

ATTACHMENT 1

EXHIBIT B

TRAFFIC IMPACT ANALYSIS
FOR
MIDDLETOWN DOLLAR GENERAL STORE
Lake County, CA

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Middletown Dollar General.rpt

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**TRAFFIC IMPACT ANALYSIS FOR
MIDDLETOWN DOLLAR GENERAL STORE**
Lake County, CA

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION.....	5
Study Purpose and Objectives	5
Project Description	5
EXISTING SETTING	7
Study Area Streets	7
Bicycle and Pedestrian Facilities	7
Public Transit.....	8
Study Area Intersections.....	8
Level of Service Analysis	8
Existing Traffic Operating Conditions	10
PROJECT CHARACTERISTICS.....	13
Trip Generation.....	13
Trip Distribution	14
Trip Assignment	14
PROJECT IMPACTS	16
Opening Day Plus Project Conditions	16
Impacts to Non-Automotive Transportation Modes.....	18
CUMULATIVE IMPACTS	19
Existing Plus Approved/Pending Projects (EPAP) Conditions	19
Year 2035 Cumulative Impact Analysis	19
MITIGATION SUMMARY	22
APPENDIX.....	23

February 12, 2015

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**TRAFFIC IMPACT ANALYSIS FOR
MIDDLETOWN DOLLAR GENERAL STORE**
Lake County, California

EXECUTIVE SUMMARY

- **Project Description.** The project is a 9,100 sf retail store to be located along State Route 29 (SR 29) just east of the Lake County community of Middletown. The store will occupy a portion of a vacant site on the south side of SR 29 between the Wardlaw Street and Butts Canyon Road intersections, as shown in Figure 1. The store is across SR 29 from the Middletown Bible Church.

The Trip Generation forecast for this store has been based on consideration of trip generation rates published by the Institute of Transportation Engineers (ITE) in their publication *Trip Generation Manual 9th Edition*. The project is expected to generate approximately 583 daily trips on a weekday basis (i.e., ½ inbound and ½ outbound). Of that total 35 trips are expected during the a.m. peak hour and 62 trips will occur during the evening commute hour. Of the project's traffic 34% is expected to be drawn from the stream of traffic already using SR 29 by the site (i.e., "pass-by" trips). The site will be visited by 3 or 4 large trucks (STAA) each week, although single unit trucks will likely make deliveries each day. A loading dock is planned on the southern end of the site. Thirty on-site parking stalls will be available, as shown in Figure 2.

The site plan indicates that access to the site is proposed at a single driveway on SR 29. The driveway will roughly align with the existing driveway serving the Middletown Bible Church.

- **Study Scope.** The breadth of this traffic study was determined in consultation with Caltrans District 1 and Lake County Public Works Department staff. The study evaluates immediate and long term traffic impacts at site access during the a.m. and p.m. peak traffic hours. This study adheres to Caltrans guidelines for the preparation of traffic impact studies.
- **Existing Setting.** SR 29 is a major arterial route serving Lake County providing access to Napa County to the south and connecting Middletown with the communities around Clear Lake to the north. In the area of the project SR 29 is a conventional two lane highway.

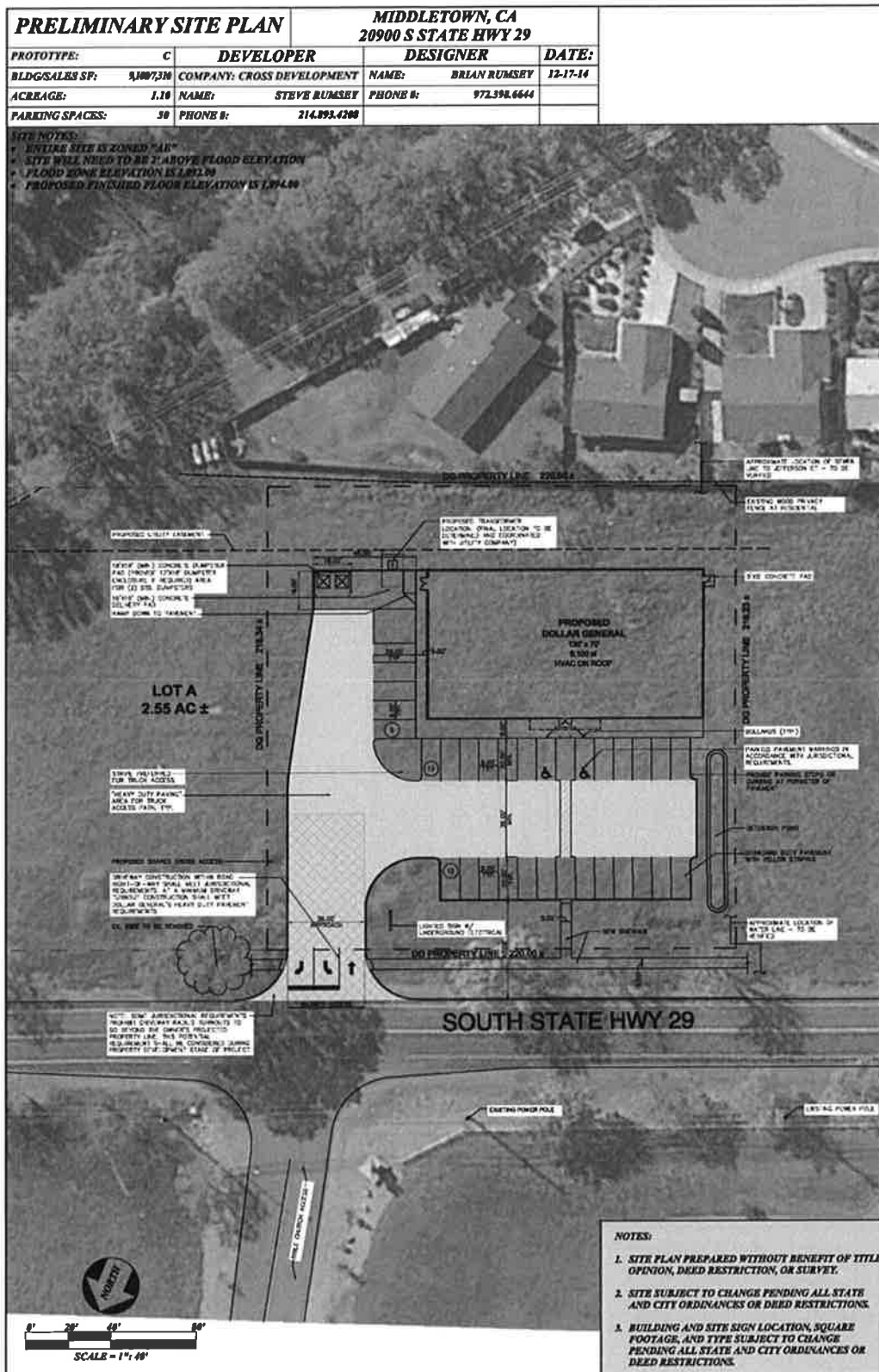
Peak hour traffic operations were evaluated at the existing intersection on SR 29 where the Dollar General Store will take access. Today motorist waiting to turn onto SR 29 from the Middletown Bible Church parking lot experience delays that are indicative of LOS C in the a.m. peak hour and LOS B in the p.m. peak hour. However, in the morning a long westbound queue of traffic extends back from the Wardlaw Street traffic signal beyond the Middletown Bible Church parking lot during the period when area residents are dropping off students at

Middletown's school. The current Levels of Service for motorists exiting the church parking lot satisfy the Lake County minimum LOS C goal and the Caltrans TRC concept LOS E.

- **Project Traffic Impacts on Existing Traffic Conditions.** The project will add traffic to the area street system, but without improvements, study area intersections will still maintain acceptable Levels of Service in the vicinity of the project. The project will generate 35 trip ends in the a.m. peak hour and 62 trip ends in the p.m. peak hour.
- **Project Impacts on Alternative Transportation Modes.** The project may result in some pedestrians walking along SR 29. Sidewalk is planned as part of the project's frontage improvements, and in combination with the existing paved shoulders will provide adequate access. A marked crosswalk across SR 29 at the site access is not recommended.
- **Project Access Issues.** The volume of traffic at the project access will justify a westbound left turn lane based on AASHTO guidelines. The site access will need to accommodate truck turns. These improvements should accompany the project and be installed by the project proponents.
- **Cumulative Plus Project Impacts.** Long term traffic growth on SR 29 will make access from fronting properties difficult. Whether the Dollar General Store proceeds or not, a continuous Two-Way-Left-Turn lane will be needed, and with this improvement the project's access will deliver an adequate Level of Service. The TWLT lane will eventually benefit all the properties along SR 29, and the Dollar General Store project should contribute its fair share to the cost of a TWLT lane by installing its westbound left turn lane, which is part of the TWLT lane.
- With implementation of identified improvements the traffic impacts of the Dollar General Store are less than significant.



VICINITY MAP



INTRODUCTION

Study Purpose and Objectives

This study evaluates the traffic impacts associated with developing a free-standing 9,100 sf Dollar General Store proposed on the south side of State Route 29 on the east side of the Lake County community of Middletown.

This study adheres to Caltrans traffic study guidelines and direction from Lake County Public Works Department staff. This study addresses the following scenarios, and considers conditions occurring during the a.m. and p.m. peak hour periods:

1. Existing traffic conditions in Year 2014;
2. Existing Plus Dollar General Store conditions;
3. Future Cumulative (Year 2035) conditions as presented in the SR 29 Transportation Concept Report (TCR) without the project; and,
4. Year 2035 conditions with the Dollar General Store.

The objectives of this study are:

- To identify whether the site access intersection will operate with minimum Levels of Service when the Dollar General Store is operating.
- To evaluate the adequacy of site access, with specific consideration of the need for a left turn lane on SR 29.
- To evaluate the adequacy of internal circulation, with specific consideration of the path of delivery trucks.
- To evaluate the adequacy of bicycle and pedestrian facilities in this area of the city.
- To evaluate long term impacts within the context of long term traffic conditions assuming development under the Lake County General Plan and regional traffic growth.

Project Description

Dollar General Stores is a chain of small to medium sized convenience oriented discount stores that are prevalent on the east coast but have only recently appeared in California. While store hours vary from store to store, this Dollar General Store is expected to be open from 7:00 a.m. to 11:00 p.m.

The Dollar General Store will occupy a 2½ acre portion of a vacant site on the south side of SR 29 between Wardlaw Street and Butts Canyon Road, as shown in Figure 1. The store is across the Middletown Bible Church.

The site plan (Figure 2) indicates that access to the site is proposed at a new driveway on SR 29. The driveway will roughly align with the existing driveway serving Middletown Bible Church and is 1,200 feet from the signalized Wardlaw Street intersection to the west and 950 feet from the Butts Canyon Road intersection to the east.

The project parking lot provides 30 parking spaces and includes a truck loading area. The truck loading area is at the south end of the site. Trucks would enter from SR 29, move along the front of the building and position themselves facing the SR 29 exit. Project proponents indicate full size trucks will make deliveries to the site three or four times a week and that STAA sized trucks could be involved.

EXISTING SETTING

Study Area Streets

This study addresses traffic conditions on state highways and Lake County roads in the vicinity of the proposed project within a study area identified in consultation with Caltrans District 1 and Lake County Department of Public Works staff. The text that follows describes the facilities included in this analysis.

Regional access to Middletown is provided by State Route 29 and to a lesser degree State Route 175 and Butts Canyon Road. Access to the Dollar Store will be via SR 29. The text that follows describes these existing facilities.

Functionally, study area streets are classified as Arterials, Collectors or Local Streets. The applicable designation is presented in the State Route 29 Transportation Concept Report (TCR), Lake County Regional Transportation Plan and Lake County General Plan Circulation Element.

State Route 29 (SR 29). SR 29 begins at the Napa/Lake County line and continues north through the community of Middletown to the community of Lower Lake and then proceeds north-west through the community of Kelseyville and the City of Lakeport to its terminus on SR 20 in Lower Lake. The southern portion of SR 29 is classified a Rural Minor Arterial road. In the area of the proposed Dollar General Store SR 29 is a two lane conventional highway with two 12' travel lanes and 4' paved shoulders. The Robert H. Weatherman Memorial Bridge across the Saint Helena Creek is located roughly 500 feet east of the proposed project access.

The California Department of Transportation (Caltrans) regularly monitors the volume of traffic on state highways. The most recent Caltrans traffic counts (2013) reveal that SR 29 carries an *Annual Average Daily Traffic (AADT)* volume of 11,500 vehicles per day in the area between the SR 175 junction and Butts Canyon Road. A 24 hr count conducted for this study on January 27, 2015 reported 11,155 vehicles on SR 29 west of the Middletown Bible Church access.

Trucks comprise 3% of the daily traffic volume on the portion of SR 29 near the project. The portion of SR 29 between the Napa County line and SR 175 in Middletown is a California Legal Advisory Road. The portion of SR 29 north of SR 175 to SR 20 is an STAA Terminal Route.

The posted speed limit on SR 29 is 45 mph in the area of the proposed Dollar General Store.

Bicycle and Pedestrian Facilities

Sidewalks exist today along Middletown's streets in the area west of the Wardlaw Street intersection. There are no sidewalks in the immediate area of the proposed Dollar General Store. There are crosswalks across SR 29 at Wardlaw Street and at the other intersections on SR 29 through Middletown. The existing paved shoulder along SR 29 in the area of the project is considered to be adequate for pedestrian traffic by Caltrans.

Public Transit

Lake Transit provides bus routes, regional flex route service and local dial-a-ride services within Lake County. One Lake Transit bus route utilizes SR 29 in the area of the project. Bus Route 3 which originates in the City of Clearlake uses SR 29 from Lower Lake to the Lake/Napa County line. Service is provided Monday through Saturday with five trips per day in each direction (four on Saturday).

Study Area Intersections

The limits of this analysis were identified in consultation with Caltrans District 1 and Lake County staff. Based on the amount of vehicular traffic associated with the proposed project and their understanding of traffic conditions in the Middletown area, this study focusses on the SR 29 / Middletown Bible Church Access intersection, as this will also be access to the Dollar General Store.

The **SR 29 / Middletown Bible Church Access intersection** is a 'tee' intersection controlled by an implied stop sign on the church parking lot exit. There is a single lane in each direction on SR 29 and on the church access. There are no auxiliary turn lanes at this intersection. A street light exists on the northeast corner of the intersection.

Level of Service Analysis Methodology / Thresholds of Significance

Methodology. The *2000 Highway Capacity Manual* was used to provide a basis for describing the quality of existing traffic operating conditions and for evaluating the significance of project traffic impacts based on operating Level of Service. Level of Service (LOS) measures the *quality* of traffic flow and is represented by letter designations from "A" to "F", with a grade of "A" referring to the best conditions, and "F" representing the worst conditions. Table 1 presents typical Level of Service characteristics.

**TABLE 1
LEVEL OF SERVICE DEFINITIONS**

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 60.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 60.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.
Sources: 2000 <u>Highway Capacity Manual</u> , Transportation Research Board (TRB) Special Report 209.			

Level of Significance. Caltrans employs various minimum Level of Service standards for its facilities depending on the type of facility and the characteristics of the location. Caltrans general minimum standard of LOS C is noted in Caltrans' Traffic Study Guidelines, but exceptions to that standard are documented in various planning and policy documents. In the case of SR 29, the 2013 *SR 29 Transportation Concept Report (TCR)* identified LOS E as the Concept Level of Service for SR 29 in the Middletown area.

The Lake County General Plan Policy T 1.8 identifies LOS C as the County's goal for its street but recognizes that LOS E may be accepted in locations where measures to provide LOS C are deemed infeasible due to cost, negative community and/or environmental impacts, and constructability issues.

The conditions described using Levels of Service vary for different types of intersections. Where traffic signals or all-way stops are installed, the Level of Service is based on the length of delays experienced by motorists stopped at the intersection, and overall average Level of Service is considered. At unsignalized intersections controlled by side street stop signs, individual Levels of Service can be determined for all motorists who must yield the right of way.

Existing Traffic Operating Conditions

Traffic Volumes. Current a.m. and p.m. peak hour turning movement counts were made at the study intersection during the a.m. peak hour (7:00 to 9:00 a.m.) and p.m. peak hour (4:00 to 6:00 p.m.) on January 27, 2015.

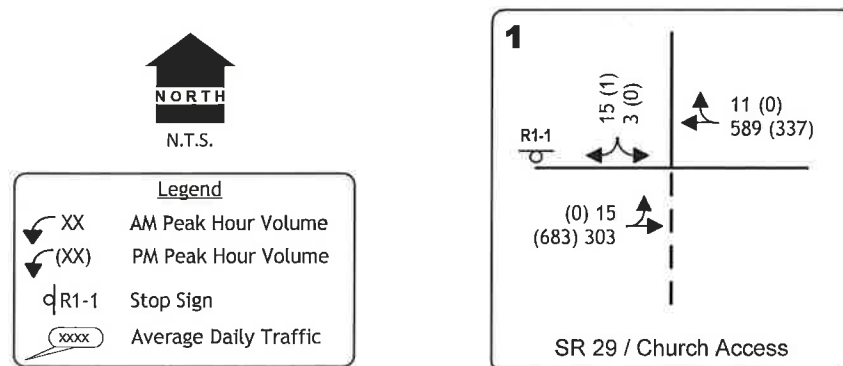
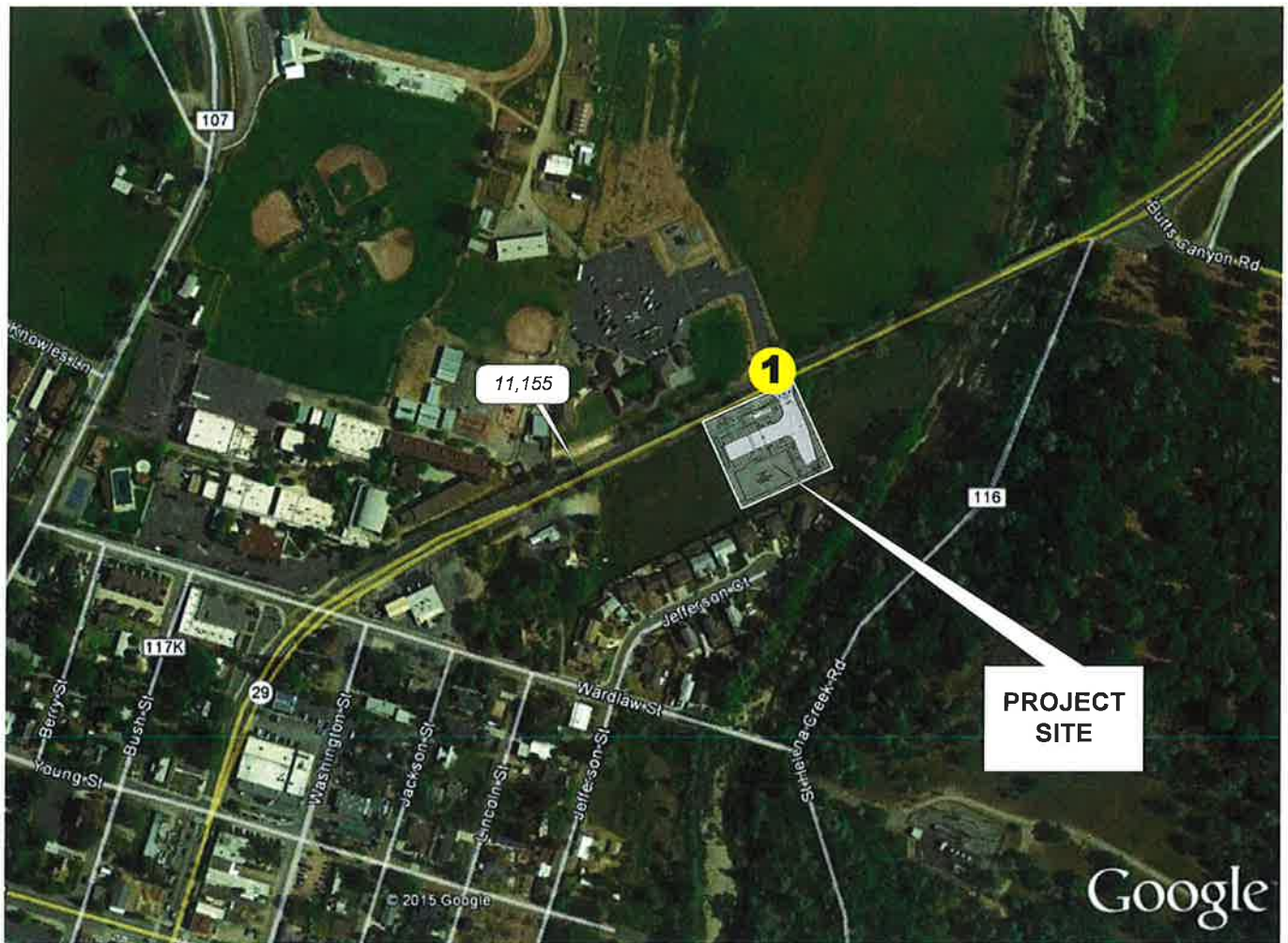
Figure 3 identifies the current intersection lane configuration used for the Level of Service analysis, as well as the results of the peak hour turning movement counts.

Intersection Levels of Service. Table 2 summarizes current Levels of Service at the study area intersections during the highest volume hour within each analysis period. As shown, the current Level of Service for traffic waiting to enter SR 29 is LOS C in the a.m. peak hour and LOS B in the p.m. peak hour. These conditions are within the County's LOS C goal and the TCR goal of LOS E.

TABLE 2 EXISTING PEAK HOUR LEVELS OF SERVICE						
Location	Control	AM Peak Hour		PM Peak Hour		Traffic Signal Warranted?
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	
SR 29 / Middletown Bible Church SB left + right turn	SB Stop	C	16.0	B	10.4	No

It is important to note that during the a.m. peak hour short term congestion associated with travel to Middletown schools and regional commute traffic results in appreciable congestion at the signalized intersection in the community. During that time period the queue of westbound traffic on SR 29 extends back from the Wardlaw Street intersection through the Middletown Bible Church driveway. Level of Service calculations do not reflect the delays associated with queueing from adjoining intersections.

Traffic Signal Warrants. As noted in Table 2, the intersection does not carry traffic volumes that reach a level that would satisfy peak hour warrants for signalization.



EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Left Turn Channelization. The American Association of State Transportation and Highway Officials (AASHTO) has identified guidelines for the installation of left turn lanes in their publication *A Policy on Geometric Design of Highways and Streets*. These guidelines, which are presented in their Exhibit 9-75 and Table 3 below, base the need for a left turn lane on the volume of traffic on the mainline road and the relative percentage of that traffic that turns. These criteria are applicable to intersections where the major street traffic proceeds freely and side street traffic is controlled by stop signs.

Review of weekday a.m. and p.m. peak hour volumes at the Middletown Bible Church access reveals that the greater number of left turns occurs during the a.m. peak hour. As noted in Table 3, the current combination of advancing and opposing volumes occurring during the a.m. peak hour traffic falls below the level that would justify a separate left turn lane at 40 or 50 mph.

TABLE 3 TRAFFIC VOLUMES JUSTIFYING LEFT TURN LANES				
Opposing Volume (veh/hr)	Advancing Volume (veh/hr)			
	5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns
40-mph operating speed				
800	330	240	180	160
600	318 (5%)	-	-	-
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340
50-mph operating speed				
800	280	210	165	135
600	318 (5%)	-	-	-
600	350	260	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
60-mph operating speed				
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240
Source: <i>A Policy on Geometric Design of Highway and Streets</i> , AASHTO, 2004. Existing AM Peak Hour at SR 29 / Middletown Bible Church				

PROJECT CHARACTERISTICS

The relative impacts of developing the Dollar General Store and the adequacy of site access is dependent on the physical characteristics of the adjoining street system, as well as the amount of traffic generated by the proposed project. The amount of additional traffic on a particular section of the street network is dependent upon two factors:

- I. Trip Generation, the number of new trips generated by the project, and
- II. Trip Distribution and Assignment, the specific routes that the new traffic takes.

Trip Generation

This analysis considered trip generation rates derived from several sources. The Institute of Transportation Engineers (ITE) publication “*Trip Generation, 9th Edition*” provides information on the characteristics of various retail uses. The use most similar to Dollar General Store is “Variety Store” (Code 813). This information is based on surveys prepared for the Florida Department of Transportation (FDOT) in early 2011. The land use description notes that a Variety Store is a retail store providing health care & beauty aids, cleaning supplies, snack food, household items and some apparel. This is not a “dollar store” where everything is priced at one dollar, but rather is a small neighborhood store offering value and convenience. The stores studied were free-standing and catered to the local neighborhood. The 15 sites studied had building floor areas that ranged from roughly 8,000 to 17,000 square feet. Table 4 identifies the trip generation rates reported by ITE.

TABLE 4 TRIP GENERATION RATES							
Land Use / Source	Unit	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Variety Store	ksf	50%	50%	3.81	50%	50%	6.82
Middletown Dollar General Store	9.1 ksf	18	17	35	31	31	62
Pass-By Trips	34%	<6>	<6>	<12>	<11>	<10>	<21>
Net New Trips		12	11	23	20	21	42
Source: ITE Code or FDOT Study							

Trip Generation Forecasts. Table 4 displays the a.m. and p.m. peak hour trip generation forecasts for the 9.1 ksf Dollar General Store. As shown, a portion of the traffic drawn to these stores would be drawn from the stream of traffic already passing each site. Customer surveys conducted for the FDOT study revealed that on average 34% of the weekday trips were “pass-by”. This rate is comparable to the average pass-by rates reported by ITE for all shopping centers (i.e., also 34%).

As noted in Table 4, the project is expected to generate 23 new trips during the a.m. peak hour, with 42 new trips occurring during the p.m. peak hour.

The volume of traffic generated by variety stores is highest at midday and during the evening commute period. On a daily basis, these stores generate 64.03 trips per ksf. After discount for “pass-by trips”, the proposed project may generate 384 new daily trips (½ inbound and ½ outbound).

Truck Trips. The proposed project will receive regular deliveries from the Dollar General Stores regional distribution center serving this area of California. Project proponents anticipate that 3 full size trucks will visit the store each week, although smaller single unit trucks may visit each day. Some of the full size trucks are expected to be STAA trucks (53') permitted on California highways under the Surface Transportation Authorization Act.

Truck Turning Requirements. These issues are important with regards to truck circulation. The project will result in full size trucks (STAA) turning into and out of the site via the project’s SR 29 access intersection. The turning requirements of large trucks (i.e., STAA trucks) will need to be reviewed when final plans are prepared.

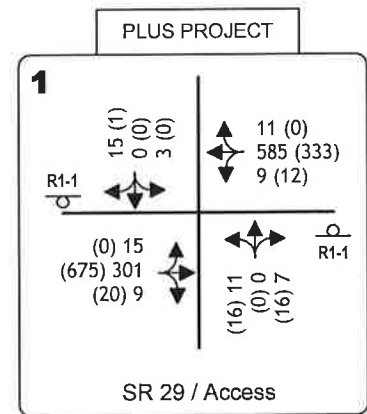
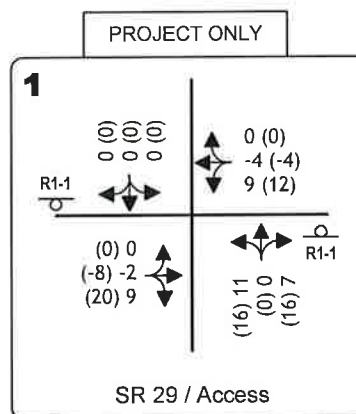
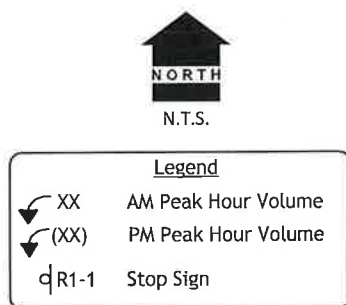
Trip Distribution

The distribution of project traffic was determined based on knowledge of the demographic distribution of residences in the south Lake County area and on market characteristics of Dollar General Stores. As noted in Table 5, the majority of the new trips attracted to the site will arrive from the west and a lesser share will arrive from the east. Pass-by trips will be drawn from passing in proportion to the volume of traffic during each time period.

TABLE 5 PROJECT TRIP DISTRIBUTION				
Direction	Route	Percentage of All Trips		
		New	Pass-By	
			AM	PM
East	SR 29	40%	-	-
West	SR 29	60%	-	-
Eastbound on SR 29		-	33%-	67%
Westbound on SR 29		-	67%	33%
Total		100%	100%	100%

Trip Assignment

Project trips were assigned to the adjacent street, and Figure 4 illustrates the projected “Dollar General Store Traffic Only” traffic volumes forecast for the a.m. and p.m. peak hours.



EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

PROJECT IMPACTS

Opening Day Plus Project Traffic Conditions

The impacts of operating the proposed project have been identified by superimposing project trips onto the existing background condition. Resulting intersection Levels of Service were then calculated and used as the basis for evaluating potential project impacts. Figure 4 also presents the “Existing Plus Project” traffic volumes used for this analysis.

Intersection Levels of Service. Table 6 compares Existing and Plus Project peak hour Levels of Service and average delay per vehicle at the access intersection. As shown, motorists entering SR 29 will experience delays that are characteristics of LOS C conditions. However, as noted, delays may be longer in the a.m. peak hour due to short term congestion created at traffic signals in Middletown.

TABLE 6 EXISTING PLUS PROJECT PEAK HOUR LEVELS OF SERVICE									
Location	Control	AM Peak Hour				PM Peak Hour			
		Existing		Ex Plus Project		Existing		Ex Plus Project	
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
SR 29 / Middletown Bible Church	NB-SB Stop								
SB left + right turn		C	16.0	C	17.1	B	10.4	B	10.4
NB left + right turn		-	-	C	24.1	-	-	C	23.6

Left Turn Lane Channelization. The combination of opposing and advancing vehicles at the project access has been reviewed and compared to AASTO guidelines to determine whether a separate westbound left turn lane is justified. The greatest number of left turns will be expected during the p.m. peak hour, and at that time the 12 anticipated left turns would equal 4% of the total advancing traffic. As shown in Table 7, the forecast traffic volumes fall within the range that suggests a separate left turn lane is needed.

TABLE 7 EXISTING PLUS PROJECT TRAFFIC VOLUMES JUSTIFYING LEFT TURN LANES				
Opposing Volume (veh/hr)	Advancing Volume (veh/hr)			
	5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns
40-mph operating speed				
800	330	240	180	160
695	345 (4%)	-	-	-
600	318 (5%)	-	-	-
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340
50-mph operating speed				
800	280	210	165	135
695	345 (4%)	-	-	-
600	318 (5%)	-	-	-
600	350	260	195	170
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200	550	400	300	270
100	615	445	335	295
60-mph operating speed				
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240
Source: <i>A Policy on Geometric Design of Highway and Streets, AASHTO, 2004.</i>				
Existing AM Peak Hour at SR 29 / Middletown Bible Church				
Existing PM Plus Project at Project Access				

Design Issues. Caltrans typically designs left turn lanes to accommodate both waiting vehicles and the deceleration requirements of vehicles making turns. HDM Table 405.2b notes the distance recommended for a vehicle to come to a stop at various speeds. For a 45 mph design a distance of 375 feet is noted, although the HDM does permit designs that assume partial deceleration in the travel lane prior to entering the left turn lane. A portion of SR 49 east and west of the left turn lane will also need to be widened to accommodate the transition area. Assuming that widening occurs on both north and south sides of the highway intersection, a transition length of 270 feet would be needed to accommodate 6 feet of widening in each area.

The distance from the access to the adjoining bridge will play a role in the design of the left turn lane. Roughly 515 feet could be available from the end of a left turn lane and the guardrail on the north side of SR 29. Within that distance the work will need to accommodate the transition area (i.e., 270 feet), a bay taper into the new lane (90 feet) and a left turn lane that is roughly 155 feet long. The sum of turn lane and bay taper is 245 feet, which would satisfy HDM requirement for deceleration from 30 mph to a stop. A 270 foot long transition will be needed west of the intersection to bring the travel lanes back to centerline.

Impacts to Non-Automotive Transportation Modes

Pedestrian Impacts. The proposed project could attract pedestrians from Middletown. While the project frontage may include sidewalk, these persons would be expected to walk along the existing paved shoulder to and from Middletown and to cross SR 29 at a controlled location in town.

It is possible that pedestrians may occasionally wish to walk across SR 29 from the Middletown Bible Church, although pedestrian activity would be relatively rare. Marked crosswalks can have the unintended consequence of providing pedestrians with a false sense of security. Because pedestrians may incorrectly assume that drivers will stop due to the crosswalk, a marked crossing at the project access is not recommended.

Bicycle Impacts. Similarly, the project may attract bicycle traffic from Middletown. While there are no designated bicycle facilities, the existing paved shoulder will be adequate for this purpose.

CUMULATIVE IMPACTS

Based on Caltrans traffic study guidelines, this analysis considers two cumulative traffic conditions:

1. Existing Plus Approved or Pending Projects (EPAP), and
2. Year 2035 Conditions as projected in the SR 29 TCR.

Existing Plus Approved / Pending Projects (EPAP) Conditions

Approved Projects. The status of other development projects in the Middletown area was discussed with Lake County and Caltrans staff. As no approved / pending projects were identified, the Existing Plus Approved Project scenario was not investigated for this analysis.

Year 2035 Cumulative Impact Analysis

Available data suggests that the volume of traffic on SR 29 will increase in the future as regional traffic continues to increase. Table 8 compares daily traffic volumes on SR 29 reported by Caltrans. Comparison of 1993 and 2013 volumes reveals that daily traffic grew at a rate of about 2.1% annually over this twenty year period. Assuming that the TCR Horizon year is 20 years from 2013, the projected growth rate over this period is 2.4% annually.

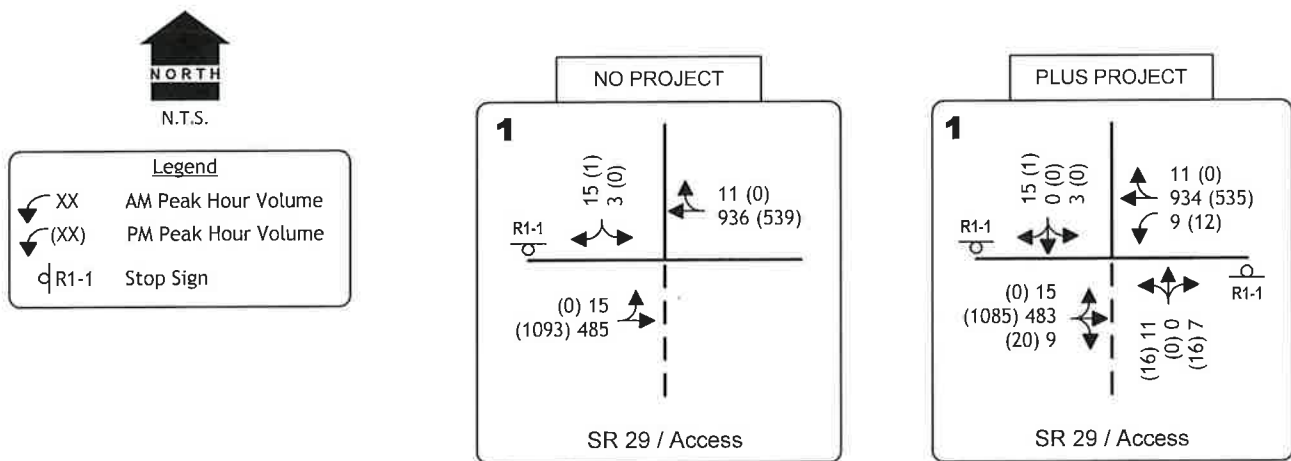
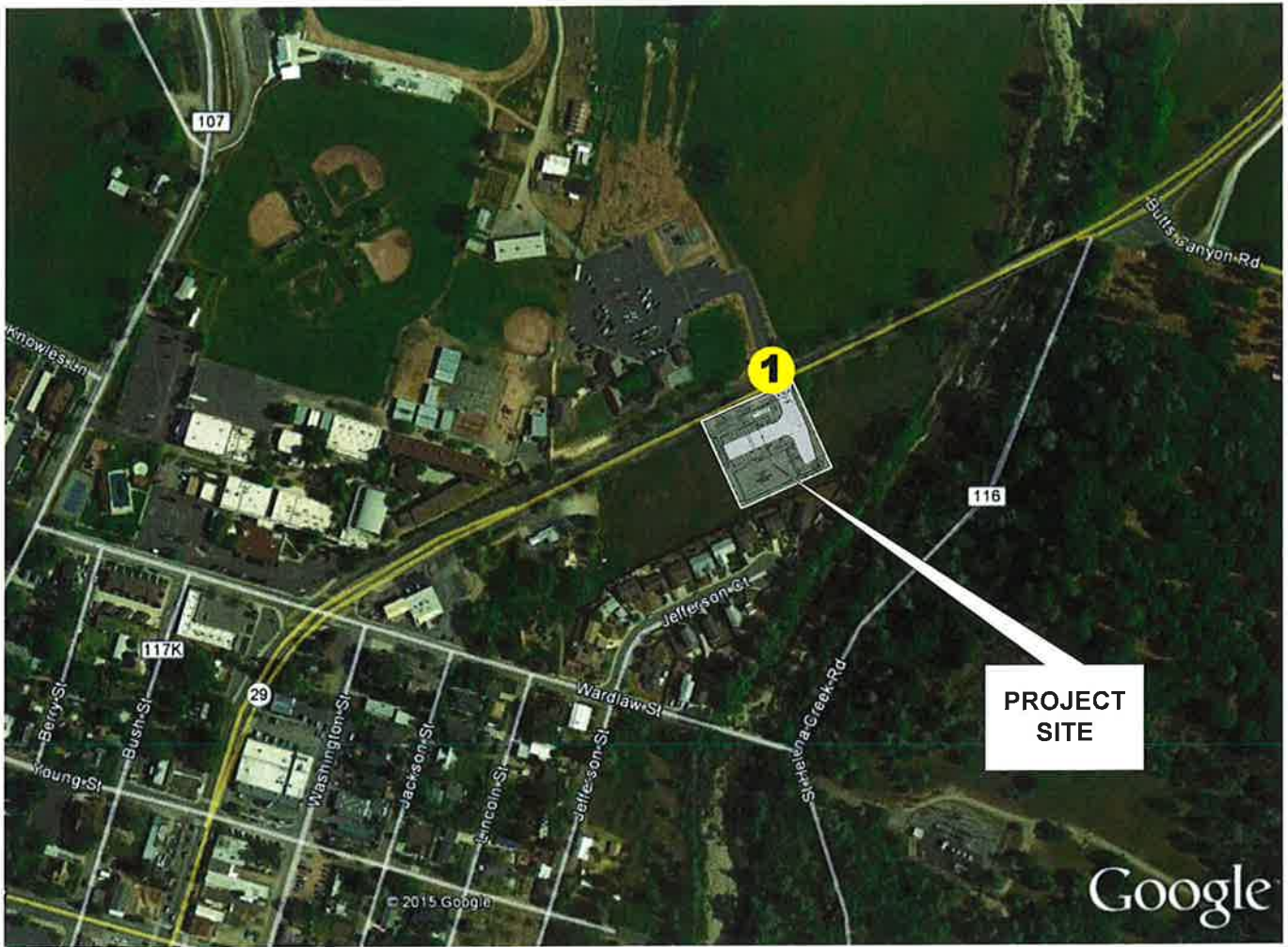
TABLE 8 GROWTH TRENDS ON SR 29					
Location	Annual Average Daily Traffic				TCR Horizon
	1993	2003	2013	2015	
SR 29 between SR 175 and Butts Canyon Rd	7,500	9,100	11,500	11,155	18,360

Long Term Improvements. The extent of potential improvements to SR 29 in the study area was determined from review of the TCR and discussion with Caltrans staff. No major capacity increasing projects are anticipated, and the TCR suggest that safety improvements are possible. Caltrans staff note that a continuous Two-Way-Left-Turn (TWLT) lane is the preferred strategy but that funding for this improvement is uncertain.

Year 2030 Intersection Levels of Service. Figure 5 identifies Cumulative Plus Project traffic volumes assuming that peak hour traffic on SR 29 increases by 2.4% annually for 20 years. Table 9 identifies Year 2030 intersection Levels of Service with and without the proposed Dollar General Store project. As shown, if background traffic increases as anticipated, then the Level of Service for motorists waiting to turn onto SR 29 from the Dollar General Store parking lot will deteriorate to LOS F. This would exceed the LOS E TCR goal.

As also noted, installation of a continuous TWLT lane will improve the Level of Service by allowing motorists to make a “two-step” left turn. As shown LOS C and LOS D conditions are anticipated.

TABLE 9 CUMULATIVE PLUS PROJECT PEAK HOUR LEVELS OF SERVICE									
Location	Control	AM Peak Hour				PM Peak Hour			
		Cumulative		Plus Project		Cumulative		Plus Project	
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
Without Improvements									
SR 29 / Middletown Bible Church SB left + right turn NB left + right turn	NB-SB Stop	D - -	27.0 - -	D F -	31.4 63.4 -	B - -	12.1 - -	B F -	12.1 63.5 -
With TWLT Lane									
SR 29 / Middletown Bible Church SB left + right turn NB left + right turn	NB-SB Stop	C - -	22.0 - -	D C -	25.3 23.9 -	B - -	12.1 - -	B D -	12.1 28.3 -



CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

MITIGATION SUMMARY

The Dollar General Store project should be responsible for constructing a westbound left turn lane on SR 29 in the area between the project access and the bridge. This improvement would address the relative need for a left turn lane under AASHTO guidelines. This improvement would also represent the project's "fair share" contribution towards the need for a continuous TWLT lane on SR 29 to accommodate long term cumulative traffic.

The Dollar General Store should also be responsible for widening its SR 29 access to accommodate the turning paths of trucks.

With these improvements the impacts of the Dollar General Store project would be considered to be less than significant.

APPENDIX

(916) 771-8700
ders@atdtraffic.com

City of Middletown
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

File Name : 15-7078-001 SR 29-Middletown Bible Church Driveway.ppd
Date : 1/27/2015

Unshifted Count = All Vehicles

		SR 29 Southbound						Westbound						SR 29 Northbound						Middletown Bible Church Driveway Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP TOTAL	LEFT	THRU	RIGHT	UTURNS	APP TOTAL	LEFT	THRU	RIGHT	UTURNS	APP TOTAL	LEFT	THRU	RIGHT	UTURNS	APP TOTAL	Total	Uturn Total			
07:00	0	112	0	0	112	0	0	0	0	0	0	42	0	0	42	0	0	0	0	0	154	0			
07:15	0	116	4	0	120	0	0	0	0	0	1	38	0	0	39	0	0	0	0	0	159	0			
07:30	0	179	4	0	183	0	0	0	0	0	0	71	0	0	71	0	0	2	0	2	256	0			
07:45	0	174	3	0	177	0	0	0	0	0	14	95	0	0	109	2	0	10	0	12	298	0			
Total	0	581	11	0	592	0	0	0	0	0	15	246	0	0	261	2	0	12	0	14	867	0			
08:00	0	121	3	0	124	0	0	0	0	0	0	84	0	0	84	1	0	2	0	3	211	0			
08:15	0	115	1	0	116	0	0	0	0	0	1	53	0	0	54	0	0	1	0	1	171	0			
08:30	0	118	0	0	118	0	0	0	0	0	0	60	0	0	60	1	0	0	0	1	179	0			
08:45	0	94	0	0	94	0	0	0	0	0	1	48	0	0	49	0	0	2	0	2	145	0			
Total	0	448	4	0	452	0	0	0	0	0	2	245	0	0	247	2	0	5	0	7	705	0			
16:00	0	86	1	0	87	0	0	0	0	0	0	128	0	0	128	3	0	0	0	3	218	0			
16:15	0	77	0	0	77	0	0	0	0	0	0	144	0	0	144	1	0	3	0	4	225	0			
16:30	0	84	0	0	84	0	0	0	0	0	0	142	0	0	142	2	0	0	0	2	228	0			
16:45	0	85	0	0	85	0	0	0	0	0	0	163	0	0	163	0	0	1	0	1	249	0			
Total	0	332	1	0	333	0	0	0	0	0	0	577	0	0	577	6	0	4	0	10	920	0			
17:00	0	73	0	0	73	0	0	0	0	0	0	177	0	0	177	0	0	0	0	0	250	0			
17:15	0	99	0	0	99	0	0	0	0	0	0	192	0	0	192	0	0	0	0	0	291	0			
17:30	0	80	0	0	80	0	0	0	0	0	0	151	0	0	151	0	0	0	0	0	231	0			
17:45	0	65	1	0	66	0	0	0	0	0	0	131	0	0	131	0	0	1	0	1	198	0			
Total	0	317	1	0	318	0	0	0	0	0	0	651	0	0	651	0	0	1	0	1	970	0			
Grand Total	0	1678	17	0	1695	0	0	0	0	0	17	1719	0	0	1736	10	0	22	0	32	3463	0			
Appron %	0.0%	99.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	99.0%	0.0%	0.0%	0.0%	31.3%	0.0%	68.8%	0.0%	0.0%					
Total %	0.0%	48.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	49.6%	0.0%	0.0%	50.1%	0.3%	0.0%	0.6%	0.0%	0.9%	100.0%				

AM PEAK HOUR	SR 29 Southbound						Westbound						SR 29 Northbound						Middletown Bible Church Driveway Eastbound					
	START TIME	LEFT	THRU	RIGHT	UTURNS	APP TOTAL	LEFT	THRU	RIGHT	UTURNS	APP TOTAL	LEFT	THRU	RIGHT	UTURNS	APP TOTAL	LEFT	THRU	RIGHT	UTURNS	APP TOTAL	Total		
Peak Hour Analysis From 07:30 to 08:30																								

Peak Hour For Entire Intersection Begins at 07:30																									
PM PEAK HOUR		SR 29 Southbound						Westbound						SR 29 Northbound						Middletown Bible Church Driveway Eastbound					
START TIME		LEFT	THRU	RIGHT	UTURNS	APP TOTAL	LEFT	THRU	RIGHT	UTURNS	APP TOTAL	LEFT	THRU	RIGHT	UTURNS	APP TOTAL	LEFT	THRU	RIGHT	UTURNS	APP TOTAL	TOTAL			
Peak Hour Analysis From 16:45 to 17:45																									
Peak Hour For Entire Intersection Begins at 16:45																									
16:45		0	85	0	0	85		0	0	0	0	0	163	0	0	0	163	0	0	1	0	1	249		
17:00		0	73	0	0	73		0	0	0	0	0	177	0	0	0	177	0	0	0	0	0	250		
17:15		0	99	0	0	99		0	0	0	0	0	192	0	0	0	192	0	0	0	0	0	291		
17:30		0	80	0	0	80		0	0	0	0	0	151	0	0	0	151	0	0	0	0	0	231		
Total Volume		0	337	0	0	337		0	0	0	0	0	683	0	0	0	683	0	0	1	0	1	1021		
% App Total		0.0%	100.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%		
PHE		.000	.851	.000	.000	.851		.000	.000	.000	.000	.000	.889	.000	.000	.000	.889	.000	.000	.250	.000	.250	.877		

Volumes for: Tuesday, January 27, 2015

City: Middletown

Project #: 15-7077-001

Location: SR 29 west of Middletown bible church+school access

7240-06

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	13	75			3	84				
12:15	17	85			4	72				
12:30	15	82			8	76				
12:45	8	69	53	311	1	68	16	300	69	611
1:00	10	97			3	90				
1:15	2	82			2	85				
1:30	3	84			2	81				
1:45	3	71	18	334	2	90	9	346	27	680
2:00	8	90			0	100				
2:15	14	126			4	72				
2:30	0	126			4	99				
2:45	7	88	29	430	3	94	11	365	40	795
3:00	2	114			4	100				
3:15	6	142			4	102				
3:30	2	108			12	108				
3:45	4	135	14	499	12	94	32	404	46	903
4:00	8	125			11	87				
4:15	6	147			16	80				
4:30	7	136			32	84				
4:45	5	165	26	573	40	85	99	336	125	909
5:00	6	171			41	74				
5:15	5	197			52	103				
5:30	9	143			85	79				
5:45	17	139	37	650	101	65	279	321	316	971
6:00	19	132			103	59				
6:15	30	135			117	58				
6:30	32	113			101	44				
6:45	40	83	121	463	108	37	429	198	550	661
7:00	40	62			111	41				
7:15	39	71			118	32				
7:30	62	45			180	35				
7:45	118	60	259	238	184	35	593	143	852	381
8:00	81	59			128	26				
8:15	60	38			115	24				
8:30	54	40			119	20				
8:45	55	39	250	176	97	11	459	81	709	257
9:00	61	35			82	17				
9:15	64	37			93	13				
9:30	65	28			100	18	0			
9:45	43	26	233	126	89	15	364	63	597	189
10:00	45	19			92	4				
10:15	64	29			99	9				
10:30	58	30			89	6				
10:45	61	14	228	92	103	5	383	24	611	116
11:00	66	28			89	7				
11:15	87	11			81	18				
11:30	57	13			80	9				
11:45	85	11	295	63	86	12	336	46	631	109
Total	1563	3955	1563	3955	3010	2627	3010	2627	4573	6582
Combined Total	5518		5518		5637		5637		11155	
AM Peak	11:45 AM				7:15 AM					
Vol.	327				610					
P.H.F.	0.962				0.829					
PM Peak	4:45 PM				2:45 PM					
Vol.	676				404					
P.H.F.	0.926				0.935					
Percentage	28.3%	71.7%			53.4%	46.6%				

EXISTING PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Scenario Report

Scenario:	EX AM
Command:	Default Command
Volume:	EX AM
Geometry:	EXISTING
Impact Fee:	Default Impact Fee
Trip Generation:	AM PEAK
Trip Distribution:	CURRENT
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

EXISTING PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Trip Generation Report

Forecast for AM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1		9.10	RETAIL KSF	1.28	1.28	12	12	24	100.0
	Zone 1 Subtotal					12	12	24	100.0
TOTAL						12	12	24	100.0

EXISTING PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Turning Movement Report
AM PEAK

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 SR 29 / Access													
Base	0	0	0	3	0	15	15	303	0	0	589	11	936
Added	7	0	5	0	0	0	0	0	7	5	0	0	24
PASS B	4	0	2	0	0	0	0	-2	2	4	-4	0	6
Total	11	0	7	3	0	15	15	301	9	9	585	11	966

EXISTING PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/	V/	Del/	V/	
	LOS	Veh	LOS	Veh	
# 1 SR 29 / Access	C	16.0 0.047	C	24.1 0.095	+ 8.082 D/V

EXISTING PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR 29 / Access

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: C[16.0]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0

Volume Module:	>> Count	Date:	27 Jan 2015	<<
Base Vol:	0 0 0	3 0 15	15 303 0	0 589 11
Growth Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Initial Bse:	0 0 0	3 0 15	15 303 0	0 589 11
User Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
PHF Adj:	0.79 0.79 0.79	0.79 0.79 0.79	0.79 0.79 0.79	0.79 0.79 0.79
PHF Volume:	0 0 0	4 0 19	19 386 0	0 750 14
Reduct Vol:	0 0 0	0 0 0	0 0 0	0 0 0
FinalVolume:	0 0 0	4 0 19	19 386 0	0 750 14

Critical Gap Module:

Critical Gp:	7.1 6.5 6.2	6.4 6.5 6.2	4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:	3.5 4.0 3.3	3.5 4.0 3.3	2.2 xxxx xxxxx xxxxx xxxx xxxxx

Capacity Module:

Cnflct Vol:	1191 1189 386	1182 1182 757	764 xxxx xxxxx xxxx xxxx xxxxx
Potent Cap.:	164 188 662	210 190 407	849 xxxx xxxxx xxxx xxxx xxxxx
Move Cap.:	154 184 662	206 185 407	849 xxxx xxxxx xxxx xxxx xxxxx
Volume/Cap:	0.00 0.00 0.00	0.02 0.00 0.05	0.02 xxxx xxxx xxxx xxxx xxxxx

Level Of Service Module:

2Way95thQ:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	0.1 xxxx xxxxx xxxx xxxx xxxxx
Control Del:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	9.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:	* * *	* * *	A * * *
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx 0 xxxxx	xxxx 350 xxxxx	xxxx xxxx xxxxx xxxx xxxx xxxxx
SharedQueue:	xxxxx xxxx xxxxx	xxxxx 0.2 xxxxx	xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:	xxxxx xxxx xxxxx	xxxxx 16.0 xxxxx	xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:	* * *	* C *	* * *
ApproachDel:	xxxxxx	16.0	xxxxxx xxxxxx
ApproachLOS:	*	C	* *

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

EXISTING PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 29 / Access

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: C[24.1]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0

Volume Module:	>> Count	Date:	27 Jan 2015	<<
Base Vol:	0	0	0	3 0 15
Growth Adj:	1.00	1.00	1.00	1.00 1.00 1.00
Initial Bse:	0	0	0	3 0 15
Added Vol:	7	0	5	0 0 0
PASS BY:	4	0	2	0 0 0
Initial Fut:	11	0	7	3 0 15
User Adj:	1.00	1.00	1.00	1.00 1.00 1.00
PHF Adj:	0.79	0.79	0.79	0.79 0.79 0.79
PHF Volume:	14	0	9	4 0 19
Reduct Vol:	0	0	0	0 0 0
FinalVolume:	14	0	9	4 0 19

Critical Gap Module:	Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxxx	4.1	xxxx	xxxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxxx	2.2	xxxx	xxxxxx	

Capacity Module:	Cnflct Vol:	1212	1210	389	1207	1208	752	759	xxxx	xxxxxx	395	xxxx	xxxxxx
Potent Cap.:	159	183	659	160	183	410	852	xxxx	xxxxxx	1164	xxxx	xxxxxx	
Move Cap.:	148	177	659	154	177	410	852	xxxx	xxxxxx	1164	xxxx	xxxxxx	
Volume/Cap:	0.09	0.00	0.01	0.02	0.00	0.05	0.02	xxxx	xxxxxx	0.01	xxxx	xxxxxx	

Level Of Service Module:	2Way95thQ:	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	0.1	xxxx	xxxxxx	0.0	xxxx	xxxxxx
Control Del:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	9.3	xxxx	xxxxxx	8.1	xxxx	xxxxxx	
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*	
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR
Shared Cap.:	xxxx	212	xxxxxx	xxxx	321	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	
SharedQueue:	xxxxxx	0.4	xxxxxx	xxxxxx	0.2	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
Shrd ConDel:	xxxxxx	24.1	xxxxxx	xxxxxx	17.1	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
Shared LOS:	*	C	*	*	C	*	*	*	*	*	*	*	
ApproachDel:	24.1			17.1			xxxxxx			xxxxxx			
ApproachLOS:	C			C			*			*			

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

EXISTING PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Scenario Report

Scenario:	EX PM
Command:	Default Command
Volume:	EX PM
Geometry:	EXISTING
Impact Fee:	Default Impact Fee
Trip Generation:	PM PEAK
Trip Distribution:	CURRENT
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

EXISTING PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Trip Generation Report

Forecast for PM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1		9.10	RETAIL KSF	2.25	2.25	20	20	40	100.0
	Zone 1 Subtotal					20	20	40	100.0
TOTAL						20	20	40	100.0

EXISTING PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Turning Movement Report
PM PEAK

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 SR 29 / Access													
Base	0	0	0	0	0	1	0	683	0	0	337	0	1021
Added	12	0	8	0	0	0	0	0	12	8	0	0	40
PASS B	4	0	8	0	0	0	0	-8	8	4	-4	0	12
Total	16	0	16	0	0	1	0	675	20	12	333	0	1073

EXISTING PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS Veh	V/ C	Del/ LOS Veh	V/ C	
# 1 SR 29 / Access	B 10.4	0.002	C 23.6	0.112	+13.125 D/V

EXISTING PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR 29 / Access

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[10.4]

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1! 0 0 0 0 0 0 1 0 0 0 1 0 0 0 0 0

Volume Module: >> Count Date: 27 Jan 2015 <<
Base Vol: 0 0 0 0 0 0 1 0 683 0 0 337 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 0 0 0 1 0 683 0 0 337 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88
PHF Volume: 0 0 0 0 0 0 1 0 779 0 0 384 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 0 0 0 1 0 779 0 0 384 0

Critical Gap Module:

Critical Gp: 7.1 6.5 6.2 xxxxx xxxx 6.2 xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 xxxxx xxxx 3.3 xxxxx xxxx xxxxx xxxxx xxxxx xxxxx

Capacity Module:

Cnflct Vol: 1164 1163 779 xxxxx xxxx 384 xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
Potent Cap.: 172 195 396 xxxxx xxxx 663 xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
Move Cap.: 171 195 396 xxxxx xxxx 663 xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
Volume/Cap: 0.00 0.00 0.00 xxxxx xxxx 0.00 xxxxx xxxx xxxxx xxxxx xxxxx xxxxx

Level Of Service Module:

2Way95thQ: xxxxx xxxxx xxxxx xxxxx xxxxx 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Control Del: xxxxx xxxxx xxxxx xxxxx xxxxx 10.4 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx 0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.0 xxxxx xxxxx
Shrd ConDel: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.2 xxxxx xxxxx
Shared LOS: * * * * * A * * * * *
ApproachDel: xxxxxx 10.4 xxxxxx xxxxxx
ApproachLOS: * B * * *

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

EXISTING PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 29 / Access

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: C[23.6]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	0	0	0	0	1	0	0	0

Volume Module:	>> Count	Date:	27 Jan 2015	<<
Base Vol:	0	0	0	1
Growth Adj:	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1
Added Vol:	12	0	8	0
PASS BY:	4	0	8	0
Initial Fut:	16	0	16	1
User Adj:	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88
PHF Volume:	18	0	18	1
Reduct Vol:	0	0	0	0
FinalVolume:	18	0	18	1

Critical Gap Module:	Critical Gap	FollowUpTim
Critical Gap:	7.1 6.5 6.2	xxxxx xxxxx
FollowUpTim:	3.5 4.0 3.3	xxxxx xxxxx

Capacity Module:	Cnflct Vol:	Potent Cap.:	Move Cap.:	Volume/Cap:
Cnflct Vol:	1189 1188 781	xxxx xxxxx	380	xxxx xxxxx
Potent Cap.:	165 188 395	xxxx xxxxx	667	xxxx xxxxx
Move Cap.:	162 185 395	xxxx xxxxx	667	xxxx xxxxx
Volume/Cap:	0.11 0.00 0.05	xxxx xxxxx	0.00	xxxx xxxxx

Level Of Service Module:	2Way95thQ:	Control Del:	LOS by Move:	Movement:	Shared Cap.:	SharedQueue:	Shrd ConDel:	Shared LOS:	ApproachDel:	ApproachLOS:
2Way95thQ:	xxxx xxxxx	xxxx xxxxx	0.0	xxxx xxxxx	0.1	xxxx xxxxx	0.1	xxxx xxxxx	23.6	C
Control Del:	xxxx xxxxx	xxxx xxxxx	10.4	xxxx xxxxx	9.4	xxxx xxxxx	9.4	xxxx xxxxx	10.4	B
LOS by Move:	*	*	B	*	A	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx 230	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx
SharedQueue:	xxxxx 0.6	xxxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx
Shrd ConDel:	xxxxx 23.6	xxxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx	xxxx xxxxx
Shared LOS:	* C	* *	* *	* *	* *	* *	* *	* *	* *	* *
ApproachDel:	23.6	10.4	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
ApproachLOS:	C	B	*	*	*	*	*	*	*	*

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

CUMULATIVE PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Scenario Report

Scenario:	CUM AM
Command:	Default Command
Volume:	CUM AM
Geometry:	EXISTING
Impact Fee:	Default Impact Fee
Trip Generation:	AM PEAK
Trip Distribution:	CURRENT
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

CUMULATIVE PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Trip Generation Report

Forecast for AM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1		9.10	RETAIL KSF	1.28	1.28	12	12	24	100.0
	Zone 1 Subtotal					12	12	24	100.0
TOTAL						12	12	24	100.0

CUMULATIVE PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Turning Movement Report
AM PEAK

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 SR 29 / Access													
Base	0	0	0	3	0	15	15	485	0	0	942	11	1471
Added	7	0	5	0	0	0	0	0	7	5	0	0	24
PassBy	4	0	2	0	0	0	0	-2	2	4	-4	0	6
Total	11	0	7	3	0	15	15	483	9	9	938	11	1501

CUMULATIVE PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in		
	Del/	V/	Del/	V/			
	LOS	Veh	C	LOS	Veh	C	
# 1 SR 29 / Access	D	27.0	0.076	F	63.3	0.248	+36.368 D/V

CUMULATIVE PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR 29 / Access

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: D[27.0]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0

Volume Module:

Base Vol:	0	0	0	3	0	15	15	303	0	0	589	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.60	1.00	1.00	1.60	1.00
Initial Bse:	0	0	0	3	0	15	15	485	0	0	942	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	0	0	0	4	0	18	18	591	0	0	1149	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	0	0	0	4	0	18	18	591	0	0	1149	13

Critical Gap Module:

Critical Gp:	7.1	6.5	6.2	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	1793	1790	591	1784	1784	1156	1163	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	63	81	507	90	82	239	601	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	56	78	507	88	79	239	601	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	0.00	0.00	0.04	0.00	0.08	0.03	xxxx	xxxx	xxxx	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	0	xxxxx	xxxx	186	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	27.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	D	*	*	*	*	*	*	*
ApproachDel:	xxxxxx				27.0		xxxxxx			xxxxxx		
ApproachLOS:	*				D		*			*		*

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

CUMULATIVE PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 29 / Access

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: F[63.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	0	0	0	3	0	15	15	303	0	0	589	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.60	1.00	1.00	1.60	1.00
Initial Bse:	0	0	0	3	0	15	15	485	0	0	942	11
Added Vol:	7	0	5	0	0	0	0	0	7	5	0	0
PasserByVol:	4	0	2	0	0	0	0	-2	2	4	-4	0
Initial Fut:	11	0	7	3	0	15	15	483	9	9	938	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	13	0	9	4	0	18	18	589	11	11	1144	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	13	0	9	4	0	18	18	589	11	11	1144	13

Critical Gap Module:	North Bound			South Bound			East Bound			West Bound		
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx

Capacity Module:	North Bound			South Bound			East Bound			West Bound		
Cnflict Vol:	1813	1811	594	1808	1809	1151	1158	xxxx	xxxxx	600	xxxx	xxxxx
Potent Cap.:	61	79	505	61	79	241	603	xxxx	xxxxx	977	xxxx	xxxxx
Move Cap.:	54	75	505	58	75	241	603	xxxx	xxxxx	977	xxxx	xxxxx
Volume/Cap:	0.25	0.00	0.02	0.06	0.00	0.08	0.03	xxxx	xxxxx	0.01	xxxx	xxxxx

Level Of Service Module:	North Bound			South Bound			East Bound			West Bound		
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.2	xxxx	xxxxx	8.7	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	A	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	83	xxxxx	xxxx	158	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.0	xxxxx	xxxxx	0.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	63.3	xxxxx	xxxxx	31.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	D	*	*	*	*	*	*	*
ApproachDel:	63.3			31.4			xxxxxxx			xxxxxxx		
ApproachLOS:	F			D			*			*		

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

CUMULATIVE PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Scenario Report

Scenario:	CUM PM
Command:	Default Command
Volume:	CUM PM
Geometry:	EXISTING
Impact Fee:	Default Impact Fee
Trip Generation:	PM PEAK
Trip Distribution:	CURRENT
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

CUMULATIVE PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Trip Generation Report

Forecast for PM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total % Of Trips Total
1		9.10	RETAIL KSF	2.25	2.25	20	20	40 100.0
	Zone 1 Subtotal					20	20	40 100.0
TOTAL						20	20	40 100.0

CUMULATIVE PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Turning Movement Report
PM PEAK

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 SR 29 / Access													
Base	0	0	0	0	0	1	0	1093	0	0	539	0	1633
Added	12	0	8	0	0	0	0	0	12	8	0	0	40
PassBy	4	0	8	0	0	0	0	8	-8	4	-4	0	12
Total	16	0	16	0	0	1	0	1101	4	12	535	0	1685

CUMULATIVE PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1 SR 29 / Access	B 12.1	0.002	F 63.5	0.290	+51.468 D/V

CUMULATIVE PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR 29 / Access

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[12.1]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	0	0	0	0	0	1	0	683	0	0	337	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.60	1.00	1.00	1.60	1.00
Initial Bse:	0	0	0	0	0	1	0	1093	0	0	539	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	0	0	1	0	1188	0	0	586	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	0	0	0	0	0	1	0	1188	0	0	586	0

Critical Gap Module:

Critical Gp:	7.1	6.5	6.2	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	1774	1774	1188	xxxx	xxxx	586	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	64	83	229	xxxx	xxxx	510	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	64	83	229	xxxx	xxxx	510	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	0.00	0.00	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	12.1	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shared Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			12.1			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

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

CUMULATIVE PLUS PROJECT
MIDDLETOWN DOLLAR GENERAL 7240-06

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 29 / Access

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: F[63.5]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	0	1	0	0	1	0	0	1

Volume Module:

Base Vol:	0	0	0	0	0	1	0	683	0	0	337	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.60	1.00	1.00	1.60	1.00
Initial Bse:	0	0	0	0	0	1	0	1093	0	0	539	0
Added Vol:	12	0	8	0	0	0	0	0	12	8	0	0
PasserByVol:	4	0	8	0	0	0	0	8	-8	4	-4	0
Initial Fut:	16	0	16	0	0	1	0	1101	4	12	535	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	17	0	17	0	0	1	0	1197	4	13	582	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	17	0	17	0	0	1	0	1197	4	13	582	0

Critical Gap Module:

Critical Gp:	7.1	6.5	6.2	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx

Capacity Module:

Cnflict Vol:	1807	1807	1199	xxxx	xxxx	582	xxxx	xxxx	xxxxx	1201	xxxx	xxxxx
Potent Cap.:	61	79	226	xxxx	xxxx	513	xxxx	xxxx	xxxxx	581	xxxx	xxxxx
Move Cap.:	60	77	226	xxxx	xxxx	513	xxxx	xxxx	xxxxx	581	xxxx	xxxxx
Volume/Cap:	0.29	0.00	0.08	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	0.02	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	12.0	xxxxx	xxxx	xxxxx	11.3	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	B	*	*	*	B	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	95	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shared Queue:	xxxxx	1.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	63.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.3	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	*	*	*	*	B	*	*
ApproachDel:	63.5					12.0	xxxxxx			xxxxxx		
ApproachLOS:	F					B	*			*		

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

CUMULATIVE PLUS PROJECT
WITH TWLT LANE
MIDDLETOWN DOLLAR GENERAL 7240-06

Scenario Report

Scenario:	CUM AM
Command:	Default Command
Volume:	CUM AM
Geometry:	WB LEFT TURN
Impact Fee:	Default Impact Fee
Trip Generation:	AM PEAK
Trip Distribution:	CURRENT
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

CUMULATIVE PLUS PROJECT
WITH TWLT LANE
MIDDLETOWN DOLLAR GENERAL 7240-06

Trip Generation Report

Forecast for AM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1		9.10	RETAIL KSF	1.28	1.28	12	12	24	100.0
	Zone 1 Subtotal					12	12	24	100.0
TOTAL						12	12	24	100.0

CUMULATIVE PLUS PROJECT
WITH TWLT LANE
MIDDLETOWN DOLLAR GENERAL 7240-06

Turning Movement Report
AM PEAK

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 SR 29 / Access													
Base	0	0	0	3	0	15	15	485	0	0	942	11	1471
Added	7	0	5	0	0	0	0	0	7	5	0	0	24
PassBy	4	0	2	0	0	0	0	-2	2	4	-4	0	6
Total	11	0	7	3	0	15	15	483	9	9	938	11	1501

CUMULATIVE PLUS PROJECT
WITH TWLT LANE
MIDDLETOWN DOLLAR GENERAL 7240-06

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/	V/	Del/	V/	
	LOS	Veh	LOS	Veh	
# 1 SR 29 / Access	C	22.0 0.076	D	25.3 0.093	+ 3.340 D/V

CUMULATIVE PLUS PROJECT
WITH TWLT LANE
MIDDLETOWN DOLLAR GENERAL 7240-06

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR 29 / Access

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: C[22.0]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1! 0 0	0	0	1! 0 0	1	0	0 1 0	1	0	0 1 0

Volume Module:

Base Vol:	0	0	0	3	0	15	15	303	0	0	589	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.60	1.00	1.00	1.60	1.00
Initial Bse:	0	0	0	3	0	15	15	485	0	0	942	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	0	0	0	4	0	18	18	591	0	0	1149	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	0	0	0	4	0	18	18	591	0	0	1149	13

Critical Gap Module:

Critical Gp:	7.1	6.5	6.2	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	1793	1790	591	1784	1784	1156	1163	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	63	81	507	90	82	239	601	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	56	78	507	88	79	239	601	xxxx	xxxxx	xxxx	xxxx	xxxxx
Total Cap:	148	180	xxxxx	209	189	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	0.00	0.00	0.02	0.00	0.08	0.03	xxxx	xxxxx	xxxx	xxxx	xxxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	0	xxxxx	xxxx	234	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shared Queue:	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	22.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	*	*	*	*	*	*
ApproachDel:	xxxxxx				22.0		xxxxxx			xxxxxx		
ApproachLOS:	*				C		*			*		

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

CUMULATIVE PLUS PROJECT
WITH TWLT LANE
MIDDLETOWN DOLLAR GENERAL 7240-06

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 29 / Access

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: D[25.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	0	1	0	0	1	0	0	1

Volume Module:												
Base Vol:	0	0	0	3	0	15	15	303	0	0	589	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.60	1.00	1.00	1.60	1.00
Initial Bse:	0	0	0	3	0	15	15	485	0	0	942	11
Added Vol:	7	0	5	0	0	0	0	0	7	5	0	0
PasserByVol:	4	0	2	0	0	0	0	-2	2	4	-4	0
Initial Fut:	11	0	7	3	0	15	15	483	9	9	938	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	13	0	9	4	0	18	18	589	11	11	1144	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	13	0	9	4	0	18	18	589	11	11	1144	13

Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxxx	4.1	xxxx	xxxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxxx	2.2	xxxx	xxxxxx

Capacity Module:												
Cnflct Vol:	1813	1811	594	1808	1809	1151	1158	xxxx	xxxxxx	600	xxxx	xxxxxx
Potent Cap.:	61	79	505	61	79	241	603	xxxx	xxxxxx	977	xxxx	xxxxxx
Move Cap.:	54	75	505	58	75	241	603	xxxx	xxxxxx	977	xxxx	xxxxxx
Total Cap:	144	175	xxxxx	161	183	xxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx
Volume/Cap:	0.09	0.00	0.02	0.02	0.00	0.08	0.03	xxxx	xxxxxx	0.01	xxxx	xxxxxx

Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	0.1	xxxx	xxxxxx	0.0	xxxx	xxxxxx
Control Del:	xxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	11.2	xxxx	xxxxxx	8.7	xxxx	xxxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	199	xxxxxx	xxxx	223	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx
SharedQueue:	xxxxxx	0.4	xxxxxx	xxxxxx	0.3	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx
Shrd ConDel:	xxxxxx	25.3	xxxxxx	xxxxxx	22.9	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx
Shared LOS:	*	D	*	*	C	*	*	*	*	*	*	*
ApproachDel:	25.3			22.9			xxxxxx			xxxxxx		
ApproachLOS:	D			C			*			*		

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

CUMULATIVE PLUS PROJECT
WITH TWLT LANE
MIDDLETOWN DOLLAR GENERAL 7240-06

Scenario Report

Scenario:	CUM PM
Command:	Default Command
Volume:	CUM PM
Geometry:	WB LEFT TURN
Impact Fee:	Default Impact Fee
Trip Generation:	PM PEAK
Trip Distribution:	CURRENT
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

CUMULATIVE PLUS PROJECT
WITH TWLT LANE
MIDDLETOWN DOLLAR GENERAL 7240-06

Trip Generation Report

Forecast for PM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1		9.10	RETAIL KSF	2.25	2.25	20	20	40	100.0
	Zone 1 Subtotal					20	20	40	100.0
TOTAL						20	20	40	100.0

CUMULATIVE PLUS PROJECT
WITH TWLT LANE
MIDDLETOWN DOLLAR GENERAL 7240-06

Turning Movement Report
PM PEAK

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 SR 29 / Access													
Base	0	0	0	0	0	1	0	1093	0	0	539	0	1633
Added	12	0	8	0	0	0	0	0	12	8	0	0	40
PassBy	4	0	8	0	0	0	0	8	-8	4	-4	0	12
Total	16	0	16	0	0	1	0	1101	4	12	535	0	1685

CUMULATIVE PLUS PROJECT
WITH TWLT LANE
MIDDLETOWN DOLLAR GENERAL 7240-06

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1 SR 29 / Access	B 12.1	0.002	D 28.3	0.107	+16.182 D/V

CUMULATIVE PLUS PROJECT
WITH TWLT LANE
MIDDLETOWN DOLLAR GENERAL 7240-06

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR 29 / Access

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[12.1]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	0	0	1	1	0	0	1	0

Volume Module:

Base Vol:	0	0	0	0	0	1	0	683	0	0	337	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.60	1.00	1.00	1.60	1.00
Initial Bse:	0	0	0	0	0	1	0	1093	0	0	539	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	0	0	1	0	1188	0	0	586	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	0	0	0	0	0	1	0	1188	0	0	586	0

Critical Gap Module:

Critical Gp:	7.1	6.5	6.2	xxxxx	xxxxx	6.2	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxxx	xxxxx	3.3	xxxxxx	xxxxx	xxxxxx	xxxxx	xxxxx	xxxxxx

Capacity Module:

Cnflct Vol:	1774	1774	1188	xxxxx	xxxxx	586	xxxxx	xxxxx	xxxxxx	xxxxx	xxxxx	xxxxxx
Potent Cap.:	64	83	229	xxxxx	xxxxx	510	xxxxx	xxxxx	xxxxxx	xxxxx	xxxxx	xxxxxx
Move Cap.:	64	83	229	xxxxx	xxxxx	510	xxxxx	xxxxx	xxxxxx	xxxxx	xxxxx	xxxxxx
Total Cap:	168	190	xxxxxx	210	190	xxxxxx	xxxxx	xxxxx	xxxxxx	xxxxx	xxxxx	xxxxxx
Volume/Cap:	0.00	0.00	0.00	xxxxx	xxxxx	0.00	xxxxx	xxxxx	xxxxxx	xxxxx	xxxxx	xxxxxx

Level Of Service Module:

2Way95thQ:	xxxxx	xxxxx	xxxxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxxxx	xxxxx	xxxxx	xxxxxx	
Control Del:	xxxxxx	xxxxx	xxxxxx	xxxxxx	xxxxx	12.1	xxxxxx	xxxxx	xxxxxx	xxxxxx	xxxxx	xxxxxx	
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*	
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR
Shared Cap.:	xxxxx	0	xxxxxx	xxxxx	xxxxx	xxxxxx	xxxxx	xxxxx	xxxxxx	xxxxx	xxxxx	xxxxxx	
Shared Queue:	xxxxxx	xxxxx	xxxxxx	xxxxxx	xxxxx	xxxxxx	xxxxxx	xxxxx	xxxxxx	xxxxxx	xxxxx	xxxxxx	
Shrd ConDel:	xxxxxx	xxxxx	xxxxxx	xxxxxx	xxxxx	xxxxxx	xxxxxx	xxxxx	xxxxxx	xxxxxx	xxxxx	xxxxxx	
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*	
ApproachDel:	xxxxxx					12.1	xxxxxx			xxxxxx			
ApproachLOS:	*					B	*			*			

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

CUMULATIVE PLUS PROJECT
WITH TWLT LANE
MIDDLETOWN DOLLAR GENERAL 7240-06

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 29 / Access

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: D[28.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	0	0	1	1	0	0	1	0

Volume Module:

Base Vol:	0	0	0	0	0	1	0	683	0	0	337	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.60	1.00	1.00	1.60	1.00
Initial Bse:	0	0	0	0	0	1	0	1093	0	0	539	0
Added Vol:	12	0	8	0	0	0	0	0	12	8	0	0
PasserByVol:	4	0	8	0	0	0	0	8	-8	4	-4	0
Initial Fut:	16	0	16	0	0	1	0	1101	4	12	535	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	17	0	17	0	0	1	0	1197	4	13	582	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	17	0	17	0	0	1	0	1197	4	13	582	0

Critical Gap Module:

Critical Gp:	7.1	6.5	6.2	xxxx	xxxx	6.2	xxxx	xxxx	xxxx	4.1	xxxx	xxxx
FollowUpTim:	3.5	4.0	3.3	xxxx	xxxx	3.3	xxxx	xxxx	xxxx	2.2	xxxx	xxxx

Capacity Module:

Cnflict Vol:	1807	1807	1199	xxxx	xxxx	582	xxxx	xxxx	xxxx	1201	xxxx	xxxx
Potent Cap.:	61	79	226	xxxx	xxxx	513	xxxx	xxxx	xxxx	581	xxxx	xxxx
Move Cap.:	60	77	226	xxxx	xxxx	513	xxxx	xxxx	xxxx	581	xxxx	xxxx
Total Cap:	163	184	xxxx	145	178	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Volume/Cap:	0.11	0.00	0.08	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	0.02	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxx	0.1	xxxx	xxxx
Control Del:	xxxx	xxxx	xxxx	xxxx	xxxx	12.0	xxxx	xxxx	xxxx	11.3	xxxx	xxxx
LOS by Move:	*	*	*	*	*	B	*	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	189	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
SharedQueue:	xxxx	0.7	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Shrd ConDel:	xxxx	28.3	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Shared LOS:	*	D	*	*	*	*	*	*	*	*	*	*
ApproachDel:	28.3			12.0			xxxxxx			xxxxxx		
ApproachLOS:	D			B			*			*		

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