Appendix B - Guadalupe Project Traffic Impact Evaluation

Overland Traffic Consultants, Inc.

SUPPLEMENTAL TECHNICAL TRAFFIC EVALUATION
GUADALUPE RESTORATION PROJECT

Addendum to:

EIR & SEIR SCH# 1996051053

SEIR - June 2005 & EIR July - 1998

Prepared by:

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Revised May 14, 2012

SUPPLEMENTAL

TECHNICAL TRAFFIC EVALUATION

GUADALUPE RESTORATION PROJECT

FOR

ADDENDUM TO:

SUPPLEMENTAL EIR SCH# 1996051053 JUNE 2005 &
GUADALUPE OIL FIELD REMEDIATION & ABANDONMENT
EIR SCH#1996051053 July 1998

Located within the
County of San Luis Obispo &
County of Santa Barbara

Prepared by:

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Revised May 14, 2012

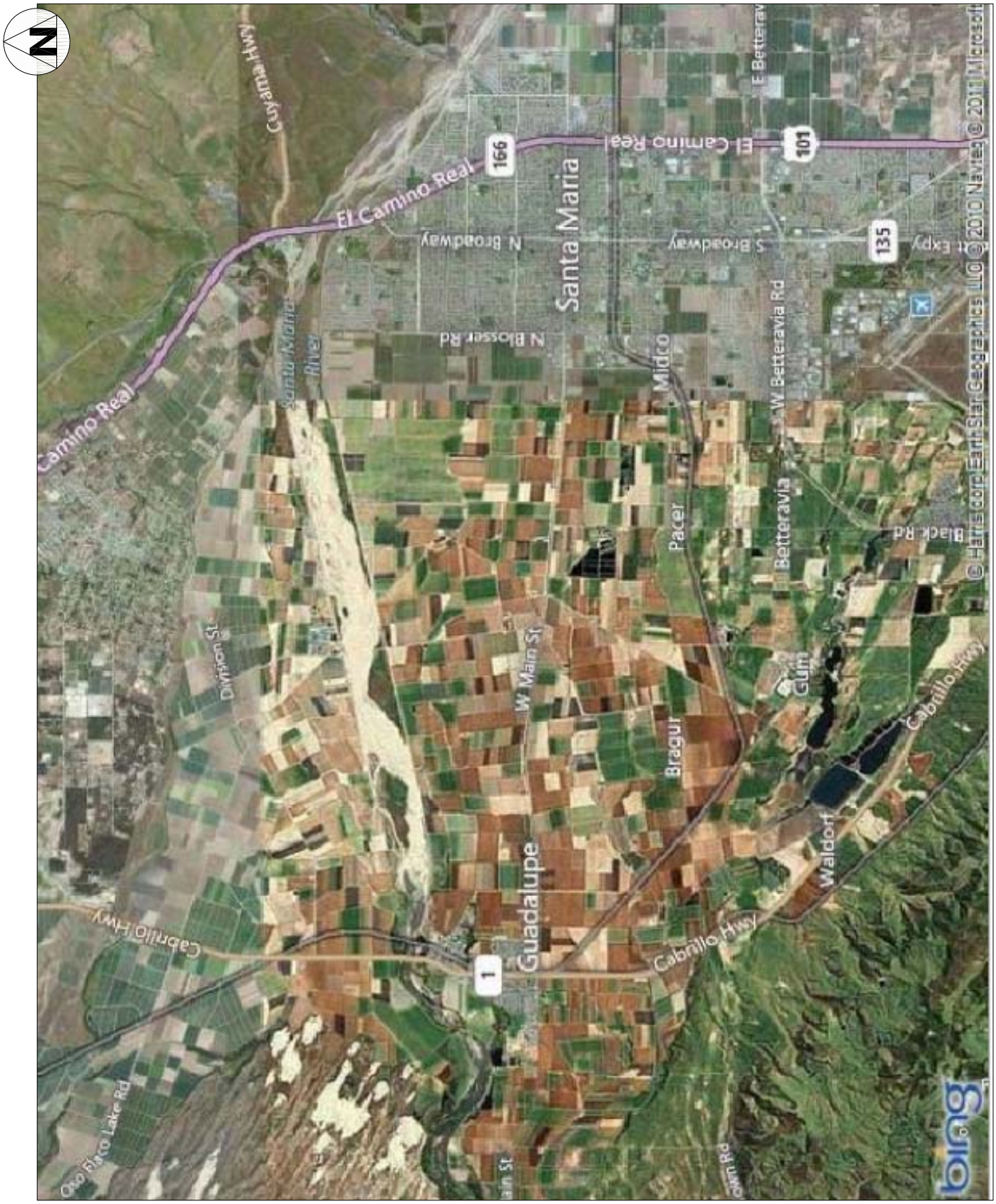
EXECUTIVE SUMMARY

This document evaluates existing and existing with project conditions along travel route associated with revisions to the Guadalupe Restoration Project. The revisions involve transporting an additional 500,000 cubic yards of non hazardous hydrogen impacted soil from the Guadalupe Restoration Project site to the Santa Maria Landfill, reducing the maximum number of truck trips from 150 to 120 truck trips per day, reduce to 100,000 cubic yards (out of the additional 500,000 cubic yards) the volume of material that may not meet the Santa Maria Landfills acceptance criteria that would be transported to the another facility such as the Buttonwillow facility, and reducing the number of truck trips per day from 150 to 60 that can take NHIS material to the Buttonwillow facility. The Betteravia Route was the preferred route and primarily used under the previous entitlements. This single route is proposed for continued use under this addendum.

Potential intersection impacts at Highway 1 and Thornberry Road, at Highway 1 and Highway 166 and at Highway 166 and Simas Street were evaluated in this report. No significant impacts were found based upon Caltrans District 5 impact criteria.

Traffic signal warrant analysis was conducted at Highway 1 and Highway 166. A traffic signal is warranted without and with the project based upon the California Warrants 2007/2010 and Federal Warrants 2009. Four traffic warrants were met based on this analysis. The four warrants met are the Eight Hour Vehicular Volume Warrant (Warrant 1), Four Hour Vehicle Volume Warrant (Warrant #2), Peak Hour Warrant (Warrant #3), and Roadway Network (Warrant #4).

The project area is provided in the following aerial photograph.



2/2012

PROJECT SETTING

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INTRODUCTION & PROJECT DESCRIPTION

Previously, CEQA documents were prepared for the County of San Luis Obispo titled: Final Supplemental Environmental Impact Report (SEIR) dated June 2005 prepared by Marine Research Specialists and the 1998 Guadalupe Field Remediation and Abandonment Environmental Impact Report prepared by Arthur D. Little. The 2005 SEIR was prepared to evaluate the environmental impacts of trucking Non Hazardous Hydrocarbon Impacted Soils (NHIS) from the former Guadalupe Oil Field to the City of Santa Maria Landfill. It also evaluated the impacts of trucking the NHIS to various disposal sites in Kern County including the Buttonwillow facility. In 2006 the Final SEIR was approved to allow trucking of up to 860,000 cubic yards of NHIS to the Santa Maria Landfill (SMLF) or a disposal site in Kern County.

This traffic section of the Addendum to the previous work has been prepared to evaluate the potential traffic impacts associated with revisions of the Guadalupe Restoration Project. This involves transporting an additional 500,000 cubic yards of NHIS from the Guadalupe Restoration Project site to the SMLF, reducing the maximum number of truck trips from 150 to 120 truck trips per day, limiting the volume of material that may not meet the SMLF's acceptance criteria that can be transported to Buttonwillow to 100,000 cubic yards, and reducing the number of truck trips per day from 150 to 60 that can take NHIS material to another site such as Buttonwillow. The project area is displayed in Figure 1.

The Betteravia Route was previously used as the route for hauling which has been conducted to date. This single route is proposed and evaluated in this study. The route to the Santa Maria Landfill is displayed in Figures 2.

Vehicles using the proposed Betteravia Route will exit the Guadalupe Restoration Project at Thornberry Road turning right on Highway 1 southbound, turn left onto Highway 166 (Main Street) east to Simas Street, turn right onto south Simas Street to Betteravia, then east on Betteravia Road over Highway 101 to Philbric, and north on Philbric Road to the SMLF.

The route to the Buttonwillow Landfill would also use the Betteravia route to the intersection of Betteravia and Highway 101. Trucks would then enter Highway 101 northbound to Highway 166 east to Highway 33 north to Highway 58 west.

An evaluation of the potential project impacts during the morning and evening peak hours at three key intersections along state facilities was conducted. The intersections evaluated are:

1. Highway 1 and Thornberry Road - Two-way Stopped Intersection
2. Highway 1 and Highway 166 (Main Street) – All-way Stopped Intersection
3. Highway 166 (Main Street) and Simas Street – All-way Stopped Intersection

These intersections were chosen for evaluation under consultation with the State of California Department of Transportation (Caltrans) District 5 as the most likely to be significantly impacted by the project. Existing and Existing with worst case Project traffic conditions were evaluated.

Traffic signal warrant analysis was also conducted at Highway 1 and Highway 166 (Main Street). The intersection is currently controlled by 4-way stop signs. A railroad line crosses the east leg of Highway 166 (Main Street) approximately 70 feet east of the intersection. The analysis was conducted for Existing and Existing + worst case Project traffic conditions.

The project area is shown in Figure 1 and the truck route area shown in Figure 2.

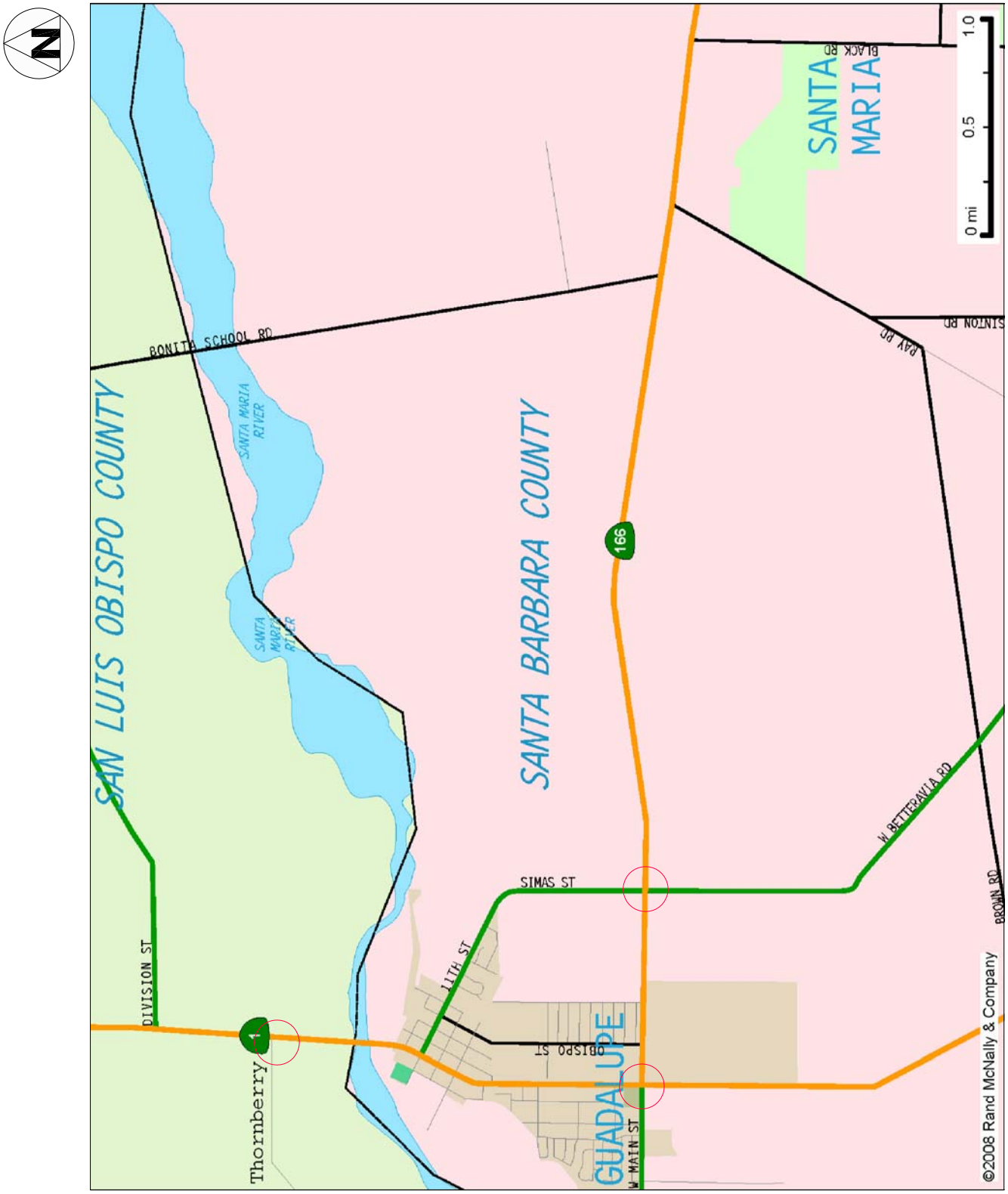

FIGURE 1

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INTERSECTION LOCATIONS

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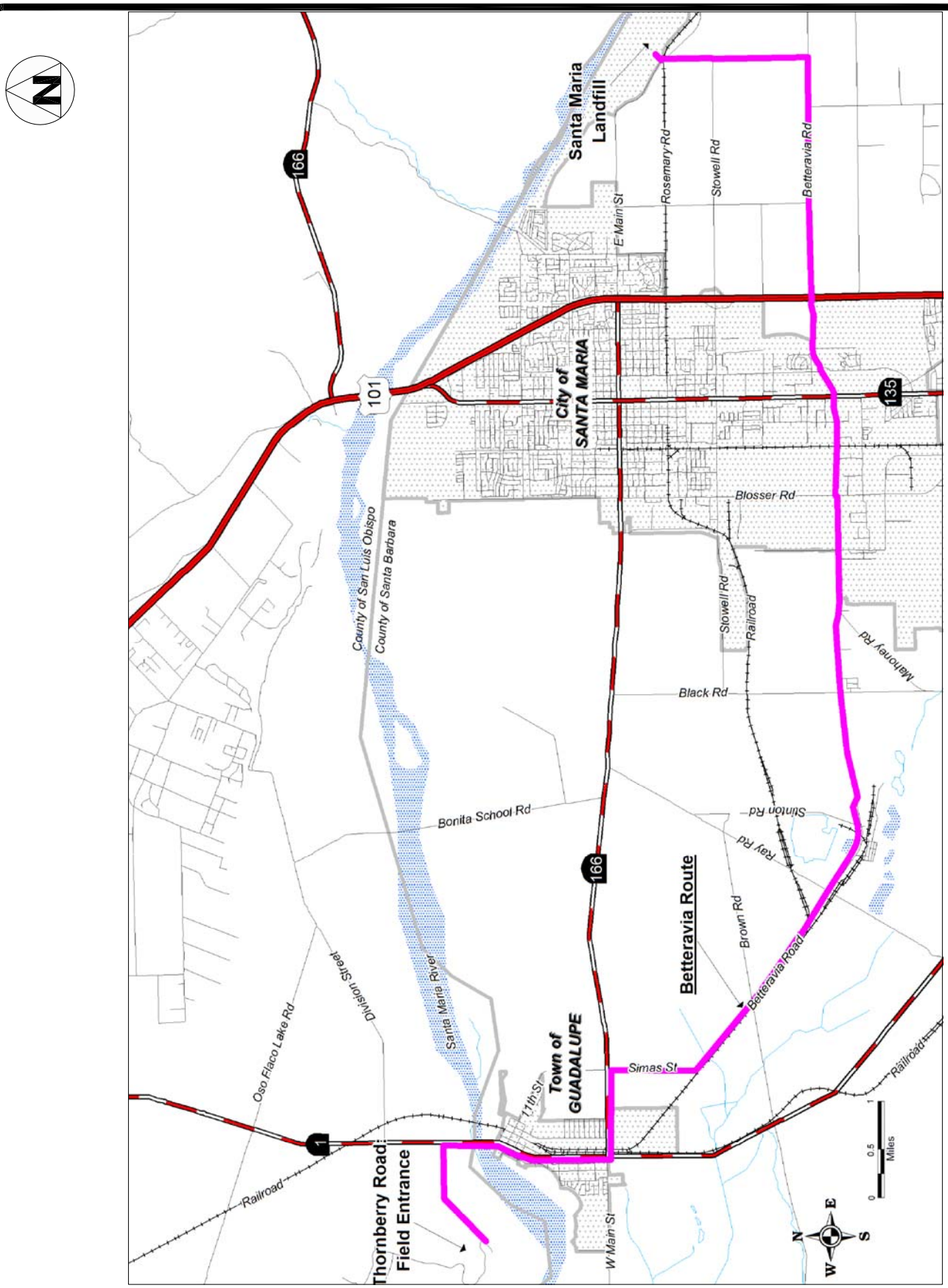

Graphic provided by MRS

FIGURE 2

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PREVIOUSLY APPROVED PROJECT TRUCK ROUTE
BETTERAVIA ROUTE TO
SANTA MARIA LANDFILL

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DESCRIPTION OF ANALYSIS

Roadway Segment Evaluation

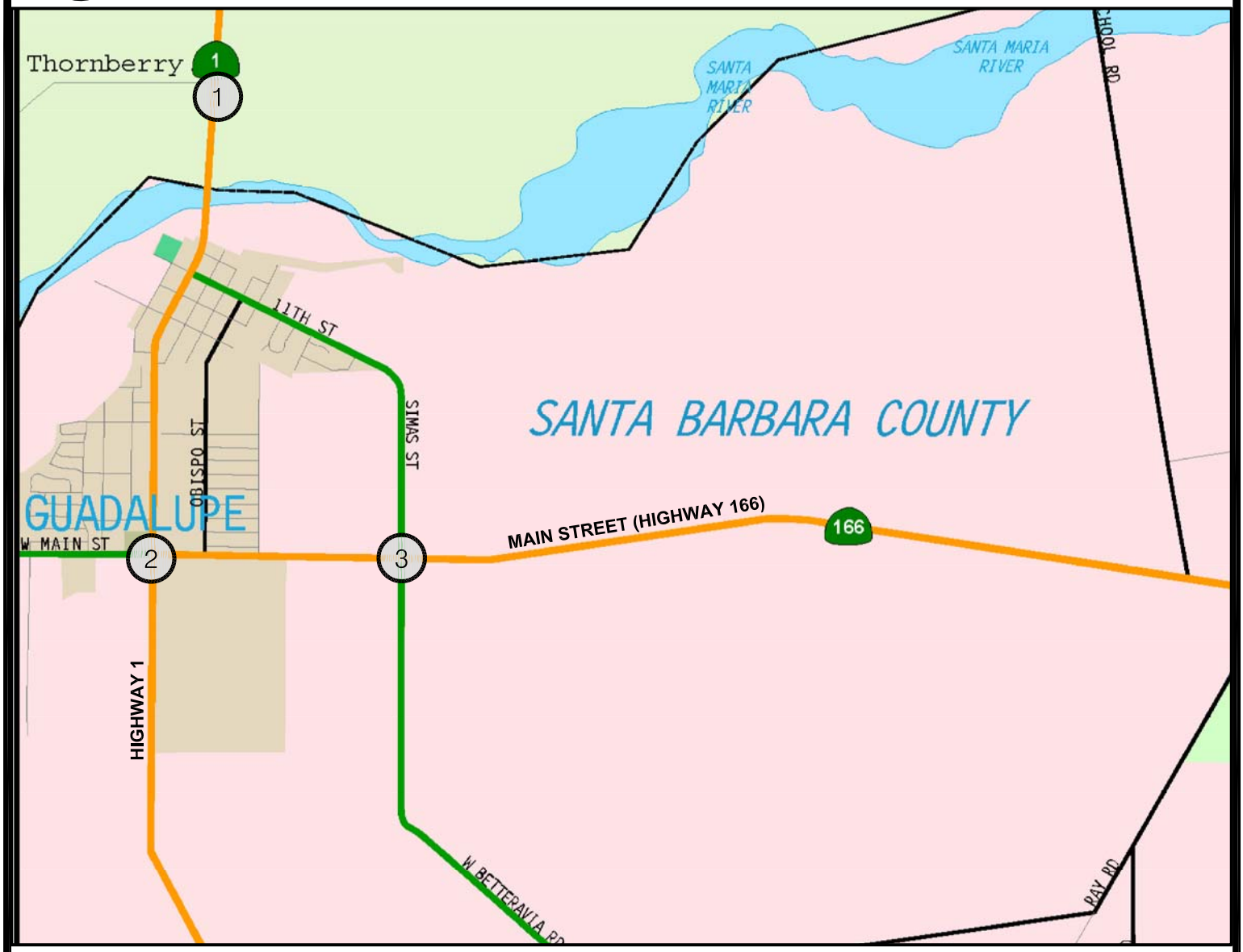
The roadway segments along the project's haul route are evaluated for volumes of traffic per day based on historical data, number of lanes, roadway designations and future improvements.

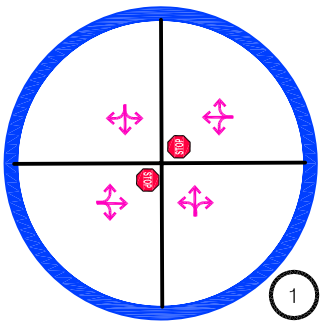
Analysis Process for Intersection Impacts

Traffic intersection analysis was conducted at the three study intersections based on the Highway Capacity Manual methodology (Transportation Research Board, 2000). The HCM methodology for two-way and four-way stopped intersections evaluates the amount of delay based upon the intersection traffic volumes and roadway configurations. Operation performance (delay in seconds per vehicle) is measured at the minor roadways for two-way stopped locations and at the intersection for all-way stopped intersections based upon the traffic volumes. AM and PM peak hour conditions were evaluated as requested by Caltrans. The last project truck arrives at the SMLF at 4:00 PM. Therefore, the last of the project trucks would leave the facility before 3:20 and go through the study intersections no later than 3:30PM. Therefore, an early PM evaluation of potential impacts was also conducted.

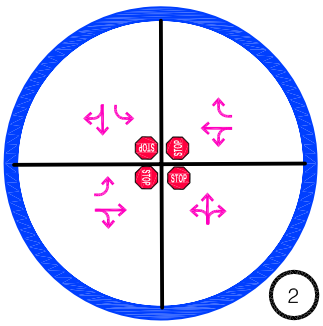
Field evaluations were conducted at the study intersections. The current lane configurations and traffic controls are provided in Figure 3. Attachment A provides an aerial view of the three study intersections. Although some approaches of the intersection of Highway 1 and Highway 166 and the intersection of Highway 166 and Simas Street have multiple lanes at the intersections, single lane approaches were incorporated into the analysis since the all of the intersections are one lane in each direction beyond the immediate intersection.

Manual traffic counts were conducted by personnel from Traffic Data Systems on Thursday, January 26, 2012 and Tuesday April 17, 2012. The intersection of Highway 1 & Thornberry Road was counted from 6:30 to 8:30 AM and from 4 to 6 PM. These time periods were determined by Caltrans District 5 as the peak traffic periods for both intersections. The intersection of Highway 1 & Simas Street was counted from 7 AM to 9 AM and from 4 to 6 PM. The intersection of Highway 1 and Highway 166 was counted along with the number of trains along the railroad track east of the intersection from 6 AM to 7 PM. The additional data

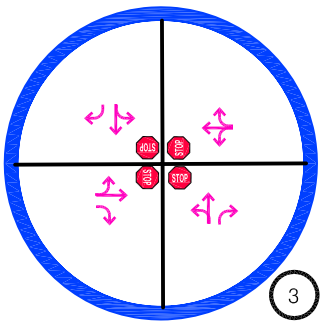




HIGHWAY 1 &
THORNBERRY ROAD



HIGHWAY 1 &
HIGHWAY 166 (MAIN STREET)



HIGHWAY 166 (MAIN STREET) &
SIMAS STREET

FIGURE 3

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INTERSECTION CHARACTERISTICS

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was needed to conduct the traffic signal warrant analysis. The count day was a typical weekday without a holiday or inclement weather. The heaviest PM peak hours were identified after 4:00 for the study intersections. No project traffic would occur along the study intersections after 3:30 PM in order to reach the landfill by 4:00 PM. Since data was not collected prior to 4:00 PM at Highway 1 and Thornberry Road and at Highway 166 and Simas Street the early PM peak hour was simulated by reducing traffic volumes based upon the percentage decrease in traffic per lane movement at Highway 1 and Highway 166. The traffic detailed count data and estimate of early PM peak traffic are provided in Attachment B.

Traffic analysis was conducted using Highway Capacity Software (HCS) 2010 developed by Trafficware. The roadway lane configurations (modified to single lane approaches), peak hour traffic volumes, percentage of trucks, peak hour factor and control type (all-way or two-way stop) are input into the software to determine the operational delay at the intersection.

Once the HCM value (delay) has been calculated, operating characteristics are assigned a level of service grade (A through F) to estimate the level of congestion and stability of the traffic flow. The term Level of Service (LOS) is used by traffic engineers to describe the quality of traffic flow. Table 1 provides definitions of the LOS grades for unsignalized locations.

Table 1
Level of Service Definitions for Unsignalized Locations

Level of Service	Delay (seconds)
A	Less than or equal to 10
B	10 - 15
C	16 - 25
D	26 - 35
E	36 - 50
F	Greater than 50

LOS A and B indicate low volume and little delay. LOS C indicates increasing volume of traffic and but no significant delays. LOS D indicates more traffic volume with potentially short time periods of noticeable delay. LOS E indicates larger volumes and greater delay over a longer period of time. LOS F indicates high volumes and lengthy delay.

Caltrans District 5 identifies a significant impact as operating a LOS E or higher in Urban areas or operating at LOS D or higher in rural areas. All of the study intersections are in essentially rural areas. The operation goal is then to be at LOS C or lower. A higher LOS would require mitigation to reduce the LOS to C or lower.

The Existing traffic conditions and Existing with Project conditions were evaluated for potential traffic impacts.

Traffic Signal Analysis Process

The intersection of Highway 1 and Highway 166 (Main Street) was evaluated for the potential current and further need for a traffic signal. The traffic control at the intersection is currently an all-way stopped intersection. All approach directions are stopped before proceeding through the intersection. The westbound approach has a railroad track intersecting at approximately 70 feet east of the intersection.

The State of California and Federal Government have established “Warrants” to determine if traffic signal control is required at an intersection. The State of California and Federal Warrants are essentially the same with two differences. The State has a Warrant for Bicycles which the Federal system does not. The Federal system has a Warrant for intersections near railroad crossings which the State does not have. There are some minor calculation and table differences between the two systems in some warrants. Therefore, Warrant analysis was conducted using the State of California 2007/2010 Warrants and using the Federal 2009 Warrants.

The signal analysis was conducted incorporating size of the community, traffic volumes, lane configurations, speed limits, distance to other controls, peak hour delay, accidents, number of pedestrians and bicyclists, number of trains during peak periods, percentage of trucks and percentage of buses. This analysis evaluates the intersection of Highway 1 and Highway 166 during the AM and PM peak hours for a total of eleven (11) hours. In the signal analysis, the traffic approaches were conservatively considered single lane approaches and all right turn traffic was included in the analysis. As with the intersection analysis above, both Existing and Existing with Project Conditions were evaluated.

It is common traffic engineering practice to use the Signal Warrant Analysis as a tool to determine if a traffic signal is needed. Meeting one or even more than one traffic signal warrant does not necessarily mean that a traffic signal is the best solution to improve traffic conditions at a location. Other items are also considered including potential degradation to progression, alternative improvements such as widening or other traffic controls.

ROUTE SEGMENT DISCUSSION

The proposed haul route follow enters Highway 1 southbound at Thornberry Road to Highway 166 eastbound to Simas Street southbound which transitions to Betteravia Road southeasterly to Philbric Road. Traffic is evaluated at the intersections where turning movements are conducted at Thornberry Road and Highway 1, at Highway 1 and Highway 166 and at Highway 166 and Simas Street. Incremental roadway average daily traffic (ADT) volumes and operations on the route roadways are provided in the Guadalupe Restoration Project Addendum to the SEIR by Marine Research Specialists. The following provides supplemental route information.

Thornberry Road is a dirt road east and west of Highway 1. The roadway extends south of Unical Road to the west of Highway 1 with few developed properties along the stretch. Thornberry Road is approximately one and one third miles in length. The majority of the adjacent properties are used as farmland. The road extends dirt drive/roadway east of Highway 1. No roadway improvements are anticipated along Thornberry Road.

Highway 1 is known as Cabrillo Highway in this area. Highway 1 is a primarily coastal highway under California State Department of Transportation (Caltrans) District 5 jurisdiction. In the vicinity of the project, Highway 1 connects to Highway 101 (Camino Real Freeway) north of the project site north of Pismo Beach in San Luis Obispo County. Highway 1 connects to Highway 101 freeway south of Bulleton and Lompoc south of the project site in Santa Barbara County. According to Caltrans Volumes 2010, Highway 1 carries approximately 6,000 vehicles per day (VPD) south of Thornberry Road and 5,800 VPD south north of Highway 166. These volumes provide good operational service at LOS A. No roadway segment improvements are anticipated along this portion of Highway 1.

Highway 166 also known as Main Street extends from Highway 1 in the City of Guadalupe to Highway 101 in Santa Maria. Main Street extends west of Highway 1 and east of Highway 101. Highway 166 initiates north of Main Street off of Highway 101 and extends easterly to beyond the Golden State Freeway (I-5) to west of Highway 99 in Kern County. Highway 166 is under Caltrans jurisdiction. According to Caltrans Volumes 2010, Highway 166 carries

approximately 9,300 VPD between Highway 1 and Simas Street. These volumes provide good operation service at LOS A.

Highway 166, including the portion used in the project route, has been designated as a Highway Safety Corridor in Santa Barbara County. The California Highway Patrol (CHP) has received funds from the Office of Traffic Safety to establish task forces comprised of representatives from the City, County, Regional, State and Federal Government agencies and private sector. The mission is to access high collision highways, track driving under the influence records and pedestrian corridors to make recommendations to improve traffic safety on the designated roadways. The task force has identified an awareness pamphlet and designated more CHP officer enforcement and Caltrans improvements along Highway 166. The pamphlet is provided in Attachment C. Caltrans District 5 has initiated a Highway 166 Guadalupe Ditches project. The project will relocate drainage ditches away from the roadside for a minimum of 30 foot distance away. This improvement will be implemented from Post Mile 0.9 to 2.4 and from Post Mile 3.8 to 4.8. The truck route travels from Post Mile 0.00 at Highway 1 to Post Mile 0.89 at Simas Street. The drainage ditch project will initiate east of the project truck route. The drainage ditch improvement is currently in the final design stages with work anticipated to be constructed summer of 2013.

Simas Street initiates north of Highway 166 in the City of Guadalupe as a continuation of 11th Street. Simas Street changes name to Betteravia Road south of Highway 166. Betteravia Road traverses from Simas Street to east of Highway 101 to the Santa Monica Landfill. Betteravia Road is designated as a major road by the County of Santa Barbara. There is one lane in each direction along Simas Street and along Betteravia Road from Simas Street to A Street in the City of Santa Maria. Within the City of Santa Maria limits, the roadway provides two lanes in each direction, a center median and turn lanes at major intersections. East of Highway 101, Betteravia resumes two lanes in each direction. According to County of Santa Barbara Comprehensive Circulation Element Plan adopted in 1980 and republished in 2010 two lane major roads are designed to carry 10,000 VPD and 4 lane major roads are designed to carry 20,000 VPD. Simas Street carries approximately 3,200 VPD south of Highway 166 according to Santa Barbara County counts in 2001. Betteravia Road carries less than 5,300 VPD until reaching A Street in the City of Santa Maria where volumes increase to up to 34,000 VPD with the additional two lanes in each direction. East of the 101 Freeway traffic

volumes decrease to 6,800 VPD. Operational measures indicate good LOS A operations within the rural portions of the route. The operations increase to adequate (Los D) traffic operations within the City of Santa Maria which is adequate within City limits.

Philbric Road is a two lane rural road to the landfill with up to 1,400 VPD according to 2010 Santa Maria City counts.

INTERSECTION ANALYSIS

Existing Conditions

As previously indicated, the HCS software was utilized to determine the current operating conditions at the study intersection. The analysis indicates that all three of the intersections are currently operating within design guidelines as indicated in Table 2 below. The existing traffic volumes are displayed in Figure 4 for the AM Peak Hour and Figure 5 for the early PM Peak Hour and Figure 6 for the PM Peak Hour.

Table 2
Summary of Existing Traffic Conditions

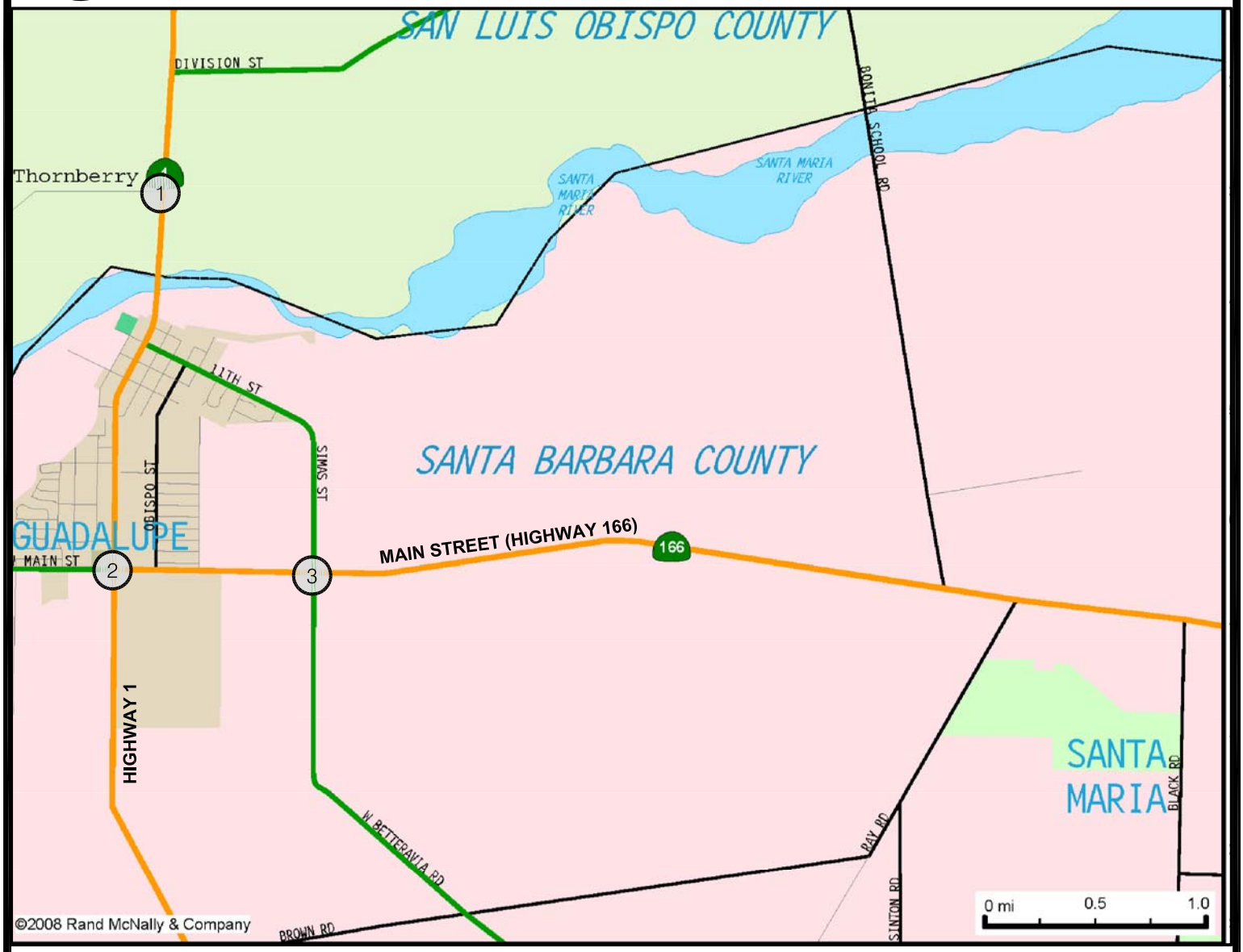
No.	Intersection	Peak Hour	Dir*	Existing DELAY	Existing LOS
1.	Highway 1 & Thornberry Road	AM	WB	11.9	B
			EB	10.8	B
		Early PM	WB	10.5	B
			EB	10.7	B
		PM	WB	11.5	B
			EB	11.3	B
2.	Highway 1 & Highway 166	AM		14.75	B
		MID		10.63	B
		Early PM		11.33	B
		PM		19.57	C
3.	Highway 166 & Simas Street	AM		12.72	B
		Early PM		11.71	B
		PM		20.02	C

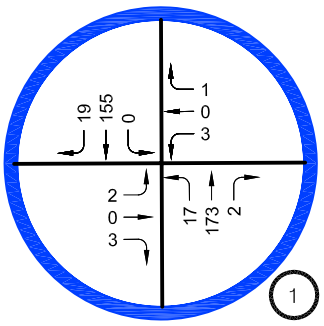
* Dir = Direction - Displays Delay for minor approach for two-way stopped intersection

Delay = Calculated using Highway Capacity Method which is seconds of delay per vehicle

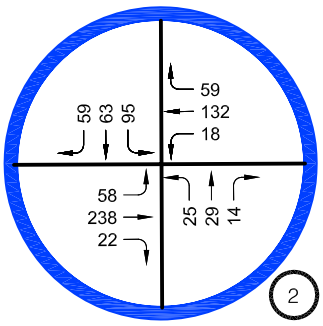
The HCS worksheets are provided in Attachment E.

A comparison of the operating conditions during mid day peak at Highway 1 and Highway 166 indicates better conditions than during the AM Peak Hour, Early PM Peak Hour and PM Peak Hour. The delay in seconds per vehicle during the mid day peak is lower than the other time periods. The proximity of Highway 1 & Highway 166 between Highway 1 & Thornberry Road and Highway 166 and Simas Street would indicate similar results mid day. Therefore, an evaluation of the morning and evening peak hours would represent worst case conditions throughout the day. No project traffic is traveling through the study intersections after 3:30 PM but the PM Peak hour occurred after 4:00 PM. Therefore, an additional analysis was conducted of the 2:30 to 3:30 time period for an Early PM Peak Hour.

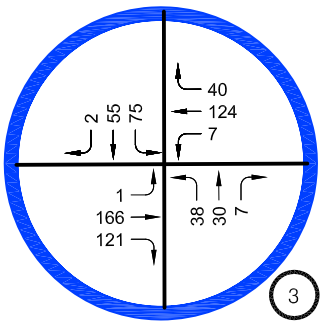




HIGHWAY 1 &
THORNBERRY ROAD



HIGHWAY 1 &
HIGHWAY 166 (MAIN STREET)



HIGHWAY 166 (MAIN STREET) &
SIMAS STREET

FIGURE 4

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EXISTING (2012) TRAFFIC VOLUMES
AM PEAK HOUR

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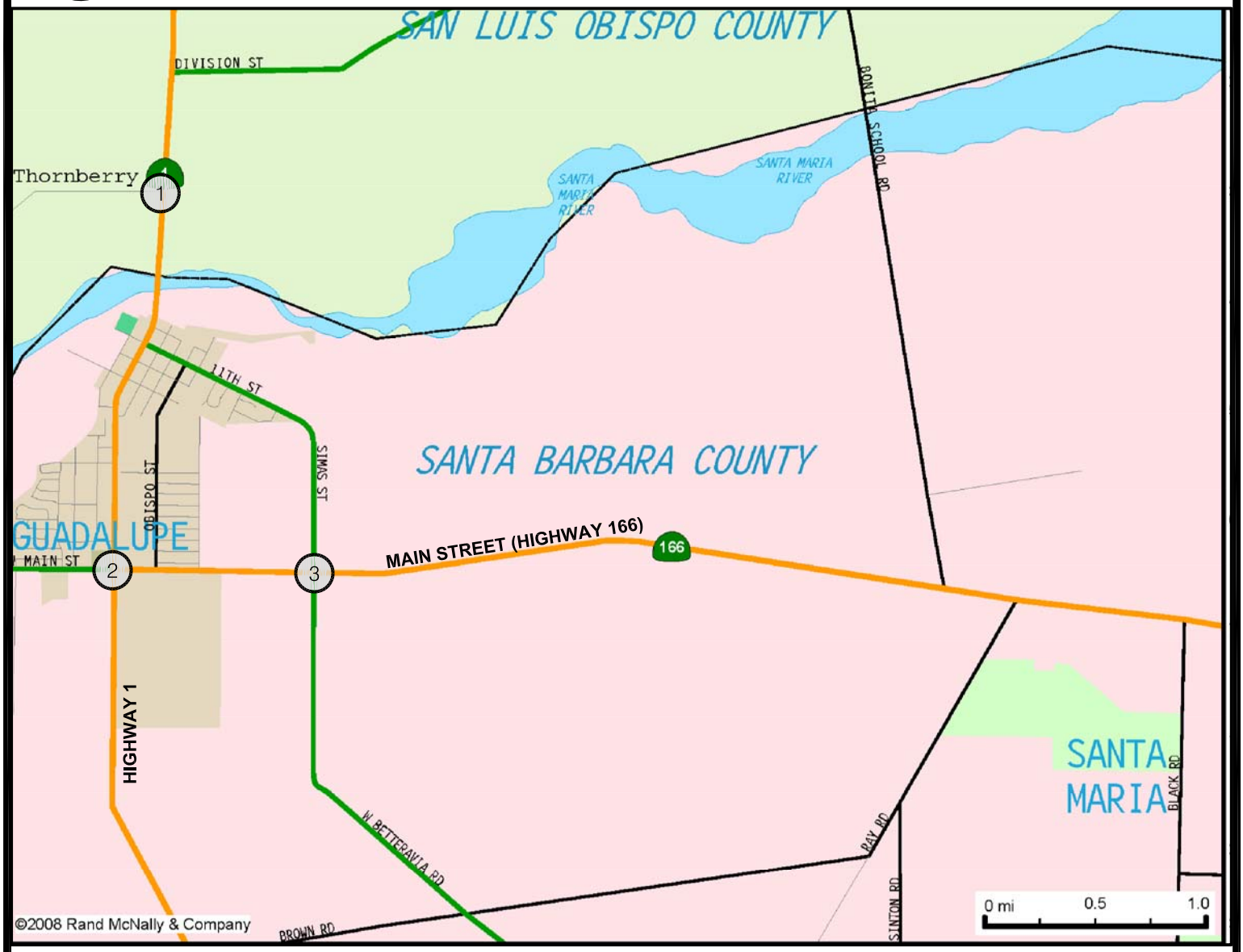
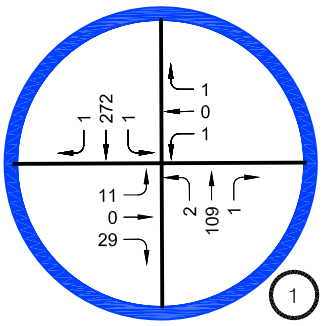
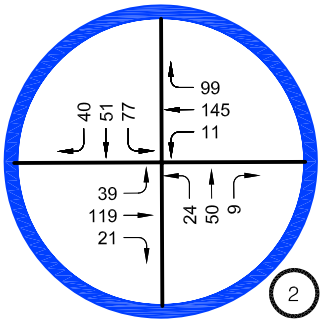
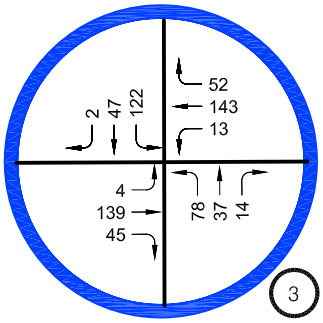




HIGHWAY 1 &
THORNBERRY ROAD



HIGHWAY 1 &
HIGHWAY 166 (MAIN STREET)



HIGHWAY 166 (MAIN STREET) &
SIMAS STREET

FIGURE 5

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EXISTING (2012) TRAFFIC VOLUMES
EARLY PM PEAK HOUR

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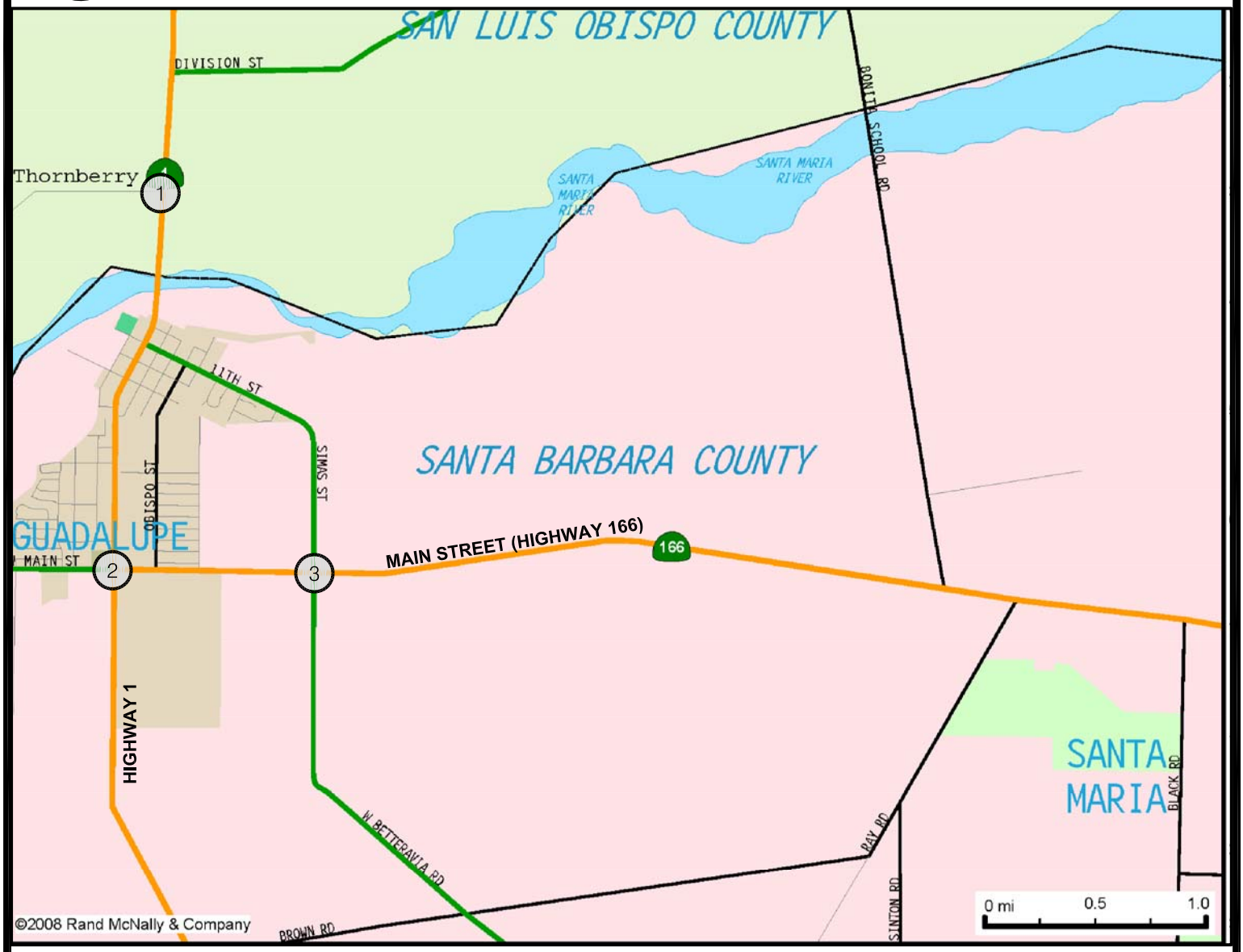
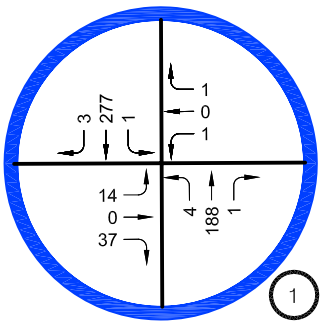
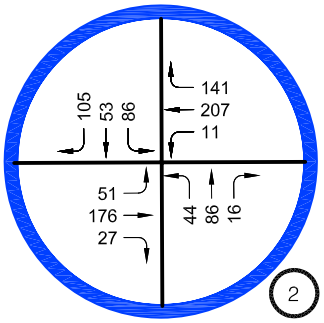
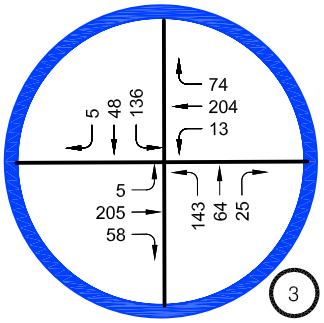




HIGHWAY 1 &
THORNBERRY ROAD



HIGHWAY 1 &
HIGHWAY 166 (MAIN STREET)



HIGHWAY 166 (MAIN STREET) &
SIMAS STREET

FIGURE 6

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EXISTING (2012) TRAFFIC VOLUMES
PM PEAK HOUR

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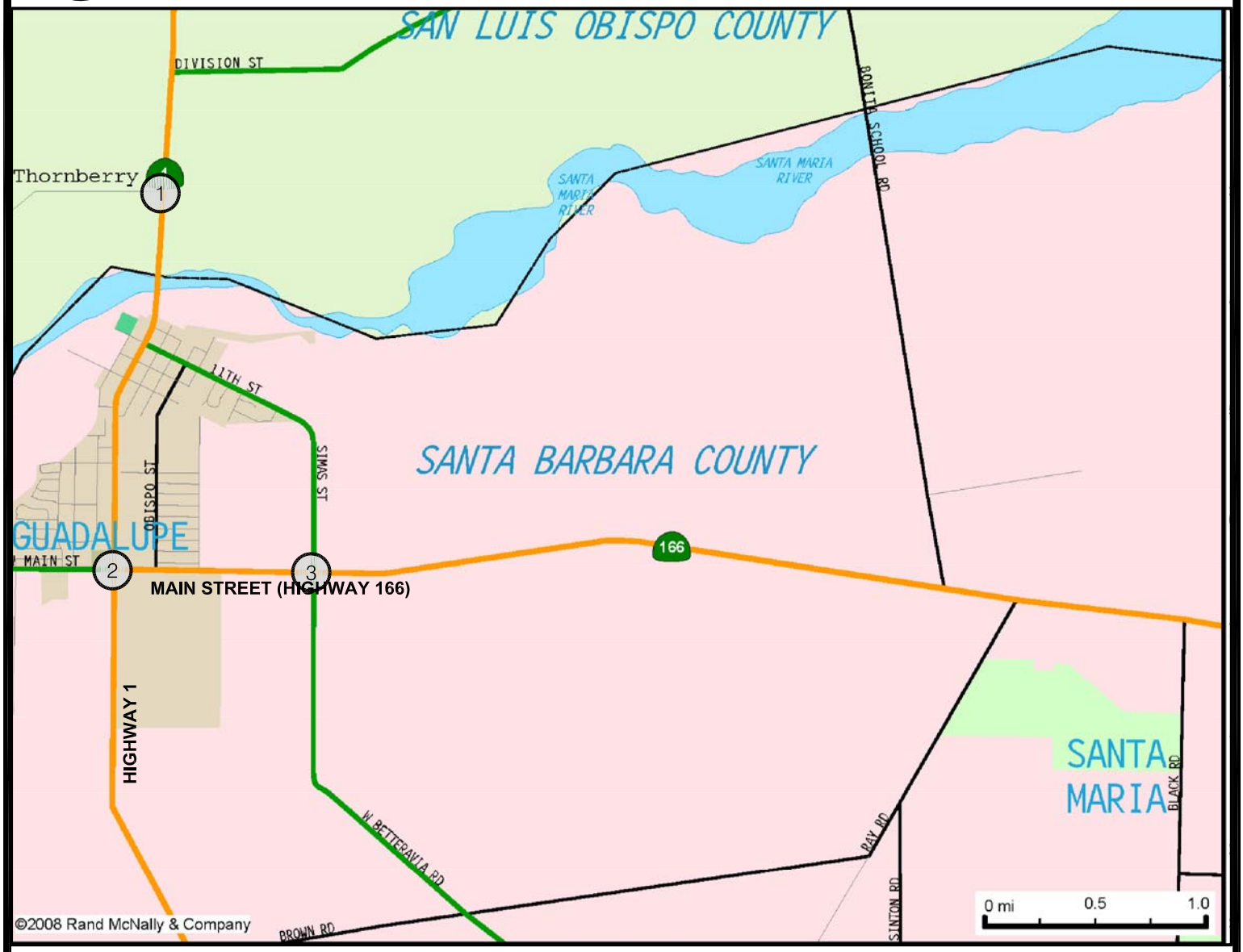
Project Traffic

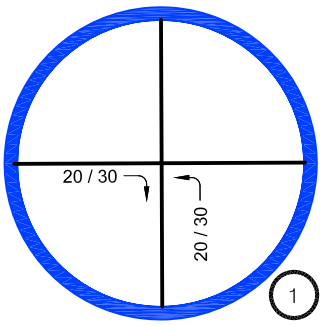
Project traffic will be less than previous operations under the previous entitlements. The daily traffic volumes are anticipated to drop from a maximum of 150 trucks per day to 120 trucks per day. Although never realized during the life of the operation, the 2005 SEIR indicated a maximum of 38 peak hour trips (one-way) created by the project. The number of daily trucks trips will be decreased by at least 20%. The number of peak hour trips will also be reduced. The number of trucks typically used for the project operation is 20 trucks. These 20 trucks operate to and from the disposal sites throughout the day. Typically 10 to 15 trucks arrive at 7AM. By 8AM they are loading their trucks and at approximately 8:15AM the first trucks are leaving the site. The site closes at 4PM. The last truck is typically leaving the site at 3:15PM. The last truck would be going through the three study intersections no later than 3:30 PM. In order to present a conservative estimate of project traffic, a worst case scenario of 20 trucks leaving and 20 trucks arriving was conducted during the hours of operation. The AM peak hour was evaluated using this maximum number of trucks coming and going through the study intersections. Mid day counts were conducted at Highway 1 & Highway 166. This mid day peak hour was evaluated using the maximum number of trucks coming and going through the study intersections. No project truck traffic would be traveling through the study intersections beyond 3:30 PM. A conservative evaluation of potential impact is conducted for the time period of 2:30 to 3:30 PM with 20 trucks coming and 20 trucks leaving the during this time period.

Due to the additional space and time for turning movements and start up that trucks take, all project truck trips were increased according to Highway Capacity Manual 2000 guidelines. This is referred to the Passenger Car Equivalent (PCE). According to the Highway Capacity Manual 2000, Chapter 21 which addresses Multilane Highways Table 21-8 a PCE of 1.5 would be appropriate for level terrain, 2.5 for rolling terrain and 4.5 for mountainous terrain. Level terrain is a combination of horizontal and vertical alignments that allow trucks to operate essentially the same as a passenger vehicle. Rolling terrain is a combination of horizontal and vertical alignments which require heavy vehicles to reduce their speeds substantially below passenger vehicles. Mountainous terrain creates heavy vehicles to operate at crawl speeds for significant distances at frequent intervals. The project area is level terrain. Therefore, the project truck trips were multiplied by 1.5 for a conservative intersection analysis

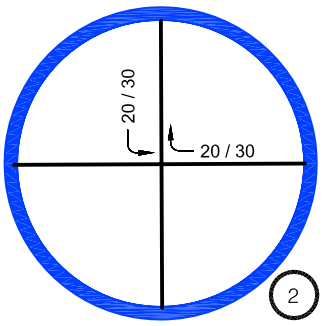
of potential traffic impacts (20 trucks X 1.5 PCE Multiplier = 30 PCE). The PCE reference is provided in Attachment D.

Based on the route presented for the project, the trucks would turn right from eastbound Thornberry Road to Highway 1and turn left from southbound Highway 1 to Highway 166 and right from Highway 166 to southbound Simas Street. Return trips would turn left from northbound Simas Street to westbound Highway 166, right from westbound Highway 166 to northbound Highway 1, and left from Highway 1 to westbound Thornberry Road. This project distribution and truck trips are displayed in Figure 7.

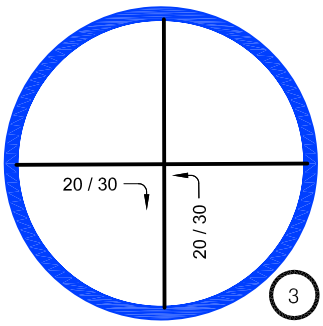




HIGHWAY 1 &
THORNBERRY ROAD



HIGHWAY 1 &
HIGHWAY 166 (MAIN STREET)



HIGHWAY 166 (MAIN STREET) &
SIMAS STREET

FIGURE 7

5/2012

PROJECT TRUCK
MAXIMUM AM AND EARLY PM PEAK HOUR VOLUMES
 # OF TRUCKS/PASSENGER CAR EQUIVALENT

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Existing + Project Conditions

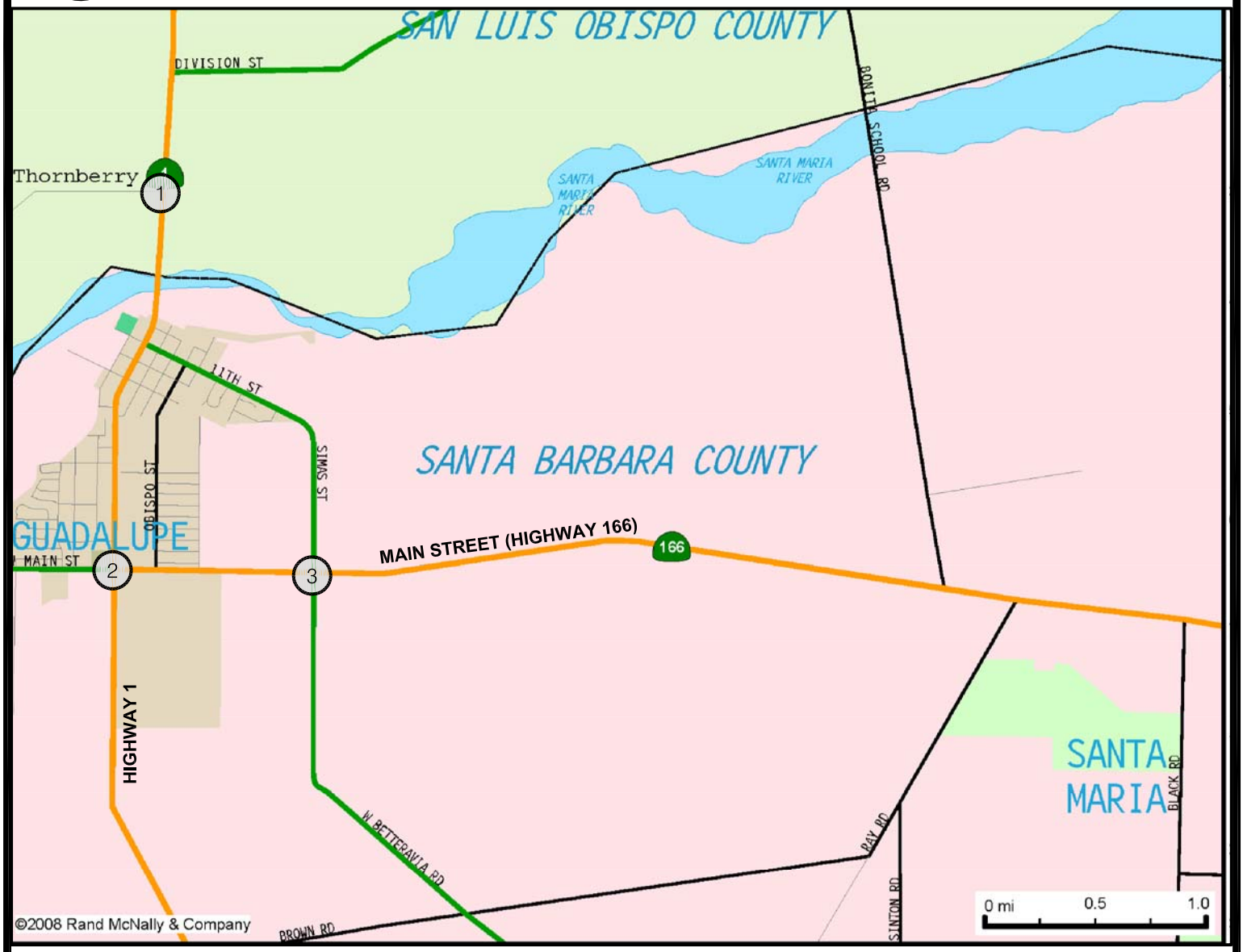
The PCE project trips were added to the existing traffic volumes to provide the necessary information to conduct the Existing plus Project analysis. As indicated in Table 3, all intersections are operating at good levels of service and no significant traffic impacts are anticipated.

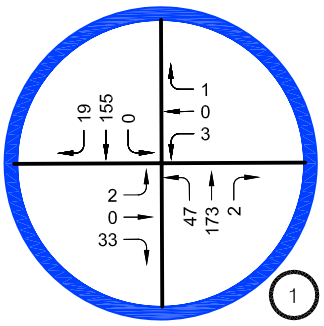
Table 3
Summary of Existing + Project Traffic Conditions

				Existing		EXISTING + PROJECT				Significant Impact?
No.	Intersection	Peak Hour	Dir*	DELAY	LOS	DELAY	LOS		Change	
1.	Highway 1 & Thornberry Road	AM	WB	11.9	B	13.7	B	+	1.8	NO
			EB	10.8	B	10.9	B	+	0.1	NO
		Early PM	WB	10.5	B	11.5	B	+	1.0	NO
			EB	10.7	B	11.9	B	+	1.2	NO
		PM	WB	11.5	B	11.5	B	+	0.0	NO
			EB	11.3	B	11.3	B	+	0.0	NO
2.	Highway 1 & Highway 166	AM		14.75	B	17.04	C	+	2.29	NO
		MID		10.63	B	11.64	B	+	1.01	NO
		Early PM		11.33	B	12.71	B	+	1.38	NO
		PM		19.57	C	19.57	C	+	0.00	NO
3.	Highway 166 & Simas Street	AM		12.72	B	15.40	C	+	2.7	NO
		Early PM		11.71	B	12.57	B	+	0.9	NO
		PM		20.02	C	20.02	C	+	0.0	NO

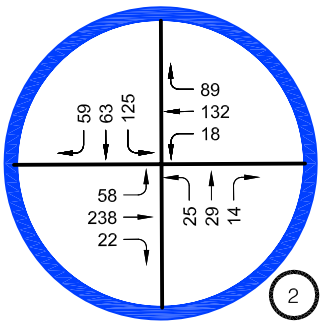
* Dir = Direction - Displays Delay for minor approach for two-way stopped intersection
Delay = Calculated using Highway Capacity Method which is seconds of delay per vehicle

Figure 8 displays the Existing + Project traffic volumes for the AM Peak Hour, Figure 9 displays the Existing + Project traffic volumes for the early PM Peak Hour and Figure 10 displays the Existing + Project traffic for the PM Peak Hour. The Existing + Project PM Peak Hour volumes are the same as Existing since there are no project trips after 3:30 PM. Attachment E provides the HCS worksheets for the Existing with traffic conditions indicated in Table 3.

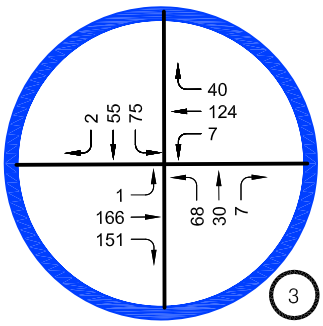




HIGHWAY 1 &
THORNBERRY ROAD



HIGHWAY 1 &
HIGHWAY 166 (MAIN STREET)



HIGHWAY 166 (MAIN STREET) &
SIMAS STREET

FIGURE 8

5/2012

EXISTING + PROJECT TRAFFIC VOLUMES
AM PEAK HOUR

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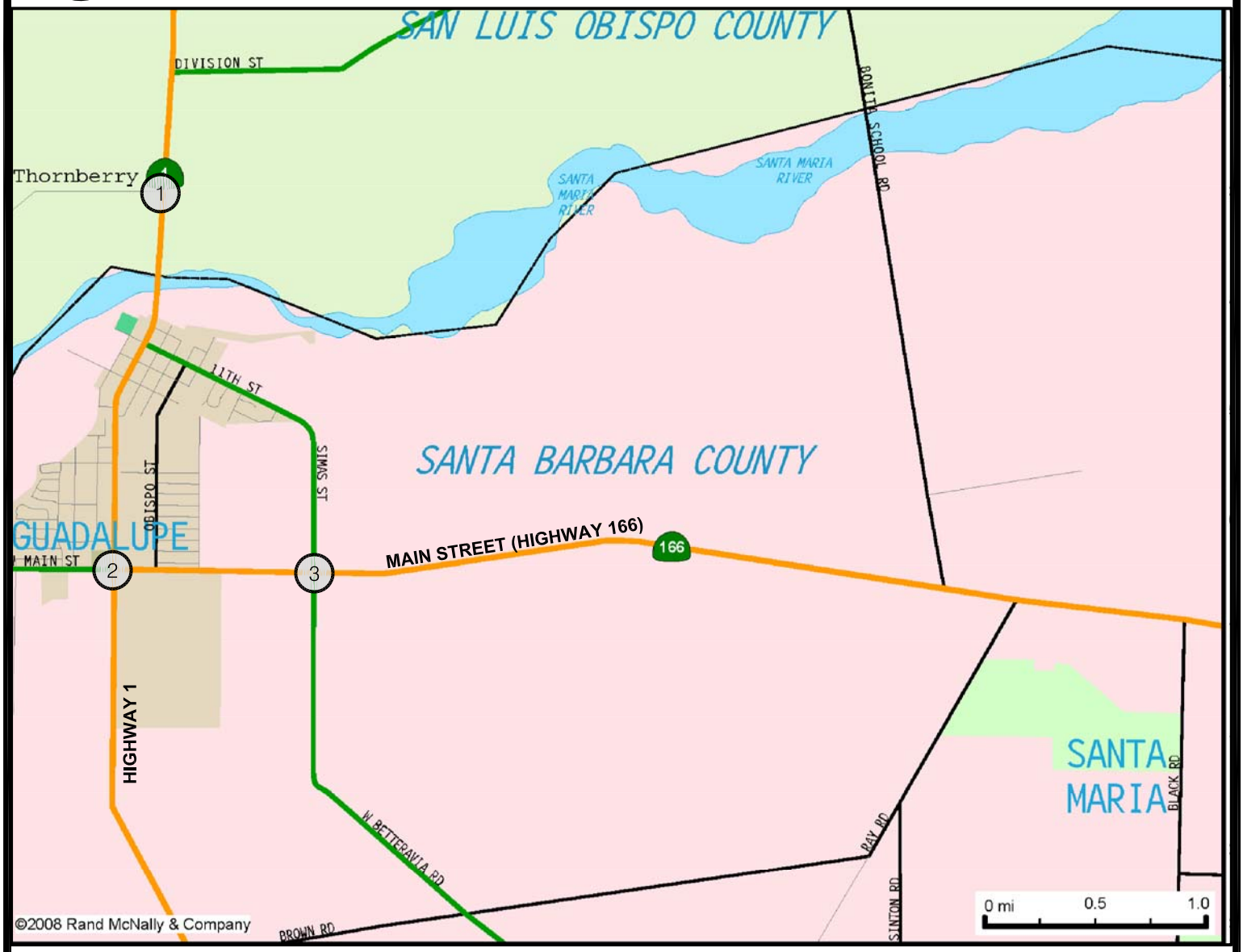
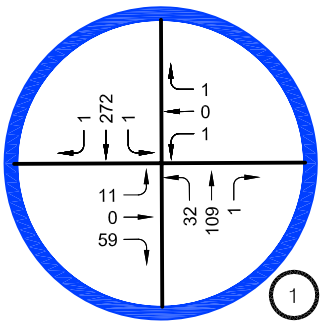
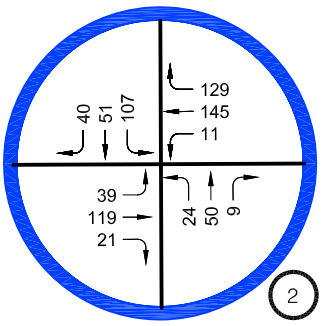
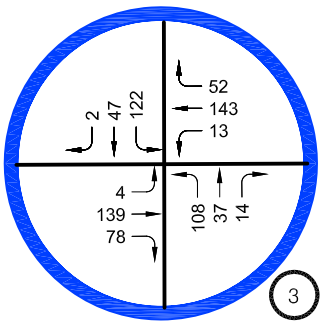




HIGHWAY 1 &
THORNBERRY ROAD



HIGHWAY 1 &
HIGHWAY 166 (MAIN STREET)



HIGHWAY 166 (MAIN STREET) &
SIMAS STREET

FIGURE 9

5/2012

EXISTING + PROJECT TRAFFIC VOLUMES
EARLY PM PEAK HOUR

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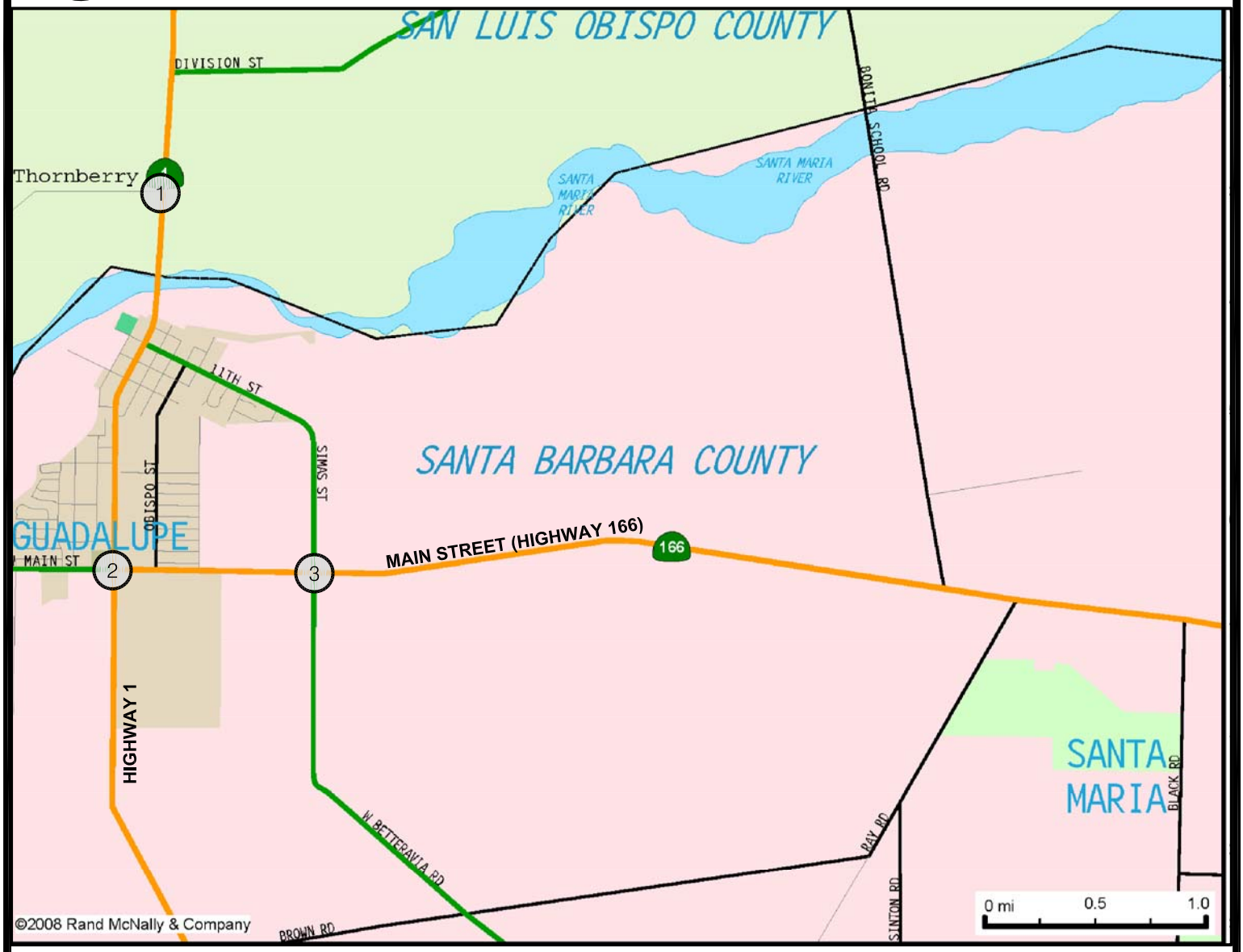
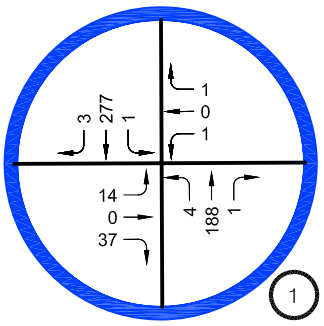
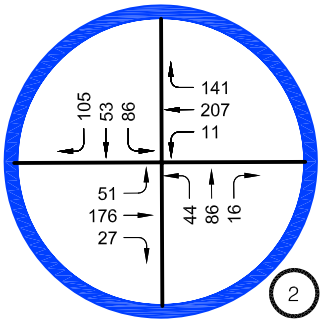
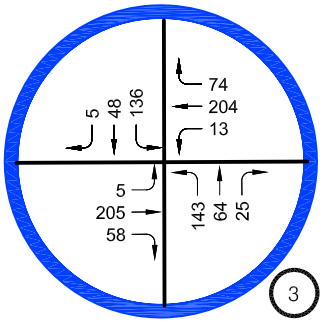




HIGHWAY 1 &
THORNBERRY ROAD



HIGHWAY 1 &
HIGHWAY 166 (MAIN STREET)



HIGHWAY 166 (MAIN STREET) &
SIMAS STREET

FIGURE 10

5/2012

EXISTING + PROJECT TRAFFIC VOLUMES
PM PEAK HOUR

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SIGNAL ANALYSIS

The input information for the signal analysis is similar to the intersection analysis. A minimum of eight hours of traffic data are considered for potentially meeting traffic signal warrants. The eleven hours of traffic data collected was entered into the software, comparisons to the relevant tables and graphs were conducted to determine if a traffic signal was warranted. The rural nature and size of the community were incorporated into the analysis. The community of Guadalupe has a population of 7,080 residents according to the City's website which has a reference to the 2010 census.

Intersection lane configurations as indicated in Figure 4. However, as with the HCS analysis, the intersection of Highway 1 & Highway 166 and Highway 166 is analyzed as single lane approaches since there is only one lane in each direction beyond the immediate intersection.

Traffic volumes, buses, trucks, pedestrians, bicycles, peak hour factor as indicated in the count information and the count information + project. The project volumes were based on the distribution pattern displayed in Figure 7.

Accident data from Caltrans District 5 indicated seven (7) accidents between 2007 and 2009. There were no fatalities noted. One occurred during 2007, four occurred during 2008 and two occurred during 2009. One accident was a head on accident, one a side swipe, one a rear end, two broad site, one auto pedestrian and one other. Some contributing factors included failure to yield, speeding, and intoxication at varying accidents. It appears that potentially two of these accidents may have been avoidable with a traffic signal.

Delay is based on intersection analysis conducted in the prior section.

A brief explanation of each of the warrants is provided below.

<u>Warrant 1 – Eight-Hour Vehicular Volume</u>

There are two conditions for this warrant. Condition A is the Minimum Vehicular Volume Warrant intended for applications at intersections where large volumes of traffic is the principal reason to consider a new traffic signal. Condition B is the

Interruption of Continuous Traffic intended for use at intersection where the Minimum Vehicular Volume warrant isn't likely to be met but the main street volumes are high and create excessive delay or conflict for minor street traffic. Either or both conditions may be met for this warrant to be satisfied. In small population communities (less than 10,000 people) such as Guadalupe, lower volumes are required to meet the warrants.

Warrant 2 – Four Hour Vehicular Volume

This warrant's conditions are intended to be met when the high volume of peak hour intersecting traffic is the primary reason for the need of a traffic signal. Four hours of data are evaluated under this warrant. As with Warrant 1, lower volumes are required in small population communities.

Warrant 3 – Peak Hour

The Peak Hour Warrant is intended for use at a location where the minor street encounters undue delay when entering or crossing the major street for a at least one hour of a typical day.

Warrant 4 – Pedestrian Volume

Two conditions are required to be met for the Pedestrian Volume warrant to be considered met. At least 100 pedestrians are required for a minimum of four hours or at least 190 pedestrians within one hour. The second condition checks if a new signal will restrict traffic flow and if there are adequate gaps for pedestrians to cross. The Pedestrian Volume warrant is intended for use when high volumes of pedestrians encounter extensive delay in crossing a high volume major street.

Warrant 5 – School Crossing

This warrant is for use when school children are crossing a major street. The age group of the pedestrians crossing this intersection was not collected. Therefore, in order to attempt a conservative evaluation of the intersection, all pedestrians were considered school children for this warrant analysis. The School Crossing Warrant is intended for use where school children crossing the intersection are the primary reason for considering installation of a new traffic signal.

Warrant 6 – Coordinated Signal System

Occasionally, in order to maintain proper progressive movement of vehicles through a signal system, it is necessary to install a new traffic signal at a location where it would not otherwise be necessary. The intersection of Highway 1 and Highway 166 is not part of a coordinated signal system at this time.

Warrant 7 – Crash Experience

Locations where there are frequent and severe accidents are occasionally considered for installation for a traffic signal if such installation will reduce the frequency and/or severity of the accidents. There are lower thresholds in isolated communities such as Guadalupe.

Bicycle Warrant

The Bicycle Warrant is an option in the California 2007 warrant analysis. It s recommended that a bicycle signal should be considered only when the volume and collision or volume and geometric warrants are met. This would be an installation for the safety and or right of way coordination of cyclist.

Warrant 8 – Roadway Network

This Warrant uses information from Warrants 1, 2 and 3. It would be met if the new traffic signal would encourage concentration and organization of traffic flow on a roadway network.

Warrant 9 – Intersection Near a Grade Crossing

This warrant is used within the 2009 Federal Manual of Uniform Traffic Control Devices for intersections near rail grade crossing. It is typically used when considering installation of a traffic signal due to the proximity of the rail crossing and no other traffic signal warrants are met. The warrant sheets provide guidance in using this traffic signal warrant. It is stated:

This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing.

Amount the alternatives that should be considered or tried are:

A. *Providing additional pavement that would enable vehicles to clear the tracks or that would provide space for an evasive maneuver, or*

B. *Reassigning the stop controls at the intersection to make the approach across the track a non-stopping approach.*[1]

Signal warrant analysis of the intersection of Highway 1 and Highway 166 (Main Street) indicates that three of the signal warrants are met for Existing and for the Existing plus project conditions. Table 4a (Existing Conditions) and Table 4b (Existing + Project Conditions) provide a summary of the warrant analysis. The detailed signal warrant sheets are presented in Attachment F.

[1] Warrants 8 User Guide – Copyright 2011 Traffiware Ltd. Page 5-29

Table 4a
Summary of Warrant Analysis
Existing Conditions

		Existing	
		California 2007/2010	**Federal 2009**
Warrant 1	Eight-Hour Vehicular Volume	Met	Met
Warrant 2	Four-Hour Vehicular Volume	Met	Met
Warrant 3	Peak Hour	Met	Met
Warrant 4	Pedestrian Volume	Not Met	Not Met
Warrant 5	School Crossing	Not Met	Not Met
Warrant 6	Coordinated Signal System	Not Met	Not Met
Warrant 7	Crash Experience	Not Met	Not Met
Warrant 8	Roadway Network	Met	Met
	Bicycle Warrant	Not Met	Not Applicable
Warrant 9	Intersection Near a Grade Crossing	Not Applicable	Not Met

Table 4b
Summary of Warrant Analysis
Existing + Project Conditions

		Existing + Project	
		California 2007/2010	**Federal 2009**
Warrant 1	Eight-Hour Vehicular Volume	Met	Met
Warrant 2	Four-Hour Vehicular Volume	Met	Met
Warrant 3	Peak Hour	Met	Met
Warrant 4	Pedestrian Volume	Not Met	Not Met
Warrant 5	School Crossing	Not Met	Not Met
Warrant 6	Coordinated Signal System	Not Met	Not Met
Warrant 7	Crash Experience	Not Met	Not Met
Warrant 8	Roadway Network	Met	Met
	Bicycle Warrant	Not Met	Not Applicable
Warrant 9	Intersection Near a Grade Crossing	Not Applicable	Not Met

SUMMARY & CONCLUSIONS

None of the three study intersections were operating beyond a LOS C without or with the project. No significant traffic impacts are anticipated with the project.

Roadway segment evaluation indicates adequate operation without and with the project along the proposed route.

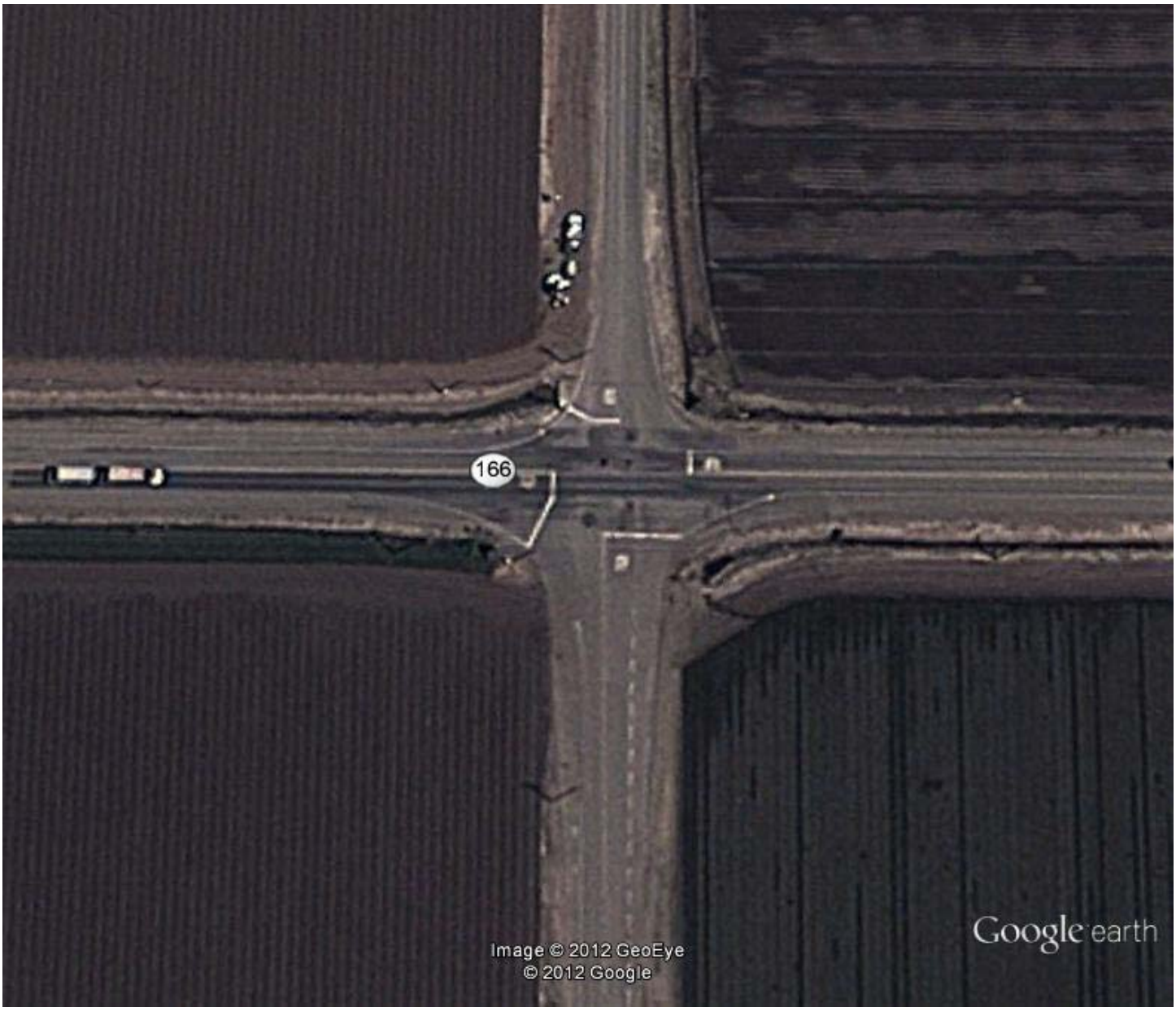
Traffic signal warrant analysis was conducted at Highway 1 and Highway 166. A traffic signal is warranted without and with the project based upon the California Warrants 2007/2010 and Federal Warrants 2009. The four warrants met are the Eight Hour Vehicular Volume Warrant (Warrant 1), Four Hour Vehicle Volume Warrant (Warrant #2), Peak Hour Warrant (Warrant #3) and Roadway Network (Warrant # 8).

ATTACHMENT A

STREET AERIAL PLANS

HIGHWAY 1 & THRONBERRY PL

HIGHWAY 1 AND HIGHWAY 166 (W. MAIN STREET)



Google earth

feet 300
meters 90

SIMAS ROAD & HIGHWAY 166

ATTACHMENT B
TRAFFIC COUNTS

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

State Route Hwy 1 and Thornberry Pl , City of Nipomo

Date: 1/26/2012

Day: Thursday

Project #: CA12_8004_001

AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	415 PM

Peak Hour Summary

Southbound Approach (State Route Hwy 1)

	Lanes 0	1	0		
AM	19	155	0	176	AM
NOON	0	0	0	0	NOON
PM	3	277	1	203	PM

Eastbound Approach (Thornberry Pl)

Lanes	AM	NOON	PM
	36	0	7
0	2	0	14
1	0	0	0
0	3	0	37

Westbound Approach

Lanes	AM	NOON	PM
0	1	0	1
1	0	0	0
0	3	0	1
	2	0	2

CONTROL

1-Way Stop (EB)

Northbound Approach

AM	161	17	173	2	AM
NOON	0	0	0	0	NOON
PM	315	4	188	1	PM
		0	1	0	Lanes

Count Periods	Start	End
AM	6:00 AM	10:00 AM
NOON		
PM	3:00 PM	7:00 PM

Total Ins & Outs

	North Leg		
	174	176	AM
	0	0	NOON
	281	203	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
36	0	7		4	0	2
5	0	51		2	0	2

	South Leg	
AM	161	192
NOON	0	0
PM	315	193

Total Volume Per Leg

	North Leg
AM	350
NOON	0
PM	484

West Leg AM	NOON	PM		East Leg AM	NOON	PM
41	0	58		6	0	4

	South Leg
AM	353
NOON	0
PM	508

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8004_001 **Day:** THURSDAY

City: City of Nipomo **Date:** 01/26/2012

AM

NS/EW Streets:	State Route Hwy 1			State Route Hwy 1			Thornberry Pl			Thornberry Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
6:30 AM	2	36	0	0	22	7	1		1	0		0	69
6:45 AM	5	42	0	0	26	8	0		0	2		0	83
7:00 AM	14	51	0	0	35	13	1		1	0		0	115
7:15 AM	1	50	0	0	31	6	0		1	2		0	91
7:30 AM	1	38	2	0	31	0	1		0	0		0	73
7:45 AM	1	34	0	0	58	0	0		1	1		1	96
8:00 AM	0	43	0	0	41	1	2		1	0		0	88
8:15 AM	4	37	0	1	44	0	2		3	0		0	91
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	28	331	2	1	288	35	7	0	8	5	0	1	706
APPROACH %'s :	7.76%	91.69%	0.55%	0.31%	88.89%	10.80%	46.67%	0.00%	53.33%	83.33%	0.00%	16.67%	

PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	17	173	2	0	155	19	2	0	3	3	0	1	375
PEAK HR FACTOR :		0.738			0.750			0.625			0.500		0.815

CONTROL : 1-Way Stop (EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8004_001 **Day:** THURSDAY

City: City of Nipomo **Date:** 01/26/2012

PM

NS/EW Streets:	State Route Hwy 1			State Route Hwy 1			Thornberry Pl			Thornberry Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
4:00 PM	0	52	0	0	49	1	2		7	2		0	113
4:15 PM	1	42	0	1	73	1	4		5	1		0	128
4:30 PM	1	50	0	0	74	0	3		12	0		1	141
4:45 PM	2	41	0	0	60	1	3		13	0		0	120
5:00 PM	0	55	1	0	70	1	4		7	0		0	138
5:15 PM	1	39	0	0	49	0	1		4	1		0	95
5:30 PM	0	44	0	0	51	2	2		28	0		0	127
5:45 PM	2	29	0	0	44	2	1		6	0		0	84
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	7	352	1	1	470	8	20	0	82	4	0	1	946
APPROACH %'s :	1.94%	97.78%	0.28%	0.21%	98.12%	1.67%	19.61%	0.00%	80.39%	80.00%	0.00%	20.00%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	4	188	1	1	277	3	14	0	37	1	0	1	527
PEAK HR FACTOR :		0.862			0.937			0.797			0.500		0.934

CONTROL : 1-Way Stop (EB)

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

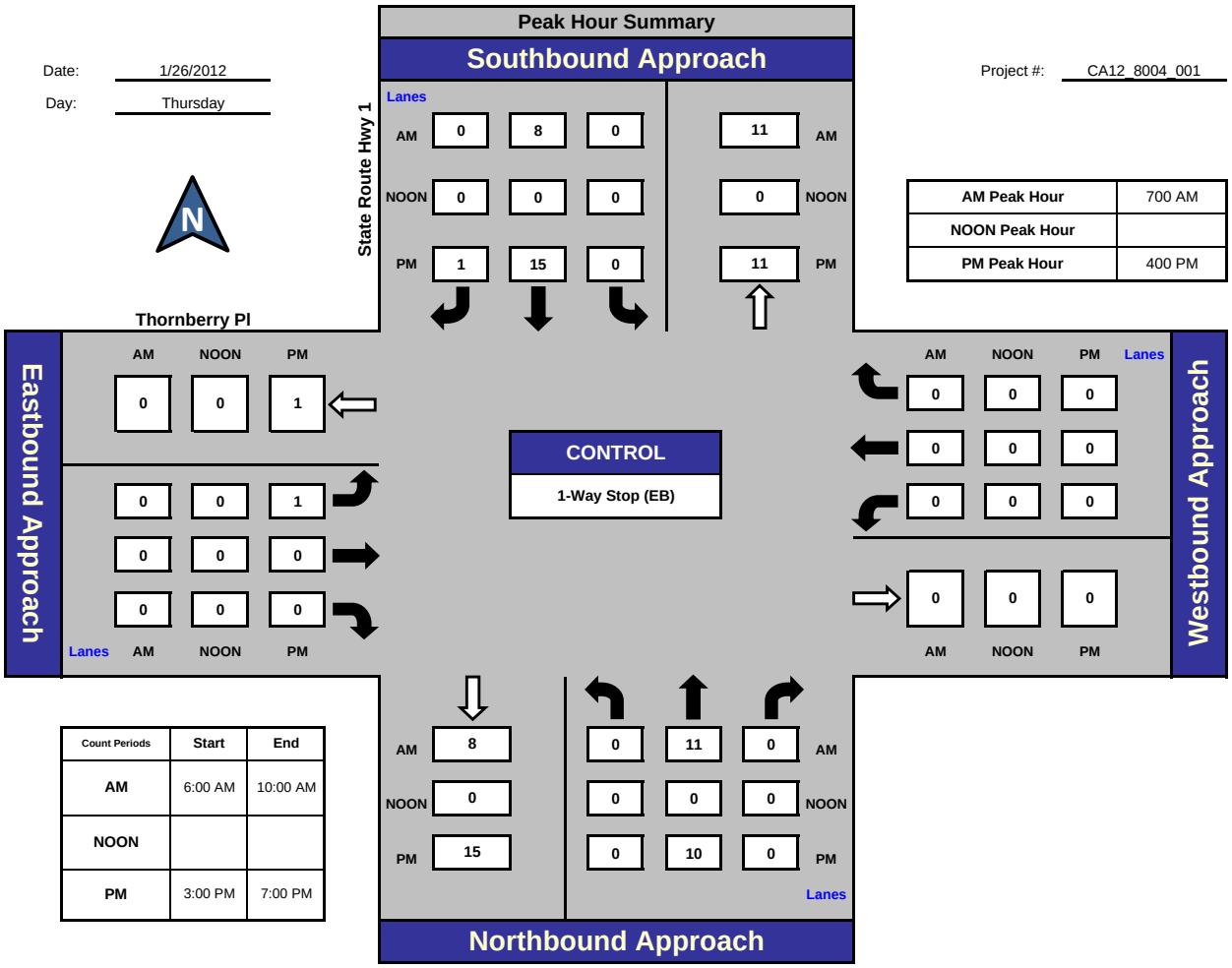
State Route Hwy 1 and Thornberry Pl , City of Nipomo

Date: 1/26/2012

Day: Thursday

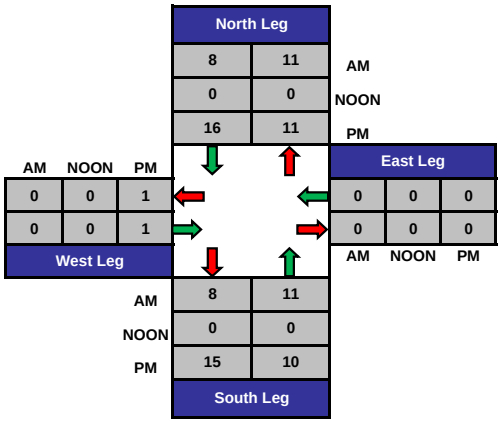
Project #: CA12_8004_001

AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	400 PM

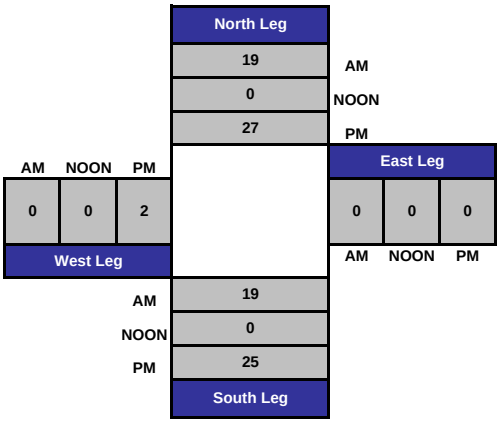


Count Periods	Start	End
AM	6:00 AM	10:00 AM
NOON		
PM	3:00 PM	7:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8004_001 **Day:** THURSDAY

City: City of Nipomo **Date:** 01/26/2012

AM

NS/EW Streets:	State Route Hwy 1			State Route Hwy 1			Thornberry Pl			Thornberry Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
6:30 AM		2			0								2
6:45 AM		1			1								2
7:00 AM		3			2								5
7:15 AM		4			5								9
7:30 AM		1			1								2
7:45 AM		3			0								3
8:00 AM		5			0								5
8:15 AM		1			3								4
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	20	0	0	12	0	0	0	0	0	0	0	32
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	0	11	0	0	8	0	0	0	0	0	0	0	19
PEAK HR FACTOR :		0.688			0.400			0.000			0.000		0.528

CONTROL : 1-Way Stop (EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8004_001 **Day:** THURSDAY

City: City of Nipomo **Date:** 01/26/2012

PM

NS/EW Streets:	State Route Hwy 1			State Route Hwy 1			Thornberry Pl			Thornberry Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM		3			1	0	0		0				4
4:15 PM		2			6	1	1		0				10
4:30 PM		4			4	0	0		0				8
4:45 PM		1			4	0	0		0				5
5:00 PM		6			7	0	0		1				14
5:15 PM		1			5	0	0		0				6
5:30 PM		3			5	0	0		0				8
5:45 PM		2			1	0	0		0				3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	22	0	0	33	1	1	0	1	0	0	0	58
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	97.06%	2.94%	50.00%	0.00%	50.00%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	0	10	0	0	15	1	1	0	0	0	0	0	27
PEAK HR FACTOR :		0.625			0.571			0.250			0.000		0.675

CONTROL : 1-Way Stop (EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_001 **Day:** TUESDAY

City: City of Guadalupe **Date:** 04/17/2012

AM

NS/EW Streets:	Cabrillo Hwy 1			Cabrillo Hwy 1			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	0	1	1	0	0.5	0.5	1	
6:00 AM	1	5	0	14	16	2	15	29	12	12	22	5	133
6:15 AM	0	11	8	14	19	7	13	32	11	1	25	6	147
6:30 AM	5	7	2	27	7	9	23	51	14	6	39	7	197
6:45 AM	4	9	6	16	9	8	13	38	8	4	23	15	153
7:00 AM	1	4	2	12	15	7	13	45	12	3	19	13	146
7:15 AM	4	5	2	19	20	3	11	47	12	5	14	7	149
7:30 AM	5	5	5	32	15	12	16	70	5	5	20	11	201
7:45 AM	8	12	5	24	16	14	10	58	5	5	30	12	199
8:00 AM	7	7	1	19	19	23	23	71	5	5	51	22	253
8:15 AM	5	5	3	20	13	10	9	39	7	3	31	14	159
8:30 AM	2	3	0	9	5	2	11	14	2	1	7	4	60
8:45 AM	5	6	1	21	10	12	13	27	4	0	17	11	127
9:00 AM	2	7	1	13	5	5	9	21	8	0	14	15	100
9:15 AM	4	2	0	21	9	7	14	19	2	1	13	11	103
9:30 AM	5	3	2	22	2	8	9	30	1	1	13	18	114
9:45 AM	0	20	1	14	27	9	10	20	2	1	21	19	144
10:00 AM	0	12	2	17	13	6	7	22	2	1	15	19	116
10:15 AM	1	7	1	27	6	5	9	26	3	4	16	11	116
10:30 AM	2	11	2	18	14	6	8	28	2	4	14	18	127
10:45 AM	1	3	1	22	9	7	8	29	3	1	9	16	109
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	62	144	45	381	249	162	244	716	120	63	413	254	2853
APPROACH %'s :	24.70%	57.37%	17.93%	48.11%	31.44%	20.45%	22.59%	66.30%	11.11%	8.63%	56.58%	34.79%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	25	29	14	95	63	59	58	238	22	18	132	59	812
PEAK HR FACTOR :		0.680			0.889			0.803			0.670		0.802

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_001 **Day:** TUESDAY

City: City of Guadalupe **Date:** 04/17/2012

PM

NS/EW Streets:	Cabrillo Hwy 1			Cabrillo Hwy 1			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	0	1	1	0	0.5	0.5	1	
1:00 PM	4	9	3	15	16	7	18	28	7	0	28	13	148
1:15 PM	3	14	7	16	13	20	8	20	4	2	23	12	142
1:30 PM	1	9	2	18	11	16	12	36	3	2	22	26	158
1:45 PM	3	6	3	16	17	8	11	31	4	8	35	19	161
2:00 PM	3	14	5	27	13	18	6	21	1	1	27	14	150
2:15 PM	9	9	2	20	7	20	14	36	4	3	43	17	184
2:30 PM	9	12	2	21	13	9	5	24	5	5	28	21	154
2:45 PM	3	11	1	16	12	8	7	28	7	1	45	31	170
3:00 PM	6	6	1	19	11	10	13	31	5	1	47	22	172
3:15 PM	6	21	5	21	16	13	14	36	4	4	25	25	190
3:30 PM	13	16	4	17	15	8	8	26	2	2	30	26	167
3:45 PM	11	22	3	22	19	15	13	24	3	7	36	17	192
4:00 PM	6	29	3	25	11	16	14	37	5	4	40	21	211
4:15 PM	8	15	3	14	12	13	8	38	4	6	41	17	179
4:30 PM	6	14	3	21	19	11	11	38	3	5	38	24	193
4:45 PM	7	21	2	23	18	23	13	33	6	3	41	30	220
5:00 PM	3	19	9	24	8	24	13	53	9	4	57	42	265
5:15 PM	18	26	3	22	16	31	9	37	8	2	46	23	241
5:30 PM	16	20	2	17	11	27	16	53	4	2	63	46	277
5:45 PM	15	14	3	22	12	17	15	30	4	0	52	25	209
6:00 PM	5	8	4	31	3	26	7	55	4	4	45	24	216
6:15 PM	5	10	2	19	10	25	12	35	4	1	50	25	198
6:30 PM	3	7	2	13	8	20	13	33	7	0	36	24	166
6:45 PM	3	3	2	11	5	5	2	22	2	1	22	8	86
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	166	335	76	470	296	390	262	805	109	68	920	552	4449
APPROACH %'s :	28.77%	58.06%	13.17%	40.66%	25.61%	33.74%	22.28%	68.45%	9.27%	4.42%	59.74%	35.84%	

PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	44	86	16	86	53	105	51	176	27	11	207	141	1003
PEAK HR FACTOR :		0.777			0.884			0.847			0.809		0.905

CONTROL : 4-Way Stop

2:30-3:30	24	50	9	77	52	40	39	119	21	11	145	99

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_001 **Day:** TUESDAY

City: City of Guadalupe **Date:** 04/17/2012

NOON

NS/EW Streets:	Cabrillo Hwy 1			Cabrillo Hwy 1			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	0	1	1	0	0.5	0.5	1	
11:00 AM	6	19	3	26	10	14	11	19	10	6	25	23	172
11:15 AM	6	11	8	22	16	14	7	27	10	4	21	21	167
11:30 AM	4	14	7	19	14	11	13	30	7	4	24	15	162
11:45 AM	3	11	7	16	11	7	5	20	2	2	20	23	127
12:00 PM	5	13	5	24	8	10	13	28	3	3	29	27	168
12:15 PM	9	11	2	28	12	12	18	24	2	4	17	16	155
12:30 PM	6	7	3	19	14	17	14	18	5	4	24	27	158
12:45 PM	6	8	2	19	16	12	15	32	10	3	35	14	172
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	45	94	37	173	101	97	96	198	49	30	195	166	1281
APPROACH %'s :	25.57%	53.41%	21.02%	46.63%	27.22%	26.15%	27.99%	57.73%	14.29%	7.67%	49.87%	42.46%	
PEAK HR START TIME :	1200 PM												TOTAL
PEAK HR VOL :	26	39	12	90	50	51	60	102	20	14	105	84	653
PEAK HR FACTOR :		0.837			0.918			0.798			0.860		0.949

CONTROL : 4-Way Stop

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Cabrillo Hwy 1 and Hwy 166 (Main St) , City of Guadalupe

Date: 4/17/2012

Day: Tuesday

Project #: CA12_8029_001

AM Peak Hour	730 AM
NOON Peak Hour	1200 PM
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Cabrillo Hwy 1)

	Lanes 0	1	1		
AM	59	63	95	146	AM
NOON	51	50	90	183	NOON
PM	105	53	86	278	PM

Eastbound Approach (Hwy 166 (Main St))

Lanes	AM	NOON	PM
	216	182	356
1	58	60	51
1	238	102	176
0	22	20	27

Westbound Approach

AM	NOON	PM	Lanes
59	84	141	1
132	105	207	0.5
18	14	11	0.5
347	204	278	

Northbound Approach

AM	103	25	29	14	AM
NOON	84	26	39	12	NOON
PM	91	44	86	16	PM
		0	1	0	Lanes

CONTROL

4-Way Stop

Count Periods	Start	End
AM	6:00 AM	11:00 AM
NOON	11:00 AM	1:00 PM
PM	1:00 PM	7:00 PM

Total Ins & Outs

	North Leg		
	217	146	AM
	191	183	NOON
	244	278	PM

West Leg AM	West Leg NOON	West Leg PM		East Leg AM	East Leg NOON	East Leg PM
216	182	356		209	203	359
318	182	254		347	204	278

	South Leg	
AM	103	68
NOON	84	77
PM	91	146

Total Volume Per Leg

	North Leg
AM	363
NOON	374
PM	522

West Leg AM	West Leg NOON	West Leg PM	East Leg AM	East Leg NOON	East Leg PM
534	364	610	556	407	637

	South Leg
AM	171
NOON	161
PM	237

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_001

Day: TUESDAY

HEAVY TRUCKS

City: City of Guadalupe

Date: 04/17/2012

AM

NS/EW Streets:	Cabrillo Hwy 1			Cabrillo Hwy 1			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	0	1	1	0	0.5	0.5	1	
6:00 AM	0	1	0	0	1	0	0	0	0	1	0	2	5
6:15 AM	1	2	1	0	1	0	0	0	0	1	2	3	11
6:30 AM	0	2	0	0	1	0	0	0	0	1	0	1	5
6:45 AM	0	1	0	2	0	1	0	2	0	2	2	2	12
7:00 AM	0	1	1	1	3	0	1	0	0	2	0	2	11
7:15 AM	0	1	2	3	1	0	0	1	0	0	1	1	10
7:30 AM	0	4	0	2	1	0	0	0	0	0	0	1	8
7:45 AM	0	5	1	0	2	0	0	1	0	0	0	1	10
8:00 AM	0	1	0	4	3	2	1	0	2	0	2	1	16
8:15 AM	0	0	1	0	1	0	0	0	0	1	0	1	4
8:30 AM	0	0	0	1	1	0	0	0	0	1	2	3	8
8:45 AM	0	0	0	2	7	0	1	1	0	0	0	0	11
9:00 AM	0	1	2	3	3	0	0	1	1	2	2	3	18
9:15 AM	0	0	1	2	3	2	1	0	0	1	1	3	14
9:30 AM	0	1	1	5	1	0	0	3	1	1	0	4	17
9:45 AM	0	3	1	5	1	1	0	0	0	4	1	2	18
10:00 AM	1	0	1	4	1	0	2	2	0	2	3	3	19
10:15 AM	0	2	0	2	3	1	0	1	1	1	1	4	16
10:30 AM	0	0	1	2	0	0	0	0	0	0	1	4	8
10:45 AM	0	0	4	2	1	1	1	0	1	0	1	2	13
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	25	17	40	35	8	7	12	6	20	19	43	234
APPROACH %'s :	4.55%	56.82%	38.64%	48.19%	42.17%	9.64%	28.00%	48.00%	24.00%	24.39%	23.17%	52.44%	
PEAK HR START TIME :	930 AM												TOTAL
PEAK HR VOL :	1	6	3	16	6	2	2	6	2	8	5	13	70
PEAK HR FACTOR :	0.625			0.857			0.625			0.813			0.921

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_001

Day: TUESDAY

HEAVY TRUCKS

City: City of Guadalupe

Date: 04/17/2012

PM

NS/EW Streets:	Cabrillo Hwy 1			Cabrillo Hwy 1			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	0	1	1	0	0.5	0.5	1	
1:00 PM	0	3	0	2	1	0	0	0	0	3	2	0	11
1:15 PM	0	1	1	2	0	0	1	3	0	0	0	4	12
1:30 PM	0	1	3	0	0	0	0	1	1	0	1	2	9
1:45 PM	0	0	0	3	1	0	0	1	0	2	0	3	10
2:00 PM	0	2	4	2	0	0	0	0	0	0	0	0	8
2:15 PM	1	1	3	5	0	0	0	0	0	2	1	0	13
2:30 PM	1	3	2	3	0	0	0	1	0	0	2	2	14
2:45 PM	0	4	2	4	0	0	0	1	1	4	2	1	19
3:00 PM	0	1	1	1	0	1	0	0	2	1	1	4	12
3:15 PM	0	1	2	2	2	0	1	1	1	1	1	3	15
3:30 PM	0	1	1	0	0	0	0	1	0	0	3	0	6
3:45 PM	2	4	1	5	4	1	0	1	0	6	1	3	28
4:00 PM	0	6	4	0	2	0	0	0	0	1	1	2	16
4:15 PM	0	0	2	3	0	0	0	2	3	0	1	3	14
4:30 PM	1	3	1	3	0	1	0	0	0	2	2	0	13
4:45 PM	0	1	3	0	0	1	1	3	0	0	1	3	13
5:00 PM	0	2	1	1	2	0	1	1	0	2	4	1	15
5:15 PM	0	2	3	3	3	1	0	4	0	0	1	1	18
5:30 PM	0	0	3	1	2	0	1	2	0	0	0	0	9
5:45 PM	1	1	1	0	2	0	0	2	0	2	0	4	13
6:00 PM	0	1	2	2	0	1	0	1	0	1	0	0	8
6:15 PM	1	0	2	3	2	0	0	2	0	2	1	2	15
6:30 PM	0	0	1	2	2	0	0	0	1	0	0	2	8
6:45 PM	0	1	1	2	2	0	0	0	0	1	0	3	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	7	39	44	49	25	6	5	27	9	30	25	43	309
APPROACH %'s :	7.78%	43.33%	48.89%	61.25%	31.25%	7.50%	12.20%	65.85%	21.95%	30.61%	25.51%	43.88%	

PEAK HR START TIME :	345 PM												TOTAL
PEAK HR VOL :	3	13	8	11	6	2	0	3	3	9	5	8	71
PEAK HR FACTOR :	0.600			0.475			0.300			0.550			0.634

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_001

Day: TUESDAY

HEAVY TRUCKS

City: City of Guadalupe

Date: 04/17/2012

NOON

NS/EW Streets:	Cabrillo Hwy 1			Cabrillo Hwy 1			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	0	1	1	0	0.5	0.5	1	
11:00 AM	2	3	1	1	2	2	1	1	0	0	1	2	16
11:15 AM	2	2	0	2	0	2	1	1	0	0	0	2	12
11:30 AM	0	1	1	2	4	0	0	3	0	4	3	4	22
11:45 AM	0	2	1	4	2	0	0	1	0	0	0	0	10
12:00 PM	0	1	2	3	1	1	2	1	0	1	0	0	12
12:15 PM	1	0	1	3	1	0	2	3	0	1	0	4	16
12:30 PM	0	4	1	1	1	1	0	2	1	1	2	1	15
12:45 PM	0	0	2	2	5	0	1	1	0	2	2	1	16
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	5	13	9	18	16	6	7	13	1	9	8	14	119
APPROACH %'s :	18.52%	48.15%	33.33%	45.00%	40.00%	15.00%	33.33%	61.90%	4.76%	29.03%	25.81%	45.16%	
PEAK HR START TIME :	1130 AM												TOTAL
PEAK HR VOL :	1	4	5	12	8	1	4	8	0	6	3	8	60
PEAK HR FACTOR :		0.833			0.875			0.600			0.386		0.682

CONTROL : 4-Way Stop

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Cabrillo Hwy 1 and Hwy 166 (Main St) , City of Guadalupe

Date: 4/17/2012

Day: Tuesday

Project #: CA12_8029_001

AM Peak Hour	930 AM
NOON Peak Hour	1130 AM
PM Peak Hour	345 PM

Peak Hour Summary

Southbound Approach (Cabrillo Hwy 1)

	Lanes 0	1	1		
AM	2	6	16	21	AM
NOON	1	8	12	16	NOON
PM	2	6	11	21	PM

Eastbound Approach (Hwy 166 (Main St))

	AM	NOON	PM
	8	5	10
1	2	4	0
1	6	8	3
0	2	0	3
Lanes	AM	NOON	PM

Westbound Approach

AM	NOON	PM	Lanes
13	8	8	1
5	3	5	0.5
8	6	9	0.5
25	25	22	
AM	NOON	PM	

HEAVY TRUCKS

CONTROL

4-Way Stop

Northbound Approach

AM	16	1	6	3	AM
NOON	14	1	4	5	NOON
PM	18	3	13	8	PM
		0	1	0	Lanes

Count Periods	Start	End
AM	6:00 AM	11:00 AM
NOON	11:00 AM	1:00 PM
PM	1:00 PM	7:00 PM

Total Ins & Outs

	North Leg		
	24	21	AM
	21	16	NOON
	19	21	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
8	5	10	26	17	22
10	12	6	25	25	22

	South Leg	
AM	16	10
NOON	14	10
PM	18	24

Total Volume Per Leg

	North Leg	
	45	AM
	37	NOON
	40	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
18	17	16	51	42	44

	South Leg
AM	26
NOON	24
PM	42

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_001

Day: TUESDAY

BUSES

City: City of Guadalupe

Date: 04/17/2012

AM

NS/EW Streets:	Cabrillo Hwy 1			Cabrillo Hwy 1			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	0	1	1	0	0.5	0.5	1	
6:00 AM													
6:15 AM													
6:30 AM	2	0	0	0	0	0	0	0	0		1	2	5
6:45 AM	0	0	0	0	4	0	0	0	2		0	0	6
7:00 AM	0	0	0	0	0	0	0	0	0		1	0	1
7:15 AM	0	1	0	0	0	0	0	1	0		1	2	5
7:30 AM	0	0	1	0	2	1	0	0	0		2	0	6
7:45 AM	1	0	0	0	0	0	0	4	1		2	0	8
8:00 AM	0	0	0	0	0	0	1	1	0		1	0	3
8:15 AM	0	0	0	1	0	0	0	0	1		1	0	3
8:30 AM	0	0	0	0	0	0	0	1	0		1	0	2
8:45 AM	0	0	0	0	0	0	0	0	0		1	0	1
9:00 AM													
9:15 AM													
9:30 AM	0	0	0	0	0	0	0	0	0		1	0	1
9:45 AM	0	0	0	0	0	0	0	0	0		1	0	1
10:00 AM	0	0	0	0	0	0	0	0	0		1	0	1
10:15 AM													
10:30 AM	0	0	0	0	0	0	0	0	0		1	0	1
10:45 AM	0	0	0	0	0	0	0	0	0		2	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	1	1	1	6	1	1	7	4	0	17	4	46
APPROACH %'s :	60.00%	20.00%	20.00%	12.50%	75.00%	12.50%	8.33%	58.33%	33.33%	0.00%	80.95%	19.05%	

PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	1	1	1	0	2	1	1	6	1	0	6	2	22
PEAK HR FACTOR :		0.750			0.250			0.400			0.667		0.688

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_001

Day: TUESDAY

BUSES

City: City of Guadalupe

Date: 04/17/2012

PM

NS/EW Streets:	Cabrillo Hwy 1			Cabrillo Hwy 1			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	0	1	1	0	0.5	0.5	1	
1:00 PM													
1:15 PM	0	0	0	0	0	1	0	0			0	0	1
1:30 PM	0	0	0	0	0	0	0	1			2	0	3
1:45 PM	0	0	0	0	0	0	0	1			0	0	1
2:00 PM	1	0	0	0	0	0	0	1			0	0	2
2:15 PM	0	0	0	1	0	0	0	3			0	0	4
2:30 PM	0	0	1	0	0	0	1	0			1	0	3
2:45 PM	0	1	0	2	0	0	0	1			1	1	6
3:00 PM	0	0	0	0	0	0	0	2			0	0	2
3:15 PM	1	1	1	1	0	0	0	4			0	0	8
3:30 PM	0	1	0	0	0	0	0	1			2	0	4
3:45 PM	0	1	0	1	0	0	0	0			0	0	2
4:00 PM	0	0	0	0	0	0	0	1			0	0	1
4:15 PM	0	0	0	0	0	0	0	1			0	0	1
4:30 PM	0	0	0	0	0	0	0	0			2	0	2
4:45 PM	0	0	0	0	1	0	0	0			0	1	2
5:00 PM	0	0	0	0	1	0	0	0			0	0	1
5:15 PM	0	0	0	0	1	0	0	0			0	0	1
5:30 PM	0	0	0	1	0	0	0	0			1	0	2
5:45 PM													
6:00 PM													
6:15 PM													
6:30 PM	0	0	0	0	0	0	0	0			1	0	1
6:45 PM													

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	4	2	6	3	1	1	16	0	0	10	2	47
APPROACH %'s :	25.00%	50.00%	25.00%	60.00%	30.00%	10.00%	5.88%	94.12%	0.00%	0.00%	83.33%	16.67%	

PEAK HR START TIME :	245 PM												TOTAL
PEAK HR VOL :	1	3	1	3	0	0	0	8	0	0	3	1	20
PEAK HR FACTOR :		0.417			0.375			0.500			0.500		0.625

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_001

Day: TUESDAY

BUSES

City: City of Guadalupe

Date: 04/17/2012

NOON

NS/EW Streets:	Cabrillo Hwy 1			Cabrillo Hwy 1			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	0	1	1	0	0.5	0.5	1	
11:00 AM	0		0			0	1	0	1		1		3
11:15 AM	0		0			0	0	1	0		0		1
11:30 AM	0		0			0	0	0	0		1		1
11:45 AM													
12:00 PM													
12:15 PM	0		0			0	0	1	0		0		1
12:30 PM	1		1			0	0	1	0		2		5
12:45 PM	0		0			1	1	0	1		0		3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	0	1	0	0	1	2	3	2	0	4	0	14
APPROACH %'s :	50.00%	0.00%	50.00%	0.00%	0.00%	100.00%	28.57%	42.86%	28.57%	0.00%	100.00%	0.00%	

PEAK HR START TIME :	1215 PM												TOTAL
PEAK HR VOL :	1	0	1	0	0	1	1	2	1	0	2	0	9
PEAK HR FACTOR :		0.250			0.250			0.500			0.250		0.450

CONTROL : 4-Way Stop

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Cabrillo Hwy 1 and Hwy 166 (Main St) , City of Guadalupe

Date: 4/17/2012

Day: Tuesday

Project #: CA12_8029_001

AM Peak Hour	715 AM
NOON Peak Hour	1215 PM
PM Peak Hour	245 PM

Peak Hour Summary

Southbound Approach

Cabrillo Hwy 1

Lanes	0	1	1		
AM	1	2	0	4	AM
NOON	1	0	0	1	NOON
PM	0	0	3	4	PM

Eastbound Approach

Hwy 166 (Main St)

Lanes	AM	NOON	PM
	8	4	4
1	1	1	0
1	6	2	8
0	1	1	0

Westbound Approach

Lanes	AM	NOON	PM
1	2	0	1
0.5	6	2	3
0.5	0	0	0
	7	3	12

BUSES

CONTROL

4-Way Stop

Northbound Approach

AM	3	1	1	1	AM
NOON	1	1	0	1	NOON
PM	0	1	3	1	PM
Lanes		0	1	0	Lanes

Count Periods	Start	End
AM	6:00 AM	11:00 AM
NOON	11:00 AM	1:00 PM
PM	1:00 PM	7:00 PM

Total Ins & Outs

North Leg		
3	4	AM
1	1	NOON
3	4	PM

West Leg		
AM	NOON	PM
8	4	4
8	4	8

East Leg		
8	2	4
7	3	12
AM	NOON	PM

South Leg		
3	3	AM
1	2	NOON
0	5	PM

Total Volume Per Leg

North Leg
7 AM
2 NOON
7 PM

West Leg		
AM	NOON	PM
16	8	12

East Leg		
15	5	16
AM	NOON	PM

South Leg
6 AM
3 NOON
5 PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	6:00	11:00
NOON	11:00	13:00
PM	13:00	19:00

PROJECT#: 12-8029-001
N/S Street: Cabrillo Hwy 1
E/W Street: Hwy 166 (Main St)
DATE: 4/17/2012 DAY: Tuesday
CITY: Guadalupe

AM	9
NOON	6
PM	39

18	AM
1	NOON
16	PM

AM	NOON	PM
0	0	0

NORTH LEG

AM	NOON	PM
0	0	0

WEST LEG

EAST LEG

0	0	0
AM	NOON	PM

SOUTH LEG

0	0	0
AM	NOON	PM

AM	0
NOON	0
PM	0

0	AM
0	NOON
1	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	6:00	11:00
NOON	11:00	13:00
PM	13:00	19:00

PROJECT#: 12-8029-001
N/S Street: Cabrillo Hwy 1
E/W Street: Hwy 166 (Main St)
DATE: 4/17/2012 DAY: Tuesday
CITY: Guadalupe

AM	1
NOON	1
PM	8

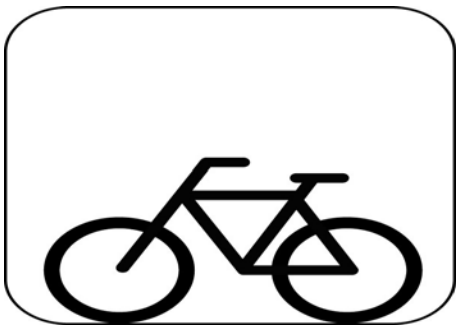
5	AM
0	NOON
6	PM

AM	NOON	PM
16	0	6

NORTH LEG

AM	NOON	PM
0	0	0

WEST LEG



EAST LEG

0	0	0
AM	NOON	PM

SOUTH LEG

8	0	2
AM	NOON	PM

AM	0
NOON	0
PM	0

0	AM
0	NOON
0	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 12-8029-001
N/S Street: Cabrillo Hwy 1
E/W Street: Hwy 166 (Main St)
DATE: 4/17/2012 DAY: Tuesday
CITY: Guadalupe

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PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	1	1	0	0	0	0	0	0
6:30 AM	2	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0
7:30 AM	2	6	0	0	0	0	0	0
7:45 AM	0	4	0	0	0	0	0	0
8:00 AM	1	3	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0
8:45 AM	1	1	0	0	0	0	0	0
9:00 AM	1	0	0	0	0	0	0	0
9:15 AM	0	1	0	0	0	0	0	0
9:30 AM	1	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0
TOTALS	**9**	**18**	**0**	**0**	**0**	**0**	**0**	**0**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	2	0	0	0	0	0	0
7:45 AM	0	3	0	0	0	0	0	0
8:00 AM	1	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	8	0	0	0
9:30 AM	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	16
10:00 AM	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0
TOTALS	**1**	**5**	**0**	**0**	**8**	**0**	**0**	**16**

N O O N

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
11:00 AM	0	0	0	0	0	0	0	0
11:15 AM	2	0	0	0	0	0	0	0
11:30 AM	1	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0
12:30 PM	3	0	0	0	0	0	0	0
12:45 PM	0	1	0	0	0	0	0	0
TOTALS	**6**	**1**	**0**	**0**	**0**	**0**	**0**	**0**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
11:00 AM	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0
11:45 AM	1	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0
TOTALS	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
1:00 PM	0	0	0	0	0	0	0	0
1:15 PM	0	1	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0
1:45 PM	0	1	0	0	0	0	0	0
2:00 PM	0	1	0	0	0	0	0	0
2:15 PM	21	1	0	0	0	0	0	0
2:30 PM	2	0	0	0	0	0	0	0
2:45 PM	0	1	0	0	0	0	0	0
3:00 PM	0	2	0	0	0	0	0	0
3:15 PM	1	2	0	0	0	0	0	0
3:30 PM	1	1	0	0	0	0	0	0
3:45 PM	5	1	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	2	0	1	0	0	0	0
4:30 PM	1	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	1	0	0	0	0	0	0	0
5:15 PM	4	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	0
6:00 PM	2	1	0	0	0	0	0	0
6:15 PM	0	1	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0
TOTALS	**39**	**16**	**0**	**1**	**0**	**0**	**0**	**0**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
1:00 PM	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	2
2:15 PM	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0
2:45 PM	0	1	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	2	1	0	0	0	0	0	2
3:30 PM	1	0	0	0	0	0	0	0
3:45 PM	1	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	1	0	0	0
4:30 PM	1	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	3	1	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0
5:45 PM	0	2	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	2
6:15 PM	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	1	0	0	0
6:45 PM	0	0	0	0	0	0	0	0
TOTALS	**8**	**6**	**0**	**0**	**2**	**0**	**0**	**6**

Prepared by National Data & Surveying Services

Train and Queuing Study

Project #: 12-8029-001
Location: Cabrillo Hwy 1 & Hwy 166 (Main St)
City: Guadalupe

Date: 4/17/2012
Day: Tuesday

Cycle	Number of Vehicles in Queue on Tracks		
	WB Queue		
	On Tracks	Off Tracks	Total Time
1	6:43	6:43	25 seconds
2	6:50	6:50	10
3	6:55	6:55	10
4	8:01	8:01	11
5	8:03	8:03	5
6	8:04	8:04	5
7	8:05	8:05	8
8	8:07	8:07	7
9	8:16	8:16	13
10	8:17	8:17	5
11	8:22	8:22	7
12	8:35	8:35	10
13	8:41	8:41	19
14	8:44	8:44	5
15	8:54	8:54	10
16	9:49	9:49	6
17	11:02	11:02	9
18	11:13	11:13	5
19	11:36	11:36	6
20	11:38	11:38	13
21	12:22	12:22	13
22	12:35	12:35	8
23	12:35	12:35	8
24	12:38	12:38	7
25	12:46	12:46	5
26	13:06	13:06	6
27	13:39	13:39	7
28	14:12	14:12	5
29	14:15	14:15	7
30	14:22	14:22	8
31	14:55	14:55	6
32	15:05	15:05	5
33	15:18	15:18	9
34	15:39	15:39	7
35	15:47	15:47	16
36	15:52	15:52	7
37	15:54	15:54	8
38	15:57	15:57	7
39	16:11	16:12	18
40	16:15	16:16	20
41	16:22	16:22	10
42	17:00	17:00	5
43	17:01	17:01	10
44	17:01	17:02	10
45	17:02	17:02	12
46	17:03	17:03	5
47	17:03	17:03	6
48	17:11	17:11	4
49	17:20	17:20	10
50	17:38	17:38	6
51	17:39	17:39	4
52	17:48	17:48	8
53	17:48	17:48	9
54	17:49	17:49	6
55	18:00	18:00	5
56	18:04	18:04	7
57	18:19	18:19	9
58	18:28	18:28	13

Direction	Number of Trains Crossing		
	Start	Stop	Total Time
SB	7:30	7:31	15 seconds
NB	12:15	12:15	11
SB	14:11	14:11	17
NB	15:19	15:19	17

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_002 **Day:** TUESDAY

City: City of Guadalupe **Date:** 04/17/2012

AM

NS/EW Streets:	Simas St			Simas St			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	8	8	0	9	6	0	0	43	16	2	21	25	138
7:15 AM	7	10	4	11	5	0	0	37	15	1	23	8	121
7:30 AM	7	6	4	22	12	0	0	55	44	0	19	4	173
7:45 AM	6	7	2	18	12	1	0	57	31	2	39	11	186
8:00 AM	15	12	0	21	17	0	1	26	24	2	41	15	174
8:15 AM	10	5	1	14	14	1	0	28	22	3	25	10	133
8:30 AM	9	11	0	10	12	0	0	30	22	1	13	3	111
8:45 AM	9	3	0	6	5	0	0	36	17	0	15	11	102
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	71	62	11	111	83	2	1	312	191	11	196	87	1138
APPROACH %'s :	49.31%	43.06%	7.64%	56.63%	42.35%	1.02%	0.20%	61.90%	37.90%	3.74%	66.67%	29.59%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	38	30	7	75	55	2	1	166	121	7	124	40	666
PEAK HR FACTOR :		0.694			0.868			0.727			0.737		0.895

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_002 **Day:** TUESDAY

City: City of Guadalupe **Date:** 04/17/2012

PM

NS/EW Streets:	Simas St			Simas St			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	23	8	1	30	12	2	1	55	20	2	39	12	205
4:15 PM	31	16	3	18	10	2	1	38	28	1	33	11	192
4:30 PM	24	14	4	19	12	1	1	34	22	2	44	17	194
4:45 PM	45	21	8	48	12	1	1	52	13	2	45	14	262
5:00 PM	34	14	5	24	13	1	2	57	12	4	49	20	235
5:15 PM	30	10	6	24	9	2	1	46	17	3	44	18	210
5:30 PM	34	19	6	40	14	1	1	50	16	4	66	22	273
5:45 PM	44	12	4	35	11	2	1	37	19	3	44	12	224
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	265	114	37	238	93	12	9	369	147	21	364	126	1795
APPROACH %'s :	63.70%	27.40%	8.89%	69.39%	27.11%	3.50%	1.71%	70.29%	28.00%	4.11%	71.23%	24.66%	

PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	143	64	25	136	48	5	5	205	58	13	204	74	980
PEAK HR FACTOR :		0.784			0.775			0.944			0.791		0.897

CONTROL : 4-Way Stop

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Simas St and Hwy 166 (Main St) , City of Guadalupe

Date: 4/17/2012

Day: Tuesday

Project #: CA12_8029_002

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Simas St)

Lanes	0	1	0		
AM	2	55	75	71	AM
NOON	0	0	0	0	NOON
PM	5	48	136	143	PM

Eastbound Approach (Hwy 166 (Main St))

Lanes	AM	NOON	PM
	164	0	352
0	1	0	5
1	166	0	205
0	121	0	58

Westbound Approach

AM	NOON	PM	Lanes
40	0	74	0
124	0	204	1
7	0	13	0
248	0	366	

Northbound Approach

AM	183	38	30	7	AM
NOON	0	0	0	0	NOON
PM	119	143	64	25	PM
Lanes		0	1	0	Lanes

CONTROL

4-Way Stop

Count Periods	Start	End
AM	6:00 AM	11:00 AM
NOON		
PM	1:00 PM	7:00 PM

Total Ins & Outs

	North Leg		
	132	71	AM
	0	0	NOON
	189	143	PM

West Leg			East Leg		
AM	NOON	PM			
164	0	352	171	0	291
288	0	268	248	0	366
			AM	NOON	PM

	South Leg	
AM	183	75
NOON	0	0
PM	119	232

Total Volume Per Leg

	North Leg
	203 AM
	0 NOON
	332 PM

West Leg			East Leg		
AM	NOON	PM			
452	0	620	419	0	657
			AM	NOON	PM

	South Leg
AM	258
NOON	0
PM	351

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_002

Day: TUESDAY

HEAVY TRUCKS

City: City of Guadalupe

Date: 04/17/2012

AM

NS/EW Streets:	Simas St			Simas St			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	0	0	0	0			0	1	1	1	1	4
7:15 AM	2	2	0	0	0			5	0	1	1	3	14
7:30 AM	0	0	0	1	1			2	0	0	1	2	7
7:45 AM	0	0	1	1	0			6	0	0	2	1	11
8:00 AM	1	1	0	0	0			3	1	0	3	1	10
8:15 AM	0	0	1	2	0			4	3	0	3	2	15
8:30 AM	2	1	0	2	0			0	1	0	5	2	13
8:45 AM	2	2	1	2	1			2	2	0	2	3	17
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	7	6	3	8	2	0	0	22	8	2	18	15	91
APPROACH %'s :	43.75%	37.50%	18.75%	80.00%	20.00%	0.00%	0.00%	73.33%	26.67%	5.71%	51.43%	42.86%	

PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	5	4	2	6	1	0	0	9	7	0	13	8	55
PEAK HR FACTOR :		0.550			0.583			0.571			0.750		0.809

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_002

Day: TUESDAY

HEAVY TRUCKS

City: City of Guadalupe

Date: 04/17/2012

PM

NS/EW Streets:	Simas St			Simas St			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	1	4	0	3	0			2	2	1	5	2	20
4:15 PM	2	2	0	1	0			8	0	1	6	1	21
4:30 PM	0	1	0	4	3			5	1	0	5	2	21
4:45 PM	0	3	0	3	0			4	3	1	6	2	22
5:00 PM	1	1	0	2	0			2	2	0	6	2	16
5:15 PM	2	1	1	4	0			5	1	0	3	1	18
5:30 PM	1	1	0	2	4			10	0	0	5	2	25
5:45 PM	0	1	0	1	0			2	2	1	6	2	15
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	7	14	1	20	7	0	0	38	11	4	42	14	158
APPROACH %'s :	31.82%	63.64%	4.55%	74.07%	25.93%	0.00%	0.00%	77.55%	22.45%	6.67%	70.00%	23.33%	

PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	3	10	0	11	3	0	0	19	6	3	22	7	84
PEAK HR FACTOR :		0.650			0.500			0.781			0.889		0.955

CONTROL : 4-Way Stop

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Simas St and Hwy 166 (Main St) , City of Guadalupe

Date: 4/17/2012

Day: Tuesday

Project #: CA12_8029_002

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	400 PM

Peak Hour Summary

Southbound Approach (Simas St)

Lanes	0	1	0		
AM	0	1	6	12	AM
NOON	0	0	0	0	NOON
PM	0	3	11	17	PM

Eastbound Approach (Hwy 166 (Main St))

Lanes	AM	NOON	PM
	18	0	25
0	0	0	0
1	9	0	19
0	7	0	6

Westbound Approach

AM	NOON	PM	Lanes
8	0	7	0
13	0	22	1
0	0	3	0
17	0	30	

HEAVY TRUCKS

CONTROL: 4-Way Stop

Northbound Approach

AM	8	5	4	2	AM
NOON	0	0	0	0	NOON
PM	12	3	10	0	PM
Lanes		0	1	0	

Count Periods	Start	End
AM	6:00 AM	11:00 AM
NOON		
PM	1:00 PM	7:00 PM

Total Ins & Outs

	North Leg		
	7	12	AM
	0	0	NOON
	14	17	PM

West Leg	AM	NOON	PM
	18	0	25
	16	0	25

East Leg	AM	NOON	PM
	21	0	32
	17	0	30

	South Leg	
AM	8	11
NOON	0	0
PM	12	13

Total Volume Per Leg

	North Leg
AM	19
NOON	0
PM	31

West Leg	AM	NOON	PM
	34	0	50

East Leg	AM	NOON	PM
	38	0	62

	South Leg
AM	19
NOON	0
PM	25

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_002 **Day:** TUESDAY

BUSES

City: City of Guadalupe **Date:** 04/17/2012

AM

NS/EW Streets:	Simas St			Simas St			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	0						0	1		0		1
7:15 AM	1	1						0	0		2		4
7:30 AM	0	0						1	0		2		3
7:45 AM	0	1						3	1		2		7
8:00 AM	0	0						0	0		1		1
8:15 AM	0	0						2	0		1		3
8:30 AM	0	0						0	0		2		2
8:45 AM	0	0						1	0		0		1
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	2	0	0	0	0	0	7	2	0	10	0	22
APPROACH %'s :	33.33%	66.67%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	77.78%	22.22%	0.00%	100.00%	0.00%	

PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	1	2	0	0	0	0	0	4	1	0	7	0	15
PEAK HR FACTOR :		0.375			0.000			0.313			0.875		0.536

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_8029_002

Day: TUESDAY

BUSES

City: City of Guadalupe

Date: 04/17/2012

PM

NS/EW Streets:	Simas St			Simas St			Hwy 166 (Main St)			Hwy 166 (Main St)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM					0			1	0		0		1
4:15 PM													
4:30 PM					0			0	1		2		3
4:45 PM					1			0	0		1		2
5:00 PM					0			1	0		0		1
5:15 PM													
5:30 PM					0			0	0		1		1
5:45 PM					0			1	0		0		1
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	0	0	3	1	0	4	0	9
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	100.00%	0.00%	0.00%	75.00%	25.00%	0.00%	100.00%	0.00%	

PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	0	1	0	0	1	1	0	3	0	6
PEAK HR FACTOR :		0.000			0.250			0.500			0.375		0.500

CONTROL : 4-Way Stop

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

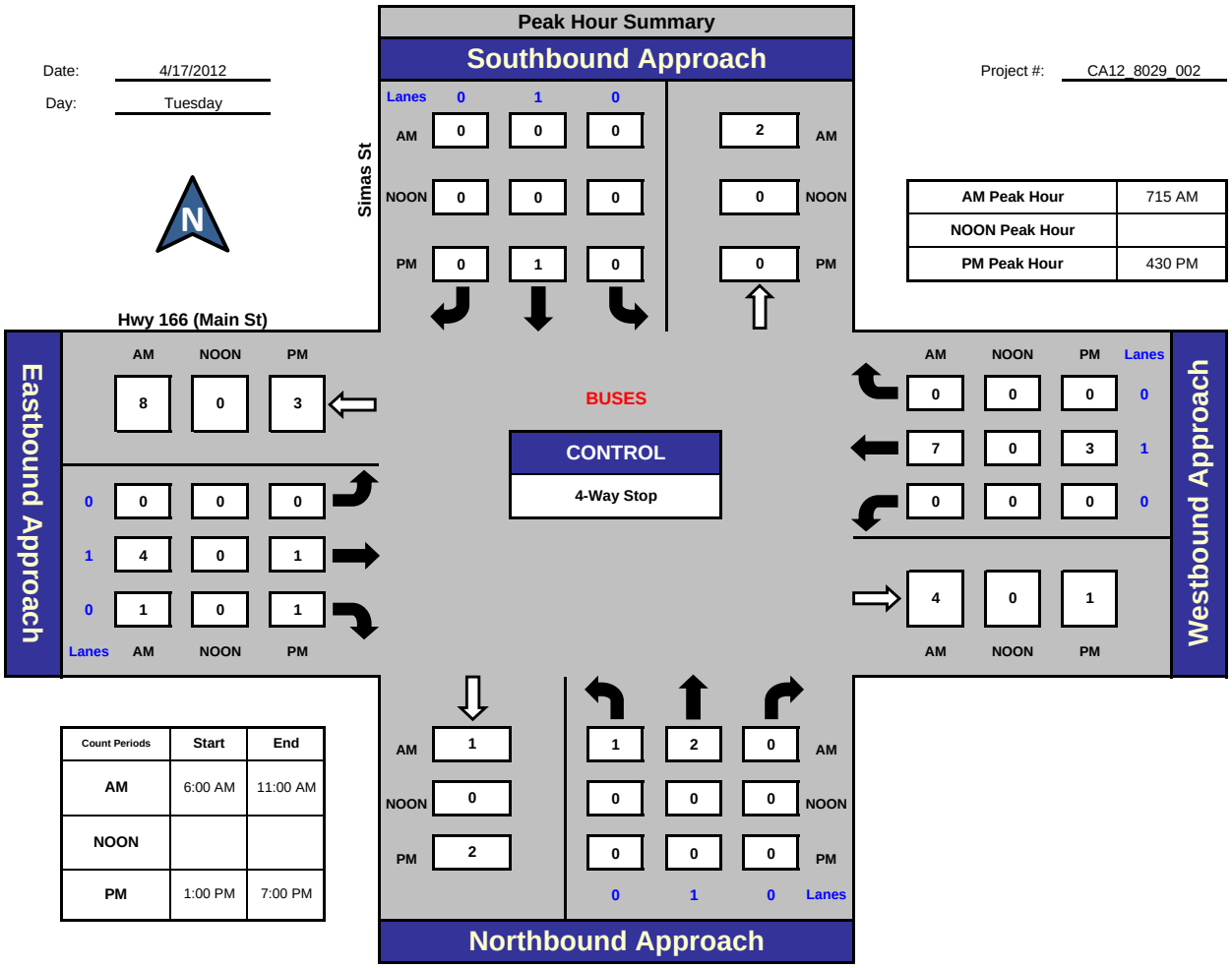
Simas St and Hwy 166 (Main St) , City of Guadalupe

Date: 4/17/2012

Day: Tuesday

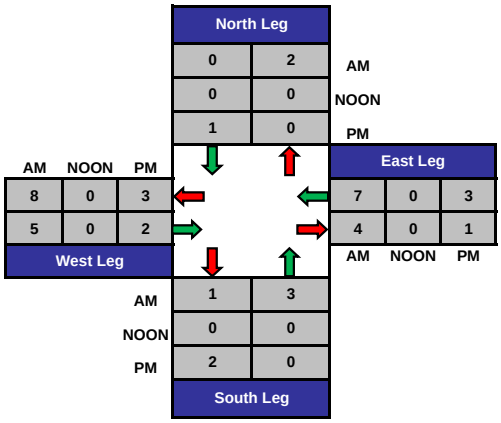
Project #: CA12_8029_002

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	430 PM

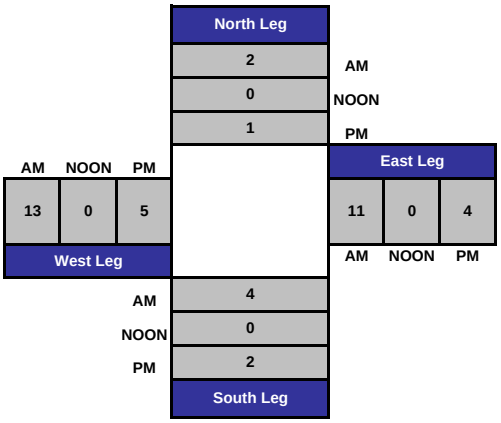


Count Periods	Start	End
AM	6:00 AM	11:00 AM
NOON		
PM	1:00 PM	7:00 PM

Total Ins & Outs



Total Volume Per Leg



PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count

	Start:	End:
AM	7:00	9:00
NOON		
PM	16:00	18:00

PROJECT#: 12-8029-002
N/S Street: Simas St
E/W Street: Hwy 166 (Main St)
DATE: 4/17/2012 DAY: Tuesday
CITY: Guadalupe

AM	0
NOON	0
PM	0

0	AM
0	NOON
0	PM

AM	NOON	PM
0	0	0

NORTH LEG

AM	NOON	PM
0	0	0

WEST LEG

EAST LEG

0	0	0
AM	NOON	PM

SOUTH LEG

0	0	0
AM	NOON	PM

AM	1
NOON	0
PM	0

1	AM
0	NOON
0	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count

	Start:	End:
AM	7:00	9:00
NOON		
PM	16:00	18:00

PROJECT#: 12-8029-002
N/S Street: Simas St
E/W Street: Hwy 166 (Main St)
DATE: 4/17/2012 DAY: Tuesday
CITY: Guadalupe

AM	0
NOON	0
PM	0

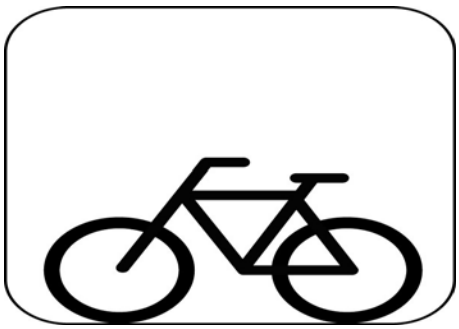
1	AM
0	NOON
0	PM

AM	NOON	PM
0	0	0

NORTH LEG

AM	NOON	PM
0	0	0

WEST LEG



EAST LEG

0	0	0
AM	NOON	PM

SOUTH LEG

0	0	0
AM	NOON	PM

AM	0
NOON	0
PM	0

0	AM
0	NOON
0	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 12-8029-002
N/S Street: Simas St
E/W Street: Hwy 166 (Main St)
DATE: 4/17/2012 DAY: Tuesday
CITY: Guadalupe

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	1	0	0	0	0
TOTALS	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**

BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

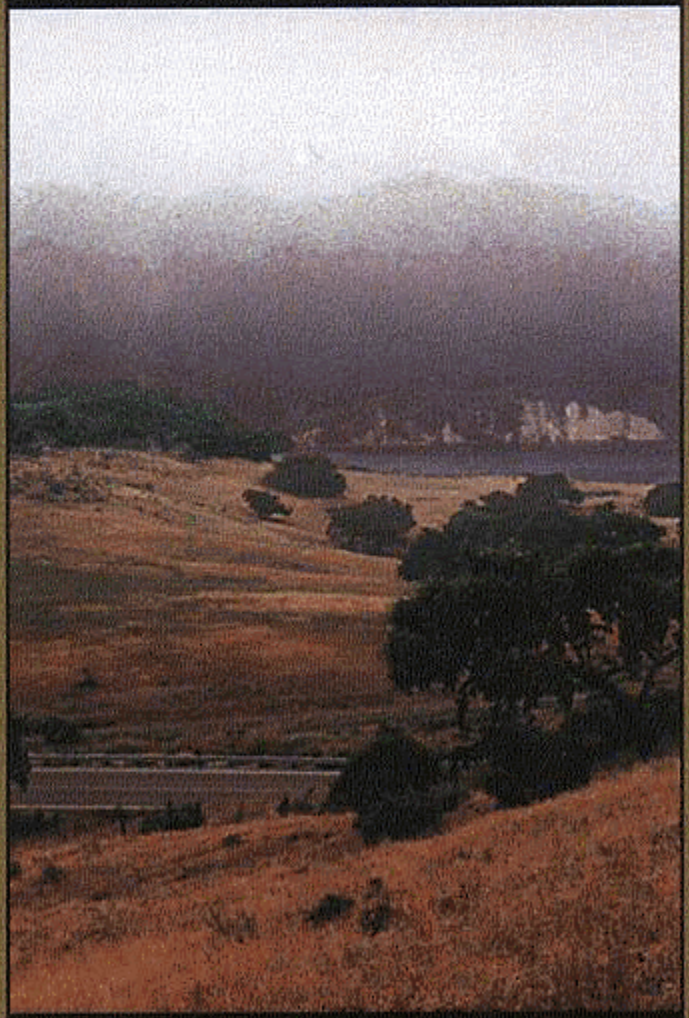
BIKES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

ATTACHMENT C

HIGHWAY 166
SAFETY CORRIDOR PAMPHLET

Drive for Your Life



On Highway 166

Highway 166 Safety Corridor

From January 1, 1995, to September 13, 1998, 20 people died and 299 people were injured on Highway 166 between the Highway 1 and the Kern County line.

We want you to Drive for Your Life on Highway 166.

That's why you'll see more CHP officers enforcing traffic laws and aiding motorists. You'll also see Caltrans improving the highway.

But traffic safety is a team effort.

Here are seven things you can do to keep yourself and others safe on Highway 166:

- Slow down.
- Pass with care and only in passing zones.
- Never drink and drive; always designate a driver.
- If you're tired, take a break.
- Be patient, and take your time.
- Always buckle up.
- Turn your lights on.

For updates on highway conditions, call 1-800-427-ROAD.

Highway 166 Safety Task Force Participants:

State Senator
Jack O'Connell

Assembly Member
Abel Maldonado

U.S. Representative
Lois Capps

Santa Barbara County Supervisor
Tom Urbanske

AT&T

Automobile Club of Southern California

California Highway Patrol

California Department of Transportation

California Trucking Association

Cellular One of San Luis Obispo

City of Guadalupe

City of Santa Maria

New Cuyama School District

Office of Traffic Safety

Santa Barbara County Association of

Transportation Quick Links

US DOT

Caltrans

District 5

District 5 Traffic

PROJECT CUESTA GRADE

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E-mail:Traffic Webmaster
with comments, complaints or questions.
Revised on 2/11/00

ATTACHMENT D
PASSENGER CAR EQUIVALENTS

Adjustment for heavy vehicles in the traffic stream applies to three types of vehicles: trucks, RVs, and buses. No evidence indicates any distinct differences in the performance characteristics of trucks and buses on multilane highways; therefore, buses are considered trucks in this method. Finding the heavy-vehicle adjustment factor requires two steps. First, find an equivalent truck factor (E_T) and RV factor (E_R) for prevailing operating conditions. Second, using E_T and E_R, compute an adjustment factor for all heavy vehicles in the traffic stream.

Extended General Highway Segments

Passenger-car equivalents can be selected for two conditions: extended general highway segments and specific grades. Values of passenger-car equivalents are selected from Exhibits 21-8 through 21-11. For long segments of highway in which no single grade has a significant impact on operations, Exhibit 21-8 is used to select passenger-car equivalents for trucks and buses (E_T) and for RVs (E_R).

EXHIBIT 21-8. PASSENGER-CAR EQUIVALENTS ON EXTENDED GENERAL HIGHWAY SEGMENTS

Factor	Type of Terrain		
	Level	Rolling	Mountainous
E_T (trucks and buses)	1.5	2.5	4.5
E_R (RVs)	1.2	2.0	4.0

A long multilane highway segment can be classified as an extended general highway segment if no grade exceeding 3 percent is longer than 0.5 mi and if grades of 3 percent or less do not exceed 1 mi.

Specific Grade

Any grade of 3 percent or less that is longer than 1 mi or a grade greater than 3 percent that is longer than 0.5 mi should be treated as an isolated, specific grade. In addition, the upgrade and downgrade must be treated separately, because the impact of heavy vehicles differs substantially in each.

Equivalents for Extended General Highway Segments

For an extended general segment analysis, the terrain of the highway must be classified as level, rolling, or mountainous. These three classifications are discussed below.

Level Terrain

Level terrain is any combination of horizontal and vertical alignment that permits heavy vehicles to maintain approximately the same speed as passenger cars. This type of terrain generally includes short grades of no more than 1 to 2 percent.

Rolling Terrain

Rolling terrain is any combination of horizontal and vertical alignment that causes heavy vehicles to reduce their speeds substantially below those of passenger cars. However, the terrain does not cause heavy vehicles to operate at crawl speeds for any significant length of time or at frequent intervals.

Mountainous Terrain

Mountainous terrain is any combination of horizontal and vertical alignment that causes heavy vehicles to operate at crawl speeds for significant distances or at frequent intervals. For these general highway segments, values of E_T and E_R are selected from Exhibit 21-8.

ATTACHMENT E

HIGHWAY CAPACITY SOFTWARE WORKSHEETS

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	lc	Intersection	#1
Agency/Co.	OTC, Inc	Jurisdiction	SLO CO
Date Performed	2/23/2012	Analysis Year	2012
Analysis Time Period	AM PEAK HOUR		

Project Description *GUADALUPE RESTORATION - OIL FILED REMEDIATION & ABANDONMENT*

East/West Street: *THORNBERRY PL*	North/South Street: *HWY 1*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	17	173	2	0	155	19
Peak-Hour Factor, PHF	0.74	0.74	0.74	0.75	0.75	0.75
Hourly Flow Rate, HFR (veh/h)	22	233	2	0	206	25
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2	0	3	3	0	1
Peak-Hour Factor, PHF	0.63	0.63	0.63	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	3	0	4	6	0	2
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	22	0		8			7	
C (m) (veh/h)	1349	1344		532			631	
v/c	0.02	0.00		0.02			0.01	
95% queue length	0.05	0.00		0.05			0.03	
Control Delay (s/veh)	7.7	7.7		11.9			10.8	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--	11.9			10.8		
Approach LOS	--	--	B			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	lc	Intersection	#1
Agency/Co.	OTC, Inc	Jurisdiction	SLO CO
Date Performed	5/11/2012	Analysis Year	EXISTING + PROJECT
Analysis Time Period	AM PEAK HOUR		

Project Description GUADALUPE RESTORATION - OIL FILED REMEDIATION & ABANDONMENT

East/West Street: THORNBERRY PL	North/South Street: HWY 1
Intersection Orientation: North-South	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	47	173	2	0	155	19
Peak-Hour Factor, PHF	0.74	0.74	0.74	0.75	0.75	0.75
Hourly Flow Rate, HFR (veh/h)	63	233	2	0	206	25
Percent Heavy Vehicles	43	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2	0	33	3	0	1
Peak-Hour Factor, PHF	0.63	0.63	0.63	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	3	0	52	6	0	2
Percent Heavy Vehicles	0	0	61	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	63	0		8			55	
C (m) (veh/h)	1129	1344		421			668	
v/c	0.06	0.00		0.02			0.08	
95% queue length	0.18	0.00		0.06			0.27	
Control Delay (s/veh)	8.4	7.7		13.7			10.9	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--	13.7			10.9		
Approach LOS	--	--	B			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	lc	Intersection	#1
Agency/Co.	OTC, Inc	Jurisdiction	SLO CO
Date Performed	5/11/12	Analysis Year	EXISTING
Analysis Time Period	EARLY PM PEAK HOUR		

Project Description *GUADALUPE RESTORATION - OIL FILED REMEDIATION & ABANDONMENT*

East/West Street: *THORNBERRY PL*	North/South Street: *HWY 1*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	2	109	1	1	272	1
Peak-Hour Factor, PHF	0.86	0.86	0.86	0.94	0.94	0.94
Hourly Flow Rate, HFR (veh/h)	2	126	1	1	289	1
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	11	0	29	1	0	1
Peak-Hour Factor, PHF	0.80	0.80	0.80	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	13	0	36	2	0	2
Percent Heavy Vehicles	7	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	2	1		4			49	
C (m) (veh/h)	1283	1472		655			678	
v/c	0.00	0.00		0.01			0.07	
95% queue length	0.00	0.00		0.02			0.23	
Control Delay (s/veh)	7.8	7.4		10.5			10.7	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--	10.5			10.7		
Approach LOS	--	--	B			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	lc	Intersection	#1
Agency/Co.	OTC, Inc	Jurisdiction	SLO CO
Date Performed	5/11/12	Analysis Year	EXISTING+PROJECT
Analysis Time Period	EARLY PM PEAK HOUR		

Project Description *GUADALUPE RESTORATION - OIL FILED REMEDIATION & ABANDONMENT*

East/West Street: *THORNBERRY PL*	North/South Street: *HWY 1*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	32	109	1	1	272	1
Peak-Hour Factor, PHF	0.86	0.86	0.86	0.94	0.94	0.94
Hourly Flow Rate, HFR (veh/h)	37	126	1	1	289	1
Percent Heavy Vehicles	94	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	11	0	59	1	0	1
Peak-Hour Factor, PHF	0.80	0.80	0.80	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	13	0	73	2	0	2
Percent Heavy Vehicles	7	0	51	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	37	1		4			86	
C (m) (veh/h)	888	1472		556			610	
v/c	0.04	0.00		0.01			0.14	
95% queue length	0.13	0.00		0.02			0.49	
Control Delay (s/veh)	9.2	7.4		11.5			11.9	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--	11.5			11.9		
Approach LOS	--	--	B			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	lc	Intersection	#1
Agency/Co.	OTC, Inc	Jurisdiction	SLO CO
Date Performed	2/23/2012	Analysis Year	EXISTING
Analysis Time Period	PM PEAK HOUR		

Project Description *GUADALUPE RESTORATION - OIL FILED REMEDIATION & ABANDONMENT*

East/West Street: *THORNBERRY PL*	North/South Street: *HWY 1*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	4	188	1	1	277	3
Peak-Hour Factor, PHF	0.86	0.86	0.86	0.94	0.94	0.94
Hourly Flow Rate, HFR (veh/h)	4	218	1	1	294	3
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	14	0	37	1	0	1
Peak-Hour Factor, PHF	0.80	0.80	0.80	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	17	0	46	2	0	2
Percent Heavy Vehicles	7	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	4	1		4			63	
C (m) (veh/h)	1276	1362		560			636	
v/c	0.00	0.00		0.01			0.10	
95% queue length	0.01	0.00		0.02			0.33	
Control Delay (s/veh)	7.8	7.6		11.5			11.3	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--	11.5			11.3		
Approach LOS	--	--	B			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	lc	Intersection	#1
Agency/Co.	OTC, Inc	Jurisdiction	SLO CO
Date Performed	5/11/2012	Analysis Year	EXISTING+PROJECT
Analysis Time Period	PM PEAK HOUR		

Project Description *GUADALUPE RESTORATION - OIL FILED REMEDIATION & ABANDONMENT*

East/West Street: *THORNBERRY PL*	North/South Street: *HWY 1*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	4	188	1	1	277	3
Peak-Hour Factor, PHF	0.86	0.86	0.86	0.94	0.94	0.94
Hourly Flow Rate, HFR (veh/h)	4	218	1	1	294	3
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	14	0	37	1	0	1
Peak-Hour Factor, PHF	0.80	0.80	0.80	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	17	0	46	2	0	2
Percent Heavy Vehicles	7	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	4	1		4			63	
C (m) (veh/h)	1276	1362		560			636	
v/c	0.00	0.00		0.01			0.10	
95% queue length	0.01	0.00		0.02			0.33	
Control Delay (s/veh)	7.8	7.6		11.5			11.3	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--	11.5			11.3		
Approach LOS	--	--	B			B		

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC, INC
Date Performed	4/30/2012
Analysis Time Period	AM PEAK HOUR

Site Information

Intersection	2
Jurisdiction	SB CO
Analysis Year	EXISTING

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HWY 166*

North/South Street: *HWY 1*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	58	238	22	18	132	59
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	25	29	14	95	63	59
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.80		0.67		0.68		0.89	
Flow Rate (veh/h)	396		311		98		242	
% Heavy Vehicles	6		3		4		1	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.2		0.1		0.4		0.4	
Prop. Right-Turns	0.1		0.3		0.2		0.3	
Prop. Heavy Vehicle	0.1		0.0		0.0		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.1		-0.1		0.0		-0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.35		0.28		0.09		0.22	
hd, final value (s)	5.65		5.60		6.52		6.07	
x, final value	0.62		0.48		0.18		0.41	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	3.6		3.6		4.5		4.1	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	612		561		348		492	
Delay (s/veh)	17.45		13.75		10.92		13.19	
LOS	C		B		B		B	
Approach: Delay (s/veh)	17.45		13.75		10.92		13.19	
LOS	C		B		B		B	
Intersection Delay (s/veh)	14.75							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC, INC
Date Performed	4/30/2012
Analysis Time Period	AM PEAK HOUR

Site Information

Intersection	2
Jurisdiction	SB CO
Analysis Year	EXISTING+PROJECT

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HWY 166*

North/South Street: *HWY 1*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	58	238	22	18	132	89
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	25	29	14	125	63	59
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.80		0.67		0.68		0.89	
Flow Rate (veh/h)	396		355		98		276	
% Heavy Vehicles	6		11		4		3	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.2		0.1		0.4		0.5	
Prop. Right-Turns	0.1		0.4		0.2		0.2	
Prop. Heavy Vehicle	0.1		0.1		0.0		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.1		-0.0		0.0		0.0	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.35		0.32		0.09		0.25	
hd, final value (s)	5.97		5.93		6.93		6.39	
x, final value	0.66		0.59		0.19		0.49	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	4.0		3.9		4.9		4.4	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	578		575		348		514	
Delay (s/veh)	19.63		16.95		11.54		15.38	
LOS	C		C		B		C	
Approach: Delay (s/veh)	19.63		16.95		11.54		15.38	
LOS	C		C		B		C	
Intersection Delay (s/veh)	17.04							
Intersection LOS	C							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC, INC
Date Performed	4/30/2012
Analysis Time Period	MID DAY PEAK HOUR

Site Information

Intersection	2
Jurisdiction	SB CO
Analysis Year	EXISTING

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HWY 166*

North/South Street: *HWY 1*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	60	102	20	14	105	84
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	26	39	12	90	50	51
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.79		0.86		0.83		0.92	
Flow Rate (veh/h)	229		235		91		206	
% Heavy Vehicles	17		8		7		9	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.3		0.1		0.3		0.5	
Prop. Right-Turns	0.1		0.4		0.2		0.3	
Prop. Heavy Vehicle	0.2		0.1		0.1		0.1	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.3		-0.1		0.1		0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.20		0.21		0.08		0.18	
hd, final value (s)	5.38		5.01		5.60		5.38	
x, final value	0.34		0.33		0.14		0.31	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	3.4		3.0		3.6		3.4	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	479		485		341		456	
Delay (s/veh)	11.16		10.42		9.52		10.76	
LOS	B		B		A		B	
Approach: Delay (s/veh)	11.16		10.42		9.52		10.76	
LOS	B		B		A		B	
Intersection Delay (s/veh)	10.63							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC, INC
Date Performed	4/30/2012
Analysis Time Period	MID DAY PEAK HOUR

Site Information

Intersection	2
Jurisdiction	SB CO
Analysis Year	EXISTING+PROJECT

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HWY 166*

North/South Street: *HWY 1*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	60	102	20	14	105	114
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	26	39	12	120	50	51
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.79		0.86		0.83		0.92	
Flow Rate (veh/h)	229		270		91		239	
% Heavy Vehicles	17		16		7		17	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.3		0.1		0.3		0.5	
Prop. Right-Turns	0.1		0.5		0.2		0.2	
Prop. Heavy Vehicle	0.2		0.2		0.1		0.2	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.3		-0.0		0.1		0.3	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.20		0.24		0.08		0.21	
hd, final value (s)	5.62		5.28		5.86		5.72	
x, final value	0.36		0.40		0.15		0.38	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	3.6		3.3		3.9		3.7	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	479		520		341		489	
Delay (s/veh)	11.71		11.69		9.87		12.18	
LOS	B		B		A		B	
Approach: Delay (s/veh)	11.71		11.69		9.87		12.18	
LOS	B		B		A		B	
Intersection Delay (s/veh)	11.64							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC, INC
Date Performed	5/2/2012
Analysis Time Period	Early PM PEAK HOUR

Site Information

Intersection	2
Jurisdiction	SB CO
Analysis Year	EXISTING

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HWY 166*

North/South Street: *HWY 1*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	39	119	21	11	145	99
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	24	50	9	77	51	40
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.83		0.83		0.65		0.85	
Flow Rate (veh/h)	214		306		125		196	
% Heavy Vehicles	4		9		20		8	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.2		0.0		0.3		0.5	
Prop. Right-Turns	0.1		0.4		0.1		0.2	
Prop. Heavy Vehicle	0.0		0.1		0.2		0.1	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.0		-0.1		0.3		0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.19		0.27		0.11		0.17	
hd, final value (s)	5.39		5.14		6.01		5.63	
x, final value	0.32		0.44		0.21		0.31	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	3.4		3.1		4.0		3.6	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	464		556		375		446	
Delay (s/veh)	10.90		12.07		10.60		11.10	
LOS	B		B		B		B	
Approach: Delay (s/veh)	10.90		12.07		10.60		11.10	
LOS	B		B		B		B	
Intersection Delay (s/veh)	11.33							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC, INC
Date Performed	5/2/2012
Analysis Time Period	Early PM PEAK HOUR

Site Information

Intersection	2
Jurisdiction	SB CO
Analysis Year	EXISTING+ PROJECT

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HWY 166*

North/South Street: *HWY 1*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	39	119	21	11	145	129
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	24	50	9	107	51	40
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.83		0.83		0.65		0.85	
Flow Rate (veh/h)	214		342		125		231	
% Heavy Vehicles	4		17		20		15	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.2		0.0		0.3		0.5	
Prop. Right-Turns	0.1		0.5		0.1		0.2	
Prop. Heavy Vehicle	0.0		0.2		0.2		0.1	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.0		0.0		0.3		0.2	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.19		0.30		0.11		0.21	
hd, final value (s)	5.66		5.43		6.31		5.98	
x, final value	0.34		0.52		0.22		0.38	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	3.7		3.4		4.3		4.0	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	464		592		375		481	
Delay (s/veh)	11.51		14.08		11.07		12.66	
LOS	B		B		B		B	
Approach: Delay (s/veh)	11.51		14.08		11.07		12.66	
LOS	B		B		B		B	
Intersection Delay (s/veh)	12.71							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC, INC
Date Performed	4/30/2012
Analysis Time Period	PM PEAK HOUR

Site Information

Intersection	2
Jurisdiction	SB CO
Analysis Year	EXISTING

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HWY 166*

North/South Street: *HWY 1*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	51	176	27	11	207	141
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	44	86	16	86	53	105
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.85		0.81		0.78		0.88	
Flow Rate (veh/h)	297		442		186		276	
% Heavy Vehicles	5		4		10		6	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.2		0.0		0.3		0.4	
Prop. Right-Turns	0.1		0.4		0.1		0.4	
Prop. Heavy Vehicle	0.0		0.0		0.1		0.1	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.1		-0.2		0.2		-0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.26		0.39		0.17		0.25	
hd, final value (s)	6.62		6.10		7.24		6.72	
x, final value	0.55		0.75		0.37		0.52	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	4.6		4.1		5.2		4.7	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	499		567		420		479	
Delay (s/veh)	17.29		25.06		14.50		16.66	
LOS	C		D		B		C	
Approach: Delay (s/veh)	17.29		25.06		14.50		16.66	
LOS	C		D		B		C	
Intersection Delay (s/veh)	19.57							
Intersection LOS	C							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC, INC
Date Performed	4/30/2012
Analysis Time Period	PM PEAK HOUR

Site Information

Intersection	2
Jurisdiction	SB CO
Analysis Year	EXISTING+PROJECT

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HWY 166*

North/South Street: *HWY 1*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	51	176	27	11	207	141
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	44	86	16	86	53	105
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.85		0.81		0.78		0.88	
Flow Rate (veh/h)	297		442		186		276	
% Heavy Vehicles	5		4		10		6	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.2		0.0		0.3		0.4	
Prop. Right-Turns	0.1		0.4		0.1		0.4	
Prop. Heavy Vehicle	0.0		0.0		0.1		0.1	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.1		-0.2		0.2		-0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.26		0.39		0.17		0.25	
hd, final value (s)	6.62		6.10		7.24		6.72	
x, final value	0.55		0.75		0.37		0.52	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	4.6		4.1		5.2		4.7	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	499		567		420		479	
Delay (s/veh)	17.29		25.06		14.50		16.66	
LOS	C		D		B		C	
Approach: Delay (s/veh)	17.29		25.06		14.50		16.66	
LOS	C		D		B		C	
Intersection Delay (s/veh)	19.57							
Intersection LOS	C							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC INC
Date Performed	4/30/2012
Analysis Time Period	AM PEAK HOUR

Site Information

Intersection	3
Jurisdiction	SB CO
Analysis Year	EXISTING

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HIGHWAY 166*

North/South Street: *SIMAS ROAD*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	1	166	121	7	124	40
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	38	30	7	75	55	2
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.73		0.74		0.69		0.87	
Flow Rate (veh/h)	393		230		108		151	
% Heavy Vehicles	25		11		1		3	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.0		0.5		0.6	
Prop. Right-Turns	0.4		0.2		0.1		0.0	
Prop. Heavy Vehicle	0.3		0.1		0.0		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.2		0.1		0.1		0.2	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.35		0.20		0.10		0.13	
hd, final value (s)	5.24		5.36		5.96		5.96	
x, final value	0.57		0.34		0.18		0.25	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	3.2		3.4		4.0		4.0	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	643		480		358		401	
Delay (s/veh)	15.01		11.13		10.26		10.93	
LOS	C		B		B		B	
Approach: Delay (s/veh)	15.01		11.13		10.26		10.93	
LOS	C		B		B		B	
Intersection Delay (s/veh)	12.72							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC INC
Date Performed	4/30/2012
Analysis Time Period	AM PEAK HOUR

Site Information

Intersection	3
Jurisdiction	SB CO
Analysis Year	EXISTING+ PROJECT

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HIGHWAY 166*

North/South Street: *SIMAS ROAD*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	1	166	151	7	124	40
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	68	30	7	75	55	2
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.73		0.74		0.69		0.87	
Flow Rate (veh/h)	434		230		151		151	
% Heavy Vehicles	37		11		7		3	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.0		0.6		0.6	
Prop. Right-Turns	0.5		0.2		0.1		0.0	
Prop. Heavy Vehicle	0.4		0.1		0.1		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.3		0.1		0.2		0.2	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.39		0.20		0.13		0.13	
hd, final value (s)	5.65		5.71		6.38		6.33	
x, final value	0.68		0.36		0.27		0.27	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	3.6		3.7		4.4		4.3	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	620		480		401		401	
Delay (s/veh)	19.83		11.96		11.70		11.61	
LOS	C		B		B		B	
Approach: Delay (s/veh)	19.83		11.96		11.70		11.61	
LOS	C		B		B		B	
Intersection Delay (s/veh)	15.40							
Intersection LOS	C							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC INC
Date Performed	4/30/2012
Analysis Time Period	EARLY PM PEAK HOUR

Site Information

Intersection	3
Jurisdiction	SB CO
Analysis Year	EXISTING

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HIGHWAY 166*

North/South Street: *SIMAS ROAD*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	4	139	45	13	143	52
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	78	37	14	122	47	2
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.94		0.79		0.78		0.78	
Flow Rate (veh/h)	198		262		164		218	
% Heavy Vehicles	18		15		16		5	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.1		0.6		0.7	
Prop. Right-Turns	0.2		0.2		0.1		0.0	
Prop. Heavy Vehicle	0.2		0.1		0.2		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.2		0.1		0.3		0.2	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.18		0.23		0.15		0.19	
hd, final value (s)	5.70		5.54		5.99		5.78	
x, final value	0.31		0.40		0.27		0.35	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	3.7		3.5		4.0		3.8	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	448		512		414		468	
Delay (s/veh)	11.27		12.23		11.21		11.85	
LOS	B		B		B		B	
Approach: Delay (s/veh)	11.27		12.23		11.21		11.85	
LOS	B		B		B		B	
Intersection Delay (s/veh)	11.71							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC INC
Date Performed	4/30/2012
Analysis Time Period	EARLY PM PEAK HOUR

Site Information

Intersection	3
Jurisdiction	SB CO
Analysis Year	EXISTING+PROJECT

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HIGHWAY 166*

North/South Street: *SIMAS ROAD*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	4	139	75	13	143	52
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	108	37	14	122	47	2
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.94		0.79		0.78		0.78	
Flow Rate (veh/h)	230		262		202		218	
% Heavy Vehicles	19		15		17		5	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.1		0.7		0.7	
Prop. Right-Turns	0.3		0.2		0.1		0.0	
Prop. Heavy Vehicle	0.2		0.1		0.2		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.1		0.1		0.4		0.2	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.20		0.23		0.18		0.19	
hd, final value (s)	5.85		5.79		6.21		6.03	
x, final value	0.37		0.42		0.35		0.37	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	3.9		3.8		4.2		4.0	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	480		512		452		468	
Delay (s/veh)	12.31		12.95		12.48		12.45	
LOS	B		B		B		B	
Approach: Delay (s/veh)	12.31		12.95		12.48		12.45	
LOS	B		B		B		B	
Intersection Delay (s/veh)	12.57							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC INC
Date Performed	4/30/2012
Analysis Time Period	PM PEAK HOUR

Site Information

Intersection	3
Jurisdiction	SB CO
Analysis Year	EXISTING

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HIGHWAY 166* | North/South Street: *SIMAS ROAD*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	5	205	58	13	204	74
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	143	64	25	136	48	5
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.94		0.79		0.78		0.78	
Flow Rate (veh/h)	284		367		297		241	
% Heavy Vehicles	12		15		8		5	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.0		0.6		0.7	
Prop. Right-Turns	0.2		0.3		0.1		0.0	
Prop. Heavy Vehicle	0.1		0.1		0.1		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.1		0.1		0.2		0.2	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.25		0.33		0.26		0.21	
hd, final value (s)	6.97		6.78		7.11		7.31	
x, final value	0.55		0.69		0.59		0.49	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	5.0		4.8		5.1		5.3	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	468		501		462		434	
Delay (s/veh)	18.18		23.62		19.72		17.10	
LOS	C		C		C		C	
Approach: Delay (s/veh)	18.18		23.62		19.72		17.10	
LOS	C		C		C		C	
Intersection Delay (s/veh)	20.02							
Intersection LOS	C							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	LC
Agency/Co.	OTC INC
Date Performed	4/30/2012
Analysis Time Period	PM PEAK HOUR

Site Information

Intersection	3
Jurisdiction	SB CO
Analysis Year	EXISTING+PROJECT

Project ID *GUADALUPE RESTORATION - OIL FIELD REMEDIATION & ABANDONMENT*

East/West Street: *HIGHWAY 166*

North/South Street: *SIMAS ROAD*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	5	205	58	13	204	74
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	143	64	25	136	48	5
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.94		0.79		0.78		0.78	
Flow Rate (veh/h)	284		367		297		241	
% Heavy Vehicles	12		15		8		5	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.0		0.6		0.7	
Prop. Right-Turns	0.2		0.3		0.1		0.0	
Prop. Heavy Vehicle	0.1		0.1		0.1		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.1		0.1		0.2		0.2	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.25		0.33		0.26		0.21	
hd, final value (s)	6.97		6.78		7.11		7.31	
x, final value	0.55		0.69		0.59		0.49	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	5.0		4.8		5.1		5.3	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	468		501		462		434	
Delay (s/veh)	18.18		23.62		19.72		17.10	
LOS	C		C		C		C	
Approach: Delay (s/veh)	18.18		23.62		19.72		17.10	
LOS	C		C		C		C	
Intersection Delay (s/veh)	20.02							
Intersection LOS	C							

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ATTACHMENT F

SIGNAL WARRANT WORKSHEETS

Warrants Summary Report

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant	Met?	Notes
Warrant 1, Eight-Hour Vehicular Volume		
	Yes	
Condition A or B Met?	Yes	10 Hours met (8 required)
Condition A and B Met?	No	6 Hours met (8 required)
Warrant 2, Four-Hour Vehicular Volume		
	Yes	11 Hours met (4 required)
Warrant 3, Peak Hour		
	Yes	
Condition A Met?	No	0 Hours met (1 required)
Condition B Met?	Yes	3 Hours met (1 required)
Warrant 4, Pedestrian Volume		
	No	
Peds > 100 Condition Met?	No	0 Hours met (4 required)
Peds > 190 Condition Met?	No	0 Hours met (1 required)

Intersection Information:

	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant	Met?	Notes
Warrant 5, School Crossing		
	No	
Warrant 6, Coordinated Signal System		
	No	
Warrant 7, Crash Experience		
	No	
Traffic Volume Condition?	No	0 Hours met (8 required)
Ped Condition?	Yes	12 Hours met (8 required)
Warrant 8, Roadway Network		
	Yes	
BicycleWarrant		
	No	0 Hours met (1 required)

Warrant 1: Eight-hour Vehicular Volume

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Warrant 1 Met? **Yes**

Details:

Condition A or B Met?	**Yes**	10 Hours met (8 required)
Condition A and B Met?	**No**	6 Hours met (8 required)

Hour	Major Street Vehicles (total of both approaches)	Condition A		Condition B			Condition A		Condition B		70% Standard Met? Cond. A OR Cond. B		56% Standard Met? Cond. A AND Cond. B	
		Volume >= 70% column (350)?	Volume >= 56% column (280)?	Volume >= 70% column (525)?	Volume >= 56% column (420)?	High-volume Minor Approach Vehicles	Volume >= 70% column (105)?	Volume >= 56% column (84)?	Volume >= 70% column (53)?	Volume >= 56% column (42)?	Condition A 70% Column	Condition B 70% Column	Condition A 56% Column	Condition B 56% Column
06:00 to 07:00	424	Yes	Yes	No	Yes	178	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
06:15 to 07:15	434	Yes	Yes	No	Yes	180	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
06:30 to 07:30	442	Yes	Yes	No	Yes	182	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
06:45 to 07:45	429	Yes	Yes	No	Yes	198	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
07:00 to 08:00	448	Yes	Yes	No	Yes	219	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
07:15 to 08:15	520	Yes	Yes	No	Yes	246	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
07:30 to 08:30	527	Yes	Yes	Yes	Yes	247	Yes	Yes	Yes	Yes	Yes	Yes*	Yes	Yes
07:45 to 08:45	439	Yes	Yes	No	Yes	204	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
08:00 to 09:00	391	Yes	Yes	No	No	193	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
08:15 to 09:15	281	No	Yes	No	No	155	Yes	Yes	Yes	Yes	No	No	Yes	No

08:30 to 09:30	238	No	No	No	No	149	Yes	Yes	Yes	Yes	No	No	No	No
08:45 to 09:45	271	No	No	No	No	165	Yes	Yes	Yes	Yes	No	No	No	No
09:00 to 10:00	272	No	No	No	No	172	Yes	Yes	Yes	Yes	No	No	No	No
09:15 to 10:15	271	No	No	No	No	185	Yes	Yes	Yes	Yes	No	No	No	No
09:30 to 10:30	280	No	Yes	No	No	186	Yes	Yes	Yes	Yes	No	No	Yes	No
09:45 to 10:45	282	No	Yes	No	No	192	Yes	Yes	Yes	Yes	No	No	Yes	No
10:00 to 11:00	275	No	No	No	No	180	Yes	Yes	Yes	Yes	No	No	No	No
10:15 to 11:15	303	No	Yes	No	No	194	Yes	Yes	Yes	Yes	No	No	Yes	No
10:30 to 11:30	324	No	Yes	No	No	208	Yes	Yes	Yes	Yes	No	No	Yes	No
10:45 to 11:45	343	No	Yes	No	No	214	Yes	Yes	Yes	Yes	No	No	Yes	No
11:00 to 12:00	349	No	Yes	No	No	210	Yes	Yes	Yes	Yes	No	No	Yes	No
11:15 to 12:15	358	Yes	Yes	No	No	202	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
11:30 to 12:30	349	No	Yes	No	No	202	Yes	Yes	Yes	Yes	No	No	Yes	No
11:45 to 12:45	348	No	Yes	No	No	208	Yes	Yes	Yes	Yes	No	No	Yes	No
12:00 to 13:00	385	Yes	Yes	No	No	221	Yes	Yes	Yes	Yes	Yes	No	Yes	No
12:15 to 13:15	376	Yes	Yes	No	No	217	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
12:30 to 13:30	364	Yes	Yes	No	No	214	Yes	Yes	Yes	Yes	Yes	No	Yes	No
12:45 to 13:45	373	Yes	Yes	No	No	209	Yes	Yes	Yes	Yes	Yes	No	Yes	No
13:00 to 14:00	372	Yes	Yes	No	No	203	Yes	Yes	Yes	Yes	Yes	No	Yes	No
13:15 to 14:15	348	No	Yes	No	No	223	Yes	Yes	Yes	Yes	No	No	Yes	No
13:30 to 14:30	396	Yes	Yes	No	No	221	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
13:45 to 14:45	383	Yes	Yes	No	No	219	Yes	Yes	Yes	Yes	Yes	No	Yes	No
14:00 to 15:00	394	Yes	Yes	No	No	214	Yes	Yes	Yes	Yes	Yes	No	Yes	No
14:15 to 15:15	443	Yes	Yes	No	Yes	196	Yes	Yes	Yes	Yes	Yes	No	Yes*	Yes*
14:30 to 15:30	434	Yes	Yes	No	Yes	199	Yes	Yes	Yes	Yes	Yes*	No	Yes	Yes
14:45 to 15:45	440	Yes	Yes	No	Yes	196	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
15:00 to 16:00	421	Yes	Yes	No	Yes	208	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
15:15 to 16:15	423	Yes	Yes	No	Yes	213	Yes	Yes	Yes	Yes	Yes	No	Yes*	Yes*

15:30 to 16:30	429	Yes	Yes	No	Yes	194	Yes	Yes	Yes	Yes	Yes*	No	Yes	Yes
15:45 to 16:45	454	Yes	Yes	No	Yes	198	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
16:00 to 17:00	480	Yes	Yes	No	Yes	206	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
16:15 to 17:15	537	Yes	Yes	Yes	Yes	210	Yes	Yes	Yes	Yes	Yes	Yes*	Yes*	Yes*
16:30 to 17:30	548	Yes	Yes	Yes	Yes	240	Yes	Yes	Yes	Yes	Yes*	Yes	Yes	Yes
16:45 to 17:45	613	Yes	Yes	Yes	Yes	244	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17:00 to 18:00	613	Yes	Yes	Yes	Yes	231	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17:15 to 18:15	574	Yes	Yes	Yes	Yes	235	Yes	Yes	Yes	Yes	Yes	Yes*	Yes*	Yes*
17:30 to 18:30	576	Yes	Yes	Yes	Yes	220	Yes	Yes	Yes	Yes	Yes*	Yes	Yes	Yes
17:45 to 18:45	505	Yes	Yes	No	Yes	206	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
18:00 to 19:00	436	Yes	Yes	No	Yes	176	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
18:15 to 19:15	297	No	Yes	No	No	116	Yes	Yes	Yes	Yes	No	No	Yes	No
18:30 to 19:30	170	No	No	No	No	62	No	No	Yes	Yes	No	No	No	No
18:45 to 19:45	57	No	No	No	No	21	No	No	No	No	No	No	No	No

Warrant 2: Four-hour Vehicular Volume

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information

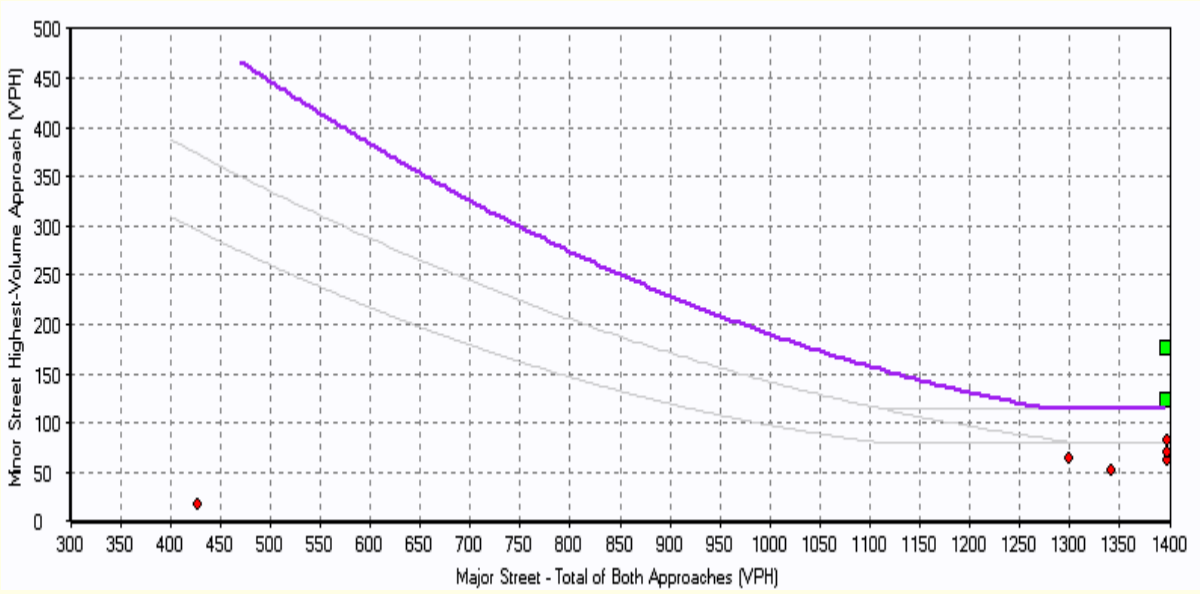
	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant 2 Met? **Yes**

Details:

Notes: 11 Hours met (4 required)

Low Population? **Yes**



Hourly Volumes		
Hour	Major Street Total of both approaches (VPH)	Minor Street Highest volume approach (VPH)
00:00:00 - 01:00:00	0.00	0.00
01:00:00 - 02:00:00	0.00	0.00
02:00:00 - 03:00:00	0.00	0.00
03:00:00 - 04:00:00	0.00	0.00
04:00:00 - 05:00:00	0.00	0.00
05:00:00 - 06:00:00	0.00	0.00
06:00:00 - 07:00:00	424.00	178.00
07:00:00 - 08:00:00	448.00	219.00
08:00:00 - 09:00:00	391.00	193.00
09:00:00 - 10:00:00	272.00	172.00
10:00:00 - 11:00:00	275.00	180.00
11:00:00 - 12:00:00	349.00	210.00
12:00:00 - 13:00:00	385.00	221.00
13:00:00 - 14:00:00	372.00	203.00
14:00:00 - 15:00:00	394.00	214.00
15:00:00 - 16:00:00	421.00	208.00
16:00:00 - 17:00:00	480.00	206.00
17:00:00 - 18:00:00	613.00	231.00
18:00:00 - 19:00:00	436.00	176.00
19:00:00 - 20:00:00	0.00	0.00
20:00:00 - 21:00:00	0.00	0.00
21:00:00 - 22:00:00	0.00	0.00
22:00:00 - 23:00:00	0.00	0.00
23:00:00 - 00:00:00	0.00	0.00

Warranted Hours

Hour	Major Street Total of both approaches (VPH)	Minor Street Highest volume approach (VPH)
06:00:00 - 07:00:00	424.00	178.00
07:00:00 - 08:00:00	448.00	219.00
08:00:00 - 09:00:00	391.00	193.00

Note: Only data of hours warranted is represented in the above table.

Warrant 3: Peak Hour

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

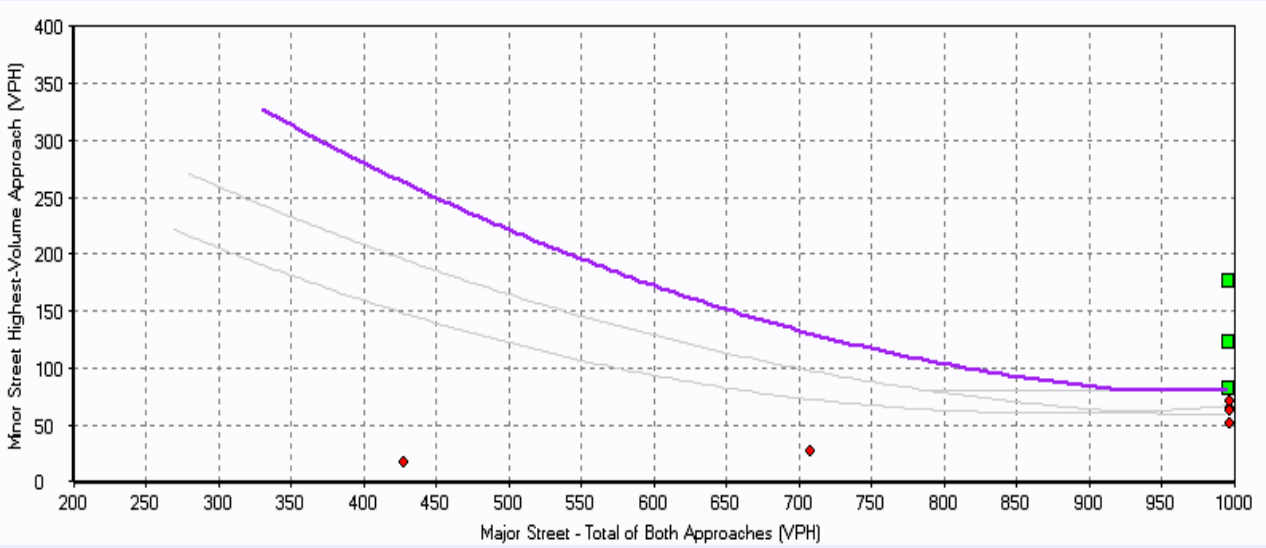
	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant 3 Met? **Yes**

Details:

Low Population?	Yes
Condition A Met?	No
Notes:	0 Hours met (1 required)
Minor Approach Time Delay Condition	Not Met
Minor Approach Volume Condition	Met
Total Entering Intersection Volume Condition	Not Met
Condition B Met?	Yes
Notes:	3 Hours met (1 required)

Warrant 3



Note: Please turn over for volume information.

Warranted / Unwarranted

Hour	Major Street Total of both approaches (VPH)	Minor Street Highest volume approach (VPH)
6:00	424	178
7:00	448	219
7:15	520	246
8:15	281	155
9:15	271	185
10:15	303	194
11:15	358	202
12:15	376	217
13:15	348	223
14:15	443	196
15:15	423	213
16:15	537	210
17:15	574	235
18:15	297	116

Warrant 4: Pedestrian Volume

2: HIGHWAY 1 & HIGHWAY 166

Intersetion Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Median Refuge	Yes
Pedestrian Speed	4.00

Warrant 4 Met? **No**

Details:

Low Ped Volume Hours Met: 0 (4 Required)

High Ped Volume Hours Met: 0 (1 Required)

Hour	Northbound Ped Volume					Southbound Ped Volume				
	Peds	Gaps	Gaps < 60?	Peds >= 100?	Peds >= 190?	Peds	Gaps	Gaps < 60?	Peds >= 100?	Peds >= 190?
06:00 to 07:00	0					0				
06:15 to 07:15	0					0				
06:30 to 07:30	0					0				
06:45 to 07:45	0					0				
07:00 to 08:00	0					0				
07:15 to 08:15	0					0				
07:30 to 08:30	0					0				
07:45 to 08:45	0					0				
08:00 to 09:00	0					0				

08:15 to 09:15	0		0	
08:30 to 09:30	0		0	
08:45 to 09:45	0		0	
09:00 to 10:00	0		0	
09:15 to 10:15	0		0	
09:30 to 10:30	0		0	
09:45 to 10:45	0		0	
10:00 to 11:00	0		0	
10:15 to 11:15	0		0	
10:30 to 11:30	0		0	
10:45 to 11:45	0		0	
11:00 to 12:00	0		0	
11:15 to 12:15	0		0	
11:30 to 12:30	0		0	
11:45 to 12:45	0		0	
12:00 to 13:00	0		0	
12:15 to 13:15	0		0	
12:30 to 13:30	0		0	
12:45 to 13:45	0		0	
13:00 to 14:00	0		0	
13:15 to 14:15	0		0	
13:30 to 14:30	0		0	
13:45 to 14:45	0		0	
14:00 to 15:00	0		0	
14:15 to 15:15	0		0	
14:30 to 15:30	0		0	
14:45 to 15:45	0		0	
15:00 to 16:00	0		0	

15:15 to 16:15	0		0	
15:30 to 16:30	0		0	
15:45 to 16:45	0		0	
16:00 to 17:00	0		0	
16:15 to 17:15	0		0	
16:30 to 17:30	0		0	
16:45 to 17:45	0		0	
17:00 to 18:00	0		0	
17:15 to 18:15	0		0	
17:30 to 18:30	0		0	
17:45 to 18:45	0		0	
18:00 to 19:00	0		0	
18:15 to 19:15	0		0	
18:30 to 19:30	0		0	
18:45 to 19:45	0		0	

Warrant 5: School Crossing

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB

Warrant 5 Met? **No**

Details:

Time Period Interval for Students Crossing (min)	**0**
Number of Students Crossing in Time Period	**16**
Number of Adequate Gaps in Time Period	**0**
Other Remedial Measures Attempted?	**No**
Adjacent Signal on EB approach?	**No**
Distance to signal on EB Approach (ft)	-
Adjacent Signal on WB approach?	**No**
Distance to signal on WB Approach (ft)	-
Will New Signal Restrict Progressive Traffic?	**No**

Warrant 6: Coordinated Signal System

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB

Warrant 6 Met? **No**

Details:

Approach Dir/Name	Acceptable Platooning?	Adjacent Coordinating Signal?	Adjacent Intersection Distance
EB Approach (HIGHWAY 166)	Yes	No	N/A
WB Approach (HIGHWAY 166)	Yes	No	N/A
NB Approach (HIGHWAY 1)	Yes	No	N/A
SB Approach (HIGHWAY 1)	Yes	No	N/A

Unacceptable Platooning? (At least one approach)	**Distance to Closest Signal** (Must be N/A or >= 1000)
No	**N/A**

Warrant 7: Crash Experience

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Warrant 7 Met? **No**

Details:

Low Population?	**Yes**	
Major Street Speed Limit	**45**	
Major Street 85th-Percentile Speed	**0.00**	
Qualifying Crashes	**2**	
Adequate Alternative Trials?	**No**	
Traffic Volume Condition Met?	**Yes**	12 Hours Met (8 Required)
Ped Volume Condition Met?	**No**	0 Hours Met (8 Required)

Hour	Traffic Volumes				Pedestrian Volumes			
			56% Standard Met? A OR B		Northbound Ped Volumes		Southbound Ped Volumes	
	Major Street Vehicles	Minor Street Vehicles	Condition A	Condition B	Peds	> 80?	Peds	> 80?
06:00 to 07:00	424	0	No	No	0	No	0	No
06:15 to 07:15	434	0	No	No	0	No	0	No
06:30 to 07:30	442	0	No	No	0	No	0	No
06:45 to 07:45	429	0	No	No	0	No	0	No
07:00 to 08:00	448	0	No	No	0	No	0	No
07:15 to 08:15	520	0	No	No	0	No	0	No
07:30 to 08:30	527	0	No	No	0	No	0	No
07:45 to 08:45	439	0	No	No	0	No	0	No

08:00 to 09:00	391	0	No	No	0	No	0	No
08:15 to 09:15	281	0	No	No	0	No	0	No
08:30 to 09:30	238	0	No	No	0	No	0	No
08:45 to 09:45	271	0	No	No	0	No	0	No
09:00 to 10:00	272	0	No	No	0	No	0	No
09:15 to 10:15	271	0	No	No	0	No	0	No
09:30 to 10:30	280	0	No	No	0	No	0	No
09:45 to 10:45	282	0	No	No	0	No	0	No
10:00 to 11:00	275	0	No	No	0	No	0	No
10:15 to 11:15	303	0	No	No	0	No	0	No
10:30 to 11:30	324	0	No	No	0	No	0	No
10:45 to 11:45	343	0	No	No	0	No	0	No
11:00 to 12:00	349	0	No	No	0	No	0	No
11:15 to 12:15	358	0	No	No	0	No	0	No
11:30 to 12:30	349	0	No	No	0	No	0	No
11:45 to 12:45	348	0	No	No	0	No	0	No
12:00 to 13:00	385	0	No	No	0	No	0	No
12:15 to 13:15	376	0	No	No	0	No	0	No
12:30 to 13:30	364	0	No	No	0	No	0	No
12:45 to 13:45	373	0	No	No	0	No	0	No
13:00 to 14:00	372	0	No	No	0	No	0	No
13:15 to 14:15	348	0	No	No	0	No	0	No
13:30 to 14:30	396	0	No	No	0	No	0	No
13:45 to 14:45	383	0	No	No	0	No	0	No
14:00 to 15:00	394	0	No	No	0	No	0	No
14:15 to 15:15	443	0	No	No	0	No	0	No
14:30 to 15:30	434	0	No	No	0	No	0	No

14:45 to 15:45	440	0	No	No	0	No	0	No
15:00 to 16:00	421	0	No	No	0	No	0	No
15:15 to 16:15	423	0	No	No	0	No	0	No
15:30 to 16:30	429	0	No	No	0	No	0	No
15:45 to 16:45	454	0	No	No	0	No	0	No
16:00 to 17:00	480	0	No	No	0	No	0	No
16:15 to 17:15	537	0	No	No	0	No	0	No
16:30 to 17:30	548	0	No	No	0	No	0	No
16:45 to 17:45	613	0	No	No	0	No	0	No
17:00 to 18:00	613	0	No	No	0	No	0	No
17:15 to 18:15	574	0	No	No	0	No	0	No
17:30 to 18:30	576	0	No	No	0	No	0	No
17:45 to 18:45	505	0	No	No	0	No	0	No
18:00 to 19:00	436	0	No	No	0	No	0	No
18:15 to 19:15	297	0	No	No	0	No	0	No
18:30 to 19:30	170	0	No	No	0	No	0	No
18:45 to 19:45	57	0	No	No	0	No	0	No

Warrant 8: Roadway Network

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Warrant 8 Met? (A or B) **Yes**

Details:

Growth Rates (per year)

NB		SB		EB		WB	
L	2.00%	L	2.00%	L	2.00%	L	2.00%
T	2.00%	T	2.00%	T	2.00%	T	2.00%
R	2.00%	R	2.00%	R	2.00%	R	2.00%

Condition A, Total Entering Volume		Condition B, Non-normal Business Day	
Existing Peak Hour	1003	**Existing**	
Years	0.00	**Highest Hour**	0
Future Peak Hour	1003	**Second Highest Hour**	0
Warrant 1 in 5 Years?	Yes	**Third Highest Hour**	0
Warrant 2 in 5 Years?	Yes	**Fourth Highest Hour**	0
Warrant 3 in 5 Years?	Yes	**Fifth Highest Hour**	0
		Yearly Growth Rate	0.00%
		Years	0.00
		Future	
		Highest Hour	0
		Second Highest Hour	0
		Third Highest Hour	0
		Fourth Highest Hour	0
		Fifth Highest Hour	0

Condition A Met? **Yes** Condition B Met? **No**

Bicycle Warrant
2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Bicycle Warrant Met? **No**

Details:

Collision (two or more counts)	**0**
Geometric Path	**No**
Volume Condition Met?	**No** No hour met

Title:

Hour	Traffic Volumes	Bicycle Volumes	Condition	
	Vehicles entering the Intersection	Bicycles entering the Intersection (B)	B * V > 50000?	B >=50?
06:00 to 07:00	660	0	No	No
06:15 to 07:15	673	0	No	No
06:30 to 07:30	675	0	No	No
06:45 to 07:45	679	2	No	No
07:00 to 08:00	725	5	No	No
07:15 to 08:15	832	6	No	No
07:30 to 08:30	842	14	No	No
07:45 to 08:45	701	12	No	No
08:00 to 09:00	629	9	No	No
08:15 to 09:15	476	8	No	No
08:30 to 09:30	420	0	No	No

08:45 to 09:45	474	0	No	No
09:00 to 10:00	491	16	No	No
09:15 to 10:15	507	16	No	No
09:30 to 10:30	520	16	No	No
09:45 to 10:45	533	16	No	No
10:00 to 11:00	498	0	No	No
10:15 to 11:15	554	0	No	No
10:30 to 11:30	605	0	No	No
10:45 to 11:45	640	1	No	No
11:00 to 12:00	658	1	No	No
11:15 to 12:15	654	1	No	No
11:30 to 12:30	642	1	No	No
11:45 to 12:45	638	0	No	No
12:00 to 13:00	683	0	No	No
12:15 to 13:15	663	0	No	No
12:30 to 13:30	650	0	No	No
12:45 to 13:45	650	0	No	No
13:00 to 14:00	639	0	No	No
13:15 to 14:15	641	2	No	No
13:30 to 14:30	683	2	No	No
13:45 to 14:45	679	2	No	No
14:00 to 15:00	688	3	No	No
14:15 to 15:15	710	1	No	No
14:30 to 15:30	716	6	No	No
14:45 to 15:45	729	7	No	No
15:00 to 16:00	743	7	No	No
15:15 to 16:15	775	7	No	No
15:30 to 16:30	756	3	No	No
15:45 to 16:45	775	3	No	No
16:00 to 17:00	803	2	No	No
16:15 to 17:15	857	2	No	No
16:30 to 17:30	919	5	No	No

16:45 to 17:45	1003	5	No*	No*
17:00 to 18:00	992	7	No	No
17:15 to 18:15	943	9	No	No
17:30 to 18:30	900	5	No	No
17:45 to 18:45	789	5	No	No
18:00 to 19:00	666	3	No	No
18:15 to 19:15	450	1	No	No
18:30 to 19:30	252	1	No	No
18:45 to 19:45	86	0	No	No

All-Way Stop Control Warrant : Multiway Stop Applications

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

AWSC Warrant Met? **Yes**

Details:

Condition A Met?	**Yes**	
Condition B Met?	**No**	
Condition C Met?	**Yes**	11 Hours Met (8 Required)

Qualifying Crashes	2
Major Street 85th-Percentile Speed	0.00
Major Street Speed Limit	45

Hour	Traffic Volumes		Bicycle Volumes		Ped Volumes		Condition C		
	Major Street Vehicles	Minor Street Vehicles	Northbound Bicycle Volumes	Southbound Bicycle Volumes	Northbound Bicycle Volumes	Southbound Bicycle Volumes	Major Street	Minor Street	
							(Total Vehicle Volume) >= 300	Avg(Veh + Ped + Bicycle) >= 200	Delay >= 30
06:00 to 07:00	424	236	0	0	0	0	Yes	No	Yes
07:00 to 08:00	448	277	0	0	0	0	Yes	No	Yes
08:00 to 09:00	391	238	0	0	0	0	Yes	No	Yes
10:15 to 11:15	303	251	0	0	0	0	Yes	No	Yes
11:15 to 12:15	358	296	0	0	0	0	Yes	No	Yes
12:15 to 13:15	376	287	0	0	0	0	Yes	No	Yes
13:15 to 14:15	348	293	0	0	0	0	Yes	No	Yes
14:15 to 15:15	443	267	0	0	0	0	Yes	No	Yes
15:15 to 16:15	423	352	0	0	0	0	Yes	No	Yes
16:15 to 17:15	537	320	0	0	0	0	Yes	No	Yes
17:15 to 18:15	574	369	0	0	0	0	Yes	No	Yes

Warrants Summary Report

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant	Met?	Notes
Warrant 1, Eight-Hour Vehicular Volume		
	Yes	
Condition A or B Met?	Yes	10 Hours met (8 required)
Condition A and B Met?	No	6 Hours met (8 required)
Warrant 2, Four-Hour Vehicular Volume		
	Yes	11 Hours met (4 required)
Warrant 3, Peak Hour		
	Yes	
Condition A Met?	No	0 Hours met (1 required)
Condition B Met?	Yes	3 Hours met (1 required)
Warrant 4, Pedestrian Volume		
	No	
Condition A Met?	No	0 Hours met (4 required)
Condition B Met?	No	0 Hours met (1 required)

Intersection Information:

	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant	Met?	Notes
Warrant 5, School Crossing	No	
Warrant 6, Coordinated Signal System	No	
Warrant 7, Crash Experience	No	
Traffic Volume Condition?	No	0 Hours met (8 required)
Ped Condition?	Yes	12 Hours met (8 required)
Warrant 8, Roadway Network	Yes	
Warrant 9, Intersection Near a Grade Crossing	No	

Warrant 1: Eight-hour Vehicular Volume

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Warrant 1 Met? **Yes**

Details:

Condition A or B Met?	**Yes**	10 Hours met (8 required)
Condition A and B Met?	**No**	6 Hours met (8 required)

Hour	Major Street Vehicles (total of both approaches)	Condition A		Condition B		High-volume Minor Approach Vehicles	Condition A		Condition B		70% Standard Met? Cond. A OR Cond. B		56% Standard Met? Cond. A AND Cond. B	
		Volume >= 70% column (350)?	Volume >= 56% column (280)?	Volume >= 70% column (525)?	Volume >= 56% column (420)?		Volume >= 70% column (105)?	Volume >= 56% column (84)?	Volume >= 70% column (53)?	Volume >= 56% column (42)?	Condition A 70% Column	Condition B 70% Column	Condition A 56% Column	Condition B 56% Column
06:00 to 07:00	424	Yes	Yes	No	Yes	178	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
06:15 to 07:15	434	Yes	Yes	No	Yes	180	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
06:30 to 07:30	442	Yes	Yes	No	Yes	182	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
06:45 to 07:45	429	Yes	Yes	No	Yes	198	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
07:00 to 08:00	448	Yes	Yes	No	Yes	219	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
07:15 to 08:15	520	Yes	Yes	No	Yes	246	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
07:30 to 08:30	527	Yes	Yes	Yes	Yes	247	Yes	Yes	Yes	Yes	Yes	Yes*	Yes	Yes
07:45 to 08:45	439	Yes	Yes	No	Yes	204	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
08:00 to 09:00	391	Yes	Yes	No	No	193	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
08:15 to 09:15	281	No	Yes	No	No	155	Yes	Yes	Yes	Yes	No	No	Yes	No

08:30 to 09:30	238	No	No	No	No	149	Yes	Yes	Yes	Yes	No	No	No	No
08:45 to 09:45	271	No	No	No	No	165	Yes	Yes	Yes	Yes	No	No	No	No
09:00 to 10:00	272	No	No	No	No	172	Yes	Yes	Yes	Yes	No	No	No	No
09:15 to 10:15	271	No	No	No	No	185	Yes	Yes	Yes	Yes	No	No	No	No
09:30 to 10:30	280	No	Yes	No	No	186	Yes	Yes	Yes	Yes	No	No	Yes	No
09:45 to 10:45	282	No	Yes	No	No	192	Yes	Yes	Yes	Yes	No	No	Yes	No
10:00 to 11:00	275	No	No	No	No	180	Yes	Yes	Yes	Yes	No	No	No	No
10:15 to 11:15	303	No	Yes	No	No	194	Yes	Yes	Yes	Yes	No	No	Yes	No
10:30 to 11:30	324	No	Yes	No	No	208	Yes	Yes	Yes	Yes	No	No	Yes	No
10:45 to 11:45	343	No	Yes	No	No	214	Yes	Yes	Yes	Yes	No	No	Yes	No
11:00 to 12:00	349	No	Yes	No	No	210	Yes	Yes	Yes	Yes	No	No	Yes	No
11:15 to 12:15	358	Yes	Yes	No	No	202	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
11:30 to 12:30	349	No	Yes	No	No	202	Yes	Yes	Yes	Yes	No	No	Yes	No
11:45 to 12:45	348	No	Yes	No	No	208	Yes	Yes	Yes	Yes	No	No	Yes	No
12:00 to 13:00	385	Yes	Yes	No	No	221	Yes	Yes	Yes	Yes	Yes	No	Yes	No
12:15 to 13:15	376	Yes	Yes	No	No	217	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
12:30 to 13:30	364	Yes	Yes	No	No	214	Yes	Yes	Yes	Yes	Yes	No	Yes	No
12:45 to 13:45	373	Yes	Yes	No	No	209	Yes	Yes	Yes	Yes	Yes	No	Yes	No
13:00 to 14:00	372	Yes	Yes	No	No	203	Yes	Yes	Yes	Yes	Yes	No	Yes	No
13:15 to 14:15	348	No	Yes	No	No	223	Yes	Yes	Yes	Yes	No	No	Yes	No
13:30 to 14:30	396	Yes	Yes	No	No	221	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
13:45 to 14:45	383	Yes	Yes	No	No	219	Yes	Yes	Yes	Yes	Yes	No	Yes	No
14:00 to 15:00	394	Yes	Yes	No	No	214	Yes	Yes	Yes	Yes	Yes	No	Yes	No
14:15 to 15:15	443	Yes	Yes	No	Yes	196	Yes	Yes	Yes	Yes	Yes	No	Yes*	Yes*
14:30 to 15:30	434	Yes	Yes	No	Yes	199	Yes	Yes	Yes	Yes	Yes*	No	Yes	Yes
14:45 to 15:45	440	Yes	Yes	No	Yes	196	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
15:00 to 16:00	421	Yes	Yes	No	Yes	208	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
15:15 to 16:15	423	Yes	Yes	No	Yes	213	Yes	Yes	Yes	Yes	Yes	No	Yes*	Yes*

15:30 to 16:30	429	Yes	Yes	No	Yes	194	Yes	Yes	Yes	Yes	Yes*	No	Yes	Yes
15:45 to 16:45	454	Yes	Yes	No	Yes	198	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
16:00 to 17:00	480	Yes	Yes	No	Yes	206	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
16:15 to 17:15	537	Yes	Yes	Yes	Yes	210	Yes	Yes	Yes	Yes	Yes	Yes*	Yes*	Yes*
16:30 to 17:30	548	Yes	Yes	Yes	Yes	240	Yes	Yes	Yes	Yes	Yes*	Yes	Yes	Yes
16:45 to 17:45	613	Yes	Yes	Yes	Yes	244	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17:00 to 18:00	613	Yes	Yes	Yes	Yes	231	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17:15 to 18:15	574	Yes	Yes	Yes	Yes	235	Yes	Yes	Yes	Yes	Yes	Yes*	Yes*	Yes*
17:30 to 18:30	576	Yes	Yes	Yes	Yes	220	Yes	Yes	Yes	Yes	Yes*	Yes	Yes	Yes
17:45 to 18:45	505	Yes	Yes	No	Yes	206	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
18:00 to 19:00	436	Yes	Yes	No	Yes	176	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
18:15 to 19:15	297	No	Yes	No	No	116	Yes	Yes	Yes	Yes	No	No	Yes	No
18:30 to 19:30	170	No	No	No	No	62	No	No	Yes	Yes	No	No	No	No
18:45 to 19:45	57	No	No	No	No	21	No	No	No	No	No	No	No	No

Warrant 2: Four-hour Vehicular Volume

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information

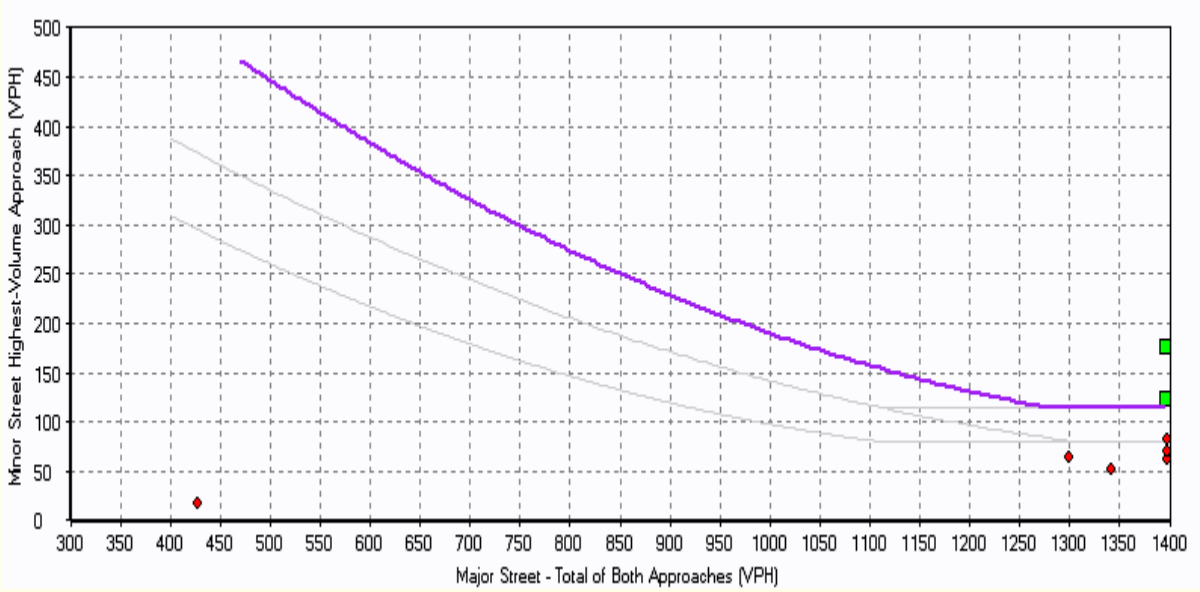
	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant 2 Met? **Yes**

Details:

Notes: 11 Hours met (4 required)

Low Population? **Yes**



Hourly Volumes		
Hour	Major Street Total of both approaches (VPH)	Minor Street Highest volume approach (VPH)
00:00:00 - 01:00:00	0.00	0.00
01:00:00 - 02:00:00	0.00	0.00
02:00:00 - 03:00:00	0.00	0.00
03:00:00 - 04:00:00	0.00	0.00
04:00:00 - 05:00:00	0.00	0.00
05:00:00 - 06:00:00	0.00	0.00
06:00:00 - 07:00:00	424.00	178.00
07:00:00 - 08:00:00	448.00	219.00
08:00:00 - 09:00:00	391.00	193.00
09:00:00 - 10:00:00	272.00	172.00
10:00:00 - 11:00:00	275.00	180.00
11:00:00 - 12:00:00	349.00	210.00
12:00:00 - 13:00:00	385.00	221.00
13:00:00 - 14:00:00	372.00	203.00
14:00:00 - 15:00:00	394.00	214.00
15:00:00 - 16:00:00	421.00	208.00
16:00:00 - 17:00:00	480.00	206.00
17:00:00 - 18:00:00	613.00	231.00
18:00:00 - 19:00:00	436.00	176.00
19:00:00 - 20:00:00	0.00	0.00
20:00:00 - 21:00:00	0.00	0.00
21:00:00 - 22:00:00	0.00	0.00
22:00:00 - 23:00:00	0.00	0.00
23:00:00 - 00:00:00	0.00	0.00

Warranted Hours		
Hour	Major Volume	Minor Volume
06:00:00 - 07:00:00	424.00	178.00
07:00:00 - 08:00:00	448.00	219.00
08:00:00 - 09:00:00	391.00	193.00
10:30:00 - 11:30:00	324.00	208.00
11:30:00 - 12:30:00	349.00	202.00
12:30:00 - 13:30:00	364.00	214.00
13:30:00 - 14:30:00	396.00	221.00
14:30:00 - 15:30:00	434.00	199.00
15:30:00 - 16:30:00	429.00	194.00
16:30:00 - 17:30:00	548.00	240.00
17:30:00 - 18:30:00	576.00	220.00

Note: Only data of hours warranted is represented in the above table.

Warrant 3: Peak Hour

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

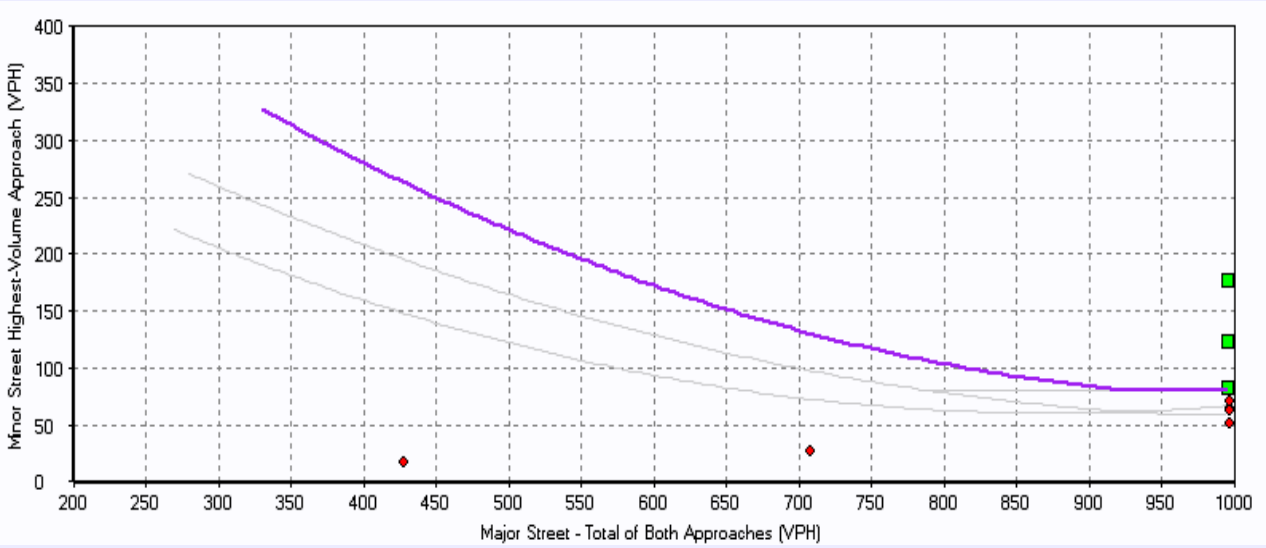
	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant 3 Met? **Yes**

Details:

Low Population?	Yes
Condition A Met?	No
Notes:	0 Hours met (1 required)
Minor Approach Time Delay Condition	Not Met
Minor Approach Volume Condition	Met
Total Entering Intersection Volume Condition	Not Met
Condition B Met?	Yes
Notes:	3 Hours met (1 required)

Warrant 3



Note: Please turn over for volume information.

Warranted / Unwarranted

Hour	Major Street Total of both approaches (VPH)	Minor Street Highest volume approach (VPH)
6:00	424	178
7:00	448	219
7:15	520	246
8:15	281	155
9:15	271	185
10:15	303	194
11:15	358	202
12:15	376	217
13:15	348	223
14:15	443	196
15:15	423	213
16:15	537	210
17:15	574	235
18:15	297	116

Warrant 4: Pedestrian Volume

2: HIGHWAY 1 & HIGHWAY 166

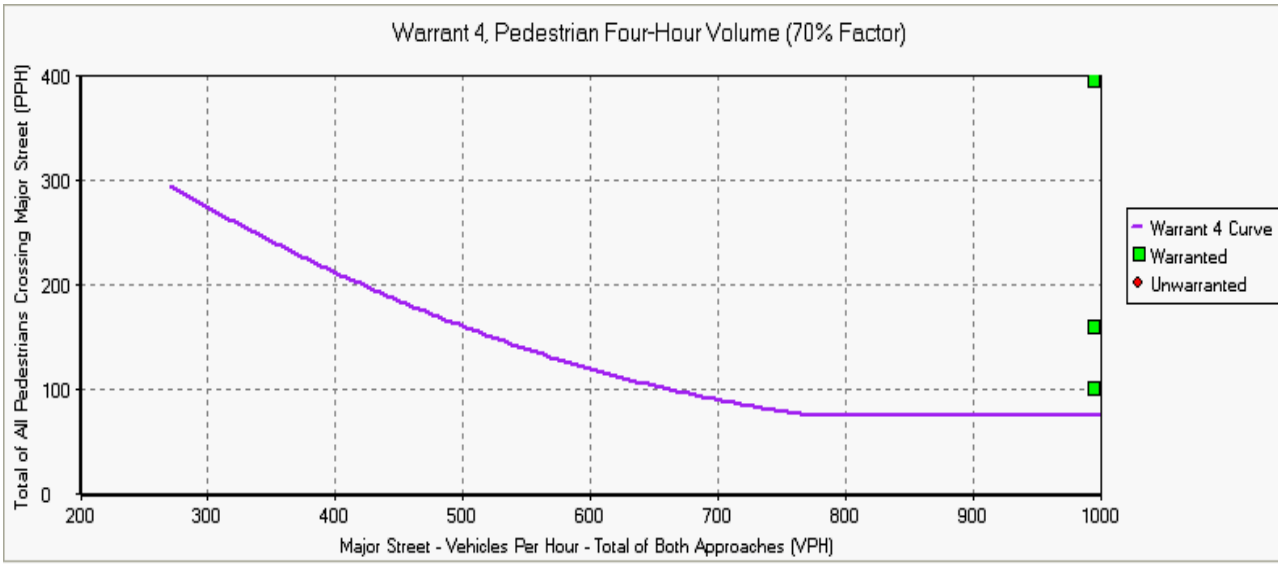
Intersection Information:

	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

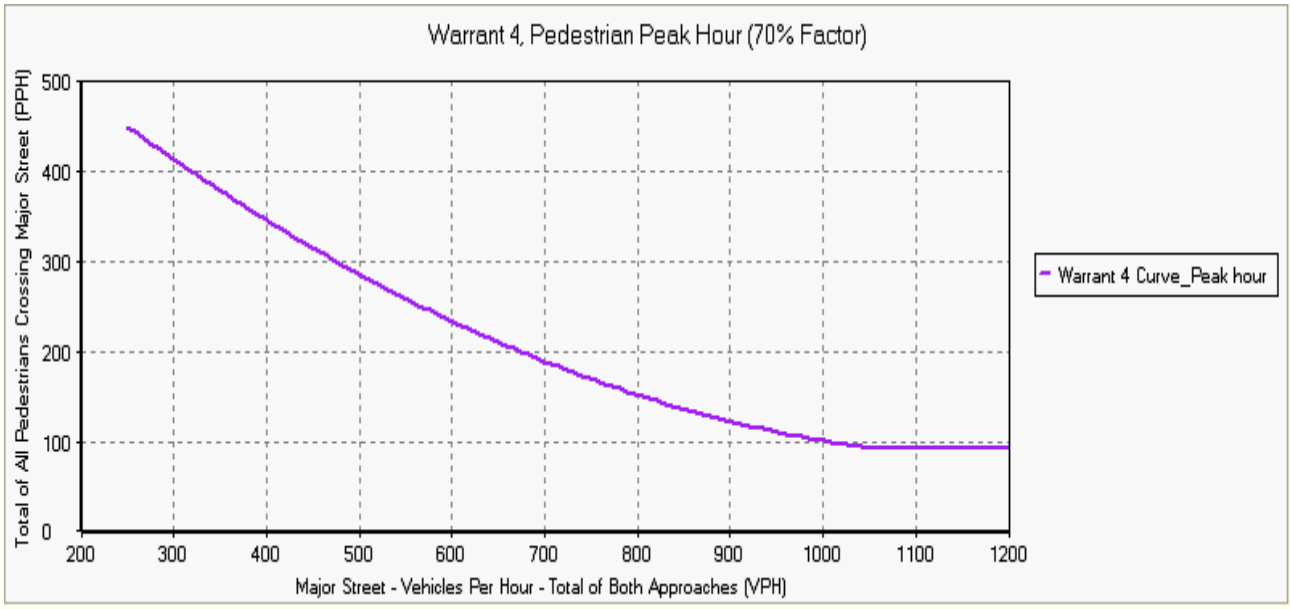
Warrant 4 Met? **No**

Details:

Pedestrian Four-Hour Volume Warrant met?	**No**
Pedestrian Peak Hour Warrant Met?	**No**
Notes:	0 Hours met (4 required)
Speed limit or 85th-percentile speed on the major street > 35 mph, or intersection lies within an isolated community with population < 10,000 ?	**Yes**



Warranted / Unwarranted		
Hour	Major Street Vehicle Volume (VPH)	Volume of Pedestrians Crossing Major Street (VPH)
6:00 am	424	4
7:00 am	448	13
8:00 am	391	7
9:00 am	272	3
11:00 am	349	3
12:00 pm	385	4
1:00 pm	372	2
2:00 pm	394	26
3:00 pm	421	13
4:00 pm	480	4
5:00 pm	613	7
6:00 pm	436	4



Pedestrian Peak Hour		
Hour	Vehicular Volume	Pedestrain Volume
07:15:00	520	17

Warrant 5: School Crossing

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB

Warrant 5 Met? **No**

Details:

Time Period Interval for Students Crossing (min)	**0**
Number of Students Crossing in Time Period	**16**
Number of Adequate Gaps in Time Period	**0**
Other Remedial Measures Attempted?	**No**
Adjacent Signal on EB approach?	**No**
Distance to signal on EB Approach (ft)	-
Adjacent Signal on WB approach?	**No**
Distance to signal on WB Approach (ft)	-
Will New Signal Restrict Progressive Traffic?	**No**

Warrant 6: Coordinated Signal System

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB

Warrant 6 Met? **No**

Details:

Approach Dir/Name	Acceptable Platooning?	Adjacent Coordinating Signal?	Adjacent Intersection Distance
EB Approach (HIGHWAY 166)	Yes	No	N/A
WB Approach (HIGHWAY 166)	Yes	No	N/A
NB Approach (HIGHWAY 1)	Yes	No	N/A
SB Approach (HIGHWAY 1)	Yes	No	N/A

Unacceptable Platooning? (At least one approach)	**Distance to Closest Signal** (Must be N/A or >= 1000)
No	**N/A**

Warrant 7: Crash Experience

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Warrant 7 Met? **No**

Details:

Low Population?	**Yes**	
Major Street Speed Limit	**45**	
Major Street 85th-Percentile Speed	**0.00**	
Qualifying Crashes	**2**	
Adequate Alternative Trials?	**No**	
Traffic Volume Condition Met?	**Yes**	12 Hours Met (8 Required)
Ped Volume Condition Met?	**No**	0 Hours Met (8 Required)

Hour	Traffic Volumes				Pedestrian Volumes			
			56% Standard Met? A OR B		Northbound Ped Volumes		Southbound Ped Volumes	
	Major Street Vehicles	Minor Street Vehicles	Condition A	Condition B	Peds	> 80?	Peds	> 80?
06:00 to 07:00	424	0	No	No	0	No	0	No
06:15 to 07:15	434	0	No	No	0	No	0	No
06:30 to 07:30	442	0	No	No	0	No	0	No
06:45 to 07:45	429	0	No	No	0	No	0	No
07:00 to 08:00	448	0	No	No	0	No	0	No
07:15 to 08:15	520	0	No	No	0	No	0	No
07:30 to 08:30	527	0	No	No	0	No	0	No
07:45 to 08:45	439	0	No	No	0	No	0	No

08:00 to 09:00	391	0	No	No	0	No	0	No
08:15 to 09:15	281	0	No	No	0	No	0	No
08:30 to 09:30	238	0	No	No	0	No	0	No
08:45 to 09:45	271	0	No	No	0	No	0	No
09:00 to 10:00	272	0	No	No	0	No	0	No
09:15 to 10:15	271	0	No	No	0	No	0	No
09:30 to 10:30	280	0	No	No	0	No	0	No
09:45 to 10:45	282	0	No	No	0	No	0	No
10:00 to 11:00	275	0	No	No	0	No	0	No
10:15 to 11:15	303	0	No	No	0	No	0	No
10:30 to 11:30	324	0	No	No	0	No	0	No
10:45 to 11:45	343	0	No	No	0	No	0	No
11:00 to 12:00	349	0	No	No	0	No	0	No
11:15 to 12:15	358	0	No	No	0	No	0	No
11:30 to 12:30	349	0	No	No	0	No	0	No
11:45 to 12:45	348	0	No	No	0	No	0	No
12:00 to 13:00	385	0	No	No	0	No	0	No
12:15 to 13:15	376	0	No	No	0	No	0	No
12:30 to 13:30	364	0	No	No	0	No	0	No
12:45 to 13:45	373	0	No	No	0	No	0	No
13:00 to 14:00	372	0	No	No	0	No	0	No
13:15 to 14:15	348	0	No	No	0	No	0	No
13:30 to 14:30	396	0	No	No	0	No	0	No
13:45 to 14:45	383	0	No	No	0	No	0	No
14:00 to 15:00	394	0	No	No	0	No	0	No
14:15 to 15:15	443	0	No	No	0	No	0	No
14:30 to 15:30	434	0	No	No	0	No	0	No

14:45 to 15:45	440	0	No	No	0	No	0	No
15:00 to 16:00	421	0	No	No	0	No	0	No
15:15 to 16:15	423	0	No	No	0	No	0	No
15:30 to 16:30	429	0	No	No	0	No	0	No
15:45 to 16:45	454	0	No	No	0	No	0	No
16:00 to 17:00	480	0	No	No	0	No	0	No
16:15 to 17:15	537	0	No	No	0	No	0	No
16:30 to 17:30	548	0	No	No	0	No	0	No
16:45 to 17:45	613	0	No	No	0	No	0	No
17:00 to 18:00	613	0	No	No	0	No	0	No
17:15 to 18:15	574	0	No	No	0	No	0	No
17:30 to 18:30	576	0	No	No	0	No	0	No
17:45 to 18:45	505	0	No	No	0	No	0	No
18:00 to 19:00	436	0	No	No	0	No	0	No
18:15 to 19:15	297	0	No	No	0	No	0	No
18:30 to 19:30	170	0	No	No	0	No	0	No
18:45 to 19:45	57	0	No	No	0	No	0	No

Warrant 8: Roadway Network

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Warrant 8 Met? (A or B) **Yes**

Details:

Growth Rates (per year)

NB		SB		EB		WB	
L	2.00%	L	2.00%	L	2.00%	L	2.00%
T	2.00%	T	2.00%	T	2.00%	T	2.00%
R	2.00%	R	2.00%	R	2.00%	R	2.00%

Condition A, Total Entering Volume

Existing Peak Hour	1003
Years	0.00
Future Peak Hour	1003
Warrant 1 in 5 Years?	Yes
Warrant 2 in 5 Years?	Yes
Warrant 3 in 5 Years?	Yes

Condition B, Non-normal Business Day

Existing

Highest Hour	0
Second Highest Hour	0
Third Highest Hour	0
Fourth Highest Hour	0
Fifth Highest Hour	0
Yearly Growth Rate	0.00%
Years	0.00

Future

Highest Hour	0
Second Highest Hour	0
Third Highest Hour	0
Fourth Highest Hour	0
Fifth Highest Hour	0

Condition A Met? **Yes** Condition B Met? **No**

Warrant 9: Intersection Near a Grade Crossing

2: HIGHWAY 1 & HIGHWAY 166

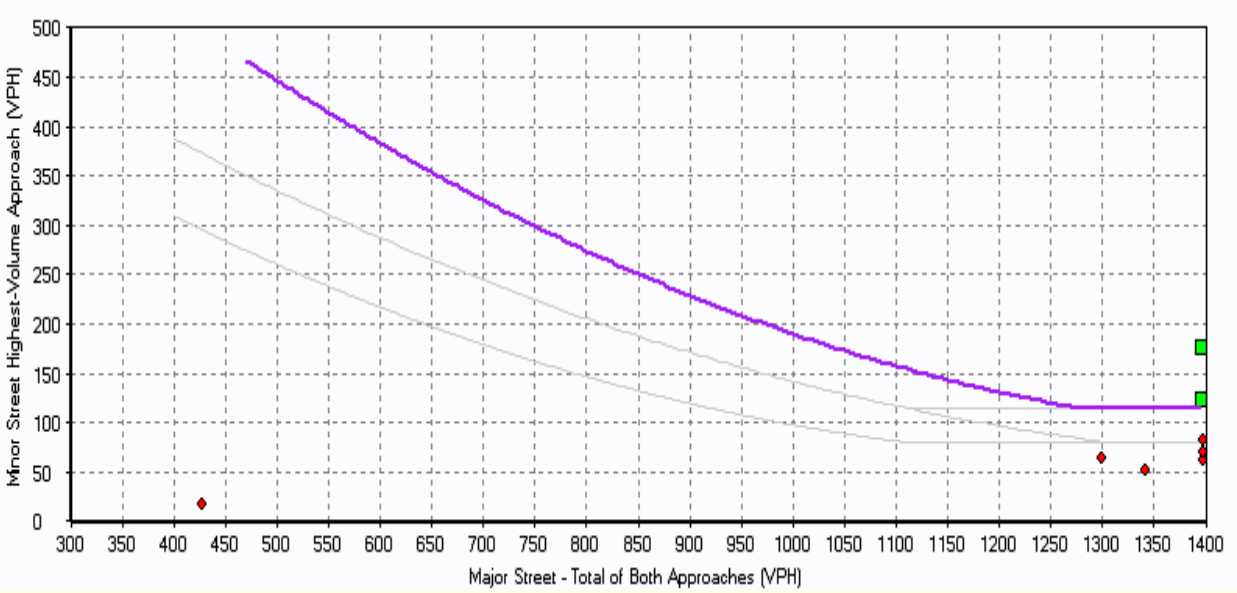
Intersection Information:

	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant 9 Met? **No**

Details:

Note: No approach with a railroad grade crossing	
Minor-street approach having a grade crossing	
Distance from the center of the track to the stop or yield line	interpolated
Number of occurences of rail traffic per day	Adjustment factor
Percentage of high-occupancy buses crossing the track	% Adjustment factor
Percentage of tractor-trailer trucks crossing the track	% Adjustment factor
The rail traffic arrival times are uknown, the highest traffic volume hour of the day is used	



Warranted / Unwarranted		
Hour	Major Street Total of Both Approaches (VPH)	Adjusted Volume of Minor Approach Crossing the Track (VPH)

All-Way Stop Control Warrant : Multiway Stop Applications

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

AWSC Warrant Met? **Yes**

Details:

Condition A Met?	**Yes**	
Condition B Met?	**No**	
Condition C Met?	**Yes**	11 Hours Met (8 Required)

Qualifying Crashes	2
Major Street 85th-Percentile Speed	0.00
Major Street Speed Limit	45

Hour	Traffic Volumes		Bicycle Volumes		Ped Volumes		Condition C		
	Major Street Vehicles	Minor Street Vehicles	Northbound Bicycle Volumes	Southbound Bicycle Volumes	Northbound Bicycle Volumes	Southbound Bicycle Volumes	**Major Street**	**Minor Street**	
							(Total Vehicle Volume) >= 300	Avg(Veh + Ped + Bicycle) >= 200	Delay >= 30
06:00 to 07:00	424	236	0	0	0	0	Yes	No	Yes
07:00 to 08:00	448	277	0	0	0	0	Yes	No	Yes
08:00 to 09:00	391	238	0	0	0	0	Yes	No	Yes
10:15 to 11:15	303	251	0	0	0	0	Yes	No	Yes
11:15 to 12:15	358	296	0	0	0	0	Yes	No	Yes
12:15 to 13:15	376	287	0	0	0	0	Yes	No	Yes
13:15 to 14:15	348	293	0	0	0	0	Yes	No	Yes
14:15 to 15:15	443	267	0	0	0	0	Yes	No	Yes
15:15 to 16:15	423	352	0	0	0	0	Yes	No	Yes
16:15 to 17:15	537	320	0	0	0	0	Yes	No	Yes
17:15 to 18:15	574	369	0	0	0	0	Yes	No	Yes

Warrants Summary Report

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant	Met?	Notes
Warrant 1, Eight-Hour Vehicular Volume		
	Yes	
Condition A or B Met?	Yes	11 Hours met (8 required)
Condition A and B Met?	Yes	8 Hours met (8 required)
Warrant 2, Four-Hour Vehicular Volume		
	Yes	11 Hours met (4 required)
Warrant 3, Peak Hour		
	Yes	
Condition A Met?	No	0 Hours met (1 required)
Condition B Met?	Yes	3 Hours met (1 required)
Warrant 4, Pedestrian Volume		
	No	
Peds > 100 Condition Met?	No	0 Hours met (4 required)
Peds > 190 Condition Met?	No	0 Hours met (1 required)

Intersection Information:

	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant	Met?	Notes
Warrant 5, School Crossing	No	
Warrant 6, Coordinated Signal System	No	
Warrant 7, Crash Experience	No	
Traffic Volume Condition?	No	0 Hours met (8 required)
Ped Condition?	Yes	13 Hours met (8 required)
Warrant 8, Roadway Network	Yes	
BicycleWarrant	No	0 Hours met (1 required)

Warrant 1: Eight-hour Vehicular Volume

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Warrant 1 Met? **Yes**

Details:

Condition A or B Met?	**Yes**	11 Hours met (8 required)
Condition A and B Met?	**Yes**	8 Hours met (8 required)

Hour	Major Street Vehicles (total of both approaches)	Condition A		Condition B			Condition A		Condition B		70% Standard Met? Cond. A OR Cond. B		56% Standard Met? Cond. A AND Cond. B	
		Volume >= 70% column (350)?	Volume >= 56% column (280)?	Volume >= 70% column (525)?	Volume >= 56% column (420)?	High-volume Minor Approach Vehicles	Volume >= 70% column (105)?	Volume >= 56% column (84)?	Volume >= 70% column (53)?	Volume >= 56% column (42)?	Condition A 70% Column	Condition B 70% Column	Condition A 56% Column	Condition B 56% Column
06:00 to 07:00	454	Yes	Yes	No	Yes	178	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
06:15 to 07:15	464	Yes	Yes	No	Yes	180	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
06:30 to 07:30	472	Yes	Yes	No	Yes	182	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
06:45 to 07:45	459	Yes	Yes	No	Yes	198	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
07:00 to 08:00	478	Yes	Yes	No	Yes	219	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
07:15 to 08:15	550	Yes	Yes	Yes	Yes	246	Yes	Yes	Yes	Yes	Yes	Yes*	Yes	Yes
07:30 to 08:30	557	Yes	Yes	Yes	Yes	247	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
07:45 to 08:45	469	Yes	Yes	No	Yes	204	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
08:00 to 09:00	421	Yes	Yes	No	Yes	193	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
08:15 to 09:15	311	No	Yes	No	No	155	Yes	Yes	Yes	Yes	No	No	Yes	No

08:30 to 09:30	268	No	No	No	No	149	Yes	Yes	Yes	Yes	No	No	No	No
08:45 to 09:45	301	No	Yes	No	No	165	Yes	Yes	Yes	Yes	No	No	Yes	No
09:00 to 10:00	302	No	Yes	No	No	172	Yes	Yes	Yes	Yes	No	No	Yes	No
09:15 to 10:15	301	No	Yes	No	No	185	Yes	Yes	Yes	Yes	No	No	Yes	No
09:30 to 10:30	310	No	Yes	No	No	186	Yes	Yes	Yes	Yes	No	No	Yes	No
09:45 to 10:45	312	No	Yes	No	No	192	Yes	Yes	Yes	Yes	No	No	Yes	No
10:00 to 11:00	305	No	Yes	No	No	180	Yes	Yes	Yes	Yes	No	No	Yes	No
10:15 to 11:15	333	No	Yes	No	No	194	Yes	Yes	Yes	Yes	No	No	Yes	No
10:30 to 11:30	354	Yes	Yes	No	No	208	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
10:45 to 11:45	373	Yes	Yes	No	No	214	Yes	Yes	Yes	Yes	Yes	No	Yes	No
11:00 to 12:00	379	Yes	Yes	No	No	210	Yes	Yes	Yes	Yes	Yes	No	Yes	No
11:15 to 12:15	388	Yes	Yes	No	No	202	Yes	Yes	Yes	Yes	Yes	No	Yes	No
11:30 to 12:30	379	Yes	Yes	No	No	202	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
11:45 to 12:45	378	Yes	Yes	No	No	208	Yes	Yes	Yes	Yes	Yes	No	Yes	No
12:00 to 13:00	415	Yes	Yes	No	No	221	Yes	Yes	Yes	Yes	Yes	No	Yes	No
12:15 to 13:15	406	Yes	Yes	No	No	217	Yes	Yes	Yes	Yes	Yes	No	Yes	No
12:30 to 13:30	394	Yes	Yes	No	No	214	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
12:45 to 13:45	403	Yes	Yes	No	No	209	Yes	Yes	Yes	Yes	Yes	No	Yes	No
13:00 to 14:00	402	Yes	Yes	No	No	203	Yes	Yes	Yes	Yes	Yes	No	Yes	No
13:15 to 14:15	378	Yes	Yes	No	No	223	Yes	Yes	Yes	Yes	Yes	No	Yes	No
13:30 to 14:30	426	Yes	Yes	No	Yes	221	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
13:45 to 14:45	413	Yes	Yes	No	No	219	Yes	Yes	Yes	Yes	Yes	No	Yes	No
14:00 to 15:00	424	Yes	Yes	No	Yes	214	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
14:15 to 15:15	473	Yes	Yes	No	Yes	196	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
14:30 to 15:30	464	Yes	Yes	No	Yes	199	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
14:45 to 15:45	462	Yes	Yes	No	Yes	189	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
15:00 to 16:00	436	Yes	Yes	No	Yes	201	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
15:15 to 16:15	430	Yes	Yes	No	Yes	206	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes

15:30 to 16:30	429	Yes	Yes	No	Yes	187	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
15:45 to 16:45	454	Yes	Yes	No	Yes	198	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
16:00 to 17:00	480	Yes	Yes	No	Yes	206	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
16:15 to 17:15	537	Yes	Yes	Yes	Yes	210	Yes	Yes	Yes	Yes	Yes	Yes*	Yes	Yes
16:30 to 17:30	548	Yes	Yes	Yes	Yes	240	Yes	Yes	Yes	Yes	Yes*	Yes	Yes*	Yes*
16:45 to 17:45	613	Yes	Yes	Yes	Yes	244	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17:00 to 18:00	613	Yes	Yes	Yes	Yes	231	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17:15 to 18:15	574	Yes	Yes	Yes	Yes	235	Yes	Yes	Yes	Yes	Yes	Yes*	Yes	Yes
17:30 to 18:30	576	Yes	Yes	Yes	Yes	220	Yes	Yes	Yes	Yes	Yes*	Yes	Yes*	Yes*
17:45 to 18:45	505	Yes	Yes	No	Yes	206	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
18:00 to 19:00	436	Yes	Yes	No	Yes	176	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
18:15 to 19:15	297	No	Yes	No	No	116	Yes	Yes	Yes	Yes	No	No	Yes	No
18:30 to 19:30	170	No	No	No	No	62	No	No	Yes	Yes	No	No	No	No
18:45 to 19:45	57	No	No	No	No	21	No	No	No	No	No	No	No	No

Warrant 2: Four-hour Vehicular Volume

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information

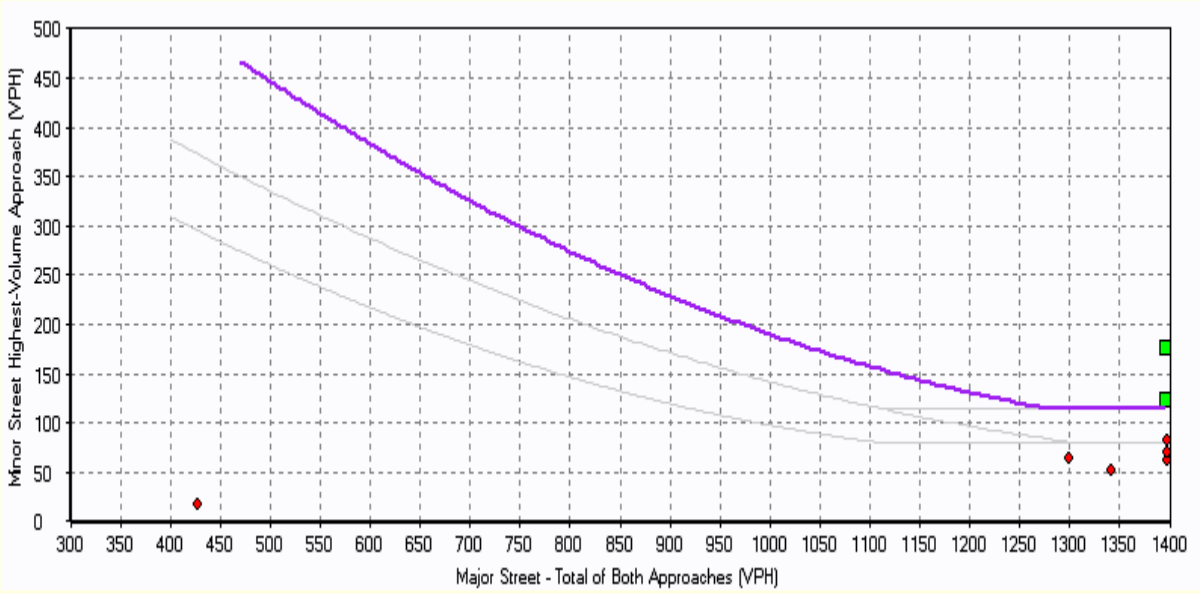
	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant 2 Met? **Yes**

Details:

Notes: 11 Hours met (4 required)

Low Population? **Yes**



Hourly Volumes		
Hour	Major Street Total of both approaches (VPH)	Minor Street Highest volume approach (VPH)
00:00:00 - 01:00:00	0.00	0.00
01:00:00 - 02:00:00	0.00	0.00
02:00:00 - 03:00:00	0.00	0.00
03:00:00 - 04:00:00	0.00	0.00
04:00:00 - 05:00:00	0.00	0.00
05:00:00 - 06:00:00	0.00	0.00
06:00:00 - 07:00:00	454.00	178.00
07:00:00 - 08:00:00	478.00	219.00
08:00:00 - 09:00:00	421.00	193.00
09:00:00 - 10:00:00	302.00	172.00
10:00:00 - 11:00:00	305.00	180.00
11:00:00 - 12:00:00	379.00	210.00
12:00:00 - 13:00:00	415.00	221.00
13:00:00 - 14:00:00	402.00	203.00
14:00:00 - 15:00:00	424.00	214.00
15:00:00 - 16:00:00	436.00	201.00
16:00:00 - 17:00:00	480.00	206.00
17:00:00 - 18:00:00	613.00	231.00
18:00:00 - 19:00:00	436.00	176.00
19:00:00 - 20:00:00	0.00	0.00
20:00:00 - 21:00:00	0.00	0.00
21:00:00 - 22:00:00	0.00	0.00
22:00:00 - 23:00:00	0.00	0.00
23:00:00 - 00:00:00	0.00	0.00

Warranted Hours

Hour	Major Street Total of both approaches (VPH)	Minor Street Highest volume approach (VPH)
06:00:00 - 07:00:00	454.00	178.00
07:00:00 - 08:00:00	478.00	219.00
08:00:00 - 09:00:00	421.00	193.00

Note: Only data of hours warranted is represented in the above table.

Warrant 3: Peak Hour

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

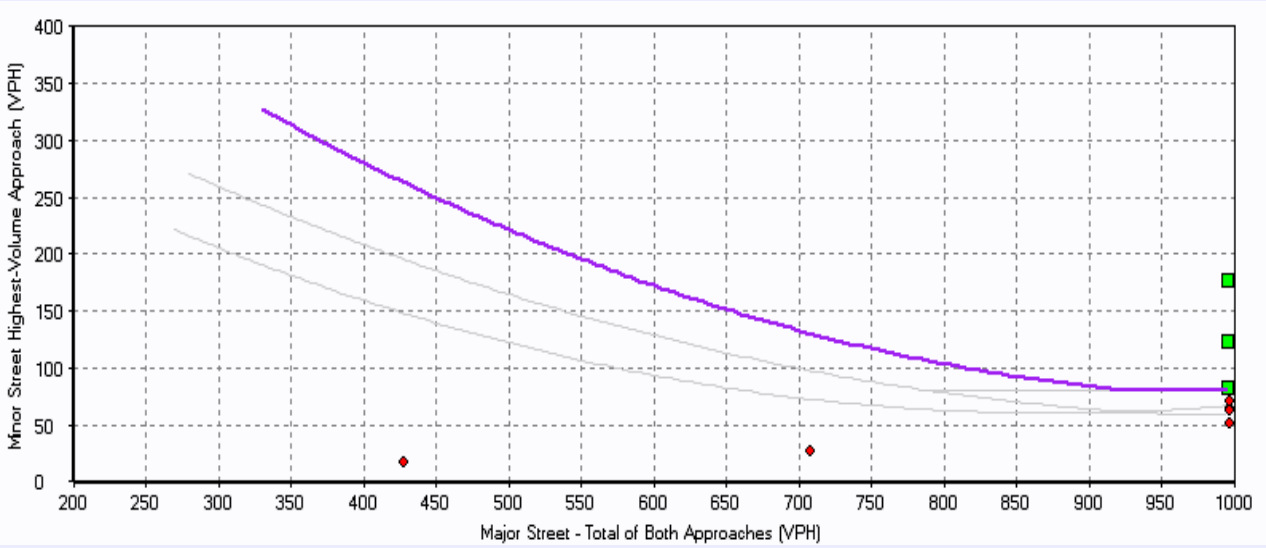
	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant 3 Met? **Yes**

Details:

Low Population?	Yes
Condition A Met?	No
Notes:	0 Hours met (1 required)
Minor Approach Time Delay Condition	Not Met
Minor Approach Volume Condition	Met
Total Entering Intersection Volume Condition	Not Met
Condition B Met?	Yes
Notes:	3 Hours met (1 required)

Warrant 3



Note: Please turn over for volume information.

Warranted / Unwarranted

Hour	Major Street Total of both approaches (VPH)	Minor Street Highest volume approach (VPH)
6:00	454	178
7:00	478	219
7:15	550	246
8:15	311	155
9:15	301	185
10:15	333	194
11:15	388	202
12:15	406	217
13:15	378	223
14:15	473	196
15:15	430	206
16:15	537	210
17:15	574	235
18:15	297	116

Warrant 4: Pedestrian Volume

2: HIGHWAY 1 & HIGHWAY 166

Intersetion Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Median Refuge	Yes
Pedestrian Speed	4.00

Warrant 4 Met? **No**

Details:

Low Ped Volume Hours Met: 0 (4 Required)

High Ped Volume Hours Met: 0 (1 Required)

Hour	Northbound Ped Volume					Southbound Ped Volume				
	Peds	Gaps	Gaps < 60?	Peds >= 100?	Peds >= 190?	Peds	Gaps	Gaps < 60?	Peds >= 100?	Peds >= 190?
06:00 to 07:00	0					0				
06:15 to 07:15	0					0				
06:30 to 07:30	0					0				
06:45 to 07:45	0					0				
07:00 to 08:00	0					0				
07:15 to 08:15	0					0				
07:30 to 08:30	0					0				
07:45 to 08:45	0					0				
08:00 to 09:00	0					0				

08:15 to 09:15	0		0	
08:30 to 09:30	0		0	
08:45 to 09:45	0		0	
09:00 to 10:00	0		0	
09:15 to 10:15	0		0	
09:30 to 10:30	0		0	
09:45 to 10:45	0		0	
10:00 to 11:00	0		0	
10:15 to 11:15	0		0	
10:30 to 11:30	0		0	
10:45 to 11:45	0		0	
11:00 to 12:00	0		0	
11:15 to 12:15	0		0	
11:30 to 12:30	0		0	
11:45 to 12:45	0		0	
12:00 to 13:00	0		0	
12:15 to 13:15	0		0	
12:30 to 13:30	0		0	
12:45 to 13:45	0		0	
13:00 to 14:00	0		0	
13:15 to 14:15	0		0	
13:30 to 14:30	0		0	
13:45 to 14:45	0		0	
14:00 to 15:00	0		0	
14:15 to 15:15	0		0	
14:30 to 15:30	0		0	
14:45 to 15:45	0		0	
15:00 to 16:00	0		0	

15:15 to 16:15	0		0	
15:30 to 16:30	0		0	
15:45 to 16:45	0		0	
16:00 to 17:00	0		0	
16:15 to 17:15	0		0	
16:30 to 17:30	0		0	
16:45 to 17:45	0		0	
17:00 to 18:00	0		0	
17:15 to 18:15	0		0	
17:30 to 18:30	0		0	
17:45 to 18:45	0		0	
18:00 to 19:00	0		0	
18:15 to 19:15	0		0	
18:30 to 19:30	0		0	
18:45 to 19:45	0		0	

Warrant 5: School Crossing

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB

Warrant 5 Met? **No**

Details:

Time Period Interval for Students Crossing (min)	**0**
Number of Students Crossing in Time Period	**16**
Number of Adequate Gaps in Time Period	**0**
Other Remedial Measures Attempted?	**No**
Adjacent Signal on EB approach?	**No**
Distance to signal on EB Approach (ft)	-
Adjacent Signal on WB approach?	**No**
Distance to signal on WB Approach (ft)	-
Will New Signal Restrict Progressive Traffic?	**No**

Warrant 6: Coordinated Signal System

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB

Warrant 6 Met? **No**

Details:

Approach Dir/Name	Acceptable Platooning?	Adjacent Coordinating Signal?	Adjacent Intersection Distance
EB Approach (HIGHWAY 166)	Yes	No	N/A
WB Approach (HIGHWAY 166)	Yes	No	N/A
NB Approach (HIGHWAY 1)	Yes	No	N/A
SB Approach (HIGHWAY 1)	Yes	No	N/A

Unacceptable Platooning? (At least one approach)	**Distance to Closest Signal** (Must be N/A or >= 1000)
No	**N/A**

Warrant 7: Crash Experience

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Warrant 7 Met? **No**

Details:

Low Population?	**Yes**	
Major Street Speed Limit	**45**	
Major Street 85th-Percentile Speed	**0.00**	
Qualifying Crashes	**2**	
Adequate Alternative Trials?	**No**	
Traffic Volume Condition Met?	**Yes**	13 Hours Met (8 Required)
Ped Volume Condition Met?	**No**	0 Hours Met (8 Required)

Hour	Traffic Volumes				Pedestrian Volumes			
			56% Standard Met? A OR B		Northbound Ped Volumes		Southbound Ped Volumes	
	Major Street Vehicles	Minor Street Vehicles	Condition A	Condition B	Peds	> 80?	Peds	> 80?
06:00 to 07:00	454	0	No	No	0	No	0	No
06:15 to 07:15	464	0	No	No	0	No	0	No
06:30 to 07:30	472	0	No	No	0	No	0	No
06:45 to 07:45	459	0	No	No	0	No	0	No
07:00 to 08:00	478	0	No	No	0	No	0	No
07:15 to 08:15	550	0	No	No	0	No	0	No
07:30 to 08:30	557	0	No	No	0	No	0	No
07:45 to 08:45	469	0	No	No	0	No	0	No

08:00 to 09:00	421	0	No	No	0	No	0	No
08:15 to 09:15	311	0	No	No	0	No	0	No
08:30 to 09:30	268	0	No	No	0	No	0	No
08:45 to 09:45	301	0	No	No	0	No	0	No
09:00 to 10:00	302	0	No	No	0	No	0	No
09:15 to 10:15	301	0	No	No	0	No	0	No
09:30 to 10:30	310	0	No	No	0	No	0	No
09:45 to 10:45	312	0	No	No	0	No	0	No
10:00 to 11:00	305	0	No	No	0	No	0	No
10:15 to 11:15	333	0	No	No	0	No	0	No
10:30 to 11:30	354	0	No	No	0	No	0	No
10:45 to 11:45	373	0	No	No	0	No	0	No
11:00 to 12:00	379	0	No	No	0	No	0	No
11:15 to 12:15	388	0	No	No	0	No	0	No
11:30 to 12:30	379	0	No	No	0	No	0	No
11:45 to 12:45	378	0	No	No	0	No	0	No
12:00 to 13:00	415	0	No	No	0	No	0	No
12:15 to 13:15	406	0	No	No	0	No	0	No
12:30 to 13:30	394	0	No	No	0	No	0	No
12:45 to 13:45	403	0	No	No	0	No	0	No
13:00 to 14:00	402	0	No	No	0	No	0	No
13:15 to 14:15	378	0	No	No	0	No	0	No
13:30 to 14:30	426	0	No	No	0	No	0	No
13:45 to 14:45	413	0	No	No	0	No	0	No
14:00 to 15:00	424	0	No	No	0	No	0	No
14:15 to 15:15	473	0	No	No	0	No	0	No
14:30 to 15:30	464	0	No	No	0	No	0	No

14:45 to 15:45	462	0	No	No	0	No	0	No
15:00 to 16:00	436	0	No	No	0	No	0	No
15:15 to 16:15	430	0	No	No	0	No	0	No
15:30 to 16:30	429	0	No	No	0	No	0	No
15:45 to 16:45	454	0	No	No	0	No	0	No
16:00 to 17:00	480	0	No	No	0	No	0	No
16:15 to 17:15	537	0	No	No	0	No	0	No
16:30 to 17:30	548	0	No	No	0	No	0	No
16:45 to 17:45	613	0	No	No	0	No	0	No
17:00 to 18:00	613	0	No	No	0	No	0	No
17:15 to 18:15	574	0	No	No	0	No	0	No
17:30 to 18:30	576	0	No	No	0	No	0	No
17:45 to 18:45	505	0	No	No	0	No	0	No
18:00 to 19:00	436	0	No	No	0	No	0	No
18:15 to 19:15	297	0	No	No	0	No	0	No
18:30 to 19:30	170	0	No	No	0	No	0	No
18:45 to 19:45	57	0	No	No	0	No	0	No

Warrant 8: Roadway Network

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Warrant 8 Met? (A or B) **Yes**

Details:

Growth Rates (per year)

NB		SB		EB		WB	
L	2.00%	L	2.00%	L	2.00%	L	2.00%
T	2.00%	T	2.00%	T	2.00%	T	2.00%
R	2.00%	R	2.00%	R	2.00%	R	2.00%

Condition A, Total Entering Volume		Condition B, Non-normal Business Day	
Existing Peak Hour	1003	**Existing**	
Years	0.00	**Highest Hour**	0
Future Peak Hour	1003	**Second Highest Hour**	0
Warrant 1 in 5 Years?	Yes	**Third Highest Hour**	0
Warrant 2 in 5 Years?	Yes	**Fourth Highest Hour**	0
Warrant 3 in 5 Years?	Yes	**Fifth Highest Hour**	0
		Yearly Growth Rate	0.00%
		Years	0.00
		Future	
		Highest Hour	0
		Second Highest Hour	0
		Third Highest Hour	0
		Fourth Highest Hour	0
		Fifth Highest Hour	0

Condition A Met? **Yes** Condition B Met? **No**

Bicycle Warrant

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Bicycle Warrant Met? **No**

Details:

Collision (two or more counts)	**0**
Geometric Path	**No**
Volume Condition Met?	**No** No hour met

Title:

Hour	Traffic Volumes	Bicycle Volumes	Condition	
	Vehicles entering the Intersection	Bicycles entering the Intersection (B)	B * V > 50000?	B >=50?
06:00 to 07:00	690	0	No	No
06:15 to 07:15	703	0	No	No
06:30 to 07:30	705	0	No	No
06:45 to 07:45	709	2	No	No
07:00 to 08:00	755	5	No	No
07:15 to 08:15	862	6	No	No
07:30 to 08:30	872	14	No	No
07:45 to 08:45	731	12	No	No
08:00 to 09:00	659	9	No	No
08:15 to 09:15	506	8	No	No
08:30 to 09:30	450	0	No	No

08:45 to 09:45	504	0	No	No
09:00 to 10:00	521	16	No	No
09:15 to 10:15	537	16	No	No
09:30 to 10:30	550	16	No	No
09:45 to 10:45	563	16	No	No
10:00 to 11:00	528	0	No	No
10:15 to 11:15	584	0	No	No
10:30 to 11:30	635	0	No	No
10:45 to 11:45	670	1	No	No
11:00 to 12:00	688	1	No	No
11:15 to 12:15	684	1	No	No
11:30 to 12:30	672	1	No	No
11:45 to 12:45	668	0	No	No
12:00 to 13:00	713	0	No	No
12:15 to 13:15	693	0	No	No
12:30 to 13:30	680	0	No	No
12:45 to 13:45	680	0	No	No
13:00 to 14:00	669	0	No	No
13:15 to 14:15	671	2	No	No
13:30 to 14:30	713	2	No	No
13:45 to 14:45	709	2	No	No
14:00 to 15:00	718	3	No	No
14:15 to 15:15	740	1	No	No
14:30 to 15:30	746	6	No	No
14:45 to 15:45	744	7	No	No
15:00 to 16:00	751	7	No	No
15:15 to 16:15	775	7	No	No
15:30 to 16:30	749	3	No	No
15:45 to 16:45	775	3	No	No
16:00 to 17:00	803	2	No	No
16:15 to 17:15	857	2	No	No
16:30 to 17:30	919	5	No	No

16:45 to 17:45	1003	5	No*	No*
17:00 to 18:00	992	7	No	No
17:15 to 18:15	943	9	No	No
17:30 to 18:30	900	5	No	No
17:45 to 18:45	789	5	No	No
18:00 to 19:00	666	3	No	No
18:15 to 19:15	450	1	No	No
18:30 to 19:30	252	1	No	No
18:45 to 19:45	86	0	No	No

All-Way Stop Control Warrant : Multiway Stop Applications

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

AWSC Warrant Met? **Yes**

Details:

Condition A Met?	**Yes**	
Condition B Met?	**No**	
Condition C Met?	**No**	Delay for highest hour < 30 sec/

Qualifying Crashes	2
Major Street 85th-Percentile Speed	0.00
Major Street Speed Limit	45

Hour	Traffic Volumes		Bicycle Volumes		Ped Volumes		Condition C		
	Major Street Vehicles	Minor Street Vehicles	Northbound Bicycle Volumes	Southbound Bicycle Volumes	Northbound Bicycle Volumes	Southbound Bicycle Volumes	Major Street	Minor Street	
							(Total Vehicle Volume) >= 300	Avg(Veh + Ped + Bicycle) >= 200	Delay >= 30
06:00 to 07:00	454	236	0	0	0	0	Yes	No	Yes
07:00 to 08:00	478	277	0	0	0	0	Yes	No	Yes
08:00 to 09:00	421	238	0	0	0	0	Yes	No	Yes
09:00 to 10:00	302	219	0	0	0	0	Yes	No	Yes
10:00 to 11:00	305	223	0	0	0	0	Yes	No	Yes
11:00 to 12:00	379	309	0	0	0	0	Yes	No	Yes
12:00 to 13:00	415	298	0	0	0	0	Yes	No	Yes
13:00 to 14:00	402	267	0	0	0	0	Yes	No	Yes
14:00 to 15:00	424	294	0	0	0	0	Yes	No	Yes
15:00 to 16:00	436	315	0	0	0	0	Yes	No	Yes
16:00 to 17:00	480	323	0	0	0	0	Yes	No	Yes
17:00 to 18:00	613	379	0	0	0	0	Yes	No	Yes
18:00 to 19:00	436	230	0	0	0	0	Yes	No	Yes

Warrants Summary Report

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant	Met?	Notes
Warrant 1, Eight-Hour Vehicular Volume		
	Yes	
Condition A or B Met?	Yes	11 Hours met (8 required)
Condition A and B Met?	Yes	8 Hours met (8 required)
Warrant 2, Four-Hour Vehicular Volume		
	Yes	11 Hours met (4 required)
Warrant 3, Peak Hour		
	Yes	
Condition A Met?	No	0 Hours met (1 required)
Condition B Met?	Yes	3 Hours met (1 required)
Warrant 4, Pedestrian Volume		
	No	
Condition A Met?	No	0 Hours met (4 required)
Condition B Met?	No	0 Hours met (1 required)

Intersection Information:

	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant	Met?	Notes
Warrant 5, School Crossing	No	
Warrant 6, Coordinated Signal System	No	
Warrant 7, Crash Experience	No	
Traffic Volume Condition?	No	0 Hours met (8 required)
Ped Condition?	Yes	13 Hours met (8 required)
Warrant 8, Roadway Network	Yes	
Warrant 9, Intersection Near a Grade Crossing	No	

Warrant 1: Eight-hour Vehicular Volume

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Warrant 1 Met? **Yes**

Details:

Condition A or B Met?	**Yes**	11 Hours met (8 required)
Condition A and B Met?	**Yes**	8 Hours met (8 required)

Hour	Major Street Vehicles (total of both approaches)	Condition A		Condition B		High-volume Minor Approach Vehicles	Condition A		Condition B		70% Standard Met? Cond. A OR Cond. B		56% Standard Met? Cond. A AND Cond. B	
		Volume >= 70% column (350)?	Volume >= 56% column (280)?	Volume >= 70% column (525)?	Volume >= 56% column (420)?		Volume >= 70% column (105)?	Volume >= 56% column (84)?	Volume >= 70% column (53)?	Volume >= 56% column (42)?	Condition A 70% Column	Condition B 70% Column	Condition A 56% Column	Condition B 56% Column
06:00 to 07:00	454	Yes	Yes	No	Yes	178	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
06:15 to 07:15	464	Yes	Yes	No	Yes	180	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
06:30 to 07:30	472	Yes	Yes	No	Yes	182	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
06:45 to 07:45	459	Yes	Yes	No	Yes	198	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
07:00 to 08:00	478	Yes	Yes	No	Yes	219	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
07:15 to 08:15	550	Yes	Yes	Yes	Yes	246	Yes	Yes	Yes	Yes	Yes	Yes*	Yes	Yes
07:30 to 08:30	557	Yes	Yes	Yes	Yes	247	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
07:45 to 08:45	469	Yes	Yes	No	Yes	204	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
08:00 to 09:00	421	Yes	Yes	No	Yes	193	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
08:15 to 09:15	311	No	Yes	No	No	155	Yes	Yes	Yes	Yes	No	No	Yes	No

08:30 to 09:30	268	No	No	No	No	149	Yes	Yes	Yes	Yes	No	No	No	No
08:45 to 09:45	301	No	Yes	No	No	165	Yes	Yes	Yes	Yes	No	No	Yes	No
09:00 to 10:00	302	No	Yes	No	No	172	Yes	Yes	Yes	Yes	No	No	Yes	No
09:15 to 10:15	301	No	Yes	No	No	185	Yes	Yes	Yes	Yes	No	No	Yes	No
09:30 to 10:30	310	No	Yes	No	No	186	Yes	Yes	Yes	Yes	No	No	Yes	No
09:45 to 10:45	312	No	Yes	No	No	192	Yes	Yes	Yes	Yes	No	No	Yes	No
10:00 to 11:00	305	No	Yes	No	No	180	Yes	Yes	Yes	Yes	No	No	Yes	No
10:15 to 11:15	333	No	Yes	No	No	194	Yes	Yes	Yes	Yes	No	No	Yes	No
10:30 to 11:30	354	Yes	Yes	No	No	208	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
10:45 to 11:45	373	Yes	Yes	No	No	214	Yes	Yes	Yes	Yes	Yes	No	Yes	No
11:00 to 12:00	379	Yes	Yes	No	No	210	Yes	Yes	Yes	Yes	Yes	No	Yes	No
11:15 to 12:15	388	Yes	Yes	No	No	202	Yes	Yes	Yes	Yes	Yes	No	Yes	No
11:30 to 12:30	379	Yes	Yes	No	No	202	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
11:45 to 12:45	378	Yes	Yes	No	No	208	Yes	Yes	Yes	Yes	Yes	No	Yes	No
12:00 to 13:00	415	Yes	Yes	No	No	221	Yes	Yes	Yes	Yes	Yes	No	Yes	No
12:15 to 13:15	406	Yes	Yes	No	No	217	Yes	Yes	Yes	Yes	Yes	No	Yes	No
12:30 to 13:30	394	Yes	Yes	No	No	214	Yes	Yes	Yes	Yes	Yes*	No	Yes	No
12:45 to 13:45	403	Yes	Yes	No	No	209	Yes	Yes	Yes	Yes	Yes	No	Yes	No
13:00 to 14:00	402	Yes	Yes	No	No	203	Yes	Yes	Yes	Yes	Yes	No	Yes	No
13:15 to 14:15	378	Yes	Yes	No	No	223	Yes	Yes	Yes	Yes	Yes	No	Yes	No
13:30 to 14:30	426	Yes	Yes	No	Yes	221	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
13:45 to 14:45	413	Yes	Yes	No	No	219	Yes	Yes	Yes	Yes	Yes	No	Yes	No
14:00 to 15:00	424	Yes	Yes	No	Yes	214	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
14:15 to 15:15	473	Yes	Yes	No	Yes	196	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
14:30 to 15:30	464	Yes	Yes	No	Yes	199	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
14:45 to 15:45	462	Yes	Yes	No	Yes	189	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
15:00 to 16:00	436	Yes	Yes	No	Yes	201	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
15:15 to 16:15	430	Yes	Yes	No	Yes	206	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes

15:30 to 16:30	429	Yes	Yes	No	Yes	187	Yes	Yes	Yes	Yes	Yes*	No	Yes*	Yes*
15:45 to 16:45	454	Yes	Yes	No	Yes	198	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
16:00 to 17:00	480	Yes	Yes	No	Yes	206	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
16:15 to 17:15	537	Yes	Yes	Yes	Yes	210	Yes	Yes	Yes	Yes	Yes	Yes*	Yes	Yes
16:30 to 17:30	548	Yes	Yes	Yes	Yes	240	Yes	Yes	Yes	Yes	Yes*	Yes	Yes*	Yes*
16:45 to 17:45	613	Yes	Yes	Yes	Yes	244	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17:00 to 18:00	613	Yes	Yes	Yes	Yes	231	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17:15 to 18:15	574	Yes	Yes	Yes	Yes	235	Yes	Yes	Yes	Yes	Yes	Yes*	Yes	Yes
17:30 to 18:30	576	Yes	Yes	Yes	Yes	220	Yes	Yes	Yes	Yes	Yes*	Yes	Yes*	Yes*
17:45 to 18:45	505	Yes	Yes	No	Yes	206	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
18:00 to 19:00	436	Yes	Yes	No	Yes	176	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
18:15 to 19:15	297	No	Yes	No	No	116	Yes	Yes	Yes	Yes	No	No	Yes	No
18:30 to 19:30	170	No	No	No	No	62	No	No	Yes	Yes	No	No	No	No
18:45 to 19:45	57	No	No	No	No	21	No	No	No	No	No	No	No	No

Warrant 2: Four-hour Vehicular Volume

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information

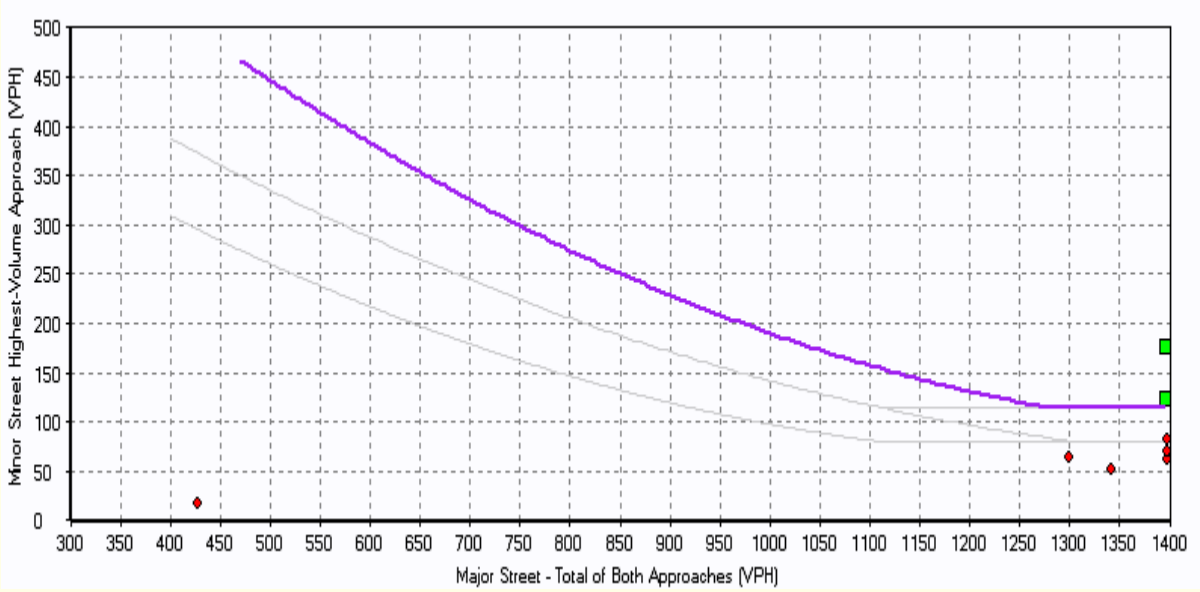
	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant 2 Met? **Yes**

Details:

Notes: 11 Hours met (4 required)

Low Population? **Yes**



Hourly Volumes		
Hour	Major Street Total of both approaches (VPH)	Minor Street Highest volume approach (VPH)
00:00:00 - 01:00:00	0.00	0.00
01:00:00 - 02:00:00	0.00	0.00
02:00:00 - 03:00:00	0.00	0.00
03:00:00 - 04:00:00	0.00	0.00
04:00:00 - 05:00:00	0.00	0.00
05:00:00 - 06:00:00	0.00	0.00
06:00:00 - 07:00:00	454.00	178.00
07:00:00 - 08:00:00	478.00	219.00
08:00:00 - 09:00:00	421.00	193.00
09:00:00 - 10:00:00	302.00	172.00
10:00:00 - 11:00:00	305.00	180.00
11:00:00 - 12:00:00	379.00	210.00
12:00:00 - 13:00:00	415.00	221.00
13:00:00 - 14:00:00	402.00	203.00
14:00:00 - 15:00:00	424.00	214.00
15:00:00 - 16:00:00	436.00	201.00
16:00:00 - 17:00:00	480.00	206.00
17:00:00 - 18:00:00	613.00	231.00
18:00:00 - 19:00:00	436.00	176.00
19:00:00 - 20:00:00	0.00	0.00
20:00:00 - 21:00:00	0.00	0.00
21:00:00 - 22:00:00	0.00	0.00
22:00:00 - 23:00:00	0.00	0.00
23:00:00 - 00:00:00	0.00	0.00

Warranted Hours		
Hour	Major Volume	Minor Volume
06:00:00 - 07:00:00	454.00	178.00
07:00:00 - 08:00:00	478.00	219.00
08:00:00 - 09:00:00	421.00	193.00
10:15:00 - 11:15:00	333.00	194.00
11:15:00 - 12:15:00	388.00	202.00
12:15:00 - 13:15:00	406.00	217.00
13:15:00 - 14:15:00	378.00	223.00
14:15:00 - 15:15:00	473.00	196.00
15:15:00 - 16:15:00	430.00	206.00
16:15:00 - 17:15:00	537.00	210.00
17:15:00 - 18:15:00	574.00	235.00

Note: Only data of hours warranted is represented in the above table.

Warrant 3: Peak Hour

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

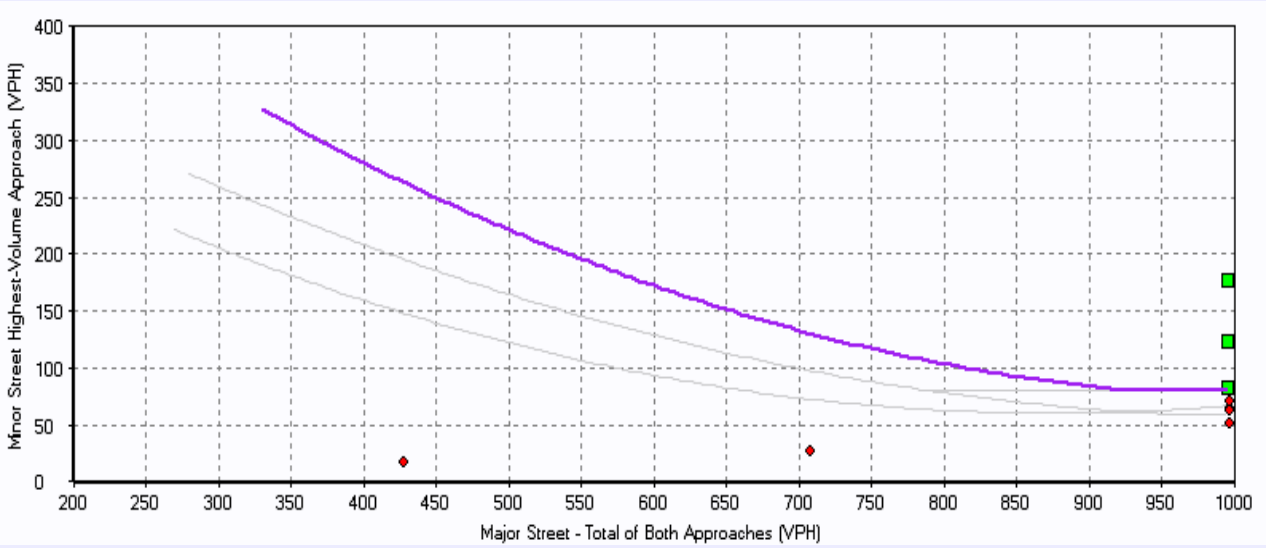
	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant 3 Met? **Yes**

Details:

Low Population?	Yes
Condition A Met?	No
Notes:	0 Hours met (1 required)
Minor Approach Time Delay Condition	Not Met
Minor Approach Volume Condition	Met
Total Entering Intersection Volume Condition	Not Met
Condition B Met?	Yes
Notes:	3 Hours met (1 required)

Warrant 3



Note: Please turn over for volume information.

Warranted / Unwarranted

Hour	Major Street Total of both approaches (VPH)	Minor Street Highest volume approach (VPH)
6:00	454	178
7:00	478	219
7:15	550	246
8:15	311	155
9:15	301	185
10:15	333	194
11:15	388	202
12:15	406	217
13:15	378	223
14:15	473	196
15:15	430	206
16:15	537	210
17:15	574	235
18:15	297	116

Warrant 4: Pedestrian Volume

2: HIGHWAY 1 & HIGHWAY 166

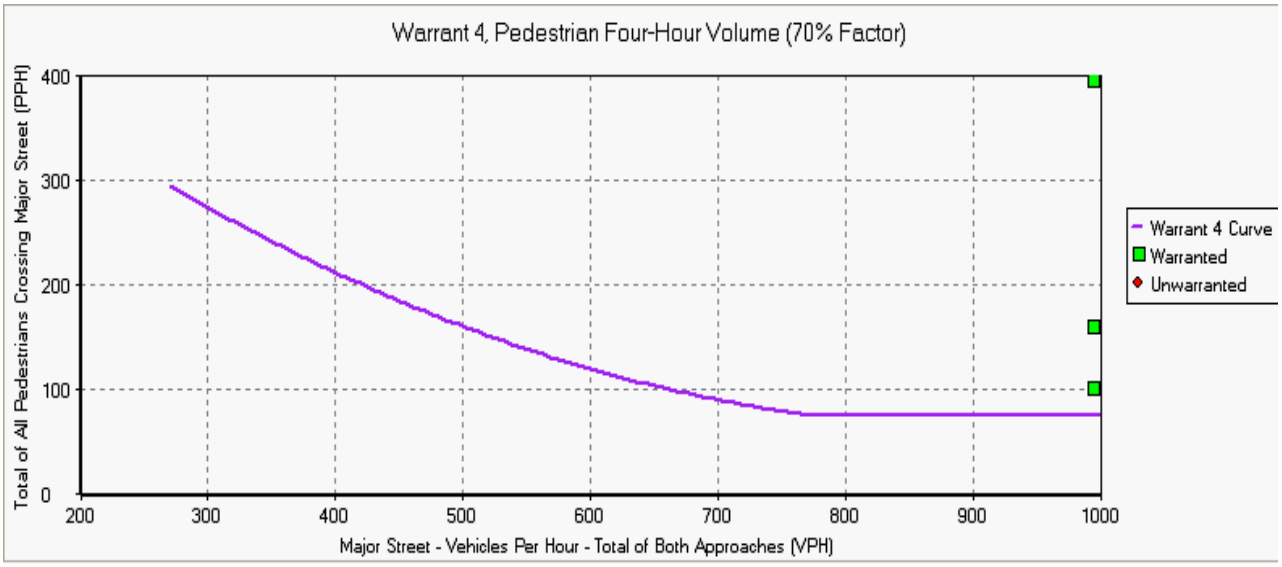
Intersection Information:

	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

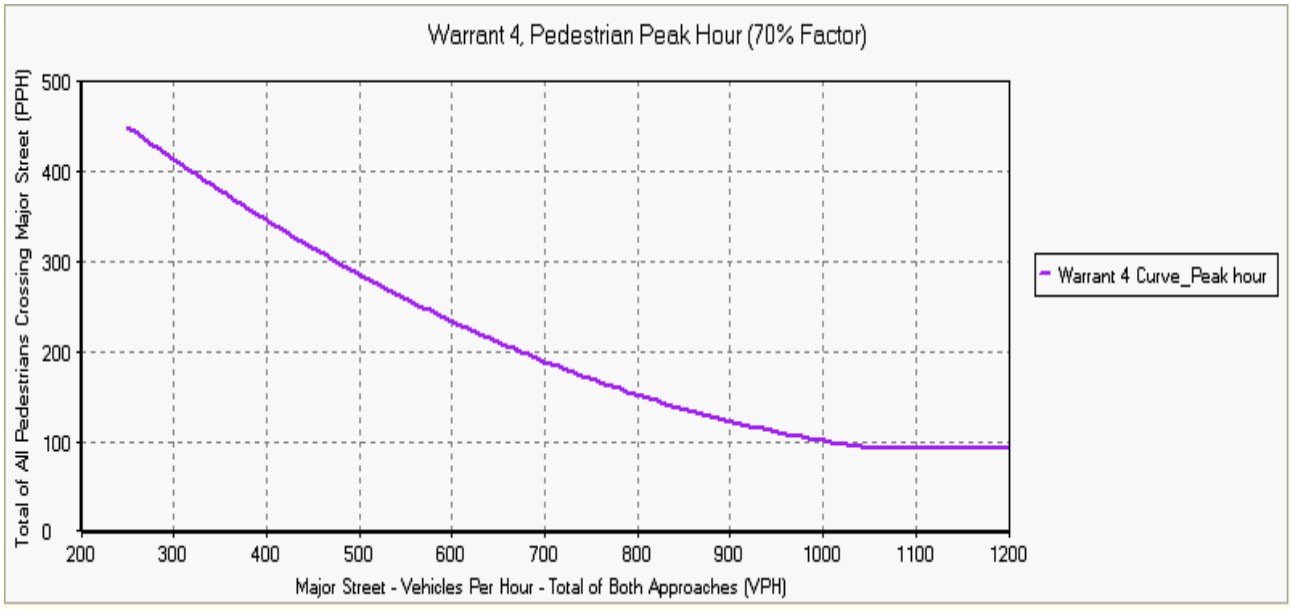
Warrant 4 Met? **No**

Details:

Pedestrian Four-Hour Volume Warrant met?	**No**
Pedestrian Peak Hour Warrant Met?	**No**
Notes:	0 Hours met (4 required)
Speed limit or 85th-percentile speed on the major street > 35 mph, or intersection lies within an isolated community with population < 10,000 ?	**Yes**



Warranted / Unwarranted		
Hour	Major Street Vehicle Volume (VPH)	Volume of Pedestrians Crossing Major Street (VPH)
6:00 am	454	4
7:00 am	478	13
8:00 am	421	7
9:00 am	302	3
11:00 am	379	3
12:00 pm	415	4
1:00 pm	402	2
2:00 pm	424	26
3:00 pm	436	13
4:00 pm	480	4
5:00 pm	613	7
6:00 pm	436	4



Pedestrian Peak Hour		
Hour	Vehicular Volume	Pedestrain Volume
07:15:00	550	17

Warrant 5: School Crossing

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB

Warrant 5 Met? **No**

Details:

Time Period Interval for Students Crossing (min)	**0**
Number of Students Crossing in Time Period	**16**
Number of Adequate Gaps in Time Period	**0**
Other Remedial Measures Attempted?	**No**
Adjacent Signal on EB approach?	**No**
Distance to signal on EB Approach (ft)	-
Adjacent Signal on WB approach?	**No**
Distance to signal on WB Approach (ft)	-
Will New Signal Restrict Progressive Traffic?	**No**

Warrant 6: Coordinated Signal System

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB

Warrant 6 Met? **No**

Details:

Approach Dir/Name	Acceptable Platooning?	Adjacent Coordinating Signal?	Adjacent Intersection Distance
EB Approach (HIGHWAY 166)	Yes	No	N/A
WB Approach (HIGHWAY 166)	Yes	No	N/A
NB Approach (HIGHWAY 1)	Yes	No	N/A
SB Approach (HIGHWAY 1)	Yes	No	N/A

Unacceptable Platooning? (At least one approach)	**Distance to Closest Signal** (Must be N/A or >= 1000)
No	**N/A**

Warrant 7: Crash Experience

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Warrant 7 Met? **No**

Details:

Low Population?	**Yes**	
Major Street Speed Limit	**45**	
Major Street 85th-Percentile Speed	**0.00**	
Qualifying Crashes	**2**	
Adequate Alternative Trials?	**No**	
Traffic Volume Condition Met?	**Yes**	13 Hours Met (8 Required)
Ped Volume Condition Met?	**No**	0 Hours Met (8 Required)

Hour	Traffic Volumes				Pedestrian Volumes			
			56% Standard Met? A OR B		Northbound Ped Volumes		Southbound Ped Volumes	
	Major Street Vehicles	Minor Street Vehicles	Condition A	Condition B	Peds	> 80?	Peds	> 80?
06:00 to 07:00	454	0	No	No	0	No	0	No
06:15 to 07:15	464	0	No	No	0	No	0	No
06:30 to 07:30	472	0	No	No	0	No	0	No
06:45 to 07:45	459	0	No	No	0	No	0	No
07:00 to 08:00	478	0	No	No	0	No	0	No
07:15 to 08:15	550	0	No	No	0	No	0	No
07:30 to 08:30	557	0	No	No	0	No	0	No
07:45 to 08:45	469	0	No	No	0	No	0	No

08:00 to 09:00	421	0	No	No	0	No	0	No
08:15 to 09:15	311	0	No	No	0	No	0	No
08:30 to 09:30	268	0	No	No	0	No	0	No
08:45 to 09:45	301	0	No	No	0	No	0	No
09:00 to 10:00	302	0	No	No	0	No	0	No
09:15 to 10:15	301	0	No	No	0	No	0	No
09:30 to 10:30	310	0	No	No	0	No	0	No
09:45 to 10:45	312	0	No	No	0	No	0	No
10:00 to 11:00	305	0	No	No	0	No	0	No
10:15 to 11:15	333	0	No	No	0	No	0	No
10:30 to 11:30	354	0	No	No	0	No	0	No
10:45 to 11:45	373	0	No	No	0	No	0	No
11:00 to 12:00	379	0	No	No	0	No	0	No
11:15 to 12:15	388	0	No	No	0	No	0	No
11:30 to 12:30	379	0	No	No	0	No	0	No
11:45 to 12:45	378	0	No	No	0	No	0	No
12:00 to 13:00	415	0	No	No	0	No	0	No
12:15 to 13:15	406	0	No	No	0	No	0	No
12:30 to 13:30	394	0	No	No	0	No	0	No
12:45 to 13:45	403	0	No	No	0	No	0	No
13:00 to 14:00	402	0	No	No	0	No	0	No
13:15 to 14:15	378	0	No	No	0	No	0	No
13:30 to 14:30	426	0	No	No	0	No	0	No
13:45 to 14:45	413	0	No	No	0	No	0	No
14:00 to 15:00	424	0	No	No	0	No	0	No
14:15 to 15:15	473	0	No	No	0	No	0	No
14:30 to 15:30	464	0	No	No	0	No	0	No

14:45 to 15:45	462	0	No	No	0	No	0	No
15:00 to 16:00	436	0	No	No	0	No	0	No
15:15 to 16:15	430	0	No	No	0	No	0	No
15:30 to 16:30	429	0	No	No	0	No	0	No
15:45 to 16:45	454	0	No	No	0	No	0	No
16:00 to 17:00	480	0	No	No	0	No	0	No
16:15 to 17:15	537	0	No	No	0	No	0	No
16:30 to 17:30	548	0	No	No	0	No	0	No
16:45 to 17:45	613	0	No	No	0	No	0	No
17:00 to 18:00	613	0	No	No	0	No	0	No
17:15 to 18:15	574	0	No	No	0	No	0	No
17:30 to 18:30	576	0	No	No	0	No	0	No
17:45 to 18:45	505	0	No	No	0	No	0	No
18:00 to 19:00	436	0	No	No	0	No	0	No
18:15 to 19:15	297	0	No	No	0	No	0	No
18:30 to 19:30	170	0	No	No	0	No	0	No
18:45 to 19:45	57	0	No	No	0	No	0	No

Warrant 8: Roadway Network

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

Warrant 8 Met? (A or B) **Yes**

Details:

Growth Rates (per year)

NB		SB		EB		WB	
L	2.00%	L	2.00%	L	2.00%	L	2.00%
T	2.00%	T	2.00%	T	2.00%	T	2.00%
R	2.00%	R	2.00%	R	2.00%	R	2.00%

Condition A, Total Entering Volume

Existing Peak Hour	1003
Years	0.00
Future Peak Hour	1003
Warrant 1 in 5 Years?	Yes
Warrant 2 in 5 Years?	Yes
Warrant 3 in 5 Years?	Yes

Condition B, Non-normal Business Day

Existing

Highest Hour	0
Second Highest Hour	0
Third Highest Hour	0
Fourth Highest Hour	0
Fifth Highest Hour	0
Yearly Growth Rate	0.00%
Years	0.00

Future

Highest Hour	0
Second Highest Hour	0
Third Highest Hour	0
Fourth Highest Hour	0
Fifth Highest Hour	0

Condition A Met? **Yes** Condition B Met? **No**

Warrant 9: Intersection Near a Grade Crossing

2: HIGHWAY 1 & HIGHWAY 166

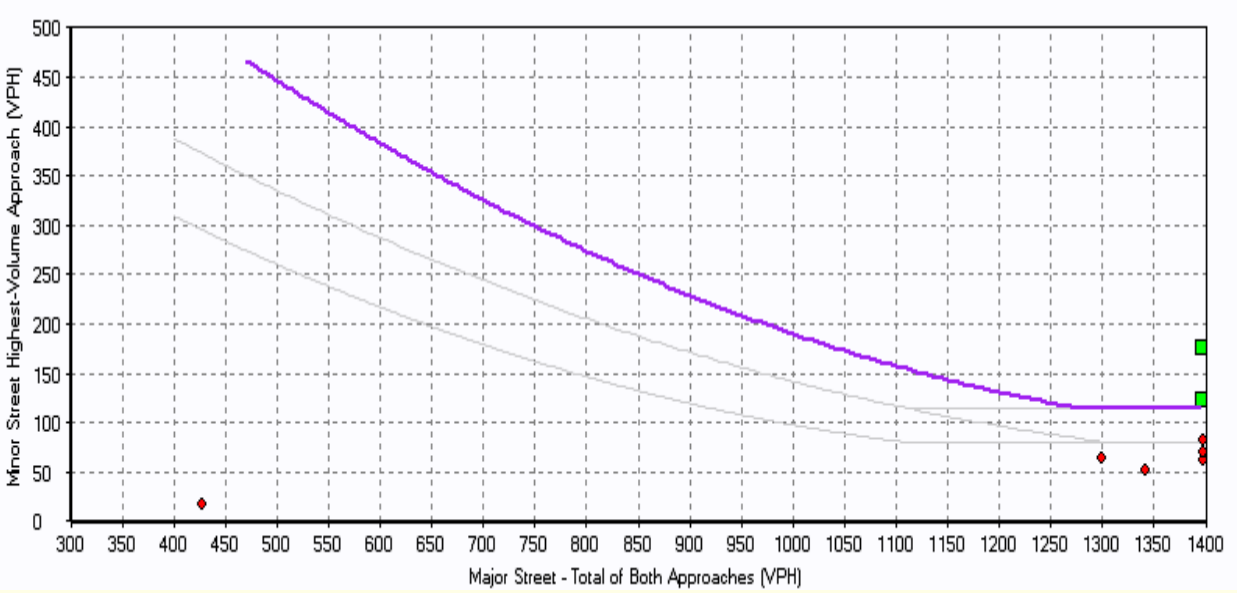
Intersection Information:

	Major Street	Minor Street
Street Name	HIGHWAY 166	HIGHWAY 1
Direction	EB/WB	NB/SB
Number of Lanes	1	1
Approach Speed	45	55

Warrant 9 Met? **No**

Details:

Note: No approach with a railroad grade crossing	
Minor-street approach having a grade crossing	
Distance from the center of the track to the stop or yield line	interpolated
Number of occurences of rail traffic per day	Adjustment factor
Percentage of high-occupancy buses crossing the track	% Adjustment factor
Percentage of tractor-trailer trucks crossing the track	% Adjustment factor
The rail traffic arrival times are uknown, the highest traffic volume hour of the day is used	



Warranted / Unwarranted		
Hour	Major Street Total of Both Approaches (VPH)	Adjusted Volume of Minor Approach Crossing the Track (VPH)

All-Way Stop Control Warrant : Multiway Stop Applications

2: HIGHWAY 1 & HIGHWAY 166

Intersection Information:

Major Street Name	HIGHWAY 166
Major Direction	EB/WB
Minor Direction	NB/SB

AWSC Warrant Met? **Yes**

Details:

Condition A Met?	**Yes**	
Condition B Met?	**No**	
Condition C Met?	**No**	Delay for highest hour < 30 sec/veh

Qualifying Crashes	2
Major Street 85th-Percentile Speed	0.00
Major Street Speed Limit	45

Hour	Traffic Volumes		Bicycle Volumes		Ped Volumes		Condition C		
	Major Street Vehicles	Minor Street Vehicles	Northbound Bicycle Volumes	Southbound Bicycle Volumes	Northbound Bicycle Volumes	Southbound Bicycle Volumes	**Major Street**	**Minor Street**	
							(Total Vehicle Volume) >= 300	Avg(Veh + Ped + Bicycle) >= 200	Delay >= 30
06:00 to 07:00	454	236	0	0	0	0	Yes	No	Yes
07:00 to 08:00	478	277	0	0	0	0	Yes	No	Yes
08:00 to 09:00	421	238	0	0	0	0	Yes	No	Yes
09:00 to 10:00	302	219	0	0	0	0	Yes	No	Yes
10:00 to 11:00	305	223	0	0	0	0	Yes	No	Yes
11:00 to 12:00	379	309	0	0	0	0	Yes	No	Yes
12:00 to 13:00	415	298	0	0	0	0	Yes	No	Yes
13:00 to 14:00	402	267	0	0	0	0	Yes	No	Yes
14:00 to 15:00	424	294	0	0	0	0	Yes	No	Yes
15:00 to 16:00	436	315	0	0	0	0	Yes	No	Yes
16:00 to 17:00	480	323	0	0	0	0	Yes	No	Yes
17:00 to 18:00	613	379	0	0	0	0	Yes	No	Yes
18:00 to 19:00	436	230	0	0	0	0	Yes	No	Yes