APPENDIX H

MITIGATED ACCESS PLAN ANALYSIS

MEMORANDUM

Date: October 18, 2011 JN 70-100387

To: Teri Wissler Adam, EMC Planning Group

From: Arshad Syed T.E., Frederik Venter, P.E., RBF Consulting

Subject: SUHSD High School #5 Mitigated Access Plan Analysis

This memorandum provides traffic analysis with a mitigated driveway configuration for the proposed Salinas Union High School District (SUHSD) #5 High School Project to be located along Rogge Road in Salinas, CA. As discussed in Traffic Impact Analysis (TIA) report prepared by Hatch Mott McDonald (HMM) dated July 7, 2011, the SUHSD would construct a new high school in two phases, phase I would accommodate a total student enrollment of up to 900, and Phase II which is the full buildout of the project site, would accommodate a total of 1,500 students.

The driveway configuration evaluated in this memorandum reflects a mitigated access plan, and the traffic volumes at the project driveways were estimated for the "worst-case scenario", which is in this case AM peak hour, using trip generation information from TIA report. This memorandum provides traffic operation analysis only at project driveways for both phases. Traffic volumes at other study intersections are unchanged, thus no revised analysis is required.

MITIGATED DRIVEWAY CONFIGURATION

The project site is located along Rogge Road on the south side midway between Natividad Road and San Juan Grade Road. Access to the site will be provided via four new driveways. Proposed lane configuration and traffic controls under Phase I and Project Buildout (Phase 2) are shown in **Exhibit 1**.

- Driveway 1 (Intersection # 11) – Provides full access to staff and visitor parking, and ingress only for school buses.
- Driveway 2 (Intersection # 12) – Provides right-out egress only for school buses.
- Driveway 3 (Intersection # 13) – Provides ingress-only for student parking and drop-off/pick-up area, and
- Driveway 4 (Intersection # 14) – Provides full access to student and drop-off/pick-up area.

PROJECT TRIP GENERATION AND DISTRIBUTION

The project trip generation and distribution for both Phase I and Project Buildout, obtained from the TIA report, is attached in **Appendix A**. For Phase I, it is estimated that the project generates approximately 1,661 vehicle trips on the adjacent roadway system during a typical weekday, including 495 vehicle trips during the AM peak hour (school start time), 306 during the school Mid-day peak hour (school dismissal time), and 162 trips during the PM peak hour. Since this analysis evaluates the "worst-case" scenario, only the AM peak hour trip assignment was developed for the mitigated driveway configuration using project's trip distribution from TIA report. **Exhibit 2** shows revised trip assignment at each driveway for both Phase I and Full Buildout. Trip assignment at other study intersection outside the school periphery remains unchanged and is not included in this analysis.

TRAFFIC OPERATION ANALYSIS

RBF conducted traffic operation analysis to determine potential capacity deficiencies and identify improvement required to accommodate project traffic volumes at driveway accesses. The analysis to determine overall capacity is based on 2000 /2010 Highway Capacity Manual.

Evaluation Methodology

This is similar to as described in section 1.4 of TIA report.

Peak Hour Factor

Peak hour factor (PHF) accounts for variations in traffic flow that occur during the heaviest hour. A PHF is utilized in LOS analysis to analyze traffic operations that exist during the peak 15-minute period, especially for schools where most of vehicle trips occur only during 20 minutes before school start time, and 20 minutes after school dismissal time.

To more accurately reflect the peaking characteristics of the school traffic, a PHF of 0.33 was utilized for the driveway movements in and out of the school site while the non-school traffic a standard PHF of 0.90. The resulting combined PHF for each turning movement at the analyzed driveway intersection are the weighted average of both PHF. This does not affect the volumes shown on the **Exhibit 2,** this PHF modification approximately triples the volume being modeled in the peak 15 minutes of the peak hour. Table 1 and 2 show PHF by movement for Existing plus Phase I and General Plan Buildout plus Project Buildout, respectively.

Table 1: Existing Plus Project PHF by Movement

Intersection	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
11	0.33							0.53	0.33	0.33	0.56	
12			0.33					0.53			0.55	
13								0.87	0.33	0.33	0.55	
14	0.33		0.33					0.87		0.33	0.75	

Table 2: General Plan Buildout plus Project Buildout PHF by Movement

Intersection	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
11	0.33							0.69	0.33	0.33	0.72	
12			0.33					0.69			0.67	
13								0.88	0.33	0.33	0.67	
14	0.33		0.33					0.88		0.33	0.54	

Level of Service Analysis

This section analyzes the potential impact of the addition of trips from the project. Existing plus Phase I and General Plan Buildout plus Project Buildout intersection traffic volumes are shown in **Exhibit 3**. Table 3 summarizes AM peak hour Level of Service (LOS) analysis for the Existing Plus Phase I and General Plan Buildout plus Project Buildout Conditions at project driveways. The results of the analysis indicate that traffic operations at Driveway 1 and Driveway 4 will operate at LOS F and experience significant delays during the AM peak hour. Detailed LOS analysis worksheets are attached to this report in **Appendix B**.

In order to address deficient LOS, Traffic Signal Warrant 3 – Peak Hour in the California Manual of Uniform Traffic Control Devices (CMUTCD) was performed for Driveway 4. This warrant is typically used at locations where the minor street traffic experiences excessive delays when trying to enter or cross the major street. Results of this analysis is shown in Table 4 and attached in **Appendix C**, which indicate that both Phase I and Project Buildout traffic volumes after applying PHF satisfies Part A and Part B. Table 3 also shows LOS analysis results with implementation of mitigation measures. These mitigation measures are illustrated in **Exhibit 1**. The installation of a Two Way Left Turn Lane (TWLTL) at Driveway 1 and installation of a traffic signal at Driveway 4 is anticipated to improve the operations of the intersection to LOS C or better during the AM peak hour.

Table 3: AM Peak Hour Level Of Service Summary

Study Intersection	Delay – LOS					
	Existing + Phase I			General Plan + Phase II (Project Buildout)		
	Approach	Average	Mitigation	Approach	Average	Mitigation
11. DRIVEWAY 1 / ROGGE ROAD **One-Way Stop Control**	69.9-F	1.2-A	-	40.9 - E	2.2-A	-
Mitigated: TWLTL	24.6-C	0.5-A	TWLTL	20.2-C	1.3-A	TWLTL
12. DRIVEWAY 2 / ROGGE ROAD **One-Way Stop Control**	17.9 – C	0.2-A	-	13.1 – B	0.2-A	-
13. DRIVEWAY 3 / ROGGE ROAD (WBL Only)	11.0-B	0.5-A	-	14.1-B	4.2-A	-
14. DRIVEWAY 4 / ROGGE ROAD **One-Way Stop Control**	253.9 – F	100-F	-	1167.2 – F	376.7 – F	-
Mitigated: Signal Control*	18.6-B	15.9-B	Signal	23.8 - C	16.5 - B	Signal

*Signal Warrant Met, See Table 4

Table 4: Traffic Signal Warrant For Driveway 4

Warrant	Estimated Peak Hour Volumes (Veh/Hr)		Warrant Met?
	Major Street[1]	Minor Street[1]	
AM Peak Hour Phase1	855	551	**Yes**
AM Peak Hour Buildout	1,958	925	**Yes**

Notes:
Refer to Appendix C for minimum volume threshold for Traffic Signal Warrant based on CA-MUTCD Peak Hour Volume Warrant
[1] Traffic volumes after applying PHF.

Left Turn Lane Warrants

An analysis was conducted to determine if the increased traffic along Rogge Road at the proposed ingress driveways would meet warrants for requiring a separate left turn lane. This warrant is based on the volumes of advancing and opposing traffic as well as the percentage of left turns for the approach which the warrant is analyzed. This warrant is performed for the westbound left turns at Driveway1, 3 and 4 for both Phase 1 and Project Buildout conditions. Table 5 summarizes findings of this analysis, and the analysis worksheets are attached in the **Appendix D** to this report.

Furthermore, a review for queue storage was determined based on the criterion referenced in the CA-MUTCD, which states

> "at unsignalized intersections, storage length may be based on the number of turning vehicles likely to arrive in an average 2-minute period during the peak hour. As a minimum, space for 2 passenger cars should be provided at 25 feet per car. If the peak hour truck traffic is 10 % or more, space for one passenger car and one truck should be provided.

Based on the above, recommended queue storage is shown in Table 5.

Table 5: Left Turn Warrant Analysis

Study Intersection	Design Speed (mph)	Left Turns (vph)	Opposing Volume (vph)	Advancing Volume (vph)	Warrant Met?	95th Percentile Queue (in Feet)	Storage Required – 2 Min Rule 20 Min (60 Min)	Recommended Storage (Feet)
Existing + Phase I								
WB LEFT ALONG ROGGE ROAD @ DRIVEWAY 1	35	6	556	423	NO	35	25 Feet	150
WB LEFT ALONG ROGGE ROAD @ DRIVEWAY 3	35	29	537	452	YES	11	75 Feet (25 Feet)	75
WB LEFT ALONG ROGGE ROAD @ DRIVEWAY 4	35	25	325	329	*NO	5	75 Feet (25 Feet)	75
General Plan + Phase II (Project Buildout)								
WB LEFT ALONG ROGGE ROAD @ DRIVEWAY 1	35	23	385	489	NO	7	N/A	TWLTL
WB LEFT ALONG ROGGE ROAD @ DRIVEWAY 3	35	175	560	468	YES	95	440 Feet (145 Feet)	450**
WB LEFT ALONG ROGGE ROAD @ DRIVEWAY 4	35	190	388	698	YES	75	475 Feet (160 Feet)	475**

*Recommended to install exclusive left-turn lane due to safety concerns.
** Will be constructed after development of "Future Growth Areas" or change in school attendance area.

Right Turn Lane Warrants

This warrant is based on the volumes of advancing traffic and the right turning traffic at the proposed ingress driveways. This analysis found that a separate right turn lane will be warranted along Rogge Road at Driveway 3 for Phase I conditions. Similar to the left turn storage criterion, right turn queue storage were determined utilizing average 2-minute period. Table 6 summarizes the right turn lane warrants and required queue storage along project driveways. A warrant check for General Plan plus Project Buildout indicates that a right turn lane will not be warranted along Rogge Road at Driveway 3. However, considering the peaking characteristic of the school site it is recommended that a short right turn, at least 100 feet long, be provided.

Table 6: Right Turn Warrant Analysis

Study Intersection	Design Speed (mph)	Right Turns (vph)	Advancing Volume (vph)	Warrant Met?	Storage Required
Existing + Phase I					
EB RIGHT ALONG ROGGE ROAD @ DRIVEWAY 1	35	25	556	NO	N/A
EB RIGHT ALONG ROGGE ROAD @ DRIVEWAY 3	35	212	537	YES	175 Feet*
General Plan + Phase II (Project Buildout)					
EB RIGHT ALONG ROGGE ROAD @ DRIVEWAY 1	35	27	489	NO	N/A
EB RIGHT ALONG ROGGE ROAD @ DRIVEWAY 3	35	80	468	NO	175 feet*

*Maximum distance between bus exit and driveway #3

BICYCLE AND PEDESTRIAN ACCESS

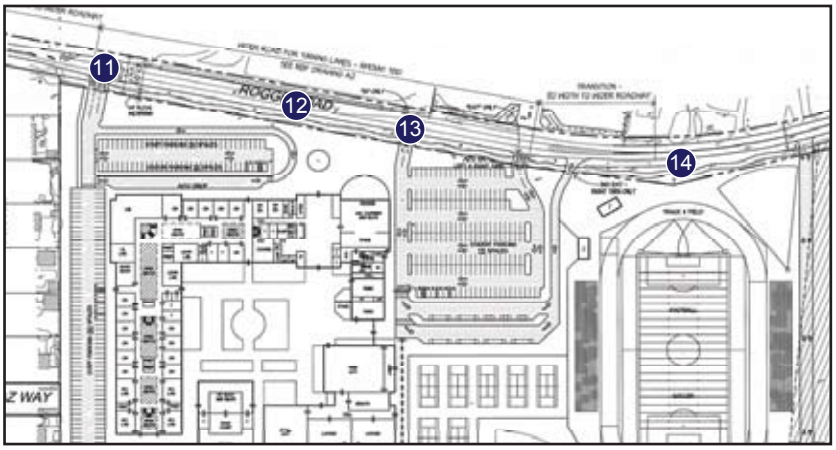
Bicycle access will be provided along Road Road via a Class-I bike / pedestrian trail along the school street frontage and a Class-III bike route from Jade Drive to the existing Class II bike lanes west of Bollenbacher Drive. Pedestrian access will be provided via the Class-I bike/pedestrian trail along the School's Rogge Road street frontage to the existing sidewalk at Jade Drive. The existing crosswalks will be upgraded with ADA compliant ramps and markings at the south leg of Rogge Road / Jade Drive and at Rogge Road / Jasper Way. The proposed bike and pedestrian facilities are shown in **Exhibit 4.**

STADIUM CAPACITY EVENTS

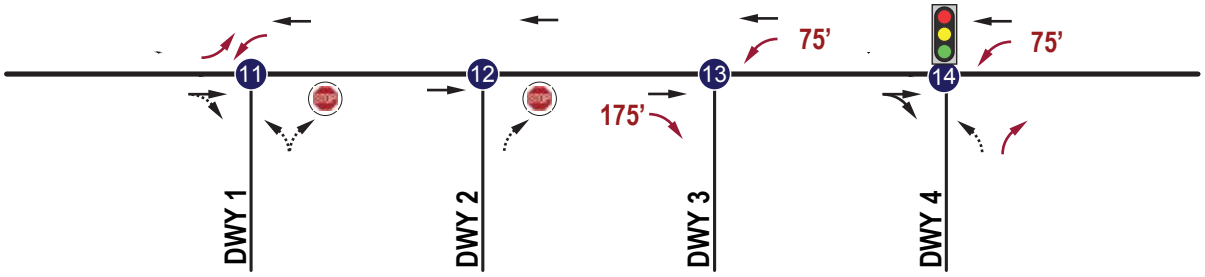
The driveway to the stadium parking on the eastside of the property will be utilized during stadium events. The signal at driveway #4 will generate gaps for vehicles to exit the site. In addition, the westbound left turn pocket at driveway #4 will extend past the stadium driveway and provide left turn storage. A traffic officer will not be required to manage traffic operations at this driveway.

LEGEND

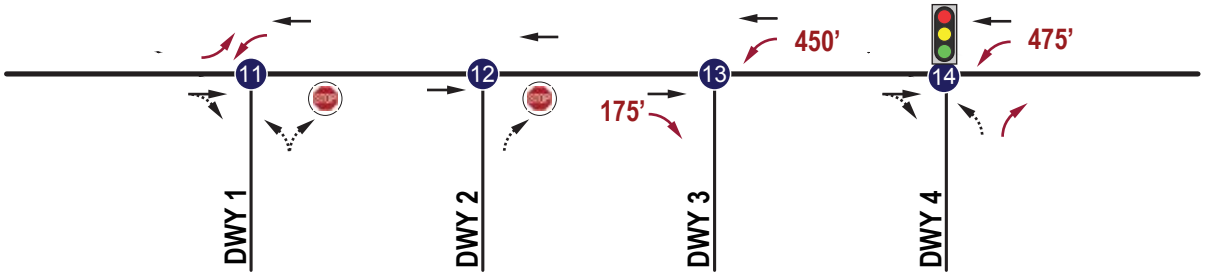
- Existing Lane
- Proposed Lane
- Study Intersection
- Mitigated Lane
- ###' Required Storage Length (Ft.)

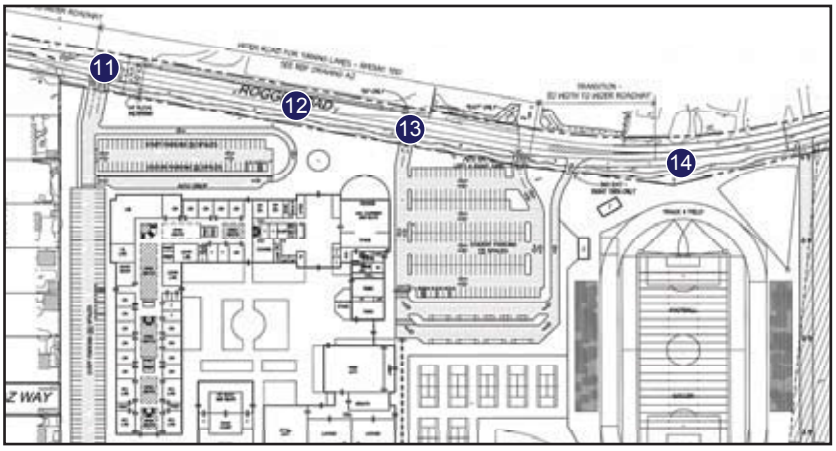


PROJECT PHASE 1

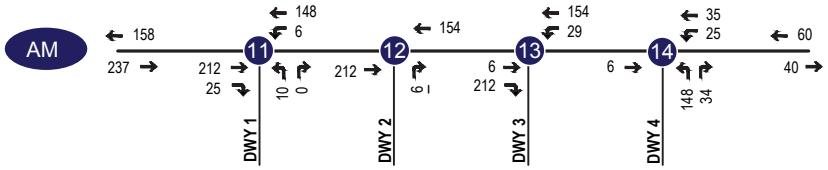


PROJECT BUILDOUT (PHASE 2)

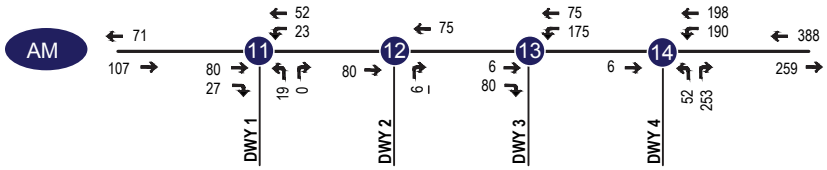


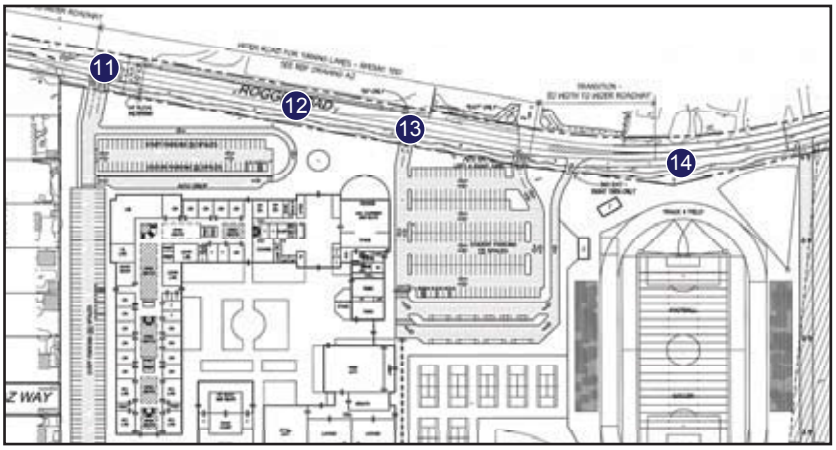


PROJECT PHASE 1 TRIP ASSIGNMENT

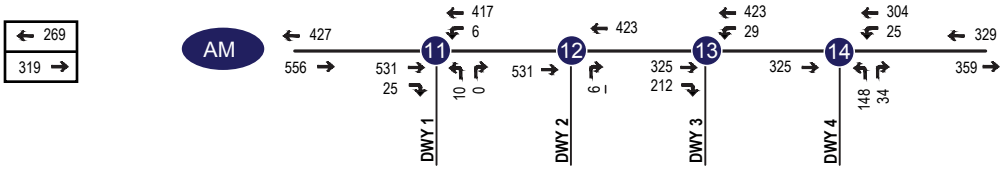


PROJECT BUILDOUT (PHASE 2) TRIP ASSIGNMENT

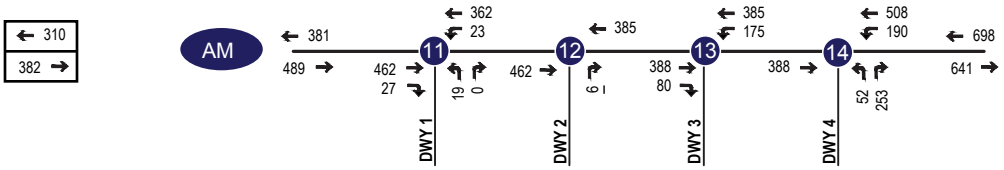


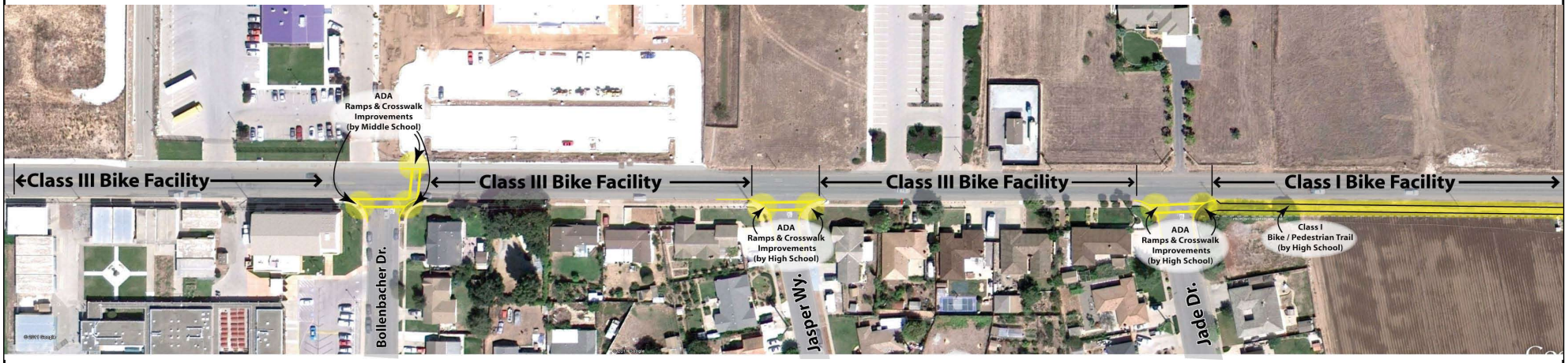


EXISTING + PROJECT PHASE 1



GENERAL PLAN BUILDOUT + PROJECT BUILDOUT (PHASE 2)





RBF CONSULTING

SUHSD HIGH SCHOOL #5 MITIGATED SITE PLAN ANALYSIS

Proposed Bicycle & Pedestrian Facilities

Exhibit 4

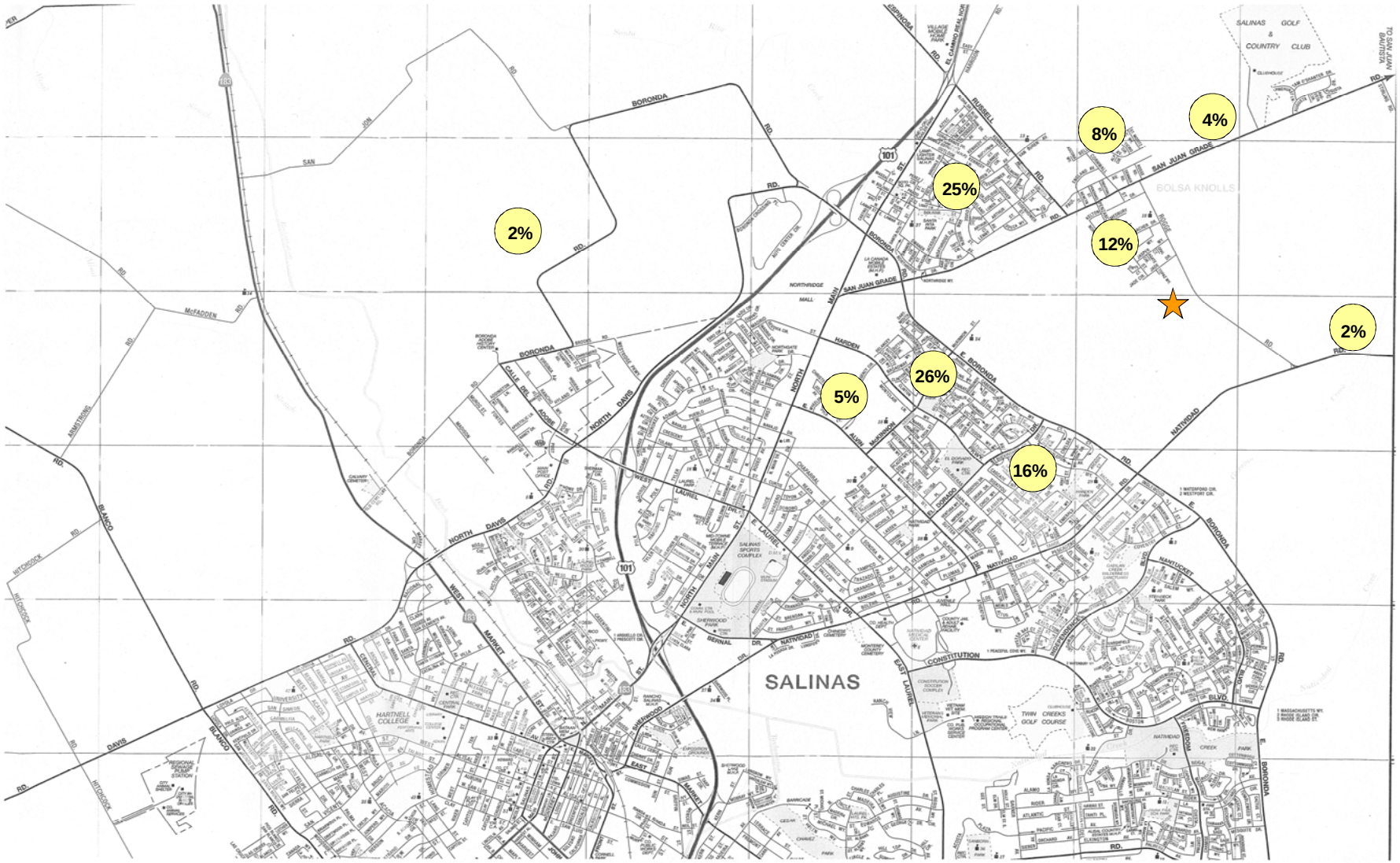
APPENDIX A

Project Trip Generation and Distribution

PROJECT TRIP GENERATION

	PROJECT SIZE	WEEKDAY DAILY TRIPS	AM PEAK HOUR				PM SCHOOL PEAK HOUR				PM STREET PEAK HOUR			
			TOTAL PEAK HOUR	% OF ADT	IN	OUT	TOTAL PEAK HOUR	% OF ADT	IN	OUT	TOTAL PEAK HOUR	% OF ADT	IN	OUT
TRIP GENERATION RATES[1]														
High School (per student)	1,500 students	1.85	0.55	30%	60%	40%	0.34	18%	40%	60%	0.18	10%	44%	56%
Rogge Road High School														
High School	1,500 students	2,768	825	30%	495	330	510	18%	204	306	270	10%	119	151
Trip Generation By Area														
Santa Rita District (Project Phase 1)	900 students	1,661	495	30%	297	198	306	18%	122	184	162	10%	71	91
Future Growth Area (Remainder of Project Buildout)	600 students	1,107	330	30%	198	132	204	18%	82	122	108	10%	48	60
TOTAL	1,500 students	2,768	825	30%	495	330	510	18%	204	306	270	10%	119	151

Notes:
1. Trip generation rates for High School derived from traffic counts performed at five area high schools. See Exhibit 6A for more information.



Santa Rita School District enrollment = 60% of the total #5 High School attendance.

EXHIBIT 7A
PROJECT
TRIP DISTRIBUTION
(SANTA RITA SCHOOL
DISTRICT TRIPS - PROJECT PHASE 1)

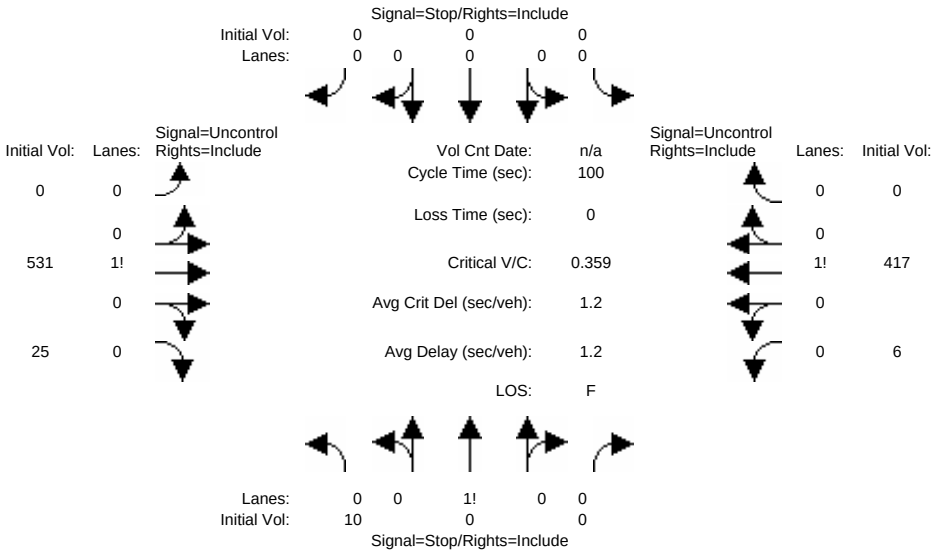
APPENDIX B

LOS Analysis Worksheets

SUSHD #5 HIGH SCHOOL TIA
ALTERNATIVE - 2

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
AM Peak Hour - Phase I

Intersection #11: DRIVEWAY 1 / ROGGE ROAD



Street Name:	DRIVEWAY 1						ROGGE ROAD					
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:	10	0	0	0	0	0	0	531	25	6	417	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:	10	0	0	0	0	0	0	531	25	6	417	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:	10	0	0	0	0	0	0	531	25	6	417	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:	0.33	1.00	0.33	1.00	1.00	1.00	1.00	0.53	0.33	0.33	0.56	1.00
PHF Volume:	30	0	0	0	0	0	0	1002	76	18	745	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	30	0	0	0	0	0	0	1002	76	18	745	0
Critical Gap Module:												
Critical Gp:	6.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1821	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1078	xxxx	xxxxx
Potent Cap.:	86	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	655	xxxx	xxxxx
Move Cap.:	84	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	655	xxxx	xxxxx
Volume/Cap:	0.36	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	34.9	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	2.1	xxxx	xxxxx
Control Del:	69.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.7	xxxx	xxxxx
LOS by Move:	F	*	*	*	*	*	*	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.7	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	B	*	*
ApproachDel:	69.9			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			*			*			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

****

Intersection #11 DRIVEWAY 1 / ROGGE ROAD

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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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			Uncontrolled			Uncontrolled		
Lanes:	1 0 0	0 0		0 0 0	0 0		0 0 0	1 0		0 1 0	0 0	
Initial Vol:	10	0	0	0	0	0	0	531	25	6	417	0
ApproachDel:	69.9			xxxxxx			xxxxxx			xxxxxx		

Approach[northbound][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=10]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=989]
SUCCEED - Total volume greater than or equal to 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 #11 DRIVEWAY 1 / ROGGE ROAD

****

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			Uncontrolled			Uncontrolled		
Lanes:	1 0 0	0 0		0 0 0	0 0		0 0 0	1 0		0 1 0	0 0	
Initial Vol:	10	0	0	0	0	0	0	531	25	6	417	0

Major Street Volume: 979
Minor Approach Volume: 10
Minor Approach Volume Threshold: 225

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.

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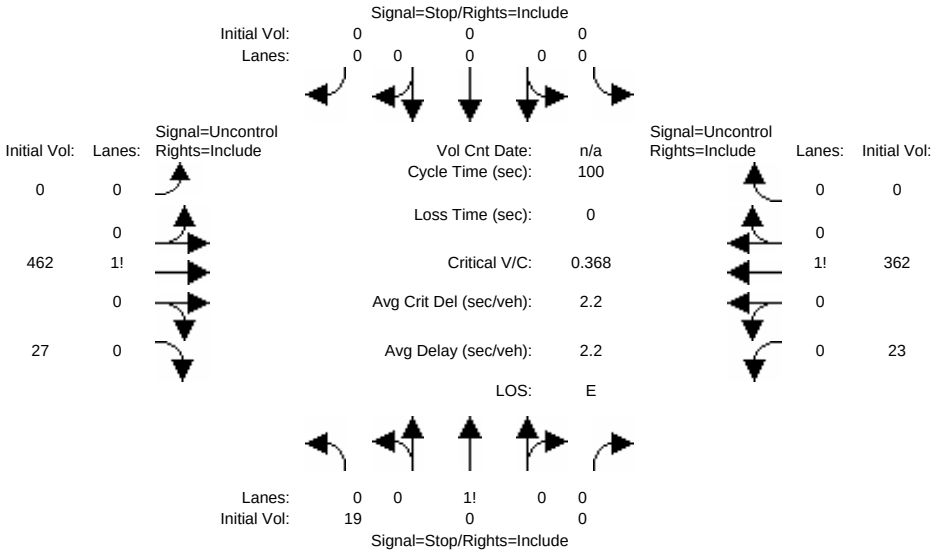
SUSHD #5 HIGH SCHOOL TIA
ALTERNATIVE - 2

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
AM Peak Hour - Buildout

Intersection #11: DRIVEWAY 1 / ROGGE ROAD



Street Name:	DRIVEWAY 1						ROGGE ROAD					
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:	19	0	0	0	0	0	0	462	27	23	362	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:	19	0	0	0	0	0	0	462	27	23	362	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:	19	0	0	0	0	0	0	462	27	23	362	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:	0.33	1.00	0.33	1.00	1.00	1.00	1.00	0.69	0.33	0.33	0.72	1.00
PHF Volume:	58	0	0	0	0	0	0	670	82	70	503	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	58	0	0	0	0	0	0	670	82	70	503	0
Critical Gap Module:												
Critical Gp:	6.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1353	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	751	xxxx	xxxxx
Potent Cap.:	167	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	867	xxxx	xxxxx
Move Cap.:	156	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	867	xxxx	xxxxx
Volume/Cap:	0.37	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.08	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	38.9	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	6.5	xxxx	xxxxx
Control Del:	40.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.5	xxxx	xxxxx
LOS by Move:	E	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.5	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	A	*	*
ApproachDel:	40.9			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	E			*			*			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

****

Intersection #11 DRIVEWAY 1 / ROGGE ROAD

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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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			Uncontrolled			Uncontrolled		
Lanes:	1 0	0 0	0	0 0	0 0	0	0 0	0 1	0	0 1	0 0	0
Initial Vol:	19	0	0	0	0	0	0	462	27	23	362	0
ApproachDel:	40.9			xxxxxx			xxxxxx			xxxxxx		

Approach[northbound][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=19]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=893]
SUCCEED - Total volume greater than or equal to 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 #11 DRIVEWAY 1 / ROGGE ROAD

****

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			Uncontrolled			Uncontrolled		
Lanes:	1 0	0 0	0	0 0	0 0	0	0 0	0 1	0	0 1	0 0	0
Initial Vol:	19	0	0	0	0	0	0	462	27	23	362	0

Major Street Volume: 874
Minor Approach Volume: 19
Minor Approach Volume Threshold: 255

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.

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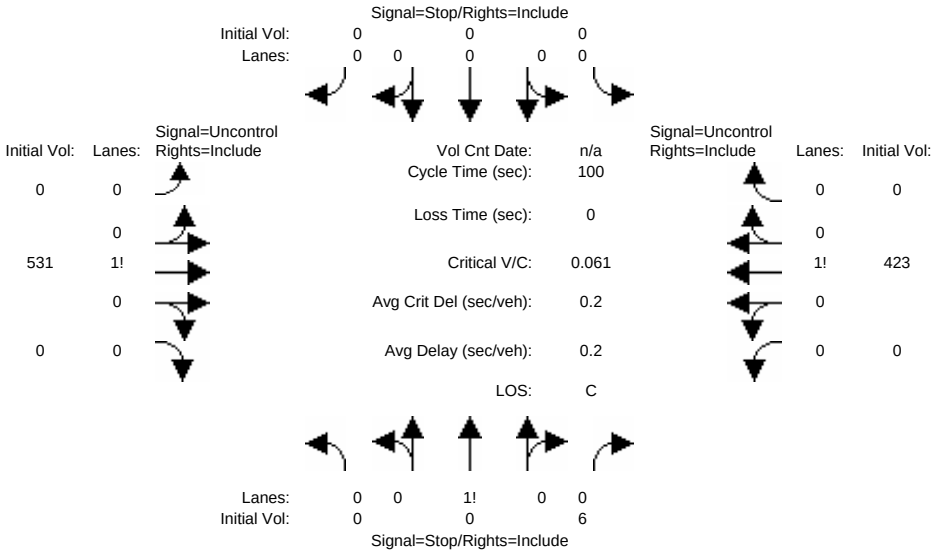
SUSHD #5 HIGH SCHOOL TIA
ALTERNATIVE - 2

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
AM Peak Hour - Phase I

Intersection #12: DRIVEWAY 2 / ROGGE ROAD



Street Name:	DRIVEWAY 2						ROGGE ROAD					
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:	0	0	6	0	0	0	0	531	0	0	423	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	6	0	0	0	0	531	0	0	423	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	6	0	0	0	0	531	0	0	423	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:	0.33	1.00	0.33	1.00	1.00	1.00	1.00	0.53	0.33	0.33	0.55	1.00
PHF Volume:	0	0	18	0	0	0	0	1002	0	0	769	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	18	0	0	0	0	1002	0	0	769	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	1002	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	297	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	297	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	0.06	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	4.9	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	17.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	C	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	17.9			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	C			*			*			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

****

Intersection #12 DRIVEWAY 2 / ROGGE ROAD

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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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			Uncontrolled			Uncontrolled		
Lanes:	0 0 0 0 1			0 0 0 0 0			0 0 1 0 0			0 0 1 0 0		
Initial Vol:	0	0	6	0	0	0	0	531	0	0	423	0
ApproachDel:	17.9			xxxxxx			xxxxxx			xxxxxx		

Approach[northbound][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=6]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=960]
SUCCEED - Total volume greater than or equal to 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 #12 DRIVEWAY 2 / ROGGE ROAD

****

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			Uncontrolled			Uncontrolled		
Lanes:	0 0 0 0 1			0 0 0 0 0			0 0 1 0 0			0 0 1 0 0		
Initial Vol:	0	0	6	0	0	0	0	531	0	0	423	0

Major Street Volume: 954
Minor Approach Volume: 6
Minor Approach Volume Threshold: 232

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).

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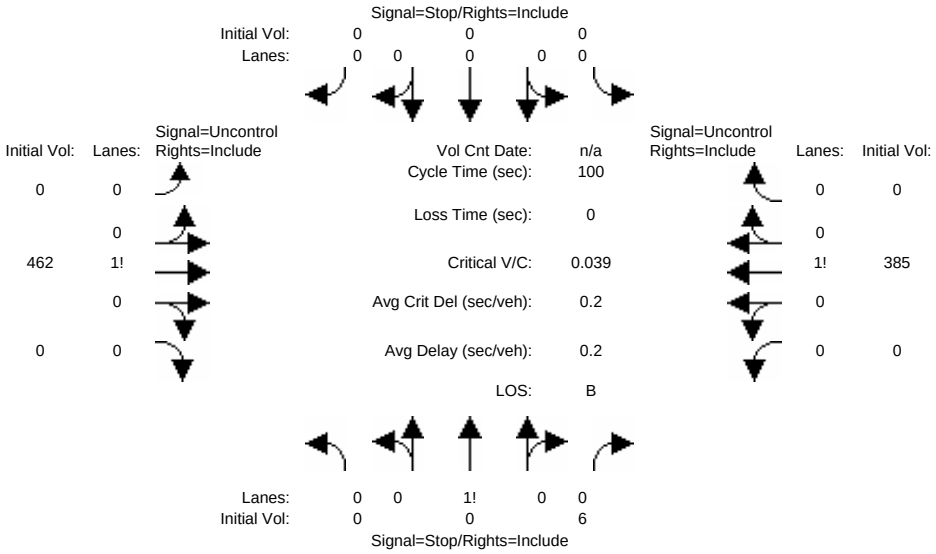
SUSHD #5 HIGH SCHOOL TIA
ALTERNATIVE - 2

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
AM Peak Hour - Buildout

Intersection #12: DRIVEWAY 2 / ROGGE ROAD




```
Street Name:            DRIVEWAY 2                      ROGGE ROAD
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:       0    0     6     0    0     0     0  462     0     0  385     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     6     0    0     0     0  462     0     0  385     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     6     0    0     0     0  462     0     0  385     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:     0.33 1.00  0.33  1.00 1.00  1.00  1.00 0.69  1.00  1.00 0.67  1.00
PHF Volume:     0    0    18     0    0     0     0  670     0     0  575     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0    18     0    0     0     0  670     0     0  575     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx   670  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx   461  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx   461  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  0.04  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   3.1  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  13.1 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      13.1           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         B              *                *                *
Note: Queue reported is the distance per lane in feet.
                  Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #12 DRIVEWAY 2 / ROGGE ROAD
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```

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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			Uncontrolled			Uncontrolled		
Lanes:	0 0 0 0 1			0 0 0 0 0			0 0 1 0 0			0 0 1 0 0		
Initial Vol:	0	0	6	0	0	0	0	462	0	0	385	0
ApproachDel:	13.1			xxxxxx			xxxxxx			xxxxxx		

Approach[northbound][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=6]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=853]
SUCCEED - Total volume greater than or equal to 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 #12 DRIVEWAY 2 / ROGGE ROAD

****

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			Uncontrolled			Uncontrolled		
Lanes:	0 0 0 0 1			0 0 0 0 0			0 0 1 0 0			0 0 1 0 0		
Initial Vol:	0	0	6	0	0	0	0	462	0	0	385	0

Major Street Volume: 847
Minor Approach Volume: 6
Minor Approach Volume Threshold: 264

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).

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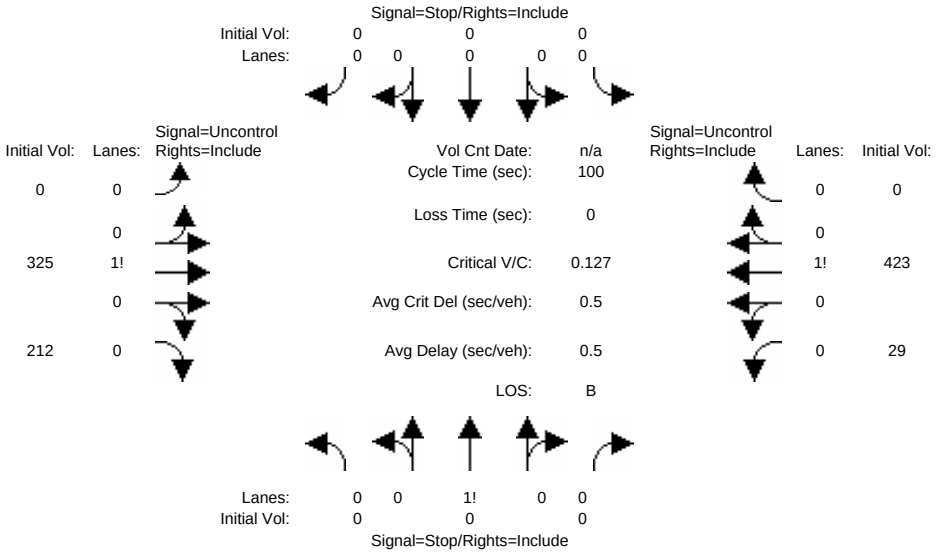
SUSHD #5 HIGH SCHOOL TIA
ALTERNATIVE - 2

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
AM Peak Hour - Phase I

Intersection #13: DRIVEWAY 3 / ROGGE ROAD



Street Name:	DRIVEWAY 3						ROGGE ROAD					
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:	0	0	0	0	0	0	0	325	212	29	423	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	325	212	29	423	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	325	212	29	423	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:	0.33	1.00	0.33	1.00	1.00	1.00	1.00	0.87	0.33	0.33	0.55	1.00
PHF Volume:	0	0	0	0	0	0	0	374	642	88	769	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	0	0	374	642	88	769	0
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1640	1640	695	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1016	xxxx	xxxxx
Potent Cap.:	112	101	446	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	691	xxxx	xxxxx
Move Cap.:	100	88	446	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	691	xxxx	xxxxx
Volume/Cap:	0.00	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.13	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	10.9	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.0	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.4	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.0	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	B	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

****

Intersection #13 DRIVEWAY 3 / ROGGE ROAD

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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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			Uncontrolled			Uncontrolled		
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	0 1	0	0 1	0 0	0
Initial Vol:	0	0	0	0	0	0	0	325	212	29	423	0
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		

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 #13 DRIVEWAY 3 / ROGGE ROAD

****

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			Uncontrolled			Uncontrolled		
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	0 1	0	0 1	0 0	0
Initial Vol:	0	0	0	0	0	0	0	325	212	29	423	0

Major Street Volume: 989
Minor Approach Volume: 0
Minor Approach Volume Threshold: 222

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.

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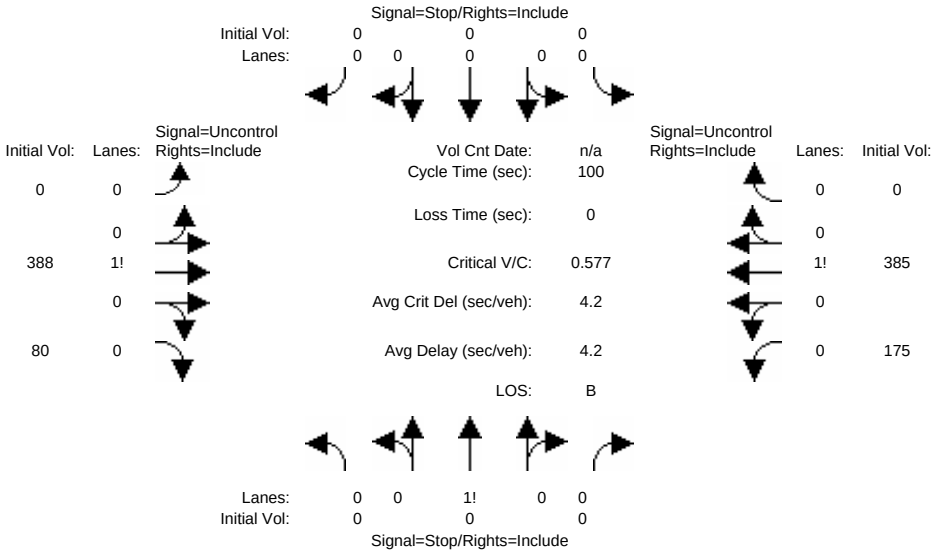
SUSHD #5 HIGH SCHOOL TIA
ALTERNATIVE - 2

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
AM Peak Hour - Buildout

Intersection #13: DRIVEWAY 3 / ROGGE ROAD




```
Street Name:            DRIVEWAY 3                      ROGGE ROAD
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:       0    0     0     0    0     0     0  388    80   175  385     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  388    80   175  385     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  388    80   175  385     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:     0.33 1.00  0.33  1.00 1.00  1.00  1.00 0.88  0.33  0.33 0.67  1.00
PHF Volume:     0    0     0     0    0     0     0  441   242   530  575     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0     0     0  441   242   530  575     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2197 2197   562  xxxx xxxx xxxxx  xxxx xxxx xxxxx   683 xxxx xxxxx
Potent Cap.:   50   46   530  xxxx xxxx xxxxx  xxxx xxxx xxxxx   919 xxxx xxxxx
Move Cap.:     16    8   530  xxxx xxxx xxxxx  xxxx xxxx xxxxx   919 xxxx xxxxx
Volume/Cap:  0.00 0.00  0.00  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.58 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  94.9 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.8 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.1 xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     B    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                *                *
Note: Queue reported is the distance per lane in feet.
                  Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #13 DRIVEWAY 3 / ROGGE ROAD
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```

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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			Uncontrolled			Uncontrolled		
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	0 1	0	0 1	0 0	0
Initial Vol:	0	0	0	0	0	0	0	388	80	175	385	0
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		

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 #13 DRIVEWAY 3 / ROGGE ROAD

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			Uncontrolled			Uncontrolled		
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	0 1	0	0 1	0 0	0
Initial Vol:	0	0	0	0	0	0	0	388	80	175	385	0

Major Street Volume: 1028
Minor Approach Volume: 0
Minor Approach Volume Threshold: 212

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.

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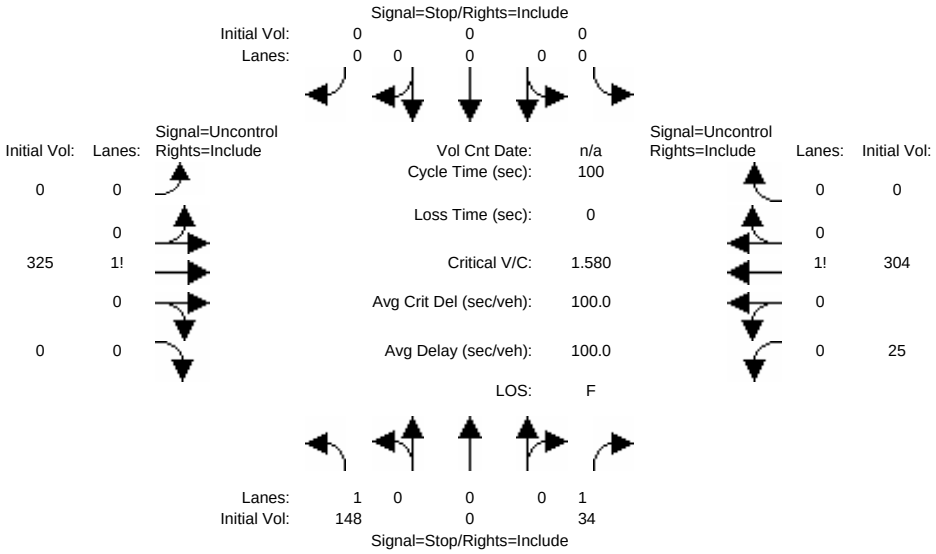
SUSHD #5 HIGH SCHOOL TIA
ALTERNATIVE - 2

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
AM Peak Hour - Phase I

Intersection #14: DRIVEWAY 4 / ROGGE ROAD




```
Street Name:            DRIVEWAY 4                        ROGGE ROAD
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:     148    0    34     0    0     0     0  325     0    25  304     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:  148    0    34     0    0     0     0  325     0    25  304     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:  148    0    34     0    0     0     0  325     0    25  304     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:     0.33 1.00  0.33  1.00 1.00  1.00  1.00 0.87  0.33  0.33 0.75  1.00
PHF Volume:   448    0   103     0    0     0     0  374     0    76  405     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  448    0   103     0    0     0     0  374     0    76  405     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  930 xxxx   374  xxxx xxxx xxxxx  xxxx xxxx xxxxx   374 xxxx xxxxx
Potent Cap.:  299 xxxx   677  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1196 xxxx xxxxx
Move Cap.:    284 xxxx   677  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1196 xxxx xxxxx
Volume/Cap:  1.58 xxxx  0.15  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.06 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    671 xxxx  13.4  xxxx xxxx xxxxx  xxxx xxxx xxxxx   5.1 xxxx xxxxx
Control Del:309.6 xxxx  11.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.2 xxxx xxxxx
LOS by Move:    F    *     B     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.2 xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     A    *     *
ApproachDel:     253.9           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         F              *                *                *
Note: Queue reported is the distance per lane in feet.
                    Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #14 DRIVEWAY 4 / ROGGE ROAD
********************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```

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APPENDIX C

MUTCD Traffic Signal Warrants

RBF CONSULTING

EXISTING + PHASE 1 - PEAK HOUR VOLUME WARRANT (ALT. - 2)
(URBAN CONDITIONS)

General Information

Description **DRIVEWAY 4 / ROGGE ROAD**

Major Approach Street Name **ROGGE ROAD**
Minor Approach Street Name **DRIVEWAY 4**

Geometry

Number of Approach Legs	3
Number of Major Approach Lanes	2
Number of Minor Approach Lanes	2

Volumes and Delay

Major Approach Volumes (Both Directions)	654
Minor Approach Volume (One Direction Only)	182
Total Entering Volume	836
Minor Approach Delay per Vehicle	253.9

SIGNAL WARRANT SATISFIED

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)

PART A — **SATISFIED** YES ☑ NO ☐

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; **AND**

YES ☑ NO ☐

Total Delay (Vehicle Hours) **12.84**

2. The volume on the same minor street approach (one direction only equal or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; **AND**

YES ☑ NO ☐

Total Minor Approach Volume **182**

3. The total entering volume serviced during the hour equals or excceds 800 vph for inersections with four or more approaches or 650 vph for intersections with three approaches.

YES ☑ NO ☐

Total Entering Volume **836**

PART B — **SATISFIED** YES ☐ NO ☑

APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street		✓	**654**
Higher Approach - Minor Street		✓	**182**

The plotted point falls above the curve in Figure 4C-3. YES ☐ NO ☑

OR. The plotted point falls above the curve in Figure 4C-4. YES ☐ NO ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

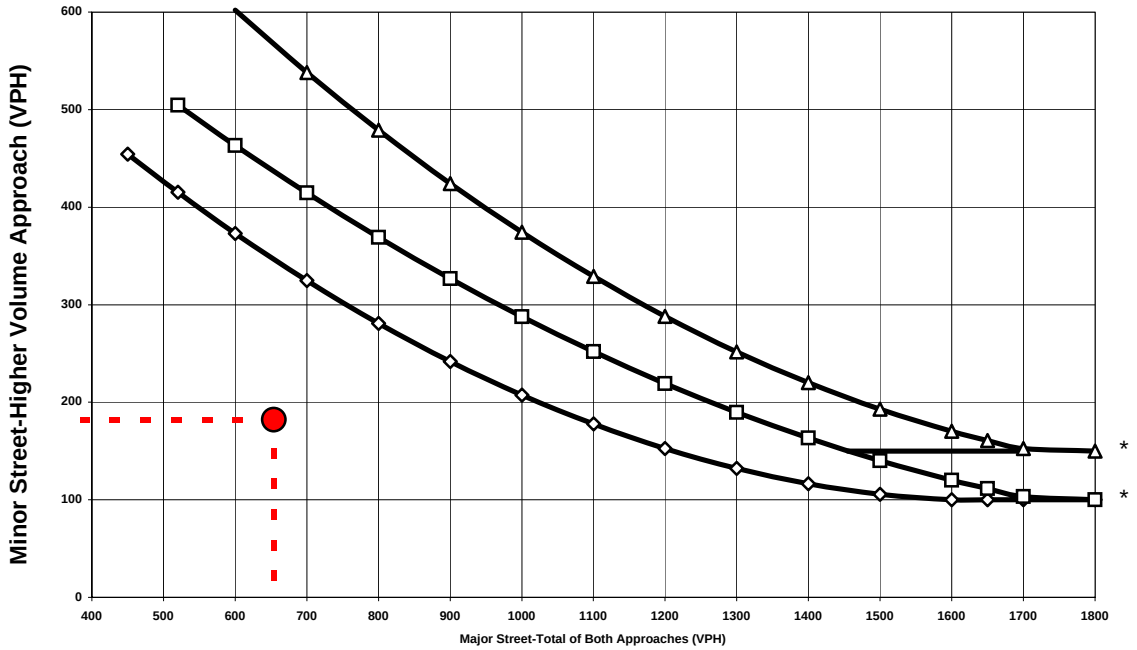
EXISTING + PHASE 1 - PEAK HOUR VOLUME WARRANT (ALT. - 2) (URBAN CONDITIONS)

Peak Hour AM

Major Stre ROGGE ROAD		**Minor DRIVEWAY 4**	
Total of Both Approaches (VPH):	**654**	Higher Volume Approach (VPH):	**182**
Number of Approach Lanes:	**2**	Number of Approach Lanes:	**2**

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



1 Lane Major & 1 Lane Minor
2 or More Lanes Major & 1 Lane Minor
2 or More Lanes Major & 2 or More Lanes Minor
Major Street
Minor Street

* Note:
vph Applies as the

Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2003 Revision 1, as amended for use in California (September 26, 2006).

RBF CONSULTING

EXISTING + PHASE 1 - PEAK HOUR VOLUME WARRANT (ALT. - 2)
(URBAN CONDITIONS)

General Information

Description **DRIVEWAY 4 / ROGGE ROAD**

Major Approach Street Name **ROGGE ROAD**
Minor Approach Street Name **DRIVEWAY 4**

Geometry

Number of Approach Legs	3
Number of Major Approach Lanes	2
Number of Minor Approach Lanes	2

Volumes and Delay

Major Approach Volumes (Both Directions)	855
Minor Approach Volume (One Direction Only)	551
Total Entering Volume	1406
Minor Approach Delay per Vehicle	253.9

SIGNAL WARRANT SATISFIED

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)

PART A — **SATISFIED** YES ☑ NO ☐

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; **AND**

YES ☑ NO ☐

Total Delay (Vehicle Hours) **38.86**

2. The volume on the same minor street approach (one direction only equal or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; **AND**

YES ☑ NO ☐

Total Minor Approach Volume **551**

3. The total entering volume serviced during the hour equals or excceds 800 vph for inersections with four or more approaches or 650 vph for intersections with three approaches.

YES ☑ NO ☐

Total Entering Volume **1406**

PART B — **SATISFIED** YES ☑ NO ☐

APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street		✓	**855**
Higher Approach - Minor Street		✓	**551**

The plotted point falls above the curve in Figure 4C-3. YES ☑ NO ☐

OR. The plotted point falls above the curve in Figure 4C-4. YES ☐ NO ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

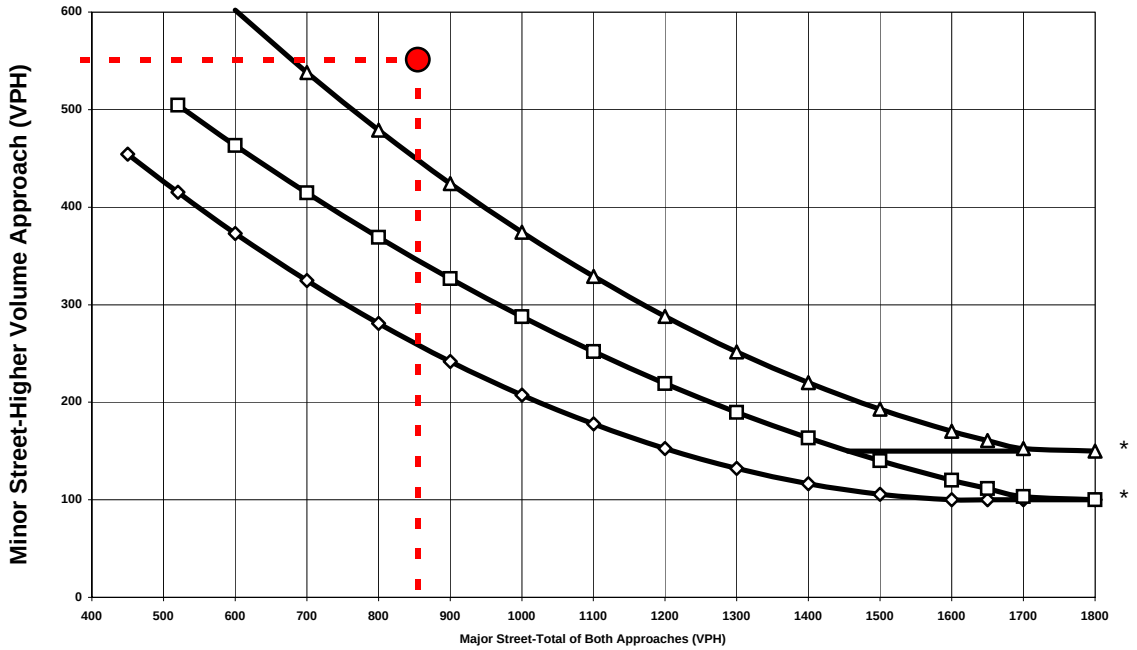
EXISTING + PHASE 1 - PEAK HOUR VOLUME WARRANT (ALT. - 2) (URBAN CONDITIONS)

Peak Hour AM

Major Stre ROGGE ROAD		**Minor DRIVEWAY 4**	
Total of Both Approaches (VPH):	**855**	Higher Volume Approach (VPH):	**551**
Number of Approach Lanes:	**2**	Number of Approach Lanes:	**2**

SIGNAL WARRANT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



1 Lane Major & 1 Lane Minor
2 or More Lanes Major & 1 Lane Minor
2 or More Lanes Major & 2 or More Lanes Minor
Major Street
Minor Street

* Note:
vph Applies as the

Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2003 Revision 1, as amended for use in California (September 26, 2006).

GENERAL PLAN + BUILDOUT - PEAK HOUR VOLUME WARRANT (ALT. - 2)
(URBAN CONDITIONS)

General Information

Description **DRIVEWAY 4 / ROGGE ROAD**

Major Approach Street Name **ROGGE ROAD**
Minor Approach Street Name **DRIVEWAY 4**

Geometry

Number of Approach Legs	3
Number of Major Approach Lanes	2
Number of Minor Approach Lanes	2

Volumes and Delay

Major Approach Volumes (Both Directions)	1086
Minor Approach Volume (One Direction Only)	305
Total Entering Volume	1391
Minor Approach Delay per Vehicle	1167.2

SIGNAL WARRANT SATISFIED

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)

PART A — **SATISFIED** YES ☑ NO ☐

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; **AND**

YES ☑ NO ☐

Total Delay (Vehicle Hours) **98.89**

2. The volume on the same minor street approach (one direction only equal or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; **AND**

YES ☑ NO ☐

Total Minor Approach Volume **305**

3. The total entering volume serviced during the hour equals or excceds 800 vph for inersections with four or more approaches or 650 vph for intersections with three approaches.

YES ☑ NO ☐

Total Entering Volume **1391**

PART B — **SATISFIED** YES ☐ NO ☑

APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street		✓	**1086**
Higher Approach - Minor Street		✓	**305**

The plotted point falls above the curve in Figure 4C-3. YES ☐ NO ☑

OR. The plotted point falls above the curve in Figure 4C-4. YES ☐ NO ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

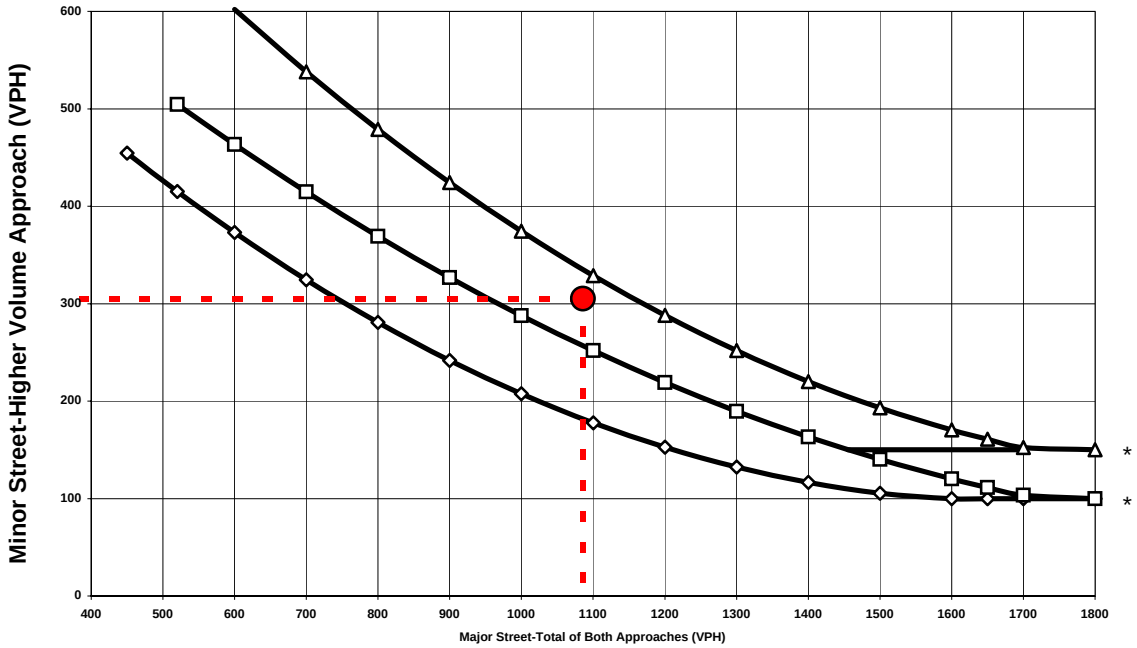
GENERAL PLAN + BUILDOUT - PEAK HOUR VOLUME WARRANT (ALT. - 2) (URBAN CONDITIONS)

Peak Hour AM

Major Stre ROGGE ROAD		**Minor DRIVEWAY 4**	
Total of Both Approaches (VPH):	**1086**	Higher Volume Approach (VPH):	**305**
Number of Approach Lanes:	**2**	Number of Approach Lanes:	**2**

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



1 Lane Major & 1 Lane Minor
2 or More Lanes Major & 1 Lane Minor
2 or More Lanes Major & 2 or More Lanes Minor
Major Street
Minor Street

* Note:
vph Applies as the

Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2003 Revision 1, as amended for use in California (September 26, 2006).

GENERAL PLAN + BUILDOUT - PEAK HOUR VOLUME WARRANT (ALT. - 2)
(URBAN CONDITIONS)

General Information

Description **DRIVEWAY 4 / ROGGE ROAD**

Major Approach Street Name **ROGGE ROAD**
Minor Approach Street Name **DRIVEWAY 4**

Geometry

Number of Approach Legs	3
Number of Major Approach Lanes	2
Number of Minor Approach Lanes	2

Volumes and Delay

Major Approach Volumes (Both Directions)	1958
Minor Approach Volume (One Direction Only)	925
Total Entering Volume	2883
Minor Approach Delay per Vehicle	1167.2

SIGNAL WARRANT SATISFIED

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)

PART A — **SATISFIED** YES ☑ NO ☐

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; **AND**

YES ☑ NO ☐

Total Delay (Vehicle Hours) **299.91**

2. The volume on the same minor street approach (one direction only equal or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; **AND**

YES ☑ NO ☐

Total Minor Approach Volume **925**

3. The total entering volume serviced during the hour equals or excceds 800 vph for inersections with four or more approaches or 650 vph for intersections with three approaches.

YES ☑ NO ☐

Total Entering Volume **2883**

PART B — **SATISFIED** YES ☑ NO ☐

APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street		✓	**1958**
Higher Approach - Minor Street		✓	**925**

The plotted point falls above the curve in Figure 4C-3. YES ☑ NO ☐

OR. The plotted point falls above the curve in Figure 4C-4. YES ☐ NO ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

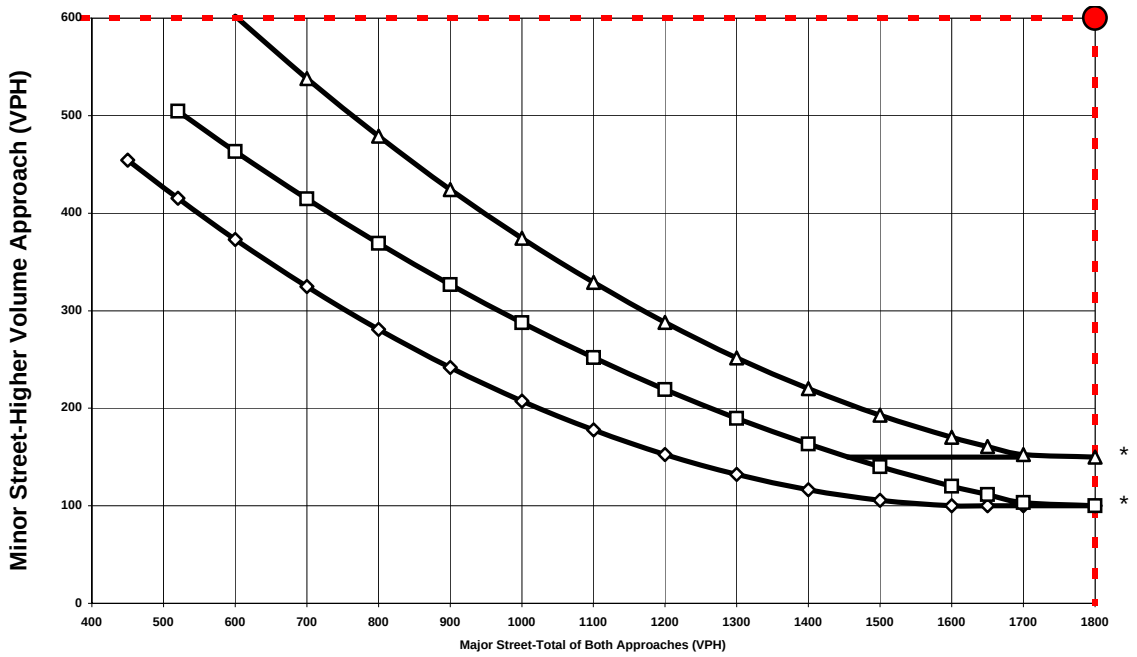
GENERAL PLAN + BUILDOUT - PEAK HOUR VOLUME WARRANT (ALT. - 2) (URBAN CONDITIONS)

Peak Hour AM

Major Stre ROGGE ROAD		**Minor DRIVEWAY 4**	
Total of Both Approaches (VPH):	**1958**	Higher Volume Approach (VPH):	**925**
Number of Approach Lanes:	**2**	Number of Approach Lanes:	**2**

SIGNAL WARRANT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



1 Lane Major & 1 Lane Minor
2 or More Lanes Major & 1 Lane Minor
2 or More Lanes Major & 2 or More Lanes Minor
Major Street
Minor Street

* Note:
vph Applies as the

Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2003 Revision 1, as amended for use in California (September 26, 2006).

APPENDIX D

MUTCD Turn Lane Warrants

Left Turn Lane Warrants

Project:	SUHSD #5 HIGH SCHOOL TIA	**DATE:**	July 13, 2011
Location:	ROGGE ROAD / DVWY. 3 - PHASE 1	**Analyst:**	ARSHAD SYED
Scenario:	AM PEAK HOUR		

Input Fields

Left Turn Volume (vph)	29	Speed Limit (mph)	35
Advancing Volume (vph)	452	No. of through lanes	1
Opposing Volume (vph)	537	Percent Heavy Vehicles (decimal percent)	0.05

Left Turn Lane WARRANTED

Left Turn Length - 2 Min Rule

20 Min Peak - **75** feet

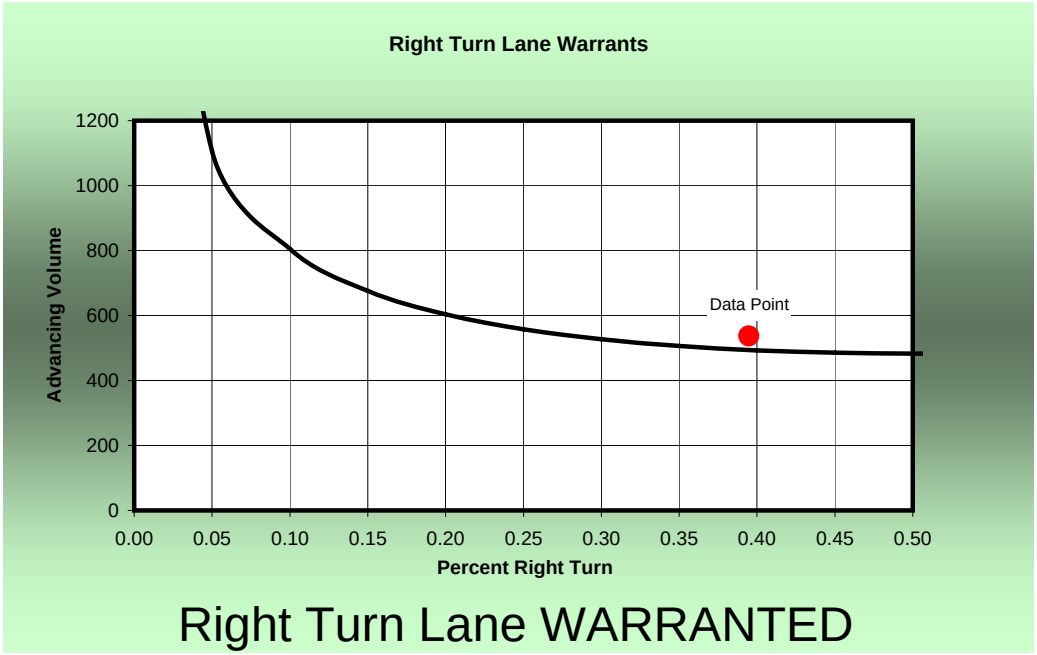
Peak Hour - **25** feet

Right Turn Lane Warrants

Project:	SUHSD #5 HIGH SCHOOL TIA	**DATE:**	July 13, 2011
Location:	ROGGE ROAD / DVWY. 3 - PHASE 1	**Analyst:**	ARSHAD SYED
Scenario:	AM PEAK HOUR		

Input Fields

Right Turn Volume (vph)	212	Speed Limit (mph)	35
Advancing Volume (vph)	537		



Right Turn Lane WARRANTED

Right Turn Length - 2 Min Rule

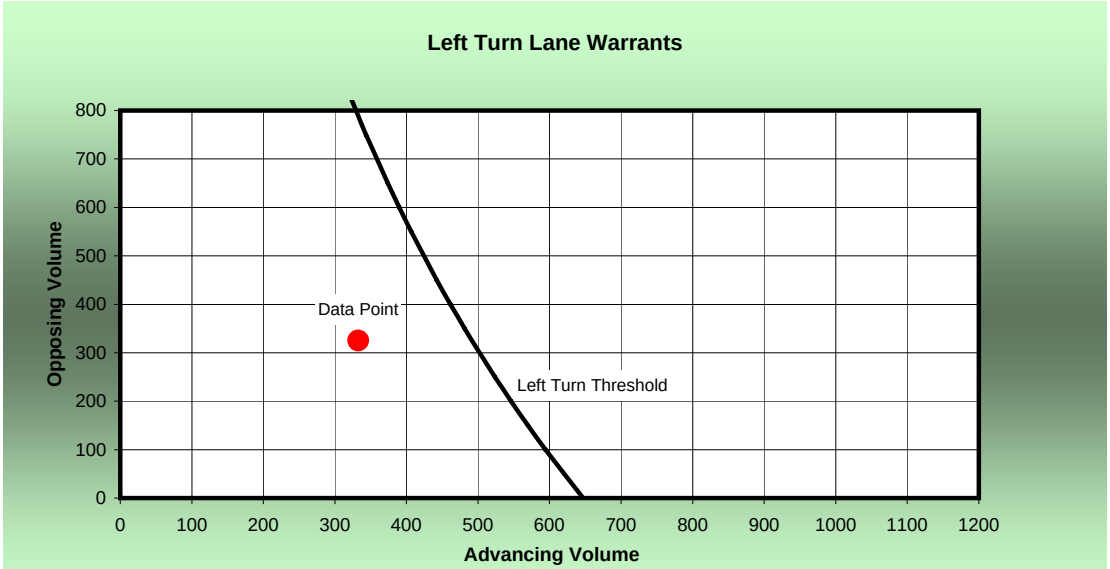
20 Min Peak -	**530** feet
Peak Hour -	**175** feet

Left Turn Lane Warrants

Project:	SUHSD #5 HIGH SCHOOL TIA	**DATE:**	July 13, 2011
Location:	ROGGE ROAD / DVWY. 4 - PHASE 1	**Analyst:**	ARSHAD SYED
Scenario:	AM PEAK HOUR - Alternative 2		

Input Fields

Left Turn Volume (vph)	25	Speed Limit (mph)	35
Advancing Volume (vph)	329	No. of through lanes	1
Opposing Volume (vph)	325	Percent Heavy Vehicles (decimal percent)	0.05



Left Turn Lane NOT Warranted

Left Turn Length - 2 Min Rule

20 Min Peak - **65** feet

Peak Hour - **20** feet

Left Turn Lane Warrants

Project:	SUHSD #5 HIGH SCHOOL TIA	**DATE:**	July 13, 2011
Location:	ROGGE ROAD / DVWY. 1 - BUILDOUT	**Analyst:**	ARSHAD SYED
Scenario:	AM PEAK HOUR		

Input Fields

Left Turn Volume (vph)	23	Speed Limit (mph)	35
Advancing Volume (vph)	385	No. of through lanes	1
Opposing Volume (vph)	489	Percent Heavy Vehicles (decimal percent)	0.05

Left Turn Lane NOT Warranted

Left Turn Length - 2 Min Rule

20 Min Peak - **60** feet

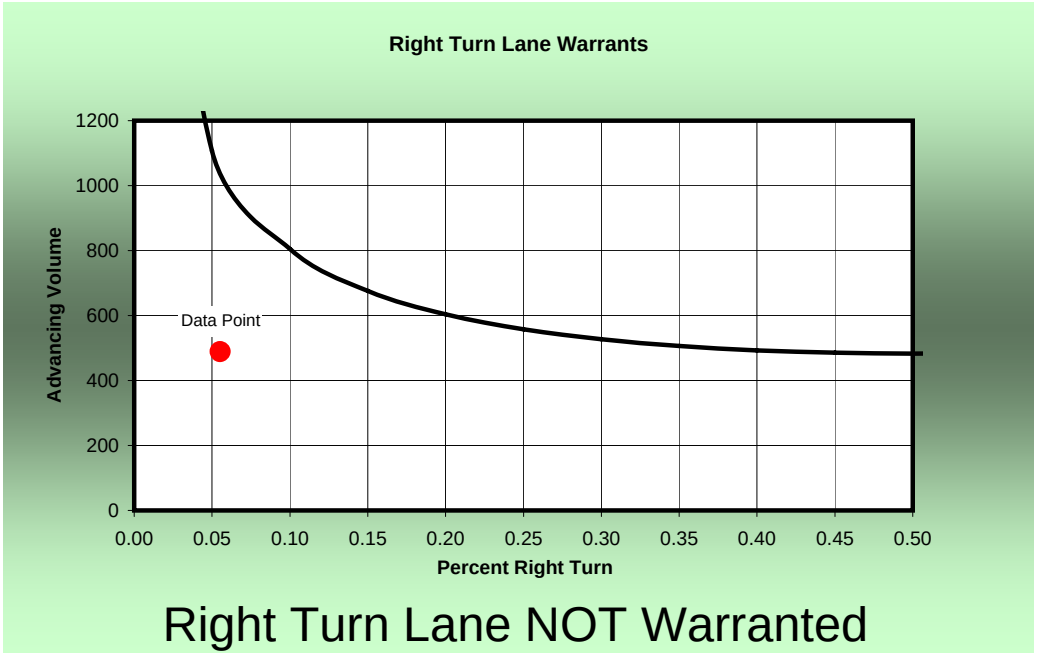
Peak Hour - **20** feet

Right Turn Lane Warrants

Project:	SUHSD #5 HIGH SCHOOL TIA	**DATE:**	July 13, 2011
Location:	ROGGE ROAD / DVWY. 1 - BUILDOUT	**Analyst:**	ARSHAD SYED
Scenario:	AM PEAK HOUR		

Input Fields

Right Turn Volume (vph)	27	Speed Limit (mph)	35
Advancing Volume (vph)	489		



Right Turn Lane NOT Warranted

Right Turn Length - 2 Min Rule

20 Min Peak -	**70** feet
Peak Hour -	**25** feet

Left Turn Lane Warrants

Project:	SUHSD #5 HIGH SCHOOL TIA	**DATE:**	July 13, 2011
Location:	ROGGE ROAD / DVWY. 3 - BUILDOUT	**Analyst:**	ARSHAD SYED
Scenario:	AM PEAK HOUR		

Input Fields

Left Turn Volume (vph)	175	Speed Limit (mph)	35
Advancing Volume (vph)	560	No. of through lanes	1
Opposing Volume (vph)	468	Percent Heavy Vehicles (decimal percent)	0.05

Left Turn Lane WARRANTED

Left Turn Length - 2 Min Rule

20 Min Peak - **440** feet

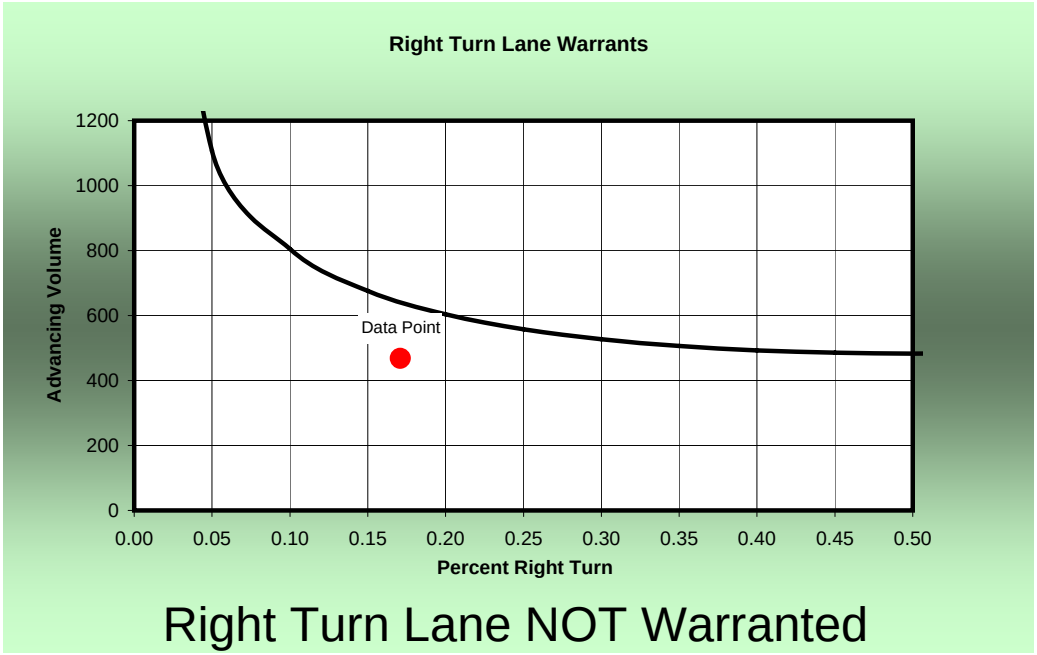
Peak Hour - **145** feet

Right Turn Lane Warrants

Project:	SUHSD #5 HIGH SCHOOL TIA	**DATE:**	July 13, 2011
Location:	ROGGE ROAD / DVWY. 3 - BUILDOUT	**Analyst:**	ARSHAD SYED
Scenario:	AM PEAK HOUR		

Input Fields

Right Turn Volume (vph)	80	Speed Limit (mph)	35
Advancing Volume (vph)	468		



Right Turn Lane NOT Warranted

Right Turn Length - 2 Min Rule

20 Min Peak - **200** feet

Peak Hour - **65** feet

Left Turn Lane Warrants

Project:	SUHSD #5 HIGH SCHOOL TIA	**DATE:**	July 13, 2011
Location:	ROGGE ROAD / DVWY. 4 - BUILDOUT	**Analyst:**	ARSHAD SYED
Scenario:	AM PEAK HOUR - Alternative 2		

Input Fields

Left Turn Volume (vph)	190	Speed Limit (mph)	35
Advancing Volume (vph)	698	No. of through lanes	1
Opposing Volume (vph)	388	Percent Heavy Vehicles (decimal percent)	0.05

Left Turn Lane WARRANTED

Left Turn Length - 2 Min Rule

20 Min Peak - **475** feet

Peak Hour - **160** feet