06	0.52	0.85	0.85	0.85	0.27	0.27	0.18	0.03	0.72
Uniform Del:	49.1	17.7	13.3	40.0	15.5	15.5	49.2	45.1	45.1	47.7	45.6	48.6
IncrementDel:	1.3	0.1	0.0	1.5	1.6	1.6	20.9	0.8	0.8	0.7	0.1	14.5
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	50.4	17.8	13.3	41.5	17.1	17.1	70.1	45.9	45.9	48.3	45.7	63.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.4	17.8	13.3	41.5	17.1	17.1	70.1	45.9	45.9	48.3	45.7	63.1
LOS by Move:	D	B	B	D	B	B	E	D	D	D	D	E
HCM2kAvgQ:	1	11	1	5	26	26	8	2	2	1	0	6

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #11: Mathilda Avenue/Maude Avenue

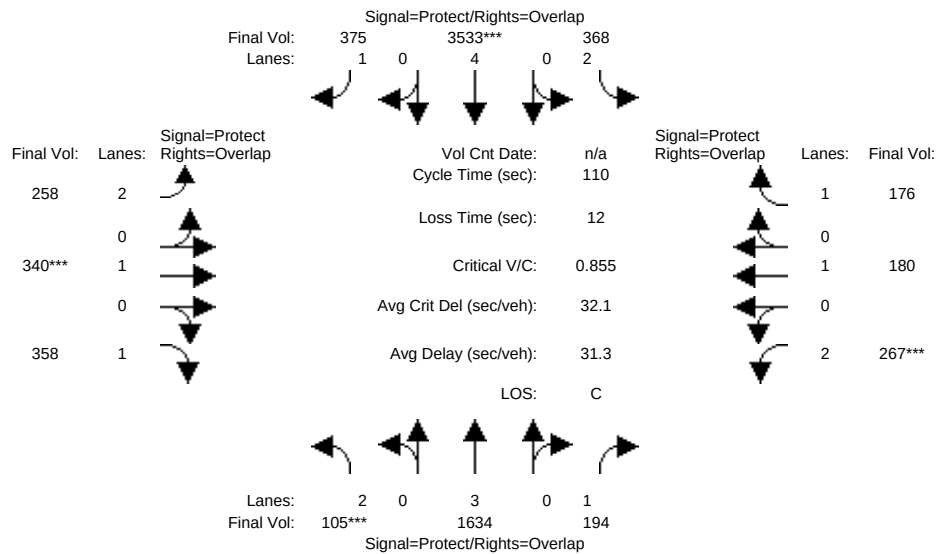


Street Name:	Mathilda Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	386	1965	57	137	963	386	99	107	60	177	316	287
Growth 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
Initial Bse:	386	1965	57	137	963	386	99	107	60	177	316	287
Added Vol:	0	658	67	3	357	25	191	12	0	60	17	39
Yahoo:	0	29	0	0	6	0	0	0	0	0	0	0
Initial Fut:	386	2652	124	140	1326	411	290	119	60	237	333	326
User 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
PHF 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
PHF Volume:	386	2652	124	140	1326	411	290	119	60	237	333	326
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	386	2652	124	140	1326	411	290	119	60	237	333	326
PCE 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
MLF 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
Final Volume:	386	2652	124	140	1326	411	290	119	60	237	333	326
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	4.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	3150	5700	1750	3150	7600	1750	3150	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.47	0.07	0.04	0.17	0.23	0.09	0.06	0.03	0.08	0.18	0.19
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	45.5	101	132.1	9.6	64.7	84.6	19.9	26.3	71.7	31.5	37.9	47.5
Volume/Cap:	0.49	0.83	0.10	0.83	0.49	0.50	0.83	0.43	0.09	0.43	0.83	0.71
Delay/Veh:	59.4	35.5	7.0	120.4	45.3	35.2	98.7	74.8	34.0	68.6	86.1	68.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.4	35.5	7.0	120.4	45.3	35.2	98.7	74.8	34.0	68.6	86.1	68.7
LOS by Move:	E+	D+	A	F	D	D+	F	E	C-	E	F	E
HCM2kAvgQ:	11	42	2	5	14	17	11	6	2	7	19	18
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #11: Mathilda Avenue/Maude Avenue



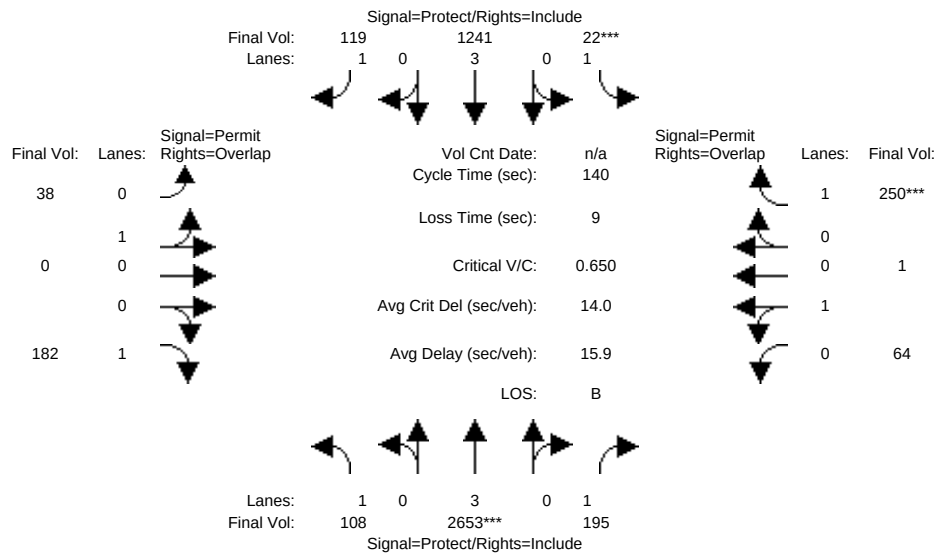
Street Name:	Mathilda Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	105	854	116	339	2487	201	227	316	358	172	157	159
Growth 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
Initial Bse:	105	854	116	339	2487	201	227	316	358	172	157	159
Added Vol:	0	775	78	29	1019	174	31	24	0	95	23	17
Yahoo:	0	5	0	0	27	0	0	0	0	0	0	0
Initial Fut:	105	1634	194	368	3533	375	258	340	358	267	180	176
User 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
PHF 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
PHF Volume:	105	1634	194	368	3533	375	258	340	358	267	180	176
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	105	1634	194	368	3533	375	258	340	358	267	180	176
PCE 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
MLF 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
Final Volume:	105	1634	194	368	3533	375	258	340	358	267	180	176
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	4.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	3150	5700	1750	3150	7600	1750	3150	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.29	0.11	0.12	0.46	0.21	0.08	0.18	0.20	0.08	0.09	0.10
Crit Moves:	****			****			****			****		
Green Time:	7.0	46.2	56.8	18.8	58.1	73.3	15.3	22.4	29.4	10.6	17.7	36.5
Volume/Cap:	0.52	0.68	0.21	0.68	0.88	0.32	0.59	0.88	0.77	0.88	0.59	0.30
Uniform Del:	49.9	25.9	14.5	42.8	22.9	7.8	44.4	42.5	37.2	49.1	42.8	27.3
IncrementDel:	2.5	0.8	0.1	3.6	2.6	0.2	2.1	20.2	7.5	24.4	3.0	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	52.4	26.7	14.6	46.3	25.5	7.9	46.6	62.8	44.7	73.5	45.8	27.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.4	26.7	14.6	46.3	25.5	7.9	46.6	62.8	44.7	73.5	45.8	27.6
LOS by Move:	D-	C	B	D	C	A	D	E	D	E	D	C
HCM2kAvgQ:	2	15	4	7	26	5	5	12	12	8	6	5

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #12: Mathilda Avenue/Indio Way

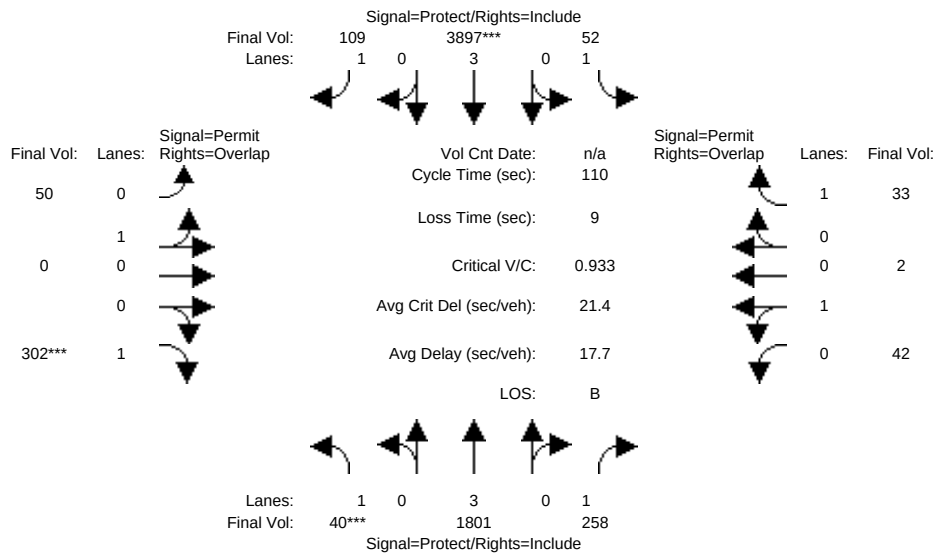


Street Name:	Mathilda Avenue						Indio Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	108	1941	167	21	842	102	38	0	182	64	1	237
Growth 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
Initial Bse:	108	1941	167	21	842	102	38	0	182	64	1	237
Added Vol:	0	712	28	1	399	17	0	0	0	0	0	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	2653	195	22	1241	119	38	0	182	64	1	250
User 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
PHF 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
PHF Volume:	108	2653	195	22	1241	119	38	0	182	64	1	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	108	2653	195	22	1241	119	38	0	182	64	1	250
PCE 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
MLF 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
Final Volume:	108	2653	195	22	1241	119	38	0	182	64	1	250
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.00	1.00	0.98	0.02	1.00
Final Sat.:	1750	5700	1750	1750	5700	1750	1800	0	1750	1772	28	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.47	0.11	0.01	0.22	0.07	0.02	0.00	0.10	0.04	0.04	0.14
Crit Moves:	****			****						****		
Green Time:	24.4	103	103.4	7.0	86.0	86.0	20.6	0.0	45.0	20.6	20.6	27.6
Volume/Cap:	0.35	0.63	0.15	0.25	0.35	0.11	0.14	0.00	0.32	0.25	0.25	0.72
Delay/Veh:	51.6	9.3	5.4	65.5	13.4	11.2	52.2	0.0	36.3	53.3	53.3	60.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.6	9.3	5.4	65.5	13.4	11.2	52.2	0.0	36.3	53.3	53.3	60.0
LOS by Move:	D-	A	A	E	B	B+	D-	A	D+	D-	D-	E
HCM2kAvgQ:	4	18	3	1	8	2	2	0	6	3	3	12
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #12: Mathilda Avenue/Indio Way



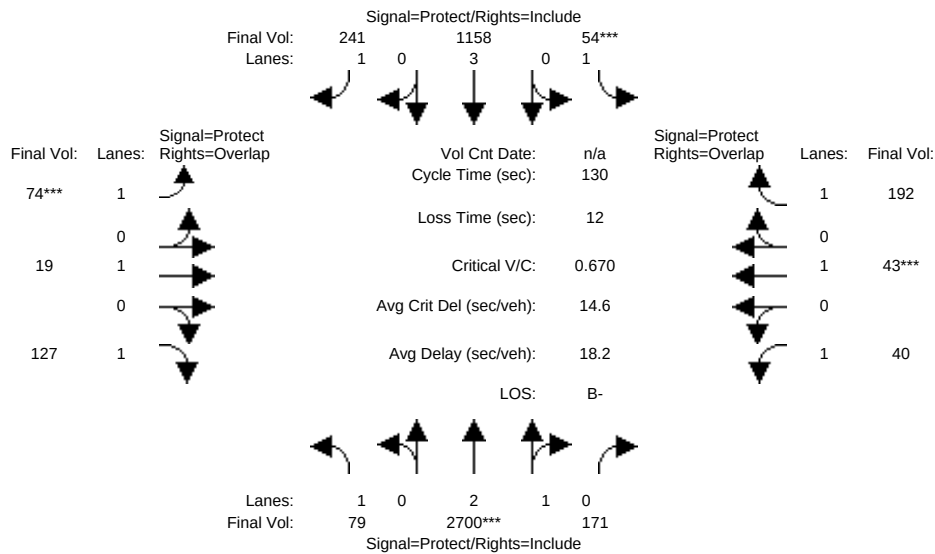
Street Name:	Mathilda Avenue						Indio Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	40	948	142	41	2832	71	50	0	302	42	2	32
Growth 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
Initial Bse:	40	948	142	41	2832	71	50	0	302	42	2	32
Added Vol:	0	853	116	11	1065	38	0	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	40	1801	258	52	3897	109	50	0	302	42	2	33
User 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
PHF 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
PHF Volume:	40	1801	258	52	3897	109	50	0	302	42	2	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	1801	258	52	3897	109	50	0	302	42	2	33
PCE 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
MLF 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
Final Volume:	40	1801	258	52	3897	109	50	0	302	42	2	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.00	1.00	0.95	0.05	1.00
Final Sat.:	1750	5700	1750	1750	5700	1750	1800	0	1750	1718	82	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.32	0.15	0.03	0.68	0.06	0.03	0.00	0.17	0.02	0.02	0.02
Crit Moves:	****			****					****			
Green Time:	7.0	73.3	73.3	14.8	81.1	81.1	12.9	0.0	19.9	12.9	12.9	27.7
Volume/Cap:	0.36	0.47	0.22	0.22	0.93	0.08	0.24	0.00	0.95	0.21	0.21	0.07
Uniform Del:	49.4	8.9	7.2	42.5	12.0	4.1	44.1	0.0	44.6	43.9	43.9	31.4
IncrementDel:	2.0	0.1	0.1	0.5	4.3	0.0	0.6	0.0	38.1	0.5	0.5	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	51.3	9.0	7.3	43.0	16.3	4.1	44.6	0.0	82.6	44.4	44.4	31.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.3	9.0	7.3	43.0	16.3	4.1	44.6	0.0	82.6	44.4	44.4	31.5
LOS by Move:	D-	A	A	D	B	A	D	A	F	D	D	C
HCM2kAvgQ:	1	10	4	2	36	1	2	0	15	2	2	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #13: Mathilda Avenue/California Way

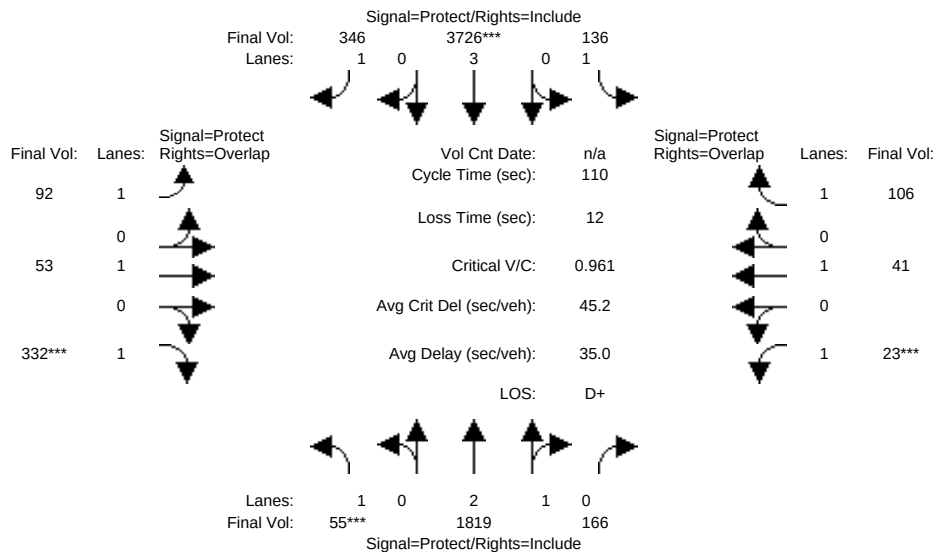


Street Name:	Mathilda Avenue						California Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	79	1997	171	54	759	241	74	19	78	40	43	156
Growth 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
Initial Bse:	79	1997	171	54	759	241	74	19	78	40	43	156
Added Vol:	0	703	0	0	399	0	0	0	49	0	0	36
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	79	2700	171	54	1158	241	74	19	127	40	43	192
User 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
PHF 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
PHF Volume:	79	2700	171	54	1158	241	74	19	127	40	43	192
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	2700	171	54	1158	241	74	19	127	40	43	192
PCE 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
MLF 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
Final Volume:	79	2700	171	54	1158	241	74	19	127	40	43	192
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.81	0.19	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5266	334	1750	5700	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.51	0.51	0.03	0.20	0.14	0.04	0.01	0.07	0.02	0.02	0.11
Crit Moves:	****			****			****			****		
Green Time:	21.0	93.3	93.3	7.0	79.3	79.3	7.7	10.4	31.4	7.3	10.0	17.0
Volume/Cap:	0.28	0.71	0.71	0.57	0.33	0.23	0.71	0.12	0.30	0.41	0.29	0.84
Delay/Veh:	48.4	11.3	11.3	68.3	12.5	11.6	81.0	55.9	40.7	62.0	57.8	78.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.4	11.3	11.3	68.3	12.5	11.6	81.0	55.9	40.7	62.0	57.8	78.2
LOS by Move:	D	B+	B+	E	B	B+	F	E+	D	E	E+	E-
HCM2kAvgQ:	3	23	23	2	7	5	5	1	4	2	2	11
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #13: Mathilda Avenue/California Way



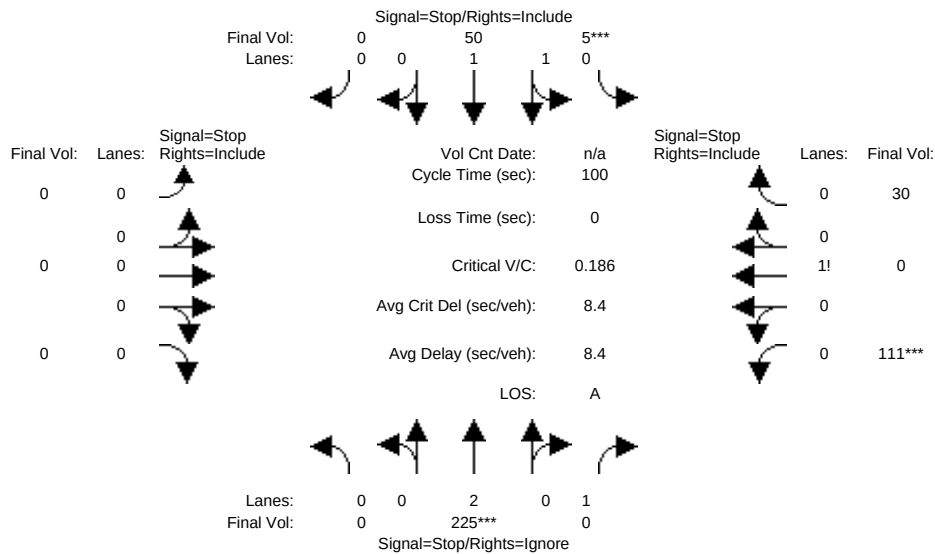
Street Name:	Mathilda Avenue						California Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	55	870	166	136	2661	346	92	53	236	23	41	87
Growth 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
Initial Bse:	55	870	166	136	2661	346	92	53	236	23	41	87
Added Vol:	0	949	0	0	1065	0	0	0	96	0	0	19
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	55	1819	166	136	3726	346	92	53	332	23	41	106
User 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
PHF 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
PHF Volume:	55	1819	166	136	3726	346	92	53	332	23	41	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	1819	166	136	3726	346	92	53	332	23	41	106
PCE 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
MLF 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
Final Volume:	55	1819	166	136	3726	346	92	53	332	23	41	106
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.74	0.26	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5131	468	1750	5700	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.35	0.35	0.08	0.65	0.20	0.05	0.03	0.19	0.01	0.02	0.06
Crit Moves:	****			****					****	****		
Green Time:	7.0	63.5	63.5	13.9	70.4	70.4	8.5	13.6	20.6	7.0	12.1	26.0
Volume/Cap:	0.49	0.61	0.61	0.61	1.02	0.31	0.68	0.23	1.01	0.21	0.20	0.26
Uniform Del:	49.8	15.2	15.2	45.5	19.8	8.9	49.5	43.5	44.7	48.9	44.5	34.1
IncrementDel:	3.4	0.4	0.4	5.1	20.5	0.2	13.4	0.5	53.3	0.9	0.5	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	53.2	15.6	15.6	50.6	40.3	9.0	62.9	44.0	98.0	49.8	45.0	34.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.2	15.6	15.6	50.6	40.3	9.0	62.9	44.0	98.0	49.8	45.0	34.4
LOS by Move:	D-	B	B	D	D	A	E	D	F	D	D	C-
HCM2kAvgQ:	3	15	15	4	46	5	5	2	18	1	1	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Background Plus Project AM

Intersection #14: Ellis Street/Manila Drive



Street Name:	Ellis Street						Manila Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	225	361	5	50	0	0	0	0	52	0	30
Growth 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
Initial Bse:	0	225	361	5	50	0	0	0	0	52	0	30
Added Vol:	0	0	1145	0	0	0	0	0	0	59	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	225	1506	5	50	0	0	0	0	111	0	30
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	225	0	5	50	0	0	0	0	111	0	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	225	0	5	50	0	0	0	0	111	0	30
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	225	0	5	50	0	0	0	0	111	0	30
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.18	1.82	0.00	0.00	0.00	0.00	0.79	0.00	0.21
Final Sat.:	0	1447	842	124	1256	0	0	0	0	598	0	162
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.16	0.00	0.04	0.04	xxxx	xxxx	xxxx	xxxx	0.19	xxxx	0.19
Crit Moves:	****			****						****		
Delay/Veh:	0.0	8.5	0.0	8.0	8.0	0.0	0.0	0.0	0.0	8.5	0.0	8.5
Delay 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
AdjDel/Veh:	0.0	8.5	0.0	8.0	8.0	0.0	0.0	0.0	0.0	8.5	0.0	8.5
LOS by Move:	*	A	*	A	A	*	*	*	*	A	*	A
ApproachDel:	8.5			8.0			xxxxxx			8.5		
Delay Adj:	1.00			1.00			xxxxxx			1.00		
ApprAdjDel:	8.5			8.0			xxxxxx			8.5		
LOS by Appr:	A			A			*			A		
AllWayAvgQ:	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Ellis Street/Manila Drive

Future Volume Alternative: Peak Hour Warrant Met

```

-----|-----|-----|-----|-----|
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:          0  0  2  0  1      0  1  1  0  0      0  0  0  0  0      0  0  1!  0  0
Initial Vol:    0  225  1506      5  50      0      0  0  0      111  0  30
-----|-----|-----|-----|-----|
Major Street Volume:                1786
Minor Approach Volume:                141
Minor Approach Volume Threshold: 85 [less than minimum of 100]
-----|-----|-----|-----|-----|

```

SIGNAL WARRANT DISCLAIMER

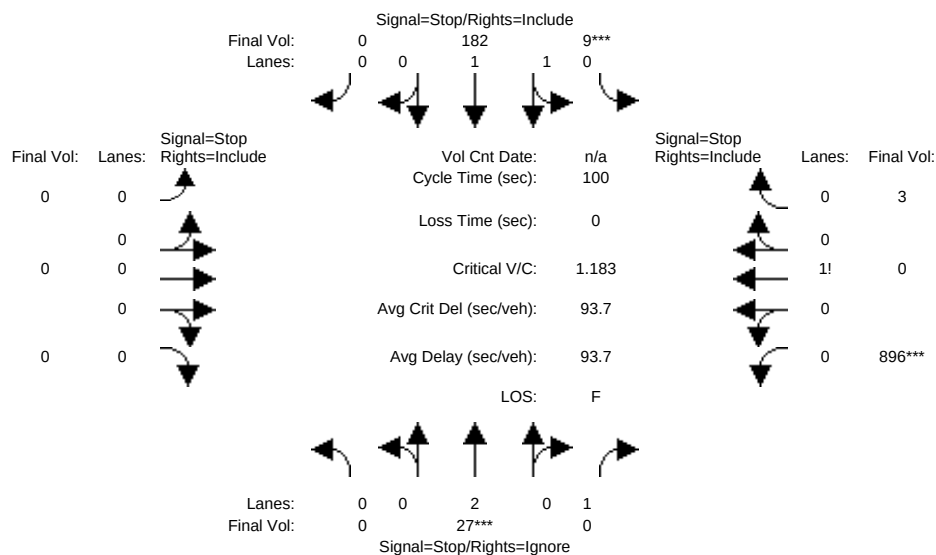
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Background Plus Project PM

Intersection #14: Ellis Street/Manila Drive



Street Name:	Ellis Street						Manila Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	27	46	9	182	0	0	0	0	314	0	3
Growth 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
Initial Bse:	0	27	46	9	182	0	0	0	0	314	0	3
Added Vol:	0	0	152	0	0	0	0	0	0	582	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	27	198	9	182	0	0	0	0	896	0	3
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	27	0	9	182	0	0	0	0	896	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	27	0	9	182	0	0	0	0	896	0	3
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	27	0	9	182	0	0	0	0	896	0	3
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.09	1.91	0.00	0.00	0.00	0.00	0.99	0.00	0.01
Final Sat.:	0	1067	595	53	1067	0	0	0	0	757	0	3
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.03	0.00	0.17	0.17	xxxx	xxxx	xxxx	xxxx	1.18	xxxx	1.18
Crit Moves:	****			****						****		
Delay/Veh:	0.0	9.6	0.0	10.5	10.4	0.0	0.0	0.0	0.0	113.9	0.0	113.9
Delay 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
AdjDel/Veh:	0.0	9.6	0.0	10.5	10.4	0.0	0.0	0.0	0.0	113.9	0.0	113.9
LOS by Move:	*	A	*	B	B	*	*	*	*	F	*	F
ApproachDel:	9.6			10.5			xxxxxx			113.9		
Delay Adj:	1.00			1.00			xxxxxx			1.00		
ApprAdjDel:	9.6			10.5			xxxxxx			113.9		
LOS by Appr:	A			B			*			F		
AllWayAvgQ:	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	22.4	22.4	22.4

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Ellis Street/Manila Drive

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	0	2	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0
Initial Vol:	0		27		198	9		182		0	0		0		0	896		0		3

Major Street Volume: 899
 Minor Approach Volume: 225
 Minor Approach Volume Threshold: 326

SIGNAL WARRANT DISCLAIMER

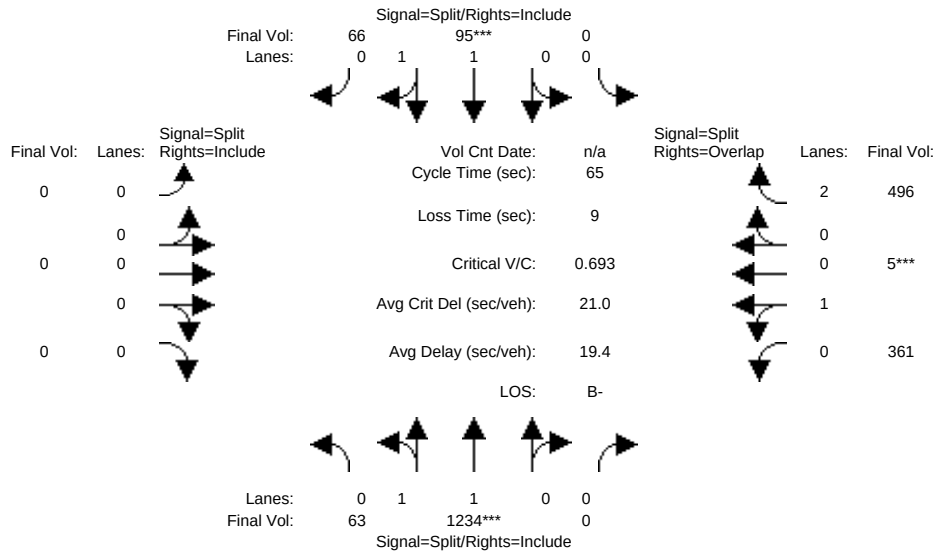
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #15: Ellis Street/US-101 Northbound Ramps

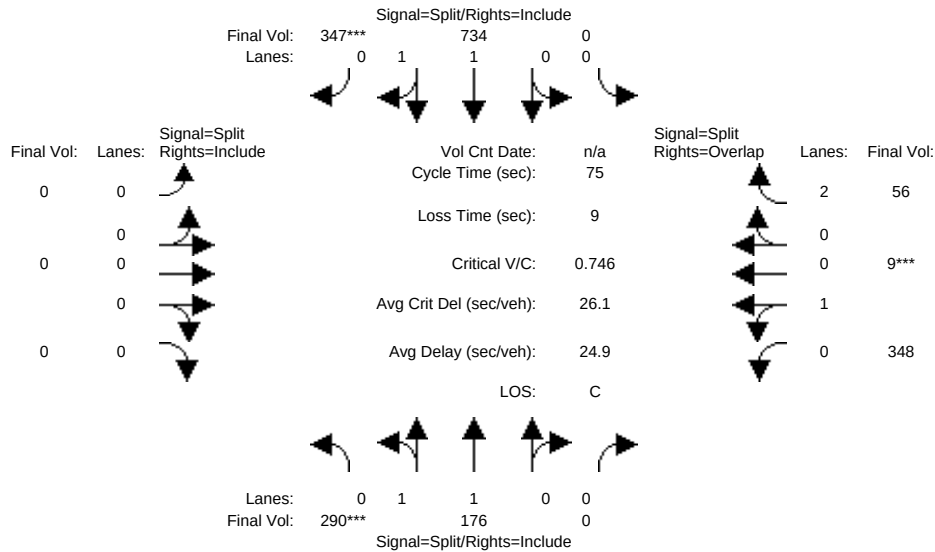


Street Name:	Ellis Street						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	63	453	0	0	56	46	0	0	0	345	5	132
Growth 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
Initial Bse:	63	453	0	0	56	46	0	0	0	345	5	132
Added Vol:	0	781	0	0	39	20	0	0	0	16	0	364
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	63	1234	0	0	95	66	0	0	0	361	5	496
User 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
PHF 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
PHF Volume:	63	1234	0	0	95	66	0	0	0	361	5	496
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	1234	0	0	95	66	0	0	0	361	5	496
PCE 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
MLF 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
Final Volume:	63	1234	0	0	95	66	0	0	0	361	5	496
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.92	0.92	0.99	0.95	0.92	1.00	0.92	0.95	0.95	0.83
Lanes:	0.10	1.90	0.00	0.00	1.16	0.84	0.00	0.00	0.00	0.99	0.01	2.00
Final Sat.:	180	3520	0	0	2182	1516	0	0	0	1775	25	3150
Capacity Analysis Module:												
Vol/Sat:	0.35	0.35	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.20	0.20	0.16
Crit Moves:	****			****			****			****		
Green Time:	29.1	29.1	0.0	0.0	10.0	10.0	0.0	0.0	0.0	16.9	16.9	26.9
Volume/Cap:	0.78	0.78	0.00	0.00	0.28	0.28	0.00	0.00	0.00	0.78	0.78	0.38
Delay/Veh:	17.8	17.8	0.0	0.0	24.6	24.6	0.0	0.0	0.0	30.7	30.7	13.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.8	17.8	0.0	0.0	24.6	24.6	0.0	0.0	0.0	30.7	30.7	13.4
LOS by Move:	B	B	A	A	C	C	A	A	A	C	C	B
HCM2kAvgQ:	11	11	0	0	2	2	0	0	0	9	9	4
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #15: Ellis Street/US-101 Northbound Ramps



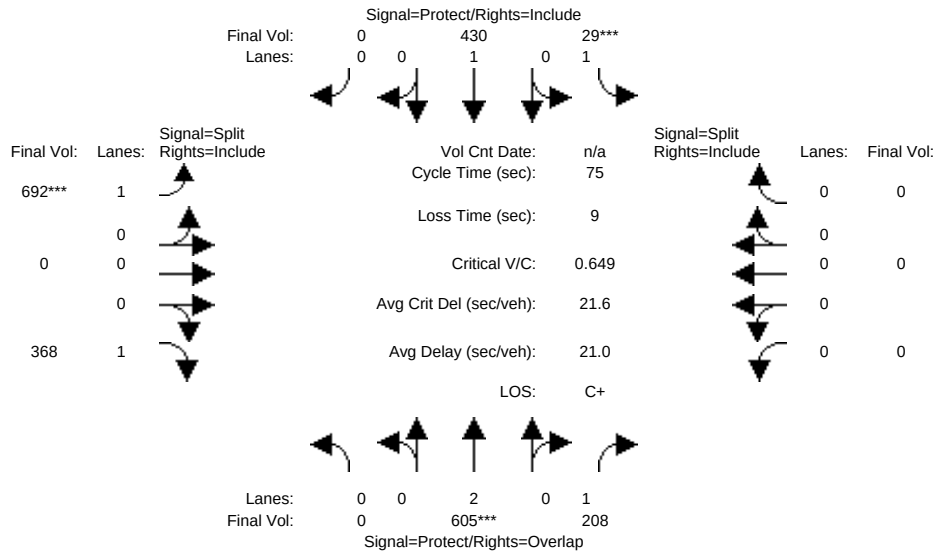
Street Name:	Ellis Street						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	290	61	0	0	337	162	0	0	0	257	9	19
Growth 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
Initial Bse:	290	61	0	0	337	162	0	0	0	257	9	19
Added Vol:	0	115	0	0	397	185	0	0	0	91	0	37
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	290	176	0	0	734	347	0	0	0	348	9	56
User 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
PHF 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
PHF Volume:	290	176	0	0	734	347	0	0	0	348	9	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	290	176	0	0	734	347	0	0	0	348	9	56
PCE 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
MLF 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
Final Volume:	290	176	0	0	734	347	0	0	0	348	9	56
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.92	1.00	0.92	0.95	0.95	0.83
Lanes:	1.00	1.00	0.00	0.00	1.34	0.66	0.00	0.00	0.00	0.97	0.03	2.00
Final Sat.:	1750	1900	0	0	2511	1187	0	0	0	1755	45	3150
Capacity Analysis Module:												
Vol/Sat:	0.17	0.09	0.00	0.00	0.29	0.29	0.00	0.00	0.00	0.20	0.20	0.02
Crit Moves:	***					***					***	
Green Time:	16.7	16.7	0.0	0.0	29.4	29.4	0.0	0.0	0.0	19.9	19.9	49.3
Volume/Cap:	0.75	0.42	0.00	0.00	0.75	0.75	0.00	0.00	0.00	0.75	0.75	0.03
Uniform Del:	27.2	25.0	0.0	0.0	19.6	19.6	0.0	0.0	0.0	25.2	25.2	4.5
IncrementDel:	4.9	0.3	0.0	0.0	2.2	2.2	0.0	0.0	0.0	6.3	6.3	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	32.1	25.3	0.0	0.0	21.8	21.8	0.0	0.0	0.0	31.5	31.5	4.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.1	25.3	0.0	0.0	21.8	21.8	0.0	0.0	0.0	31.5	31.5	4.5
LOS by Move:	C-	C		A	C+	C+	A	A	A	C	C	A
HCM2kAvgQ:	7	3	0	0	13	13	0	0	0	10	10	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #16: Ellis Street/US-101 Southbound Ramps

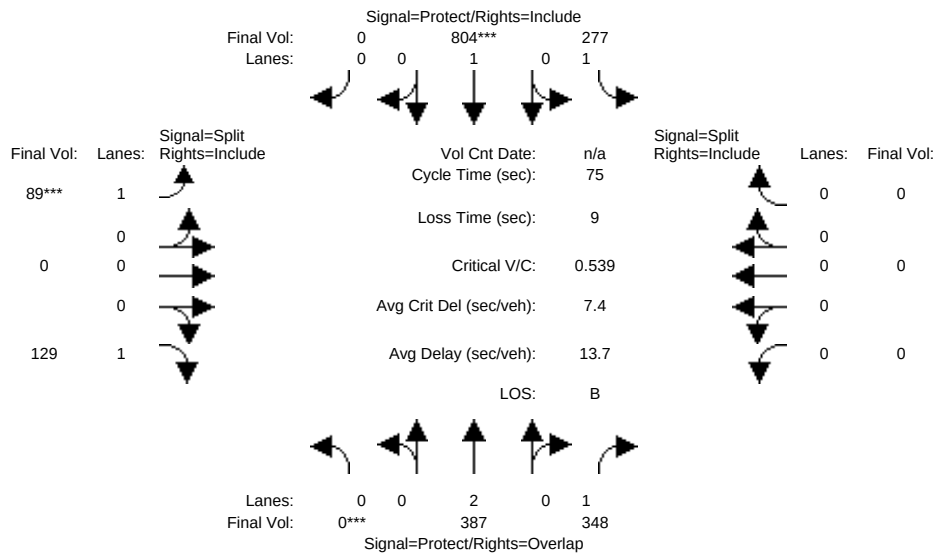


Street Name:	Ellis Street						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	265	154	14	390	0	251	0	368	0	0	0
Growth 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
Initial Bse:	0	265	154	14	390	0	251	0	368	0	0	0
Added Vol:	0	340	54	15	40	0	441	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	605	208	29	430	0	692	0	368	0	0	0
User 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
PHF 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
PHF Volume:	0	605	208	29	430	0	692	0	368	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	605	208	29	430	0	692	0	368	0	0	0
PCE 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
MLF 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
Final Volume:	0	605	208	29	430	0	692	0	368	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	1750	1750	1900	0	1750	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.16	0.12	0.02	0.23	0.00	0.40	0.00	0.21	0.00	0.00	0.00
Crit Moves:	****			****			****			****		
Green Time:	0.0	16.9	16.9	7.0	23.9	0.0	42.1	0.0	42.1	0.0	0.0	0.0
Volume/Cap:	0.00	0.71	0.53	0.18	0.71	0.00	0.71	0.00	0.37	0.00	0.00	0.00
Delay/Veh:	0.0	29.4	26.8	31.9	26.4	0.0	14.3	0.0	9.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	29.4	26.8	31.9	26.4	0.0	14.3	0.0	9.4	0.0	0.0	0.0
LOS by Move:	A	C	C	C	C	A	B	A	A	A	A	A
HCM2kAvgQ:	0	7	5	1	9	0	14	0	5	0	0	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #16: Ellis Street/US-101 Southbound Ramps



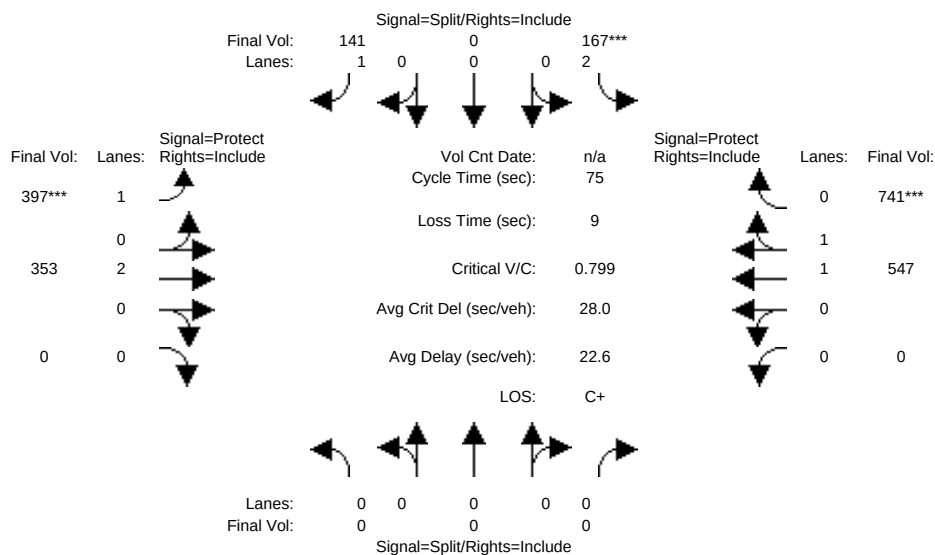
Street Name:	Ellis Street						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	339	338	119	474	0	22	0	129	0	0	0
Growth 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
Initial Bse:	0	339	338	119	474	0	22	0	129	0	0	0
Added Vol:	0	48	10	158	330	0	67	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	387	348	277	804	0	89	0	129	0	0	0
User 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
PHF 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
PHF Volume:	0	387	348	277	804	0	89	0	129	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	387	348	277	804	0	89	0	129	0	0	0
PCE 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
MLF 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
Final Volume:	0	387	348	277	804	0	89	0	129	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	1750	1750	1900	0	1750	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.10	0.20	0.16	0.42	0.00	0.05	0.00	0.07	0.00	0.00	0.00
Crit Moves:	****			****			****					
Green Time:	0.0	31.0	31.0	24.7	55.7	0.0	10.3	0.0	10.3	0.0	0.0	0.0
Volume/Cap:	0.00	0.25	0.48	0.48	0.57	0.00	0.37	0.00	0.54	0.00	0.00	0.00
Uniform Del:	0.0	14.3	16.1	20.0	4.3	0.0	29.4	0.0	30.2	0.0	0.0	0.0
IncrementDel:	0.0	0.1	0.5	0.6	0.6	0.0	1.0	0.0	2.4	0.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	0.0	14.4	16.6	20.7	4.8	0.0	30.4	0.0	32.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.4	16.6	20.7	4.8	0.0	30.4	0.0	32.6	0.0	0.0	0.0
LOS by Move:	A	B	B	C+	A	A	C	A	C-	A	A	A
HCM2kAvgQ:	0	3	6	5	8	0	2	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #17: Ellis Street/Middlefield Road

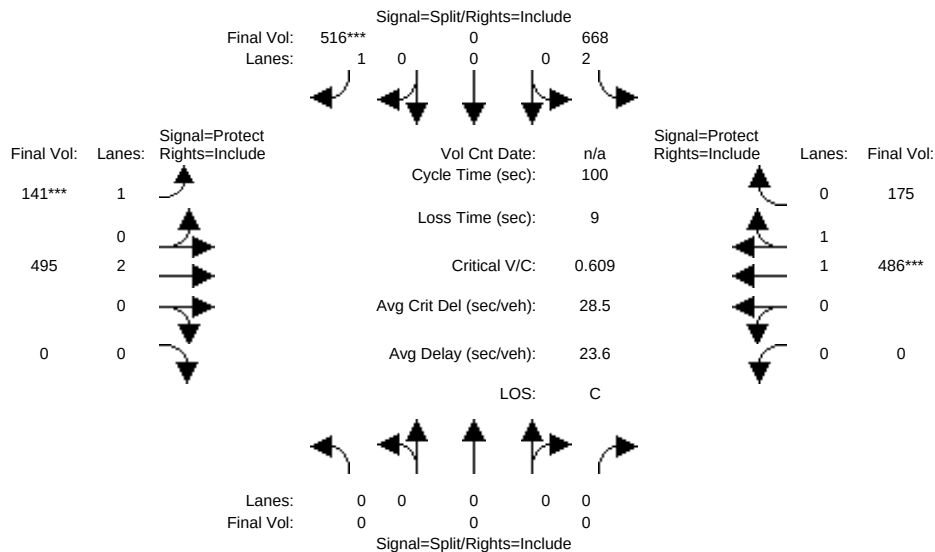


Street Name:	Ellis Street						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	-	T	-	R		L	-	T	-	R	
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	150	0	118	194	326	0	0	540	550
Growth 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
Initial Bse:	0	0	0	150	0	118	194	326	0	0	540	550
Added Vol:	0	0	0	17	0	23	203	27	0	0	7	191
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	167	0	141	397	353	0	0	547	741
User 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
PHF 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
PHF Volume:	0	0	0	167	0	141	397	353	0	0	547	741
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	167	0	141	397	353	0	0	547	741
PCE 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
MLF 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
Final Volume:	0	0	0	167	0	141	397	353	0	0	547	741
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	3150	0	1750	1750	3800	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.08	0.23	0.09	0.00	0.00	0.29	0.42
Crit Moves:				****			****			****		
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	19.5	56.0	0.0	0.0	36.5	36.5
Volume/Cap:	0.00	0.00	0.00	0.40	0.00	0.60	0.87	0.12	0.00	0.00	0.59	0.87
Delay/Veh:	0.0	0.0	0.0	30.4	0.0	35.1	43.0	2.7	0.0	0.0	14.3	23.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	30.4	0.0	35.1	43.0	2.7	0.0	0.0	14.3	23.1
LOS by Move:	A	A	A	C	A	D+	D	A	A	A	B	C
HCM2kAvgQ:	0	0	0	2	0	3	13	1	0	0	9	18
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #17: Ellis Street/Middlefield Road



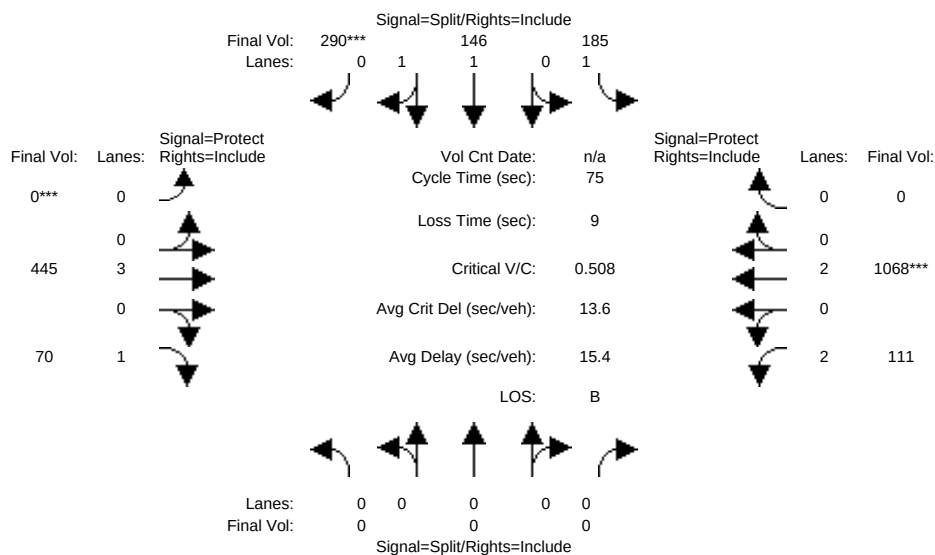
Street Name:	Ellis Street						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	510	0	344	111	490	0	0	447	147
Growth 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
Initial Bse:	0	0	0	510	0	344	111	490	0	0	447	147
Added Vol:	0	0	0	158	0	172	30	5	0	0	39	28
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	668	0	516	141	495	0	0	486	175
User 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
PHF 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
PHF Volume:	0	0	0	668	0	516	141	495	0	0	486	175
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	668	0	516	141	495	0	0	486	175
PCE 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
MLF 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
Final Volume:	0	0	0	668	0	516	141	495	0	0	486	175
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	1.46	0.54
Final Sat.:	0	0	0	3150	0	1750	1750	3800	0	0	2720	979
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.21	0.00	0.29	0.08	0.13	0.00	0.00	0.18	0.18
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	48.4	0.0	48.4	13.2	42.6	0.0	0.0	29.3	29.3
Volume/Cap:	0.00	0.00	0.00	0.44	0.00	0.61	0.61	0.31	0.00	0.00	0.61	0.61
Uniform Del:	0.0	0.0	0.0	16.9	0.0	18.9	40.9	19.0	0.0	0.0	30.4	30.4
IncrementDel:	0.0	0.0	0.0	0.2	0.0	1.3	4.6	0.1	0.0	0.0	1.0	1.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	17.1	0.0	20.2	45.6	19.1	0.0	0.0	31.4	31.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	17.1	0.0	20.2	45.6	19.1	0.0	0.0	31.4	31.4
LOS by Move:	A	A	A	B	A	C+	D	B-	A	A	C	C
HCM2kAvgQ:	0	0	0	8	0	12	5	5	0	0	9	9

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #18: Middlefield Road/SR-237 Westbound On-Ramp

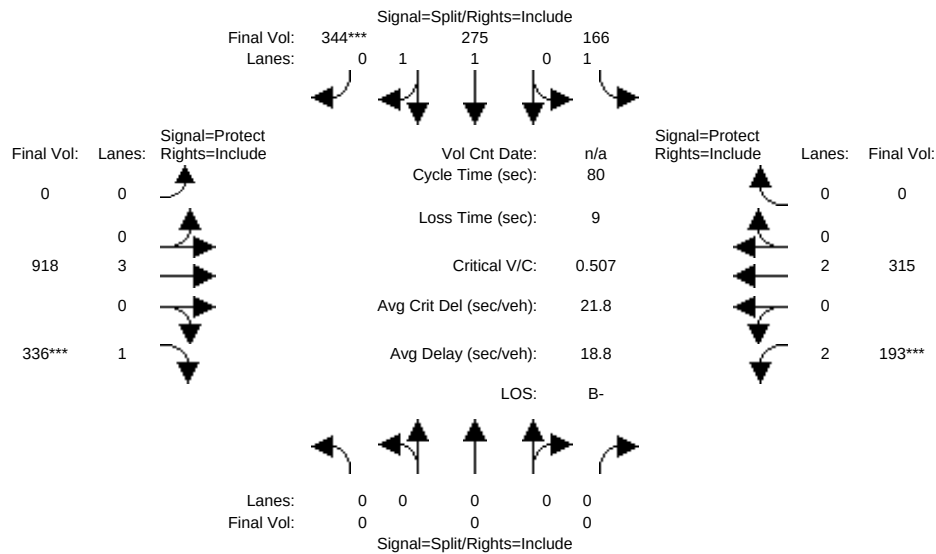


Street Name:	SR-237 Westbound On-Ramp						Middlefield Road								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0			
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Volume Module:															
Base Vol:	0	0	0	185	146	283	0	418	53	111	877	0			
Growth 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			
Initial Bse:	0	0	0	185	146	283	0	418	53	111	877	0			
Added Vol:	0	0	0	0	0	7	0	27	17	0	191	0			
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0			
Initial Fut:	0	0	0	185	146	290	0	445	70	111	1068	0			
User 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			
PHF 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			
PHF Volume:	0	0	0	185	146	290	0	445	70	111	1068	0			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	0	0	0	185	146	290	0	445	70	111	1068	0			
PCE 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			
MLF 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			
FinalVolume:	0	0	0	185	146	290	0	445	70	111	1068	0			
Saturation Flow Module:															
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92			
Lanes:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	3.00	1.00	2.00	2.00	0.00			
Final Sat.:	0	0	0	1750	1900	1750	0	5700	1750	3150	3800	0			
Capacity Analysis Module:															
Vol/Sat:	0.00	0.00	0.00	0.11	0.08	0.17	0.00	0.08	0.04	0.04	0.28	0.00			
Crit Moves:						****	****				****				
Green Time:	0.0	0.0	0.0	24.5	24.5	24.5	0.0	24.4	24.4	17.1	41.5	0.0			
Volume/Cap:	0.00	0.00	0.00	0.32	0.24	0.51	0.00	0.24	0.12	0.15	0.51	0.00			
Delay/Veh:	0.0	0.0	0.0	19.4	18.5	20.9	0.0	18.6	17.9	23.3	10.6	0.0			
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
AdjDel/Veh:	0.0	0.0	0.0	19.4	18.5	20.9	0.0	18.6	17.9	23.3	10.6	0.0			
LOS by Move:	A	A	A	B-	B-	C+	A	B-	B	C	B+	A			
HCM2kAvgQ:	0	0	0	4	3	6	0	2	1	1	8	0			
Note: Queue reported is the number of cars per lane.															

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #18: Middlefield Road/SR-237 Westbound On-Ramp



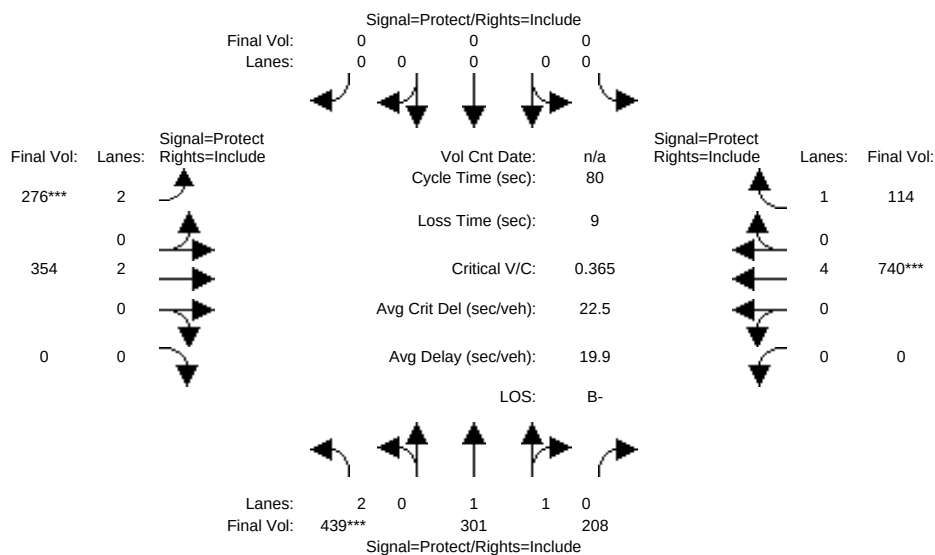
Street Name:	SR-237 Westbound On-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	166	275	305	0	913	178	193	287	0
Growth 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
Initial Bse:	0	0	0	166	275	305	0	913	178	193	287	0
Added Vol:	0	0	0	0	0	39	0	5	158	0	28	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	166	275	344	0	918	336	193	315	0
User 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
PHF 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
PHF Volume:	0	0	0	166	275	344	0	918	336	193	315	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	166	275	344	0	918	336	193	315	0
PCE 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
MLF 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
Final Volume:	0	0	0	166	275	344	0	918	336	193	315	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	3.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	1750	1900	1750	0	5700	1750	3150	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.09	0.14	0.20	0.00	0.16	0.19	0.06	0.08	0.00
Crit Moves:						****			****	****		
Green Time:	0.0	0.0	0.0	31.0	31.0	31.0	0.0	30.3	30.3	9.7	40.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.24	0.37	0.51	0.00	0.43	0.51	0.51	0.17	0.00
Uniform Del:	0.0	0.0	0.0	16.6	17.5	18.7	0.0	18.4	19.1	32.9	10.9	0.0
IncramntDel:	0.0	0.0	0.0	0.2	0.1	0.3	0.0	0.1	0.6	1.1	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	0.0	0.0	0.0	16.8	17.7	19.0	0.0	18.5	19.7	34.0	11.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.8	17.7	19.0	0.0	18.5	19.7	34.0	11.0	0.0
LOS by Move:	A	A	A	B	B	B-	A	B-	B-	C-	B+	A
HCM2kAvgQ:	0	0	0	3	5	7	0	5	7	3	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #19: Middlefield Road/SR-237 Eastbound Off-Ramp

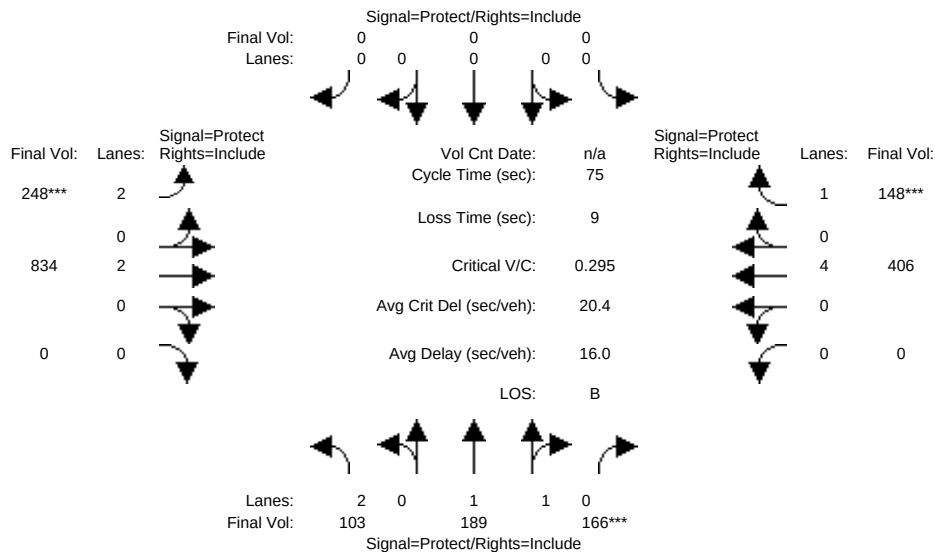


Street Name:	SR-237 Eastbound Off-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	248	301	208	0	0	0	276	327	0	0	740	114
Growth 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
Initial Bse:	248	301	208	0	0	0	276	327	0	0	740	114
Added Vol:	191	0	0	0	0	0	0	27	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	439	301	208	0	0	0	276	354	0	0	740	114
User 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
PHF 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
PHF Volume:	439	301	208	0	0	0	276	354	0	0	740	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	439	301	208	0	0	0	276	354	0	0	740	114
PCE 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
MLF 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
Final Volume:	439	301	208	0	0	0	276	354	0	0	740	114
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.16	0.84	0.00	0.00	0.00	2.00	2.00	0.00	0.00	4.00	1.00
Final Sat.:	3150	2187	1511	0	0	0	3150	3800	0	0	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.14	0.00	0.00	0.00	0.09	0.09	0.00	0.00	0.10	0.07
Crit Moves:	****						****				****	
Green Time:	30.5	30.5	30.5	0.0	0.0	0.0	19.2	40.5	0.0	0.0	21.3	21.3
Volume/Cap:	0.37	0.36	0.36	0.00	0.00	0.00	0.37	0.18	0.00	0.00	0.37	0.24
Delay/Veh:	18.0	17.9	17.9	0.0	0.0	0.0	25.6	10.8	0.0	0.0	24.0	23.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.0	17.9	17.9	0.0	0.0	0.0	25.6	10.8	0.0	0.0	24.0	23.3
LOS by Move:	B	B	B	A	A	A	C	B+	A	A	C	C
HCM2kAvgQ:	5	5	5	0	0	0	3	2	0	0	4	2
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #19: Middlefield Road/SR-237 Eastbound Off-Ramp



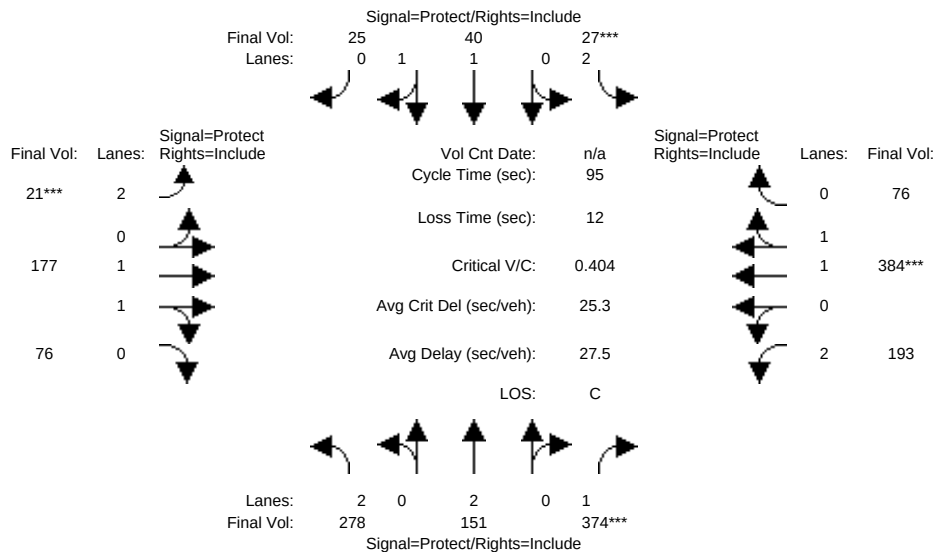
Street Name:	SR-237 Eastbound Off-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	75	189	166	0	0	0	248	829	0	0	406	148
Growth 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
Initial Bse:	75	189	166	0	0	0	248	829	0	0	406	148
Added Vol:	28	0	0	0	0	0	0	5	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	189	166	0	0	0	248	834	0	0	406	148
User 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
PHF 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
PHF Volume:	103	189	166	0	0	0	248	834	0	0	406	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	189	166	0	0	0	248	834	0	0	406	148
PCE 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
MLF 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
Final Volume:	103	189	166	0	0	0	248	834	0	0	406	148
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.95	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.04	0.96	0.00	0.00	0.00	2.00	2.00	0.00	0.00	4.00	1.00
Final Sat.:	3150	1969	1729	0	0	0	3150	3800	0	0	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.10	0.00	0.00	0.00	0.08	0.22	0.00	0.00	0.05	0.08
Crit Moves:			****				****					****
Green Time:	24.4	24.4	24.4	0.0	0.0	0.0	20.0	41.6	0.0	0.0	21.5	21.5
Volume/Cap:	0.10	0.29	0.29	0.00	0.00	0.00	0.29	0.40	0.00	0.00	0.19	0.29
Uniform Del:	17.6	18.9	18.9	0.0	0.0	0.0	21.9	9.5	0.0	0.0	20.1	20.8
IncrementDel:	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	17.7	19.0	19.0	0.0	0.0	0.0	22.1	9.7	0.0	0.0	20.2	21.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.7	19.0	19.0	0.0	0.0	0.0	22.1	9.7	0.0	0.0	20.2	21.2
LOS by Move:	B	B-	B-	A	A	A	C+	A	A	A	C+	C+
HCM2kAvgQ:	1	3	3	0	0	0	3	5	0	0	2	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project AM

Intersection #20: Mary Avenue/Maude Avenue

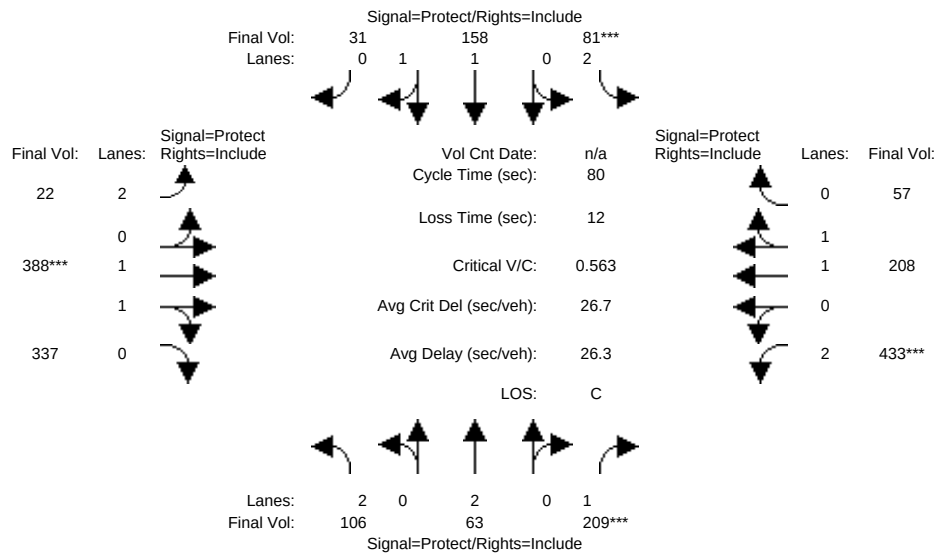


Street Name: Mary Avenue												
Approach: North Bound						Maude Avenue						
Movement:			Movement:			East Bound			West Bound			
L	T	R	L	T	R	L	T	R	L	T	R	
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	278	151	170	27	40	25	21	177	76	150	384	76
Growth 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
Initial Bse:	278	151	170	27	40	25	21	177	76	150	384	76
Added Vol:	0	0	204	0	0	0	0	0	0	43	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	278	151	374	27	40	25	21	177	76	193	384	76
User 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
PHF 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
PHF Volume:	278	151	374	27	40	25	21	177	76	193	384	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	278	151	374	27	40	25	21	177	76	193	384	76
PCE 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
MLF 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
Final Volume:	278	151	374	27	40	25	21	177	76	193	384	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.83	0.98	0.95	0.83	0.98	0.95
Lanes:	2.00	2.00	1.00	2.00	1.21	0.79	2.00	1.38	0.62	2.00	1.66	0.34
Final Sat.:	3150	3800	1750	3150	2276	1422	3150	2588	1111	3150	3088	611
Capacity Analysis Module:												
Vol/Sat:	0.09	0.04	0.21	0.01	0.02	0.02	0.01	0.07	0.07	0.06	0.12	0.12
Crit Moves:			****				****				****	
Green Time:	23.1	43.6	43.6	7.0	27.5	27.5	7.0	19.0	19.0	13.3	25.4	25.4
Volume/Cap:	0.36	0.09	0.47	0.12	0.06	0.06	0.09	0.34	0.34	0.44	0.47	0.47
Delay/Veh:	30.1	14.5	18.1	41.3	24.4	24.4	41.2	32.9	32.9	38.1	29.5	29.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.1	14.5	18.1	41.3	24.4	24.4	41.2	32.9	32.9	38.1	29.5	29.5
LOS by Move:	C	B	B-	D	C	C	D	C-	C-	D+	C	C
HCM2kAvgQ:	4	1	8	1	1	1	0	3	3	3	5	5
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background Plus Project PM

Intersection #20: Mary Avenue/Maude Avenue



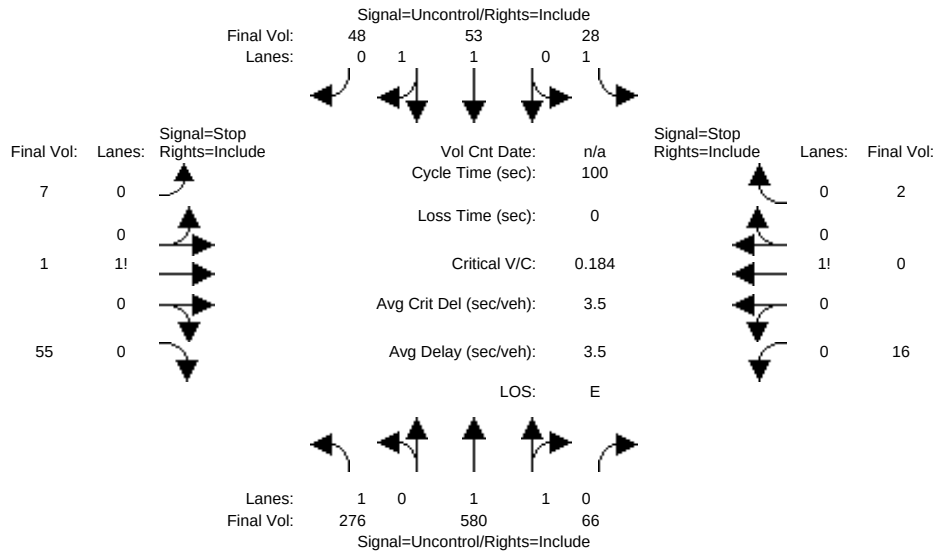
Street Name:	Mary Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	106	63	154	81	158	31	22	388	337	237	208	57
Growth 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
Initial Bse:	106	63	154	81	158	31	22	388	337	237	208	57
Added Vol:	0	0	55	0	0	0	0	0	0	196	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	106	63	209	81	158	31	22	388	337	433	208	57
User 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
PHF 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
PHF Volume:	106	63	209	81	158	31	22	388	337	433	208	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	63	209	81	158	31	22	388	337	433	208	57
PCE 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
MLF 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
Final Volume:	106	63	209	81	158	31	22	388	337	433	208	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.95	0.83	0.98	0.95
Lanes:	2.00	2.00	1.00	2.00	1.66	0.34	2.00	1.05	0.95	2.00	1.56	0.44
Final Sat.:	3150	3800	1750	3150	3093	607	3150	1979	1719	3150	2904	796
Capacity Analysis Module:												
Vol/Sat:	0.03	0.02	0.12	0.03	0.05	0.05	0.01	0.20	0.20	0.14	0.07	0.07
Crit Moves:			****			****			****			****
Green Time:	9.5	16.1	16.1	7.0	13.6	13.6	18.5	26.4	26.4	18.5	26.4	26.4
Volume/Cap:	0.28	0.08	0.59	0.29	0.30	0.30	0.03	0.59	0.59	0.59	0.22	0.22
Uniform Del:	32.1	26.0	29.0	34.2	29.1	29.1	23.8	22.3	22.3	27.4	19.3	19.3
IncrementDel:	0.4	0.0	2.7	0.6	0.3	0.3	0.0	0.8	0.8	1.3	0.1	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	32.6	26.0	31.7	34.8	29.3	29.3	23.8	23.1	23.1	28.7	19.4	19.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.6	26.0	31.7	34.8	29.3	29.3	23.8	23.1	23.1	28.7	19.4	19.4
LOS by Move:	C-	C	C	C-	C	C	C	C	C	C	B-	B-
HCM2kAvgQ:	2	1	6	1	2	2	0	8	8	6	2	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Background Plus Project AM

Intersection #21: Innovation Way/Site Access



Street Name:	Innovation Way						Site Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	163	88	0	0	13	1	3	1	37	0	0	0
Growth 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
Initial Bse:	163	88	0	0	13	1	3	1	37	0	0	0
Added Vol:	113	492	66	28	40	47	4	0	18	16	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	276	580	66	28	53	48	7	1	55	16	0	2
User 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
PHF 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
PHF Volume:	276	580	66	28	53	48	7	1	55	16	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	276	580	66	28	53	48	7	1	55	16	0	2
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflct Vol:	101	xxxx	xxxxx	646	xxxx	xxxxx	975	1331	51	1248	1322	323
Potent Cap.:	1504	xxxx	xxxxx	949	xxxx	xxxxx	209	156	1013	132	158	679
Move Cap.:	1504	xxxx	xxxxx	949	xxxx	xxxxx	175	124	1013	104	125	679
Volume/Cap:	0.18	xxxx	xxxx	0.03	xxxx	xxxx	0.04	0.01	0.05	0.15	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.7	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	8.9	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	615	xxxxx	xxxx	115	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	0.5	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.5	xxxxx	xxxxx	42.0	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	E	*
ApproachDel:	xxxxxx			xxxxxx			11.5			42.0		
ApproachLOS:	*			*			B			E		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	276	580			66	28	53			48	7	1			55	16	0			2
ApproachDel:	xxxxxx				xxxxxx				11.5				42.0							

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=63]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1132]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=18]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1132]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

 Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	276	580			66	28	53			48	7	1			55	16	0			2

Major Street Volume: 1051

Minor Approach Volume: 63

Minor Approach Volume Threshold: 268

SIGNAL WARRANT DISCLAIMER

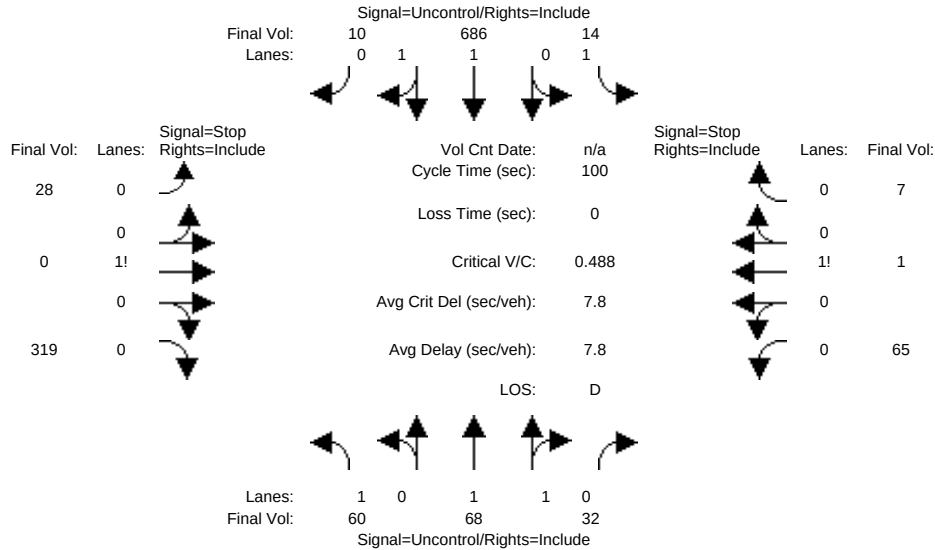
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Background Plus Project PM

Intersection #21: Innovation Way/Site Access



Street Name:	Innovation Way						Site Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	36	20	0	0	245	0	1	0	177	0	1	0
Growth 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
Initial Bse:	36	20	0	0	245	0	1	0	177	0	1	0
Added Vol:	24	48	32	14	441	10	27	0	142	65	0	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	60	68	32	14	686	10	28	0	319	65	1	7
User 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
PHF 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
PHF Volume:	60	68	32	14	686	10	28	0	319	65	1	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	60	68	32	14	686	10	28	0	319	65	1	7
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflct Vol:	696	xxxx	xxxxx	100	xxxx	xxxxx	874	939	348	575	928	50
Potent Cap.:	909	xxxx	xxxxx	1505	xxxx	xxxxx	247	266	654	405	270	1014
Move Cap.:	909	xxxx	xxxxx	1505	xxxx	xxxxx	231	246	654	196	250	1014
Volume/Cap:	0.07	xxxx	xxxx	0.01	xxxx	xxxx	0.12	0.00	0.49	0.33	0.00	0.01
Level Of Service Module:												
2Way95thQ:	0.2	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	9.2	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	570	xxxxx	xxxx	213	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	4.1	xxxxx	xxxxx	1.4	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	20.7	xxxxx	xxxxx	30.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			20.7			30.5		
ApproachLOS:	*			*			C			D		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=2.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=347]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1290]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.6]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=73]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1290]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1!	0	0	0	0	1!	0	0
Initial Vol:	60		68		32	14		686		10	28		0		319	65		1		7

Major Street Volume: 870

Minor Approach Volume: 347

Minor Approach Volume Threshold: 333

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

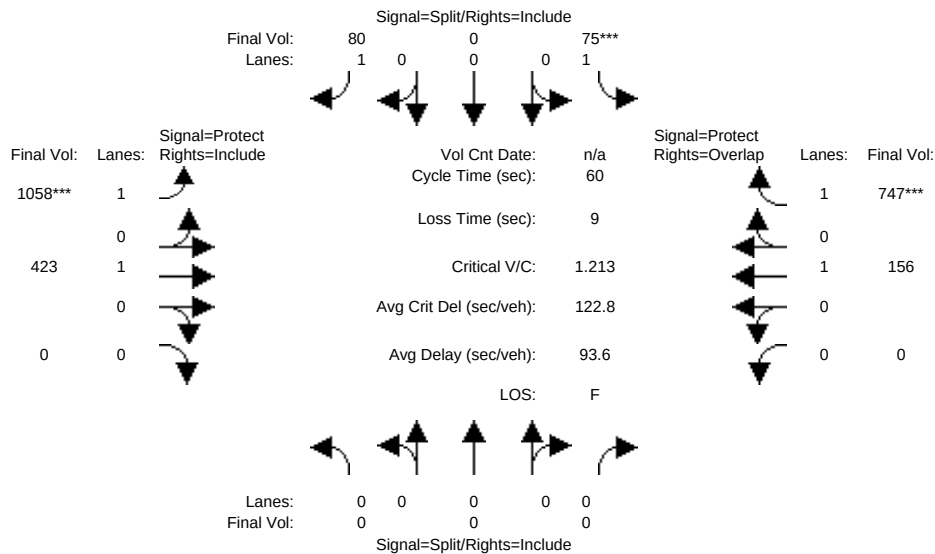
The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Appendix F – Level of Service Worksheets: Cumulative Conditions

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #1: Enterprise Way/Moffett Park Drive

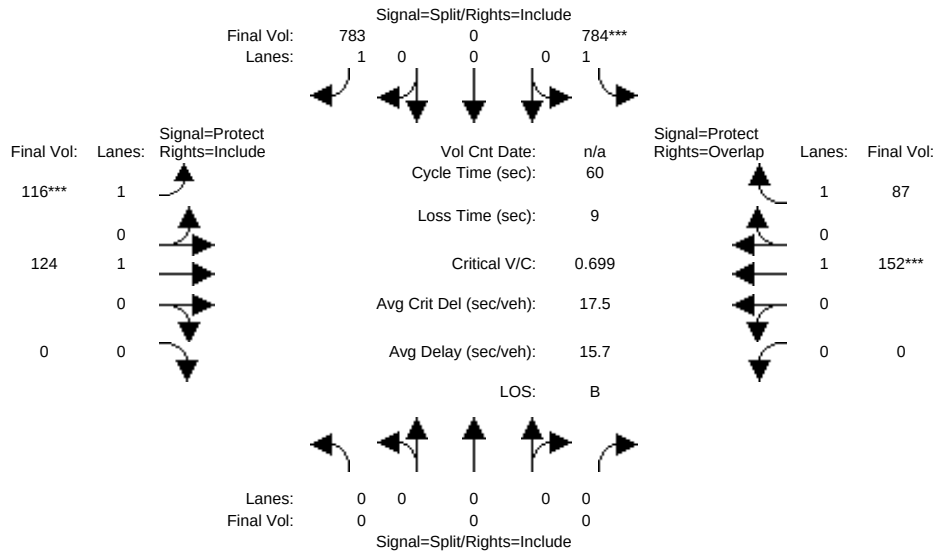


Street Name:	Enterprise Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	30	0	30	238	114	0	0	152	262
Growth 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
Initial Bse:	0	0	0	30	0	30	238	114	0	0	152	262
Added Vol:	0	0	0	45	0	50	820	309	0	0	4	485
Yahoo_NetAp:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	75	0	80	1058	423	0	0	156	747
User 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
PHF 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
PHF Volume:	0	0	0	75	0	80	1058	423	0	0	156	747
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	75	0	80	1058	423	0	0	156	747
PCE 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
MLF 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
Final Volume:	0	0	0	75	0	80	1058	423	0	0	156	747
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.04	0.00	0.05	0.60	0.22	0.00	0.00	0.08	0.43
Crit Moves:				****			****					****
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	28.7	41.0	0.0	0.0	12.3	22.3
Volume/Cap:	0.00	0.00	0.00	0.26	0.00	0.27	1.27	0.33	0.00	0.00	0.40	1.15
Delay/Veh:	0.0	0.0	0.0	22.2	0.0	22.3	144.7	4.0	0.0	0.0	21.3	102.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.2	0.0	22.3	144.7	4.0	0.0	0.0	21.3	102.0
LOS by Move:	A	A	A	C+	A	C+	F	A	A	A	C+	F
HCM2kAvgQ:	0	0	0	2	0	2	53	3	0	0	2	29
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #1: Enterprise Way/Moffett Park Drive



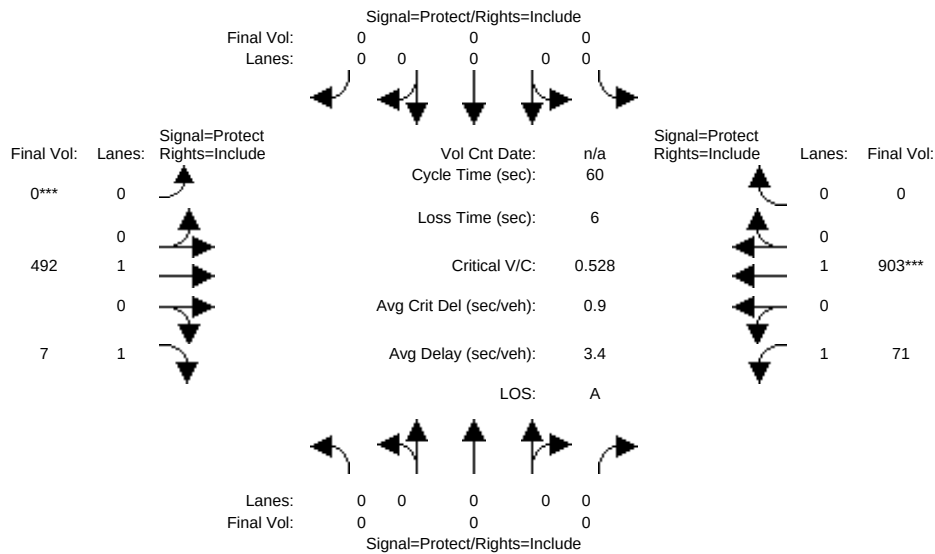
Street Name:	Enterprise Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	280	0	238	34	66	0	0	124	42
Growth 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
Initial Bse:	0	0	0	280	0	238	34	66	0	0	124	42
Added Vol:	0	0	0	504	0	545	82	58	0	0	28	45
Yahoo_NetAp:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	784	0	783	116	124	0	0	152	87
User 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
PHF 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
PHF Volume:	0	0	0	784	0	783	116	124	0	0	152	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	784	0	783	116	124	0	0	152	87
PCE 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
MLF 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
Final Volume:	0	0	0	784	0	783	116	124	0	0	152	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.45	0.00	0.45	0.07	0.07	0.00	0.00	0.08	0.05
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	34.0	0.0	34.0	7.0	17.0	0.0	0.0	10.0	44.0
Volume/Cap:	0.00	0.00	0.00	0.79	0.00	0.79	0.57	0.23	0.00	0.00	0.48	0.07
Uniform Del:	0.0	0.0	0.0	10.2	0.0	10.2	25.1	16.5	0.0	0.0	22.6	2.2
IncrementDel:	0.0	0.0	0.0	4.4	0.0	4.3	3.7	0.2	0.0	0.0	1.1	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	14.6	0.0	14.5	28.8	16.7	0.0	0.0	23.8	2.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	14.6	0.0	14.5	28.8	16.7	0.0	0.0	23.8	2.3
LOS by Move:	A	A	A	B	A	B	C	B	A	A	C	A
HCM2kAvgQ:	0	0	0	15	0	14	3	2	0	0	3	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #2: US-101 NB On-Ramp/Moffett Park Drive

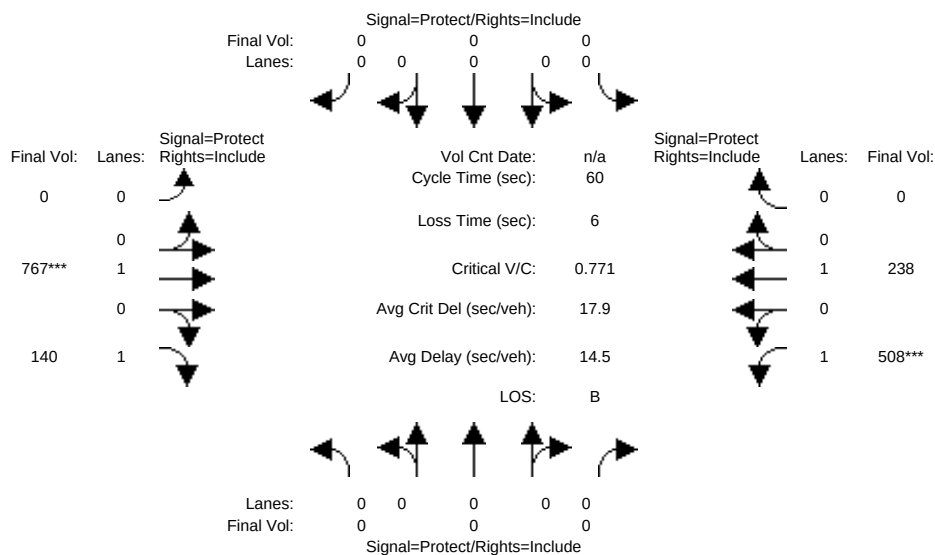


Street Name:	US-101 NB On-Ramp						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	143	1	15	414	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	143	1	15	414	0
Added Vol:	0	0	0	0	0	0	0	349	6	56	489	0
Yahoo_NetAp:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	492	7	71	903	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	0	0	492	7	71	903	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	492	7	71	903	0
PCE 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
MLF 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
Final Volume:	0	0	0	0	0	0	0	492	7	71	903	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	0	0	0	0	1900	1750	1750	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.04	0.48	0.00
Crit Moves:							****					
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.2	37.2	16.8	54.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.01	0.15	0.53	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	4.3	16.4	0.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	4.3	16.4	0.9	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	B	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	5	0	1	4	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #2: US-101 NB On-Ramp/Moffett Park Drive



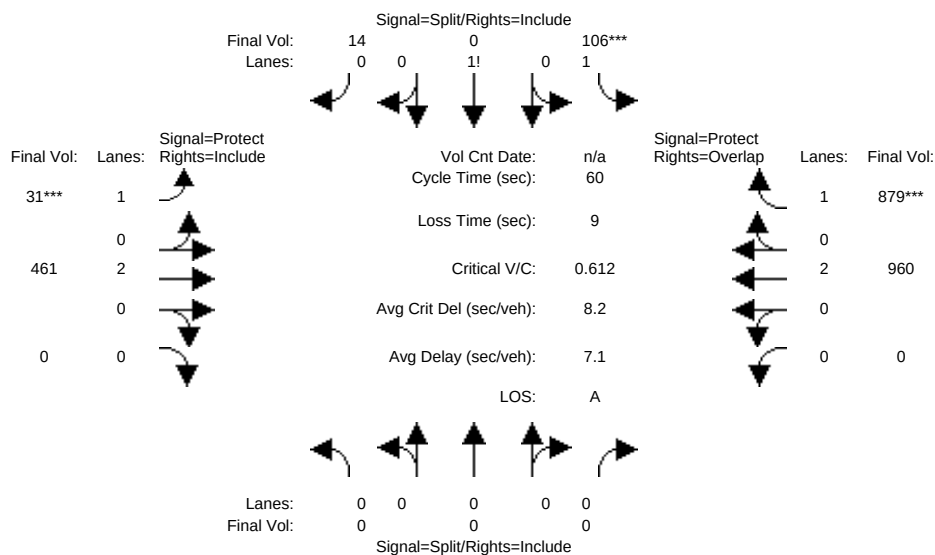
Street Name:	US-101 NB On-Ramp						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	271	75	186	165	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	271	75	186	165	0
Added Vol:	0	0	0	0	0	0	0	496	65	322	73	0
Yahoo_NetAp:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	767	140	508	238	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	0	0	767	140	508	238	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	767	140	508	238	0
PCE 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
MLF 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
Final Volume:	0	0	0	0	0	0	0	767	140	508	238	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	0	0	0	0	1900	1750	1750	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.08	0.29	0.13	0.00
Crit Moves:								****		****		
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.4	31.4	22.6	54.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.15	0.77	0.14	0.00
Uniform Del:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4	7.4	16.4	0.3	0.0
IncrcmntDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.1	5.6	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.2	7.5	22.0	0.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.2	7.5	22.0	0.4	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C+	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	12	1	9	1	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #3: Innovation Way/Moffett Park Drive



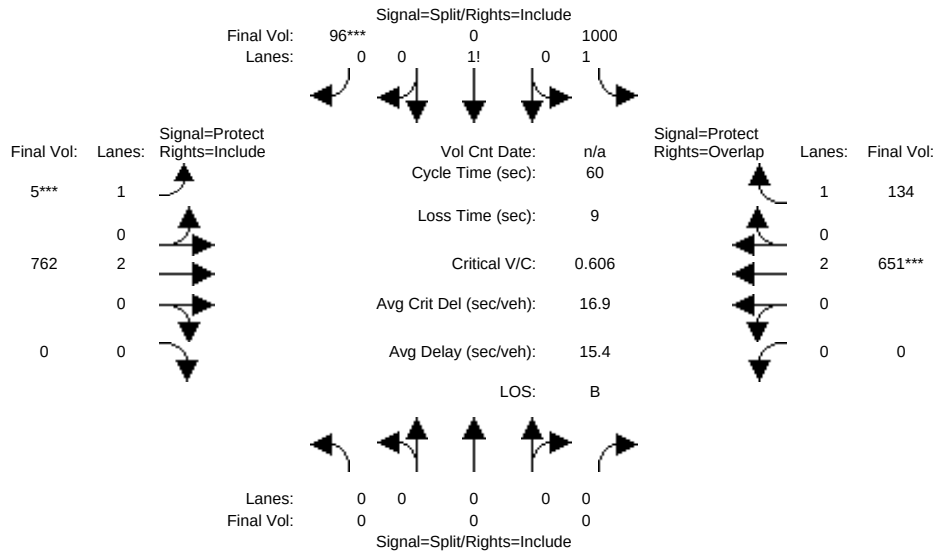
Street Name:	Innovation Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	47	0	9	19	124	0	0	420	258
Growth 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
Initial Bse:	0	0	0	47	0	9	19	124	0	0	420	258
Added Vol:	0	0	0	59	0	5	12	337	0	0	540	621
Yahoo_NetAp:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	106	0	14	31	461	0	0	960	879
User 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
PHF 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
PHF Volume:	0	0	0	106	0	14	31	461	0	0	960	879
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	106	0	14	31	461	0	0	960	879
PCE 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
MLF 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
Final Volume:	0	0	0	106	0	14	31	461	0	0	960	879
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.79	0.00	0.21	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3134	0	366	1750	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.04	0.02	0.12	0.00	0.00	0.25	0.50
Crit Moves:				****			****					****
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	7.0	41.0	0.0	0.0	34.0	44.0
Volume/Cap:	0.00	0.00	0.00	0.20	0.00	0.23	0.15	0.18	0.00	0.00	0.45	0.68
Delay/Veh:	0.0	0.0	0.0	21.7	0.0	21.9	24.2	3.5	0.0	0.0	7.7	5.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.7	0.0	21.9	24.2	3.5	0.0	0.0	7.7	5.8
LOS by Move:	A	A	A	C+	A	C+	C	A	A	A	A	A
HCM2kAvgQ:	0	0	0	1	0	1	1	2	0	0	5	9

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #3: Innovation Way/Moffett Park Drive



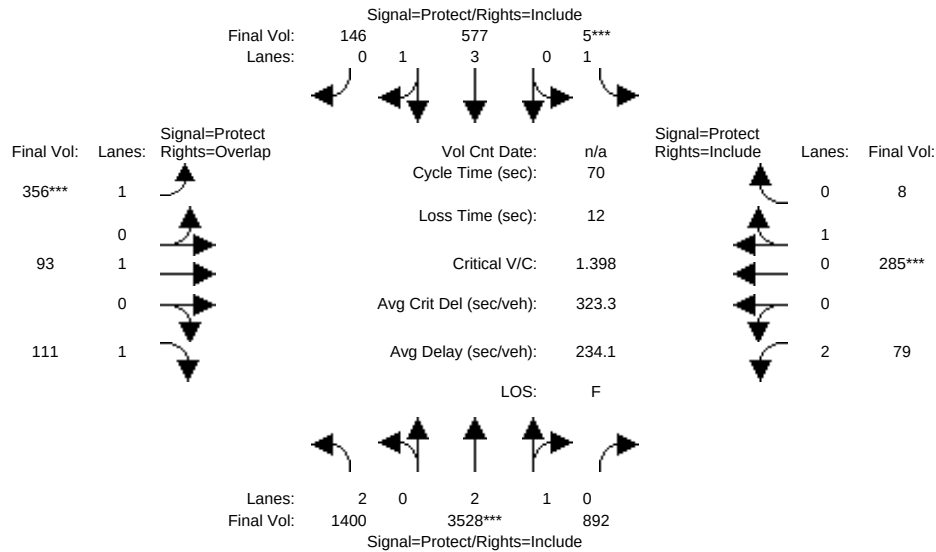
Street Name:	Innovation Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	413	0	56	2	268	0	0	295	61
Growth 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
Initial Bse:	0	0	0	413	0	56	2	268	0	0	295	61
Added Vol:	0	0	0	587	0	40	3	494	0	0	356	73
Yahoo_NetAp:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1000	0	96	5	762	0	0	651	134
User 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
PHF 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
PHF Volume:	0	0	0	1000	0	96	5	762	0	0	651	134
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1000	0	96	5	762	0	0	651	134
PCE 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
MLF 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
Final Volume:	0	0	0	1000	0	96	5	762	0	0	651	134
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.84	0.00	0.16	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3218	0	282	1750	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.31	0.00	0.34	0.00	0.20	0.00	0.00	0.17	0.08
Crit Moves:						****					****	
Green Time:	0.0	0.0	0.0	29.3	0.0	29.3	7.0	21.7	0.0	0.0	14.7	44.0
Volume/Cap:	0.00	0.00	0.00	0.64	0.00	0.70	0.02	0.55	0.00	0.00	0.70	0.10
Uniform Del:	0.0	0.0	0.0	11.4	0.0	11.9	23.5	15.3	0.0	0.0	20.6	2.3
IncrementDel:	0.0	0.0	0.0	0.8	0.0	1.4	0.0	0.5	0.0	0.0	2.4	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	12.2	0.0	13.3	23.5	15.8	0.0	0.0	23.0	2.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	12.2	0.0	13.3	23.5	15.8	0.0	0.0	23.0	2.3
LOS by Move:	A	A	A	B	A	B	C	B	A	A	C+	A
HCM2kAvgQ:	0	0	0	9	0	11	0	5	0	0	6	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #4: Mathilda Avenue/Moffett Park Drive

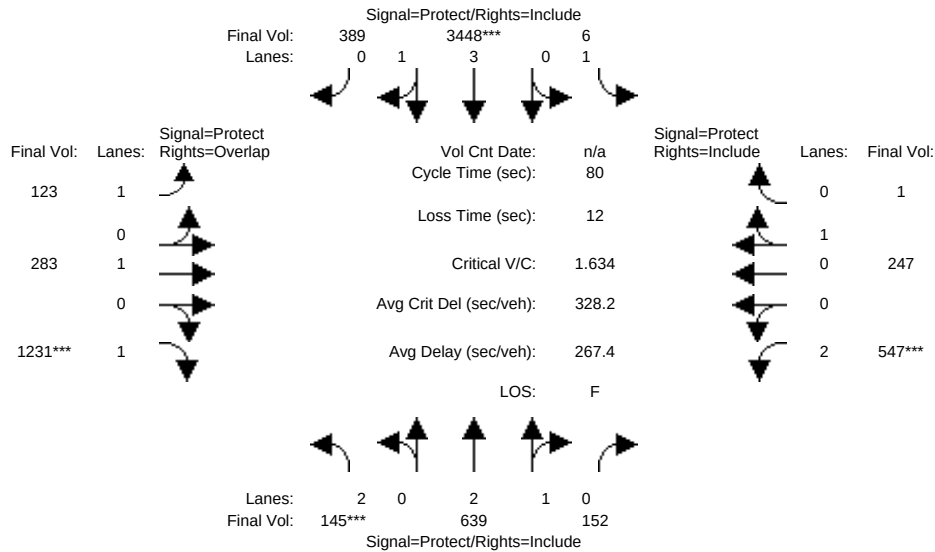


Street Name:	Mathilda Avenue						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	511	1381	836	4	220	73	57	77	30	68	86	4
Growth 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
Initial Bse:	511	1381	836	4	220	73	57	77	30	68	86	4
Added Vol:	889	2010	0	1	328	73	299	16	81	0	199	4
Yahoo_NetAp:	0	137	56	0	29	0	0	0	0	11	0	0
Initial Fut:	1400	3528	892	5	577	146	356	93	111	79	285	8
User 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
PHF 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
PHF Volume:	1400	3528	892	5	577	146	356	93	111	79	285	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1400	3528	892	5	577	146	356	93	111	79	285	8
PCE 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
MLF 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
Final Volume:	1400	3528	892	5	577	146	356	93	111	79	285	8
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.95	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	2.37	0.63	1.00	3.16	0.84	1.00	1.00	1.00	2.00	0.97	0.03
Final Sat.:	3150	4468	1130	1750	5983	1514	1750	1900	1750	3150	1751	49
Capacity Analysis Module:												
Vol/Sat:	0.44	0.79	0.79	0.00	0.10	0.10	0.20	0.05	0.06	0.03	0.16	0.16
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	29.6	32.6	32.6	7.0	10.0	10.0	8.4	10.8	40.4	7.6	10.0	10.0
Volume/Cap:	1.05	1.70	1.70	0.03	0.68	0.68	1.70	0.32	0.11	0.23	1.14	1.14
Delay/Veh:	59.4	333	333.3	28.5	30.2	30.2	363.4	26.9	6.7	28.9	129	129.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.4	333	333.3	28.5	30.2	30.2	363.4	26.9	6.7	28.9	129	129.0
LOS by Move:	E+	F	F	C	C	C	F	C	A	C	F	F
HCM2kAvgQ:	22	106	106	0	4	4	28	2	1	1	15	15
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #4: Mathilda Avenue/Moffett Park Drive



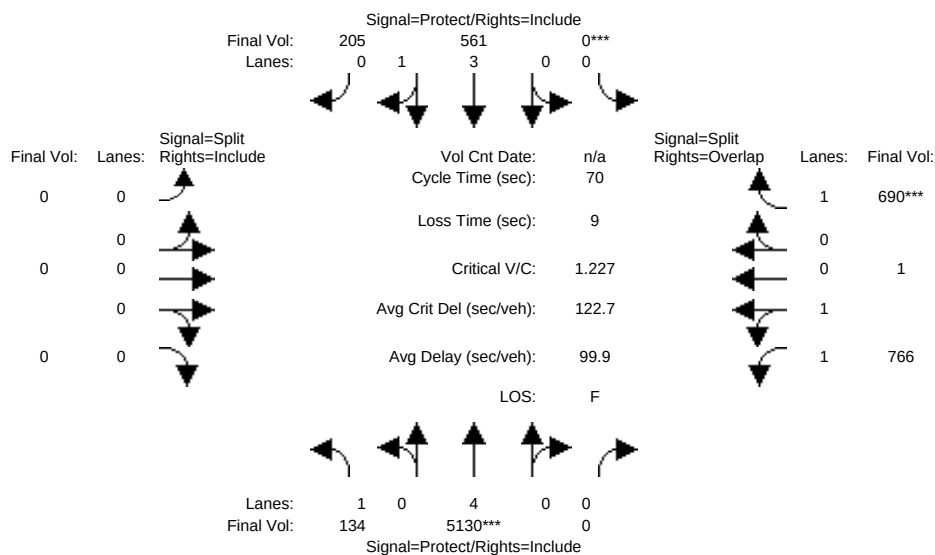
Street Name:	Mathilda Avenue						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	51	242	143	2	1427	76	52	125	380	493	225	0
Growth 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
Initial Bse:	51	242	143	2	1427	76	52	125	380	493	225	0
Added Vol:	94	373	0	4	1891	313	71	158	851	0	22	1
Yahoo_NetAp:	0	24	9	0	130	0	0	0	0	54	0	0
Initial Fut:	145	639	152	6	3448	389	123	283	1231	547	247	1
User 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
PHF 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
PHF Volume:	145	639	152	6	3448	389	123	283	1231	547	247	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	145	639	152	6	3448	389	123	283	1231	547	247	1
PCE 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
MLF 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
Final Volume:	145	639	152	6	3448	389	123	283	1231	547	247	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	2.40	0.60	1.00	3.58	0.42	1.00	1.00	1.00	2.00	0.99	0.01
Final Sat.:	3150	4522	1076	1750	6738	760	1750	1900	1750	3150	1793	7
Capacity Analysis Module:												
Vol/Sat:	0.05	0.14	0.14	0.00	0.51	0.51	0.07	0.15	0.70	0.17	0.14	0.14
Crit Moves:	****			****			****		****	****		
Green Time:	7.0	19.1	19.1	11.9	24.0	24.0	14.4	28.9	35.9	8.1	22.6	22.6
Volume/Cap:	0.53	0.59	0.59	0.02	1.71	1.71	0.39	0.41	1.57	1.71	0.49	0.49
Uniform Del:	34.9	27.0	27.0	29.1	28.0	28.0	29.0	19.2	22.1	35.9	23.9	23.9
IncrementDel:	1.9	0.7	0.7	0.0	320	319.9	0.8	0.4	262.1	331.0	0.7	0.7
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	36.8	27.7	27.7	29.2	348	347.9	29.8	19.6	284.2	366.9	24.6	24.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.8	27.7	27.7	29.2	348	347.9	29.8	19.6	284.2	366.9	24.6	24.6
LOS by Move:	D+	C	C	C	F	F	C	B-	F	F	C	C
HCM2kAvgQ:	2	6	6	0	72	72	3	5	92	27	6	6

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps

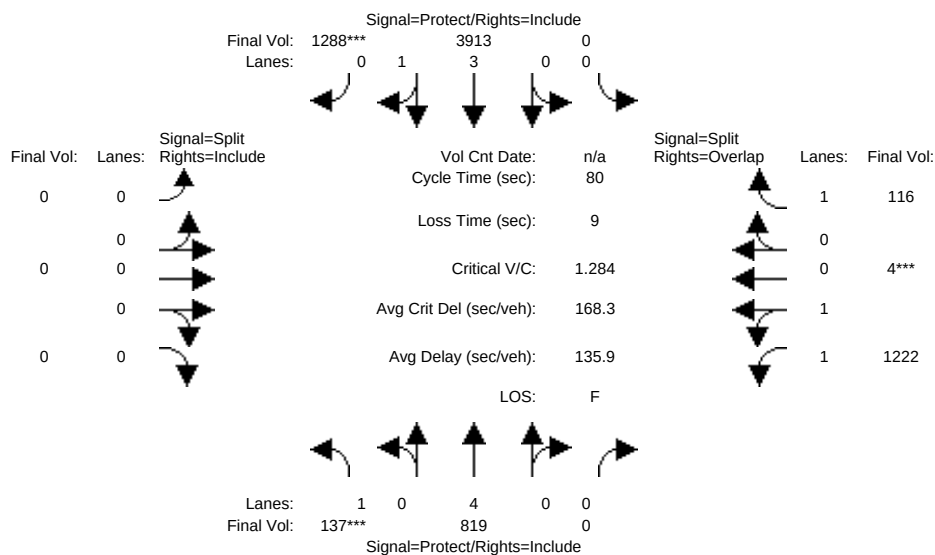


Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	134	2454	0	0	250	67	0	0	0	616	1	274
Growth 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
Initial Bse:	134	2454	0	0	250	67	0	0	0	616	1	274
Added Vol:	0	2483	0	0	295	114	0	0	0	150	0	416
Yahoo_NetAp:	0	193	0	0	16	24	0	0	0	0	0	0
Initial Fut:	134	5130	0	0	561	205	0	0	0	766	1	690
User 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
PHF 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
PHF Volume:	134	5130	0	0	561	205	0	0	0	766	1	690
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	5130	0	0	561	205	0	0	0	766	1	690
PCE 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
MLF 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
Final Volume:	134	5130	0	0	561	205	0	0	0	766	1	690
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5700	1750	0	0	0	3545	5	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.68	0.00	0.00	0.10	0.12	0.00	0.00	0.00	0.22	0.22	0.39
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	15.9	38.5	0.0	0.0	22.7	22.7	0.0	0.0	0.0	22.5	22.5	22.5
Volume/Cap:	0.34	1.23	0.00	0.00	0.30	0.36	0.00	0.00	0.00	0.67	0.67	1.23
Delay/Veh:	23.2	120	0.0	0.0	17.8	18.2	0.0	0.0	0.0	22.2	22.2	141.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.2	120	0.0	0.0	17.8	18.2	0.0	0.0	0.0	22.2	22.2	141.0
LOS by Move:	C	F	A	A	B	B-	A	A	A	C+	C+	F
HCM2kAvgQ:	2	56	0	0	3	3	0	0	0	9	9	36
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps



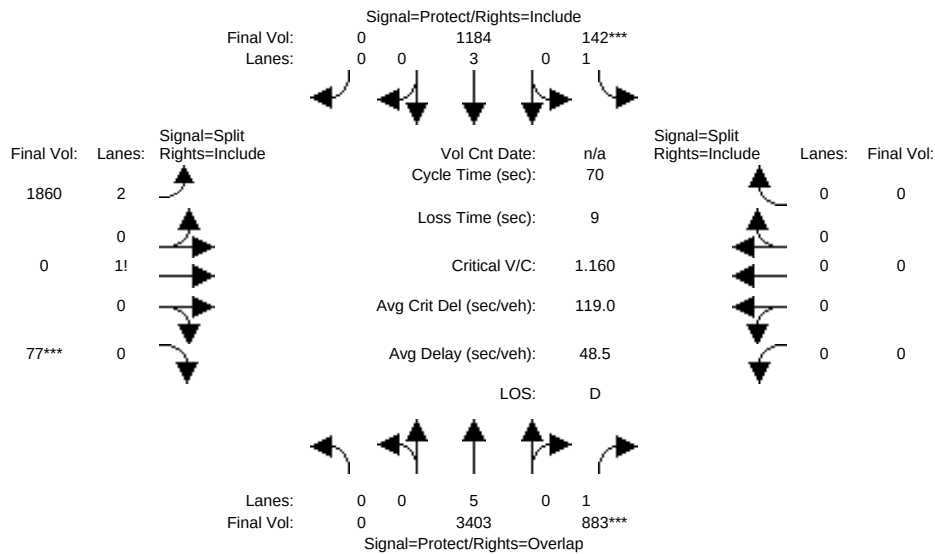
Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	137	397	0	0	1800	475	0	0	0	924	4	39
Growth 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
Initial Bse:	137	397	0	0	1800	475	0	0	0	924	4	39
Added Vol:	0	389	0	0	2039	703	0	0	0	298	0	77
Yahoo_NetAp:	0	33	0	0	74	110	0	0	0	0	0	0
Initial Fut:	137	819	0	0	3913	1288	0	0	0	1222	4	116
User 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
PHF 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
PHF Volume:	137	819	0	0	3913	1288	0	0	0	1222	4	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	137	819	0	0	3913	1288	0	0	0	1222	4	116
PCE 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
MLF 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
Final Volume:	137	819	0	0	3913	1288	0	0	0	1222	4	116
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5699	1800	0	0	0	3538	12	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.11	0.00	0.00	0.69	0.72	0.00	0.00	0.00	0.35	0.35	0.07
Crit Moves:	***					***					***	
Green Time:	7.0	50.2	0.0	0.0	43.2	43.2	0.0	0.0	0.0	20.8	20.8	20.8
Volume/Cap:	0.89	0.17	0.00	0.00	1.27	1.33	0.00	0.00	0.00	1.33	1.33	0.25
Uniform Del:	36.1	6.2	0.0	0.0	18.4	18.4	0.0	0.0	0.0	29.6	29.6	23.4
IncrementDel:	43.4	0.0	0.0	0.0	125	148.6	0.0	0.0	0.0	154.3	154	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	79.5	6.3	0.0	0.0	143	167.0	0.0	0.0	0.0	183.9	184	23.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	79.5	6.3	0.0	0.0	143	167.0	0.0	0.0	0.0	183.9	184	23.7
LOS by Move:	E-	A	A	A	F	F	A	A	A	F	F	C
HCM2kAvgQ:	4	2	0	0	64	72	0	0	0	38	38	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps

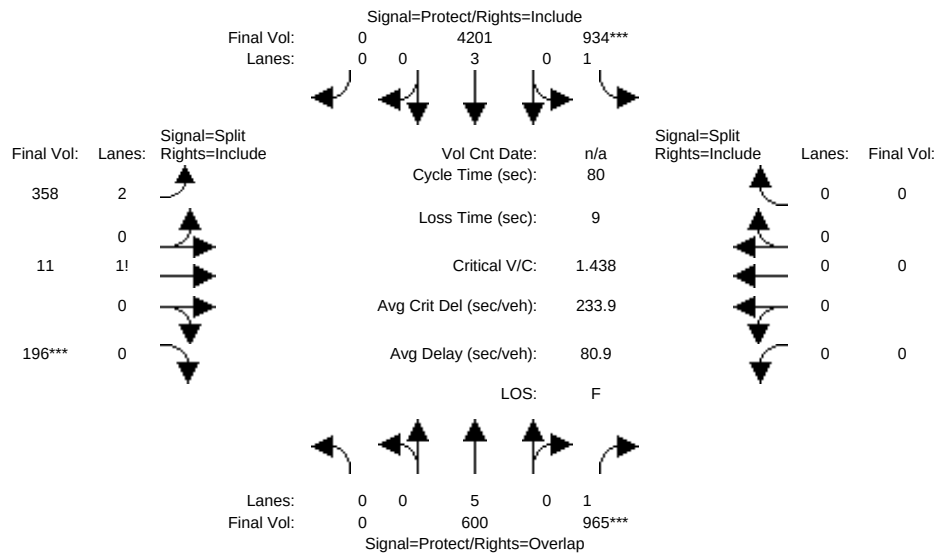


Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	1710	795	59	807	0	878	0	77	0	0	0
Growth 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
Initial Bse:	0	1710	795	59	807	0	878	0	77	0	0	0
Added Vol:	0	1615	88	83	361	0	867	0	0	0	0	0
Yahoo_NetAp:	0	78	0	0	16	0	115	0	0	0	0	0
Initial Fut:	0	3403	883	142	1184	0	1860	0	77	0	0	0
User 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
PHF 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
PHF Volume:	0	3403	883	142	1184	0	1860	0	77	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3403	883	142	1184	0	1860	0	77	0	0	0
PCE 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
MLF 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
Final Volume:	0	3403	883	142	1184	0	1860	0	77	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.86	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.90	0.00	0.10	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	4717	0	181	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.36	0.50	0.08	0.21	0.00	0.39	0.00	0.42	0.00	0.00	0.00
Crit Moves:												
Green Time:	0.0	29.3	29.3	7.0	36.3	0.0	24.7	0.0	24.7	0.0	0.0	0.0
Volume/Cap:	0.00	0.86	1.20	0.81	0.40	0.00	1.12	0.00	1.20	0.00	0.00	0.00
Delay/Veh:	0.0	20.4	125.1	54.9	10.3	0.0	84.4	0.0	120.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	20.4	125.1	54.9	10.3	0.0	84.4	0.0	120.9	0.0	0.0	0.0
LOS by Move:	A	C+	F	D-	B+	A	F	A	F	A	A	A
HCM2kAvgQ:	0	14	41	4	5	0	30	0	37	0	0	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps



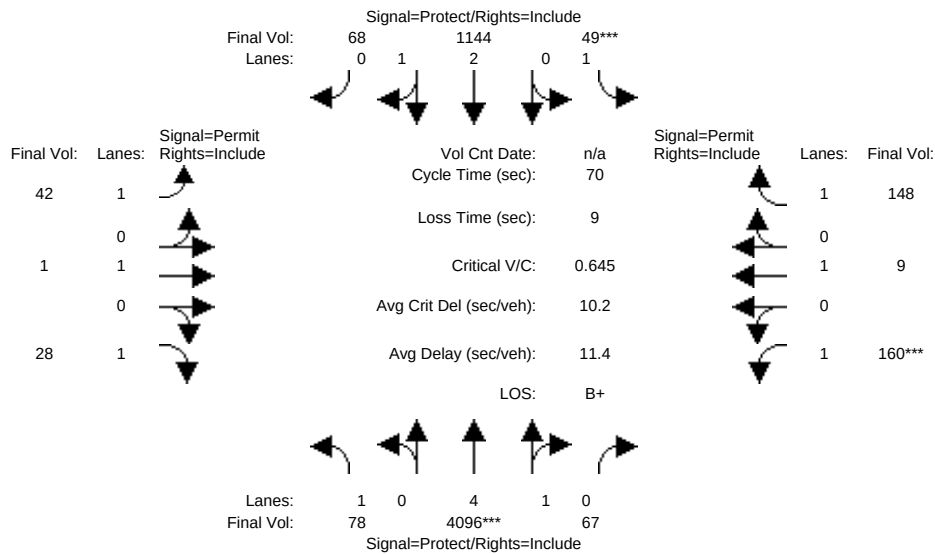
Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	341	607	384	2340	0	193	11	196	0	0	0
Growth 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
Initial Bse:	0	341	607	384	2340	0	193	11	196	0	0	0
Added Vol:	0	245	358	550	1787	0	145	0	0	0	0	0
Yahoo_NetAp:	0	14	0	0	74	0	20	0	0	0	0	0
Initial Fut:	0	600	965	934	4201	0	358	11	196	0	0	0
User 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
PHF 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
PHF Volume:	0	600	965	934	4201	0	358	11	196	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	600	965	934	4201	0	358	11	196	0	0	0
PCE 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
MLF 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
Final Volume:	0	600	965	934	4201	0	358	11	196	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.40	0.03	0.57	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	3776	58	1027	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.06	0.55	0.53	0.74	0.00	0.09	0.19	0.19	0.00	0.00	0.00
Crit Moves:			****	****					****			
Green Time:	0.0	30.7	30.7	29.7	60.4	0.0	10.6	10.6	10.6	0.0	0.0	0.0
Volume/Cap:	0.00	0.16	1.44	1.44	0.98	0.00	0.71	1.44	1.44	0.00	0.00	0.00
Uniform Del:	0.0	16.2	24.7	25.2	9.1	0.0	33.2	34.7	34.7	0.0	0.0	0.0
IncrementDel:	0.0	0.0	205.4	205.7	9.0	0.0	3.1	211	211.0	0.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Delay/Veh:	0.0	16.2	230.0	230.8	18.2	0.0	36.4	246	245.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	16.2	230.0	230.8	18.2	0.0	36.4	246	245.7	0.0	0.0	0.0
LOS by Move:	A	B	F	F	B-	A	D+	F	F	A	A	A
HCM2kAvgQ:	0	2	65	61	31	0	6	25	25	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #7: Mathilda Avenue/Ross Drive

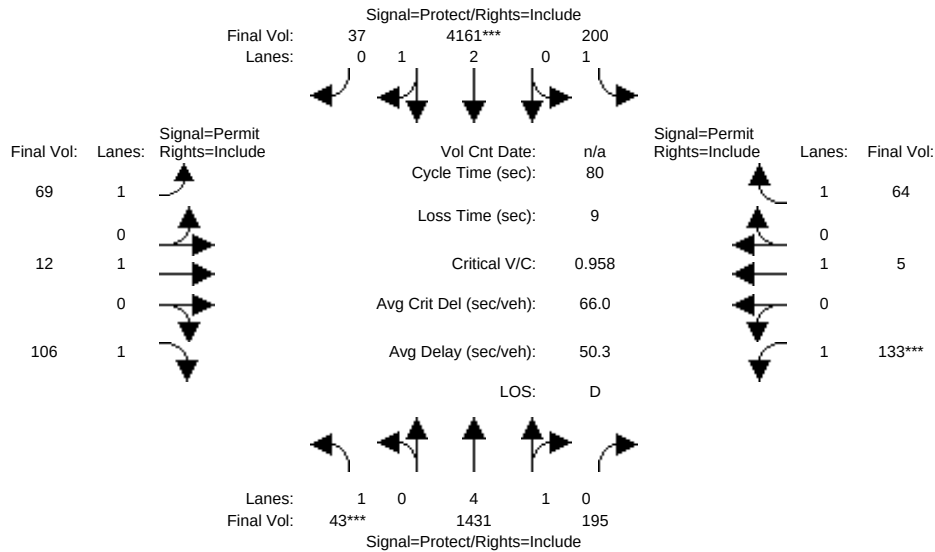


Street Name:	Mathilda Avenue						Ross Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	78	2315	67	49	767	68	42	1	28	160	9	148
Growth 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
Initial Bse:	78	2315	67	49	767	68	42	1	28	160	9	148
Added Vol:	0	1703	0	0	361	0	0	0	0	0	0	0
Yahoo_NetAp:	0	78	0	0	16	0	0	0	0	0	0	0
Initial Fut:	78	4096	67	49	1144	68	42	1	28	160	9	148
User 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
PHF 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
PHF Volume:	78	4096	67	49	1144	68	42	1	28	160	9	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	4096	67	49	1144	68	42	1	28	160	9	148
PCE 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
MLF 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
Final Volume:	78	4096	67	49	1144	68	42	1	28	160	9	148
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	4.92	0.08	1.00	2.83	0.17	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	9248	151	1750	5285	314	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.44	0.44	0.03	0.22	0.22	0.02	0.00	0.02	0.09	0.00	0.08
Crit Moves:	****			****			****			****		
Green Time:	16.1	44.0	44.0	7.0	34.9	34.9	10.0	10.0	10.0	10.0	10.0	10.0
Volume/Cap:	0.19	0.70	0.70	0.28	0.43	0.43	0.17	0.00	0.11	0.64	0.03	0.59
Delay/Veh:	21.9	9.1	9.1	30.0	11.4	11.4	26.7	25.7	26.3	33.8	25.9	31.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.9	9.1	9.1	30.0	11.4	11.4	26.7	25.7	26.3	33.8	25.9	31.8
LOS by Move:	C+	A	A	C	B+	B+	C	C	C	C-	C	C
HCM2kAvgQ:	1	12	12	1	6	6	1	0	1	5	0	4
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #7: Mathilda Avenue/Ross Drive



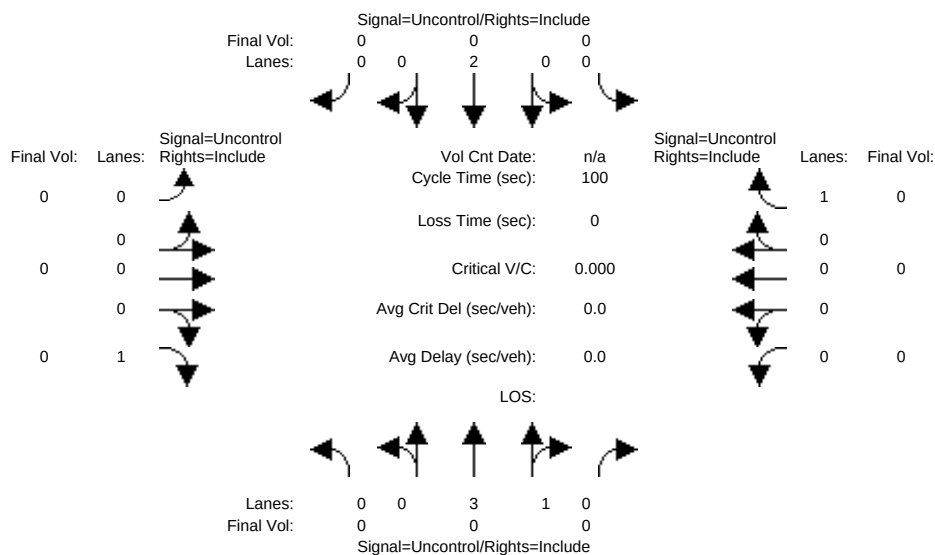
Street Name:	Mathilda Avenue						Ross Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	43	815	195	200	2300	37	69	12	106	133	5	64
Growth 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
Initial Bse:	43	815	195	200	2300	37	69	12	106	133	5	64
Added Vol:	0	602	0	0	1787	0	0	0	0	0	0	0
Yahoo_NetAp:	0	14	0	0	74	0	0	0	0	0	0	0
Initial Fut:	43	1431	195	200	4161	37	69	12	106	133	5	64
User 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
PHF 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
PHF Volume:	43	1431	195	200	4161	37	69	12	106	133	5	64
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	1431	195	200	4161	37	69	12	106	133	5	64
PCE 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
MLF 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
Final Volume:	43	1431	195	200	4161	37	69	12	106	133	5	64
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	4.37	0.63	1.00	2.97	0.03	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	8271	1127	1750	5551	49	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.17	0.17	0.11	0.75	0.75	0.04	0.01	0.06	0.08	0.00	0.04
Crit Moves:	****			****						****		
Green Time:	7.0	36.7	36.7	24.3	54.0	54.0	10.0	10.0	10.0	10.0	10.0	10.0
Volume/Cap:	0.28	0.38	0.38	0.38	1.11	1.11	0.32	0.05	0.48	0.61	0.02	0.29
Uniform Del:	34.1	14.1	14.1	21.9	13.0	13.0	31.9	30.8	32.6	33.1	30.7	31.8
IncrementDel:	1.0	0.1	0.1	0.5	54.2	54.2	0.8	0.1	1.7	4.9	0.0	0.7
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	35.2	14.2	14.2	22.4	67.2	67.2	32.7	30.9	34.3	38.0	30.7	32.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.2	14.2	14.2	22.4	67.2	67.2	32.7	30.9	34.3	38.0	30.7	32.5
LOS by Move:	D+	B	B	C+	E	E	C-	C	C-	D+	C	C-
HCM2kAvgQ:	1	5	5	4	50	50	2	0	3	4	0	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cumulative AM

Intersection #8: Mathilda Avenue/US-101 Northbound Ramps

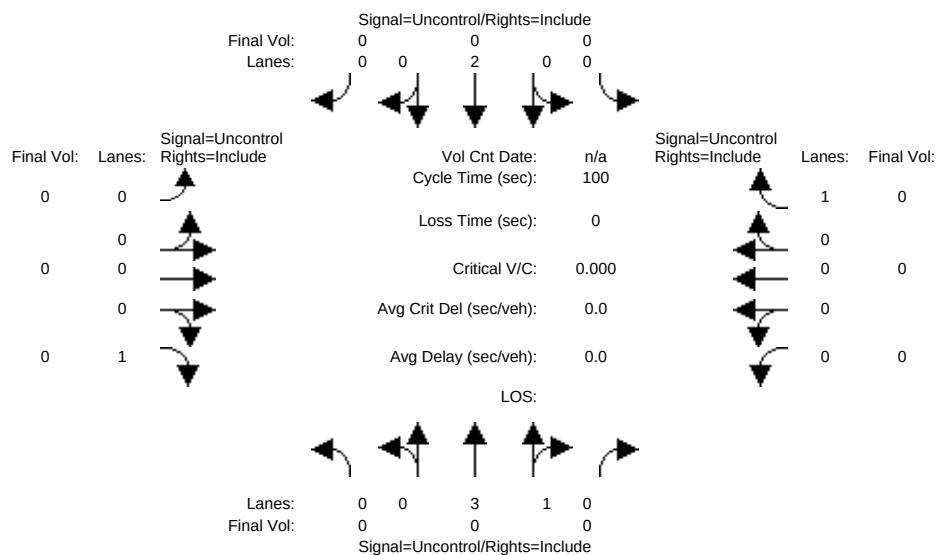


Street Name:	Mathilda Avenue						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1524	509	0	955	0	0	0	820	0	0	937
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1524	509	0	955	0	0	0	820	0	0	937
Added Vol:	0	796	93	0	361	0	0	0	0	0	0	907
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cumulative PM

Intersection #8: Mathilda Avenue/US-101 Northbound Ramps

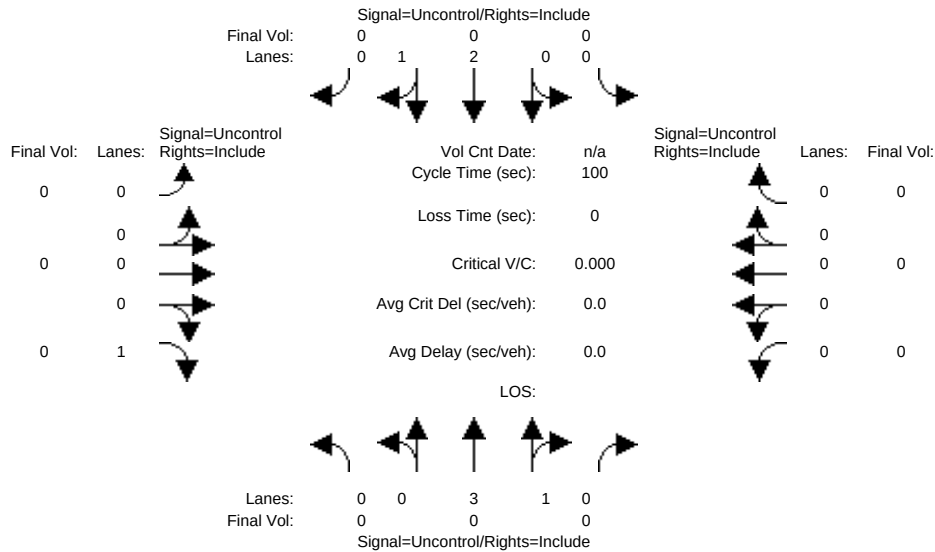


Street Name:	Mathilda Avenue						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	786	368	0	2539	0	0	0	757	0	0	267
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	786	368	0	2539	0	0	0	757	0	0	267
Added Vol:	0	463	369	0	1787	0	0	0	0	0	0	139
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cumulative AM

Intersection #9: Mathilda Avenue/US-101 Southbound Ramps

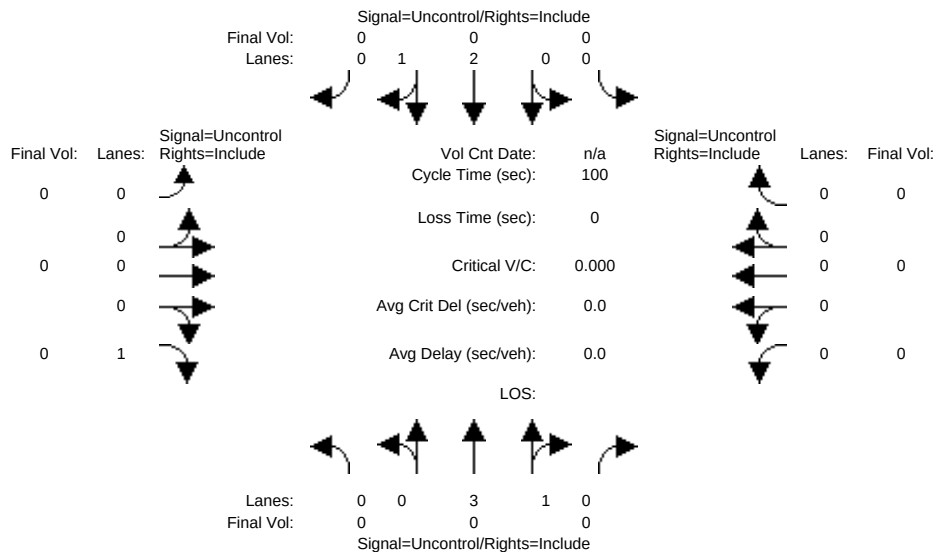


Street Name:	Mathilda Avenue						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	2032	709	0	1556	220	0	0	434	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	2032	709	0	1556	220	0	0	434	0	0	0
Added Vol:	0	882	0	31	240	90	7	0	150	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cumulative PM

Intersection #9: Mathilda Avenue/US-101 Southbound Ramps

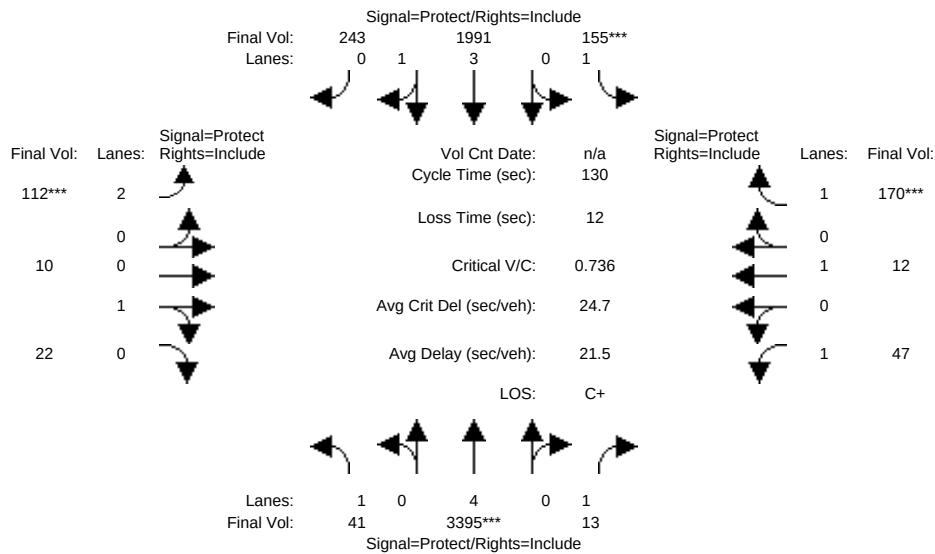


Street Name:	Mathilda Avenue						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1153	517	0	2619	676	0	0	583	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1153	517	0	2619	676	0	0	583	0	0	0
Added Vol:	0	831	0	330	939	518	1	0	298	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #10: Mathilda Avenue/Ahwanee Avenue-Almanor Ave

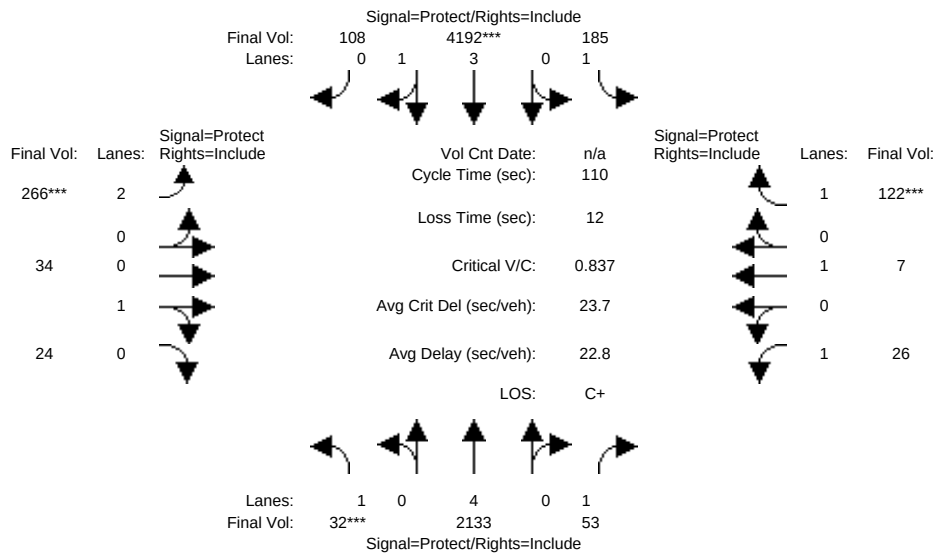


Street Name:	Mathilda Avenue						Ahwanee Avenue-Almanor Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	41	2474	13	155	1594	241	101	10	22	47	12	170
Growth 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
Initial Bse:	41	2474	13	155	1594	241	101	10	22	47	12	170
Added Vol:	0	882	0	0	389	0	0	0	0	0	0	0
Yahoo_NetAp:	0	39	0	0	8	2	11	0	0	0	0	0
Initial Fut:	41	3395	13	155	1991	243	112	10	22	47	12	170
User 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
PHF 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
PHF Volume:	41	3395	13	155	1991	243	112	10	22	47	12	170
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	3395	13	155	1991	243	112	10	22	47	12	170
PCE 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
MLF 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
Final Volume:	41	3395	13	155	1991	243	112	10	22	47	12	170
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	1.00	4.00	1.00	1.00	3.55	0.45	2.00	0.31	0.69	1.00	1.00	1.00
Final Sat.:	1750	7600	1750	1750	6683	816	3150	562	1237	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.45	0.01	0.09	0.30	0.30	0.04	0.02	0.02	0.03	0.01	0.10
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	14.4	78.4	78.4	15.5	79.6	79.6	7.0	14.1	14.1	9.9	17.1	17.1
Volume/Cap:	0.21	0.74	0.01	0.74	0.49	0.49	0.66	0.16	0.16	0.35	0.05	0.74
Delay/Veh:	53.2	19.2	10.3	68.5	14.0	14.0	69.6	53.0	53.0	58.6	49.5	66.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.2	19.2	10.3	68.5	14.0	14.0	69.6	53.0	53.0	58.6	49.5	66.5
LOS by Move:	D-	B-	B+	E	B	B	E	D-	D-	E+	D	E
HCM2kAvgQ:	1	23	0	7	12	12	4	1	1	2	0	9
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #10: Mathilda Avenue/Ahwanee Avenue-Almanor Ave



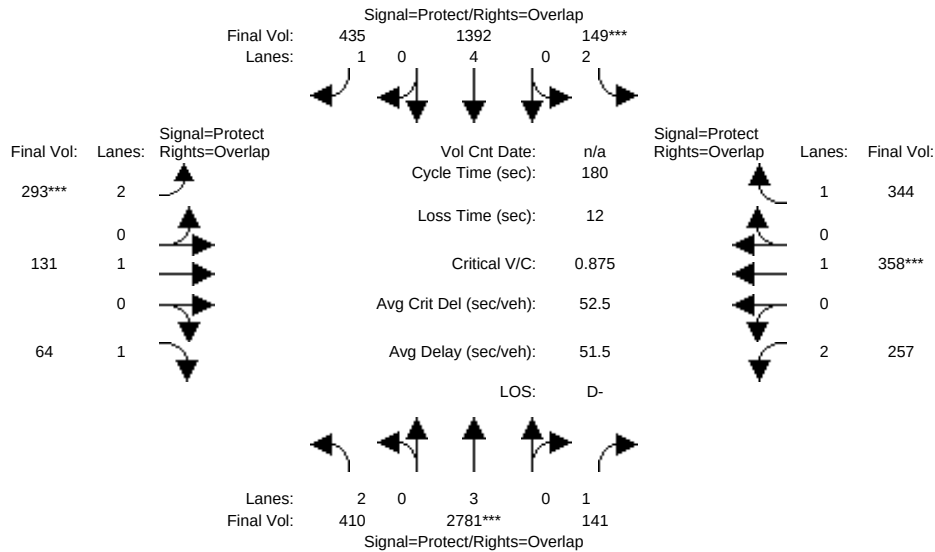
Street Name:	Mathilda Avenue						Ahwanee Avenue-Almanor Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	32	1295	53	185	2920	97	264	34	24	26	7	122
Growth 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
Initial Bse:	32	1295	53	185	2920	97	264	34	24	26	7	122
Added Vol:	0	831	0	0	1236	0	0	0	0	0	0	0
Yahoo_NetAp:	0	7	0	0	36	11	2	0	0	0	0	0
Initial Fut:	32	2133	53	185	4192	108	266	34	24	26	7	122
User 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
PHF 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
PHF Volume:	32	2133	53	185	4192	108	266	34	24	26	7	122
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	2133	53	185	4192	108	266	34	24	26	7	122
PCE 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
MLF 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
Final Volume:	32	2133	53	185	4192	108	266	34	24	26	7	122
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	1.00	4.00	1.00	1.00	3.90	0.10	2.00	0.59	0.41	1.00	1.00	1.00
Final Sat.:	1750	7600	1750	1750	7311	188	3150	1055	745	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.28	0.03	0.11	0.57	0.57	0.08	0.03	0.03	0.01	0.00	0.07
Crit Moves:	****			****			****					****
Green Time:	7.0	56.4	56.4	21.2	70.6	70.6	10.4	12.0	12.0	8.4	10.0	10.0
Volume/Cap:	0.29	0.55	0.06	0.55	0.89	0.89	0.89	0.30	0.30	0.19	0.04	0.77
Uniform Del:	49.1	18.2	13.5	40.1	16.5	16.5	49.3	45.1	45.1	47.6	45.6	48.9
IncrcmntDel:	1.4	0.2	0.0	1.9	2.5	2.5	26.9	0.8	0.8	0.7	0.1	19.8
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	50.5	18.3	13.5	41.9	19.0	19.0	76.2	46.0	46.0	48.3	45.7	68.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.5	18.3	13.5	41.9	19.0	19.0	76.2	46.0	46.0	48.3	45.7	68.7
LOS by Move:	D	B-	B	D	B-	B-	E-	D	D	D	D	E
HCM2kAvgQ:	1	12	1	6	29	29	8	2	2	1	0	6

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #11: Mathilda Avenue/Maude Avenue

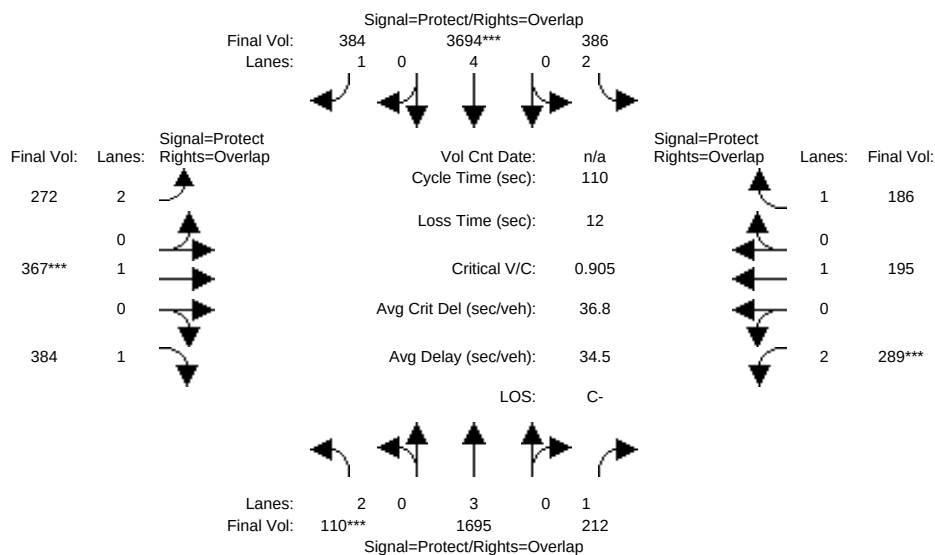


Street Name:	Mathilda Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	410	2085	61	146	1022	410	106	114	64	189	338	307
Growth 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
Initial Bse:	410	2085	61	146	1022	410	106	114	64	189	338	307
Added Vol:	0	657	80	3	362	25	187	17	0	68	20	37
Yahoo_NetAp:	0	39	0	0	8	0	0	0	0	0	0	0
Initial Fut:	410	2781	141	149	1392	435	293	131	64	257	358	344
User 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
PHF 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
PHF Volume:	410	2781	141	149	1392	435	293	131	64	257	358	344
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	410	2781	141	149	1392	435	293	131	64	257	358	344
PCE 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
MLF 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
Final Volume:	410	2781	141	149	1392	435	293	131	64	257	358	344
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	4.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	3150	5700	1750	3150	7600	1750	3150	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.49	0.08	0.05	0.18	0.25	0.09	0.07	0.04	0.08	0.19	0.20
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	45.7	100	131.8	9.7	64.4	83.5	19.1	26.5	72.3	31.4	38.8	48.5
Volume/Cap:	0.51	0.87	0.11	0.87	0.51	0.54	0.87	0.47	0.09	0.47	0.87	0.73
Delay/Veh:	59.9	38.1	7.2	126.8	46.2	37.0	105.0	75.8	33.7	69.7	90.4	69.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.9	38.1	7.2	126.8	46.2	37.0	105.0	75.8	33.7	69.7	90.4	69.3
LOS by Move:	E+	D+	A	F	D	D+	F	E-	C-	E	F	E
HCM2kAvgQ:	11	47	2	6	15	18	11	7	2	8	22	19
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #11: Mathilda Avenue/Maude Avenue



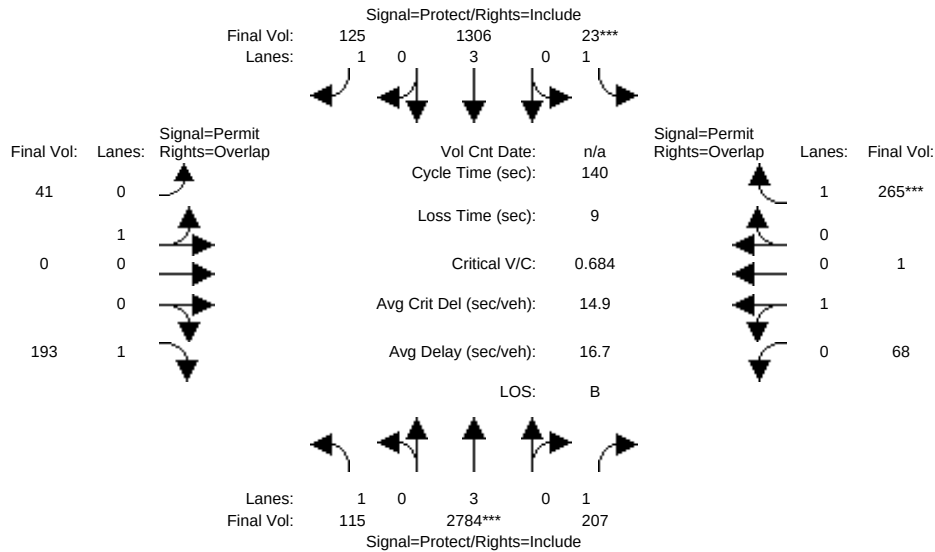
Street Name:	Mathilda Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	110	900	122	358	2622	212	244	339	384	184	168	171
Growth 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
Initial Bse:	110	900	122	358	2622	212	244	339	384	184	168	171
Added Vol:	0	788	90	28	1036	172	28	28	0	105	27	15
Yahoo_NetAp:	0	7	0	0	36	0	0	0	0	0	0	0
Initial Fut:	110	1695	212	386	3694	384	272	367	384	289	195	186
User 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
PHF 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
PHF Volume:	110	1695	212	386	3694	384	272	367	384	289	195	186
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	1695	212	386	3694	384	272	367	384	289	195	186
PCE 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
MLF 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
Final Volume:	110	1695	212	386	3694	384	272	367	384	289	195	186
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	4.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	3150	5700	1750	3150	7600	1750	3150	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.30	0.12	0.12	0.49	0.22	0.09	0.19	0.22	0.09	0.10	0.11
Crit Moves:	****			****			****			****		
Green Time:	7.0	45.6	56.4	18.8	57.4	72.7	15.4	22.8	29.8	10.8	18.3	37.0
Volume/Cap:	0.55	0.72	0.24	0.72	0.93	0.33	0.62	0.93	0.81	0.93	0.62	0.32
Uniform Del:	50.0	26.8	14.9	43.1	24.5	8.1	44.6	42.8	37.5	49.2	42.6	27.1
IncrementDel:	3.2	1.1	0.1	4.6	4.8	0.2	2.7	28.8	10.1	33.7	3.7	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	53.2	27.9	15.0	47.7	29.3	8.3	47.2	71.6	47.5	82.9	46.3	27.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.2	27.9	15.0	47.7	29.3	8.3	47.2	71.6	47.5	82.9	46.3	27.4
LOS by Move:	D-	C	B	D	C	A	D	E	D	F	D	C
HCM2kAvgQ:	2	16	4	7	29	6	5	14	13	9	7	5

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #12: Mathilda Avenue/Indio Way

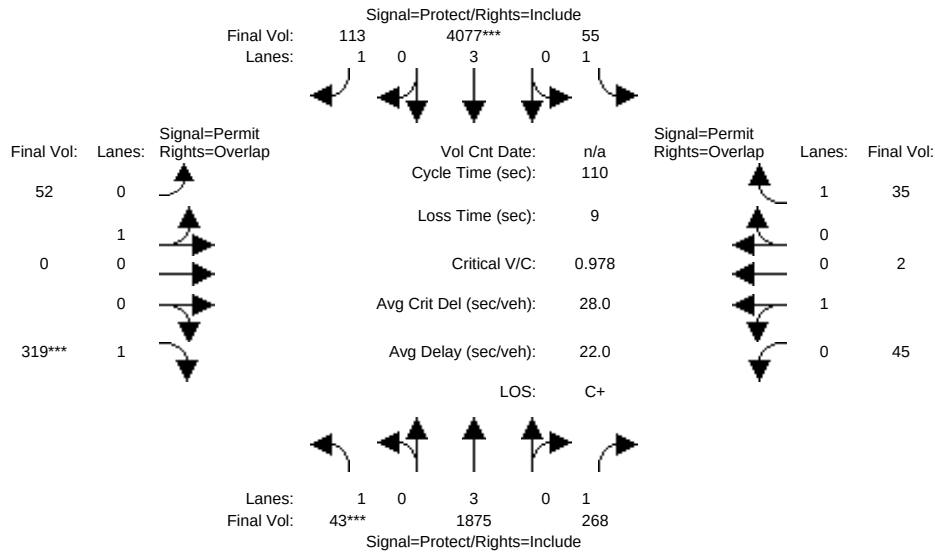


Street Name:	Mathilda Avenue						Indio Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	115	2060	178	22	894	108	41	0	193	68	1	252
Growth 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
Initial Bse:	115	2060	178	22	894	108	41	0	193	68	1	252
Added Vol:	0	724	29	1	412	17	0	0	0	0	0	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	115	2784	207	23	1306	125	41	0	193	68	1	265
User 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
PHF 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
PHF Volume:	115	2784	207	23	1306	125	41	0	193	68	1	265
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	115	2784	207	23	1306	125	41	0	193	68	1	265
PCE 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
MLF 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
Final Volume:	115	2784	207	23	1306	125	41	0	193	68	1	265
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.00	1.00	0.99	0.01	1.00
Final Sat.:	1750	5700	1750	1750	5700	1750	1800	0	1750	1774	26	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.49	0.12	0.01	0.23	0.07	0.02	0.00	0.11	0.04	0.04	0.15
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	24.4	103	102.7	7.0	85.2	85.2	21.3	0.0	45.8	21.3	21.3	28.3
Volume/Cap:	0.38	0.67	0.16	0.26	0.38	0.12	0.15	0.00	0.34	0.25	0.25	0.75
Delay/Veh:	51.8	10.1	5.7	65.6	14.0	11.6	51.7	0.0	36.0	52.8	52.8	61.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.8	10.1	5.7	65.6	14.0	11.6	51.7	0.0	36.0	52.8	52.8	61.0
LOS by Move:	D-	B+	A	E	B	B+	D-	A	D+	D-	D-	E
HCM2kAvgQ:	4	20	3	1	9	2	2	0	7	3	3	13
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #12: Mathilda Avenue/Indio Way



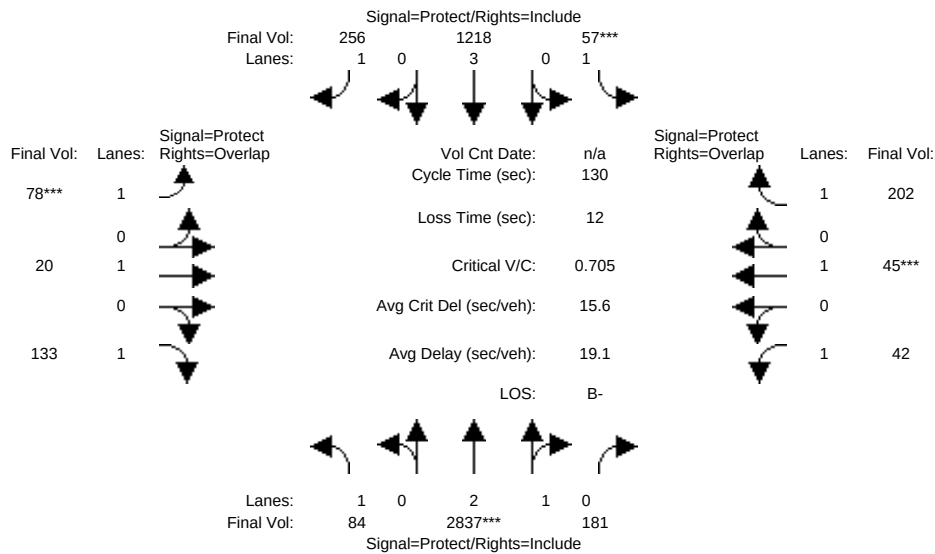
Street Name:	Mathilda Avenue						Indio Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	43	999	149	44	2985	75	52	0	319	45	2	34
Growth 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
Initial Bse:	43	999	149	44	2985	75	52	0	319	45	2	34
Added Vol:	0	876	119	11	1092	38	0	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	43	1875	268	55	4077	113	52	0	319	45	2	35
User 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
PHF 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
PHF Volume:	43	1875	268	55	4077	113	52	0	319	45	2	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	1875	268	55	4077	113	52	0	319	45	2	35
PCE 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
MLF 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
Final Volume:	43	1875	268	55	4077	113	52	0	319	45	2	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.00	1.00	0.96	0.04	1.00
Final Sat.:	1750	5700	1750	1750	5700	1750	1800	0	1750	1723	77	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.33	0.15	0.03	0.72	0.06	0.03	0.00	0.18	0.03	0.03	0.02
Crit Moves:	****			****					****			
Green Time:	7.0	73.4	73.4	14.2	80.6	80.6	13.4	0.0	20.4	13.4	13.4	27.6
Volume/Cap:	0.39	0.49	0.23	0.24	0.98	0.09	0.24	0.00	0.98	0.21	0.21	0.08
Uniform Del:	49.4	9.1	7.2	43.1	13.8	4.2	43.7	0.0	44.7	43.6	43.6	31.5
IncrementDel:	2.2	0.1	0.1	0.6	9.1	0.0	0.6	0.0	45.5	0.5	0.5	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	51.7	9.2	7.3	43.6	22.9	4.2	44.3	0.0	90.2	44.1	44.1	31.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.7	9.2	7.3	43.6	22.9	4.2	44.3	0.0	90.2	44.1	44.1	31.6
LOS by Move:	D-	A	A	D	C+	A	D	A	F	D	D	C
HCM2kAvgQ:	1	10	4	2	43	1	2	0	17	2	2	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #13: Mathilda Avenue/California Way

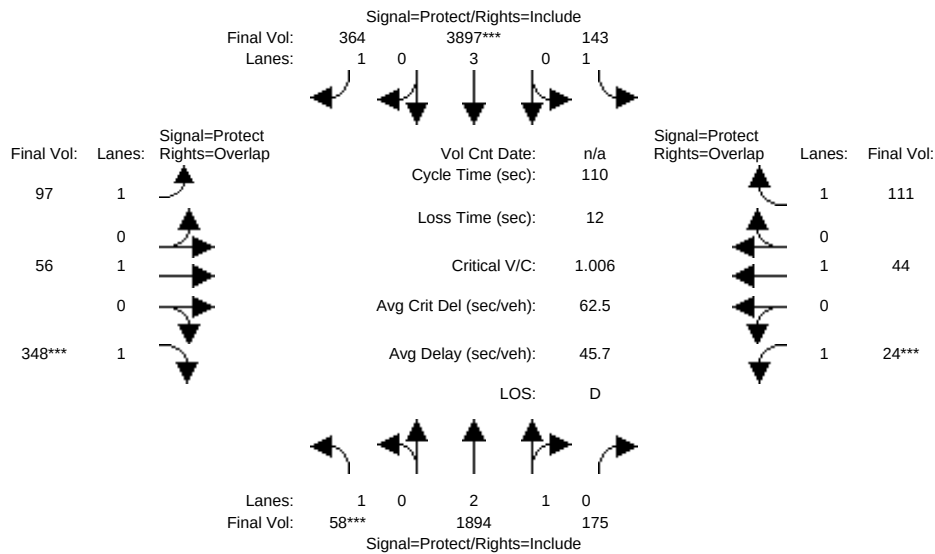


Street Name:	Mathilda Avenue						California Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	84	2120	181	57	806	256	78	20	83	42	45	166
Growth 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
Initial Bse:	84	2120	181	57	806	256	78	20	83	42	45	166
Added Vol:	0	717	0	0	412	0	0	0	50	0	0	36
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	84	2837	181	57	1218	256	78	20	133	42	45	202
User 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
PHF 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
PHF Volume:	84	2837	181	57	1218	256	78	20	133	42	45	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	2837	181	57	1218	256	78	20	133	42	45	202
PCE 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
MLF 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
Final Volume:	84	2837	181	57	1218	256	78	20	133	42	45	202
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.81	0.19	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5264	336	1750	5700	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.54	0.54	0.03	0.21	0.15	0.04	0.01	0.08	0.02	0.02	0.12
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	20.2	93.3	93.3	7.0	80.1	80.1	7.7	10.4	30.6	7.3	10.0	17.0
Volume/Cap:	0.31	0.75	0.75	0.60	0.35	0.24	0.75	0.13	0.32	0.43	0.31	0.88
Delay/Veh:	49.4	12.1	12.1	70.8	12.2	11.3	86.2	56.0	41.6	62.3	57.9	86.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.4	12.1	12.1	70.8	12.2	11.3	86.2	56.0	41.6	62.3	57.9	86.0
LOS by Move:	D	B	B	E	B	B+	F	E+	D	E	E+	F
HCM2kAvgQ:	3	25	25	2	8	5	5	1	5	2	2	12
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #13: Mathilda Avenue/California Way



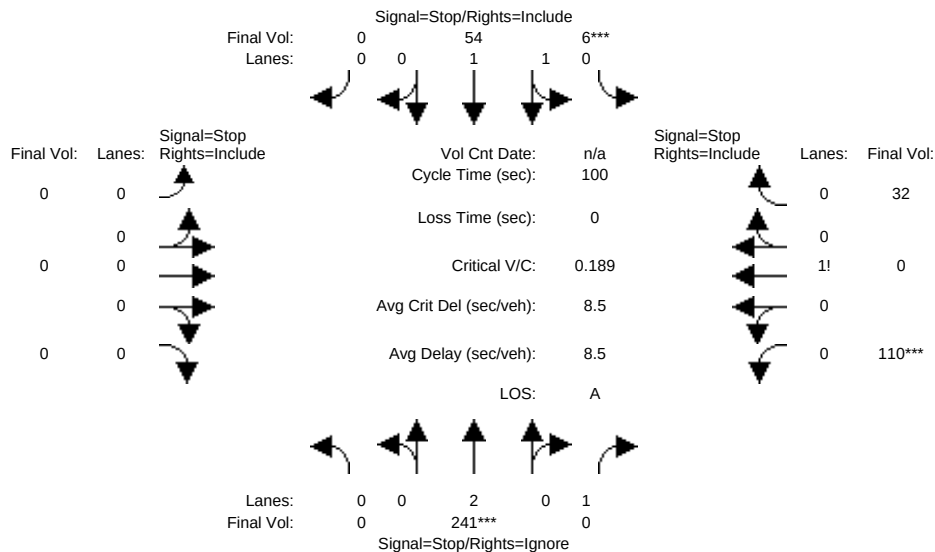
Street Name:	Mathilda Avenue						California Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	58	918	175	143	2805	364	97	56	249	24	44	92
Growth 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
Initial Bse:	58	918	175	143	2805	364	97	56	249	24	44	92
Added Vol:	0	976	0	0	1092	0	0	0	99	0	0	19
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	58	1894	175	143	3897	364	97	56	348	24	44	111
User 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
PHF 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
PHF Volume:	58	1894	175	143	3897	364	97	56	348	24	44	111
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	1894	175	143	3897	364	97	56	348	24	44	111
PCE 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
MLF 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
Final Volume:	58	1894	175	143	3897	364	97	56	348	24	44	111
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.74	0.26	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5126	474	1750	5700	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.37	0.37	0.08	0.68	0.21	0.06	0.03	0.20	0.01	0.02	0.06
Crit Moves:	****			****					****	****		
Green Time:	7.0	63.2	63.2	14.0	70.1	70.1	8.6	13.9	20.9	7.0	12.3	26.2
Volume/Cap:	0.52	0.64	0.64	0.64	1.07	0.33	0.71	0.23	1.05	0.22	0.21	0.27
Uniform Del:	49.9	15.8	15.8	45.6	19.9	9.1	49.5	43.3	44.6	48.9	44.4	34.0
IncrementDel:	4.4	0.5	0.5	6.3	38.7	0.2	15.9	0.5	62.5	1.0	0.5	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	54.2	16.3	16.3	52.0	58.7	9.3	65.3	43.8	107.1	49.9	44.9	34.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.2	16.3	16.3	52.0	58.7	9.3	65.3	43.8	107.1	49.9	44.9	34.4
LOS by Move:	D-	B	B	D-	E+	A	E	D	F	D	D	C-
HCM2kAvgQ:	3	16	16	5	52	6	5	2	20	1	1	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cumulative AM

Intersection #14: Ellis Street/Manila Drive



Street Name:	Ellis Street						Manila Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	241	386	6	54	0	0	0	0	56	0	32
Growth 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
Initial Bse:	0	241	386	6	54	0	0	0	0	56	0	32
Added Vol:	0	0	1130	0	0	0	0	0	0	54	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	241	1516	6	54	0	0	0	0	110	0	32
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	241	0	6	54	0	0	0	0	110	0	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	241	0	6	54	0	0	0	0	110	0	32
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	241	0	6	54	0	0	0	0	110	0	32
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.20	1.80	0.00	0.00	0.00	0.00	0.77	0.00	0.23
Final Sat.:	0	1444	840	136	1237	0	0	0	0	583	0	170
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.17	0.00	0.04	0.04	xxxx	xxxx	xxxx	xxxx	0.19	xxxx	0.19
Crit Moves:	****			****						****		
Delay/Veh:	0.0	8.5	0.0	8.1	8.0	0.0	0.0	0.0	0.0	8.6	0.0	8.6
Delay 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
AdjDel/Veh:	0.0	8.5	0.0	8.1	8.0	0.0	0.0	0.0	0.0	8.6	0.0	8.6
LOS by Move:	*	A	*	A	A	*	*	*	*	A	*	A
ApproachDel:	8.5			8.0			xxxxxx			8.6		
Delay Adj:	1.00			1.00			xxxxxx			1.00		
ApprAdjDel:	8.5			8.0			xxxxxx			8.6		
LOS by Appr:	A			A			*			A		
AllWayAvgQ:	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Ellis Street/Manila Drive

Future Volume Alternative: Peak Hour Warrant Met

```

-----|-----|-----|-----|-----|
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:          0  0  2  0  1      0  1  1  0  0      0  0  0  0  0      0  0  1!  0  0
Initial Vol:    0  241  1516      6  54      0      0      0      0      110  0  32
-----|-----|-----|-----|-----|
Major Street Volume:                1817
Minor Approach Volume:                142
Minor Approach Volume Threshold: 79 [less than minimum of 100]
-----|-----|-----|-----|-----|

```

SIGNAL WARRANT DISCLAIMER

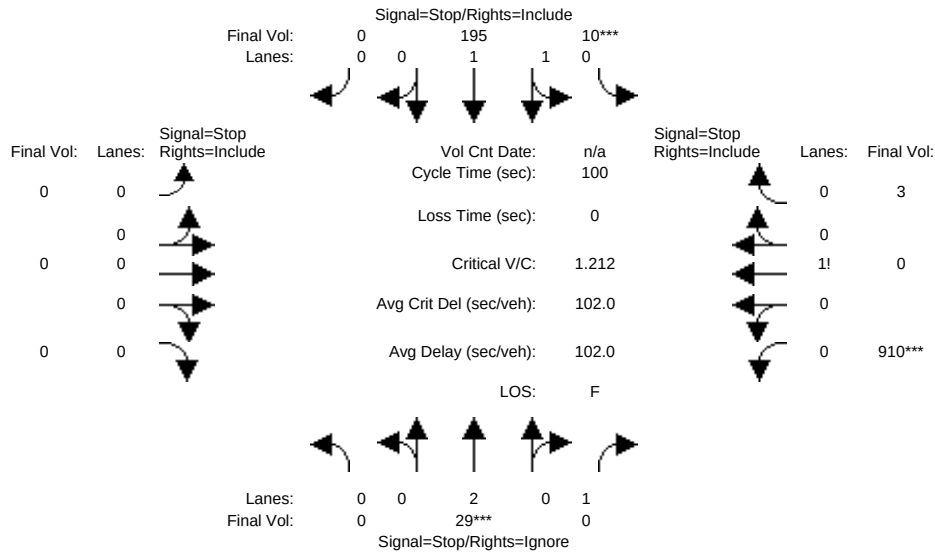
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cumulative PM

Intersection #14: Ellis Street/Manila Drive



Street Name:	Ellis Street						Manila Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	29	49	10	195	0	0	0	0	337	0	3
Growth 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
Initial Bse:	0	29	49	10	195	0	0	0	0	337	0	3
Added Vol:	0	0	140	0	0	0	0	0	0	573	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	29	189	10	195	0	0	0	0	910	0	3
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	29	0	10	195	0	0	0	0	910	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	29	0	10	195	0	0	0	0	910	0	3
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	29	0	10	195	0	0	0	0	910	0	3
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.10	1.90	0.00	0.00	0.00	0.00	0.99	0.00	0.01
Final Sat.:	0	1063	593	54	1062	0	0	0	0	751	0	2
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.03	0.00	0.18	0.18	xxxx	xxxx	xxxx	xxxx	1.21	xxxx	1.21
Crit Moves:		****		****						****		
Delay/Veh:	0.0	9.6	0.0	10.6	10.6	0.0	0.0	0.0	0.0	125.5	0.0	125.5
Delay 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
AdjDel/Veh:	0.0	9.6	0.0	10.6	10.6	0.0	0.0	0.0	0.0	125.5	0.0	125.5
LOS by Move:	*	A	*	B	B	*	*	*	*	F	*	F
ApproachDel:		9.6			10.6		xxxxxx				125.5	
Delay Adj:		1.00			1.00		xxxxxx				1.00	
ApprAdjDel:		9.6			10.6		xxxxxx				125.5	
LOS by Appr:		A			B		*				F	
AllWayAvgQ:	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	24.6	24.6	24.6

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Ellis Street/Manila Drive

Future Volume Alternative: Peak Hour Warrant NOT Met

```

-----|-----|-----|-----|-----|
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:          0  0  2  0  1      0  1  1  0  0      0  0  0  0  0      0  0  1!  0  0
Initial Vol:    0   29   189      10 195   0      0   0   0   0      910   0   3
-----|-----|-----|-----|-----|
Major Street Volume:                913
Minor Approach Volume:                218
Minor Approach Volume Threshold: 321
-----|-----|-----|-----|-----|

```

SIGNAL WARRANT DISCLAIMER

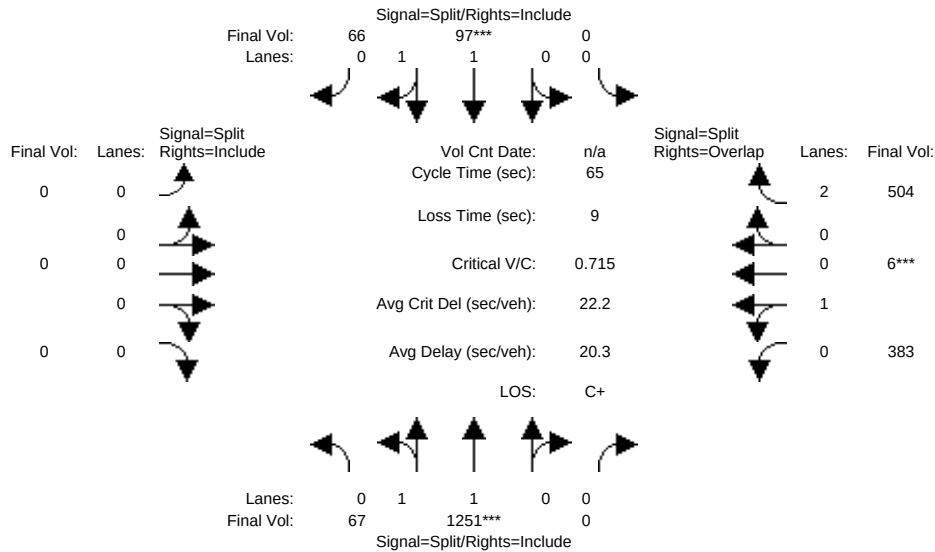
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #15: Ellis Street/US-101 Northbound Ramps



Street Name:	Ellis Street						US-101 Northbound Ramps								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R

Min. Green:	10		10		0	0		10		10	0		0		10
Y+R:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0

Volume Module:															
Base Vol:	67		485		0	0		60		49	0		0		0
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	67		485		0	0		60		49	0		0		0
Added Vol:	0		766		0	0		37		17	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0
Initial Fut:	67		1251		0	0		97		66	0		0		0
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	67		1251		0	0		97		66	0		0		0
Reduct Vol:	0		0		0	0		0		0	0		0		0
Reduced Vol:	67		1251		0	0		97		66	0		0		0
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	67		1251		0	0		97		66	0		0		0

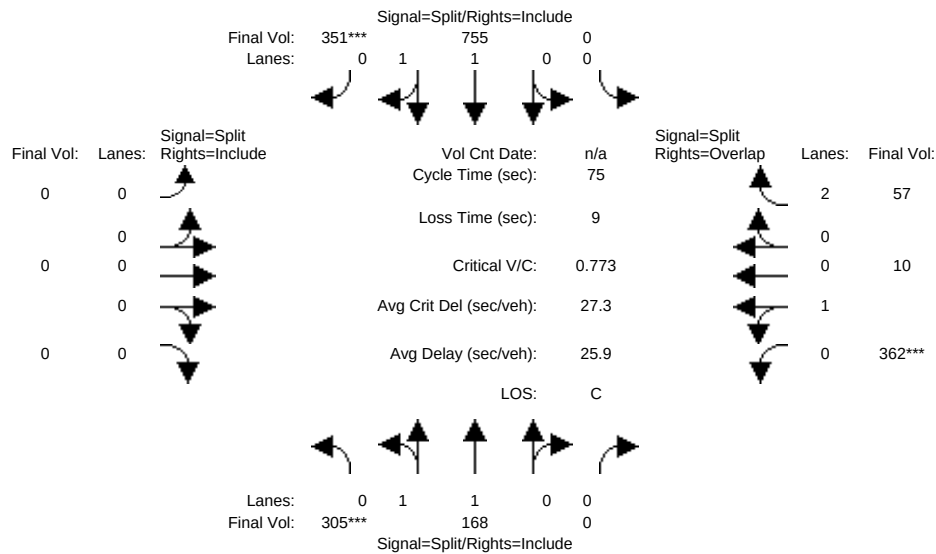
Saturation Flow Module:															
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.98		0.92	0.92		0.99		0.95	0.92		1.00		0.92
Lanes:	0.10		1.90		0.00	0.00		1.17		0.83	0.00		0.00		0.00
Final Sat.:	188		3512		0	0		2201		1497	0		0		0

Capacity Analysis Module:															
Vol/Sat:	0.36		0.36		0.00	0.00		0.04		0.04	0.00		0.00		0.00
Crit Moves:	****				****				****				****		
Green Time:	28.6		28.6		0.0	0.0		10.0		10.0	0.0		0.0		0.0
Volume/Cap:	0.81		0.81		0.00	0.00		0.29		0.29	0.00		0.00		0.00
Delay/Veh:	18.9		18.9		0.0	0.0		24.6		24.6	0.0		0.0		0.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	18.9		18.9		0.0	0.0		24.6		24.6	0.0		0.0		0.0
LOS by Move:	B-		B-		A	A		C		C	A		A		A
HCM2kAvgQ:	12		12		0	0		2		2	0		0		0
Note: Queue reported is the number of cars per lane.															

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #15: Ellis Street/US-101 Northbound Ramps



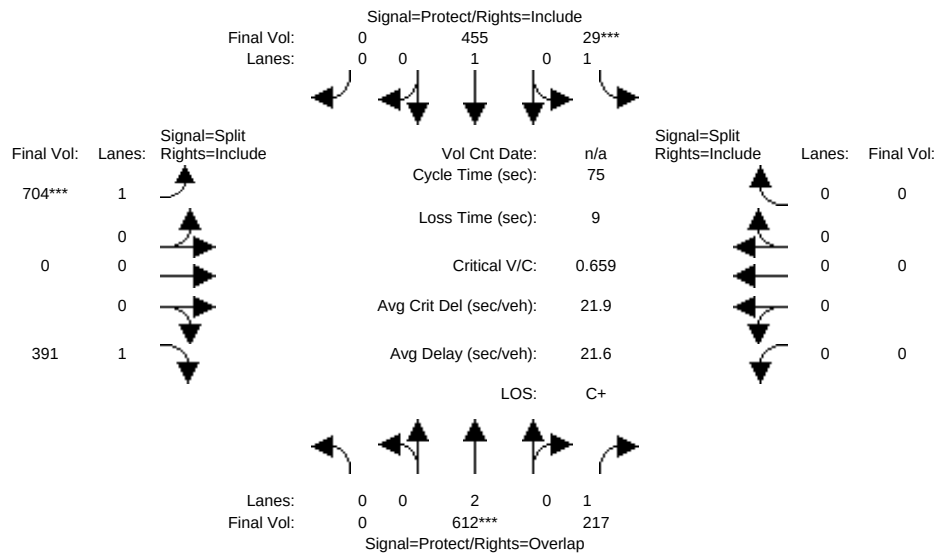
Street Name:	Ellis Street						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	305	65	0	0	362	171	0	0	0	271	10	20
Growth 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
Initial Bse:	305	65	0	0	362	171	0	0	0	271	10	20
Added Vol:	0	103	0	0	393	180	0	0	0	91	0	37
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	305	168	0	0	755	351	0	0	0	362	10	57
User 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
PHF 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
PHF Volume:	305	168	0	0	755	351	0	0	0	362	10	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	305	168	0	0	755	351	0	0	0	362	10	57
PCE 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
MLF 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
Final Volume:	305	168	0	0	755	351	0	0	0	362	10	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.92	1.00	0.92	0.95	0.95	0.83
Lanes:	1.00	1.00	0.00	0.00	1.35	0.65	0.00	0.00	0.00	0.97	0.03	2.00
Final Sat.:	1750	1900	0	0	2525	1174	0	0	0	1752	48	3150
Capacity Analysis Module:												
Vol/Sat:	0.17	0.09	0.00	0.00	0.30	0.30	0.00	0.00	0.00	0.21	0.21	0.02
Crit Moves:	***					***				***		
Green Time:	16.9	16.9	0.0	0.0	29.0	29.0	0.0	0.0	0.0	20.1	20.1	49.1
Volume/Cap:	0.77	0.39	0.00	0.00	0.77	0.77	0.00	0.00	0.00	0.77	0.77	0.03
Uniform Del:	27.2	24.7	0.0	0.0	20.1	20.1	0.0	0.0	0.0	25.4	25.4	4.6
IncrementDel:	6.1	0.2	0.0	0.0	2.7	2.7	0.0	0.0	0.0	7.6	7.6	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	33.3	24.9	0.0	0.0	22.8	22.8	0.0	0.0	0.0	33.0	33.0	4.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.3	24.9	0.0	0.0	22.8	22.8	0.0	0.0	0.0	33.0	33.0	4.6
LOS by Move:	C-	C		A	A	C+	A	A	A	C-	C-	A
HCM2kAvgQ:	8	3	0	0	13	13	0	0	0	10	10	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #16: Ellis Street/US-101 Southbound Ramps

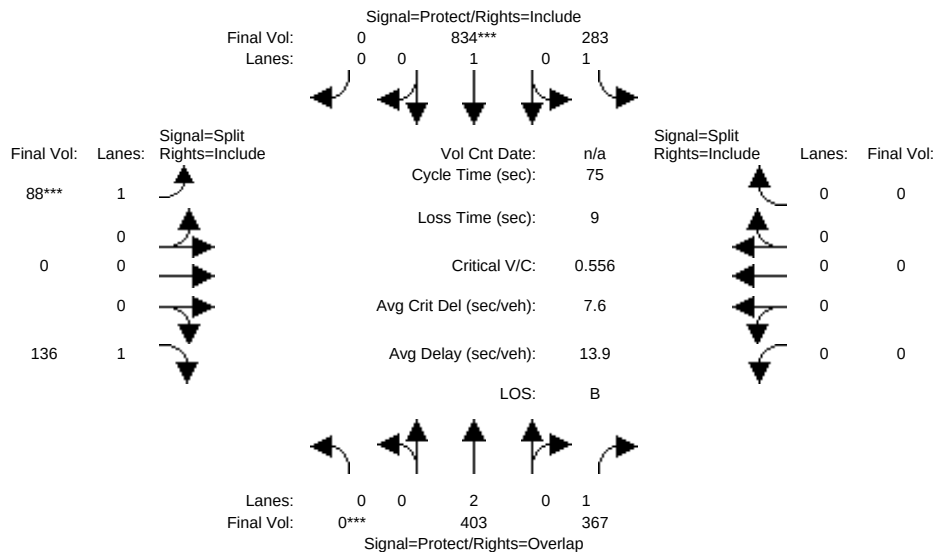


Street Name:	Ellis Street						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	283	163	14	417	0	266	0	391	0	0	0
Growth 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
Initial Bse:	0	283	163	14	417	0	266	0	391	0	0	0
Added Vol:	0	329	54	15	38	0	438	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	612	217	29	455	0	704	0	391	0	0	0
User 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
PHF 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
PHF Volume:	0	612	217	29	455	0	704	0	391	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	612	217	29	455	0	704	0	391	0	0	0
PCE 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
MLF 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
Final Volume:	0	612	217	29	455	0	704	0	391	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	1750	1750	1900	0	1750	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.16	0.12	0.02	0.24	0.00	0.40	0.00	0.22	0.00	0.00	0.00
Crit Moves:	****			****			****					
Green Time:	0.0	16.9	16.9	7.0	23.9	0.0	42.1	0.0	42.1	0.0	0.0	0.0
Volume/Cap:	0.00	0.72	0.55	0.18	0.75	0.00	0.72	0.00	0.40	0.00	0.00	0.00
Delay/Veh:	0.0	29.8	27.4	31.9	28.2	0.0	14.6	0.0	9.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	29.8	27.4	31.9	28.2	0.0	14.6	0.0	9.5	0.0	0.0	0.0
LOS by Move:	A	C	C	C	C	A	B	A	A	A	A	A
HCM2kAvgQ:	0	7	5	1	10	0	14	0	6	0	0	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #16: Ellis Street/US-101 Southbound Ramps



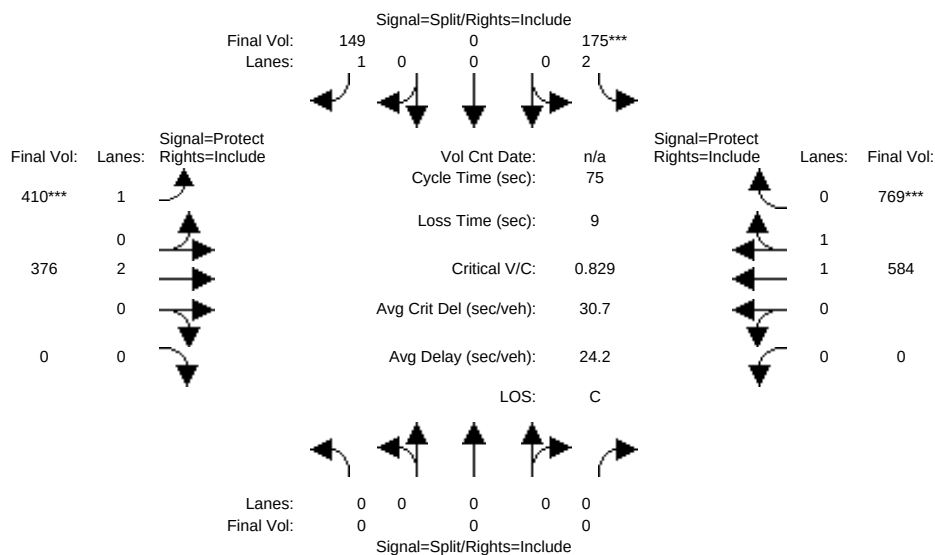
Street Name:	Ellis Street						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	364	357	125	509	0	23	0	136	0	0	0
Growth 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
Initial Bse:	0	364	357	125	509	0	23	0	136	0	0	0
Added Vol:	0	39	10	158	325	0	65	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	403	367	283	834	0	88	0	136	0	0	0
User 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
PHF 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
PHF Volume:	0	403	367	283	834	0	88	0	136	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	403	367	283	834	0	88	0	136	0	0	0
PCE 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
MLF 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
Final Volume:	0	403	367	283	834	0	88	0	136	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	1750	1750	1900	0	1750	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.21	0.16	0.44	0.00	0.05	0.00	0.08	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	0.0	31.3	31.3	24.2	55.5	0.0	10.5	0.0	10.5	0.0	0.0	0.0
Volume/Cap:	0.00	0.25	0.50	0.50	0.59	0.00	0.36	0.00	0.56	0.00	0.00	0.00
Uniform Del:	0.0	14.2	16.1	20.5	4.5	0.0	29.2	0.0	30.1	0.0	0.0	0.0
IncrementDel:	0.0	0.1	0.6	0.7	0.7	0.0	0.9	0.0	2.8	0.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	0.0	14.3	16.6	21.3	5.2	0.0	30.1	0.0	32.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.3	16.6	21.3	5.2	0.0	30.1	0.0	32.9	0.0	0.0	0.0
LOS by Move:	A	B	B	C+	A	A	C	A	C-	A	A	A
HCM2kAvgQ:	0	3	7	5	9	0	2	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #17: Ellis Street/Middlefield Road

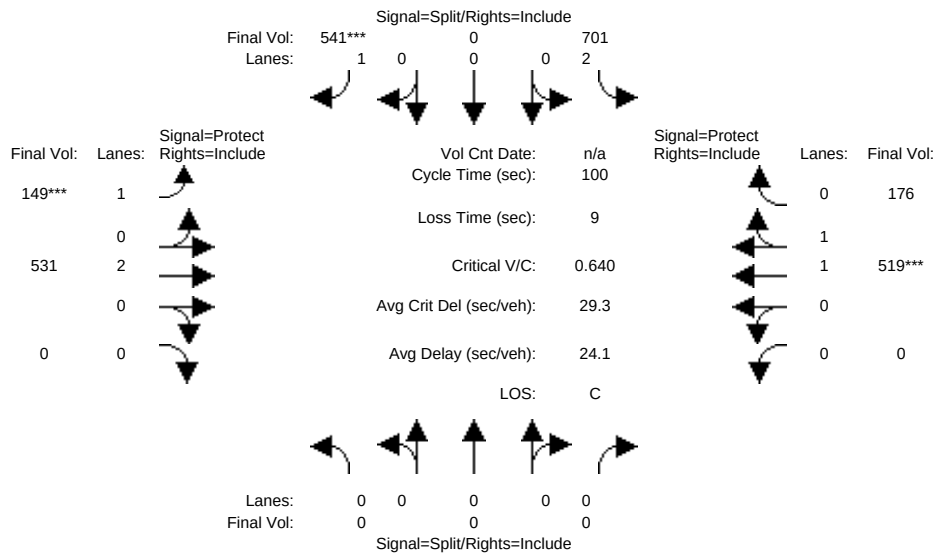


Street Name: Ellis Street				Middlefield Road											
Approach: North Bound				South Bound				East Bound				West Bound			
Movement: L - T - R				L - T - R				L - T - R				L - T - R			
----- -----				----- -----				----- -----				----- -----			
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10			
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
----- -----				----- -----				----- -----				----- -----			
Volume Module:															
Base Vol:	0	0	0	160	0	126	207	349	0	0	577	589			
Growth 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			
Initial Bse:	0	0	0	160	0	126	207	349	0	0	577	589			
Added Vol:	0	0	0	15	0	23	203	27	0	0	7	180			
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0			
Initial Fut:	0	0	0	175	0	149	410	376	0	0	584	769			
User 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			
PHF 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			
PHF Volume:	0	0	0	175	0	149	410	376	0	0	584	769			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	0	0	0	175	0	149	410	376	0	0	584	769			
PCE 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			
MLF 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			
FinalVolume:	0	0	0	175	0	149	410	376	0	0	584	769			
----- -----				----- -----				----- -----				----- -----			
Saturation Flow Module:															
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92			
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	1.00	1.00			
Final Sat.:	0	0	0	3150	0	1750	1750	3800	0	0	1900	1750			
----- -----				----- -----				----- -----				----- -----			
Capacity Analysis Module:															
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.09	0.23	0.10	0.00	0.00	0.31	0.44			
Crit Moves:				****			****					****			
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	19.5	56.0	0.0	0.0	36.5	36.5			
Volume/Cap:	0.00	0.00	0.00	0.42	0.00	0.64	0.90	0.13	0.00	0.00	0.63	0.90			
Delay/Veh:	0.0	0.0	0.0	30.5	0.0	36.6	47.8	2.7	0.0	0.0	14.9	25.5			
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
AdjDel/Veh:	0.0	0.0	0.0	30.5	0.0	36.6	47.8	2.7	0.0	0.0	14.9	25.5			
LOS by Move:	A	A	A	C	A	D+	D	A	A	A	B	C			
HCM2kAvgQ:	0	0	0	2	0	3	14	1	0	0	10	19			
Note: Queue reported is the number of cars per lane.															

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #17: Ellis Street/Middlefield Road



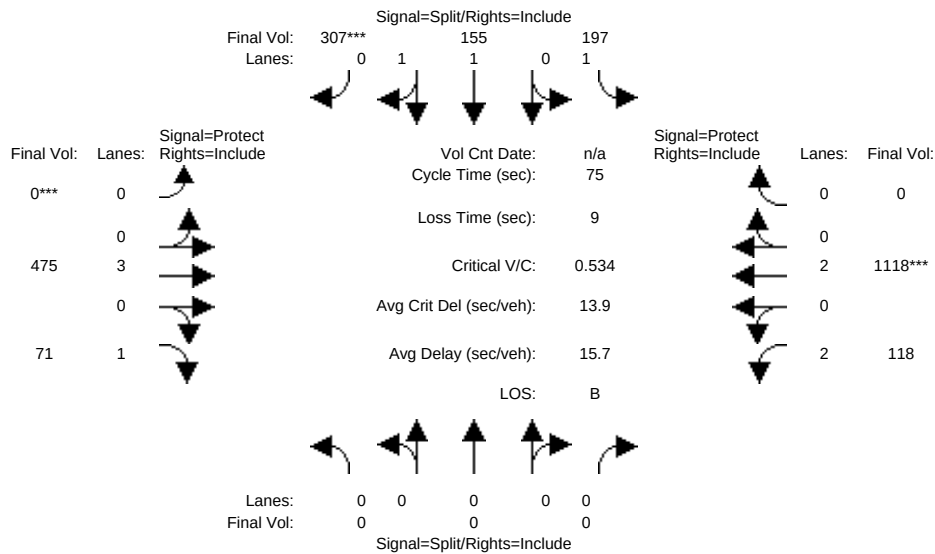
Street Name: Ellis Street							Middlefield Road								
Approach: North Bound				South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
-----	-----		-----	-----		-----	-----		-----	-----		-----	-----		-----
Min. Green:	0		0		0	10		0		10	7		10		0
Y+R:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0
-----	-----		-----	-----		-----	-----		-----	-----		-----	-----		-----
Volume Module:															
Base Vol:	0		0		0	547		0		369	119		526		0
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	0		0		0	547		0		369	119		526		0
Added Vol:	0		0		0	154		0		172	30		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0
Initial Fut:	0		0		0	701		0		541	149		531		0
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	0		0		0	701		0		541	149		531		0
Reduct Vol:	0		0		0	0		0		0	0		0		0
Reduced Vol:	0		0		0	701		0		541	149		531		0
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	0		0		0	701		0		541	149		531		0
-----	-----		-----	-----		-----	-----		-----	-----		-----	-----		-----
Saturation Flow Module:															
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.92		1.00		0.92	0.83		1.00		0.92	0.92		1.00		0.95
Lanes:	0.00		0.00		0.00	2.00		0.00		1.00	1.00		2.00		0.52
Final Sat.:	0		0		0	3150		0		1750	1750		3800		937
-----	-----		-----	-----		-----	-----		-----	-----		-----	-----		-----
Capacity Analysis Module:															
Vol/Sat:	0.00		0.00		0.00	0.22		0.00		0.31	0.09		0.14		0.00
Crit Moves:										****	****				****
Green Time:	0.0		0.0		0.0	48.3		0.0		48.3	13.3		42.7		0.0
Volume/Cap:	0.00		0.00		0.00	0.46		0.00		0.64	0.64		0.33		0.00
Uniform Del:	0.0		0.0		0.0	17.2		0.0		19.3	41.1		19.1		0.0
IncremntDel:	0.0		0.0		0.0	0.2		0.0		1.7	5.9		0.1		0.0
InitQueuDel:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0
Delay Adj:	0.00		0.00		0.00	1.00		0.00		1.00	1.00		1.00		0.00
Delay/Veh:	0.0		0.0		0.0	17.4		0.0		21.0	46.9		19.2		0.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	0.0		0.0		0.0	17.4		0.0		21.0	46.9		19.2		0.0
LOS by Move:	A		A		A	B		A		C+	D		B-		A
HCM2kAvgQ:	0		0		0	8		0		13	6		5		0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #18: Middlefield Road/SR-237 Westbound On-Ramp

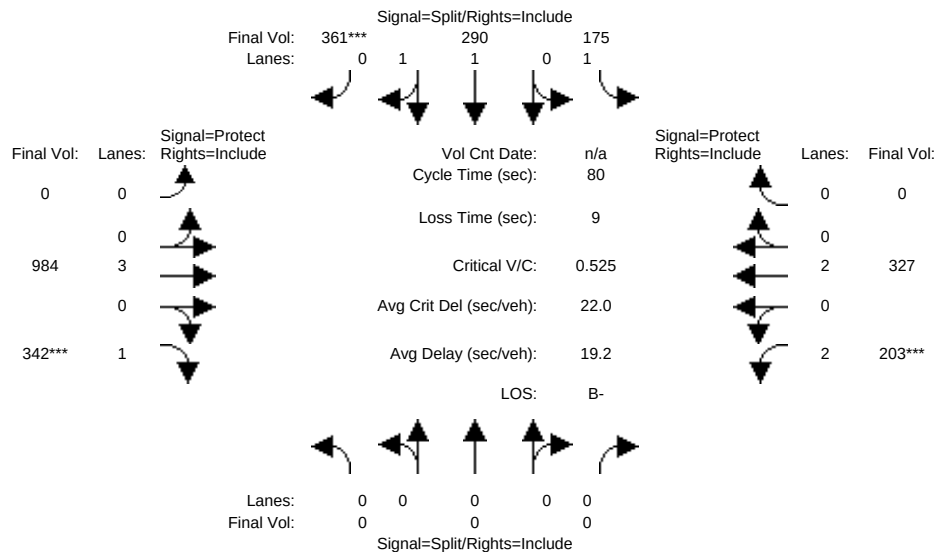


Street Name:	SR-237 Westbound On-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	197	155	300	0	448	56	118	938	0
Growth 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
Initial Bse:	0	0	0	197	155	300	0	448	56	118	938	0
Added Vol:	0	0	0	0	0	7	0	27	15	0	180	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	197	155	307	0	475	71	118	1118	0
User 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
PHF 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
PHF Volume:	0	0	0	197	155	307	0	475	71	118	1118	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	197	155	307	0	475	71	118	1118	0
PCE 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
MLF 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
Final Volume:	0	0	0	197	155	307	0	475	71	118	1118	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	3.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	1750	1900	1750	0	5700	1750	3150	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.08	0.18	0.00	0.08	0.04	0.04	0.29	0.00
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	24.7	24.7	24.7	0.0	24.3	24.3	17.0	41.3	0.0
Volume/Cap:	0.00	0.00	0.00	0.34	0.25	0.53	0.00	0.26	0.13	0.17	0.53	0.00
Delay/Veh:	0.0	0.0	0.0	19.4	18.5	21.1	0.0	18.8	17.9	23.4	11.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	19.4	18.5	21.1	0.0	18.8	17.9	23.4	11.0	0.0
LOS by Move:	A	A	A	B-	B-	C+	A	B-	B	C	B+	A
HCM2kAvgQ:	0	0	0	4	3	7	0	3	1	1	8	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #18: Middlefield Road/SR-237 Westbound On-Ramp



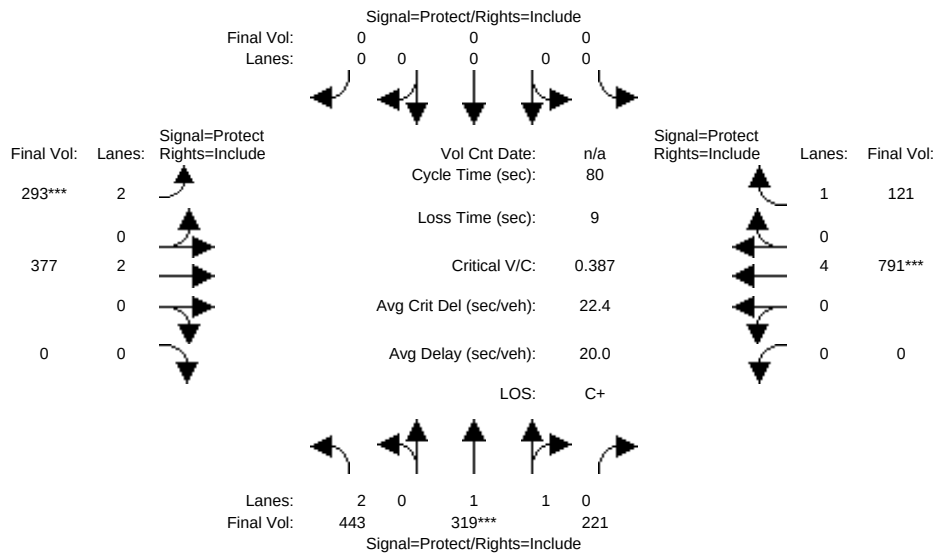
Street Name:	SR-237 Westbound On-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	175	290	322	0	979	188	203	308	0
Growth 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
Initial Bse:	0	0	0	175	290	322	0	979	188	203	308	0
Added Vol:	0	0	0	0	0	39	0	5	154	0	19	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	175	290	361	0	984	342	203	327	0
User 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
PHF 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
PHF Volume:	0	0	0	175	290	361	0	984	342	203	327	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	175	290	361	0	984	342	203	327	0
PCE 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
MLF 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
Final Volume:	0	0	0	175	290	361	0	984	342	203	327	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	3.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	1750	1900	1750	0	5700	1750	3150	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.10	0.15	0.21	0.00	0.17	0.20	0.06	0.09	0.00
Crit Moves:						****			****	****		
Green Time:	0.0	0.0	0.0	31.4	31.4	31.4	0.0	29.8	29.8	9.8	39.6	0.0
Volume/Cap:	0.00	0.00	0.00	0.25	0.39	0.53	0.00	0.46	0.53	0.53	0.17	0.00
Uniform Del:	0.0	0.0	0.0	16.4	17.4	18.6	0.0	19.1	19.6	32.9	11.2	0.0
IncrcmntDel:	0.0	0.0	0.0	0.2	0.2	0.4	0.0	0.2	0.8	1.3	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	0.0	0.0	0.0	16.6	17.6	19.0	0.0	19.2	20.4	34.2	11.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.6	17.6	19.0	0.0	19.2	20.4	34.2	11.2	0.0
LOS by Move:	A	A	A	B	B	B-	A	B-	C+	C-	B+	A
HCM2kAvgQ:	0	0	0	3	5	8	0	6	7	3	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #19: Middlefield Road/SR-237 Eastbound Off-Ramp

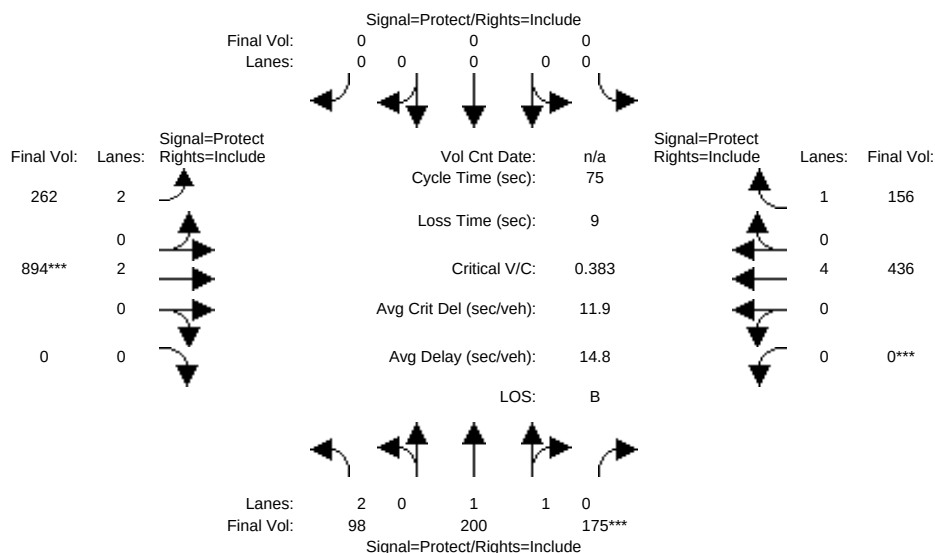


Street Name:	SR-237 Eastbound Off-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	263	319	221	0	0	0	293	350	0	0	791	121
Growth 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
Initial Bse:	263	319	221	0	0	0	293	350	0	0	791	121
Added Vol:	180	0	0	0	0	0	0	27	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	443	319	221	0	0	0	293	377	0	0	791	121
User 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
PHF 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
PHF Volume:	443	319	221	0	0	0	293	377	0	0	791	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	443	319	221	0	0	0	293	377	0	0	791	121
PCE 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
MLF 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
Final Volume:	443	319	221	0	0	0	293	377	0	0	791	121
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.16	0.84	0.00	0.00	0.00	2.00	2.00	0.00	0.00	4.00	1.00
Final Sat.:	3150	2185	1513	0	0	0	3150	3800	0	0	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.15	0.15	0.00	0.00	0.00	0.09	0.10	0.00	0.00	0.10	0.07
Crit Moves:	****						****			****		
Green Time:	30.2	30.2	30.2	0.0	0.0	0.0	19.2	40.8	0.0	0.0	21.5	21.5
Volume/Cap:	0.37	0.39	0.39	0.00	0.00	0.00	0.39	0.19	0.00	0.00	0.39	0.26
Delay/Veh:	18.2	18.3	18.3	0.0	0.0	0.0	25.8	10.7	0.0	0.0	24.0	23.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.2	18.3	18.3	0.0	0.0	0.0	25.8	10.7	0.0	0.0	24.0	23.2
LOS by Move:	B-	B-	B-	A	A	A	C	B+	A	A	C	C
HCM2kAvgQ:	5	5	5	0	0	0	4	2	0	0	4	3
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #19: Middlefield Road/SR-237 Eastbound Off-Ramp



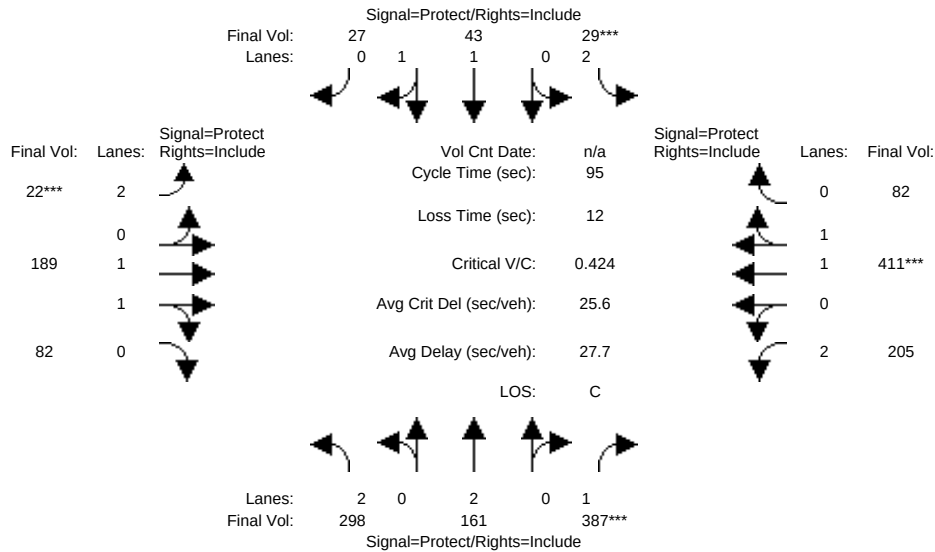
Street Name:	SR-237 Eastbound Off-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	79	200	175	0	0	0	262	889	0	0	436	156
Growth 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
Initial Bse:	79	200	175	0	0	0	262	889	0	0	436	156
Added Vol:	19	0	0	0	0	0	0	5	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	200	175	0	0	0	262	894	0	0	436	156
User 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
PHF 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
PHF Volume:	98	200	175	0	0	0	262	894	0	0	436	156
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	200	175	0	0	0	262	894	0	0	436	156
PCE 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
MLF 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
Final Volume:	98	200	175	0	0	0	262	894	0	0	436	156
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.95	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.04	0.96	0.00	0.00	0.00	2.00	2.00	0.00	0.00	4.00	1.00
Final Sat.:	3150	1972	1726	0	0	0	3150	3800	0	0	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.10	0.00	0.00	0.00	0.08	0.24	0.00	0.00	0.06	0.09
Crit Moves:			****					****			****	
Green Time:	19.9	19.9	19.9	0.0	0.0	0.0	19.0	46.1	0.0	0.0	27.1	27.1
Volume/Cap:	0.12	0.38	0.38	0.00	0.00	0.00	0.33	0.38	0.00	0.00	0.16	0.25
Uniform Del:	20.9	22.5	22.5	0.0	0.0	0.0	22.8	7.3	0.0	0.0	16.2	16.8
IncrementDel:	0.1	0.3	0.3	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.2
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	21.0	22.8	22.8	0.0	0.0	0.0	23.1	7.4	0.0	0.0	16.2	17.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.0	22.8	22.8	0.0	0.0	0.0	23.1	7.4	0.0	0.0	16.2	17.0
LOS by Move:	C+	C+	C+	A	A	A	C	A	A	A	B	B
HCM2kAvgQ:	1	4	4	0	0	0	3	5	0	0	2	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative AM

Intersection #20: Mary Avenue/Maude Avenue

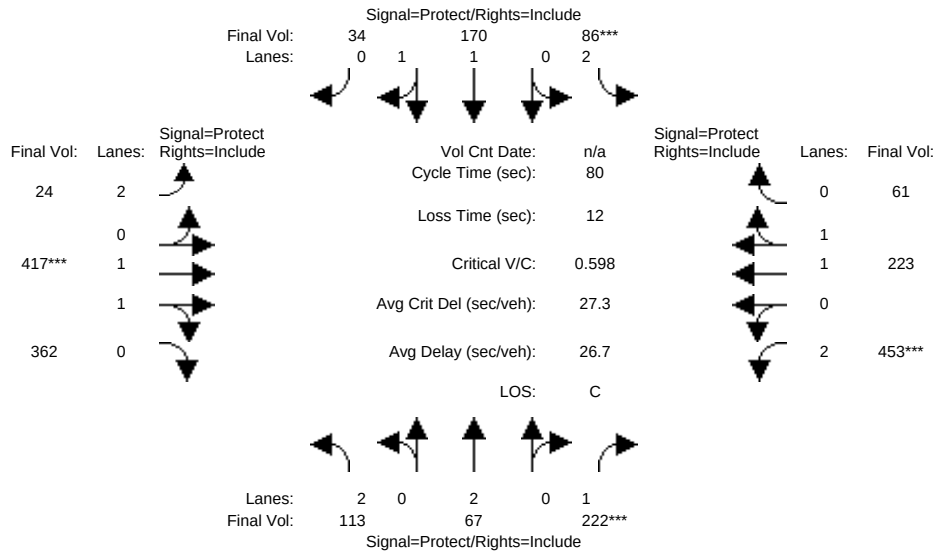


Street Name:	Mary Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	298	161	182	29	43	27	22	189	82	160	411	82
Growth 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
Initial Bse:	298	161	182	29	43	27	22	189	82	160	411	82
Added Vol:	0	0	205	0	0	0	0	0	0	45	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	298	161	387	29	43	27	22	189	82	205	411	82
User 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
PHF 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
PHF Volume:	298	161	387	29	43	27	22	189	82	205	411	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	298	161	387	29	43	27	22	189	82	205	411	82
PCE 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
MLF 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
Final Volume:	298	161	387	29	43	27	22	189	82	205	411	82
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.83	0.99	0.95	0.83	0.98	0.95
Lanes:	2.00	2.00	1.00	2.00	1.21	0.79	2.00	1.38	0.62	2.00	1.66	0.34
Final Sat.:	3150	3800	1750	3150	2272	1426	3150	2580	1119	3150	3084	615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.04	0.22	0.01	0.02	0.02	0.01	0.07	0.07	0.07	0.13	0.13
Crit Moves:			****								****	
Green Time:	23.7	43.1	43.1	7.0	26.4	26.4	7.0	19.4	19.4	13.6	25.9	25.9
Volume/Cap:	0.38	0.09	0.49	0.12	0.07	0.07	0.09	0.36	0.36	0.46	0.49	0.49
Delay/Veh:	29.9	14.9	18.7	41.4	25.3	25.3	41.2	32.8	32.8	38.1	29.3	29.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.9	14.9	18.7	41.4	25.3	25.3	41.2	32.8	32.8	38.1	29.3	29.3
LOS by Move:	C	B	B-	D	C	C	D	C-	C-	D+	C	C
HCM2kAvgQ:	5	1	9	1	1	1	0	4	4	3	6	6
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative PM

Intersection #20: Mary Avenue/Maude Avenue



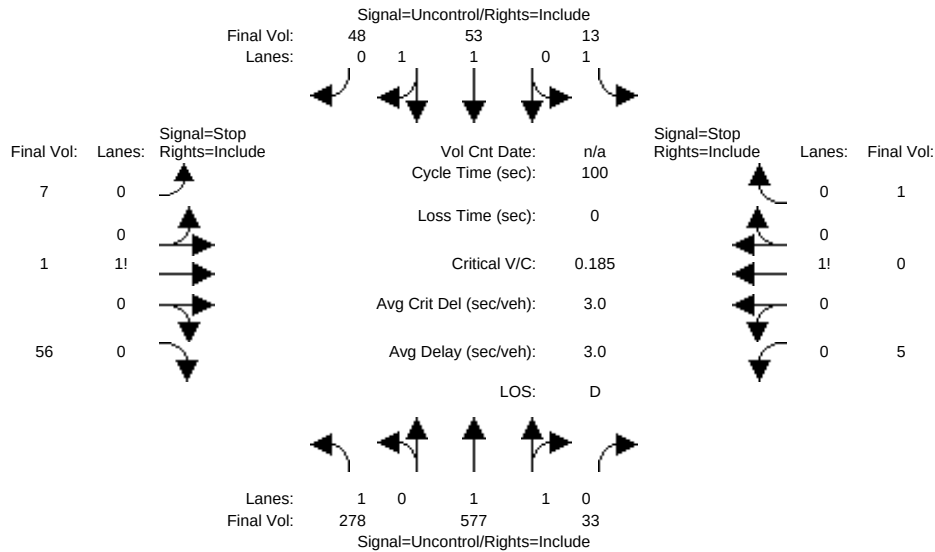
Mary Avenue												
North Bound						South Bound						
Approach:	L - T - R			L - T - R			L - T - R			L - T - R		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	113	67	165	86	170	34	24	417	362	254	223	61
Growth 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
Initial Bse:	113	67	165	86	170	34	24	417	362	254	223	61
Added Vol:	0	0	57	0	0	0	0	0	0	199	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	67	222	86	170	34	24	417	362	453	223	61
User 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
PHF 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
PHF Volume:	113	67	222	86	170	34	24	417	362	453	223	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	67	222	86	170	34	24	417	362	453	223	61
PCE 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
MLF 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
Final Volume:	113	67	222	86	170	34	24	417	362	453	223	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.95	0.83	0.98	0.95
Lanes:	2.00	2.00	1.00	2.00	1.66	0.34	2.00	1.05	0.95	2.00	1.56	0.44
Final Sat.:	3150	3800	1750	3150	3083	617	3150	1979	1718	3150	2905	795
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.13	0.03	0.06	0.06	0.01	0.21	0.21	0.14	0.08	0.08
Crit Moves:	****			****			****			****		
Green Time:	9.5	16.1	16.1	7.0	13.6	13.6	18.5	26.7	26.7	18.2	26.4	26.4
Volume/Cap:	0.30	0.09	0.63	0.31	0.32	0.32	0.03	0.63	0.63	0.63	0.23	0.23
Uniform Del:	32.2	26.0	29.2	34.2	29.2	29.2	23.8	22.5	22.5	27.9	19.4	19.4
IncrementDel:	0.5	0.0	3.7	0.7	0.3	0.3	0.0	1.1	1.1	1.8	0.1	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	32.7	26.0	32.9	34.9	29.5	29.5	23.8	23.6	23.6	29.7	19.5	19.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.7	26.0	32.9	34.9	29.5	29.5	23.8	23.6	23.6	29.7	19.5	19.5
LOS by Move:	C-	C	C-	C-	C	C	C	C	C	C	B-	B-
HCM2kAvgQ:	2	1	6	2	3	3	0	9	9	6	2	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cumulative AM

Intersection #21: Innovation Way/Site Access



Street Name:	Innovation Way						Site Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	165	89	0	0	13	1	3	1	38	0	0	0
Growth 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
Initial Bse:	165	89	0	0	13	1	3	1	38	0	0	0
Added Vol:	113	488	33	13	40	47	4	0	18	5	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	278	577	33	13	53	48	7	1	56	5	0	1
User 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
PHF 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
PHF Volume:	278	577	33	13	53	48	7	1	56	5	0	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	278	577	33	13	53	48	7	1	56	5	0	1
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	101	xxxx	xxxxx	610	xxxx	xxxxx	948	1269	51	1203	1277	305
Potent Cap.:	1504	xxxx	xxxxx	979	xxxx	xxxxx	219	170	1013	142	168	697
Move Cap.:	1504	xxxx	xxxxx	979	xxxx	xxxxx	185	137	1013	114	135	697
Volume/Cap:	0.18	xxxx	xxxx	0.01	xxxx	xxxx	0.04	0.01	0.06	0.04	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.7	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	8.7	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	638	xxxxx	xxxx	132	xxxxx
SharedQueue:	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	0.3	xxxxxx	xxxxxx	0.1	xxxxxx
Shrd ConDel:	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	11.3	xxxxxx	xxxxxx	33.5	xxxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			11.3			33.5		
ApproachLOS:	*			*			B			D		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	278	577		33		13	53		48		7	1		56		5	0		1	
ApproachDel:	xxxxxx				xxxxxx				11.3				33.5							

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=64]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1072]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=6]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1072]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

 Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	278	577		33		13	53		48		7	1		56		5	0		1	

Major Street Volume: 1002

Minor Approach Volume: 64

Minor Approach Volume Threshold: 284

SIGNAL WARRANT DISCLAIMER

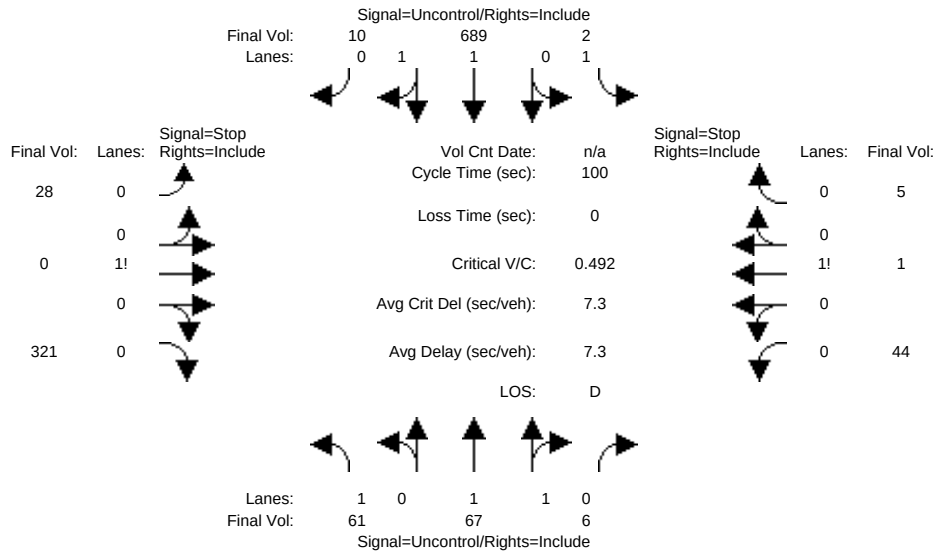
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cumulative PM

Intersection #21: Innovation Way/Site Access



Street Name:	Innovation Way						Site Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	37	21	0	0	249	0	1	0	179	0	1	0
Growth 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
Initial Bse:	37	21	0	0	249	0	1	0	179	0	1	0
Added Vol:	24	46	6	2	440	10	27	0	142	44	0	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	67	6	2	689	10	28	0	321	44	1	5
User 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
PHF 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
PHF Volume:	61	67	6	2	689	10	28	0	321	44	1	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	61	67	6	2	689	10	28	0	321	44	1	5
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflct Vol:	699	xxxx	xxxxx	73	xxxx	xxxxx	854	893	350	541	895	37
Potent Cap.:	907	xxxx	xxxxx	1540	xxxx	xxxxx	256	283	652	429	282	1034
Move Cap.:	907	xxxx	xxxxx	1540	xxxx	xxxxx	240	264	652	206	263	1034
Volume/Cap:	0.07	xxxx	xxxx	0.00	xxxx	xxxx	0.12	0.00	0.49	0.21	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.2	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	9.3	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	574	xxxxx	xxxx	225	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	4.1	xxxxx	xxxxx	0.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxxx	20.5	xxxxx	xxxxx	25.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			20.5			25.5		
ApproachLOS:	*			*			C			D		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

-----	-----					-----					-----					-----				
Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
-----	-----					-----					-----					-----				
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1! 0	0	0	0	1! 0	0	0	
Initial Vol:	61		67		6	2	689		10		28		0	321		44		1		5
ApproachDel:	xxxxxx					xxxxxx					20.5					25.5				

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=2.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=349]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1234]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.4]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=50]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1234]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	61		67		6	2	689		10		28		0	321		44		1		5

Major Street Volume: 835

Minor Approach Volume: 349

Minor Approach Volume Threshold: 347

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

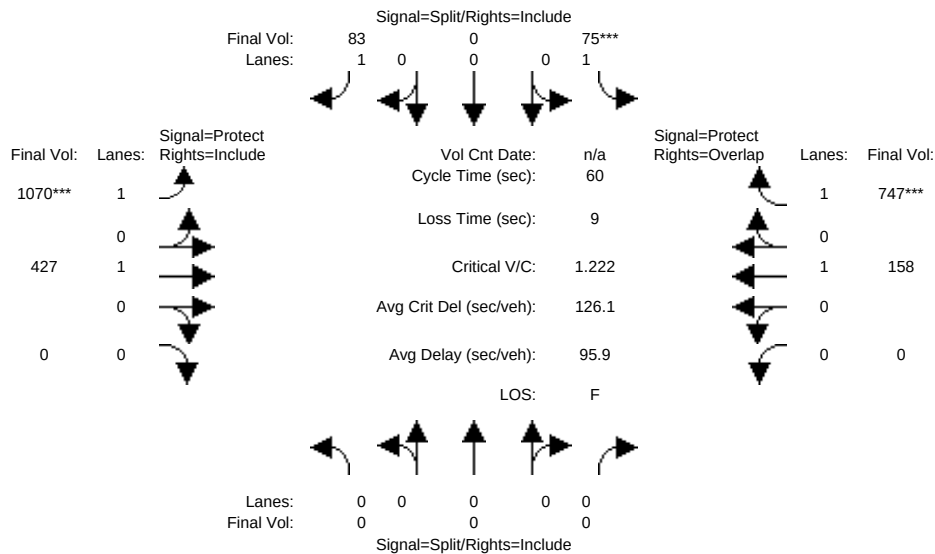
The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Appendix G – Level of Service Worksheets: Cumulative plus
Project Conditions

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #1: Enterprise Way/Moffett Park Drive

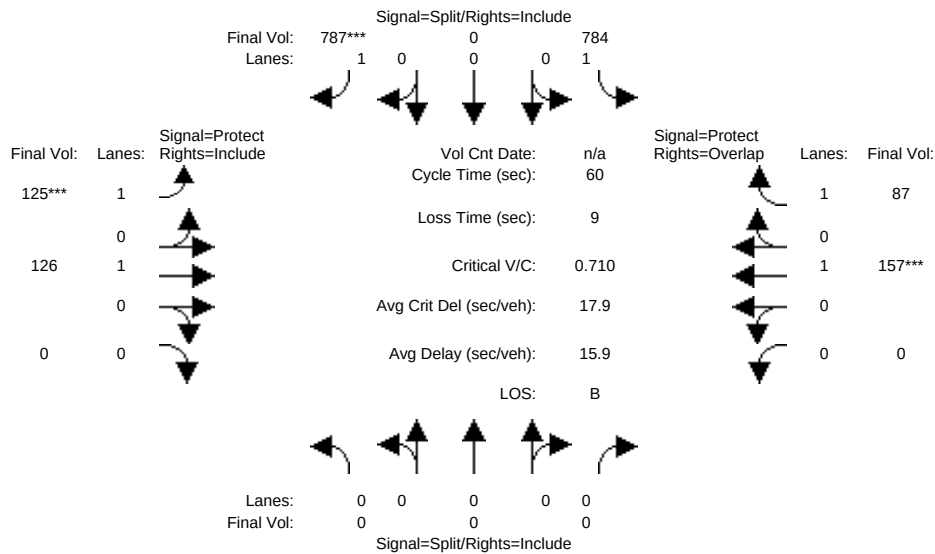


Street Name:	Enterprise Way						Moffett Park Drive								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Min. Green:	0		0		0	10		0		10	7		10		0
Y+R:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Volume Module:															
Base Vol:	0		0		0	30		0		30	238		114		0
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	0		0		0	30		0		30	238		114		0
Added Vol:	0		0		0	45		0		53	832		313		0
Yahoo_NetAp:	0		0		0	0		0		0	0		0		0
Initial Fut:	0		0		0	75		0		83	1070		427		0
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	0		0		0	75		0		83	1070		427		0
Reduct Vol:	0		0		0	0		0		0	0		0		0
Reduced Vol:	0		0		0	75		0		83	1070		427		0
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	0		0		0	75		0		83	1070		427		0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Saturation Flow Module:															
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.92		1.00		0.92	0.92		1.00		0.92	0.92		1.00		0.92
Lanes:	0.00		0.00		0.00	1.00		0.00		1.00	1.00		0.00		1.00
Final Sat.:	0		0		0	1750		0		1750	1750		1900		1750
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Capacity Analysis Module:															
Vol/Sat:	0.00		0.00		0.00	0.04		0.00		0.05	0.61		0.22		0.00
Crit Moves:						****					****				
Green Time:	0.0		0.0		0.0	10.0		0.0		10.0	28.8		41.0		0.0
Volume/Cap:	0.00		0.00		0.00	0.26		0.00		0.28	1.28		0.33		0.00
Delay/Veh:	0.0		0.0		0.0	22.2		0.0		22.4	148.9		4.0		0.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	0.0		0.0		0.0	22.2		0.0		22.4	148.9		4.0		0.0
LOS by Move:	A		A		A	C+		A		C+	F		A		A
HCM2kAvgQ:	0		0		0	2		0		2	55		3		0
Note: Queue reported is the number of cars per lane.															

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #1: Enterprise Way/Moffett Park Drive



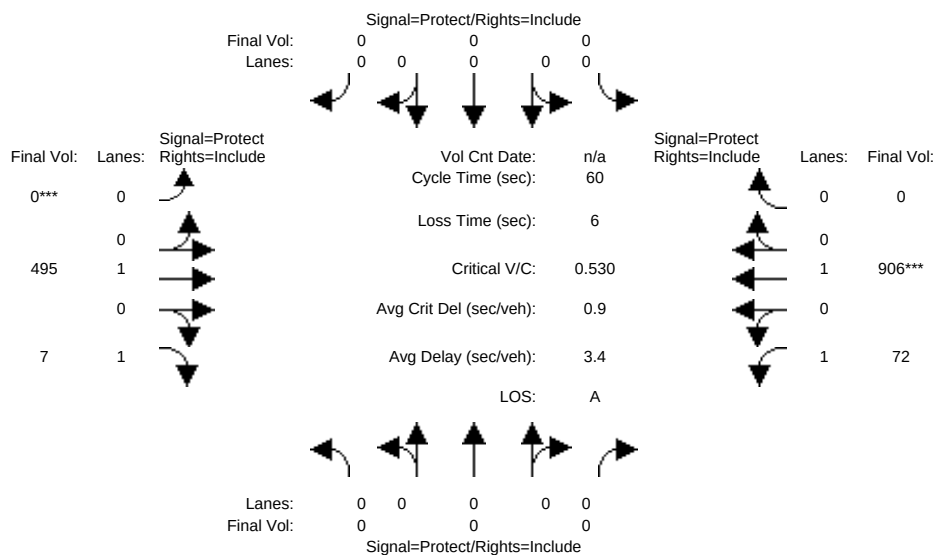
Street Name:	Enterprise Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	280	0	238	34	66	0	0	124	42
Growth 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
Initial Bse:	0	0	0	280	0	238	34	66	0	0	124	42
Added Vol:	0	0	0	504	0	549	91	60	0	0	33	45
Yahoo_NetAp:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	784	0	787	125	126	0	0	157	87
User 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
PHF 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
PHF Volume:	0	0	0	784	0	787	125	126	0	0	157	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	784	0	787	125	126	0	0	157	87
PCE 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
MLF 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
Final Volume:	0	0	0	784	0	787	125	126	0	0	157	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.45	0.00	0.45	0.07	0.07	0.00	0.00	0.08	0.05
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	34.0	0.0	34.0	7.0	17.0	0.0	0.0	10.0	44.0
Volume/Cap:	0.00	0.00	0.00	0.79	0.00	0.79	0.61	0.23	0.00	0.00	0.50	0.07
Uniform Del:	0.0	0.0	0.0	10.2	0.0	10.2	25.2	16.5	0.0	0.0	22.7	2.2
IncrementDel:	0.0	0.0	0.0	4.4	0.0	4.5	5.4	0.2	0.0	0.0	1.2	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	14.6	0.0	14.7	30.6	16.7	0.0	0.0	23.9	2.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	14.6	0.0	14.7	30.6	16.7	0.0	0.0	23.9	2.3
LOS by Move:	A	A	A	B	A	B	C	B	A	A	C	A
HCM2kAvgQ:	0	0	0	15	0	15	4	2	0	0	3	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #2: US-101 NB On-Ramp/Moffett Park Drive

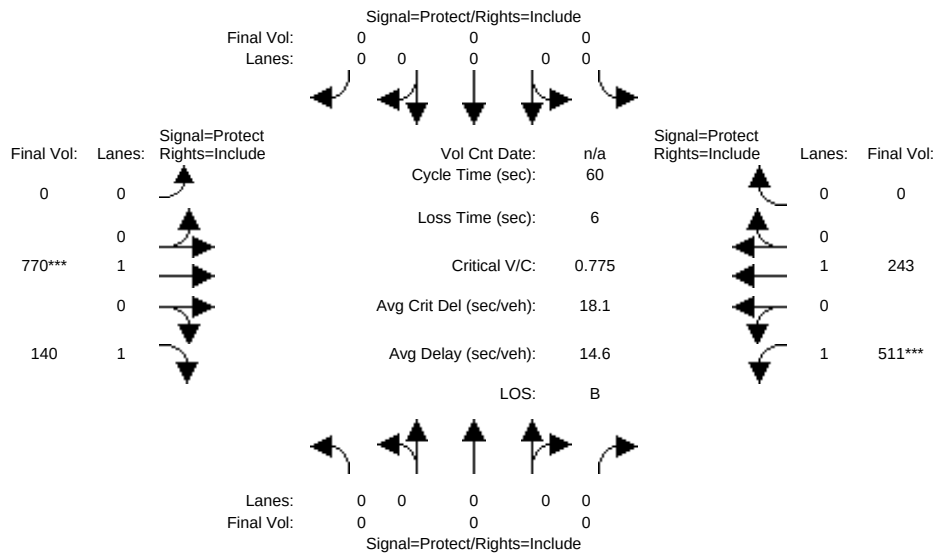


Street Name:	US-101 NB On-Ramp						Moffett Park Drive										
Approach:	North Bound			South Bound			East Bound			West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R		
----- ----- ----- ----- ----- -----																	
Min. Green:	0		0		0	0		0		10		10		7		10	0
Y+R:	0.0		0.0		0.0	0.0		0.0		0.0		0.0		0.0		0.0	0.0
----- ----- ----- ----- ----- -----																	
Volume Module:																	
Base Vol:	0		0		0	0		0		143		1		15		414	0
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00		1.00	1.00
Initial Bse:	0		0		0	0		0		143		1		15		414	0
Added Vol:	0		0		0	0		0		352		6		57		492	0
Yahoo_NetAp:	0		0		0	0		0		0		0		0		0	0
Initial Fut:	0		0		0	0		0		495		7		72		906	0
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00		1.00	1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00		1.00	1.00
PHF Volume:	0		0		0	0		0		495		7		72		906	0
Reduct Vol:	0		0		0	0		0		0		0		0		0	0
Reduced Vol:	0		0		0	0		0		495		7		72		906	0
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00		1.00	1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00		1.00	1.00
FinalVolume:	0		0		0	0		0		495		7		72		906	0
----- ----- ----- ----- ----- -----																	
Saturation Flow Module:																	
Sat/Lane:	1900		1900		1900	1900		1900		1900		1900		1900		1900	1900
Adjustment:	0.92		1.00		0.92	0.92		1.00		0.92		0.92		0.92		1.00	0.92
Lanes:	0.00		0.00		0.00	0.00		0.00		1.00		1.00		1.00		1.00	0.00
Final Sat.:	0		0		0	0		0		1900		1750		1750		1900	0
----- ----- ----- ----- ----- -----																	
Capacity Analysis Module:																	
Vol/Sat:	0.00		0.00		0.00	0.00		0.00		0.26		0.00		0.04		0.48	0.00
Crit Moves:									****							****	
Green Time:	0.0		0.0		0.0	0.0		0.0		37.3		37.3		16.7		54.0	0.0
Volume/Cap:	0.00		0.00		0.00	0.00		0.00		0.42		0.01		0.15		0.53	0.00
Delay/Veh:	0.0		0.0		0.0	0.0		0.0		6.0		4.3		16.4		0.9	0.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00		1.00	1.00
AdjDel/Veh:	0.0		0.0		0.0	0.0		0.0		6.0		4.3		16.4		0.9	0.0
LOS by Move:	A		A		A	A		A		A		A		B		A	A
HCM2kAvgQ:	0		0		0	0		0		5		0		1		4	0
Note: Queue reported is the number of cars per lane.																	

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #2: US-101 NB On-Ramp/Moffett Park Drive



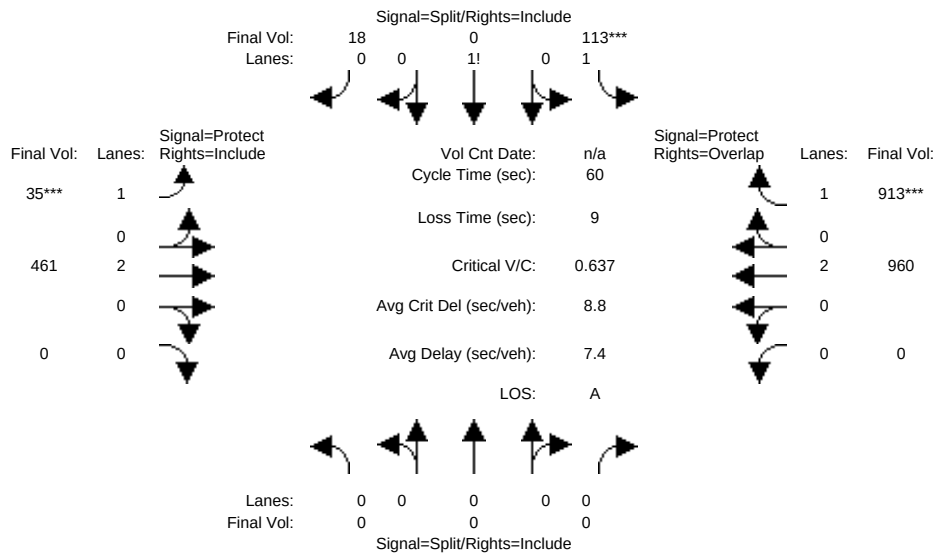
Street Name:	US-101 NB On-Ramp						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	271	75	186	165	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	271	75	186	165	0
Added Vol:	0	0	0	0	0	0	0	499	65	325	78	0
Yahoo_NetAp:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	770	140	511	243	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	0	0	770	140	511	243	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	770	140	511	243	0
PCE 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
MLF 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
Final Volume:	0	0	0	0	0	0	0	770	140	511	243	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	0	0	0	0	1900	1750	1750	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.08	0.29	0.13	0.00
Crit Moves:								****		****		
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.4	31.4	22.6	54.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.15	0.77	0.14	0.00
Uniform Del:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.5	7.4	16.5	0.3	0.0
IncrcmntDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.1	5.7	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.3	7.5	22.2	0.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.3	7.5	22.2	0.4	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C+	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	12	1	9	1	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #3: Innovation Way/Moffett Park Drive

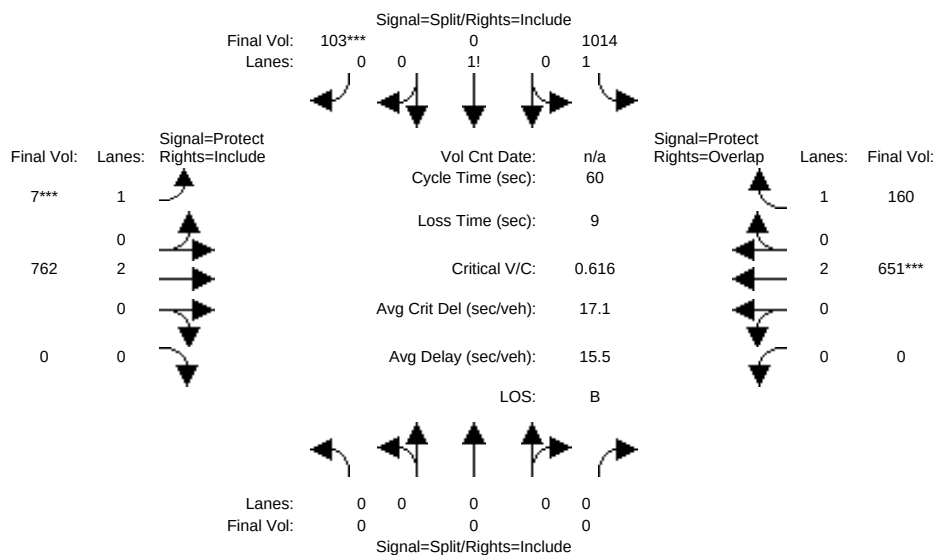


Street Name:	Innovation Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	47	0	9	19	124	0	0	420	258
Growth 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
Initial Bse:	0	0	0	47	0	9	19	124	0	0	420	258
Added Vol:	0	0	0	66	0	9	16	337	0	0	540	655
Yahoo_NetAp:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	113	0	18	35	461	0	0	960	913
User 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
PHF 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
PHF Volume:	0	0	0	113	0	18	35	461	0	0	960	913
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	113	0	18	35	461	0	0	960	913
PCE 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
MLF 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
Final Volume:	0	0	0	113	0	18	35	461	0	0	960	913
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.76	0.00	0.24	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3077	0	423	1750	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.04	0.00	0.04	0.02	0.12	0.00	0.00	0.25	0.52
Crit Moves:				****			****					****
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	7.0	41.0	0.0	0.0	34.0	44.0
Volume/Cap:	0.00	0.00	0.00	0.22	0.00	0.26	0.17	0.18	0.00	0.00	0.45	0.71
Delay/Veh:	0.0	0.0	0.0	21.8	0.0	22.0	24.3	3.5	0.0	0.0	7.7	6.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.8	0.0	22.0	24.3	3.5	0.0	0.0	7.7	6.4
LOS by Move:	A	A	A	C+	A	C+	C	A	A	A	A	A
HCM2kAvgQ:	0	0	0	1	0	2	1	2	0	0	5	9
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #3: Innovation Way/Moffett Park Drive



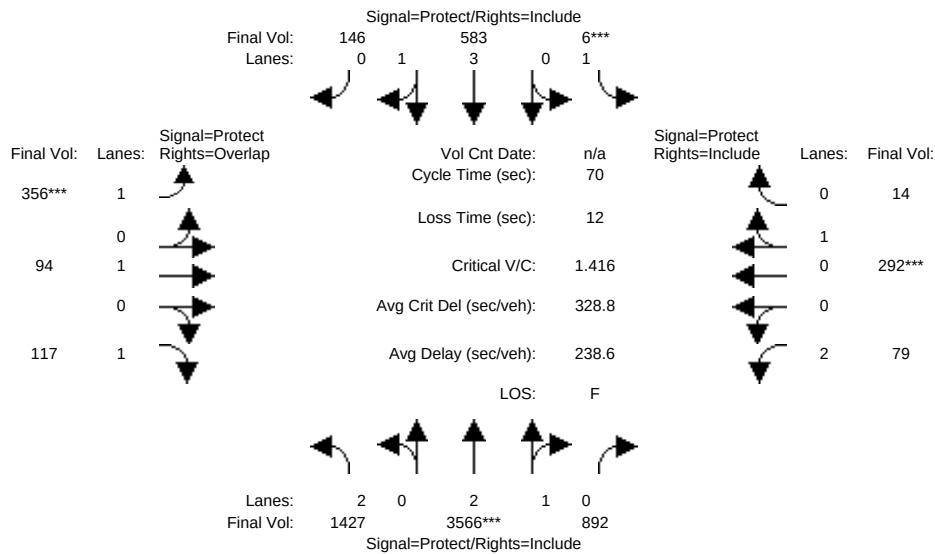
Street Name:	Innovation Way						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	413	0	56	2	268	0	0	295	61
Growth 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
Initial Bse:	0	0	0	413	0	56	2	268	0	0	295	61
Added Vol:	0	0	0	601	0	47	5	494	0	0	356	99
Yahoo_NetAp:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1014	0	103	7	762	0	0	651	160
User 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
PHF 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
PHF Volume:	0	0	0	1014	0	103	7	762	0	0	651	160
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1014	0	103	7	762	0	0	651	160
PCE 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
MLF 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
FinalVolume:	0	0	0	1014	0	103	7	762	0	0	651	160
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.83	0.00	0.17	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3205	0	295	1750	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.32	0.00	0.35	0.00	0.20	0.00	0.00	0.17	0.09
Crit Moves:						****					****	
Green Time:	0.0	0.0	0.0	29.5	0.0	29.5	7.0	21.5	0.0	0.0	14.5	44.0
Volume/Cap:	0.00	0.00	0.00	0.64	0.00	0.71	0.03	0.56	0.00	0.00	0.71	0.12
Uniform Del:	0.0	0.0	0.0	11.3	0.0	11.9	23.5	15.5	0.0	0.0	20.8	2.3
IncrcmntDel:	0.0	0.0	0.0	0.8	0.0	1.5	0.1	0.5	0.0	0.0	2.6	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	12.2	0.0	13.4	23.6	16.0	0.0	0.0	23.4	2.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	12.2	0.0	13.4	23.6	16.0	0.0	0.0	23.4	2.4
LOS by Move:	A	A	A	B	A	B	C	B	A	A	C	A
HCM2kAvgQ:	0	0	0	9	0	11	0	5	0	0	6	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #4: Mathilda Avenue/Moffett Park Drive

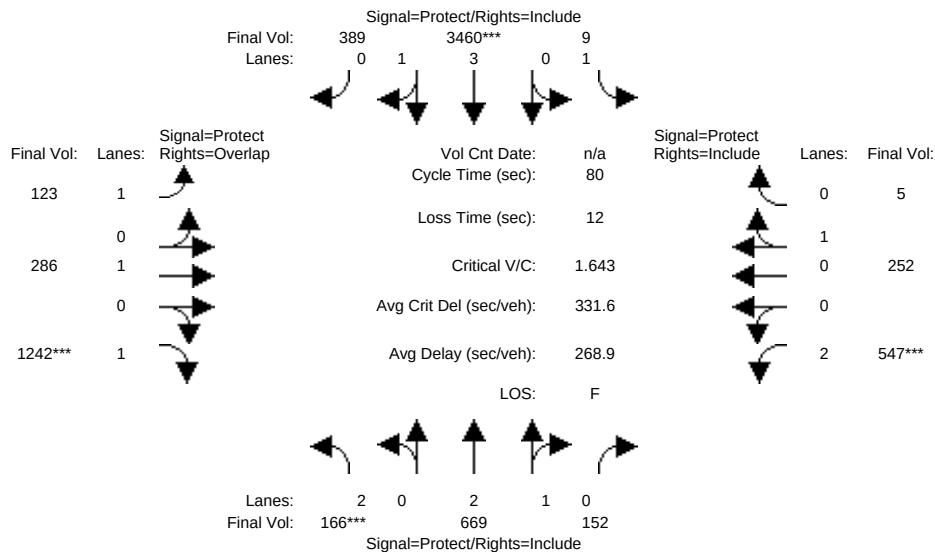


Street Name:	Mathilda Avenue						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	511	1381	836	4	220	73	57	77	30	68	86	4
Growth 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
Initial Bse:	511	1381	836	4	220	73	57	77	30	68	86	4
Added Vol:	916	2048	0	2	334	73	299	17	87	0	206	10
Yahoo_NetAp:	0	137	56	0	29	0	0	0	0	11	0	0
Initial Fut:	1427	3566	892	6	583	146	356	94	117	79	292	14
User 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
PHF 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
PHF Volume:	1427	3566	892	6	583	146	356	94	117	79	292	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1427	3566	892	6	583	146	356	94	117	79	292	14
PCE 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
MLF 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
Final Volume:	1427	3566	892	6	583	146	356	94	117	79	292	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.95	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	2.38	0.62	1.00	3.17	0.83	1.00	1.00	1.00	2.00	0.95	0.05
Final Sat.:	3150	4478	1120	1750	5995	1501	1750	1900	1750	3150	1718	82
Capacity Analysis Module:												
Vol/Sat:	0.45	0.80	0.80	0.00	0.10	0.10	0.20	0.05	0.07	0.03	0.17	0.17
Crit Moves:	****			****			****			****		
Green Time:	29.7	32.7	32.7	7.0	10.0	10.0	8.3	10.8	40.4	7.6	10.0	10.0
Volume/Cap:	1.07	1.71	1.71	0.03	0.68	0.68	1.71	0.32	0.12	0.23	1.19	1.19
Delay/Veh:	65.6	338	338.4	28.5	30.3	30.3	368.6	27.0	6.7	28.9	147	147.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.6	338	338.4	28.5	30.3	30.3	368.6	27.0	6.7	28.9	147	147.4
LOS by Move:	E	F	F	C	C	C	F	C	A	C	F	F
HCM2kAvgQ:	24	108	108	0	4	4	28	2	1	1	17	17
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #4: Mathilda Avenue/Moffett Park Drive



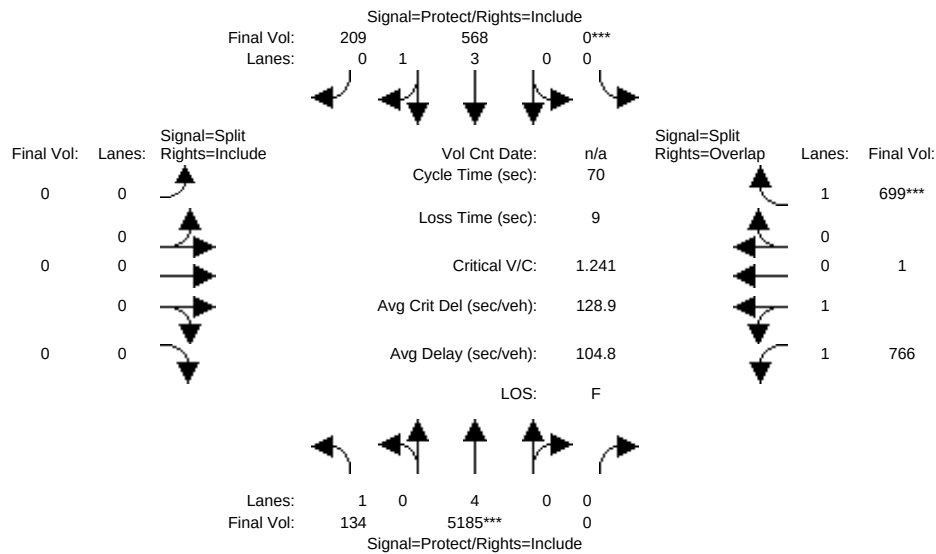
Street Name:	Mathilda Avenue						Moffett Park Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	51	242	143	2	1427	76	52	125	380	493	225	0
Growth 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
Initial Bse:	51	242	143	2	1427	76	52	125	380	493	225	0
Added Vol:	115	403	0	7	1903	313	71	161	862	0	27	5
Yahoo_NetAp:	0	24	9	0	130	0	0	0	0	54	0	0
Initial Fut:	166	669	152	9	3460	389	123	286	1242	547	252	5
User 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
PHF 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
PHF Volume:	166	669	152	9	3460	389	123	286	1242	547	252	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	166	669	152	9	3460	389	123	286	1242	547	252	5
PCE 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
MLF 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
Final Volume:	166	669	152	9	3460	389	123	286	1242	547	252	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	2.42	0.58	1.00	3.58	0.42	1.00	1.00	1.00	2.00	0.98	0.02
Final Sat.:	3150	4562	1036	1750	6741	758	1750	1900	1750	3150	1765	35
Capacity Analysis Module:												
Vol/Sat:	0.05	0.15	0.15	0.01	0.51	0.51	0.07	0.15	0.71	0.17	0.14	0.14
Crit Moves:	****			****			****		****			
Green Time:	7.0	19.4	19.4	11.6	23.9	23.9	14.1	29.0	36.0	8.1	23.0	23.0
Volume/Cap:	0.60	0.61	0.61	0.04	1.72	1.72	0.40	0.42	1.58	1.72	0.50	0.50
Uniform Del:	35.2	26.9	26.9	29.4	28.0	28.0	29.2	19.1	22.0	36.0	23.7	23.7
IncrementDel:	3.7	0.8	0.8	0.1	325	324.5	0.9	0.4	266.0	335.6	0.8	0.8
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	38.9	27.7	27.7	29.5	353	352.6	30.1	19.6	288.0	371.6	24.4	24.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.9	27.7	27.7	29.5	353	352.6	30.1	19.6	288.0	371.6	24.4	24.4
LOS by Move:	D+	C	C	C	F	F	C	B-	F	F	C	C
HCM2kAvgQ:	2	6	6	0	73	73	3	5	93	27	6	6

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps



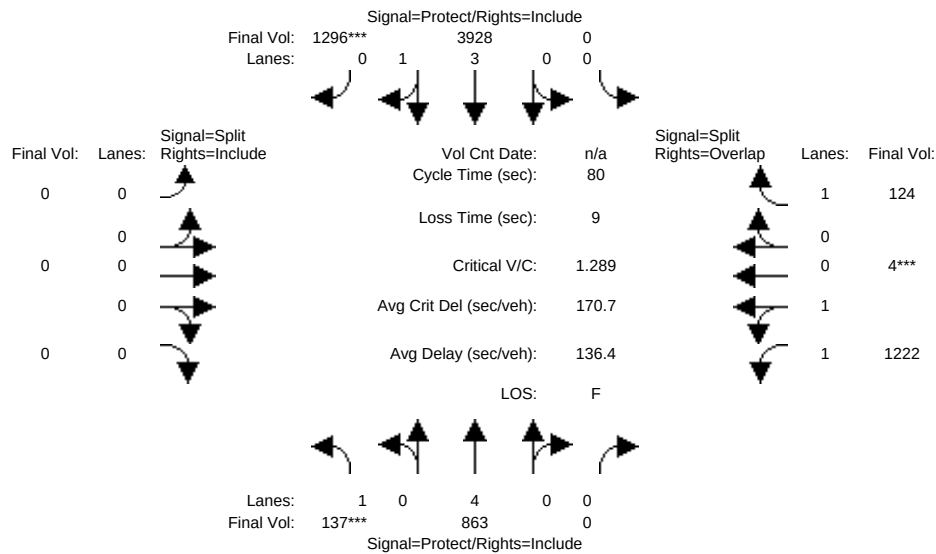
Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	134	2454	0	0	250	67	0	0	0	616	1	274
Growth 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
Initial Bse:	134	2454	0	0	250	67	0	0	0	616	1	274
Added Vol:	0	2538	0	0	302	118	0	0	0	150	0	425
Yahoo_NetAp:	0	193	0	0	16	24	0	0	0	0	0	0
Initial Fut:	134	5185	0	0	568	209	0	0	0	766	1	699
User 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
PHF 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
PHF Volume:	134	5185	0	0	568	209	0	0	0	766	1	699
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	5185	0	0	568	209	0	0	0	766	1	699
PCE 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
MLF 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
Final Volume:	134	5185	0	0	568	209	0	0	0	766	1	699
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5700	1750	0	0	0	3545	5	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.68	0.00	0.00	0.10	0.12	0.00	0.00	0.00	0.22	0.22	0.40
Crit Moves:	****			****						****		
Green Time:	15.8	38.5	0.0	0.0	22.6	22.6	0.0	0.0	0.0	22.5	22.5	22.5
Volume/Cap:	0.34	1.24	0.00	0.00	0.31	0.37	0.00	0.00	0.00	0.67	0.67	1.24
Delay/Veh:	23.2	127	0.0	0.0	17.9	18.3	0.0	0.0	0.0	22.1	22.1	146.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.2	127	0.0	0.0	17.9	18.3	0.0	0.0	0.0	22.1	22.1	146.8
LOS by Move:	C	F	A	A	B	B-	A	A	A	C+	C+	F
HCM2kAvgQ:	2	58	0	0	3	4	0	0	0	9	9	37

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #5: Mathilda Avenue/SR-237 Westbound Ramps



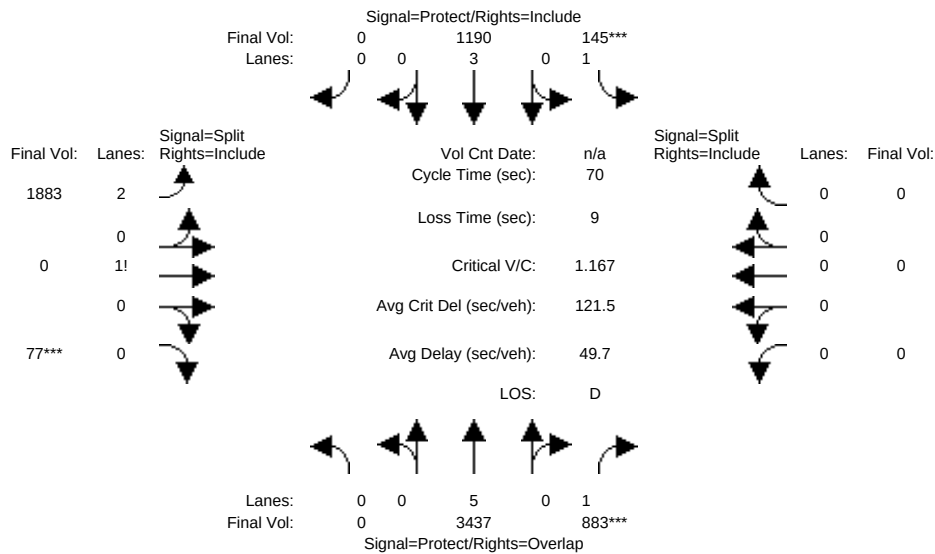
Street Name:	Mathilda Avenue						SR-237 Westbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	137	397	0	0	1800	475	0	0	0	924	4	39
Growth 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
Initial Bse:	137	397	0	0	1800	475	0	0	0	924	4	39
Added Vol:	0	433	0	0	2054	711	0	0	0	298	0	85
Yahoo_NetAp:	0	33	0	0	74	110	0	0	0	0	0	0
Initial Fut:	137	863	0	0	3928	1296	0	0	0	1222	4	124
User 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
PHF 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
PHF Volume:	137	863	0	0	3928	1296	0	0	0	1222	4	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	137	863	0	0	3928	1296	0	0	0	1222	4	124
PCE 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
MLF 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
Final Volume:	137	863	0	0	3928	1296	0	0	0	1222	4	124
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	1.00	4.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1750	7600	0	0	5699	1800	0	0	0	3538	12	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.11	0.00	0.00	0.69	0.72	0.00	0.00	0.00	0.35	0.35	0.07
Crit Moves:	***					***					***	
Green Time:	7.0	50.3	0.0	0.0	43.3	43.3	0.0	0.0	0.0	20.7	20.7	20.7
Volume/Cap:	0.89	0.18	0.00	0.00	1.27	1.33	0.00	0.00	0.00	1.33	1.33	0.27
Uniform Del:	36.1	6.2	0.0	0.0	18.4	18.4	0.0	0.0	0.0	29.6	29.6	23.6
IncrementDel:	43.4	0.0	0.0	0.0	126	151.1	0.0	0.0	0.0	156.7	157	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	79.5	6.3	0.0	0.0	144	169.5	0.0	0.0	0.0	186.4	186	23.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	79.5	6.3	0.0	0.0	144	169.5	0.0	0.0	0.0	186.4	186	23.9
LOS by Move:	E-	A	A	A	F	F	A	A	A	F	F	C
HCM2kAvgQ:	4	2	0	0	65	73	0	0	0	38	38	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps

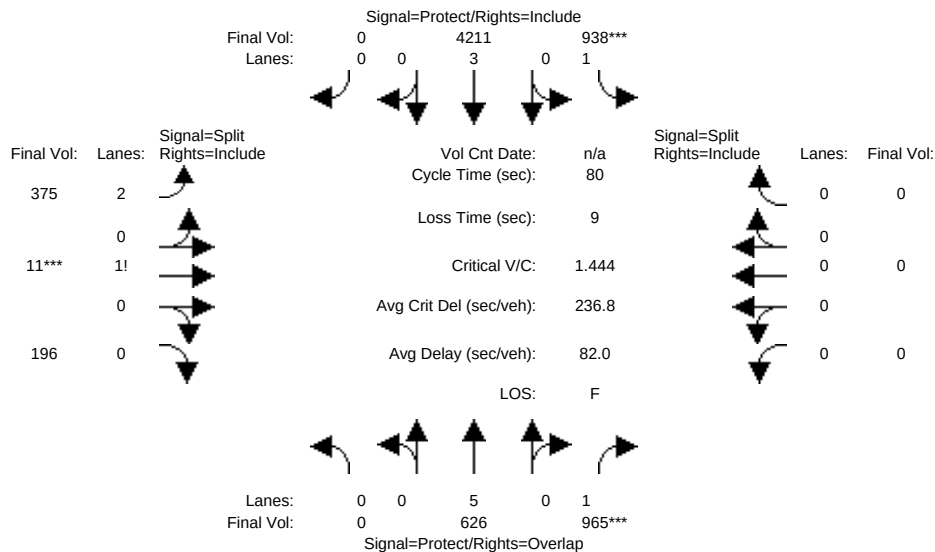


Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	1710	795	59	807	0	878	0	77	0	0	0
Growth 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
Initial Bse:	0	1710	795	59	807	0	878	0	77	0	0	0
Added Vol:	0	1649	88	86	367	0	890	0	0	0	0	0
Yahoo_NetAp:	0	78	0	0	16	0	115	0	0	0	0	0
Initial Fut:	0	3437	883	145	1190	0	1883	0	77	0	0	0
User 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
PHF 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
PHF Volume:	0	3437	883	145	1190	0	1883	0	77	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3437	883	145	1190	0	1883	0	77	0	0	0
PCE 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
MLF 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
Final Volume:	0	3437	883	145	1190	0	1883	0	77	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.86	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.90	0.00	0.10	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	4719	0	179	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.36	0.50	0.08	0.21	0.00	0.40	0.00	0.43	0.00	0.00	0.00
Crit Moves:												
Green Time:	0.0	29.2	29.2	7.0	36.2	0.0	24.8	0.0	24.8	0.0	0.0	0.0
Volume/Cap:	0.00	0.87	1.21	0.83	0.40	0.00	1.13	0.00	1.21	0.00	0.00	0.00
Delay/Veh:	0.0	20.9	127.8	57.7	10.4	0.0	87.0	0.0	123.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	20.9	127.8	57.7	10.4	0.0	87.0	0.0	123.4	0.0	0.0	0.0
LOS by Move:	A	C+	F	E+	B+	A	F	A	F	A	A	A
HCM2kAvgQ:	0	14	41	4	5	0	31	0	38	0	0	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #6: Mathilda Avenue/SR-237 Eastbound Ramps



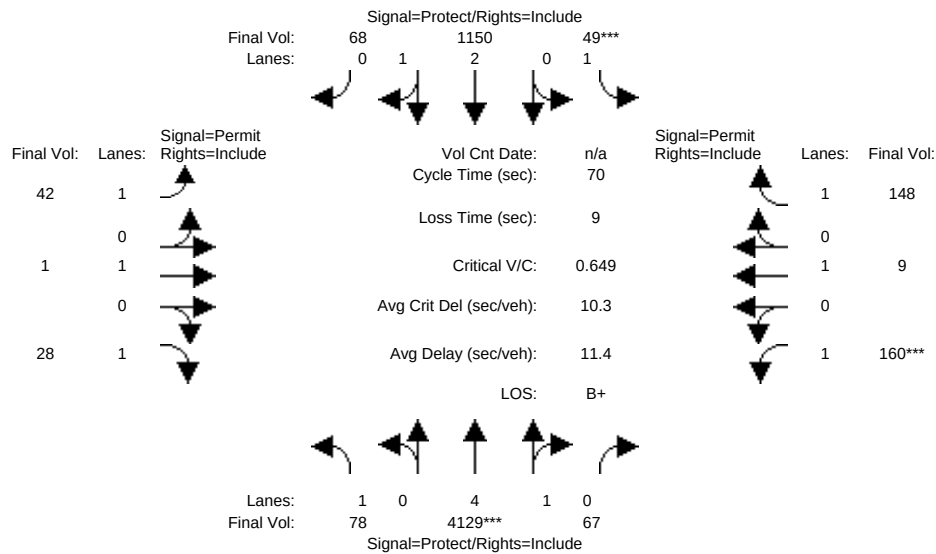
Street Name:	Mathilda Avenue						SR-237 Eastbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	341	607	384	2340	0	193	11	196	0	0	0
Growth 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
Initial Bse:	0	341	607	384	2340	0	193	11	196	0	0	0
Added Vol:	0	271	358	554	1797	0	162	0	0	0	0	0
Yahoo_NetAp:	0	14	0	0	74	0	20	0	0	0	0	0
Initial Fut:	0	626	965	938	4211	0	375	11	196	0	0	0
User 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
PHF 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
PHF Volume:	0	626	965	938	4211	0	375	11	196	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	626	965	938	4211	0	375	11	196	0	0	0
PCE 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
MLF 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
Final Volume:	0	626	965	938	4211	0	375	11	196	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.41	0.03	0.56	0.00	0.00	0.00
Final Sat.:	0	9500	1750	1750	5700	0	3793	57	1008	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.07	0.55	0.54	0.74	0.00	0.10	0.19	0.19	0.00	0.00	0.00
Crit Moves:			****	****				****				
Green Time:	0.0	30.5	30.5	29.7	60.2	0.0	10.8	10.8	10.8	0.0	0.0	0.0
Volume/Cap:	0.00	0.17	1.44	1.44	0.98	0.00	0.73	1.44	1.44	0.00	0.00	0.00
Uniform Del:	0.0	16.4	24.7	25.2	9.3	0.0	33.2	34.6	34.6	0.0	0.0	0.0
IncrementDel:	0.0	0.0	208.3	208.6	9.8	0.0	3.6	214	213.5	0.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Delay/Veh:	0.0	16.4	233.1	233.7	19.2	0.0	36.8	248	248.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	16.4	233.1	233.7	19.2	0.0	36.8	248	248.1	0.0	0.0	0.0
LOS by Move:	A	B	F	F	B-	A	D+	F	F	A	A	A
HCM2kAvgQ:	0	2	65	62	32	0	6	25	25	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #7: Mathilda Avenue/Ross Drive

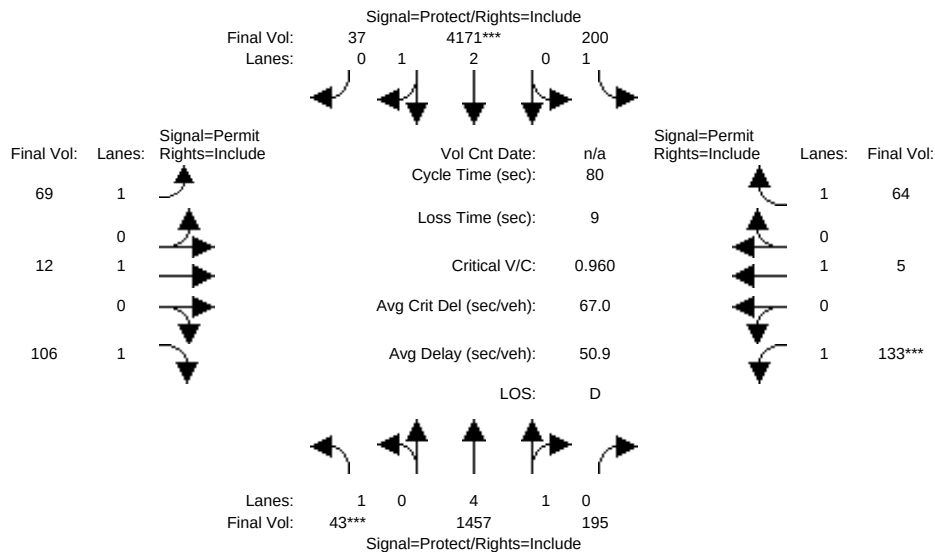


Street Name:	Mathilda Avenue						Ross Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	78	2315	67	49	767	68	42	1	28	160	9	148
Growth 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
Initial Bse:	78	2315	67	49	767	68	42	1	28	160	9	148
Added Vol:	0	1736	0	0	367	0	0	0	0	0	0	0
Yahoo_NetAp:	0	78	0	0	16	0	0	0	0	0	0	0
Initial Fut:	78	4129	67	49	1150	68	42	1	28	160	9	148
User 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
PHF 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
PHF Volume:	78	4129	67	49	1150	68	42	1	28	160	9	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	4129	67	49	1150	68	42	1	28	160	9	148
PCE 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
MLF 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
Final Volume:	78	4129	67	49	1150	68	42	1	28	160	9	148
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	4.92	0.08	1.00	2.83	0.17	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	9250	150	1750	5287	313	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.45	0.45	0.03	0.22	0.22	0.02	0.00	0.02	0.09	0.00	0.08
Crit Moves:	****			****			****			****		
Green Time:	16.1	44.0	44.0	7.0	34.9	34.9	10.0	10.0	10.0	10.0	10.0	10.0
Volume/Cap:	0.19	0.71	0.71	0.28	0.44	0.44	0.17	0.00	0.11	0.64	0.03	0.59
Delay/Veh:	22.0	9.1	9.1	30.0	11.3	11.3	26.7	25.7	26.3	33.8	25.9	31.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.0	9.1	9.1	30.0	11.3	11.3	26.7	25.7	26.3	33.8	25.9	31.8
LOS by Move:	C+	A	A	C	B+	B+	C	C	C	C-	C	C
HCM2kAvgQ:	1	12	12	1	6	6	1	0	1	5	0	4
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #7: Mathilda Avenue/Ross Drive



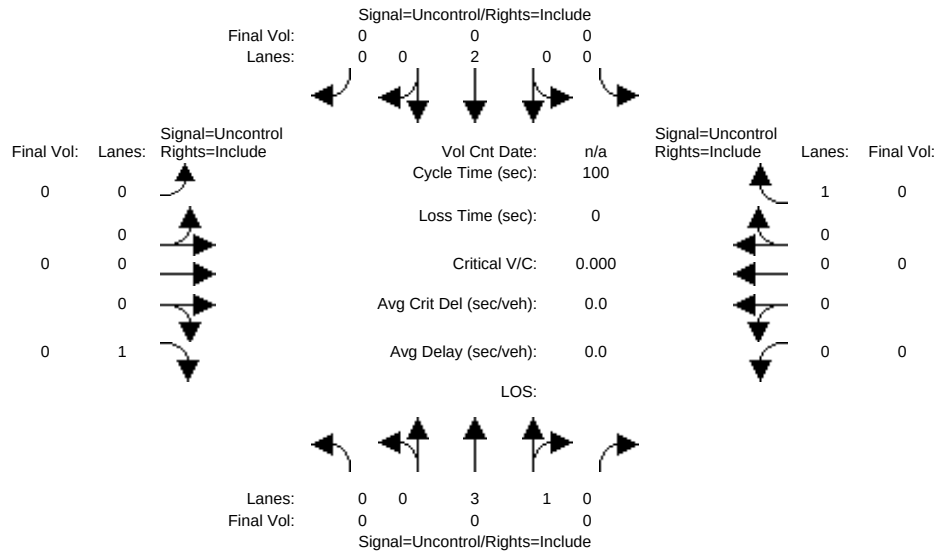
Street Name:	Mathilda Avenue						Ross Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	43	815	195	200	2300	37	69	12	106	133	5	64
Growth 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
Initial Bse:	43	815	195	200	2300	37	69	12	106	133	5	64
Added Vol:	0	628	0	0	1797	0	0	0	0	0	0	0
Yahoo_NetAp:	0	14	0	0	74	0	0	0	0	0	0	0
Initial Fut:	43	1457	195	200	4171	37	69	12	106	133	5	64
User 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
PHF 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
PHF Volume:	43	1457	195	200	4171	37	69	12	106	133	5	64
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	1457	195	200	4171	37	69	12	106	133	5	64
PCE 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
MLF 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
Final Volume:	43	1457	195	200	4171	37	69	12	106	133	5	64
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	4.38	0.62	1.00	2.97	0.03	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	8288	1109	1750	5551	49	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.18	0.18	0.11	0.75	0.75	0.04	0.01	0.06	0.08	0.00	0.04
Crit Moves:	****			****						****		
Green Time:	7.0	37.0	37.0	24.0	54.0	54.0	10.0	10.0	10.0	10.0	10.0	10.0
Volume/Cap:	0.28	0.38	0.38	0.38	1.11	1.11	0.32	0.05	0.48	0.61	0.02	0.29
Uniform Del:	34.1	14.0	14.0	22.1	13.0	13.0	31.9	30.8	32.6	33.1	30.7	31.8
IncrementDel:	1.0	0.1	0.1	0.5	55.3	55.3	0.8	0.1	1.7	4.9	0.0	0.7
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	35.2	14.1	14.1	22.6	68.3	68.3	32.7	30.9	34.3	38.0	30.7	32.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.2	14.1	14.1	22.6	68.3	68.3	32.7	30.9	34.3	38.0	30.7	32.5
LOS by Move:	D+	B	B	C+	E	E	C-	C	C-	D+	C	C-
HCM2kAvgQ:	1	5	5	4	51	51	2	0	3	4	0	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #8: Mathilda Avenue/US-101 Northbound Ramps

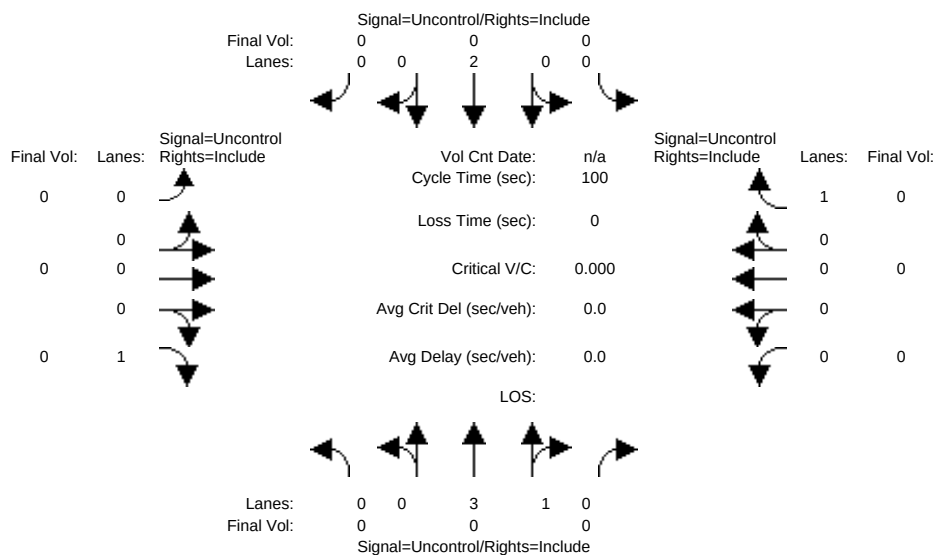


Street Name:	Mathilda Avenue						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1524	509	0	955	0	0	0	820	0	0	937
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1524	509	0	955	0	0	0	820	0	0	937
Added Vol:	0	821	93	0	367	0	0	0	0	0	0	916
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #8: Mathilda Avenue/US-101 Northbound Ramps

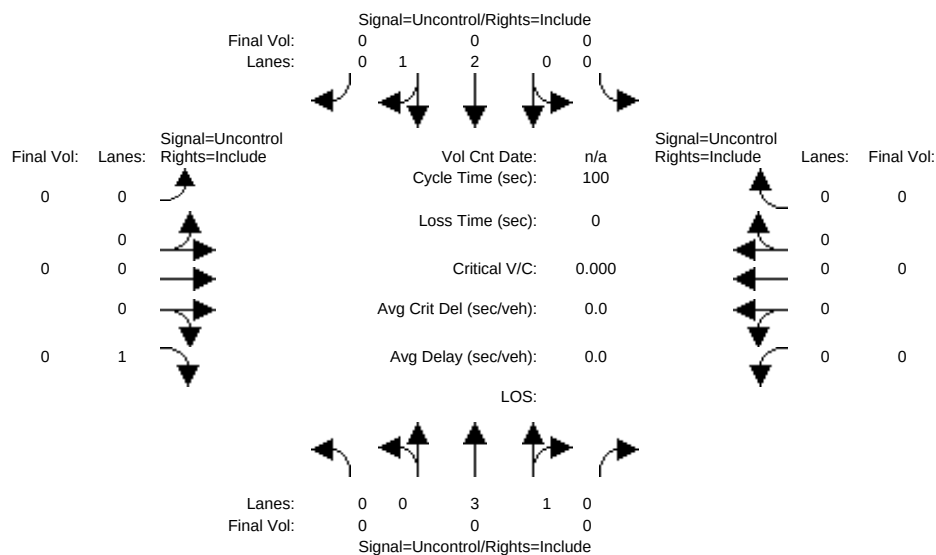


Street Name:	Mathilda Avenue						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	786	368	0	2539	0	0	0	757	0	0	267
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	786	368	0	2539	0	0	0	757	0	0	267
Added Vol:	0	483	369	0	1797	0	0	0	0	0	0	146
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #9: Mathilda Avenue/US-101 Southbound Ramps

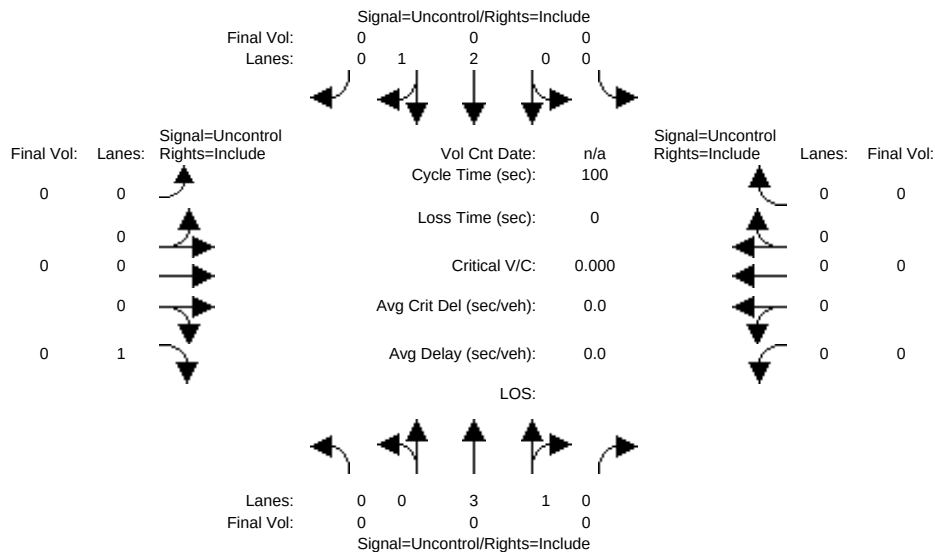


Street Name:	Mathilda Avenue						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	2032	709	0	1556	220	0	0	434	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	2032	709	0	1556	220	0	0	434	0	0	0
Added Vol:	0	898	0	33	243	90	15	0	150	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #9: Mathilda Avenue/US-101 Southbound Ramps

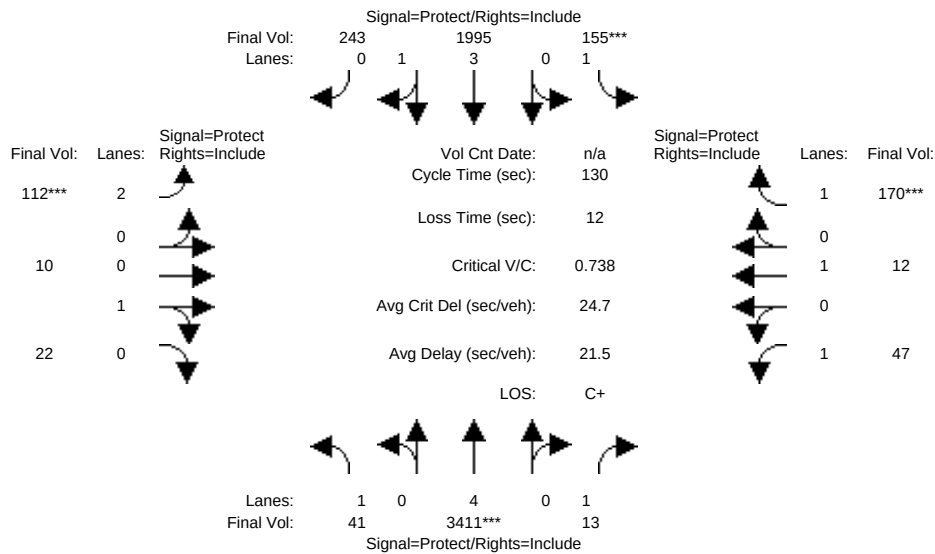


Street Name:	Mathilda Avenue						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	1153	517	0	2619	676	0	0	583	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	1153	517	0	2619	676	0	0	583	0	0	0
Added Vol:	0	844	0	334	946	518	8	0	298	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:	>> Population:0 << >> Run Speed(N/S): 30 MPH <<											
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Level Of Service Module:												
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #10: Mathilda Avenue/Ahwanee Avenue-Almanor Ave

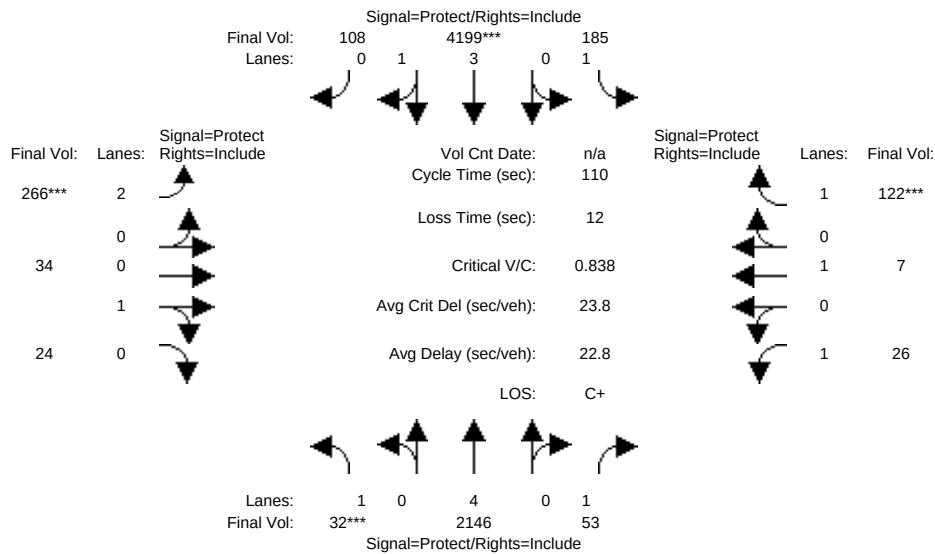


Street Name:	Mathilda Avenue						Ahwanee Avenue-Almanor Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	41	2474	13	155	1594	241	101	10	22	47	12	170
Growth 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
Initial Bse:	41	2474	13	155	1594	241	101	10	22	47	12	170
Added Vol:	0	898	0	0	393	0	0	0	0	0	0	0
Yahoo_NetAp:	0	39	0	0	8	2	11	0	0	0	0	0
Initial Fut:	41	3411	13	155	1995	243	112	10	22	47	12	170
User 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
PHF 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
PHF Volume:	41	3411	13	155	1995	243	112	10	22	47	12	170
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	3411	13	155	1995	243	112	10	22	47	12	170
PCE 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
MLF 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
Final Volume:	41	3411	13	155	1995	243	112	10	22	47	12	170
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	1.00	4.00	1.00	1.00	3.55	0.45	2.00	0.31	0.69	1.00	1.00	1.00
Final Sat.:	1750	7600	1750	1750	6684	814	3150	562	1237	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.45	0.01	0.09	0.30	0.30	0.04	0.02	0.02	0.03	0.01	0.10
Crit Moves:	****			****			****					****
Green Time:	14.4	78.5	78.5	15.5	79.6	79.6	7.0	14.1	14.1	9.9	17.0	17.0
Volume/Cap:	0.21	0.74	0.01	0.74	0.49	0.49	0.66	0.16	0.16	0.35	0.05	0.74
Delay/Veh:	53.2	19.2	10.3	68.8	14.0	14.0	69.6	53.0	53.0	58.6	49.5	66.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.2	19.2	10.3	68.8	14.0	14.0	69.6	53.0	53.0	58.6	49.5	66.8
LOS by Move:	D-	B-	B+	E	B	B	E	D-	D-	E+	D	E
HCM2kAvgQ:	1	23	0	7	12	12	4	1	1	2	0	9
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #10: Mathilda Avenue/Ahwanee Avenue-Almanor Ave



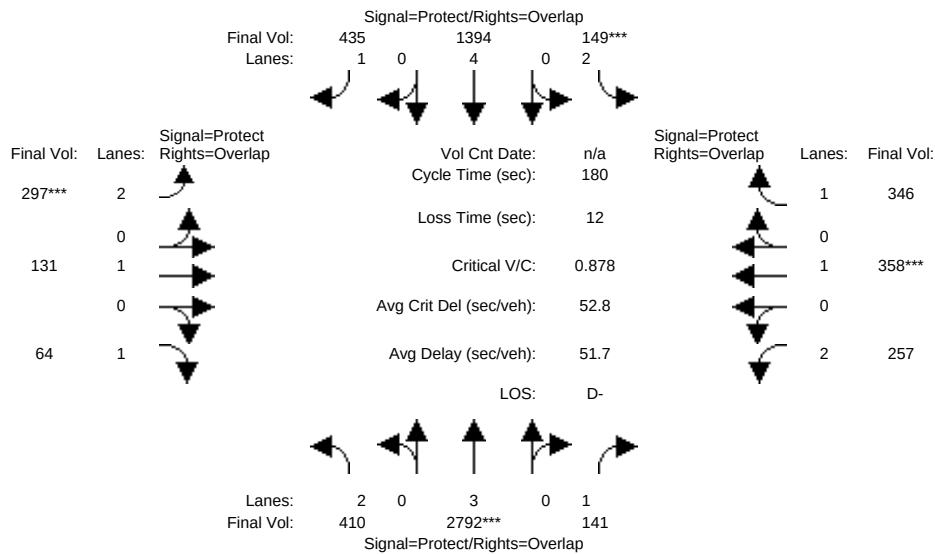
Street Name:	Mathilda Avenue						Ahwanee Avenue-Almanor Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	32	1295	53	185	2920	97	264	34	24	26	7	122
Growth 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
Initial Bse:	32	1295	53	185	2920	97	264	34	24	26	7	122
Added Vol:	0	844	0	0	1243	0	0	0	0	0	0	0
Yahoo_NetAp:	0	7	0	0	36	11	2	0	0	0	0	0
Initial Fut:	32	2146	53	185	4199	108	266	34	24	26	7	122
User 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
PHF 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
PHF Volume:	32	2146	53	185	4199	108	266	34	24	26	7	122
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	2146	53	185	4199	108	266	34	24	26	7	122
PCE 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
MLF 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
Final Volume:	32	2146	53	185	4199	108	266	34	24	26	7	122
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.83	0.95	0.95	0.92	1.00	0.92
Lanes:	1.00	4.00	1.00	1.00	3.90	0.10	2.00	0.59	0.41	1.00	1.00	1.00
Final Sat.:	1750	7600	1750	1750	7312	188	3150	1055	745	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.28	0.03	0.11	0.57	0.57	0.08	0.03	0.03	0.01	0.00	0.07
Crit Moves:	****			****			****					****
Green Time:	7.0	56.5	56.5	21.1	70.6	70.6	10.4	12.0	12.0	8.4	10.0	10.0
Volume/Cap:	0.29	0.55	0.06	0.55	0.89	0.89	0.89	0.30	0.30	0.19	0.04	0.77
Uniform Del:	49.1	18.1	13.4	40.1	16.6	16.6	49.3	45.1	45.1	47.6	45.6	48.9
IncrementDel:	1.4	0.2	0.0	1.9	2.5	2.5	27.2	0.8	0.8	0.7	0.1	19.8
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	50.5	18.3	13.5	42.1	19.1	19.1	76.4	46.0	46.0	48.4	45.7	68.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.5	18.3	13.5	42.1	19.1	19.1	76.4	46.0	46.0	48.4	45.7	68.7
LOS by Move:	D	B-	B	D	B-	B-	E-	D	D	D	D	E
HCM2kAvgQ:	1	12	1	6	29	29	8	2	2	1	0	6

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #11: Mathilda Avenue/Maude Avenue

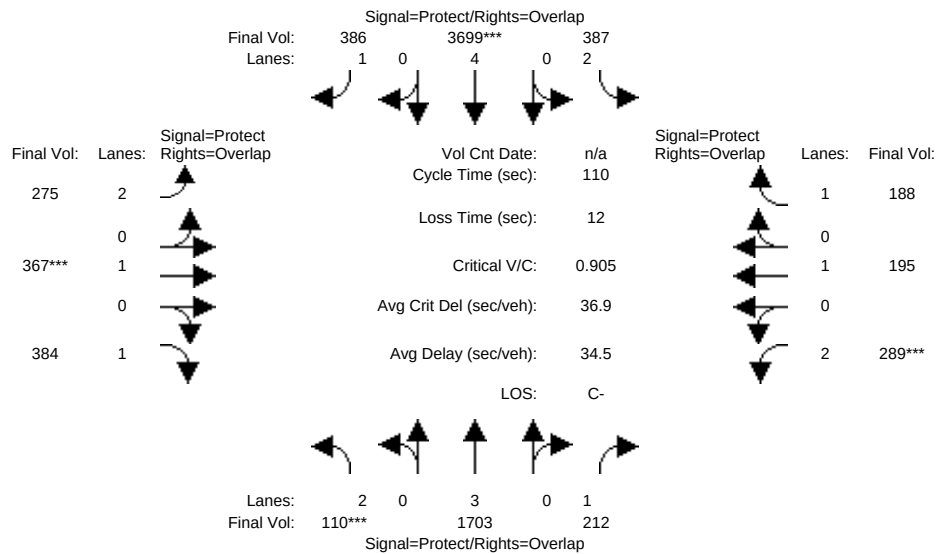


Street Name:	Mathilda Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	410	2085	61	146	1022	410	106	114	64	189	338	307
Growth 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
Initial Bse:	410	2085	61	146	1022	410	106	114	64	189	338	307
Added Vol:	0	668	80	3	364	25	191	17	0	68	20	39
Yahoo_NetAp:	0	39	0	0	8	0	0	0	0	0	0	0
Initial Fut:	410	2792	141	149	1394	435	297	131	64	257	358	346
User 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
PHF 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
PHF Volume:	410	2792	141	149	1394	435	297	131	64	257	358	346
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	410	2792	141	149	1394	435	297	131	64	257	358	346
PCE 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
MLF 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
Final Volume:	410	2792	141	149	1394	435	297	131	64	257	358	346
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	4.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	3150	5700	1750	3150	7600	1750	3150	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.49	0.08	0.05	0.18	0.25	0.09	0.07	0.04	0.08	0.19	0.20
Crit Moves:	****			****			****			****		
Green Time:	45.7	100	131.8	9.7	64.4	83.7	19.3	26.5	72.2	31.4	38.6	48.3
Volume/Cap:	0.51	0.88	0.11	0.88	0.51	0.53	0.88	0.47	0.09	0.47	0.88	0.74
Delay/Veh:	60.0	38.3	7.2	127.5	46.2	36.8	105.2	75.8	33.7	69.6	91.0	69.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.0	38.3	7.2	127.5	46.2	36.8	105.2	75.8	33.7	69.6	91.0	69.9
LOS by Move:	E+	D+	A	F	D	D+	F	E-	C-	E	F	E
HCM2kAvgQ:	11	47	2	6	15	18	11	7	2	8	22	20
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #11: Mathilda Avenue/Maude Avenue



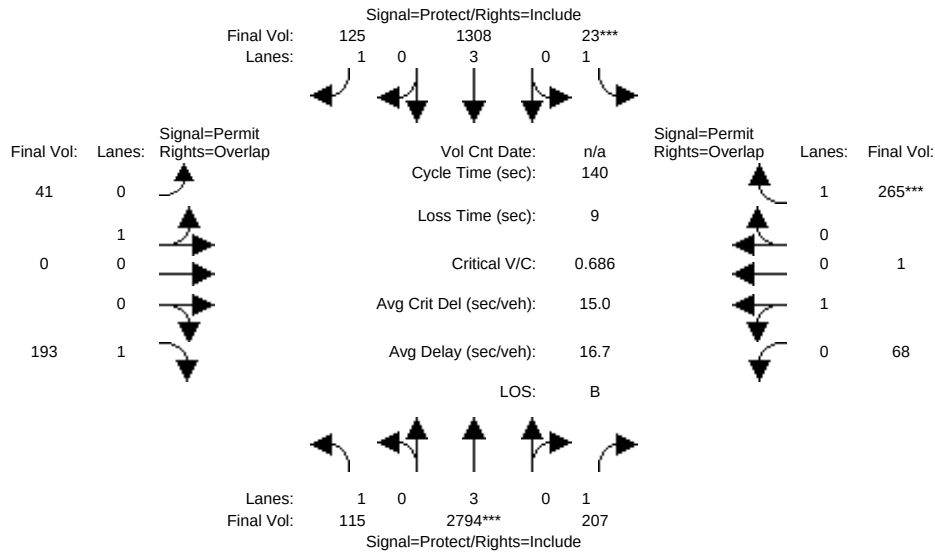
Street Name:			Mathilda Avenue				Maude Avenue											
Approach:			North Bound		South Bound			East Bound			West Bound							
Movement:			L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	
-----			-----				-----				-----							
Min. Green:			7		10		10	7		10		10	7		10		10	
Y+R:			0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0	
-----			-----				-----				-----							
Volume Module:																		
Base Vol:			110		900		122	358	2622		212	244	339		384	184	168	171
Growth Adj:			1.00		1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	
Initial Bse:			110		900		122	358	2622		212	244	339		384	184	168	171
Added Vol:			0		796		90	29	1041		174	31	28		0	105	27	17
Yahoo_NetAp:			0		7		0	0	36		0	0	0		0	0	0	0
Initial Fut:			110		1703		212	387	3699		386	275	367		384	289	195	188
User Adj:			1.00		1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	
PHF Adj:			1.00		1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	
PHF Volume:			110		1703		212	387	3699		386	275	367		384	289	195	188
Reduct Vol:			0		0		0	0	0		0	0		0	0	0	0	
Reduced Vol:			110		1703		212	387	3699		386	275	367		384	289	195	188
PCE Adj:			1.00		1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	
MLF Adj:			1.00		1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	
FinalVolume:			110		1703		212	387	3699		386	275	367		384	289	195	188
-----			-----				-----				-----							
Saturation Flow Module:																		
Sat/Lane:			1900		1900		1900	1900	1900		1900	1900		1900	1900	1900	1900	
Adjustment:			0.83		1.00		0.92	0.83	1.00		0.92	0.83	1.00		0.92	0.83	1.00	0.92
Lanes:			2.00		3.00		1.00	2.00	4.00		1.00	2.00	1.00		1.00	2.00	1.00	1.00
Final Sat.:			3150		5700		1750	3150	7600		1750	3150	1900		1750	3150	1900	1750
-----			-----				-----				-----							
Capacity Analysis Module:																		
Vol/Sat:			0.03		0.30		0.12	0.12	0.49		0.22	0.09	0.19		0.22	0.09	0.10	0.11
Crit Moves:			****					****				****				****		
Green Time:			7.0		45.6		56.5	18.8	57.4		72.8	15.4	22.8		29.8	10.8	18.2	36.9
Volume/Cap:			0.55		0.72		0.24	0.72	0.93		0.33	0.62	0.93		0.81	0.93	0.62	0.32
Uniform Del:			50.0		26.9		14.8	43.1	24.5		8.1	44.5	42.9		37.5	49.2	42.7	27.2
IncrementDel:			3.2		1.1		0.1	4.7	4.8		0.2	2.7	28.9		10.1	33.9	3.8	0.3
InitQueueDel:			0.0		0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:			53.2		28.0		15.0	47.9	29.3		8.2	47.3	71.8		47.6	83.1	46.6	27.5
User DelAdj:			1.00		1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:			53.2		28.0		15.0	47.9	29.3		8.2	47.3	71.8		47.6	83.1	46.6	27.5
LOS by Move:			D-		C		B	D	C		A	D	E		D	F	D	C
HCM2kAvqQ:			2		16		4	7	29		6	5	14		13	9	7	5

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #12: Mathilda Avenue/Indio Way

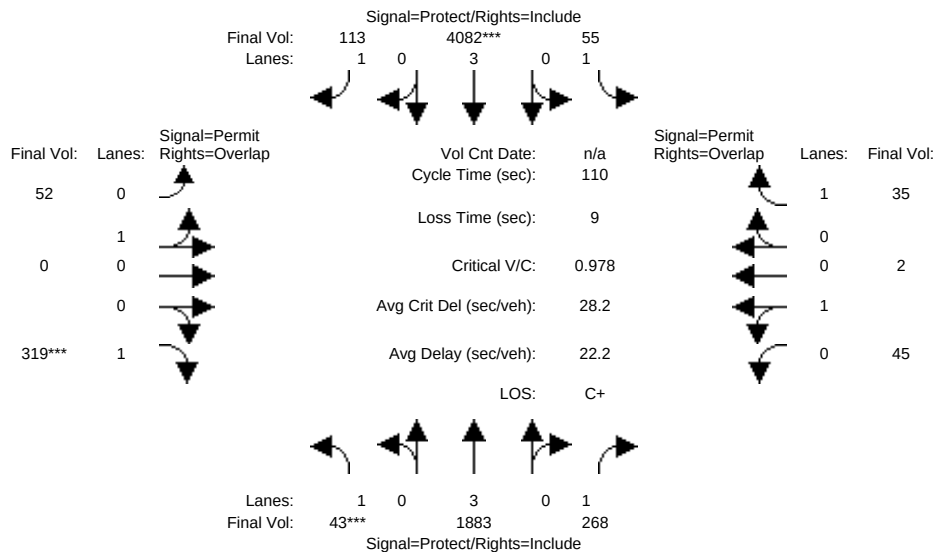


Street Name:	Mathilda Avenue						Indio Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	115	2060	178	22	894	108	41	0	193	68	1	252
Growth 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
Initial Bse:	115	2060	178	22	894	108	41	0	193	68	1	252
Added Vol:	0	734	29	1	414	17	0	0	0	0	0	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	115	2794	207	23	1308	125	41	0	193	68	1	265
User 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
PHF 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
PHF Volume:	115	2794	207	23	1308	125	41	0	193	68	1	265
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	115	2794	207	23	1308	125	41	0	193	68	1	265
PCE 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
MLF 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
Final Volume:	115	2794	207	23	1308	125	41	0	193	68	1	265
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.00	1.00	0.99	0.01	1.00
Final Sat.:	1750	5700	1750	1750	5700	1750	1800	0	1750	1774	26	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.49	0.12	0.01	0.23	0.07	0.02	0.00	0.11	0.04	0.04	0.15
Crit Moves:	****			****								****
Green Time:	24.4	103	102.7	7.0	85.3	85.3	21.3	0.0	45.7	21.3	21.3	28.3
Volume/Cap:	0.38	0.67	0.16	0.26	0.38	0.12	0.15	0.00	0.34	0.25	0.25	0.75
Delay/Veh:	51.8	10.1	5.7	65.6	13.9	11.6	51.8	0.0	36.1	52.9	52.9	61.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.8	10.1	5.7	65.6	13.9	11.6	51.8	0.0	36.1	52.9	52.9	61.2
LOS by Move:	D-	B+	A	E	B	B+	D-	A	D+	D-	D-	E
HCM2kAvgQ:	4	20	3	1	9	2	2	0	7	3	3	13
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #12: Mathilda Avenue/Indio Way



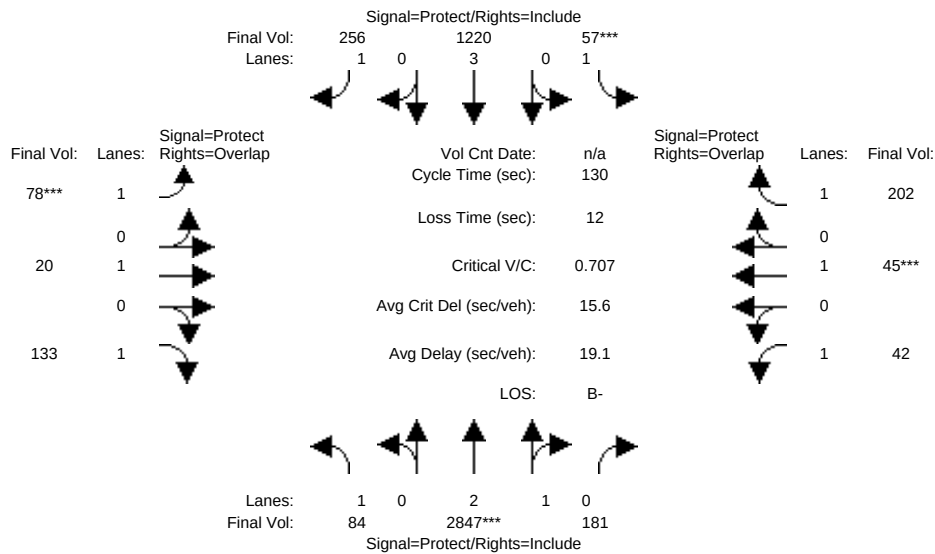
Street Name:	Mathilda Avenue						Indio Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	43	999	149	44	2985	75	52	0	319	45	2	34
Growth 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
Initial Bse:	43	999	149	44	2985	75	52	0	319	45	2	34
Added Vol:	0	884	119	11	1097	38	0	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	43	1883	268	55	4082	113	52	0	319	45	2	35
User 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
PHF 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
PHF Volume:	43	1883	268	55	4082	113	52	0	319	45	2	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	1883	268	55	4082	113	52	0	319	45	2	35
PCE 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
MLF 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
Final Volume:	43	1883	268	55	4082	113	52	0	319	45	2	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.00	1.00	0.96	0.04	1.00
Final Sat.:	1750	5700	1750	1750	5700	1750	1800	0	1750	1723	77	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.33	0.15	0.03	0.72	0.06	0.03	0.00	0.18	0.03	0.03	0.02
Crit Moves:	****			****					****			
Green Time:	7.0	73.5	73.5	14.2	80.6	80.6	13.4	0.0	20.4	13.4	13.4	27.5
Volume/Cap:	0.39	0.49	0.23	0.24	0.98	0.09	0.24	0.00	0.98	0.21	0.21	0.08
Uniform Del:	49.4	9.1	7.2	43.1	13.8	4.2	43.7	0.0	44.7	43.6	43.6	31.6
IncrementDel:	2.2	0.1	0.1	0.6	9.3	0.0	0.6	0.0	45.7	0.5	0.5	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	51.7	9.2	7.3	43.7	23.1	4.2	44.3	0.0	90.4	44.1	44.1	31.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.7	9.2	7.3	43.7	23.1	4.2	44.3	0.0	90.4	44.1	44.1	31.6
LOS by Move:	D-	A	A	D	C	A	D	A	F	D	D	C
HCM2kAvgQ:	1	10	4	2	44	1	2	0	17	2	2	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #13: Mathilda Avenue/California Way

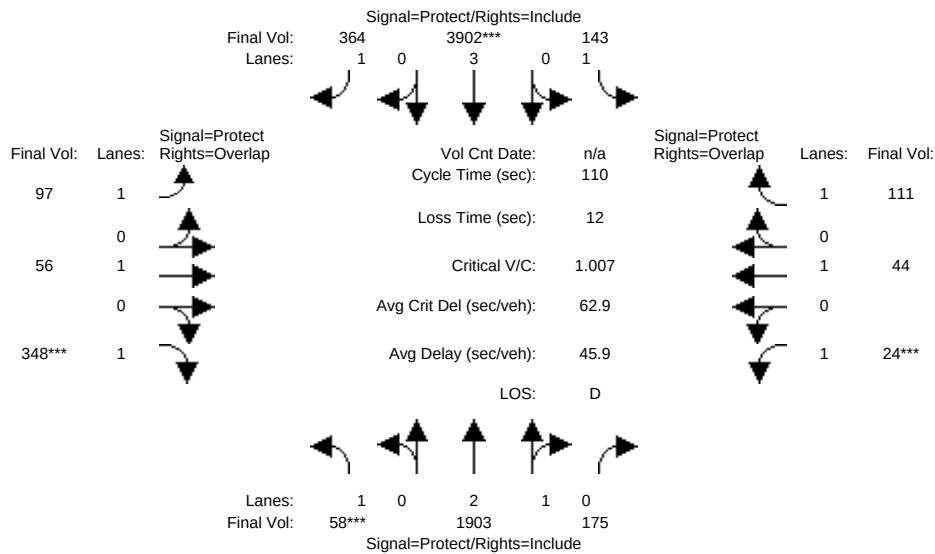


Street Name:	Mathilda Avenue						California Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	84	2120	181	57	806	256	78	20	83	42	45	166
Growth 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
Initial Bse:	84	2120	181	57	806	256	78	20	83	42	45	166
Added Vol:	0	727	0	0	414	0	0	0	50	0	0	36
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	84	2847	181	57	1220	256	78	20	133	42	45	202
User 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
PHF 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
PHF Volume:	84	2847	181	57	1220	256	78	20	133	42	45	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	2847	181	57	1220	256	78	20	133	42	45	202
PCE 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
MLF 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
Final Volume:	84	2847	181	57	1220	256	78	20	133	42	45	202
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.81	0.19	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5265	335	1750	5700	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.54	0.54	0.03	0.21	0.15	0.04	0.01	0.08	0.02	0.02	0.12
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	20.2	93.3	93.3	7.0	80.1	80.1	7.7	10.4	30.6	7.3	10.0	17.0
Volume/Cap:	0.31	0.75	0.75	0.60	0.35	0.24	0.75	0.13	0.32	0.43	0.31	0.88
Delay/Veh:	49.4	12.1	12.1	70.8	12.2	11.3	86.6	56.0	41.6	62.3	57.9	86.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.4	12.1	12.1	70.8	12.2	11.3	86.6	56.0	41.6	62.3	57.9	86.0
LOS by Move:	D	B	B	E	B	B+	F	E+	D	E	E+	F
HCM2kAvgQ:	3	26	26	2	8	5	5	1	5	2	2	12
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #13: Mathilda Avenue/California Way



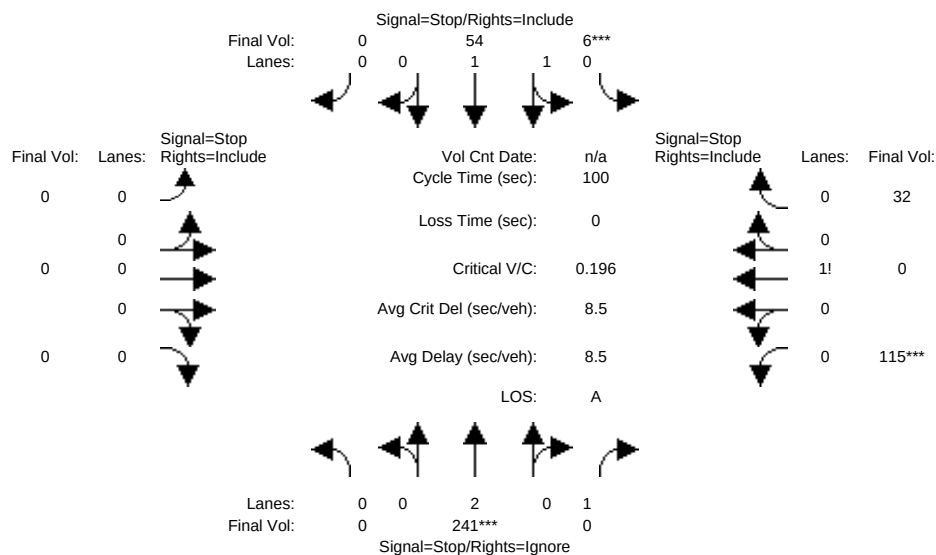
Street Name:	Mathilda Avenue						California Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	58	918	175	143	2805	364	97	56	249	24	44	92
Growth 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
Initial Bse:	58	918	175	143	2805	364	97	56	249	24	44	92
Added Vol:	0	985	0	0	1097	0	0	0	99	0	0	19
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	58	1903	175	143	3902	364	97	56	348	24	44	111
User 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
PHF 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
PHF Volume:	58	1903	175	143	3902	364	97	56	348	24	44	111
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	1903	175	143	3902	364	97	56	348	24	44	111
PCE 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
MLF 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
Final Volume:	58	1903	175	143	3902	364	97	56	348	24	44	111
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.74	0.26	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5128	472	1750	5700	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.37	0.37	0.08	0.68	0.21	0.06	0.03	0.20	0.01	0.02	0.06
Crit Moves:	***			***			***		***	***		
Green Time:	7.0	63.2	63.2	13.9	70.1	70.1	8.6	13.9	20.9	7.0	12.3	26.2
Volume/Cap:	0.52	0.65	0.65	0.65	1.07	0.33	0.71	0.23	1.05	0.22	0.21	0.27
Uniform Del:	49.9	15.8	15.8	45.7	19.9	9.1	49.5	43.3	44.6	48.9	44.4	34.1
IncrementDel:	4.4	0.5	0.5	6.5	39.2	0.2	15.9	0.5	62.8	1.0	0.5	0.3
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	54.2	16.3	16.3	52.1	59.1	9.3	65.4	43.8	107.3	49.9	44.9	34.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.2	16.3	16.3	52.1	59.1	9.3	65.4	43.8	107.3	49.9	44.9	34.4
LOS by Move:	D-	B	B	D-	E+	A	E	D	F	D	D	C-
HCM2kAvgQ:	3	16	16	5	52	6	5	2	20	1	1	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #14: Ellis Street/Manila Drive



Street Name:	Ellis Street						Manila Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	241	386	6	54	0	0	0	0	56	0	32
Growth 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
Initial Bse:	0	241	386	6	54	0	0	0	0	56	0	32
Added Vol:	0	0	1145	0	0	0	0	0	0	59	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	241	1531	6	54	0	0	0	0	115	0	32
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	241	0	6	54	0	0	0	0	115	0	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	241	0	6	54	0	0	0	0	115	0	32
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	241	0	6	54	0	0	0	0	115	0	32
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.20	1.80	0.00	0.00	0.00	0.00	0.78	0.00	0.22
Final Sat.:	0	1441	837	135	1233	0	0	0	0	588	0	164
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.17	0.00	0.04	0.04	xxxx	xxxx	xxxx	xxxx	0.20	xxxx	0.20
Crit Moves:		****		****						****		
Delay/Veh:	0.0	8.6	0.0	8.1	8.0	0.0	0.0	0.0	0.0	8.7	0.0	8.7
Delay 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
AdjDel/Veh:	0.0	8.6	0.0	8.1	8.0	0.0	0.0	0.0	0.0	8.7	0.0	8.7
LOS by Move:	*	A	*	A	A	*	*	*	*	A	*	A
ApproachDel:		8.6			8.0		xxxxxx				8.7	
Delay Adj:		1.00			1.00		xxxxxx				1.00	
ApprAdjDel:		8.6			8.0		xxxxxx				8.7	
LOS by Appr:		A			A		*				A	
AllWayAvgQ:	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Ellis Street/Manila Drive

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	0	2	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0
Initial Vol:	0	241	1531			6	54		0		0	0	0	0		115	0		32	
Major Street Volume:	1832																			
Minor Approach Volume:	147																			
Minor Approach Volume Threshold:	76 [less than minimum of 100]																			

SIGNAL WARRANT DISCLAIMER

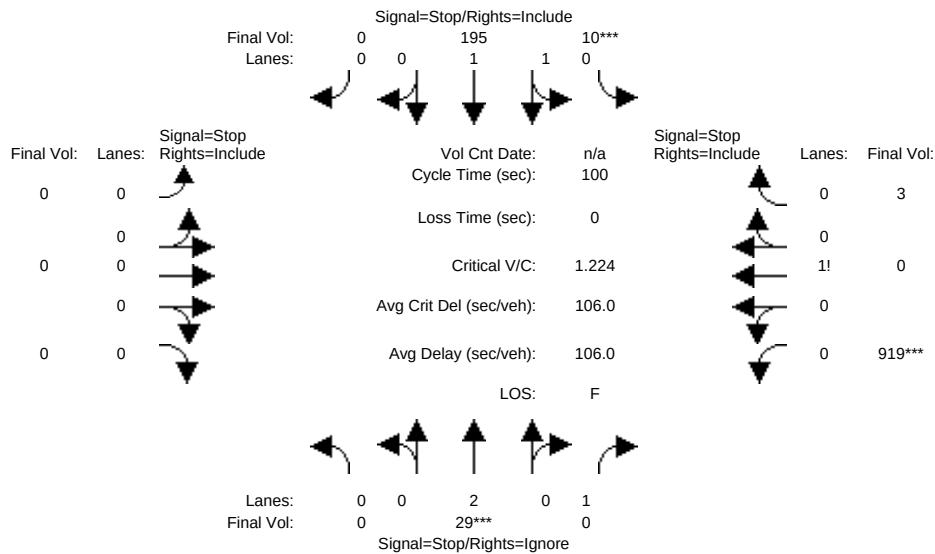
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #14: Ellis Street/Manila Drive



Street Name:	Ellis Street						Manila Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	29	49	10	195	0	0	0	0	337	0	3
Growth 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
Initial Bse:	0	29	49	10	195	0	0	0	0	337	0	3
Added Vol:	0	0	152	0	0	0	0	0	0	582	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	29	201	10	195	0	0	0	0	919	0	3
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	29	0	10	195	0	0	0	0	919	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	29	0	10	195	0	0	0	0	919	0	3
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	29	0	10	195	0	0	0	0	919	0	3
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.10	1.90	0.00	0.00	0.00	0.00	0.99	0.00	0.01
Final Sat.:	0	1063	593	54	1062	0	0	0	0	751	0	2
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.03	0.00	0.18	0.18	xxxx	xxxx	xxxx	xxxx	1.22	xxxx	1.22
Crit Moves:	****			****						****		
Delay/Veh:	0.0	9.6	0.0	10.6	10.6	0.0	0.0	0.0	0.0	130.2	0.0	130.2
Delay 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
AdjDel/Veh:	0.0	9.6	0.0	10.6	10.6	0.0	0.0	0.0	0.0	130.2	0.0	130.2
LOS by Move:	*	A	*	B	B	*	*	*	*	F	*	F
ApproachDel:	9.6			10.6			xxxxxx			130.2		
Delay Adj:	1.00			1.00			xxxxxx			1.00		
ApprAdjDel:	9.6			10.6			xxxxxx			130.2		
LOS by Appr:	A			B			*			F		
AllWayAvgQ:	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	25.6	25.6	25.6

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Ellis Street/Manila Drive

Future Volume Alternative: Peak Hour Warrant NOT Met

```

-----|-----|-----|-----|-----|
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:          0  0  2  0  1      0  1  1  0  0      0  0  0  0  0      0  0  1!  0  0
Initial Vol:    0   29   201      10 195   0        0   0   0   0      919   0   3
-----|-----|-----|-----|-----|
Major Street Volume:                922
Minor Approach Volume:                230
Minor Approach Volume Threshold: 318
-----|-----|-----|-----|-----|

```

SIGNAL WARRANT DISCLAIMER

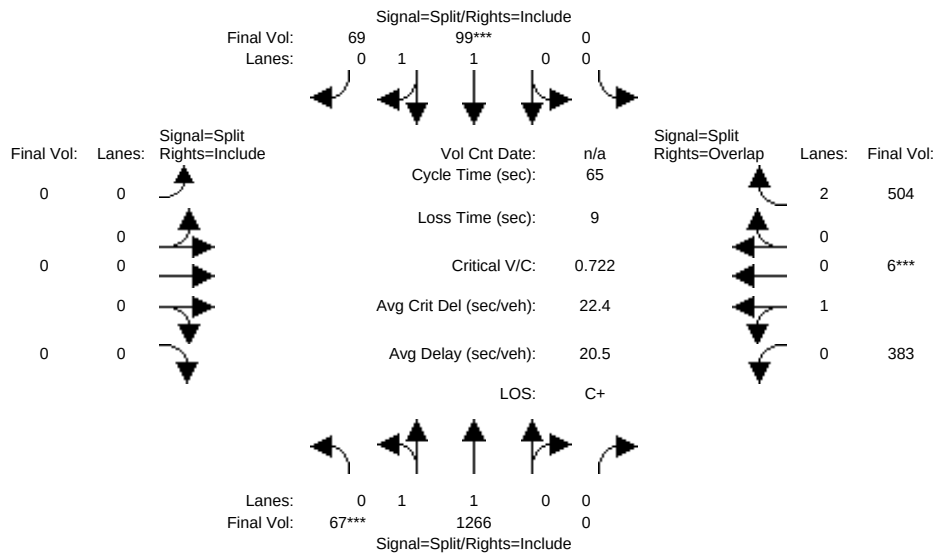
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #15: Ellis Street/US-101 Northbound Ramps

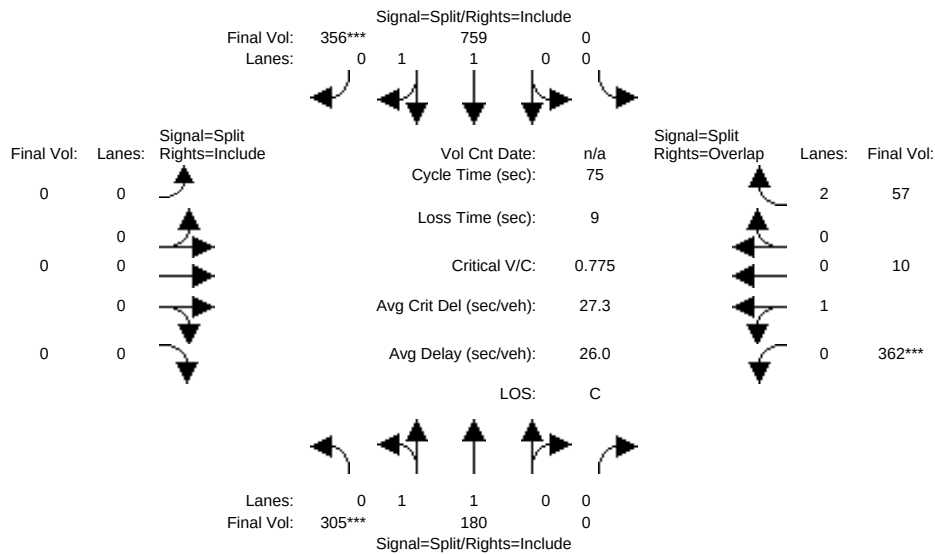


Street Name:				Ellis Street				US-101 Northbound Ramps											
Approach:				North Bound				South Bound				East Bound				West Bound			
Movement:				L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	
-----				-----				-----				-----				-----			
Min. Green:				10		10		0	0		10		10	0		0		10	
Y+R:				0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0	
-----				-----				-----				-----				-----			
Volume Module:																			
Base Vol:				67		485		0	0		60		49	0		0		0	
Growth Adj:				1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	
Initial Bse:				67		485		0	0		60		49	0		0		0	
Added Vol:				0		781		0	0		39		20	0		0		0	
PasserByVol:				0		0		0	0		0		0	0		0		0	
Initial Fut:				67		1266		0	0		99		69	0		0		0	
User Adj:				1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	
PHF Adj:				1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	
PHF Volume:				67		1266		0	0		99		69	0		0		0	
Reduct Vol:				0		0		0	0		0		0	0		0		0	
Reduced Vol:				67		1266		0	0		99		69	0		0		0	
PCE Adj:				1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	
MLF Adj:				1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	
FinalVolume:				67		1266		0	0		99		69	0		0		0	
-----				-----				-----				-----				-----			
Saturation Flow Module:																			
Sat/Lane:				1900		1900		1900	1900		1900		1900	1900		1900		1900	
Adjustment:				0.95		0.98		0.92	0.92		0.99		0.95	0.92		1.00		0.92	
Lanes:				0.10		1.90		0.00	0.00		1.16		0.84	0.00		0.00		0.00	
Final Sat.:				186		3514		0	0		2179		1519	0		0		0	
-----				-----				-----				-----				-----			
Capacity Analysis Module:																			
Vol/Sat:				0.36		0.36		0.00	0.00		0.05		0.05	0.00		0.00		0.00	
Crit Moves:				****							****								
Green Time:				28.8		28.8		0.0	0.0		10.0		10.0	0.0		0.0		0.0	
Volume/Cap:				0.81		0.81		0.00	0.00		0.30		0.30	0.00		0.00		0.00	
Delay/Veh:				19.1		19.1		0.0	0.0		24.7		24.7	0.0		0.0		0.0	
User DelAdj:				1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	
AdjDel/Veh:				19.1		19.1		0.0	0.0		24.7		24.7	0.0		0.0		0.0	
LOS by Move:				B-		B-		A	A		C		C	A		A		A	
HCM2kAvgQ:				12		12		0	0		2		2	0		0		0	
Note: Queue reported is the number of cars per lane.																			

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #15: Ellis Street/US-101 Northbound Ramps



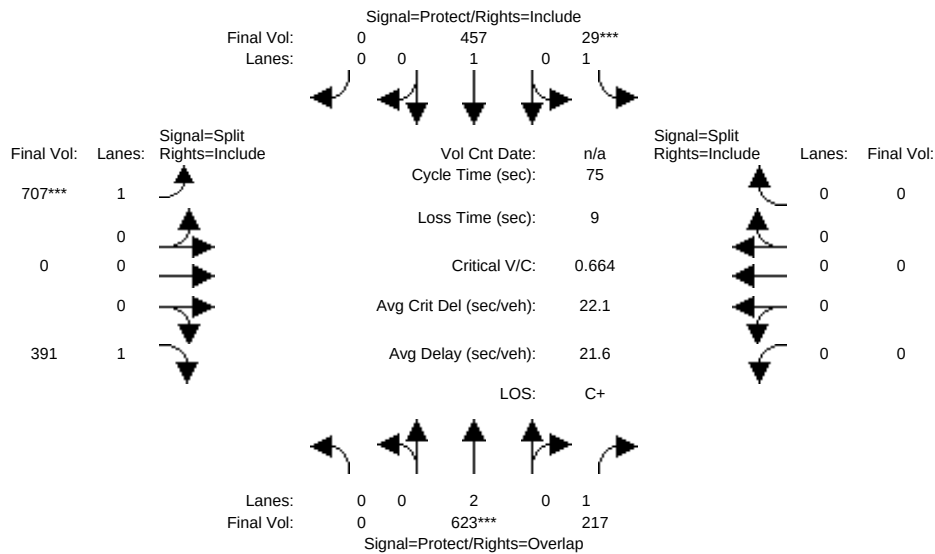
Street Name:	Ellis Street						US-101 Northbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	0	0	10	10	0	0	0	10	0	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	305	65	0	0	362	171	0	0	0	271	10	20
Growth 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
Initial Bse:	305	65	0	0	362	171	0	0	0	271	10	20
Added Vol:	0	115	0	0	397	185	0	0	0	91	0	37
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	305	180	0	0	759	356	0	0	0	362	10	57
User 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
PHF 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
PHF Volume:	305	180	0	0	759	356	0	0	0	362	10	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	305	180	0	0	759	356	0	0	0	362	10	57
PCE 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
MLF 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
Final Volume:	305	180	0	0	759	356	0	0	0	362	10	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.92	1.00	0.92	0.95	0.95	0.83
Lanes:	1.00	1.00	0.00	0.00	1.34	0.66	0.00	0.00	0.00	0.97	0.03	2.00
Final Sat.:	1750	1900	0	0	2518	1181	0	0	0	1752	48	3150
Capacity Analysis Module:												
Vol/Sat:	0.17	0.09	0.00	0.00	0.30	0.30	0.00	0.00	0.00	0.21	0.21	0.02
Crit Moves:	***					***				***		
Green Time:	16.9	16.9	0.0	0.0	29.2	29.2	0.0	0.0	0.0	20.0	20.0	49.1
Volume/Cap:	0.78	0.42	0.00	0.00	0.78	0.78	0.00	0.00	0.00	0.78	0.78	0.03
Uniform Del:	27.3	24.9	0.0	0.0	20.1	20.1	0.0	0.0	0.0	25.4	25.4	4.5
IncrementDel:	6.1	0.3	0.0	0.0	2.7	2.7	0.0	0.0	0.0	7.8	7.8	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	33.3	25.1	0.0	0.0	22.8	22.8	0.0	0.0	0.0	33.2	33.2	4.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.3	25.1	0.0	0.0	22.8	22.8	0.0	0.0	0.0	33.2	33.2	4.5
LOS by Move:	C-	C	A	A	C+	C+	A	A	A	C-	C-	A
HCM2kAvgQ:	8	3	0	0	13	13	0	0	0	10	10	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #16: Ellis Street/US-101 Southbound Ramps

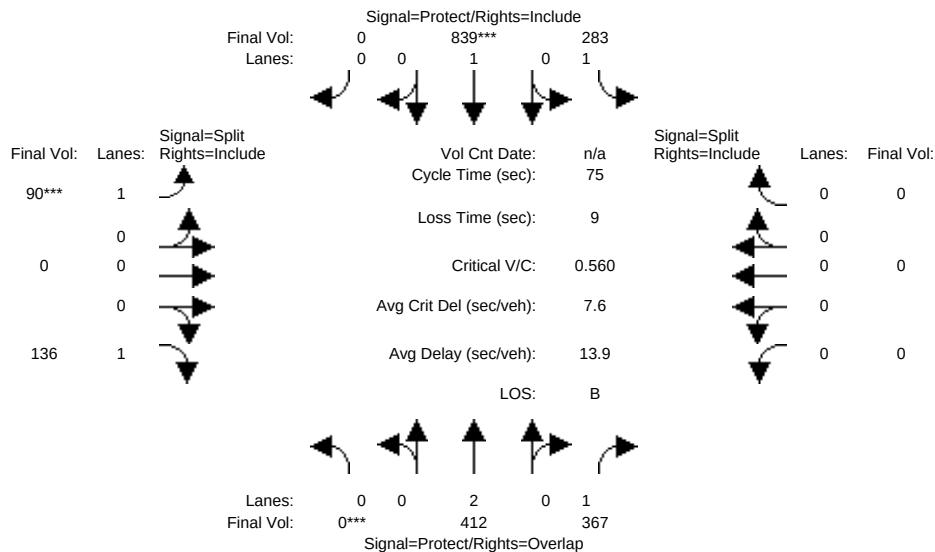


Street Name:	Ellis Street						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	283	163	14	417	0	266	0	391	0	0	0
Growth 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
Initial Bse:	0	283	163	14	417	0	266	0	391	0	0	0
Added Vol:	0	340	54	15	40	0	441	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	623	217	29	457	0	707	0	391	0	0	0
User 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
PHF 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
PHF Volume:	0	623	217	29	457	0	707	0	391	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	623	217	29	457	0	707	0	391	0	0	0
PCE 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
MLF 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
Final Volume:	0	623	217	29	457	0	707	0	391	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	1750	1750	1900	0	1750	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.16	0.12	0.02	0.24	0.00	0.40	0.00	0.22	0.00	0.00	0.00
Crit Moves:	****			****			****			****		
Green Time:	0.0	17.0	17.0	7.0	24.0	0.0	42.0	0.0	42.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.72	0.55	0.18	0.75	0.00	0.72	0.00	0.40	0.00	0.00	0.00
Delay/Veh:	0.0	29.8	27.2	31.9	28.0	0.0	14.9	0.0	9.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	29.8	27.2	31.9	28.0	0.0	14.9	0.0	9.6	0.0	0.0	0.0
LOS by Move:	A	C	C	C	C	A	B	A	A	A	A	A
HCM2kAvgQ:	0	7	5	1	10	0	14	0	6	0	0	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #16: Ellis Street/US-101 Southbound Ramps



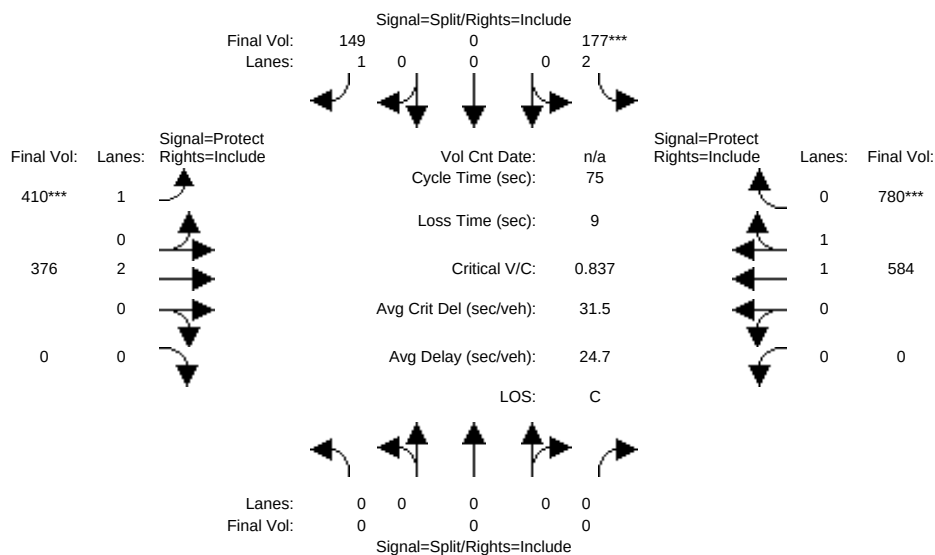
Street Name:	Ellis Street						US-101 Southbound Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	0	10	0	0	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	364	357	125	509	0	23	0	136	0	0	0
Growth 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
Initial Bse:	0	364	357	125	509	0	23	0	136	0	0	0
Added Vol:	0	48	10	158	330	0	67	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	412	367	283	839	0	90	0	136	0	0	0
User 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
PHF 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
PHF Volume:	0	412	367	283	839	0	90	0	136	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	412	367	283	839	0	90	0	136	0	0	0
PCE 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
MLF 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
Final Volume:	0	412	367	283	839	0	90	0	136	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	1750	1750	1900	0	1750	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.21	0.16	0.44	0.00	0.05	0.00	0.08	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	0.0	31.4	31.4	24.2	55.6	0.0	10.4	0.0	10.4	0.0	0.0	0.0
Volume/Cap:	0.00	0.26	0.50	0.50	0.60	0.00	0.37	0.00	0.56	0.00	0.00	0.00
Uniform Del:	0.0	14.2	16.0	20.5	4.5	0.0	29.3	0.0	30.2	0.0	0.0	0.0
IncramntDel:	0.0	0.1	0.5	0.7	0.7	0.0	1.0	0.0	2.9	0.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	0.0	14.3	16.6	21.2	5.2	0.0	30.3	0.0	33.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.3	16.6	21.2	5.2	0.0	30.3	0.0	33.1	0.0	0.0	0.0
LOS by Move:	A	B	B	C+	A	A	C	A	C-	A	A	A
HCM2kAvgQ:	0	3	7	5	9	0	2	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #17: Ellis Street/Middlefield Road

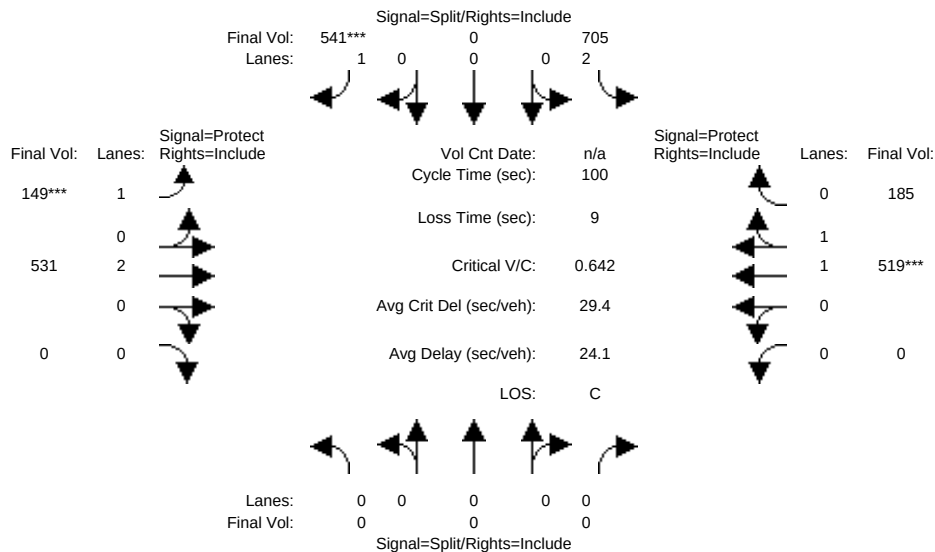


Street Name: Ellis Street				Middlefield Road									
Approach: North Bound				South Bound			East Bound			West Bound			
Movement:	L	-	T - R	L	-	T - R	L	-	T - R	L	-	T - R	
Min. Green:	0		0	0	10	0	10	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:													
Base Vol:	0		0	160	0	126	207	349	0	0	577	589	
Growth 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	
Initial Bse:	0		0	160	0	126	207	349	0	0	577	589	
Added Vol:	0		0	17	0	23	203	27	0	0	7	191	
PasserByVol:	0		0	0	0	0	0	0	0	0	0	0	
Initial Fut:	0		0	177	0	149	410	376	0	0	584	780	
User 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	
PHF 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	
PHF Volume:	0		0	177	0	149	410	376	0	0	584	780	
Reduct Vol:	0		0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	0		0	177	0	149	410	376	0	0	584	780	
PCE 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	
MLF 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	
FinalVolume:	0		0	177	0	149	410	376	0	0	584	780	
Saturation Flow Module:													
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	1.00	1.00	
Final Sat.:	0		0	3150	0	1750	1750	3800	0	0	1900	1750	
Capacity Analysis Module:													
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.09	0.23	0.10	0.00	0.00	0.31	0.45	
Crit Moves:				****			****					****	
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	19.3	56.0	0.0	0.0	36.7	36.7	
Volume/Cap:	0.00	0.00	0.00	0.42	0.00	0.64	0.91	0.13	0.00	0.00	0.63	0.91	
Delay/Veh:	0.0	0.0	0.0	30.5	0.0	36.6	49.4	2.7	0.0	0.0	14.7	26.3	
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
AdjDel/Veh:	0.0	0.0	0.0	30.5	0.0	36.6	49.4	2.7	0.0	0.0	14.7	26.3	
LOS by Move:	A	A	A	C	A	D+	D	A	A	A	B	C	
HCM2kAvgQ:	0	0	0	2	0	3	14	1	0	0	10	20	
Note: Queue reported is the number of cars per lane.													

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #17: Ellis Street/Middlefield Road



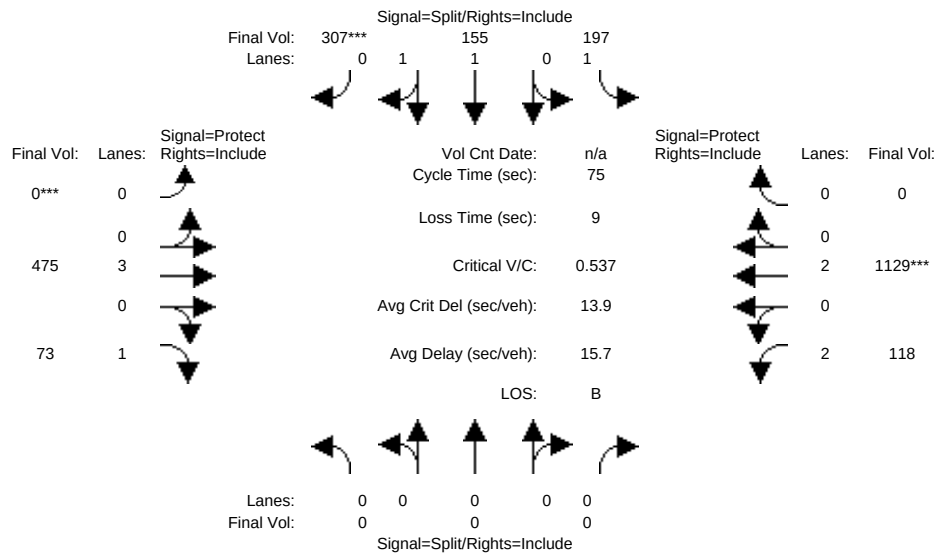
Street Name:	Ellis Street						Middlefield Road								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
-----	-----			-----			-----			-----			-----		
Min. Green:	0		0		0	10		0		10	7		10		0
Y+R:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0
-----	-----			-----			-----			-----			-----		
Volume Module:															
Base Vol:	0		0		0	547		0		369	119		526		0
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	0		0		0	547		0		369	119		526		0
Added Vol:	0		0		0	158		0		172	30		5		0
PasserByVol:	0		0		0	0		0		0	0		0		0
Initial Fut:	0		0		0	705		0		541	149		531		0
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	0		0		0	705		0		541	149		531		0
Reduct Vol:	0		0		0	0		0		0	0		0		0
Reduced Vol:	0		0		0	705		0		541	149		531		0
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	0		0		0	705		0		541	149		531		0
-----	-----			-----			-----			-----			-----		
Saturation Flow Module:															
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.92		1.00		0.92	0.83		1.00		0.92	0.92		1.00		0.95
Lanes:	0.00		0.00		0.00	2.00		0.00		1.00	1.00		2.00		0.54
Final Sat.:	0		0		0	3150		0		1750	1750		3800		972
-----	-----			-----			-----			-----			-----		
Capacity Analysis Module:															
Vol/Sat:	0.00		0.00		0.00	0.22		0.00		0.31	0.09		0.14		0.00
Crit Moves:										****	****				****
Green Time:	0.0		0.0		0.0	48.1		0.0		48.1	13.3		42.9		0.0
Volume/Cap:	0.00		0.00		0.00	0.47		0.00		0.64	0.64		0.33		0.00
Uniform Del:	0.0		0.0		0.0	17.3		0.0		19.5	41.1		19.0		0.0
IncremntDel:	0.0		0.0		0.0	0.2		0.0		1.7	6.0		0.1		0.0
InitQueuDel:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0
Delay Adj:	0.00		0.00		0.00	1.00		0.00		1.00	1.00		1.00		0.00
Delay/Veh:	0.0		0.0		0.0	17.6		0.0		21.2	47.1		19.1		0.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	0.0		0.0		0.0	17.6		0.0		21.2	47.1		19.1		0.0
LOS by Move:	A		A		A	B		A		C+	D		B-		A
HCM2kAvqQ:	0		0		0	8		0		13	6		5		0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #18: Middlefield Road/SR-237 Westbound On-Ramp

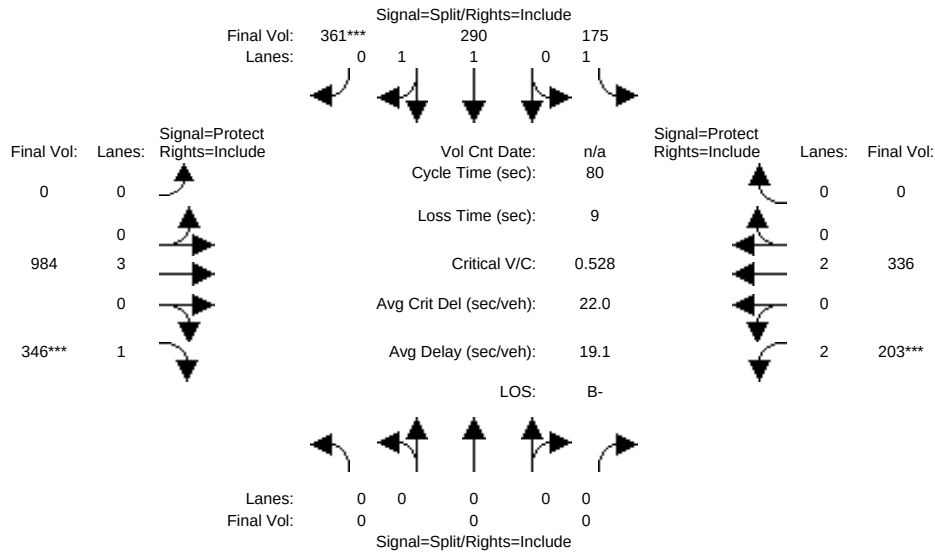


Street Name:	SR-237 Westbound On-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	10	10	0	10	10	7	10	0
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	0	0	197	155	300	0	448	56	118	938	0
Growth 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
Initial Bse:	0	0	0	197	155	300	0	448	56	118	938	0
Added Vol:	0	0	0	0	0	7	0	27	17	0	191	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	197	155	307	0	475	73	118	1129	0
User 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
PHF 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
PHF Volume:	0	0	0	197	155	307	0	475	73	118	1129	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	197	155	307	0	475	73	118	1129	0
PCE 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
MLF 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
Final Volume:	0	0	0	197	155	307	0	475	73	118	1129	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	3.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	1750	1900	1750	0	5700	1750	3150	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.08	0.18	0.00	0.08	0.04	0.04	0.30	0.00
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	24.5	24.5	24.5	0.0	24.4	24.4	17.1	41.5	0.0
Volume/Cap:	0.00	0.00	0.00	0.34	0.25	0.54	0.00	0.26	0.13	0.16	0.54	0.00
Delay/Veh:	0.0	0.0	0.0	19.5	18.6	21.3	0.0	18.7	17.9	23.3	10.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	19.5	18.6	21.3	0.0	18.7	17.9	23.3	10.9	0.0
LOS by Move:	A	A	A	B-	B-	C+	A	B-	B	C	B+	A
HCM2kAvgQ:	0	0	0	4	3	7	0	3	1	1	8	0
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #18: Middlefield Road/SR-237 Westbound On-Ramp



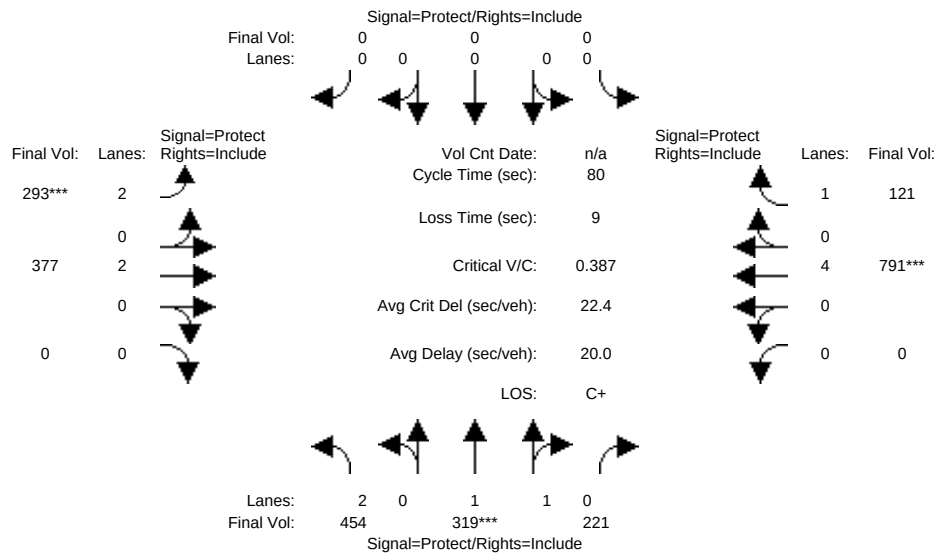
Street Name:	SR-237 Westbound On-Ramp						Middlefield Road								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0		0		0	10		10		10	7		10		0
Y+R:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0
Volume Module:															
Base Vol:	0		0		0	175		290		322	0		979		188
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	0		0		0	175		290		322	0		979		188
Added Vol:	0		0		0	0		0		39	0		5		158
PasserByVol:	0		0		0	0		0		0	0		0		0
Initial Fut:	0		0		0	175		290		361	0		984		346
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	0		0		0	175		290		361	0		984		346
Reduct Vol:	0		0		0	0		0		0	0		0		0
Reduced Vol:	0		0		0	175		290		361	0		984		346
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	0		0		0	175		290		361	0		984		346
Saturation Flow Module:															
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.92		1.00		0.92	0.92		1.00		0.92	0.83		1.00		0.92
Lanes:	0.00		0.00		0.00	1.00		1.00		1.00	0.00		3.00		1.00
Final Sat.:	0		0		0	1750		1900		1750	0		5700		1750
Capacity Analysis Module:															
Vol/Sat:	0.00		0.00		0.00	0.10		0.15		0.21	0.00		0.17		0.20
Crit Moves:										****					****
Green Time:	0.0		0.0		0.0	31.3		31.3		31.3	0.0		30.0		30.0
Volume/Cap:	0.00		0.00		0.00	0.26		0.39		0.53	0.00		0.46		0.53
Uniform Del:	0.0		0.0		0.0	16.5		17.5		18.7	0.0		18.9		19.5
IncrcmntDel:	0.0		0.0		0.0	0.2		0.2		0.4	0.0		0.2		0.8
InitQueuDel:	0.0		0.0		0.0	0.0		0.0		0.0	0.0		0.0		0.0
Delay Adj:	0.00		0.00		0.00	1.00		1.00		1.00	0.00		1.00		1.00
Delay/Veh:	0.0		0.0		0.0	16.7		17.7		19.1	0.0		19.1		20.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	0.0		0.0		0.0	16.7		17.7		19.1	0.0		19.1		20.3
LOS by Move:	A		A		A	B		B		B-	A		B-		C+
HCM2kAvqQ:	0		0		0	3		5		8	0		6		7

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #19: Middlefield Road/SR-237 Eastbound Off-Ramp

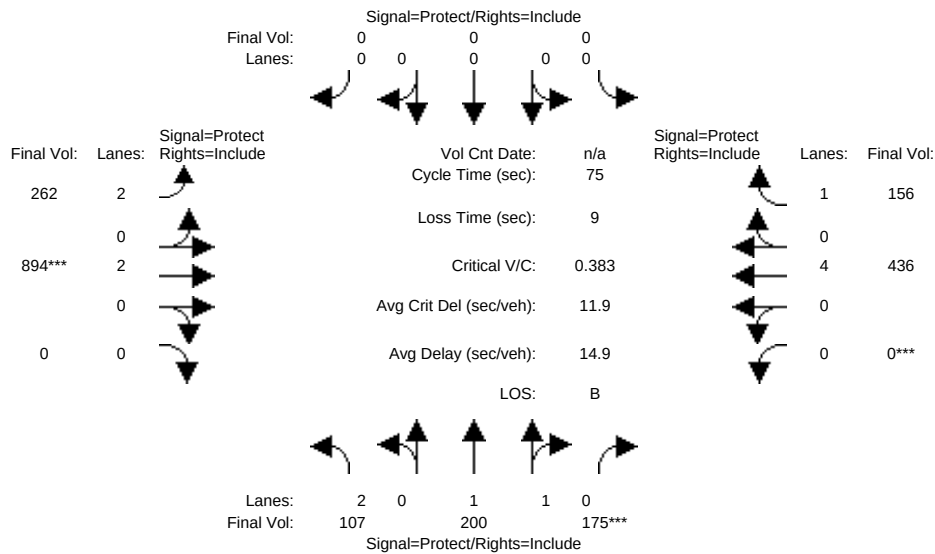


Street Name:	SR-237 Eastbound Off-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	263	319	221	0	0	0	293	350	0	0	791	121
Growth 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
Initial Bse:	263	319	221	0	0	0	293	350	0	0	791	121
Added Vol:	191	0	0	0	0	0	0	27	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	454	319	221	0	0	0	293	377	0	0	791	121
User 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
PHF 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
PHF Volume:	454	319	221	0	0	0	293	377	0	0	791	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	454	319	221	0	0	0	293	377	0	0	791	121
PCE 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
MLF 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
Final Volume:	454	319	221	0	0	0	293	377	0	0	791	121
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.16	0.84	0.00	0.00	0.00	2.00	2.00	0.00	0.00	4.00	1.00
Final Sat.:	3150	2185	1513	0	0	0	3150	3800	0	0	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.15	0.15	0.00	0.00	0.00	0.09	0.10	0.00	0.00	0.10	0.07
Crit Moves:	****						****			****		
Green Time:	30.2	30.2	30.2	0.0	0.0	0.0	19.2	40.8	0.0	0.0	21.5	21.5
Volume/Cap:	0.38	0.39	0.39	0.00	0.00	0.00	0.39	0.19	0.00	0.00	0.39	0.26
Delay/Veh:	18.3	18.3	18.3	0.0	0.0	0.0	25.8	10.7	0.0	0.0	24.0	23.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.3	18.3	18.3	0.0	0.0	0.0	25.8	10.7	0.0	0.0	24.0	23.2
LOS by Move:	B-	B-	B-	A	A	A	C	B+	A	A	C	C
HCM2kAvgQ:	5	5	5	0	0	0	4	2	0	0	4	3
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #19: Middlefield Road/SR-237 Eastbound Off-Ramp



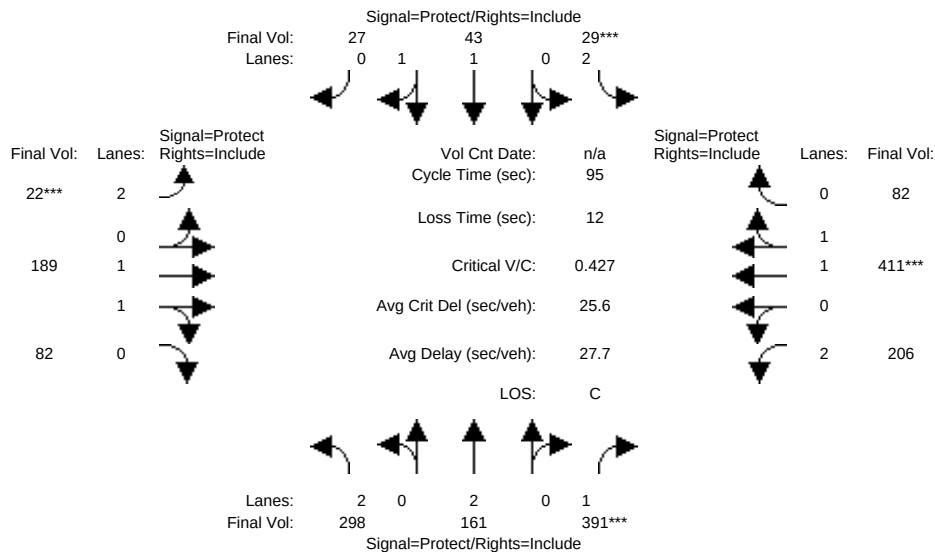
Street Name:	SR-237 Eastbound Off-Ramp						Middlefield Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	79	200	175	0	0	0	262	889	0	0	436	156
Growth 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
Initial Bse:	79	200	175	0	0	0	262	889	0	0	436	156
Added Vol:	28	0	0	0	0	0	0	5	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	200	175	0	0	0	262	894	0	0	436	156
User 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
PHF 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
PHF Volume:	107	200	175	0	0	0	262	894	0	0	436	156
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	200	175	0	0	0	262	894	0	0	436	156
PCE 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
MLF 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
Final Volume:	107	200	175	0	0	0	262	894	0	0	436	156
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.95	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.04	0.96	0.00	0.00	0.00	2.00	2.00	0.00	0.00	4.00	1.00
Final Sat.:	3150	1972	1726	0	0	0	3150	3800	0	0	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.10	0.00	0.00	0.00	0.08	0.24	0.00	0.00	0.06	0.09
Crit Moves:			****					****			****	
Green Time:	19.9	19.9	19.9	0.0	0.0	0.0	19.0	46.1	0.0	0.0	27.1	27.1
Volume/Cap:	0.13	0.38	0.38	0.00	0.00	0.00	0.33	0.38	0.00	0.00	0.16	0.25
Uniform Del:	21.0	22.5	22.5	0.0	0.0	0.0	22.8	7.3	0.0	0.0	16.2	16.8
IncrementDel:	0.1	0.3	0.3	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.2
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	21.0	22.8	22.8	0.0	0.0	0.0	23.1	7.4	0.0	0.0	16.2	17.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.0	22.8	22.8	0.0	0.0	0.0	23.1	7.4	0.0	0.0	16.2	17.0
LOS by Move:	C+	C+	C+	A	A	A	C	A	A	A	B	B
HCM2kAvgQ:	1	4	4	0	0	0	3	5	0	0	2	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #20: Mary Avenue/Maude Avenue

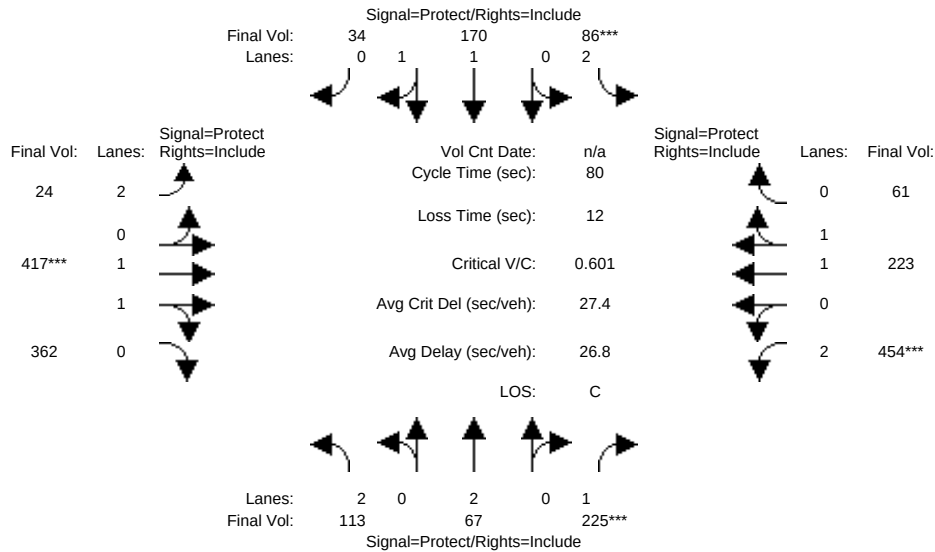


Street Name:	Mary Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	298	161	182	29	43	27	22	189	82	160	411	82
Growth 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
Initial Bse:	298	161	182	29	43	27	22	189	82	160	411	82
Added Vol:	0	0	209	0	0	0	0	0	0	46	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	298	161	391	29	43	27	22	189	82	206	411	82
User 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
PHF 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
PHF Volume:	298	161	391	29	43	27	22	189	82	206	411	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	298	161	391	29	43	27	22	189	82	206	411	82
PCE 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
MLF 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
Final Volume:	298	161	391	29	43	27	22	189	82	206	411	82
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.83	0.99	0.95	0.83	0.98	0.95
Lanes:	2.00	2.00	1.00	2.00	1.21	0.79	2.00	1.38	0.62	2.00	1.66	0.34
Final Sat.:	3150	3800	1750	3150	2272	1426	3150	2580	1119	3150	3084	615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.04	0.22	0.01	0.02	0.02	0.01	0.07	0.07	0.07	0.13	0.13
Crit Moves:			****			****			****			****
Green Time:	23.8	43.2	43.2	7.0	26.4	26.4	7.0	19.3	19.3	13.5	25.8	25.8
Volume/Cap:	0.38	0.09	0.49	0.12	0.07	0.07	0.09	0.36	0.36	0.46	0.49	0.49
Delay/Veh:	29.8	14.8	18.6	41.4	25.2	25.2	41.2	32.9	32.9	38.2	29.5	29.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.8	14.8	18.6	41.4	25.2	25.2	41.2	32.9	32.9	38.2	29.5	29.5
LOS by Move:	C	B	B-	D	C	C	D	C-	C-	D+	C	C
HCM2kAvgQ:	5	1	9	1	1	1	0	4	4	3	6	6
Note: Queue reported is the number of cars per lane.												

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #20: Mary Avenue/Maude Avenue



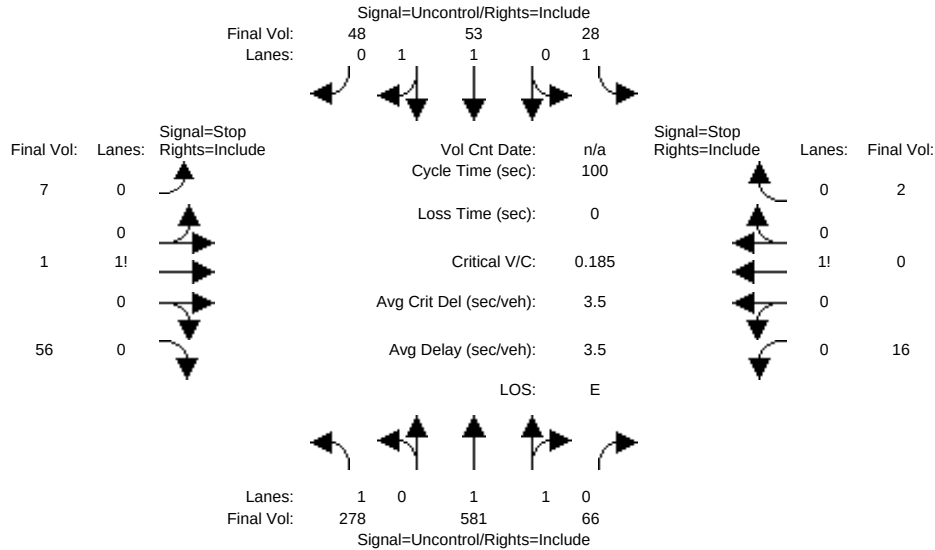
Street Name:	Mary Avenue						Maude Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume Module:												
Base Vol:	113	67	165	86	170	34	24	417	362	254	223	61
Growth 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
Initial Bse:	113	67	165	86	170	34	24	417	362	254	223	61
Added Vol:	0	0	60	0	0	0	0	0	0	200	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	67	225	86	170	34	24	417	362	454	223	61
User 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
PHF 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
PHF Volume:	113	67	225	86	170	34	24	417	362	454	223	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	67	225	86	170	34	24	417	362	454	223	61
PCE 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
MLF 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
Final Volume:	113	67	225	86	170	34	24	417	362	454	223	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.95	0.83	0.98	0.95
Lanes:	2.00	2.00	1.00	2.00	1.66	0.34	2.00	1.05	0.95	2.00	1.56	0.44
Final Sat.:	3150	3800	1750	3150	3083	617	3150	1979	1718	3150	2905	795
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.13	0.03	0.06	0.06	0.01	0.21	0.21	0.14	0.08	0.08
Crit Moves:			****	****				****		****		
Green Time:	9.6	16.2	16.2	7.0	13.7	13.7	18.4	26.6	26.6	18.2	26.3	26.3
Volume/Cap:	0.30	0.09	0.63	0.31	0.32	0.32	0.03	0.63	0.63	0.63	0.23	0.23
Uniform Del:	32.2	25.9	29.2	34.2	29.1	29.1	23.9	22.6	22.6	27.9	19.5	19.5
IncrementDel:	0.5	0.0	3.7	0.7	0.3	0.3	0.0	1.1	1.1	1.9	0.1	0.1
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	32.6	25.9	32.9	34.9	29.4	29.4	23.9	23.7	23.7	29.8	19.6	19.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.6	25.9	32.9	34.9	29.4	29.4	23.9	23.7	23.7	29.8	19.6	19.6
LOS by Move:	C-	C	C-	C-	C	C	C	C	C	C	B-	B-
HCM2kAvgQ:	2	1	7	2	3	3	0	9	9	6	2	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cumulative Plus Project AM

Intersection #21: Innovation Way/Site Access



Street Name:	Innovation Way						Site Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	165	89	0	0	13	1	3	1	38	0	0	0
Growth 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
Initial Bse:	165	89	0	0	13	1	3	1	38	0	0	0
Added Vol:	113	492	66	28	40	47	4	0	18	16	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	278	581	66	28	53	48	7	1	56	16	0	2
User 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
PHF 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
PHF Volume:	278	581	66	28	53	48	7	1	56	16	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	278	581	66	28	53	48	7	1	56	16	0	2
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	101	xxxx	xxxxx	647	xxxx	xxxxx	980	1336	51	1253	1327	324
Potent Cap.:	1504	xxxx	xxxxx	948	xxxx	xxxxx	207	155	1013	131	157	678
Move Cap.:	1504	xxxx	xxxxx	948	xxxx	xxxxx	173	122	1013	103	124	678
Volume/Cap:	0.18	xxxx	xxxx	0.03	xxxx	xxxx	0.04	0.01	0.06	0.16	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.7	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	8.9	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	617	xxxxx	xxxx	114	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	0.5	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.5	xxxxx	xxxxx	42.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	E	*
ApproachDel:	xxxxxx			xxxxxx			11.5			42.5		
ApproachLOS:	*			*			B			E		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

```

-----|-----|-----|-----|-----|
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:        Uncontrolled      Uncontrolled      Stop Sign      Stop Sign
Lanes:          1 0 1 1 0      1 0 1 1 0      0 0 1! 0 0      0 0 1! 0 0
Initial Vol:    278 581      66      28 53 48      7 1 56      16 0 2
ApproachDel:    xxxxxx      xxxxxx      11.5      42.5
-----|-----|-----|-----|-----|

```

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=64]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1136]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=18]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1136]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

```

-----|-----|-----|-----|-----|
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:        Uncontrolled      Uncontrolled      Stop Sign      Stop Sign
Lanes:          1 0 1 1 0      1 0 1 1 0      0 0 1! 0 0      0 0 1! 0 0
Initial Vol:    278 581      66      28 53 48      7 1 56      16 0 2
-----|-----|-----|-----|-----|

```

Major Street Volume: 1054

Minor Approach Volume: 64

Minor Approach Volume Threshold: 267

SIGNAL WARRANT DISCLAIMER

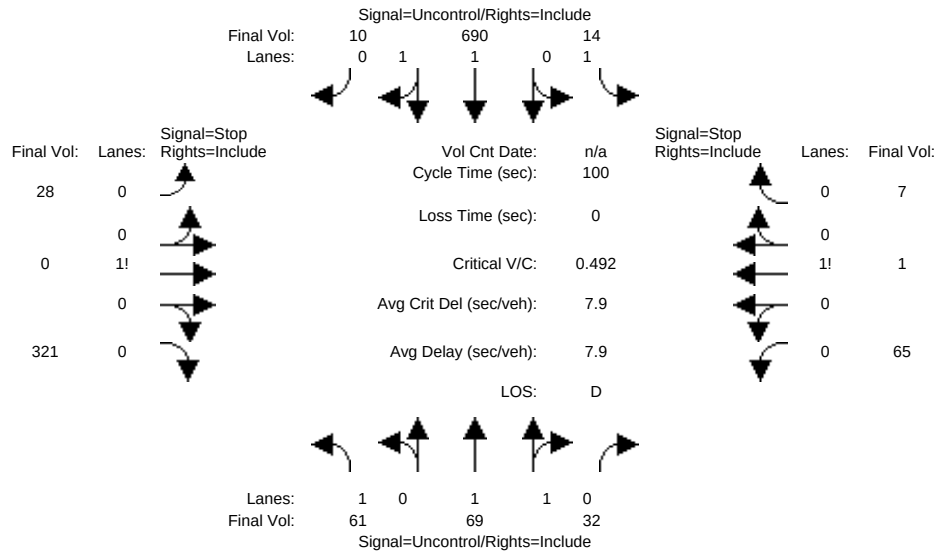
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

City of Sunnyvale
Transportation Impact Analysis for Onizuka Education Center
154-041

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cumulative Plus Project PM

Intersection #21: Innovation Way/Site Access



Street Name:	Innovation Way						Site Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	37	21	0	0	249	0	1	0	179	0	1	0
Growth 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
Initial Bse:	37	21	0	0	249	0	1	0	179	0	1	0
Added Vol:	24	48	32	14	441	10	27	0	142	65	0	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	69	32	14	690	10	28	0	321	65	1	7
User 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
PHF 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
PHF Volume:	61	69	32	14	690	10	28	0	321	65	1	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	61	69	32	14	690	10	28	0	321	65	1	7
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflct Vol:	700	xxxx	xxxxx	101	xxxx	xxxxx	880	946	350	580	935	51
Potent Cap.:	906	xxxx	xxxxx	1504	xxxx	xxxxx	245	264	652	402	267	1013
Move Cap.:	906	xxxx	xxxxx	1504	xxxx	xxxxx	228	244	652	192	247	1013
Volume/Cap:	0.07	xxxx	xxxx	0.01	xxxx	xxxx	0.12	0.00	0.49	0.34	0.00	0.01
Level Of Service Module:												
2Way95thQ:	0.2	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	9.3	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	567	xxxxx	xxxx	209	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	4.2	xxxxx	xxxxx	1.5	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxxx	20.9	xxxxx	xxxxx	31.2	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			20.9			31.2		
ApproachLOS:	*			*			C			D		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	61		69		32	14		690		10	28		0		321	65		1		7
ApproachDel:	xxxxxx					xxxxxx					20.9					31.2				

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=2.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=349]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1298]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.6]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=73]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1298]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #21 Innovation Way/Site Access

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	61		69		32	14		690		10	28		0		321	65		1		7

Major Street Volume: 876

Minor Approach Volume: 349

Minor Approach Volume Threshold: 330

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

