TRAFFIC IMPACT ANALYSIS

FOR

COOL DOLLAR GENERAL STORE
El Dorado County, California

Prepared For:

WoodCrest Companies
1410 Main Street, Suite C
Ramona, CA 92065

Prepared By:

KD Anderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, CA 95650
(916) 660-1555

July 24, 2019

Job No. 9470-02

Exhibit K

TRAFFIC IMPACT ANALYSIS FOR
COOL DOLLAR GENERAL STORE
El Dorado County, California

TABLE OF CONTENTS

KDA

TRAFFIC IMPACT ANALYSIS FOR
COOL DOLLAR GENERAL STORE
El Dorado County, California

INTRODUCTION

This report documents **KD Anderson & Associates'** analysis of the traffic impacts associated with developing a Dollar General Store in the rural El Dorado County community of Cool, California. This assessment of traffic impacts has been required by Caltrans District 3. The analysis identifies both current and future background conditions at key intersections in the vicinity of the site. To assess traffic impacts, the characteristics of the proposed project have been determined, including estimated trip generation and the directional distribution / assignment of project generated traffic. The extent of off-site impacts has been determined, and the adequacy of site access has been evaluated.

Project impacts have been quantified at the following study intersections:

1. SR 49/ St Florian Ct
2. SR 49/ Northside Dr
3. SR 49/ Commercial Driveway (south of Northside Drive)
4. SR 49/ SR 193
5. USPS Driveway/ Northside Dr
6. Project Driveway/ Northside Dr

Project Description

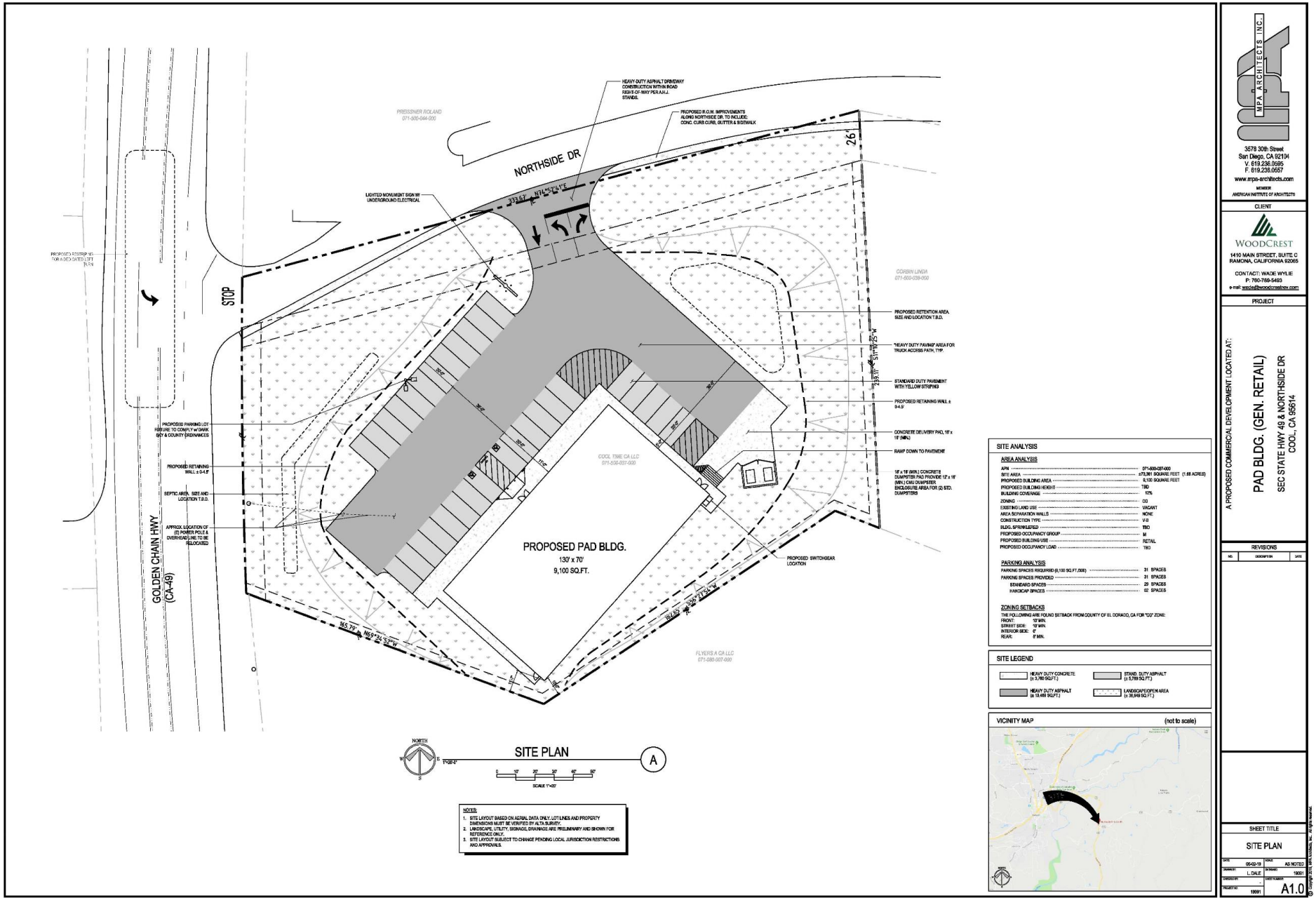
The proposed project consists of a 9.1 ksf Dollar General Store located on an approximately 1.68 acre site on the south side of Northside Drive about 190 feet east of SR 49 (centerline to centerline). The project will include development of 31 parking spaces per El Dorado County Zoning Ordinance requirements. Access to the site will be provided via a single driveway on Northside Drive. The driveway is about 35 feet from the USPS Driveway to the west and is about 655 feet from the Cool Boat and RV Storage across Northside Drive to the east. The project's Northside Drive frontage is currently unimproved, and other than access improvements development of the project will not include any other improvements along the Northside Drive frontage. Figures 1 and 2 display the regional location of the project and proposed site plan, respectively.

VICINITY MAP

KD Anderson & Associates, Inc.
Transportation Engineers

9470-02 RA 7/24/2019

figure 1



MPA ARCHITECTS INC.
3578 30th Street
San Diego, CA 92104
V. 619.236.0595
F. 619.236.0557
www.mpa-architects.com
MEMBER
AMERICAN INSTITUTE OF ARCHITECTS

CLIENT

WOODCREST
1410 MAIN STREET, SUITE C
RAMONA, CALIFORNIA 92065
CONTACT: WADE WYLIE
P: 760-788-5493
e-mail: wade@woodcrestrev.com

PROJECT

A PROPOSED COMMERCIAL DEVELOPMENT LOCATED AT:

PAD BLDG. (GEN. RETAIL)
SEC STATE HWY 49 & NORTHSIDE DR
COOL, CA 95614

REVISIONS

NO.	DESCRIPTION	DATE

SHEET TITLE

SITE PLAN

DATE	05-02-19
SCALE	AS NOTED
DRAWN BY	L. DALE
DESIGNED	19001
CHECKED BY	-
SHEET NUMBER	A1.0
PROJECT NO	19001

KD Anderson & Associates, Inc.
Transportation Engineers

9470-02 RA 7/24/2019

SITE PLAN

figure 2

EXISTING SETTING

This report section describes the facilities that are available today serving vehicular, pedestrian and bicycle traffic and transit users in El Dorado County, as well as policies that guide consideration of traffic impacts.

Study Area Circulation System - Roads

The text which follows provides information regarding the streets included in the study area.

State Route 49 (SR 49) serves north-south traffic throughout the Sierra Nevada foothills. In and near El Dorado County, State Route 49 runs from Plymouth in Amador County through Diamond Springs, Placerville, Coloma, Pilot Hill, and Cool to Auburn in Placer County. The portion of State Route 49 between Cool and Auburn contains sections that are narrow, winding, and steep. In the vicinity of the site, SR 49 is a 2-lane facility with no frontage improvements. The posted speed limit is 45 mph. The most recent traffic volume counts published by Caltrans indicate that SR 49 carries an Annual Average Daily Traffic volume of 8,800 vehicles per day north of SR 193, and trucks comprise 4% of the daily volume.

Northside Drive is a 2-lane Local street that intersects State Route 49 approximately 600 feet north of SR 193.

State Route 193 (SR 193) runs easterly from SR 49 in Cool to an intersection on SR 49 north of Placerville. The two-lane highway is generally far narrower than the Caltrans standard for this type of highway, except for a wider section near Georgetown and a narrower, steep, and winding section north of Placerville. In the vicinity of the site, SR 193 is a 2-lane facility with no frontage improvements, although a separated bike path exists along the northside of the road. The posted speed limit is 55 mph. The most recent traffic volume counts published by Caltrans indicate that SR 193 carries an Annual Average Daily Traffic volume of 7,600 vehicles per day east of SR 49, and trucks comprise 6% of the daily volume.

Study Area Intersections

The quality of traffic flow is often governed by the operation of key intersections. The following intersections have been identified for evaluation in this study in consultation with El Dorado County and Caltrans staff.

The **State Route 49 / St Florian Court intersection** is a "Tee" intersection controlled by an eastbound stop sign on St Florian Court. A northbound left turn lane is present on SR 49. The St Florian Court approach is a single lane, and there are no crosswalks present.

The **State Route 49 / Northside Drive intersection** is a "Tee" intersection controlled by a westbound stop sign on Northside Drive. A Two-Way-Left-Turn-Lane is present on SR 49. The Northside Drive approach is a single lane, and there are no crosswalks present.

The **State Route 49 / Commercial Driveway intersection** is a "Tee" controlled by a stop sign on eastbound Commercial Driveway. A Two-Way-Left-Turn-Lane is present on SR 49. The Commercial Driveway is a private drive, and there are no crosswalks present.

The **State Route 49 / State Route 193 intersection** is a four-way intersection controlled by an all-way stop with an overhead flasher. SR 49 has separate left turn lanes on each approach. A southbound right turn lane exists, and the northbound thru lane is wide enough to allow right turns outside of the queue of northbound traffic. The SR 193 westbound approach is wide enough to act as a combined left-thru lane and a separate right turn lane, and the eastbound leg is a single lane private drive. Crosswalks exist on the south and east side of the intersection.

The **USPS Driveway / Northside Drive intersection** is a "Tee" controlled by a stop sign on the southbound USPS Driveway. There are no auxiliary lanes or crosswalks present.

Standards of Significance: Levels of Service - Methodology

To assess the quality of existing traffic conditions, Levels of Service were calculated at study area intersections and for individual roadway segments. "Level of Service" is a qualitative measure of traffic operating conditions whereby a letter grade "A" through "F", corresponding to progressively worsening traffic operating conditions, is assigned to an intersection or roadway segment. Table 1 presents the characteristics associated with each LOS grade. As shown in Table 1, LOS "A", "B" and "C" are considered satisfactory to most motorists, while LOS "D" is marginally acceptable. LOS "E" and "F" are associated with severe congestion and delay and are unacceptable to most motorists.

Local agencies and Caltrans adopt minimum Level of Service standards for their facilities. El Dorado County identifies LOS E as the acceptable Level of Service on roadways and state highways within the unincorporated areas of the County in the Community Regions and LOS D in the Rural Centers and Rural Regions except as specified in the General Plan. The analysis techniques presented in the *Highway Capacity Manual, 6th Edition* were used to calculate Level of Service and to provide a basis for describing existing traffic conditions and evaluating the significance of project traffic impacts.

The SR 49 Transportation Concept Report indicates that the ultimate Concept Level of Service is LOS D, while LOS D is the expectation for SR 193.

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. Ave Delay ≤ 10 seconds per vehicle	Little or no delay. Ave Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10 sec/veh and ≤ 20 sec/veh	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 sec/veh and <35 sec/veh	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35 sec/veh and < 55 sec/veh	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 >55 sec and ≤ 80 sec/veh	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 sec/veh	Intersection often blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.
Sources: Highway Capacity Manual, 6th Edition, and Transportation Research Board (TRB) Special Report 209.			

Traffic Signal Warrants. The extent to which a traffic signal may be justified is determined based on many factors. From the standpoint of traffic impact analysis, signal warrant criteria contained in the *California Manual of Uniform Traffic Control Devices (CA MUTCD)* are employed in order to assess the relative impact of the additional traffic accompanying a development proposal. For this analysis, Warrant 3 (Peak Hour Traffic) has been employed. Variation in warrant requirements occur based on the design speed of the road (i.e., > 40 mph) and on the location of the intersection (i.e., rural versus urban locations). In this case, rural criteria for roadway speeds above 40 mph have been employed. It is also important to note that other warrants addressing factors such as pedestrian activity and collision history are necessarily considered before a decision is made to install a traffic signal.

Standards of Significance. El Dorado County has identified criteria for determining the significance of traffic impacts. A traffic impact is considered to be significant under El Dorado County guidelines if the project causes an intersection to change from LOS D to LOS E. Worsening of conditions at facilities already operating at unacceptable levels of service is also considered a significant impact. The County's General Plan Policy TC-Xe defines "worsen" as any of the following conditions:

a. a 2% increase in traffic during the a.m. peak hour, p.m. peak hour or daily trips, or
b. the addition of 100 or more daily trips, or
c. the addition of 10 or more trips during the a.m. peak hour or the p.m. peak hour.

The County's current General Plan Policy TC-Xf notes that for all residential subdivisions of five or more parcels that worsens traffic on a County road as defined in Policies TC-Xe [A], [B] or [C] "the County shall condition the project to construct all road improvements necessary to maintain or attain Level of Service standards detailed in this Transportation and Circulation Element based on existing traffic plus traffic generated from the development plus forecasted traffic growth at 10-years from project submittal." For all other discretionary projects that worsen traffic "the County shall condition the project to construct all road improvements necessary to maintain or attain adopted LOS standards."

However, the El Dorado County Superior Court issued a ruling in July 2017 that found certain provisions in Measure E unconstitutional. The court ruled that the previous language contained in Measure Y was still valid as detailed below:

At the time of approval of a tentative map for a single family residential subdivision of five or more parcels that worsens (defined as a project that triggers Policy TC-Xe [A] or [B] or [C]) traffic on the County road system, the County shall do one of the following:

(1) condition the project to construct all road improvements necessary to maintain or attain Level of Service standards detailed in this Transportation and Circulation Element based on existing traffic plus traffic generated from the development plus forecasted traffic growth at 10-years from project submittal; or

(2) ensure the commencement of construction of the necessary road improvements are included in the County's 10-year CIP.

For all other discretionary projects that worsen (defined as a project that triggers Policy TC-Xe [A] or [B] or [C] traffic on the County road system, the County shall do one of the following:

(1) condition the project to construct all road improvements necessary to maintain or attain Level of Service standards as detailed in this Transportation and Circulation Element; or
(2) ensure the construction of the necessary road improvements is included in the County's 20-year CIP.

Existing Traffic Volumes / Levels of Service

Traffic Volume Counts. New traffic counts were made for this study on June 12, 2019. Intersection turning movement counts were made at study intersections during the period from 4:00 p.m. to 6:00 p.m. The highest hourly traffic volume period within the two hour window was identified as the peak hour and used for this analysis.

Figure 3 illustrates the intersection turning movement count data for both intersections. This figure also notes the geometric layout of each intersection and the location of traffic controls. This data has been used to determine the operating Level of Service (LOS) at each intersection.

Level of Service at Intersections. Levels of Service were calculated for different intersection control types using the respective methods presented in the Highway Capacity Manual, 6th Edition (HCM 6 Ed). Intersection Levels of Service were calculated using SYNCHRO 10.0 software. For intersections controlled by side street stop signs, the reported Level of Service reflects the "worst case" movement, which is typically those motorists waiting to enter the main street.

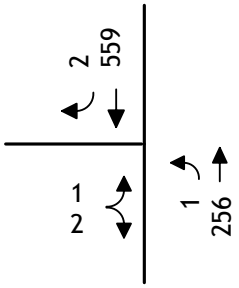
As indicated in Table 2, each intersection delivers a peak hour Level of Service that satisfies minimum El Dorado County standards. Peak hour traffic signal warrants are satisfied at the SR 49 / SR 193 intersection.

TABLE 2
EXISTING INTERSECTION LEVELS OF SERVICE

Intersection	Control	PM Peak Hour		Signal* Warranted
		Average Delay (veh/sec)	LOS	
State Route 49 / Saint Florian Court				
Northbound left turn	EB Stop	8.7	A	
Eastbound approach		13.7	B	No
State Route 49 / Northside Drive				
Southbound left turn	WB Stop	7.9	A	No
Westbound approach		16.3	C	
State Route 49 / Timberline Commercial Access				
Northbound left turn	EB Stop	9.0	A	No
Eastbound approach		14.2	B	
State Route 49 / State Route 193	AWS	17.7	C	Yes
USPS Driveway / Northside Drive				
Southbound approach	SB Stop	8.5	A	No
Eastbound approach		7.1	A	

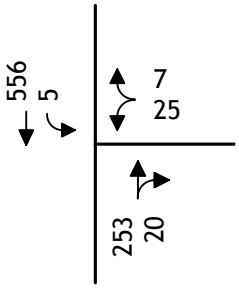
* CA MUTCD Peak Hour Signal Warrant, Figure 4C-3.

1



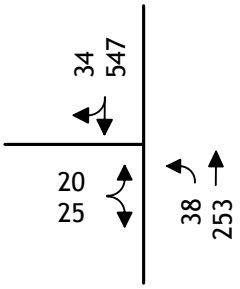
SR 49/ St Florian Ct

2

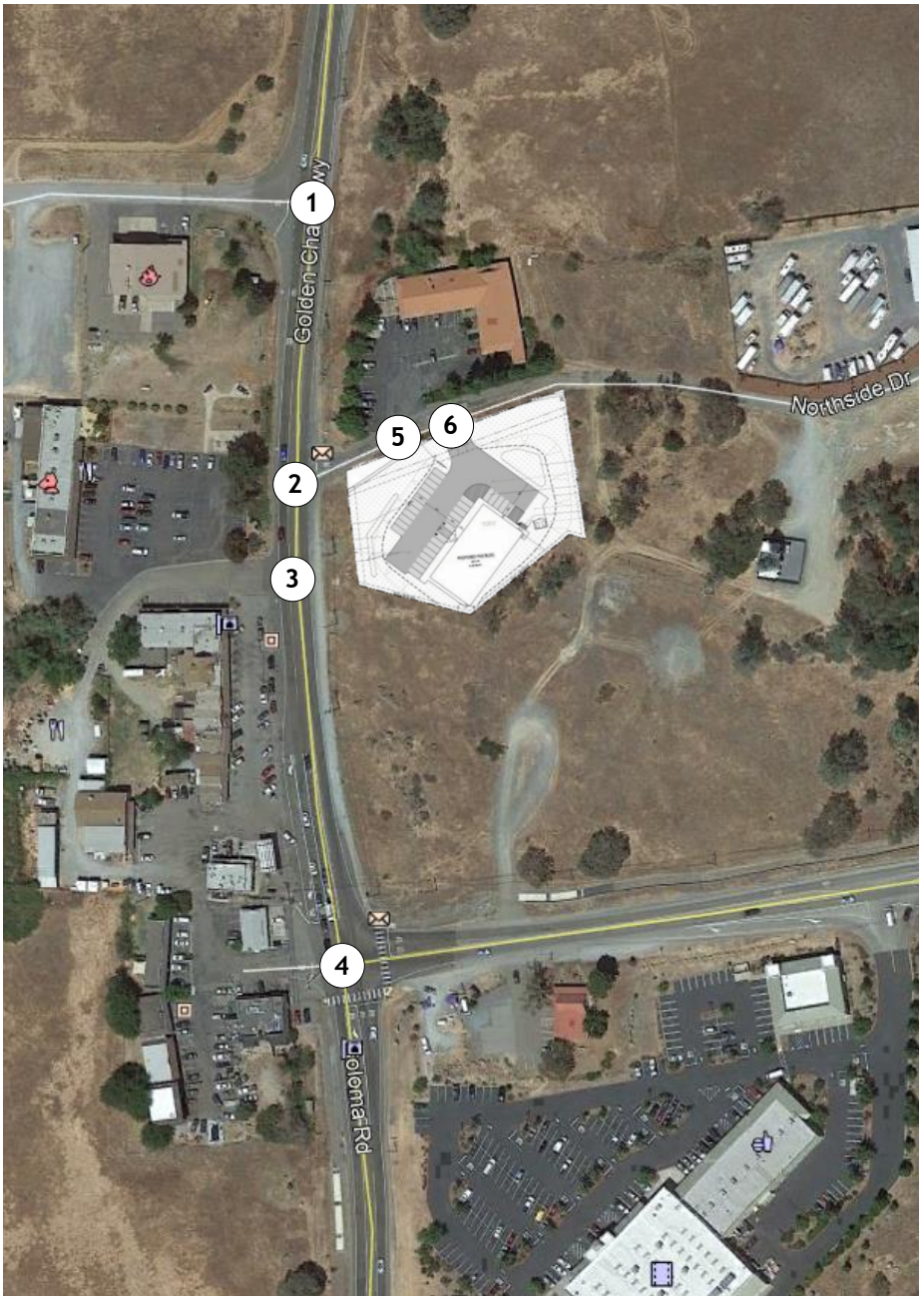


SR 49/ Northside Dr

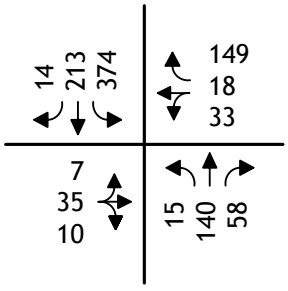
3



SR 49/ Commercial Driveway

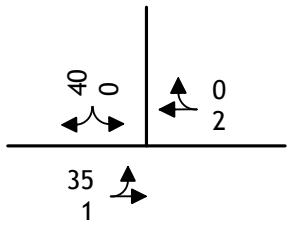


4



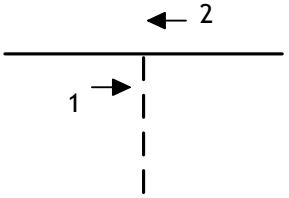
SR 49/ SR 193

5



USPS Access/ Northside Dr

6



Project Access/ Northside Dr

EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

9470-02 RA 7/24/2019

figure 3

Collision History

Traffic collision information was obtained for locations on SR 49 for the period of January 1, 2016 to December 31, 2018. During that time period a total of one collision was reported for the segment from 300 feet south of SR 193 to 300 feet north of St Florian Court. One rear-end collision occurred 65 feet south of SR 193.

Alternative Transportation Modes

Pedestrian Facilities. There are currently no sidewalks in the area surrounding the proposed project.

Bicycle Facilities. The *El Dorado County General Plan (2018)* outlines the location and nature of existing bicycle facilities in El Dorado County. Bicycle facilities are categorized within three classifications:

Class I Bikeway: trails or paths that are separated from automobile traffic,
Class II Bikeway: bicycle lanes that are on street but delineated by striping, and
Class III Bikeway: bicycle routes where bicycles and automobiles share the road.

There are currently separated bicycle paths on the north side of SR 193 that extends for .83 miles from SR 49.

Transit Facilities. The El Dorado County Transit Authority (EDCTA) and Lake Tahoe Transit provide transit service in El Dorado County. The El Dorado County Transit Authority serves the residents of western El Dorado County, providing scheduled fixed-route service, daily commute service to Sacramento, dial-a-ride service in Placerville and outlying communities, and chartered social service routes. Life-line service is also provided to the elderly, the disabled, and Sacramento commuters. For EDCTA's fixed-route service, seven routes are local (within El Dorado County), and 12 are commuter routes to Sacramento County. In fiscal year 2000/2001, EDCTA served nearly 295,000 riders. The commuter service was particularly well used with an average weekday ridership of approximately 500. There are currently no bus routes that run through the surrounding area of the proposed project.

Regulatory Setting

El Dorado County General Plan. The El Dorado County General Plan Circulation Element sets forth future plans for the transportation system in the County.

State Route 49 TCR. Caltrans SR 49 (2017) identifies the long range plan for this facility. SR 49 in this area will remain a 2-lane conventional highway with concept Level of Service D.

State Route 193 TCR. Caltrans SR 193 (2017) identifies the long range plan for this facility. SR 193 in this area will remain a 2-lane conventional highway with concept Level of Service D.

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

Trip Generation Rates. This analysis considered trip generation rates derived from several sources. The Institute of Transportation Engineers (ITE) publication *"Trip Generation, 10th Edition"* provides information on the characteristics of various retail uses. The use most similar to Dollar General Store is "Variety Store" (Code 814). 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 3 identifies the trip generation rates reported by ITE.

TABLE 3
TRIP GENERATION RATES

Land Use / Source	Unit	PM Peak Hour		
		In	Out	Total
Variety Store	ksf	52%	48%	6.82
Dollar General Store	9.1 ksf	32	30	62
Pass-by Trips	34%	<10>	<10>	<20>
Net New Trips		22	20	42
Source: ITE Trip Generation, 10th Edition				

Trip Generation Forecasts. Table 3 displays the p.m. peak hour trip generation forecasts for the 9.1 ksf Dollar General Store. The project would generate 62 p.m. peak hour trips at its driveway. A portion of the traffic drawn to these stores would be drawn from the stream of traffic already passing the site. The ITE *Trip Generation Handbook, 3rd Edition* notes that 34% of the weekday trips are "pass-by".

As noted in Table 3, the project is expected to generate 42 "new" trips 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 63.47 trips per ksf. After discount for "pass-by trips", the proposed project may generate 381 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 1-2 full size trucks will visit the store each week, although smaller single unit trucks may visit each day. At typical Dollar General Stores some of the full size trucks are expected to be STAA trucks (53') permitted on California highways under the Surface Transportation Authorization Act. However, when the regional routes providing access to individual stores are not designated for STAA, alternative vehicles are used. This is the case on this portion of SR 49 which is not an STAA terminal route.

Site truck circulation has been reviewed. The project will result in trucks turning into the site and turning first right into the parking aisle that runs parallel to Northside Drive. From that point the truck will back into the aisle towards the store's rear door. After completing the delivery the trucks will proceed to Northside Drive. This is a common Dollar General Store configuration, and the parking layout is wide enough to accommodate these movements.

Vehicle Trip Distribution / Assignment

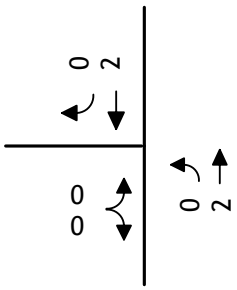
The distribution of project traffic was determined based on knowledge of the demographic distribution of residences and competing stores in this area of El Dorado County and on market characteristics of Dollar General Stores. As noted in Table 4, assuming a primary trade area that extends 1-2 miles from the site, the new trips attracted to the site will arrive primarily from the south along SR 49 and east along SR 193, with lesser shares arriving from the north and from the businesses that already exist along SR 49. Pass-by trips will be drawn from passing traffic on SR 49 in general proportion to the current peak hour volumes from each direction.

TABLE 4
DIRECTIONAL TRIP DISTRIBUTION (NEW TRIPS)

Direction	Route	Percentage of New Trips
North	SR 49 north of Northside Drive	10%
East	SR 193 east of SR 49	40%
South	SR 49 south of Northside Drive	40%
West	Local businesses	10%
Total		100%

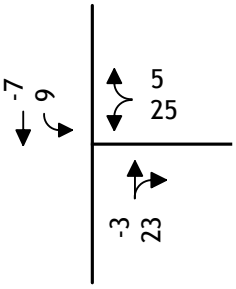
Using the trip generation and distribution assumptions described above, the trips generated by the proposed project were assigned to the study area street system. Figure 4 presents peak hour volumes accompanying development of the project.

1



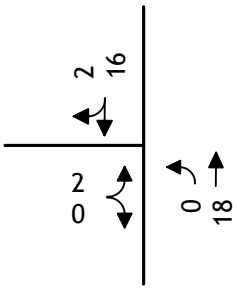
SR 49/ St Florian Ct

2

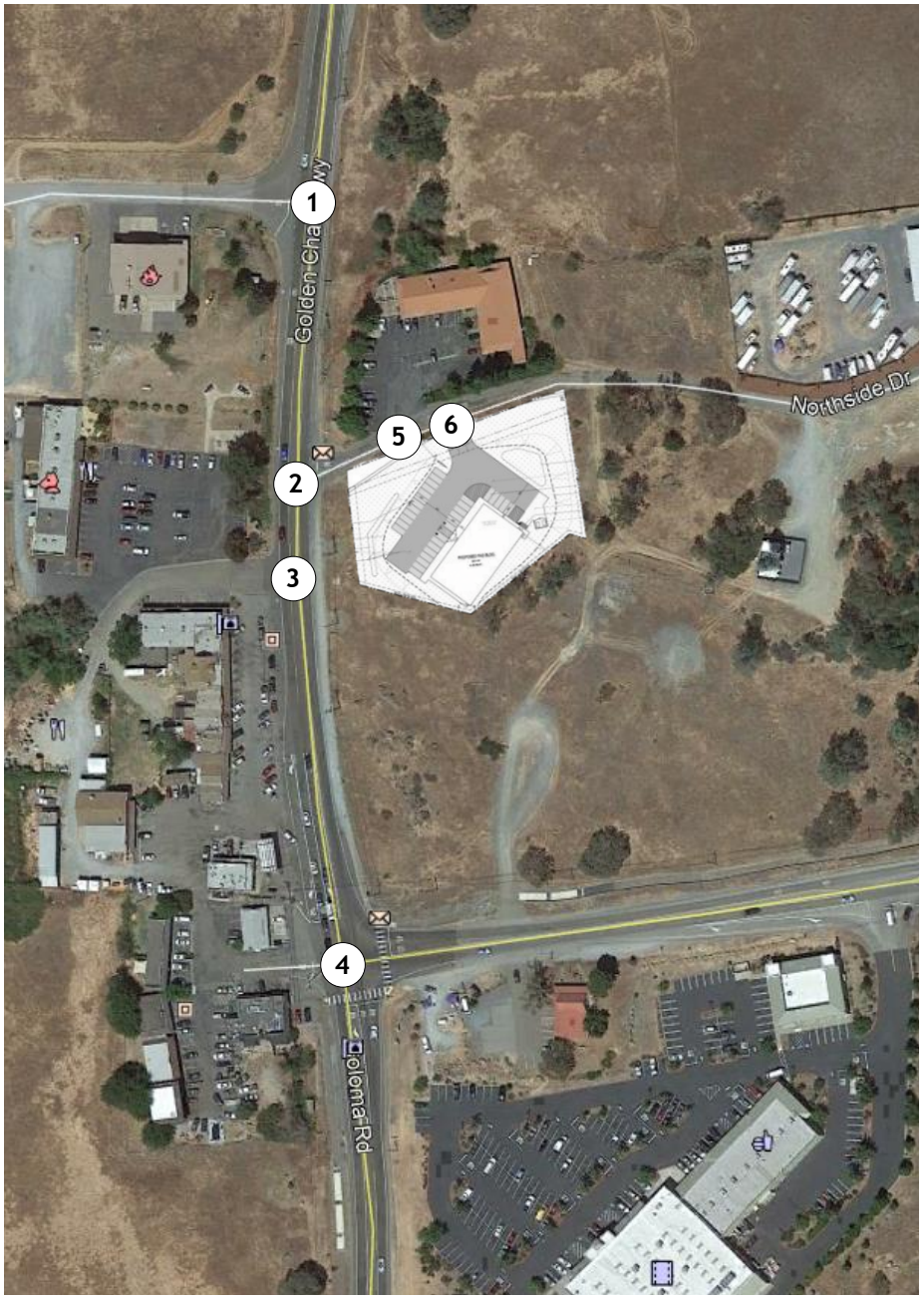


SR 49/ Northside Dr

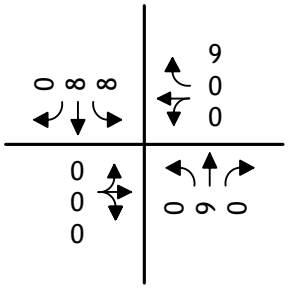
3



SR 49/ Commercial Driveway

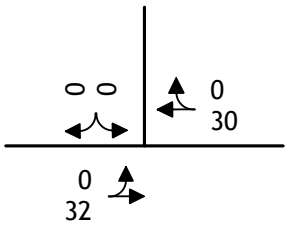


4



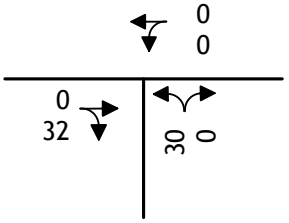
SR 49/ SR 193

5



UPS Access/ Northside Dr

6



Project Access/ Northside Dr

PROJECT ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers
9470-02 RA 7/24/2019

figure 4

PROJECT TRAFFIC IMPACTS

Existing Plus Project Traffic Conditions and Levels of Service

Figure 5 superimposes project trips onto the current background traffic volumes to create the "Existing plus Project" condition. Subsequent tables compare the "Existing" and "Existing plus Project" Levels of Service.

Project Traffic Impacts to Level of Service at Intersections. As shown in Table 5, because the amount of traffic projected to be generated by the project is relatively low, the addition of project traffic would not appreciably increase the length of delays already occurring at study intersections, and the project does not result in any change to the overall Level of Service at each location. Projected increases in delay are calculated to be less than one (1) second. Levels of Service will remain within adopted minimum standards of El Dorado County at each location.

Traffic Signal Warrants. The volume of traffic occurring at each intersection with development of the project was again compared to the CA MUTCD peak hour signal warrant thresholds. Traffic signals continue to be warranted at SR 49 / SR 193 with the project. The SR 193 TCR suggests a roundabout will someday be installed at this location, but no funding is identified. Currently, improvements to this intersection are not included in El Dorado County's regional traffic impact fee program.

TABLE 5
EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE

Intersection	Control	PM Peak Hour				Signal Warrant
		Existing No Project		Existing Plus Project		
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	
State Route 49 / Saint Florian Court	EB Stop					
Northbound left turn		A	8.7	A	8.7	
Eastbound approach		B	13.7	B	13.8	No
State Route 49 / Northside Drive	WB Stop					
Southbound left turn		A	7.9	A	7.9	
Westbound approach		C	16.3	C	18.5	No
State Route 49 / Timberline Commercial Access	EB Stop					
Northbound left turn		A	9.0	A	9.0	
Eastbound approach		B	14.2	B	14.6	No
State Route 49 / State Route 193	AWS	C	17.7	C	18.8	Yes
USPS Driveway / Northside Drive	SB Stop					
Southbound approach		A	8.5	A	8.7	
Eastbound approach		A	7.1	A	7.4	No
Project Access / Northside Drive	NB Stop					
Northbound approach		--	--	A	8.7	No

Project Impacts to Alternative Transportation Modes

Development of the proposed Dollar General Store may incrementally contribute to the demand for facilities to serve pedestrians, cyclists and transit riders in this area of El Dorado County, but this demand is expected to be relatively minor.

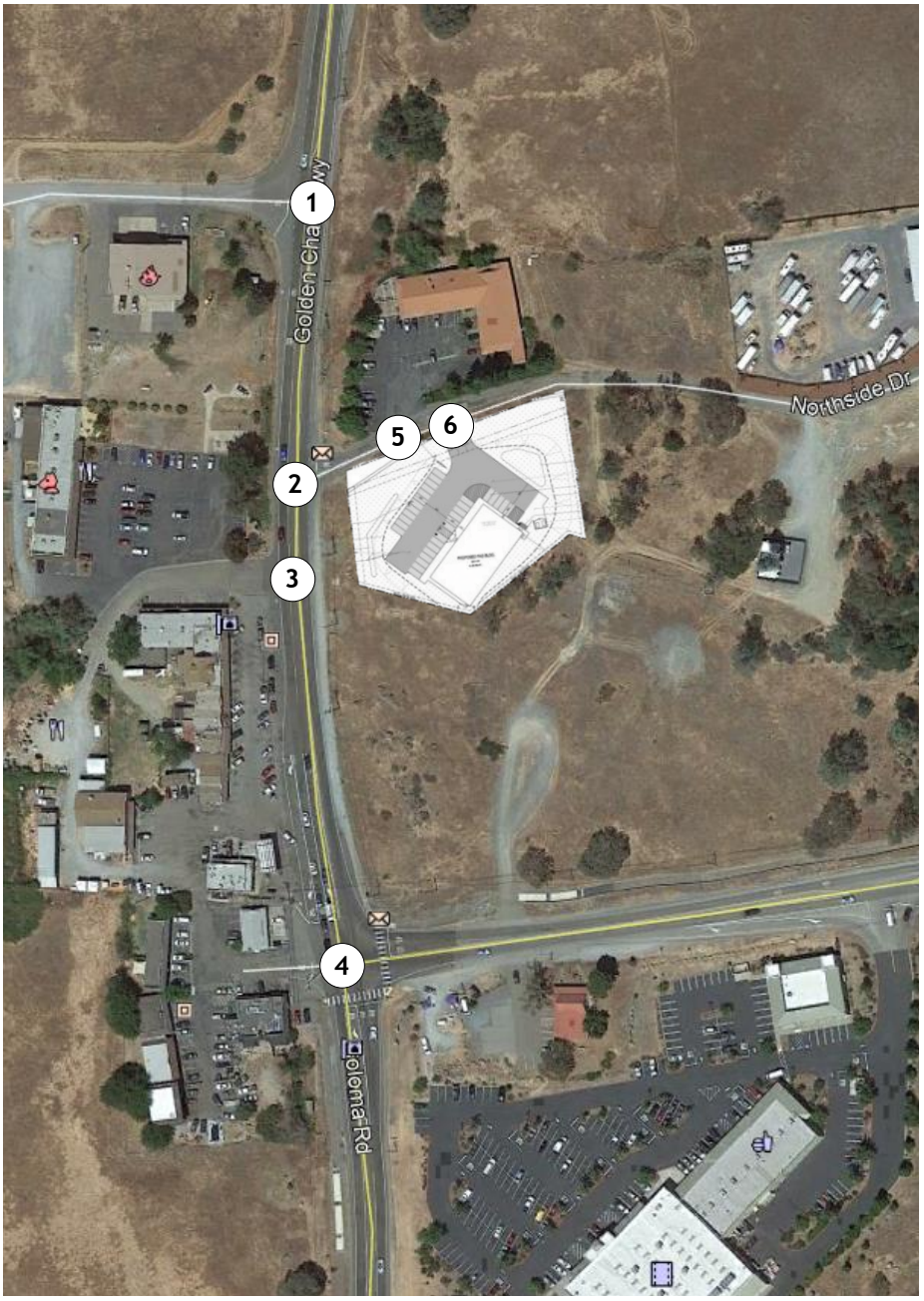
Pedestrian Impacts. It is unlikely employees or customers of this project will elect to walk in appreciable numbers to and from the site, as there is little residential or commercial development near the site.

Bicycle Impacts. While the use of bicycles may be an option for employees or customers to the site, such traffic will likely be low. The number of cyclists associated with this project is not likely to create any appreciable safety impacts on SR 49 where the paved shoulder is already available to provide access to the project.

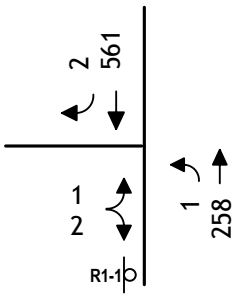
Transit Impacts. Project employees or customers are unlikely to use bus transit service, as no fixed routes pass through the site area.

Site Access

Throat Depth. Access to the site is proposed via a driveway on the south side of Northside Drive. The driveway is 40 feet wide. The main parking aisle is separated from Northside Drive by about 40 feet of throat. Two waiting vehicles can queue prior to blocking access to those parking spaces. This layout is expected to operate satisfactorily given the low traffic volumes projected to be generated by the site. The Level of Service calculations indicate that the 95th percentile queue at the exit will be 1 vehicle or less during peak periods, which can be accommodated in the 40 feet.

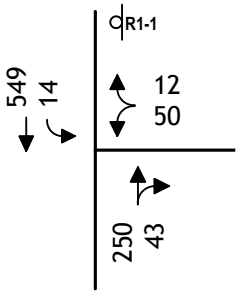


1



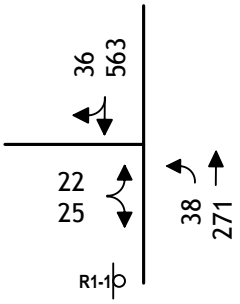
SR 49/ St Florian Ct

2



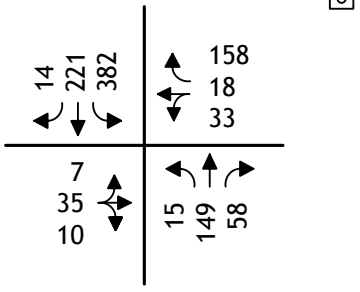
SR 49/ Northside Dr

3



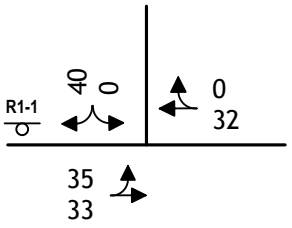
SR 49/ Commercial Driveway

4



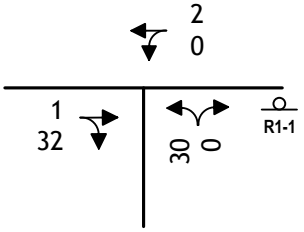
SR 49/ SR 193

5



USPS Access/ Northside Dr

6



Project Access/ Northside Dr

EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers
9470-02 RA 7/24/2019

figure 5

CUMULATIVE IMPACTS

The impacts of the Dollar General Store project have also been considered within the context of future traffic conditions in this area of El Dorado County. Long term traffic conditions have been forecast and evaluated based on forecasts from the El Dorado County regional demand forecasting model.

Year 2040 Long Term Cumulative Conditions

Approach to Developing Traffic Volume Forecasts. In El Dorado County long term future traffic conditions are identified by the regional travel demand forecasting model maintained by El Dorado County. This tool has been employed to develop traffic volume forecasts for the Regional Transportation Plan, and for EIR's prepared for projects throughout the County. The most current version of the model has been employed for this cumulative analysis.

Methods. The approach taken to prepare background traffic volume forecasts for this analysis makes use of data from the current version of the El Dorado County regional traffic model. The incremental change in peak hour traffic was determined on a segment by segment basis through comparison of Year 2015 baseline and Year 2040 forecasts (refer to Appendix for 2015 and 2040 model forecasts). These forecasts indicate that relatively little growth will occur on study area streets.

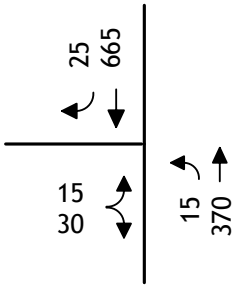
Traffic Volume Forecasts. Figure 6 identifies "No Project" background Year 2040 traffic volumes, while Figure 7 identifies Year 2040 volumes with Dollar General Store.

Level of Service at Intersections / Traffic Signal Warrants – No Project. Peak hour intersection Levels of Service were recalculated assuming no change to current intersection geometries. As shown in Table 7, without the project all study intersections will continue to operate with Levels of Service that satisfy minimum LOS D standard. Peak hour traffic signal warrants (warrant 3) would be satisfied at the SR 49/SR 193 intersection.

Level of Service at Intersections / Traffic Signal Warrants – Plus Project. As noted in Table 7, the addition of project trips does not result in any intersection operating with Level of Service in excess of the LOS D minimum. Thus, the project's impacts are not significant, and mitigation is not required based on Level of Service.

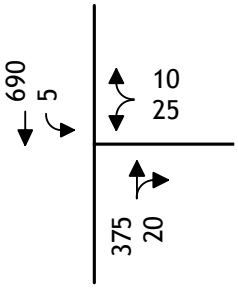
The proposed project would contribute its fair share to the cost of regional circulation improvements by paying adopted fees and making frontage improvements, but no additional mitigation related to roadway capacity and Level of Service is required.

1



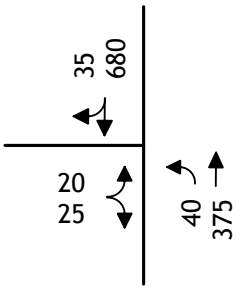
SR 49/ St Florian Ct

2

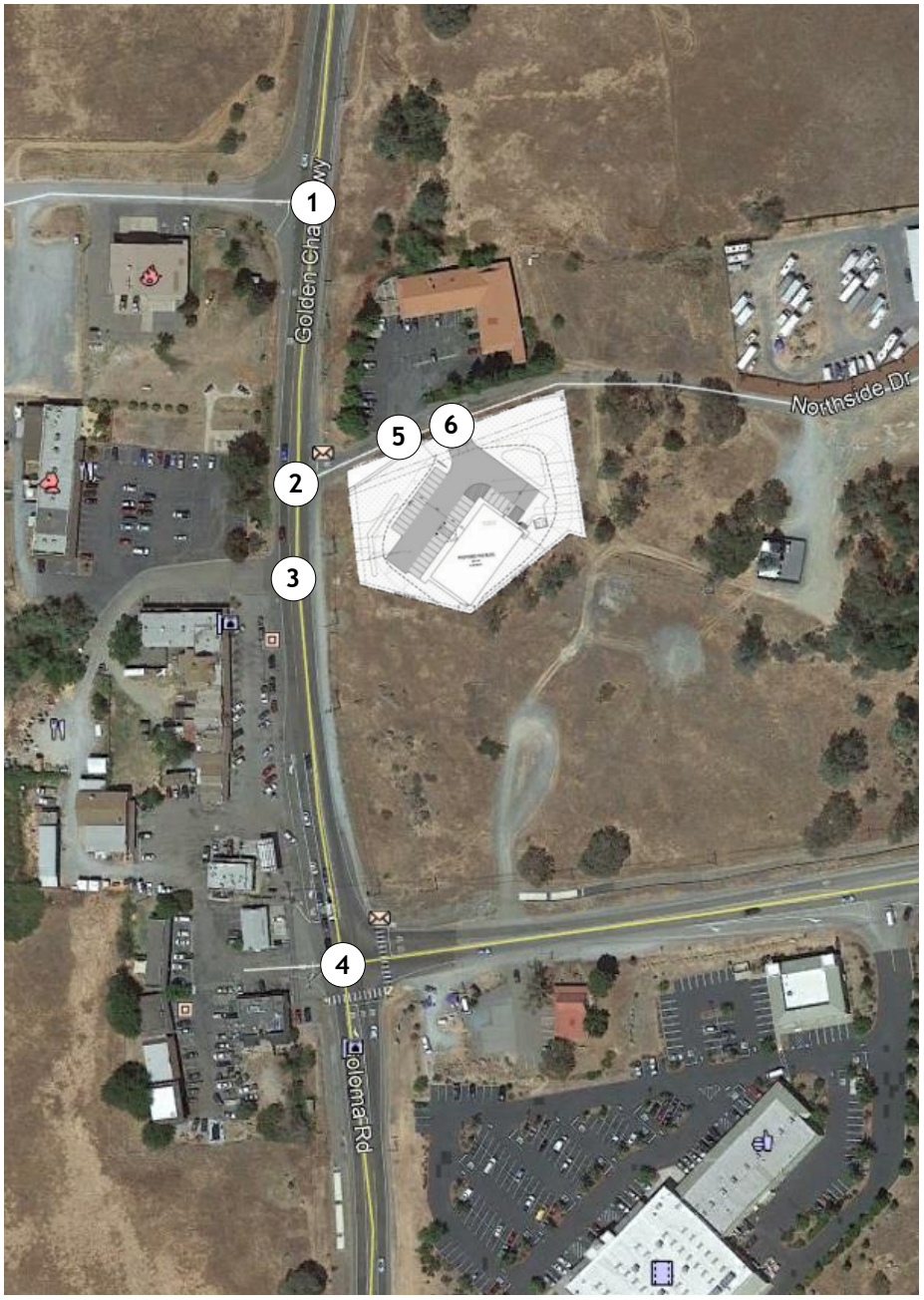


SR 49/ Northside Dr

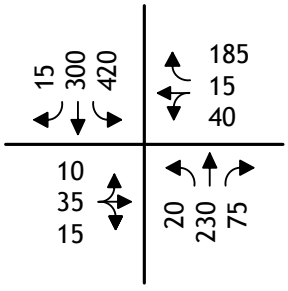
3



SR 49/ Commercial Driveway

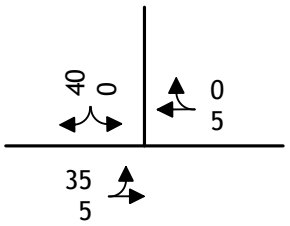


4



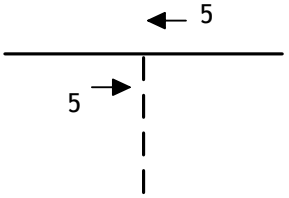
SR 49/ SR 193

5



USPS Access/ Northside Dr

6



Project Access/ Northside Dr

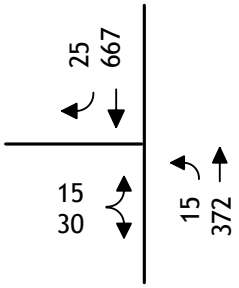
CUMULATIVE TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

9470-02 RA 7/24/2019

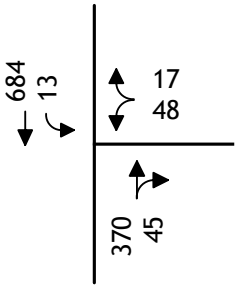
figure 6

1



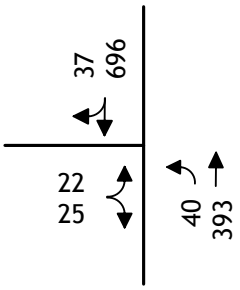
SR 49/ St Florian Ct

2

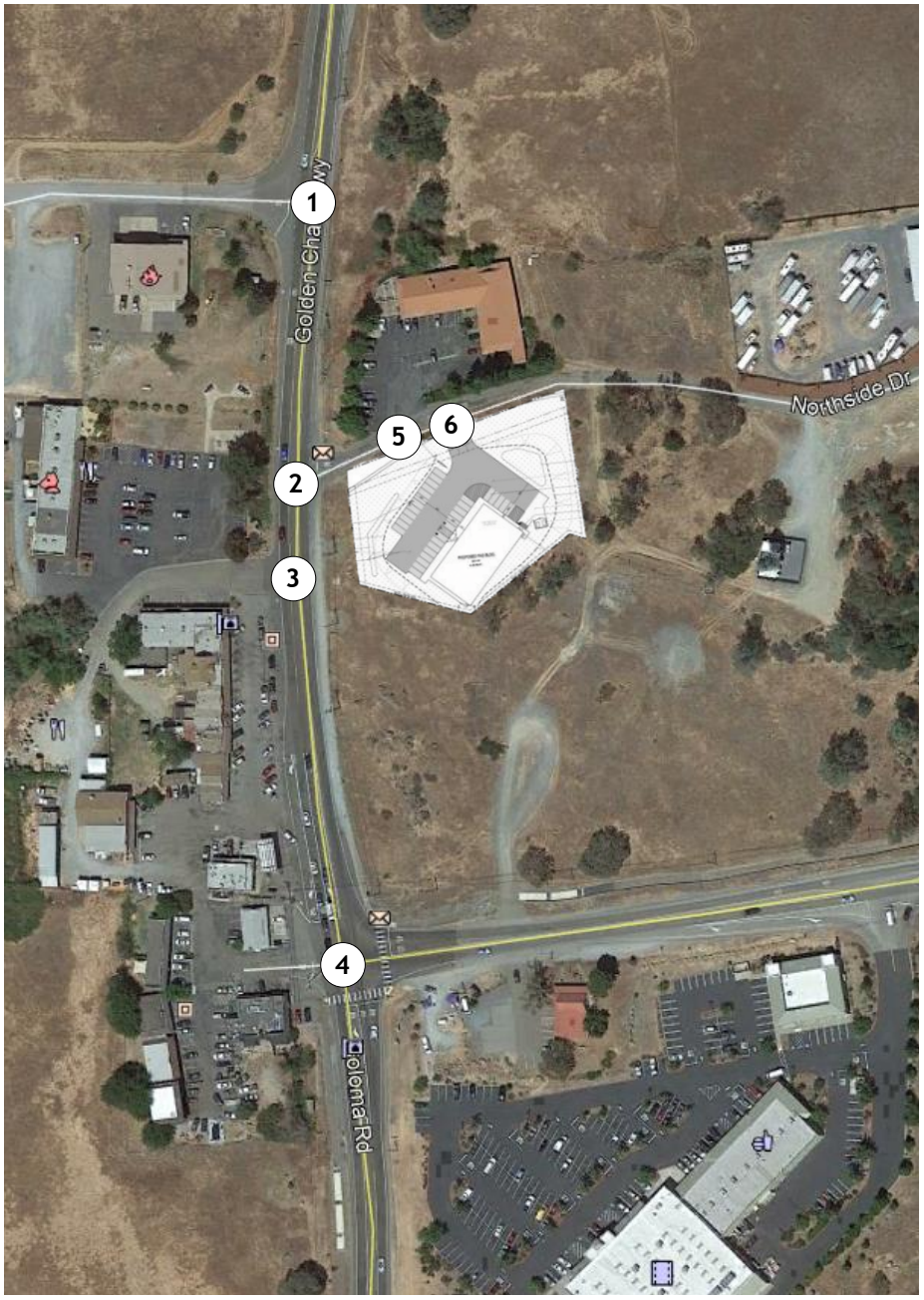


SR 49/ Northside Dr

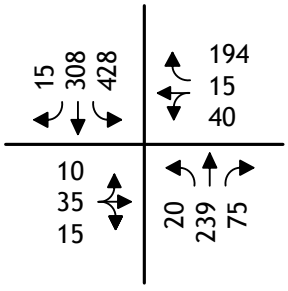
3



SR 49/ Commercial Driveway

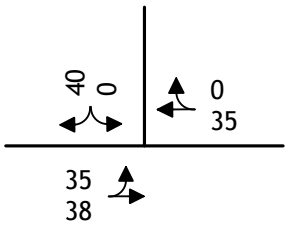


4



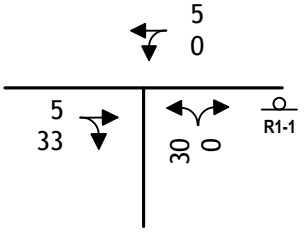
SR 49/ SR 193

5



USPS Access/ Northside Dr

6



Project Access/ Northside Dr

CUMULATIVE PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

9470-02 RA 7/24/2019

figure 7

TABLE 7
YEAR 2040 PLUS PROJECT INTERSECTION LEVELS OF SERVICE

Intersection	Control	PM Peak Hour				Signal Warrant
		Cumulative No Project		Cumulative Plus Project		
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	
State Route 49 / Saint Florian Court	EB Stop					
Northbound left turn		A	9.3	A	9.3	
Eastbound approach		C	18.3	C	18.4	No
State Route 49 / Northside Drive	WB Stop					
Southbound left turn		A	8.2	A	8.3	
Westbound approach		C	21.2	D	25.4	No
State Route 49 / Timberline Commercial Access	EB Stop					
Northbound left turn		A	9.5	A	9.6	
Eastbound approach		C	16.6	C	17.2	No
State Route 49 / State Route 193	AWS	D	30.6	D	33.7	Yes
USPS Driveway / Northside Drive	SB Stop					
Southbound approach		A	8.5	A	8.7	
Eastbound approach		A	7.3	A	7.4	No
Project Access / Northside Drive	NB Stop					
Northbound approach		--	--	A	8.8	No

SUMMARY AND CONCLUSIONS

This report documents **KD Anderson & Associates'** analysis of the traffic impacts associated with developing a Dollar General Store on Northside Drive in El Dorado County, California. The analysis addresses both current and future background conditions at key intersections in the vicinity of the site. To assess traffic impacts, the characteristics of the proposed project have been determined, including estimated trip generation and the directional distribution / assignment of project generated traffic.

The proposed project consists of a 9.1 ksf Dollar General Store located on a 1.68 acre site on the south side of Northside Drive about 190 feet east of SR 49. The project will include development of 31 parking spaces per El Dorado County Zoning Ordinance requirements. Access to the site will be provided via a new driveway to Northside Drive. The Northside Drive site frontage is currently unimproved, with no frontage improvements beyond the driveway improvements are planned with the development of the project.

The project is expected to generate a total of 578 daily trips, with roughly 11% or 62 trips during the p.m. peak hour. After discounting for pass-by trips already occurring on SR 49 adjacent to the site, the project is projected to generate 42 new trips in the weekday p.m. peak hours.

Existing Plus Project Traffic Conditions. Development of the project alone does not result in a significant impact to traffic based on the criteria adopted by El Dorado County. Satisfactory operations are currently experienced at the study intersections and no changes to existing Levels of Service are projected with development of the site. Traffic signal warrants are met with and without the project at the SR 49/ SR 193 intersection.

The project access will be improved to El Dorado County encroachment permit standards. However, the volume of traffic associated with the project does not result in conditions that satisfy a separate left turn lane on Northside Drive.

Long Term Cumulative Traffic Impacts. The study intersections are projected to operate without significant delays in the future with the existing traffic controls. The average delay for all vehicles would not exceed the County's LOS D minimum standards with or without development of the proposed project. Traffic signal warrants would continue to be met at the SR 49/SR 193 intersection. Typically, El Dorado County monitors the operation of intersections, and adds them to the fee priority list as appropriate. The proposed project would contribute its fair share to the cost of regional circulation improvements, including any SR 49/SR193 improvements by paying adopted fees, and no additional mitigation related to roadway capacity and Level of Service is required.

APPENDIX

(Traffic Counts, LOS Calculations)

Prepared by National Data & Surveying Services

SR 49 & St Florian Ct

Peak Hour Turning Movement Count

ID: 19-07230-001
City: Cool

Day: Wednesday
Date: 06/12/2019

PEAK HOURS	
AM	NONE
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS	
AM	NONE
NOON	NONE
PM	04:00 PM - 06:00 PM

SR 49 — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	2	559	0	0	257	PM

EASTBOUND — St Florian Ct

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

WESTBOUND — St Florian Ct

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	
PM	NOON	AM	

CONTROL

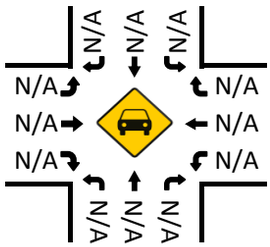
1-Way Stop (EB)

	AM	NOON	PM
TEV	0	0	821
PHF			0.96

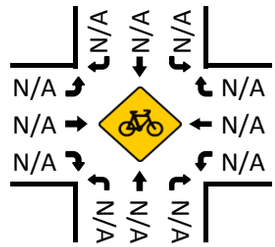
SR 49 — NORTHBOUND

PM	561	0	1	256	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

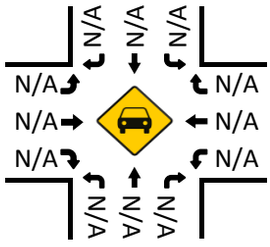
Total Vehicles (AM)



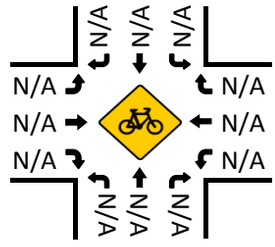
Bikes (AM)



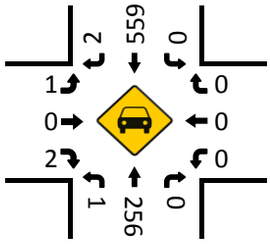
Total Vehicles (Noon)



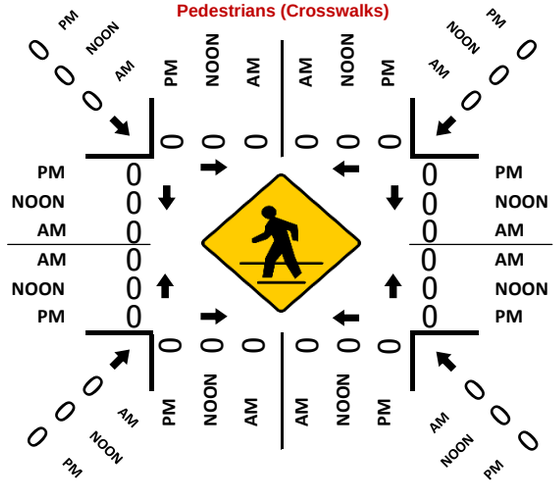
Bikes (NOON)



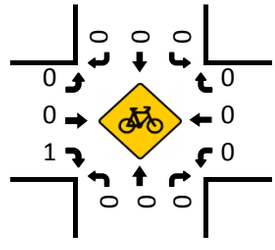
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & St Florian Ct
City: Cool
Control: 1-Way Stop (EB)

Project ID: 19-07230-001
Date: 6/12/2019

Total

NS/EW Streets:	SR 49				SR 49				St Florian Ct				St Florian Ct				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	45	0	0	0	106	0	0	0	0	1	0	0	0	0	0	152
4:15 PM	0	71	0	0	0	101	1	0	0	0	0	0	0	0	0	0	173
4:30 PM	0	69	0	0	0	144	0	0	0	0	1	0	0	0	0	0	214
4:45 PM	1	59	0	0	0	128	0	0	0	0	0	0	0	0	0	0	188
5:00 PM	0	65	0	0	0	139	1	0	1	0	1	0	0	0	0	0	207
5:15 PM	0	63	0	0	0	148	1	0	0	0	0	0	0	0	0	0	212
5:30 PM	0	50	0	0	0	128	0	0	0	0	0	0	0	0	0	0	178
5:45 PM	0	54	0	0	0	124	1	0	0	0	1	0	0	0	0	0	180
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	476	0	0	0	1018	4	0	1	0	4	0	0	0	0	0	1504
APPROACH %'s :	0.21%	99.79%	0.00%	0.00%	0.00%	99.61%	0.39%	0.00%	20.00%	0.00%	80.00%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	1	256	0	0	0	559	2	0	1	0	2	0	0	0	0	0	821
PEAK HR FACTOR :	0.250	0.928	0.000	0.000	0.000	0.944	0.500	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.959
		0.931				0.941				0.375							

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & St Florian Ct
City: Cool
Control: 1-Way Stop (EB)

Project ID: 19-07230-001
Date: 6/12/2019

Bikes

NS/EW Streets:	SR 49				SR 49				St Florian Ct				St Florian Ct				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
APPROACH %'s :	100.00%	0.00%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250
									0.250								

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & St Florian Ct
City: Cool

Project ID: 19-07230-001
Date: 6/12/2019

Pedestrians (Crosswalks)

NS/EW Streets:	SR 49		SR 49		St Florian Ct		St Florian Ct		
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

SR 49 & Northside Dr

Peak Hour Turning Movement Count

ID: 19-07230-002
City: Cool

Day: Wednesday
Date: 06/12/2019

PEAK HOURS

AM	NONE
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	NONE
NOON	NONE
PM	04:00 PM - 06:00 PM

SR 49

SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	556	5	0	260	PM

EASTBOUND (Northside Dr)

AM	NOON	PM	
0	0	0	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

WESTBOUND (Northside Dr)

PM	NOON	AM	
7	0	0	0
0	0	0	0
25	0	0	0
0	0	0	0
25	0	0	
PM	NOON	AM	

CONTROL

1-Way Stop (WB)

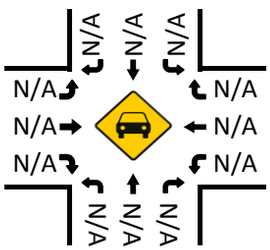
TEV	0 AM	0 NOON	866 PM
PHF			0.94

NORTHBOUND

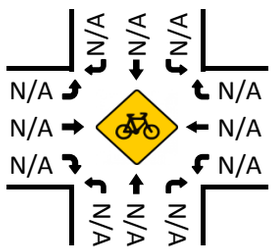
PM	581	0	0	253	20	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

SR 49

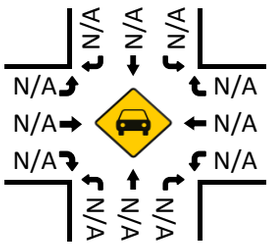
Total Vehicles (AM)



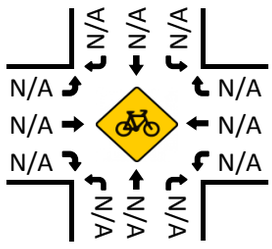
Bikes (AM)



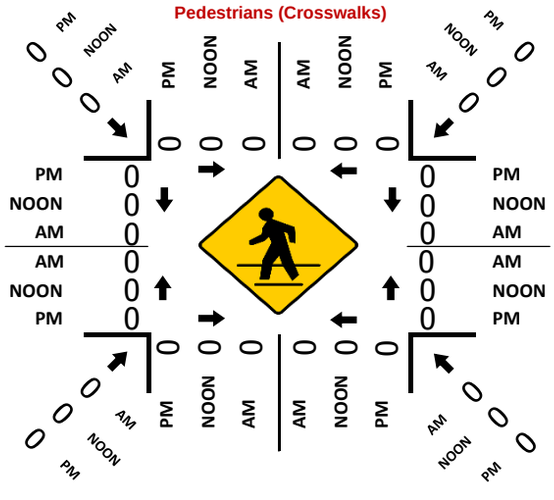
Total Vehicles (Noon)



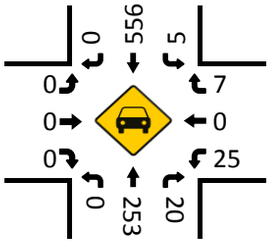
Bikes (NOON)



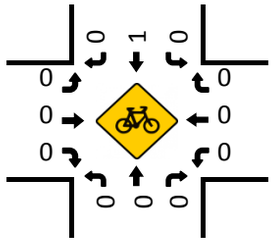
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & Northside Dr
City: Cool
Control: 1-Way Stop (WB)

Project ID: 19-07230-002
Date: 6/12/2019

Total

NS/EW Streets:	SR 49				SR 49				Northside Dr				Northside Dr				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	43	6	0	2	105	0	0	0	0	0	0	6	0	3	0	165
4:15 PM	0	66	10	0	3	99	0	0	0	0	0	0	10	0	2	0	190
4:30 PM	0	70	6	0	1	143	0	0	0	0	0	0	10	0	1	0	231
4:45 PM	0	57	6	0	2	125	0	0	0	0	0	0	8	0	2	0	200
5:00 PM	0	65	5	0	2	139	0	0	0	0	0	0	3	0	1	0	215
5:15 PM	0	61	3	0	0	149	0	0	0	0	0	0	4	0	3	0	220
5:30 PM	0	47	6	0	1	126	0	0	0	0	0	0	6	0	1	0	187
5:45 PM	0	55	1	0	0	125	0	0	0	0	0	0	2	0	0	0	183
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	464	43	0	11	1011	0	0	0	0	0	0	49	0	13	0	1591
APPROACH %'s :	0.00%	91.52%	8.48%	0.00%	1.08%	98.92%	0.00%	0.00%					79.03%	0.00%	20.97%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	253	20	0	5	556	0	0	0	0	0	0	25	0	7	0	866
PEAK HR FACTOR :	0.000	0.904	0.833	0.000	0.625	0.933	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.583	0.000	0.937
		0.898				0.941								0.727			

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & Northside Dr
City: Cool
Control: 1-Way Stop (WB)

Project ID: 19-07230-002
Date: 6/12/2019

Bikes

NS/EW Streets:	SR 49				SR 49				Northside Dr				Northside Dr				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
						0.250											

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & Northside Dr
City: Cool

Project ID: 19-07230-002
Date: 6/12/2019

Pedestrians (Crosswalks)

NS/EW Streets:	SR 49		SR 49		Northside Dr		Northside Dr		
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

United States Postal Service Dwy Access & Northside Dr

Peak Hour Turning Movement Count

ID: 19-07230-003
City: Cool

Day: Wednesday
Date: 06/12/2019

United States Postal Service Dwy Access — SOUTHBOUND

PEAK HOURS: NONE / NONE / 04:00 PM - 05:00 PM

COUNT PERIODS: NONE / NONE / 04:00 PM - 06:00 PM

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	40	0	0	0	35	PM

EASTBOUND (Northside Dr)

AM	NOON	PM	
0	0	42	⇦
0	0	0	↰ 0
0	0	35	↱ 0
0	0	1	→ 0
0	0	0	↴ 0

WESTBOUND (Northside Dr)

PM	NOON	AM	
0	0	0	↰ 0
2	0	0	← 0
0	0	0	↰ 0
0	0	0	↰ 0
1	0	0	⇨

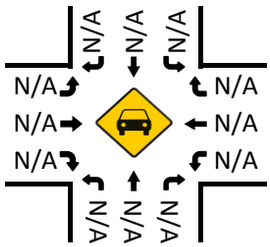
CONTROL: No Control

	AM	NOON	PM
TEV	0	0	78
PHF			0.78

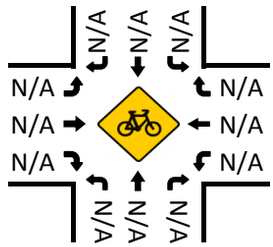
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

NORTHBOUND — ited States Postal Service Dwy Acce

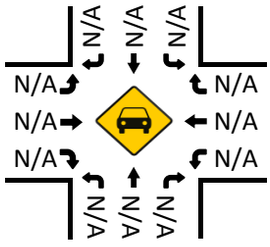
Total Vehicles (AM)



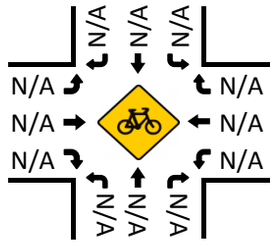
Bikes (AM)



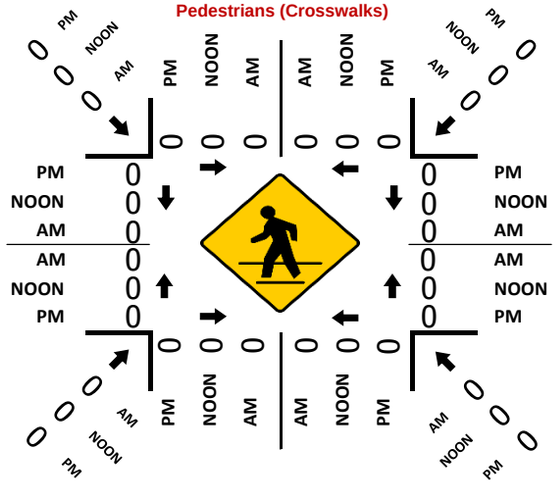
Total Vehicles (Noon)



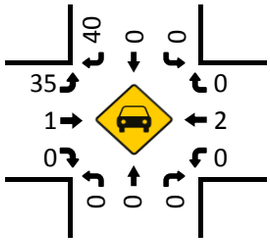
Bikes (NOON)



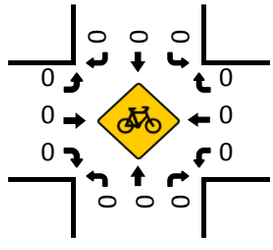
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: United States Postal Service Dwy Access & Northside Dr
City: Cool
Control: No Control

Project ID: 19-07230-003
Date: 6/12/2019

Total

NS/EW Streets:	United States Postal Service Dwy Access				United States Postal Service Dwy Access				Northside Dr				Northside Dr				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	9	0	8	0	0	0	0	0	0	0	17
4:15 PM	0	0	0	0	0	0	10	0	12	1	0	0	0	2	0	0	25
4:30 PM	0	0	0	0	0	0	12	0	7	0	0	0	0	0	0	0	19
4:45 PM	0	0	0	0	0	0	9	0	8	0	0	0	0	0	0	0	17
5:00 PM	0	0	0	0	0	0	4	0	5	2	0	0	0	0	0	0	11
5:15 PM	0	0	0	0	0	0	5	0	3	0	0	0	0	2	0	0	10
5:30 PM	0	0	0	0	0	0	7	0	7	0	0	0	0	0	0	0	14
5:45 PM	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	58	0	51	3	0	0	0	4	0	0	116
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	94.44%	5.56%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	40	0	35	1	0	0	0	2	0	0	78
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.833	0.000	0.729	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.780
					0.833				0.692				0.250				

National Data & Surveying Services

Intersection Turning Movement Count

Location: United States Postal Service Dwy Access & Northside Dr
City: Cool
Control: No Control

Project ID: 19-07230-003
Date: 6/12/2019

Bikes

NS/EW Streets:	United States Postal Service Dwy Access				United States Postal Service Dwy Access				Northside Dr				Northside Dr				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services

Intersection Turning Movement Count

Location: United States Postal Service Dwy Access & Northside Dr
City: Cool

Project ID: 19-07230-003
Date: 6/12/2019

Pedestrians (Crosswalks)

NS/EW Streets:	United States Postal Service Dwy Access		United States Postal Service Dwy Access		Northside Dr		Northside Dr		
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:00 PM - 05:00 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

SR 49 & Kirkson Realty / Timberline Commercial Dwy

Peak Hour Turning Movement Count

ID: 19-07230-004
City: Cool

Day: Wednesday
Date: 06/12/2019

PEAK HOURS	COUNT PERIODS
NONE	NONE
NONE	NONE
04:30 PM - 05:30 PM	04:00 PM - 06:00 PM

SR 49 — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	34	547	0	0	273	PM

Kirkson Realty / Timberline Comm — EASTBOUND

AM	NOON	PM	
0	0	71	
0	0	0	0
0	0	20	0
0	0	0	0
0	0	25	0

Kirkson Realty / Timberline Comm — WESTBOUND

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	

CONTROL

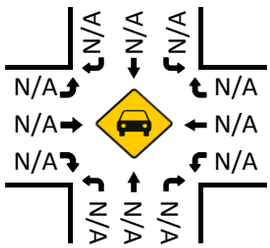
No Control

TEV	0 AM	0 NOON	917 PM
PHF			0.94

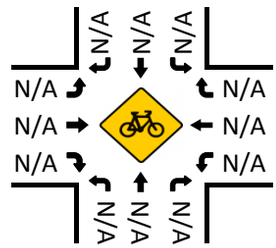
SR 49 — NORTHBOUND

PM	573	1	37	253	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

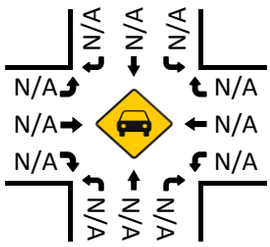
Total Vehicles (AM)



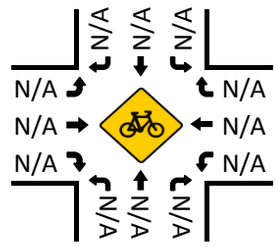
Bikes (AM)



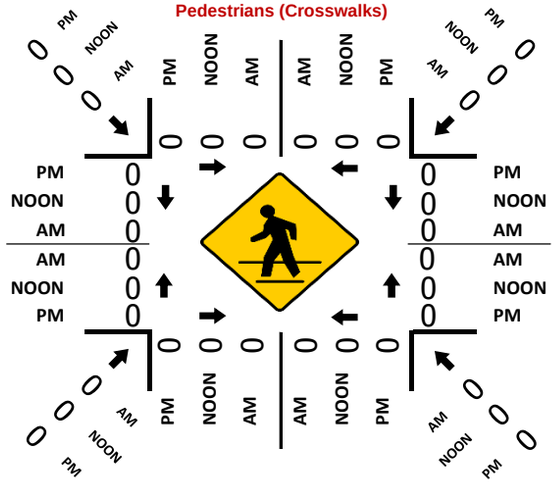
Total Vehicles (Noon)



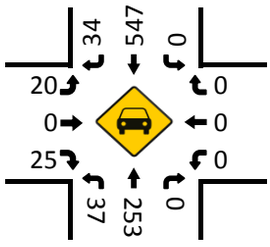
Bikes (NOON)



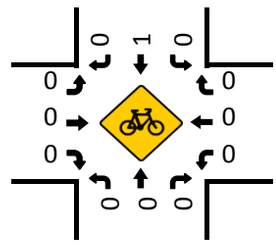
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & Kirkson Realty / Timberline Commercial Dwy
City: Cool
Control: No Control

Project ID: 19-07230-004
Date: 6/12/2019

Total

NS/EW Streets:	SR 49				SR 49				Kirkson Realty / Timberline Commercial Dwy				Kirkson Realty / Timberline Commercial Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	9	46	0	0	0	103	9	0	4	0	6	0	0	0	0	0	177
4:15 PM	2	73	0	0	0	103	5	0	2	0	4	0	0	0	0	0	189
4:30 PM	5	71	0	0	0	143	9	0	5	0	6	0	0	0	0	0	239
4:45 PM	5	61	0	0	0	125	9	0	4	0	0	0	0	0	0	0	204
5:00 PM	13	60	0	0	0	133	9	0	8	0	8	0	0	0	0	0	231
5:15 PM	14	61	0	1	0	146	7	0	3	0	11	0	0	0	0	0	243
5:30 PM	9	48	0	0	0	129	2	0	4	0	5	0	0	0	0	0	197
5:45 PM	8	55	0	1	0	122	6	0	2	0	5	0	0	0	0	0	199
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	65	475	0	2	0	1004	56	0	32	0	45	0	0	0	0	0	1679
APPROACH %'s :	11.99%	87.64%	0.00%	0.37%	0.00%	94.72%	5.28%	0.00%	41.56%	0.00%	58.44%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	37	253	0	1	0	547	34	0	20	0	25	0	0	0	0	0	917
PEAK HR FACTOR :	0.661	0.891	0.000	0.250	0.000	0.937	0.944	0.000	0.625	0.000	0.568	0.000	0.000	0.000	0.000	0.000	0.943
	0.957				0.949				0.703								

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & Kirkson Realty / Timberline Commercial Dwy
City: Cool
Control: No Control

Project ID: 19-07230-004
Date: 6/12/2019

Bikes

NS/EW Streets:	SR 49				SR 49				Kirkson Realty / Timberline Commercial Dwy				Kirkson Realty / Timberline Commercial Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
						0.250											

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & Kirkson Realty / Timberline Commercial Dwy
City: Cool

Project ID: 19-07230-004
Date: 6/12/2019

Pedestrians (Crosswalks)

NS/EW Streets:	SR 49		SR 49		Kirkson Realty / Timberline Commercial		Kirkson Realty / Timberline Commercial		
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

SR 49 & SR 193

Peak Hour Turning Movement Count

ID: 19-07230-005
City: Cool

Day: Wednesday
Date: 06/12/2019

SR 49 — SOUTHBOUND

PEAK HOURS						COUNT PERIODS
	NONE				NONE	
	NONE				NONE	
	04:30 PM - 05:30 PM				04:00 PM - 06:00 PM	

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	14	213	374	0	296	PM

SR 193 — EASTBOUND

AM	NOON	PM	
0	0	47	
0	0	0	0
0	0	7	0
0	0	35	0
0	0	10	0
AM	NOON	PM	

CONTROL: 4-Way Stop

	AM	NOON	PM
TEV	0	0	1066
PHF			0.93

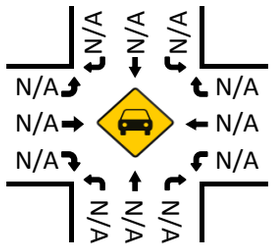
SR 193 — WESTBOUND

PM	NOON	AM	
0	0	0	149
0	0	0	18
0	0	0	33
0	0	0	0
467	0	0	
PM	NOON	AM	

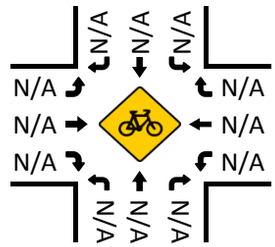
PM	256	0	15	140	58	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

NORTHBOUND — SR 49

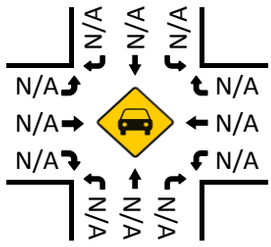
Total Vehicles (AM)



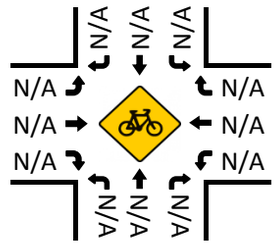
Bikes (AM)



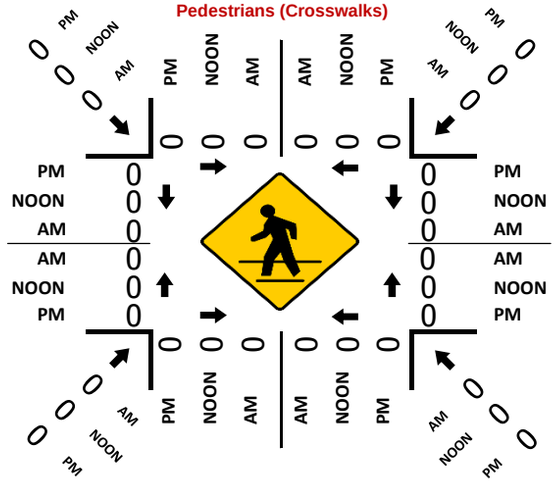
Total Vehicles (NOON)



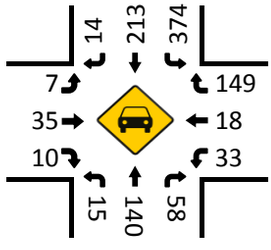
Bikes (NOON)



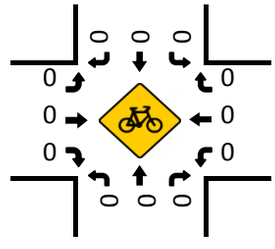
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & SR 193
City: Cool
Control: 4-Way Stop

Project ID: 19-07230-005
Date: 6/12/2019

Total

NS/EW Streets:	SR 49				SR 49				SR 193				SR 193				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	3	21	19	0	70	42	1	0	1	3	2	0	15	3	32	0	212
4:15 PM	4	27	13	0	74	36	1	4	3	5	1	0	10	2	44	0	224
4:30 PM	3	39	15	0	95	49	4	0	1	10	3	0	13	3	40	0	275
4:45 PM	4	34	6	0	87	45	5	0	1	7	2	0	3	6	35	0	235
5:00 PM	6	34	15	0	93	53	3	0	4	9	4	0	9	7	32	0	269
5:15 PM	2	33	22	0	99	66	2	0	1	9	1	0	8	2	42	0	287
5:30 PM	5	28	14	0	92	46	3	0	2	2	6	0	11	4	30	0	243
5:45 PM	4	34	20	0	88	49	2	0	0	6	3	0	11	10	32	0	259
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	31	250	124	0	698	386	21	4	13	51	22	0	80	37	287	0	2004
APPROACH %'s :	7.65%	61.73%	30.62%	0.00%	62.94%	34.81%	1.89%	0.36%	15.12%	59.30%	25.58%	0.00%	19.80%	9.16%	71.04%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	15	140	58	0	374	213	14	0	7	35	10	0	33	18	149	0	1066
PEAK HR FACTOR :	0.625	0.897	0.659	0.000	0.944	0.807	0.700	0.000	0.438	0.875	0.625	0.000	0.635	0.643	0.887	0.000	0.929
	0.934				0.900				0.765				0.893				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & SR 193
City: Cool
Control: 4-Way Stop

Project ID: 19-07230-005
Date: 6/12/2019

Bikes

NS/EW Streets:	SR 49				SR 49				SR 193				SR 193				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
APPROACH %'s :													0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & SR 193
City: Cool

Project ID: 19-07230-005
Date: 6/12/2019

Pedestrians (Crosswalks)

NS/EW Streets:	SR 49		SR 49		SR 193		SR 193		
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	1	256	559	2
Future Vol, veh/h	1	2	1	256	559	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	135	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	2	1	278	608	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	888	608	610	0	-	0
Stage 1	608	-	-	-	-	-
Stage 2	280	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	314	496	969	-	-	-
Stage 1	543	-	-	-	-	-
Stage 2	767	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	314	496	969	-	-	-
Mov Cap-2 Maneuver	314	-	-	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	767	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	969	-	416	-	-
HCM Lane V/C Ratio	0.001	-	0.008	-	-
HCM Control Delay (s)	8.7	-	13.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	7	253	20	5	556
Future Vol, veh/h	25	7	253	20	5	556
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	8	275	22	5	604

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	900	286	0	0	297	0
Stage 1	286	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	309	753	-	-	1264	-
Stage 1	763	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	308	753	-	-	1264	-
Mov Cap-2 Maneuver	308	-	-	-	-	-
Stage 1	763	-	-	-	-	-
Stage 2	538	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.3	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	354	1264	-
HCM Lane V/C Ratio	-	-	0.098	0.004	-
HCM Control Delay (s)	-	-	16.3	7.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	25	38	253	547	34
Future Vol, veh/h	20	25	38	253	547	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	27	41	275	595	37

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	971	614	632	0	-	0
Stage 1	614	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	280	492	951	-	-	-
Stage 1	540	-	-	-	-	-
Stage 2	708	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	268	492	951	-	-	-
Mov Cap-2 Maneuver	390	-	-	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	708	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.2	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	951	-	441	-	-
HCM Lane V/C Ratio	0.043	-	0.111	-	-
HCM Control Delay (s)	9	-	14.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Intersection Delay, s/veh	17.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	35	10	33	18	149	15	140	58	374	213	14
Future Vol, veh/h	7	35	10	33	18	149	15	140	58	374	213	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	38	11	36	20	162	16	152	63	407	232	15
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	1
HCM Control Delay	11.5	11.9	12	22.1
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	13%	65%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	67%	35%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	19%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	140	58	52	51	149	374	213	14
LT Vol	15	0	0	7	33	0	374	0	0
Through Vol	0	140	0	35	18	0	0	213	0
RT Vol	0	0	58	10	0	149	0	0	14
Lane Flow Rate	16	152	63	57	55	162	407	232	15
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.034	0.3	0.112	0.122	0.117	0.296	0.759	0.399	0.023
Departure Headway (Hd)	7.608	7.099	6.387	7.74	7.601	6.573	6.718	6.211	5.501
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	468	502	556	466	468	543	537	576	646
Service Time	5.404	4.895	4.182	5.44	5.395	4.367	4.489	3.981	3.271
HCM Lane V/C Ratio	0.034	0.303	0.113	0.122	0.118	0.298	0.758	0.403	0.023
HCM Control Delay	10.7	12.9	10	11.5	11.4	12.1	27.8	13.1	8.4
HCM Lane LOS	B	B	A	B	B	B	D	B	A
HCM 95th-tile Q	0.1	1.3	0.4	0.4	0.4	1.2	6.7	1.9	0.1

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	1	2	0	0	40
Future Vol, veh/h	35	1	2	0	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	1	3	0	0	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	3	0	-	0	94	3
Stage 1	-	-	-	-	3	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1619	-	-	-	906	1081
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	933	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1619	-	-	-	881	1081
Mov Cap-2 Maneuver	-	-	-	-	881	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	933	-

Approach	EB	WB	SB
HCM Control Delay, s	7.1	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1619	-	-	-	1081
HCM Lane V/C Ratio	0.028	-	-	-	0.047
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	1	258	561	2
Future Vol, veh/h	1	2	1	258	561	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	135	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	2	1	280	610	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	892	610	612	0	-	0
Stage 1	610	-	-	-	-	-
Stage 2	282	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	312	494	967	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	766	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	312	494	967	-	-	-
Mov Cap-2 Maneuver	312	-	-	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	766	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	967	-	414	-	-
HCM Lane V/C Ratio	0.001	-	0.008	-	-
HCM Control Delay (s)	8.7	-	13.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	12	250	43	14	549
Future Vol, veh/h	50	12	250	43	14	549
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	13	272	47	15	597

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	923	296	0	0	319	0
Stage 1	296	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	299	743	-	-	1241	-
Stage 1	755	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	295	743	-	-	1241	-
Mov Cap-2 Maneuver	295	-	-	-	-	-
Stage 1	755	-	-	-	-	-
Stage 2	526	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.5	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	334	1241	-
HCM Lane V/C Ratio	-	-	0.202	0.012	-
HCM Control Delay (s)	-	-	18.5	7.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	25	38	271	563	36
Future Vol, veh/h	22	25	38	271	563	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	27	41	295	612	39

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1009	632	651	0	-	0
Stage 1	632	-	-	-	-	-
Stage 2	377	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	266	480	935	-	-	-
Stage 1	530	-	-	-	-	-
Stage 2	694	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	254	480	935	-	-	-
Mov Cap-2 Maneuver	378	-	-	-	-	-
Stage 1	507	-	-	-	-	-
Stage 2	694	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.6	1.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	935	-	426	-	-
HCM Lane V/C Ratio	0.044	-	0.12	-	-
HCM Control Delay (s)	9	-	14.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	35	10	33	18	158	15	149	58	382	221	14
Future Vol, veh/h	7	35	10	33	18	158	15	149	58	382	221	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	38	11	36	20	172	16	162	63	415	240	15
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	1
HCM Control Delay	11.7	12.4	12.5	23.8
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	13%	65%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	67%	35%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	19%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	149	58	52	51	158	382	221	14
LT Vol	15	0	0	7	33	0	382	0	0
Through Vol	0	149	0	35	18	0	0	221	0
RT Vol	0	0	58	10	0	158	0	0	14
Lane Flow Rate	16	162	63	57	55	172	415	240	15
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.035	0.328	0.115	0.124	0.12	0.323	0.784	0.42	0.024
Departure Headway (Hd)	7.802	7.292	6.579	7.874	7.791	6.775	6.898	6.39	5.679
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	461	496	547	457	462	534	527	567	634
Service Time	5.52	5.01	4.297	5.595	5.504	4.475	4.598	4.09	3.379
HCM Lane V/C Ratio	0.035	0.327	0.115	0.125	0.119	0.322	0.787	0.423	0.024
HCM Control Delay	10.8	13.5	10.2	11.7	11.6	12.7	30.2	13.6	8.5
HCM Lane LOS	B	B	B	B	B	B	D	B	A
HCM 95th-tile Q	0.1	1.4	0.4	0.4	0.4	1.4	7.2	2.1	0.1

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	33	32	0	0	40
Future Vol, veh/h	35	33	32	0	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	42	41	0	0	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	41	0	-	0	173	41
Stage 1	-	-	-	-	41	-
Stage 2	-	-	-	-	132	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1568	-	-	-	817	1030
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	894	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1568	-	-	-	793	1030
Mov Cap-2 Maneuver	-	-	-	-	793	-
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	894	-

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1568	-	-	-	1030
HCM Lane V/C Ratio	0.029	-	-	-	0.05
HCM Control Delay (s)	7.4	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	32	0	2	30	0
Future Vol, veh/h	0	32	0	2	30	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	35	0	2	33	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	35	0	20	18
Stage 1	-	-	-	-	18	-
Stage 2	-	-	-	-	2	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1576	-	997	1061
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1576	-	997	1061
Mov Cap-2 Maneuver	-	-	-	-	997	-
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	1021	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	997	-	-	1576	-
HCM Lane V/C Ratio	0.033	-	-	-	-
HCM Control Delay (s)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	30	15	370	665	25
Future Vol, veh/h	15	30	15	370	665	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	135	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	33	16	402	723	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1157	723	750	0	-	0
Stage 1	723	-	-	-	-	-
Stage 2	434	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	217	426	859	-	-	-
Stage 1	481	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	213	426	859	-	-	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	472	-	-	-	-	-
Stage 2	653	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.3	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	859	-	320	-	-
HCM Lane V/C Ratio	0.019	-	0.153	-	-
HCM Control Delay (s)	9.3	-	18.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	10	375	20	5	690
Future Vol, veh/h	25	10	375	20	5	690
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	11	408	22	5	750

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1179	419	0	0	430	0
Stage 1	419	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	211	634	-	-	1129	-
Stage 1	664	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	210	634	-	-	1129	-
Mov Cap-2 Maneuver	210	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	460	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	260	1129	-
HCM Lane V/C Ratio	-	-	0.146	0.005	-
HCM Control Delay (s)	-	-	21.2	8.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	25	40	375	680	35
Future Vol, veh/h	20	25	40	375	680	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	27	43	408	739	38

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1252	758	777	0	-	0
Stage 1	758	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	190	407	839	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	180	407	839	-	-	-
Mov Cap-2 Maneuver	312	-	-	-	-	-
Stage 1	439	-	-	-	-	-
Stage 2	613	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.6	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	839	-	358	-	-
HCM Lane V/C Ratio	0.052	-	0.137	-	-
HCM Control Delay (s)	9.5	-	16.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

Intersection	
Intersection Delay, s/veh	30.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	35	15	40	15	185	20	230	75	420	300	15
Future Vol, veh/h	10	35	15	40	15	185	20	230	75	420	300	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	38	16	43	16	201	22	250	82	457	326	16
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	1
HCM Control Delay	13.4	15.2	17.6	42.8
HCM LOS	B	C	C	E

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	17%	73%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	58%	27%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	25%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	230	75	60	55	185	420	300	15
LT Vol	20	0	0	10	40	0	420	0	0
Through Vol	0	230	0	35	15	0	0	300	0
RT Vol	0	0	75	15	0	185	0	0	15
Lane Flow Rate	22	250	82	65	60	201	457	326	16
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.051	0.553	0.164	0.161	0.144	0.425	0.959	0.639	0.029
Departure Headway (Hd)	8.473	7.961	7.243	8.866	8.686	7.609	7.562	7.051	6.336
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	422	453	494	404	412	473	479	512	564
Service Time	6.235	5.722	5.004	6.644	6.449	5.371	5.315	4.804	4.089
HCM Lane V/C Ratio	0.052	0.552	0.166	0.161	0.146	0.425	0.954	0.637	0.028
HCM Control Delay	11.7	20.2	11.4	13.4	12.9	15.9	59.2	21.5	9.3
HCM Lane LOS	B	C	B	B	B	C	F	C	A
HCM 95th-tile Q	0.2	3.3	0.6	0.6	0.5	2.1	11.9	4.4	0.1

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	5	5	0	0	40
Future Vol, veh/h	35	5	5	0	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	6	6	0	0	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	6	0	-	0	102	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	96	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1615	-	-	-	896	1077
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1615	-	-	-	871	1077
Mov Cap-2 Maneuver	-	-	-	-	871	-
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	928	-

Approach	EB	WB	SB
HCM Control Delay, s	6.4	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1615	-	-	-	1077
HCM Lane V/C Ratio	0.028	-	-	-	0.048
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	5	0	0
Future Vol, veh/h	5	0	0	5	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	0	0	5	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	5	0	10	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	5	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1616	-	1010	1078
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	1018	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1616	-	1010	1078
Mov Cap-2 Maneuver	-	-	-	-	1010	-
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	1018	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1616	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	30	15	372	667	25
Future Vol, veh/h	15	30	15	372	667	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	135	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	33	16	404	725	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1161	725	752	0	-	0
Stage 1	725	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	216	425	858	-	-	-
Stage 1	479	-	-	-	-	-
Stage 2	652	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	212	425	858	-	-	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	470	-	-	-	-	-
Stage 2	652	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.4	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	858	-	318	-	-
HCM Lane V/C Ratio	0.019	-	0.154	-	-
HCM Control Delay (s)	9.3	-	18.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	48	17	370	45	13	684
Future Vol, veh/h	48	17	370	45	13	684
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	18	402	49	14	743

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1198	427	0	0	451	0
Stage 1	427	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	205	628	-	-	1109	-
Stage 1	658	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	202	628	-	-	1109	-
Mov Cap-2 Maneuver	202	-	-	-	-	-
Stage 1	658	-	-	-	-	-
Stage 2	450	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.4	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	246	1109	-
HCM Lane V/C Ratio	-	-	0.287	0.013	-
HCM Control Delay (s)	-	-	25.4	8.3	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	25	40	393	696	37
Future Vol, veh/h	22	25	40	393	696	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	27	43	427	757	40

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1290	777	797	0	-	0
Stage 1	777	-	-	-	-	-
Stage 2	513	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	180	397	825	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	601	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	171	397	825	-	-	-
Mov Cap-2 Maneuver	303	-	-	-	-	-
Stage 1	429	-	-	-	-	-
Stage 2	601	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.2	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	825	-	347	-	-
HCM Lane V/C Ratio	0.053	-	0.147	-	-
HCM Control Delay (s)	9.6	-	17.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

Intersection	
Intersection Delay, s/veh	33.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	35	15	40	15	194	20	239	75	428	308	15
Future Vol, veh/h	10	35	15	40	15	194	20	239	75	428	308	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	38	16	43	16	211	22	260	82	465	335	16
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	1
HCM Control Delay	13.6	15.9	18.8	47.8
HCM LOS	B	C	C	E

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	17%	73%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	58%	27%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	25%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	239	75	60	55	194	428	308	15
LT Vol	20	0	0	10	40	0	428	0	0
Through Vol	0	239	0	35	15	0	0	308	0
RT Vol	0	0	75	15	0	194	0	0	15
Lane Flow Rate	22	260	82	65	60	211	465	335	16
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.052	0.582	0.166	0.163	0.146	0.452	0.99	0.665	0.029
Departure Headway (Hd)	8.582	8.069	7.35	9.017	8.788	7.71	7.662	7.151	6.435
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	417	447	487	397	408	466	475	506	555
Service Time	6.349	5.835	5.116	6.802	6.554	5.475	5.421	4.909	4.193
HCM Lane V/C Ratio	0.053	0.582	0.168	0.164	0.147	0.453	0.979	0.662	0.029
HCM Control Delay	11.8	21.6	11.6	13.6	13.1	16.7	66.9	23.1	9.4
HCM Lane LOS	B	C	B	B	B	C	F	C	A
HCM 95th-tile Q	0.2	3.6	0.6	0.6	0.5	2.3	12.9	4.8	0.1

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	38	35	0	0	40
Future Vol, veh/h	35	38	35	0	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	49	45	0	0	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	45	0	-	0	184	45
Stage 1	-	-	-	-	45	-
Stage 2	-	-	-	-	139	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1563	-	-	-	805	1025
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	888	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1563	-	-	-	781	1025
Mov Cap-2 Maneuver	-	-	-	-	781	-
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	888	-

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1563	-	-	-	1025
HCM Lane V/C Ratio	0.029	-	-	-	0.05
HCM Control Delay (s)	7.4	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	3.6

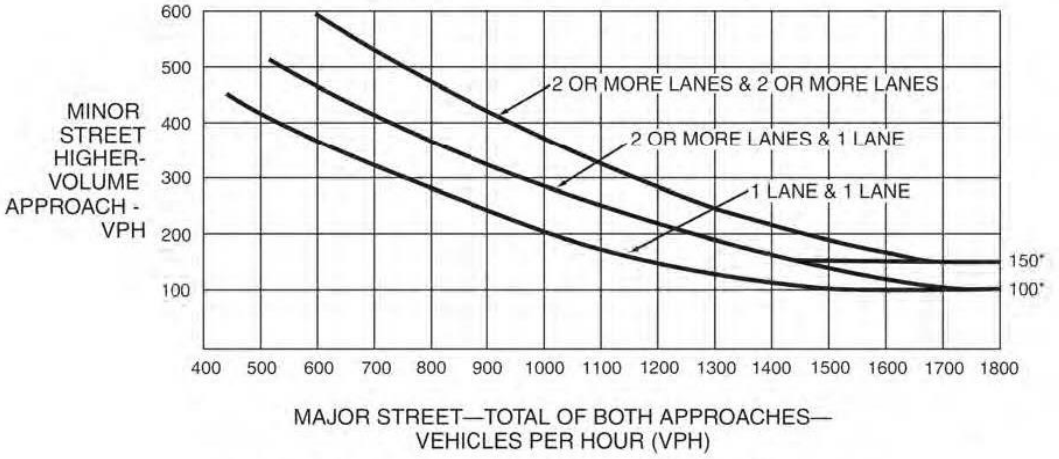
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	33	0	5	30	0
Future Vol, veh/h	5	33	0	5	30	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	36	0	5	33	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	41	0	28	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	5	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1568	-	987	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1018	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1568	-	987	1054
Mov Cap-2 Maneuver	-	-	-	-	987	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1018	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

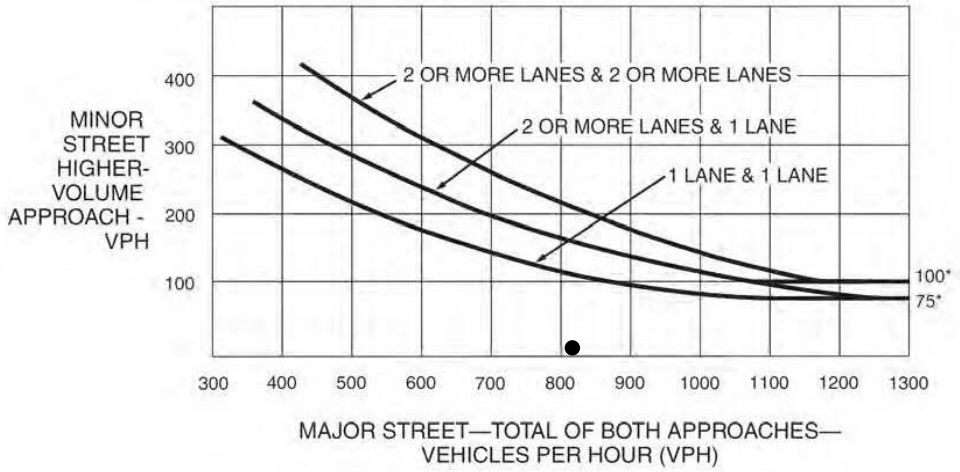
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	987	-	-	1568	-
HCM Lane V/C Ratio	0.033	-	-	-	-
HCM Control Delay (s)	8.8	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

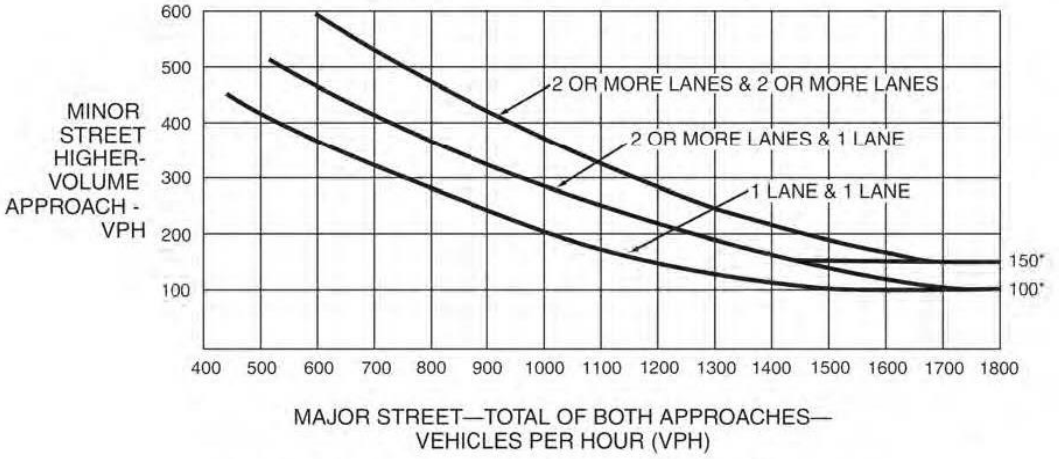


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – ST FLORIAN COURT : EXISTING

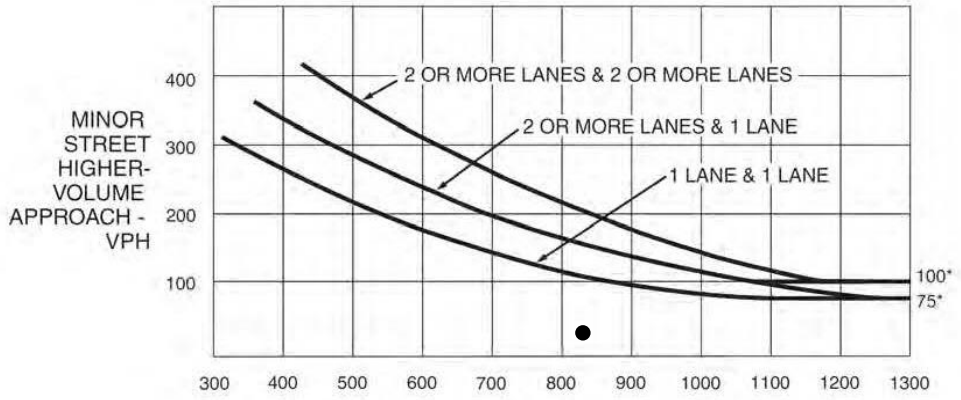
PM (●) : MAJOR 818 MINOR 3

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

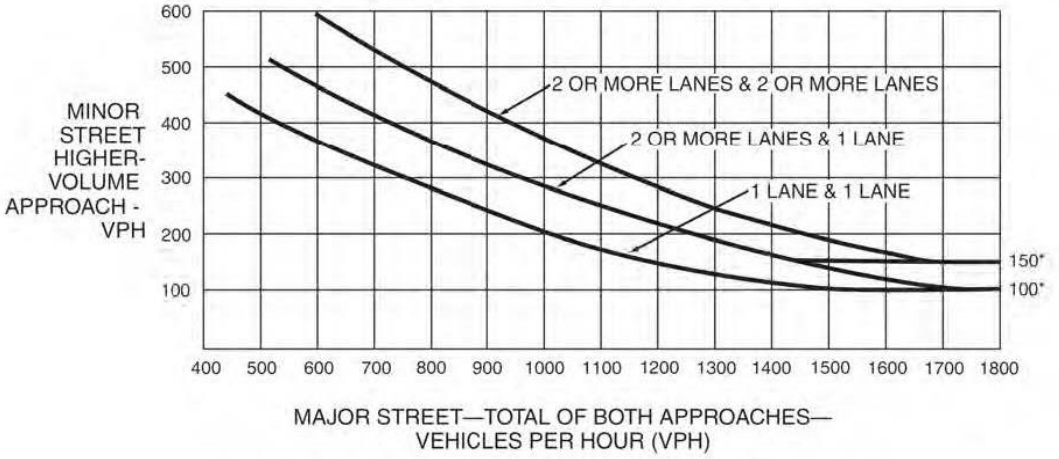


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – NORTHSIDE DR : EXISTING

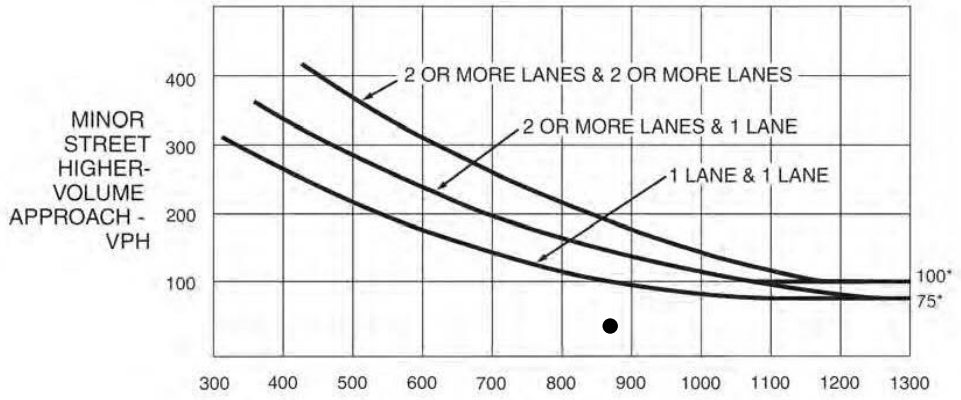
PM (●) : MAJOR 834 MINOR 32

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

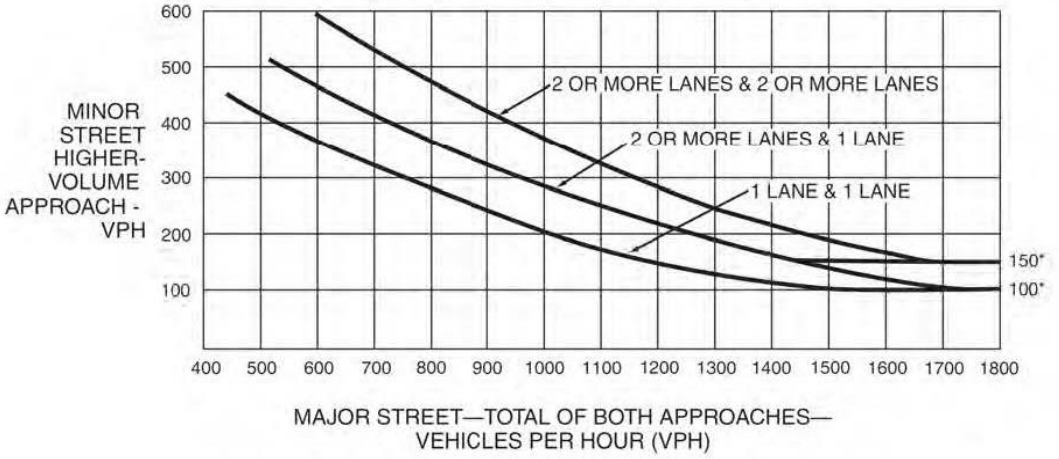


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – TIMBERLINE COMMERCIAL DRIVEWAY : EXISTING

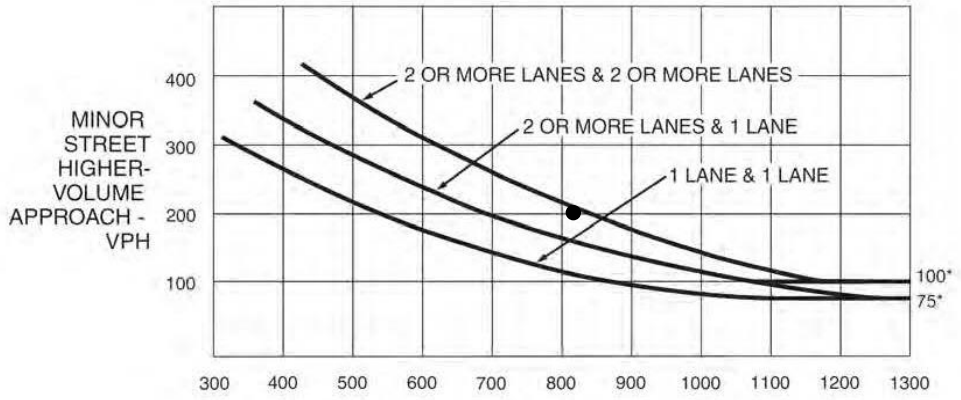
PM (●) : MAJOR 872 MINOR 45

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

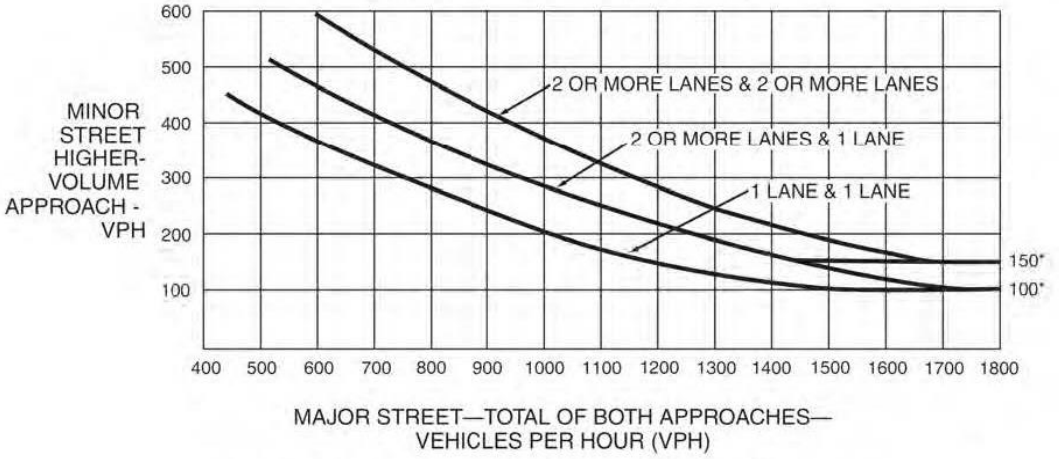


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – SR 193 : EXISTING

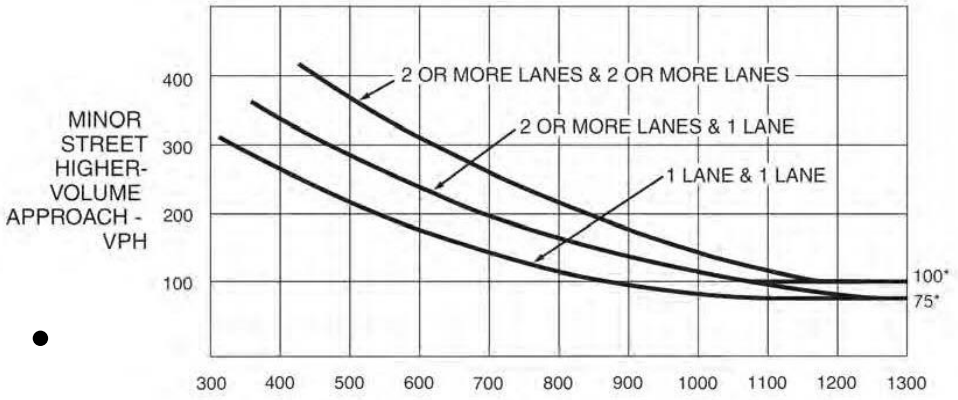
PM (●) : MAJOR 814 MINOR 200

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

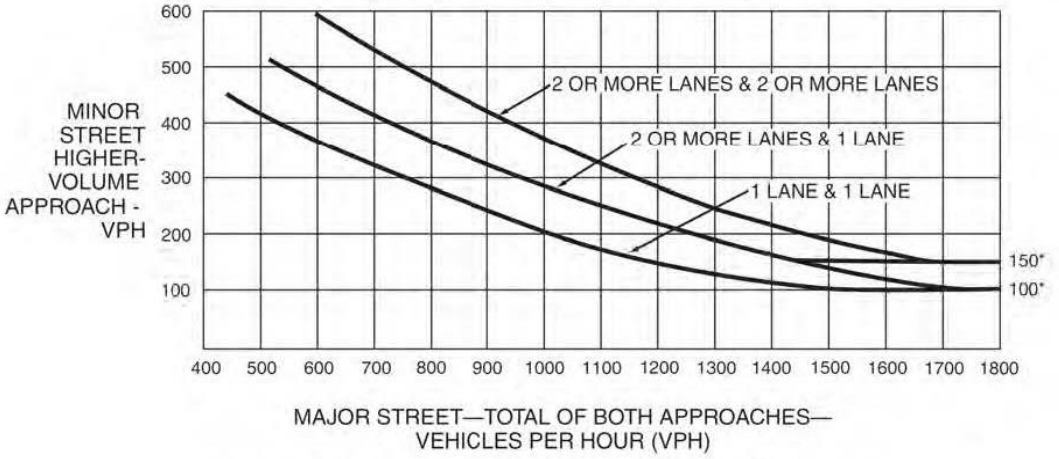


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

NORTHSIDE DR – USPS DRIVEWAY : EXISTING

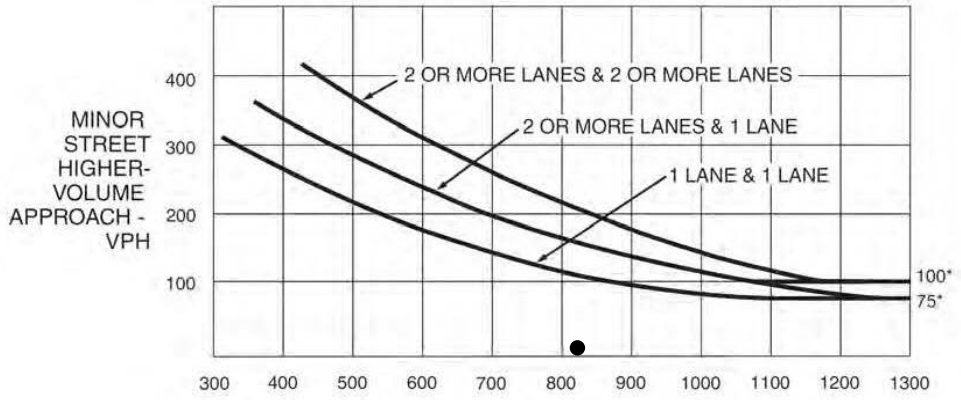
PM (●) : MAJOR 40 MINOR 38

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

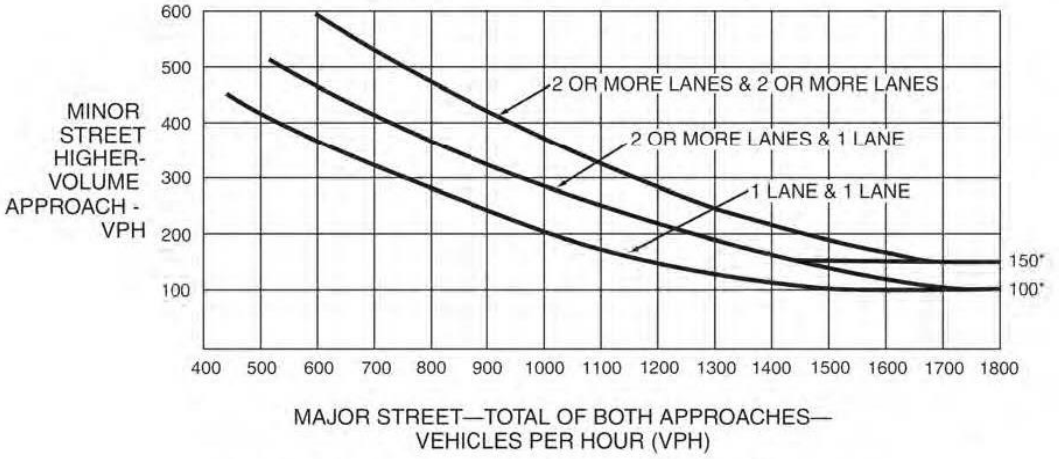


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – ST FLORIAN COURT : EXISTING PLUS PROJECT

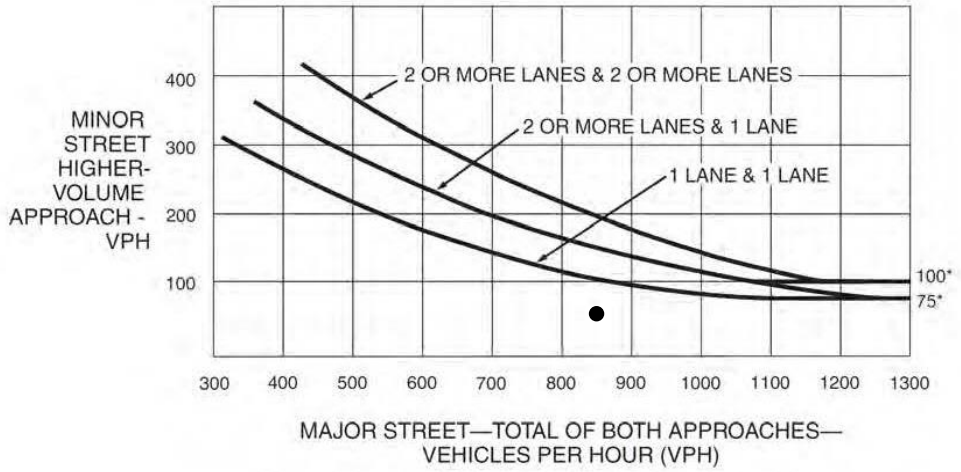
PM (●) : MAJOR 822 MINOR 3

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

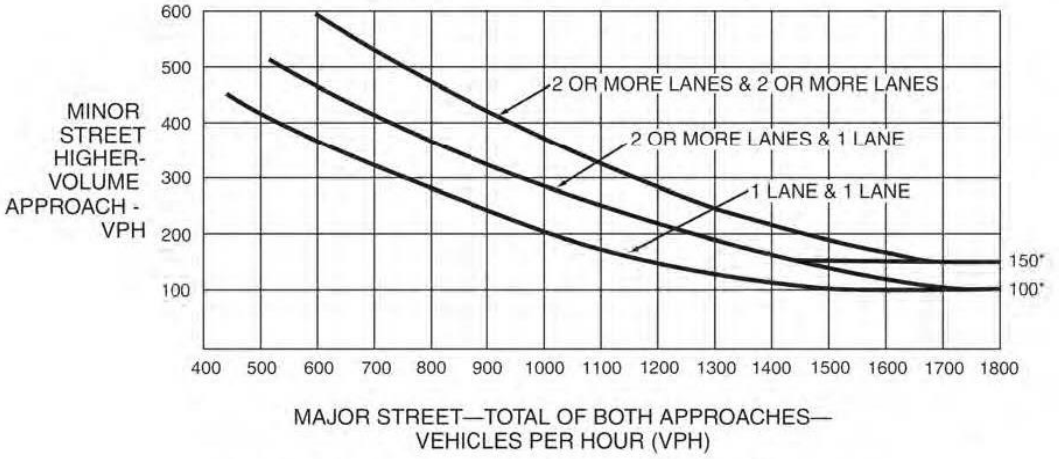


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – NORTHSIDE DR : EXISTING PLUS PROJECT

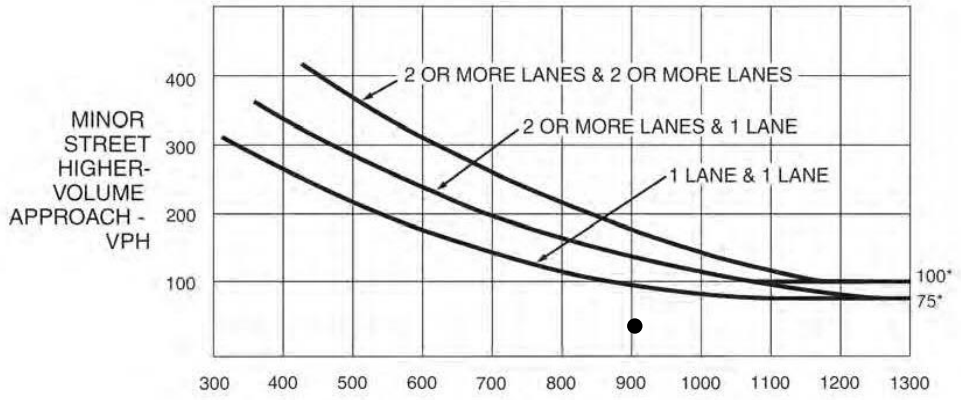
PM (●) : MAJOR 854 MINOR 60

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

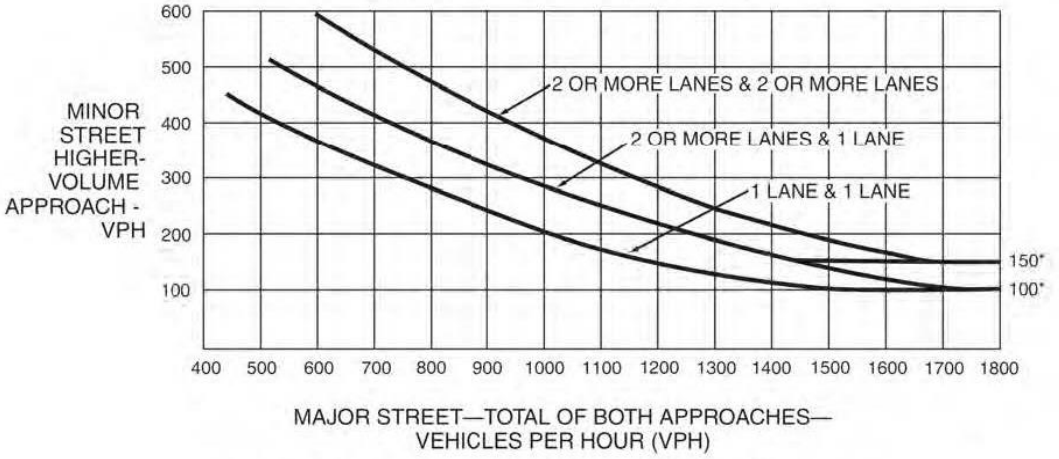


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – TIMBERLINE COMMERCIAL DRIVEWAY : EXISTING PLUS PROJECT

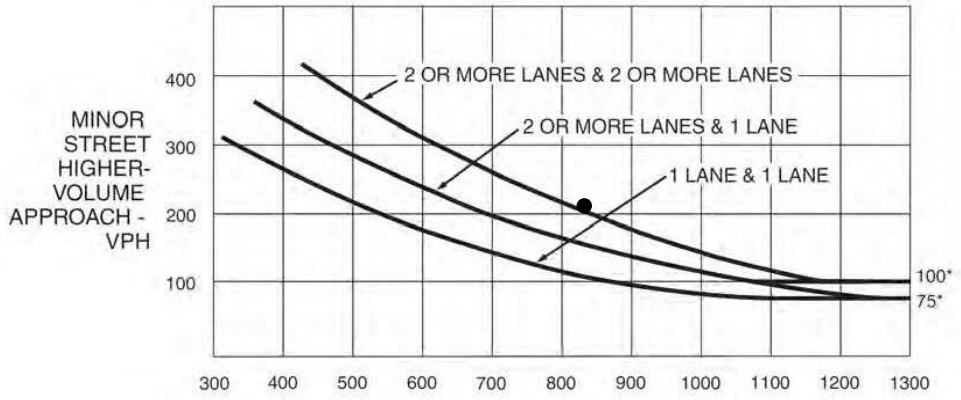
PM (●) : MAJOR 906 MINOR 45

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

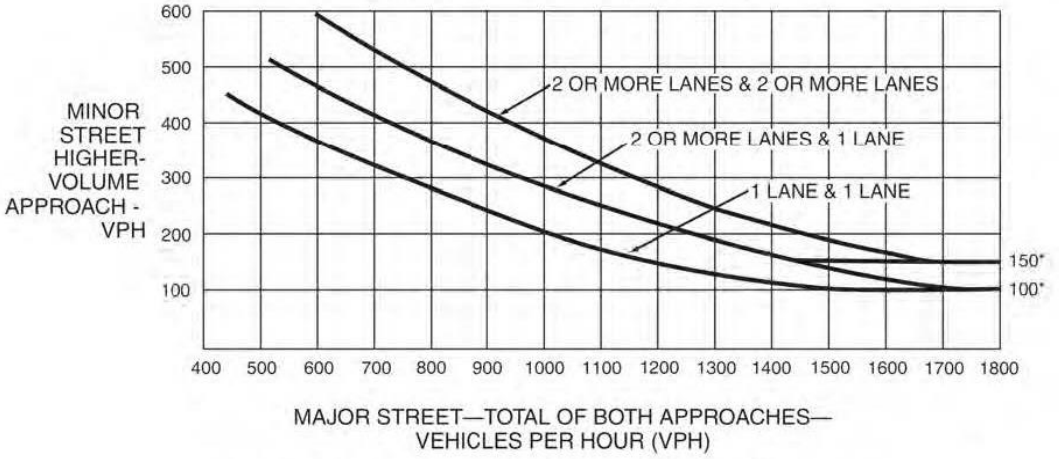


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – SR 193 : EXISTING PLUS PROJECT

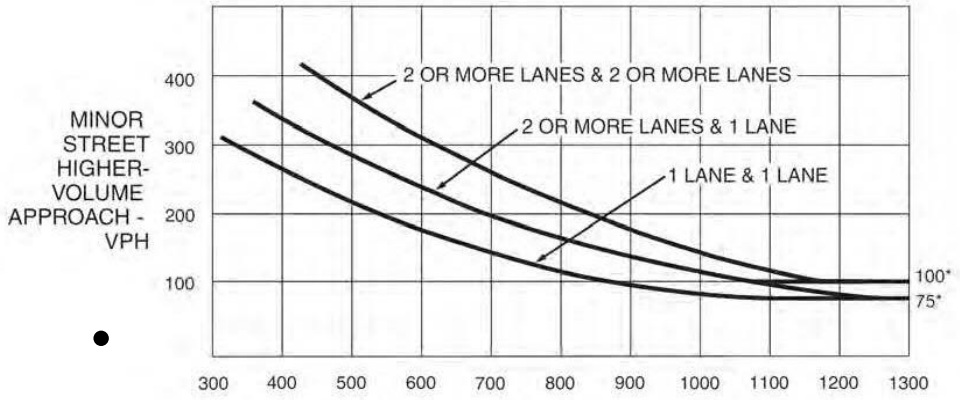
PM (●) : MAJOR 839 MINOR 209

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

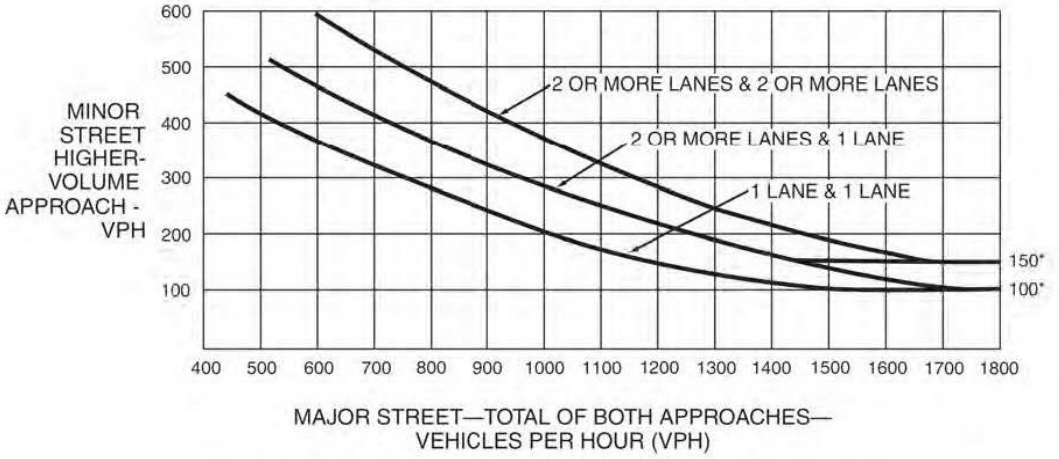


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

NORTHSIDE DR – USPS DRIVEWAY : EXISTING PLUS PROJECT

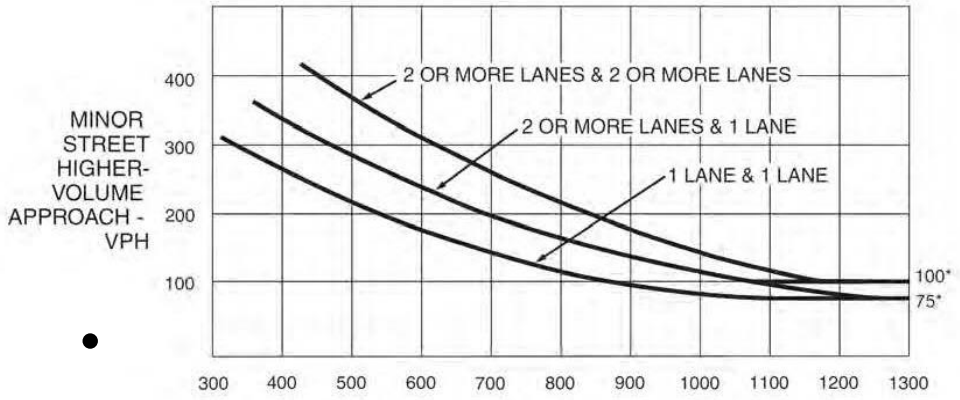
PM (●) : MAJOR 96 MINOR 40

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

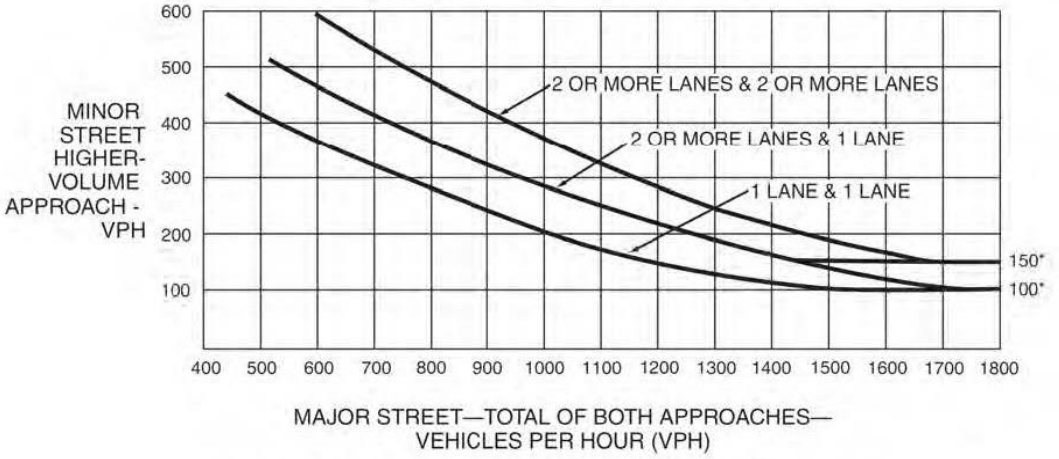


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

NORTHSIDE DR – PROJECT DRIVEWAY : EXISTING PLUS PROJECT

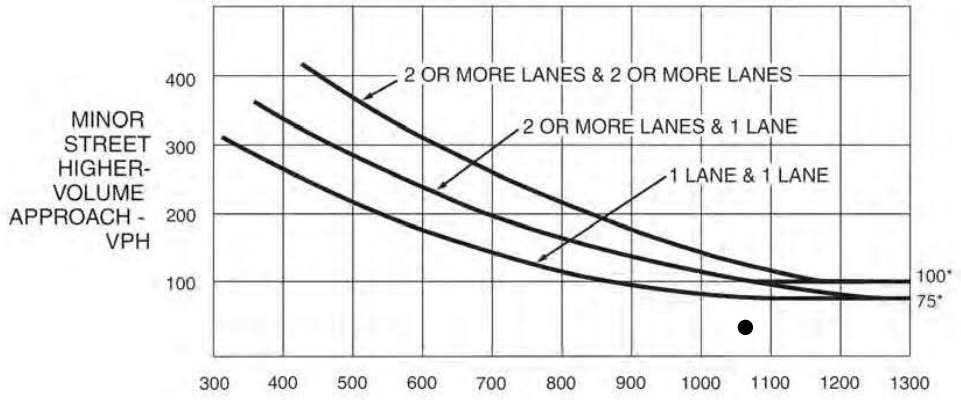
PM (●) : MAJOR 75 MINOR 30

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

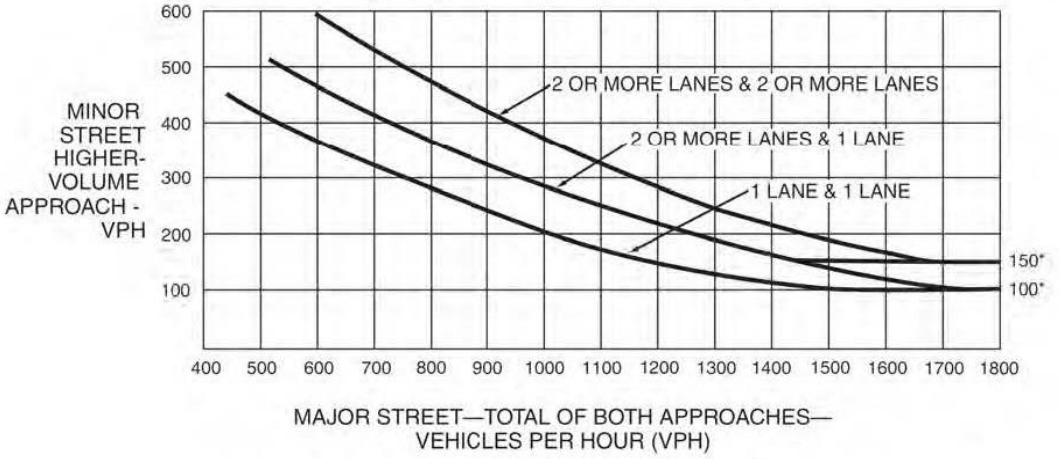


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – ST FLORIAN COURT : CUMULATIVE 2040 BASE

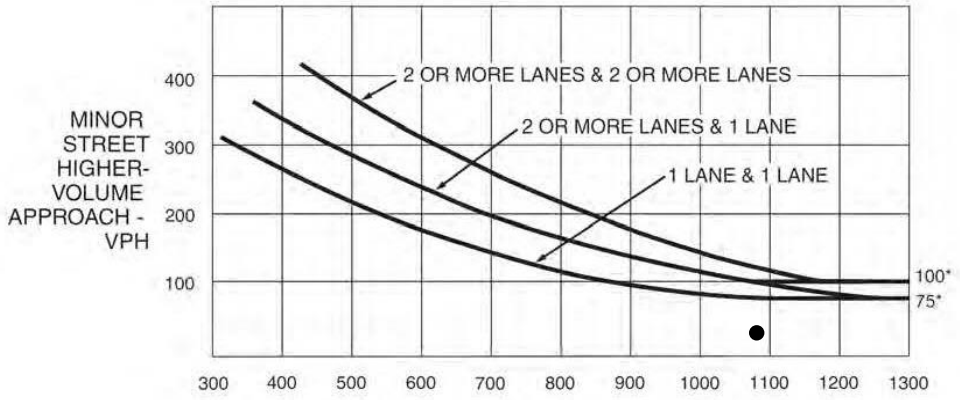
PM (●) : MAJOR 1075 MINOR 45

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

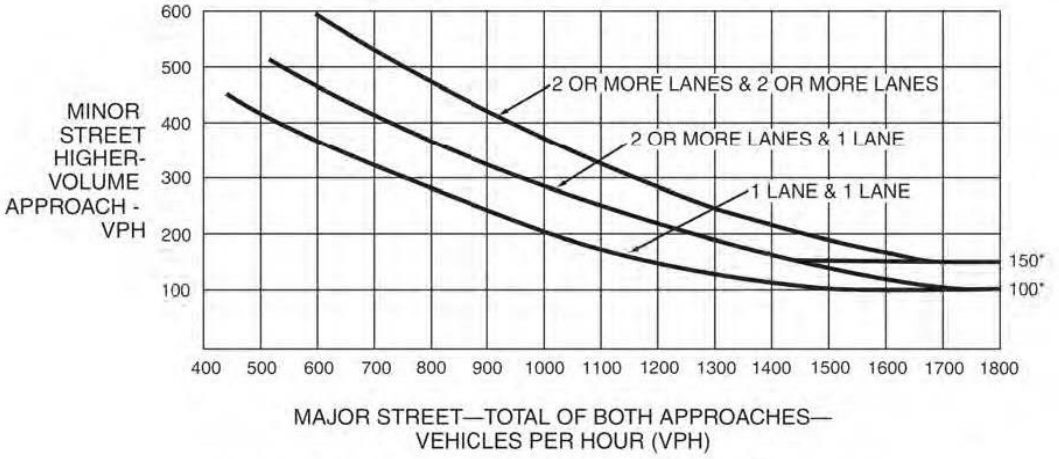


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – NORTHSIDE DR : CUMULATIVE 2040 BASE

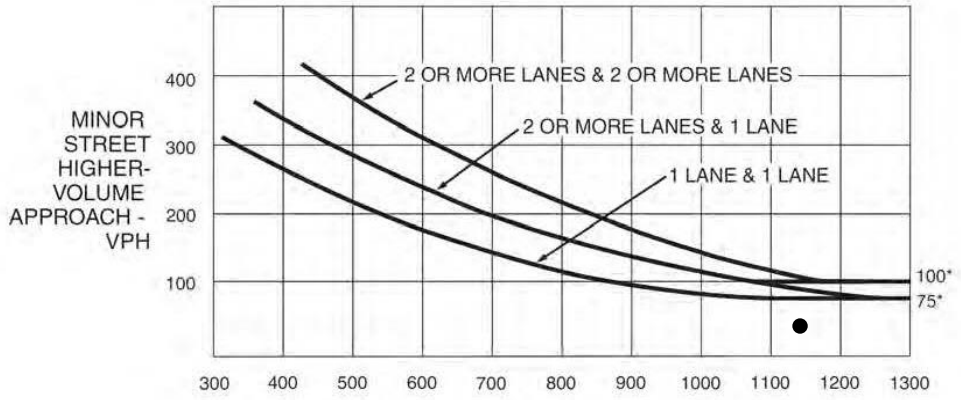
PM (●) : MAJOR 1090 MINOR 35

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

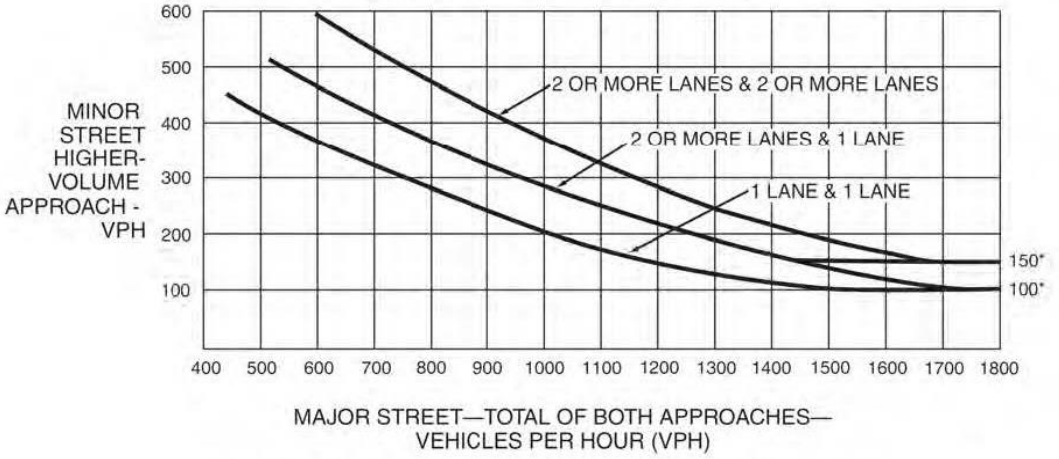


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – TIMBERLINE COMMERCIAL DRIVEWAY : CUMULATIVE 2040 BASE

PM (●) : MAJOR 1130 MINOR 45

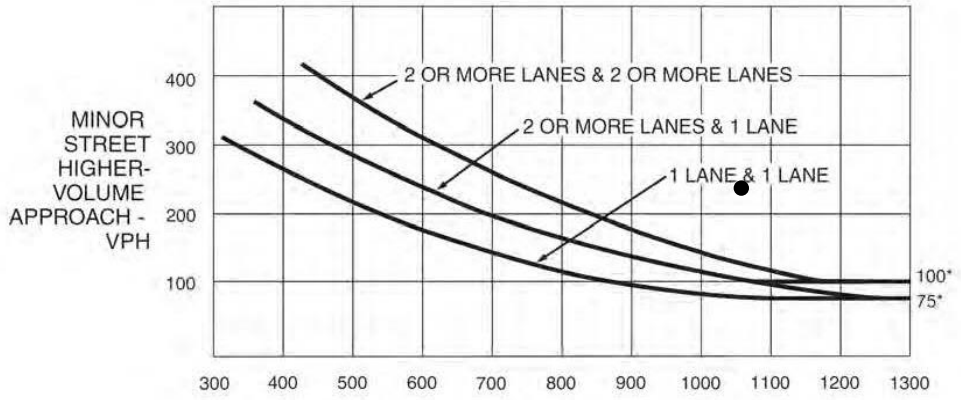
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

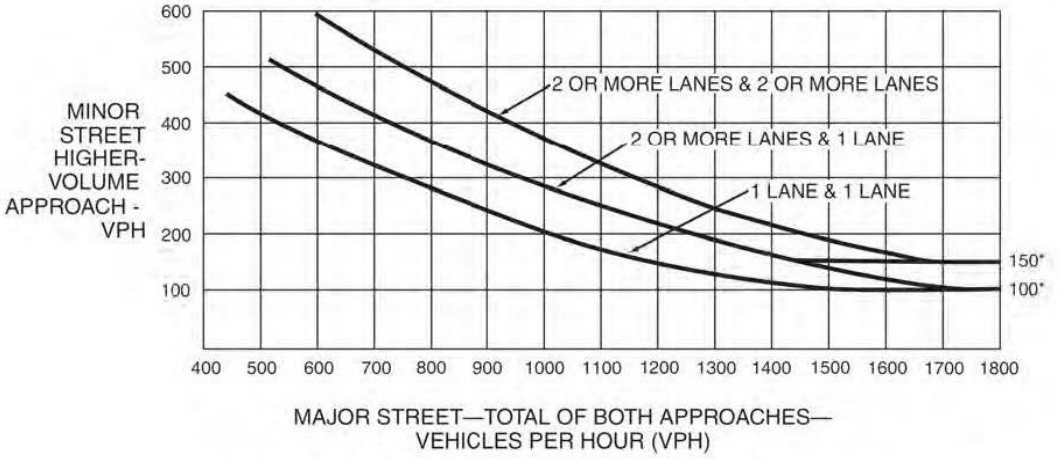


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – SR 193 : CUMULATIVE 2040 BASE

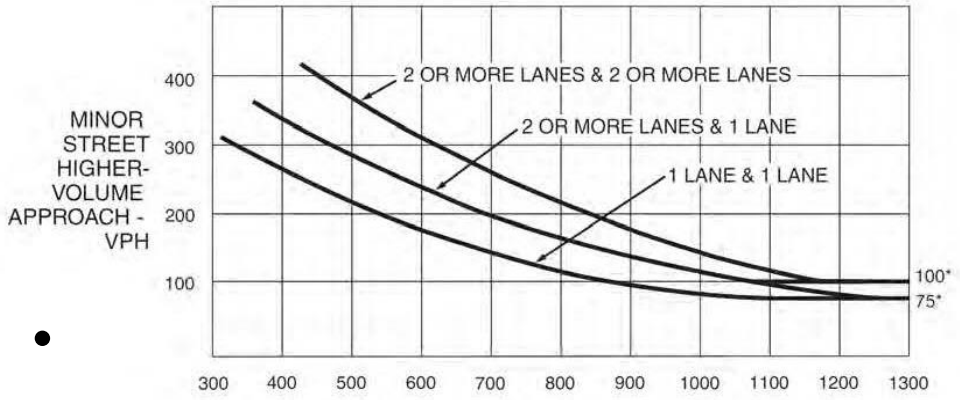
PM (●) : MAJOR 1060 MINOR 240

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

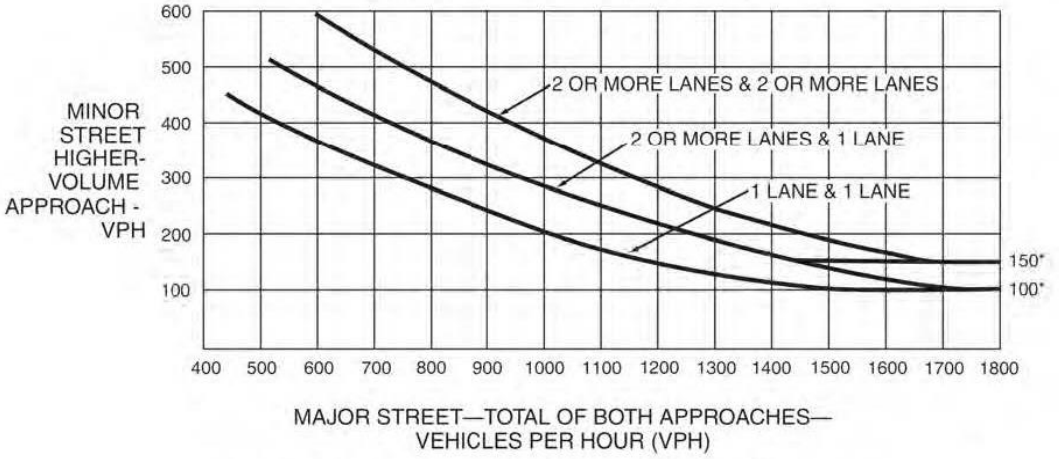


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

NORTHSIDE DR – USPS DRIVEWAY : CUMULATIVE 2040 BASE

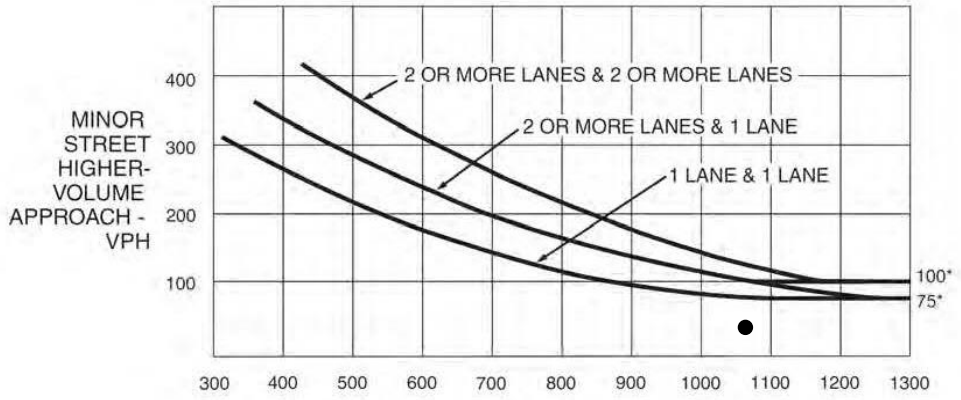
PM (●) : MAJOR 45 MINOR 40

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

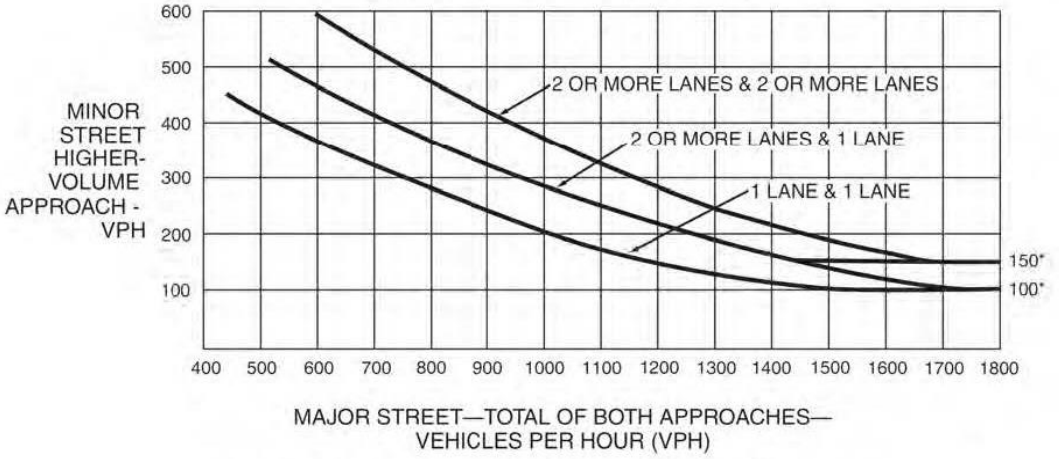


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – ST FLORIAN COURT : CUMULATIVE PLUS PROJECT

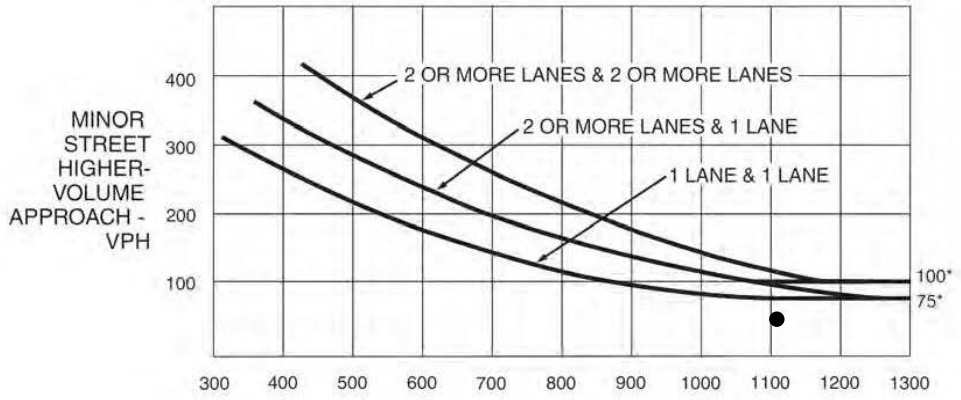
PM (●) : MAJOR 1079 MINOR 45

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

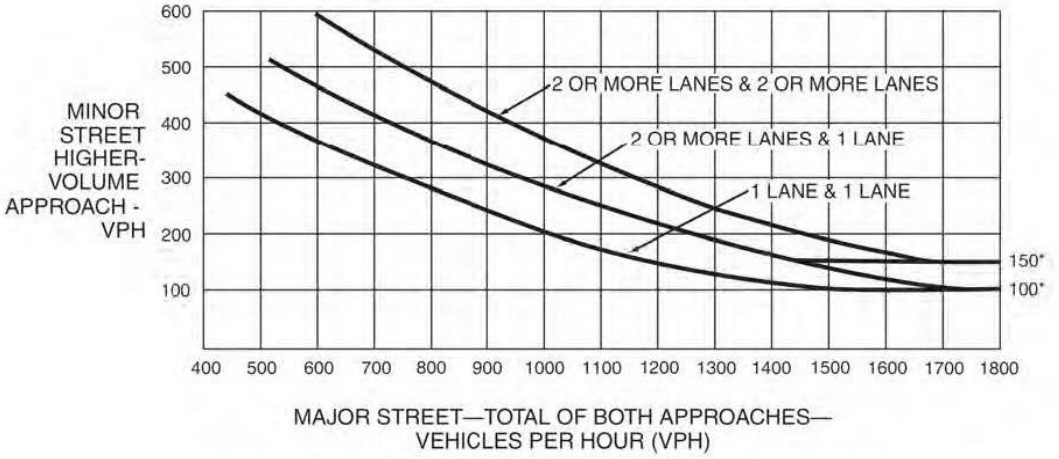


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – NORTHSIDE DR : CUMULATIVE PLUS PROJECT

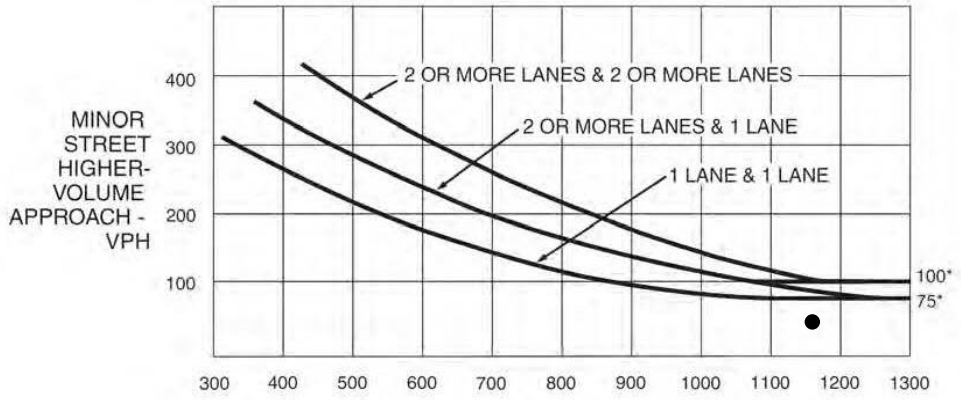
PM (●) : MAJOR 1110 MINOR 63

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

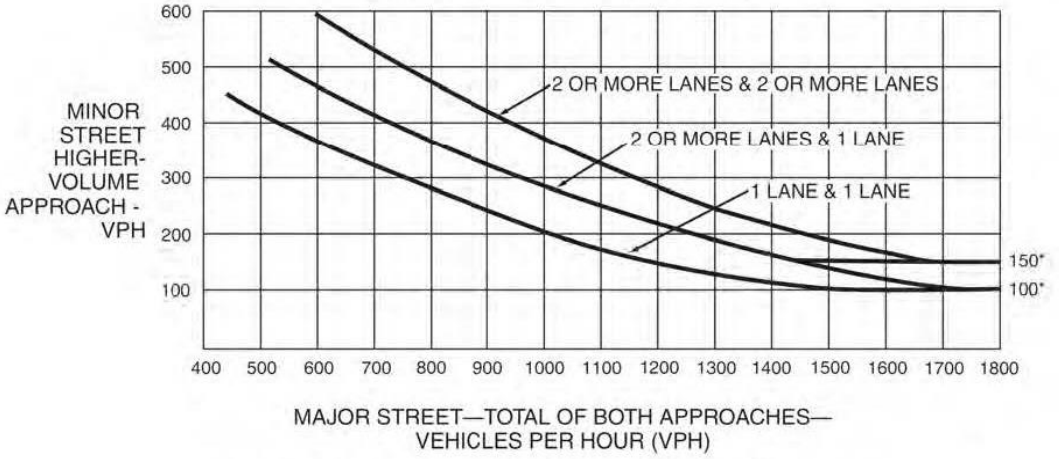


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SR 49 – TIMBERLINE COMMERCIAL DRIVEWAY : CUMULATIVE PLUS PROJECT

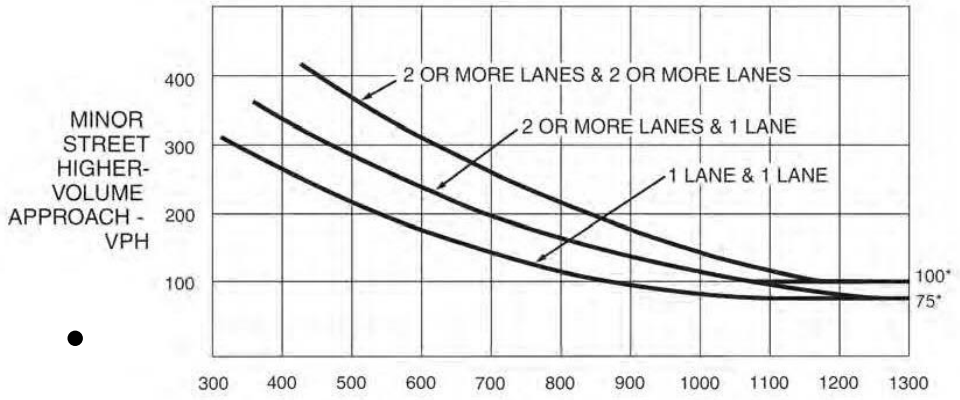
PM (●) : MAJOR 1164 MINOR 45

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

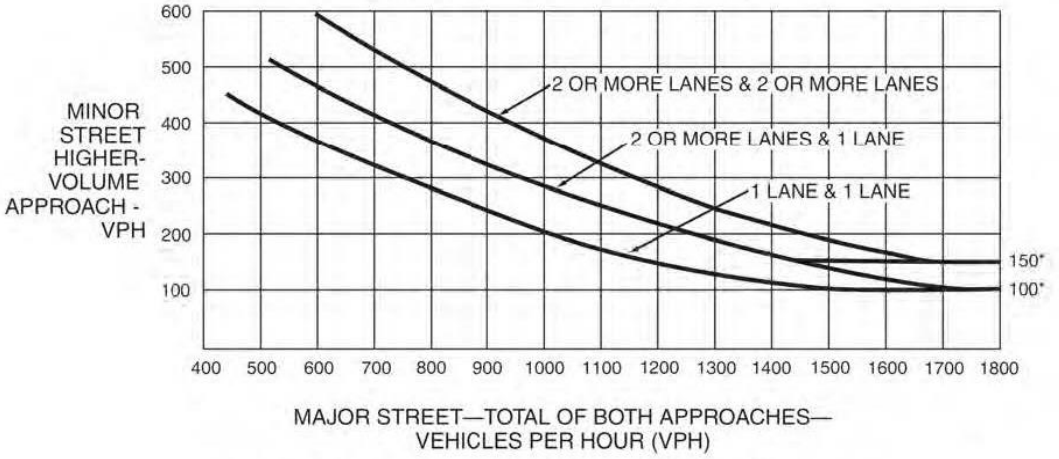


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

NORTHSIDE DR – USPS DRIVEWAY : CUMULATIVE PLUS PROJECT

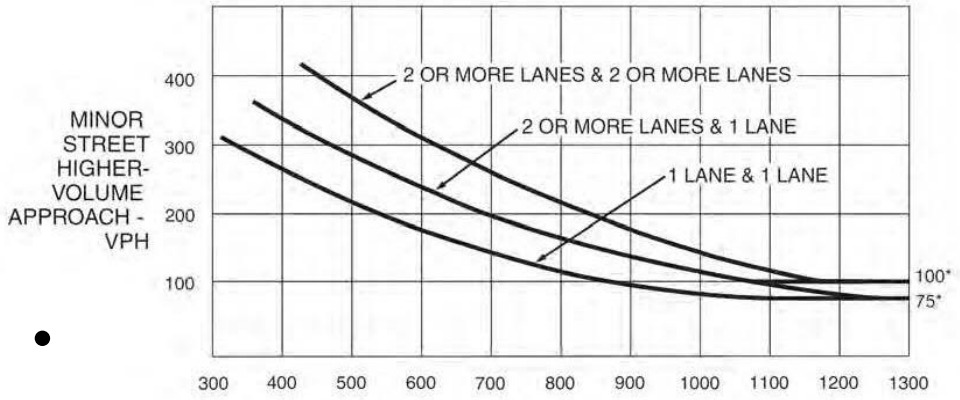
PM (●) : MAJOR 104 MINOR 40

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

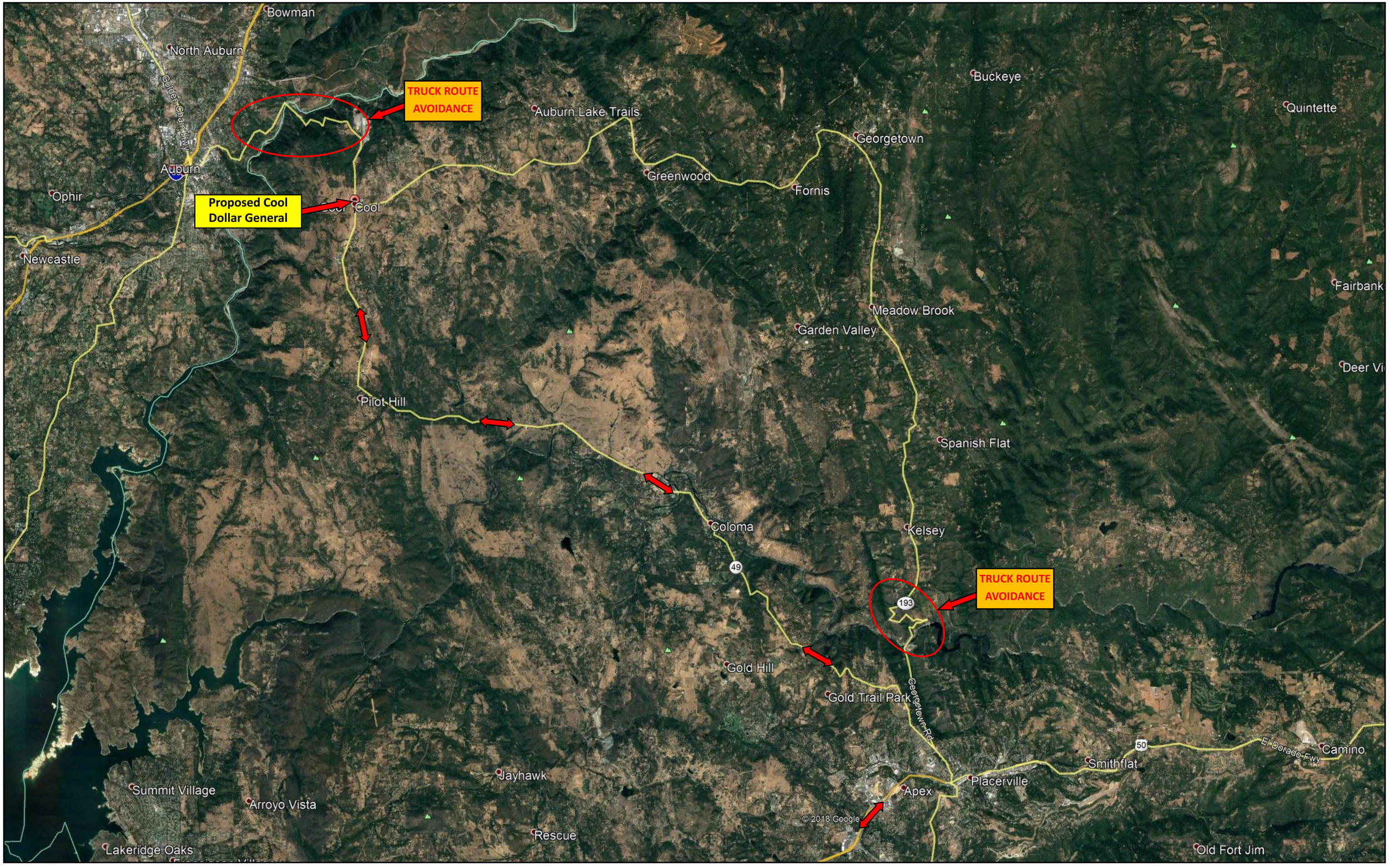
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

NORTHSIDE DR – PROJECT DRIVEWAY : CUMULATIVE PLUS PROJECT

PM (●) : MAJOR 43 MINOR 30



Delivery Truck Route—Cool Dollar General

ADDENDUM TO
TRANSPORTATION IMPACT ANALYSIS

FOR

COOL DOLLAR GENERAL STORE
El Dorado County, California

Prepared For:

WoodCrest Companies
1410 Main Street, Suite C
Ramona, CA 92065

Prepared By:

KD Anderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, CA 95650
(916) 660-1555

September 16, 2020

Job No. 9470-02

ADDENDUM TO TRANSPORTATION IMPACT ANALYSIS FOR
COOL DOLLAR GENERAL STORE
El Dorado County, California

TABLE OF CONTENTS

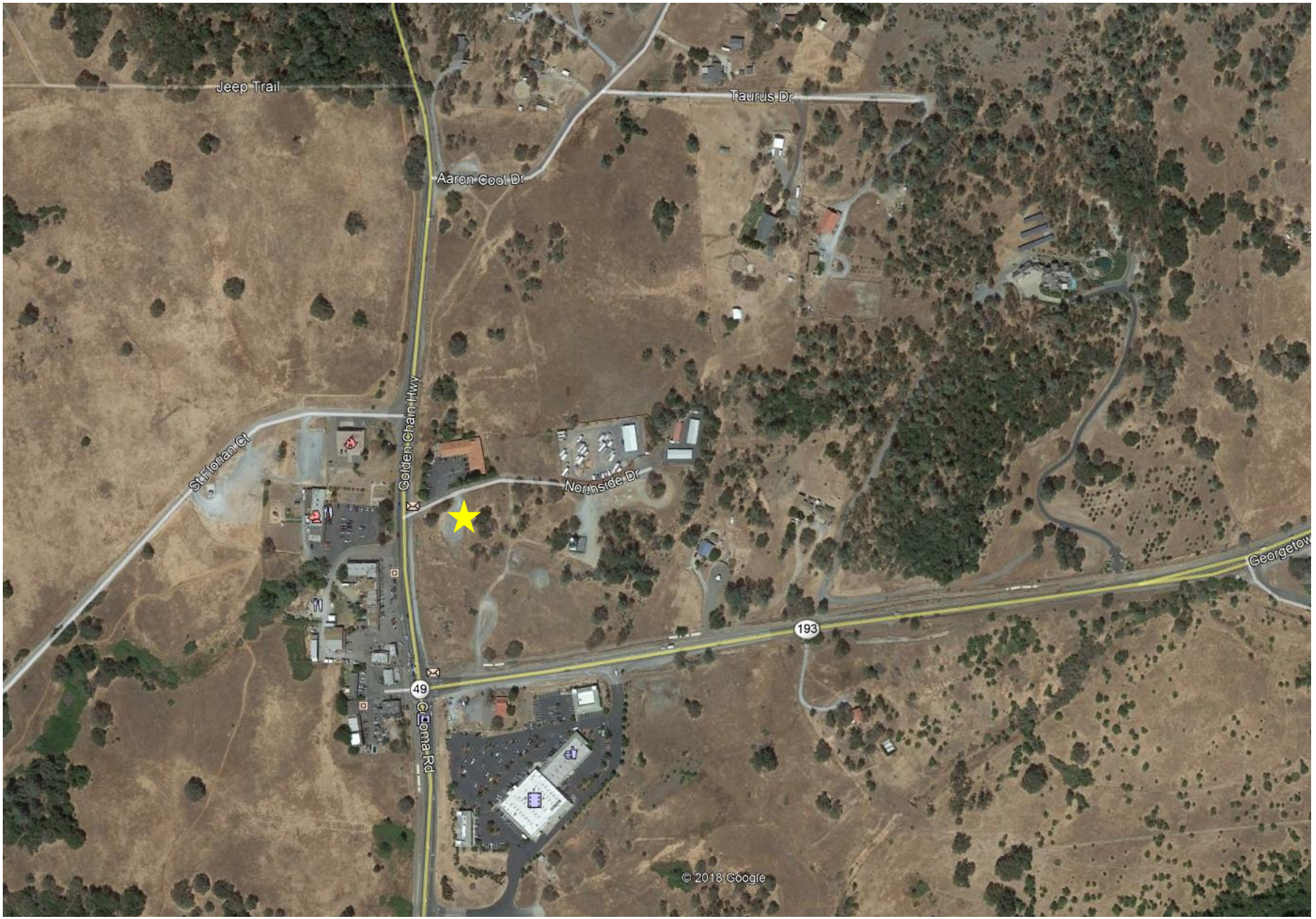
ADDENDUM TO TRANSPORTATION IMPACT ANALYSIS FOR
COOL DOLLAR GENERAL STORE
El Dorado County, California

INTRODUCTION

This report summarizes a supplemental analysis of the traffic effects associated with a Dollar General Store proposed in the rural El Dorado County community of Cool, California. The information herein follows up on a transportation impact analysis prepared for the project on March 9, 2020 to address summer weekend conditions with the project. To assess traffic effects, new Saturday summer traffic counts have been made and adjusted based on available data to account for the effects of COVID-19 on regional travel. The characteristics of the proposed project have been determined, including estimated peak trip generation, and conditions with and without the Dollar General Store have been assessed based on operating Levels of Service and peak period queues.

Project Description

The proposed project remains a 9.1 ksf Dollar General Store located on an approximately 1.68 acre site on the south side of Northside Drive about 190 feet east of SR 49 (centerline to centerline). The project will include development of 31 parking spaces per El Dorado County Zoning Ordinance requirements. Access to the site will be provided via a single driveway on Northside Drive. The driveway is about 35 feet from the USPS Driveway to the west and is about 655 feet from the Cool Boat and RV Storage across Northside Drive to the east. Figures 1 and 2 display the regional location of the project and proposed site plan, respectively.

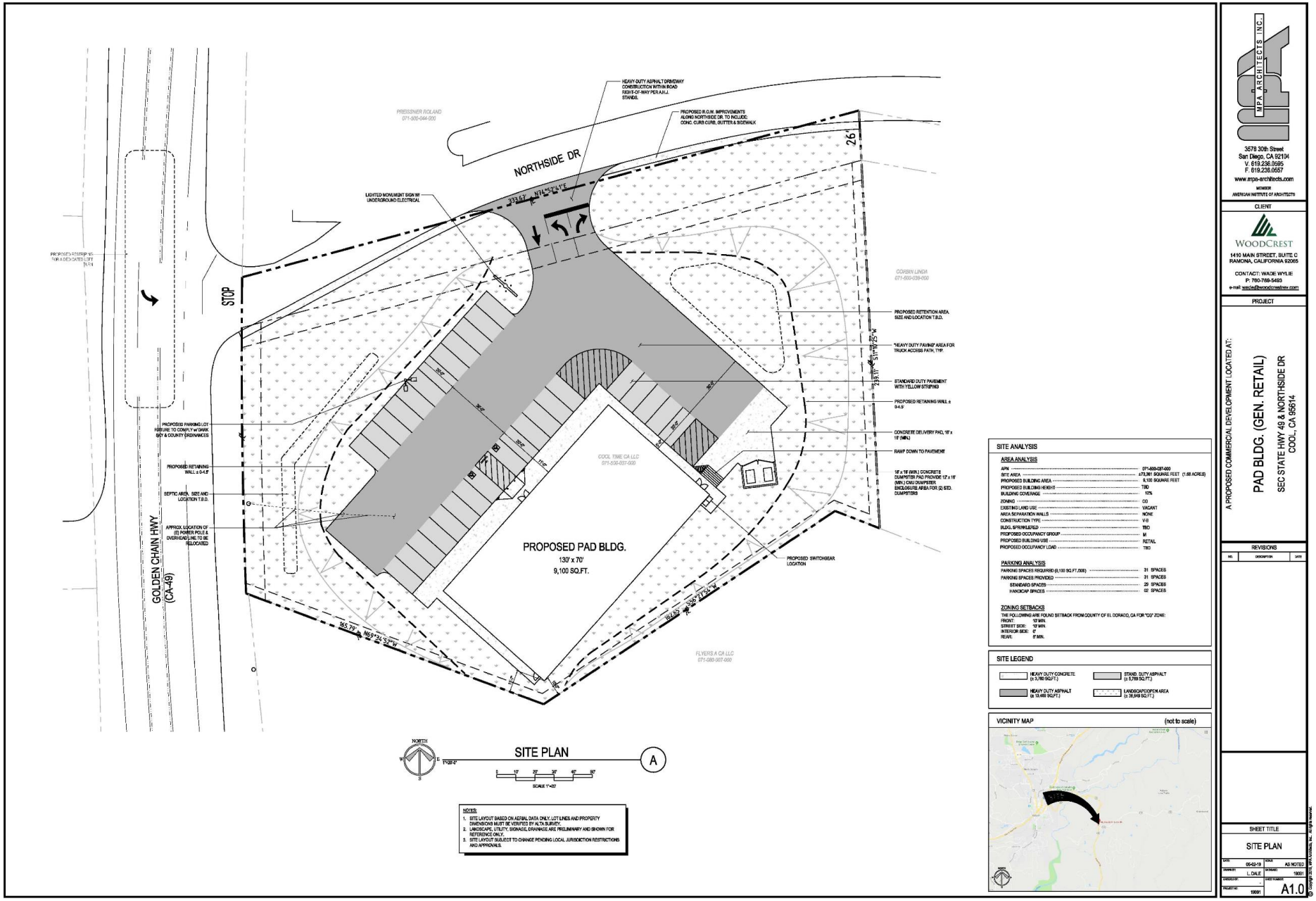


VICINITY MAP

KD Anderson & Associates, Inc.
Transportation Engineers

9470-02 RA 9/10/2020

figure 1



NOTES:
1. SITE LAYOUT BASED ON AERIAL DATA ONLY. LOT LINES AND PROPERTY DIMENSIONS MUST BE VERIFIED BY ALTA SURVEY.
2. LANDSCAPE, UTILITY, SIGNAGE, DRAINAGE ARE PRELIMINARY AND SHOWN FOR REFERENCE ONLY.
3. SITE LAYOUT SUBJECT TO CHANGE PENDING LOCAL JURISDICTION RESTRICTIONS AND APPROVALS.

SITE ANALYSIS

AREA ANALYSIS

APN	071-500-037-000
SITE AREA	273,361 SQUARE FEET (1.68 ACRES)
PROPOSED BUILDING AREA	9,100 SQUARE FEET
PROPOSED BUILDING HEIGHT	TBD
BUILDING COVERAGE	10%
ZONING	CO
EXISTING LAND USE	VACANT
AREA SEPARATION WALLS	NONE
CONSTRUCTION TYPE	V-B
BLDG. SPRINKLERED	TBD
PROPOSED OCCUPANCY GROUP	M
PROPOSED BUILDING USE	RETAIL
PROPOSED OCCUPANCY LOAD	TBD

PARKING ANALYSIS

PARKING SPACES REQUIRED (9,100 SQ.FT./300)	31 SPACES
PARKING SPACES PROVIDED	31 SPACES
STANDARD SPACES	29 SPACES
HANDICAP SPACES	02 SPACES

ZONING SETBACKS

THE FOLLOWING ARE FOUND SETBACK FROM COUNTY OF EL DORADO, CA FOR "CO" ZONE:
FRONT: 10' MIN.
STREET SIDE: 10' MIN.
INTERIOR SIDE: 0'
REAR: 0' MIN.

SITE LEGEND

HEAVY DUTY CONCRETE (± 3,760 SQ.FT.)
STAND. DUTY ASPHALT (± 5,769 SQ.FT.)
HEAVY DUTY ASPHALT (± 13,469 SQ.FT.)
LANDSCAPE/OPEN AREA (± 38,649 SQ.FT.)

VICINITY MAP (not to scale)

MPA ARCHITECTS INC.
3578 30th Street
San Diego, CA 92104
V: 619.236.0585
F: 619.236.0557
www.mpa-architects.com
MEMBER AMERICAN INSTITUTE OF ARCHITECTS

CLIENT

WOODCREST
1410 MAIN STREET, SUITE C
RAMONA, CALIFORNIA 92065
CONTACT: WADE WYLIE
P: 760-789-5493
e-mail: wadew@woodcrestnev.com

PROJECT

A PROPOSED COMMERCIAL DEVELOPMENT LOCATED AT:

PAD BLDG. (GEN. RETAIL)
SEC STATE HWY 49 & NORTHSIDE DR
COOL, CA 95614

REVISIONS

NO.	DESCRIPTION	DATE

SHEET TITLE

SITE PLAN

DATE:	05-02-19
SCALE:	AS NOTED
DRAWN BY:	L. DALE
DESIGNED:	19091
CHECKED BY:	-
PROJECT NO:	19091
SHEET NUMBER:	A1.0

EXISTING SETTING - SATURDAY

The previous report described the facilities that are available today serving vehicular, pedestrian and bicycle traffic and transit users in the Cool area of El Dorado County, as well as policies that guide consideration of traffic effects. Key information is presented again.

Study Area Intersections

The quality of traffic flow is often governed by the operation of key intersections. The following intersections have been evaluated in this addendum.

The **State Route 49 / Northside Drive intersection** is a "Tee" intersection controlled by a westbound stop sign on Northside Drive. A Two-Way-Left-Turn-Lane is present on SR 49. The Northside Drive approach is a single lane, and there are no crosswalks present.

The **State Route 49 / State Route 193 intersection** is a four-way intersection controlled by an all-way stop with an overhead flasher. SR 49 has separate left turn lanes on each approach. A southbound right turn lane exists, and the northbound thru lane is wide enough to allow right turns outside of the queue of northbound traffic. The SR 193 westbound approach is wide enough to act as a combined left-thru lane and a separate right turn lane, and the eastbound leg is a single lane private drive. Crosswalks exist on the south and east side of the intersection.

The **USPS Driveway / Northside Drive intersection** is a "Tee" controlled by a stop sign on the southbound USPS Driveway. There are no auxiliary lanes or crosswalks present.

Existing Saturday Traffic Volumes / Levels of Service

Traffic Volume Counts. New Saturday traffic counts were made for this study on August 29, 2020 from noon to 2:00 p.m. at these locations:

- SR 49 / SR 193
- SR 49 / Northside Drive

They represent the main intersection in Cool and provide data relating to the project's access.

Because the exact effects of COVID-19 on regional travel are uncertain, an appliable method was used to adjust these counts to "normal" summer weekend conditions and to validate the result. A cell-phone based "Big Data" service (i.e., Streetlight) was employed. Streetlight aggregates continually recorded cell phone based data (pings) and uses algorithms to equate that data to automobiles based on available traffic volume data. In this case, data was collected at the SR 49 / SR 193 intersection for Saturdays in July-August from 11:00 a.m. to 5:00 p.m. Data was assembled for 2019 (No COVID-19) and for 2020 during this time period.

To validate this information the average total traffic volume reported by Streetlight for the noon-2:00 p.m. period was found for summer 2020 conditions (1,828 vehicles) and compared to that in the August 29, 2020 two-hour count (1,778 vehicles) as shown in Table 1. The difference of 50 vehicles, or 2.8%, is not significant.

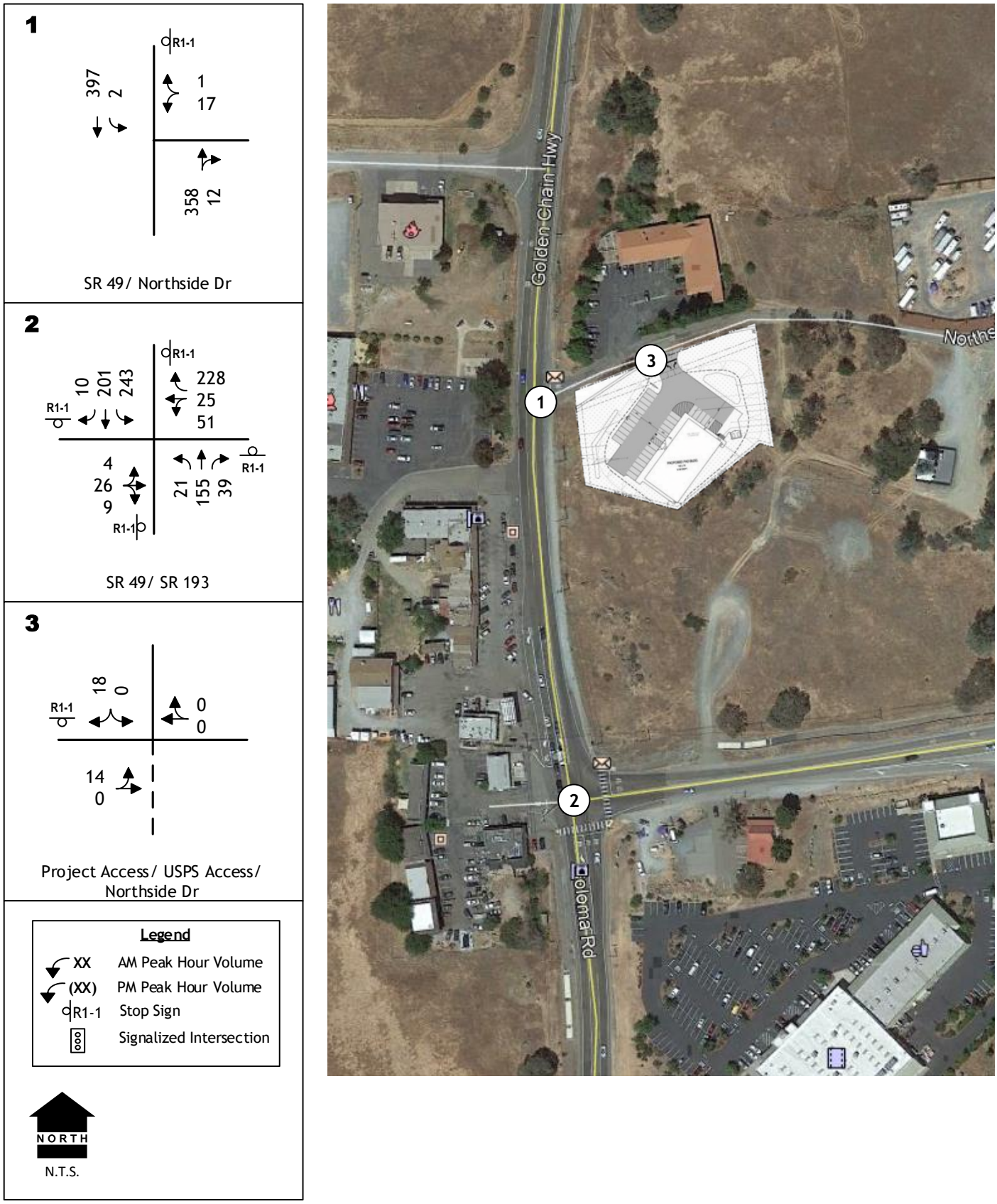
TABLE 1
SATURDAY NOON TO 2:00 TRAFFIC VOLUMES AT
SR 49 / SR 193 INTERSECTION (VEHICLES)

August 29, 2020 count	Average July-August 2020	Difference (count minus average)	Average July-August 2019	Difference (2019-2020)	Adjustment Factor Applied
1,778	1,828	50 (2.6%)	1,971	143 (8%)	10%

Comparison of Year 2019 and Year 2020 two-hour data indicated that last year's average volumes were roughly 8% greater than those developed for 2020. To provide a conservative estimate the 2020 Saturday peak hour counts at all locations were increased by 10% to approximate regular conditions. The resulting volumes are noted in Figure 3. This data has been used to determine the operating Level of Service (LOS) at each intersection, to assess queueing and to evaluate the status of traffic signal warrants.

Level of Service at Intersections. Levels of Service were calculated using the methods presented in the Highway Capacity Manual, 6th Edition (HCM 6 Ed). Intersection Levels of Service were calculated using SYNCHRO 10.0 software. For intersections controlled by side street stop signs, the reported Level of Service reflects the "worst case" movement, which is typically those motorists waiting to enter the main street.

As indicated in Table 2, on Saturday each intersection delivers a peak hour Level of Service that satisfies minimum El Dorado County standards. As indicated, the Levels of Service calculated for Saturday conditions are similar to or slightly better than those presented for the weekday p.m. peak hour. Peak hour traffic signal warrants are satisfied at the SR 49 / SR 193 intersection based on Saturday data.



EXISTING SATURDAY TRAFFIC VOLUMES
AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

9470-02 RA 9/10/2020

figure 3

TABLE 2
EXISTING INTERSECTION LEVELS OF SERVICE

Intersection	Control	Weekday PM Peak Hour		Saturday Peak Hour (12:30 to 1:30 pm)		Peak Hour Signal Warrant Met?*
		Average Delay (veh/sec)	LOS	Average Delay (sec/veh)	LOS	
1. State Route 49 / Northside Dr						
Southbound left turn	WB Stop	7.9	A	8.1	A	No
Westbound approach		16.3	C	16.0	C	
2. State Route 49 / State Route 193	AWS	17.7	C	13.9	B	Yes
3. USPS Driveway / Northside Dr						
Southbound approach	SB Stop	8.5	A	-	A	No
Eastbound approach		7.1	A	7.2	A	

* CA MUTCD Peak Hour Signal Warrant, Figure 4C-3.
AWS is All-Way Stop Control

95th Percentile Queues. Table 3 identifies the 95th percentile queues occurring during the p.m. peak hour at the SR 49 / SR 193 intersection. These values are a byproduct of HCM LOS analysis. As indicated, all estimated queues can be accommodated within the available storage, and no improvements are currently needed.

TABLE 3
EXISTING INTERSECTION PEAK HOUR QUEUES

Intersection	Lane	Storage (feet)	Weekday PM Peak Hour		Saturday Peak Hour		Storage Adequate?
			Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	
State Route 49 / SR 193	SB left	200[1]	374	170	243	75	Yes
	NB left	150[1]	15	<25	21	<25	Yes
	WB approach	unlimited	200	40	304	70	Yes

[1]lane continues as TWLT lane

Roadway Segment Level of Service. Table 4 identifies the current operating Level of Service on the roadways in the vicinity of the project. As shown, the roadway segments in this area operate at LOS D during the peak hour on Saturday. Conditions are similar to but in some cases better than those during the weekday p.m. peak hour.

TABLE 4
EXISTING ROADWAY SEGMENT LEVELS OF SERVICE

Road	Location	Direction	Weekday PM Peak Hour				Saturday Peak Hour			
			Volume (vph)	ATS (mph)	PTSF (%)	Level of Service	Volume (vph)	ATS (mph)	PTSF (%)	Level of Service
SR 49	North of SR 193	NB	257	40.7	53.9	D	387	40.2	68.7	D
		SB	561	39.5	77.4	E	454	40.4	74.3	D
	South of SR 193	NB	213	42.1	58.3	D	215	42.1	57.9	D
		SB	256	41.8	65.8	D	261	41.8	65.9	D
SR 193	East of SR 49	EB	467	40.3	72.3	D	308	41.3	66.5	D
		WB	200	41.6	47.0	D	304	41.3	65.3	D

Pedestrian / Bicycle Activity

The number of pedestrians and bicyclists at the SR 49 / SR 193 intersection was determined as part of the Saturday traffic counts conducted in August 2020. During the two-hour period from the noon to 2:00 period a total of 6 pedestrian crossings were recorded. There were two pedestrians in each direction on the south leg of the intersection and 2 pedestrians who walked southbound on the west side of the intersection.

The number of bicyclists was also determined at that time. A total of 4 bicyclists entered the intersection traveling eastbound and 2 entered traveling westbound.

Collision History

This evaluation was also presented in the original report. Traffic collision information was obtained for locations on SR 49 for the period of January 1, 2016 to December 31, 2018. During that time period a total of one collision was reported for the segment from 300 feet south of SR 193 to 300 feet north of St Florian Court. One rear-end collision occurred 65 feet south of SR 193. The statewide average collision rate for rural three-lane roads (i.e., with TWLT lane) is 0.94 per Million Vehicle Miles (MVM). Over three years this ¼ mile long segment experienced a rate of 0.42 per MVM.

PROJECT CHARACTERISTICS

Trip Generation

Trip Generation Rates. The Institute of Transportation Engineers (ITE) publication *"Trip Generation, 10th Edition"* provides information for the use most similar to Dollar General Store (i.e., "Variety Store" (Code 814)). Table 5 identifies the trip generation rates reported by ITE for this use.

No specific rates are available for Saturdays. Information is available for the hour with the highest volume of project weekday traffic, which is called the "peak hour of the generator". This rate has been employed to estimate the project's traffic on the Saturday peak hour, and the applicable rate is noted in Table 5.

TABLE 5
TRIP GENERATION RATES

			Peak Hour of Adjacent Street						PM Peak Hour of Generator		
			AM Peak Hour			PM Peak Hour					
Land Use / Source	Unit	Daily	In	Out	Total	In	Out	Total	In	Out	Total
Variety Store (814)	ksf	63.47	57%	43%	3.18	52%	48%	6.82	50%	50%	7.42
Dollar General Store	9.1 ksf	578	16	13	29	32	30	62	34	34	68
Pass-by Trips	34%	<196>	<5>	<5>	<10>	<10>	<10>	<20>	<12>	<12>	<24>
Net New Trips		382	11	8	19	22	20	42	22	22	44

Source: ITE Trip Generation, 10th Edition

Trip Generation Forecasts. Table 5 displays the p.m. peak hour of the generator trip generation forecasts for the 9.1 ksf Dollar General Store. The project would generate 68 p.m. peak hour trips at its driveway. A portion of the traffic drawn to these stores would be drawn from the stream of traffic already passing the site. The ITE *Trip Generation Handbook, 3rd Edition* notes that 34% of the weekday p.m. trips are "pass-by", and this rate has been assumed for Saturday.

As noted in Table 5, the project is expected to generate 44 "new" trips during the p.m. peak hour of the generator that is being used for this analysis of Saturday conditions.

Vehicle Trip Distribution / Assignment

The distribution of project traffic on Saturday was assumed to be consistent with the assumption made for weekdays that was used in the original report. As noted in Table 6, assuming a primary trade area that extends 1-2 miles from the site, the new trips attracted to the site will arrive primarily from the south along SR 49 and east along SR 193, with lesser shares arriving from the north and from the businesses that already exist along SR 49. Pass-by trips will be drawn from passing traffic on SR 49 in general proportion to the current peak hour volumes from each direction.

TABLE 6
DIRECTIONAL TRIP DISTRIBUTION (NEW TRIPS)

Direction	Route	Percentage of New Trips
North	SR 49 north of Northside Drive	10%
East	SR 193 east of SR 49	40%
South	SR 49 south of Northside Drive	40%
West	Local businesses	10%
Total		100%

Using the trip generation and distribution assumptions described above, the trips generated by the proposed project were assigned to the study area street system.

PROJECT TRAFFIC EFFECTS

Existing Plus Project Saturday Traffic Conditions and Levels of Service

Figure 4 superimposes project trips onto the current background Saturday traffic volumes to create the "Existing plus Project" condition. Subsequent tables compare the "Existing" and "Existing plus Project" Levels of Service.

Project Traffic Impacts to Level of Service at Intersections. As shown in Table 7, because the amount of traffic projected to be generated by the project is relatively low, the addition of project traffic would not appreciably increase the length of delays already occurring at study intersections, and the project does not result in any change to the overall Level of Service at each location. Levels of Service will remain within adopted minimum standards of El Dorado County at each location.

As noted, to provide a "worst case" assessment, the Level of Service at the site access has been calculated assuming the Dollar General Store driveway and the USPS driveway are combined as one consolidated intersection.

Traffic Signal Warrants. The volume of traffic occurring at each intersection with development of the project was again compared to the CA MUTCD peak hour signal warrant thresholds. Traffic signals continue to be warranted at SR 49 / SR 193 with the project. The SR 193 TCR suggests a roundabout will someday be installed at this location, but no funding is identified. Currently, improvements to this intersection are not included in El Dorado County's regional traffic impact fee program.

95th Percentile Queues. Table 8 identifies the 95th percentile queues occurring during the Saturday peak hour at the SR 49 / SR 193 intersection if the project is developed. As indicated, the queue in the southbound left turn lane may increase by about 5 feet as a result of the project. This queue will continue to be accommodated within the limits of the painted left turn lane. No improvements are needed.

Roadway Segments. As noted in Table 9, the project will add traffic to the state highway segments in this area. However, the volume of traffic is too small to have an appreciable effect on the performance of roadway segments. All segments will continue to operate at LOS D, which satisfies the General Plan standard.

TABLE 7
EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE

Intersection	Control	PM Peak Hour				Saturday Peak Hour				Peak Hour Signal Warrant Met?
		Existing No Project		Existing Plus Project		Existing No Project		Existing Plus Project		
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	
2. State Route 49 / Northside Dr	WB Stop									No
Southbound left turn		A	7.9	A	7.9	A	8.1	A	8.2	
Westbound approach		C	16.3	C	18.5	C	16.0	C	16.9	
4. State Route 49 / State Route 193	AWS	C	17.7	C	18.8	B	13.9	B	14.5	Yes
6. Northside Dr / USPS / Access	SB/NB Stop									No
Southbound approach		A	8.5	A	8.5	-	--	A	8.4	
Eastbound approach		A	7.1	A	7.3	A	7.2	A	7.2	
Northbound approach		-	--	A	9.9	-	--	A	9.1	

TABLE 8
EXISTING PLUS PROJECT SATURDAY INTERSECTION PEAK HOUR QUEUES

Intersection	Lane	Storage (feet)	Saturday Peak Hour					
			Existing No Project		Existing Plus Project			
			Volume (vph)	95th % Queue (feet)	Volume (vph)		95th % Queue (feet)	Storage Adequate?
					Project Only	Total		
State Route 49 / SR 193	SB left	200[1]	243	75	9	252	80	No
	NB left	150[1]	21	<25	0	21	<25	Yes
	WB approach	unlimited	228	55	9	237	60	Yes

[1]lane continues as TWLT lane

TABLE 9
EXISTING PLUS PROJECT ROADWAY SEGMENT LEVELS OF SERVICE

Road	Location	Direction	Saturday Hour							
			Existing				Plus Project			
			Volume (vph)	ATS (mph)	PTSF (%)	LOS	Volume added (vph)	ATS (mph)	PTSF (%)	LOS
SR 49	North of SR 193 beyond Northside Dr	Northbound	387	40.2	68.7	D	2	40.2	68.6	D
		Southbound	454	40.4	74.3	D	2	40.4	74.4	D
	South of SR 193	Northbound	215	42.1	57.9	D	9	42.0	58.3	D
		Southbound	261	41.8	65.9	D	9	41.7	65.1	D
SR 193	East of SR 49	Eastbound	308	41.3	66.5	D	9	41.4	65.5	D
		Westbound	304	41.3	65.3	D	9	41.2	66.7	D

Project Impacts to Alternative Transportation Modes

Development of the proposed Dollar General Store may incrementally contribute to the demand for facilities to serve pedestrians and cyclists in this area of El Dorado County, but this demand is expected to be relatively minor based on current activity.

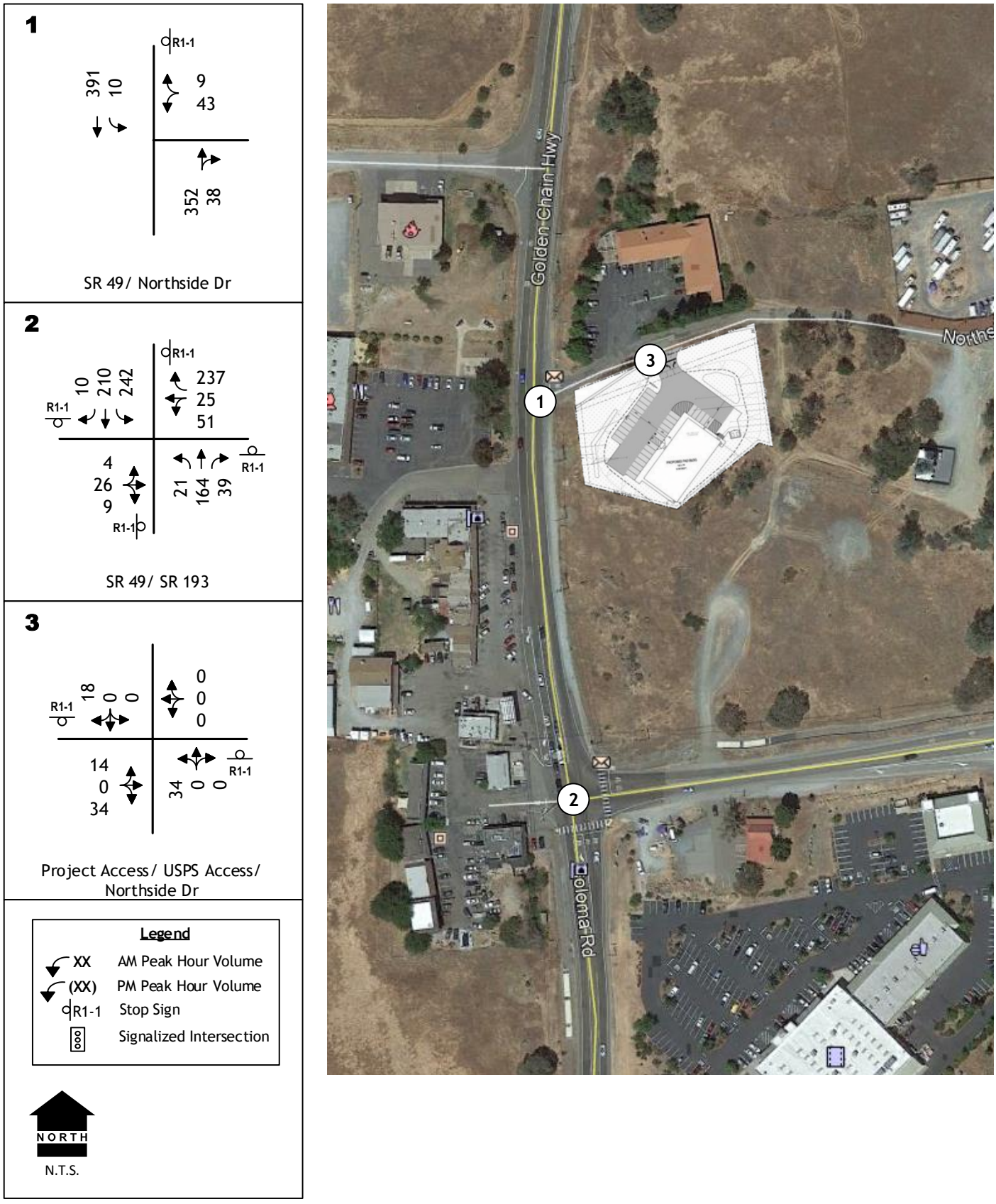
Pedestrian Impacts. Some employees or customers of this project may elect to walk to other commercial uses in the area. Based on the results of Saturday traffic counts current midday pedestrian activity between uses in this area is low. Similarly, the project is not expected to result in appreciable numbers of pedestrians to and from the site.

Bicycle Impacts. While the use of bicycles may be an option for employees or customers to get to the site, based on current Saturday bicycle counts in the area the number of cyclists generated by this use is likely to be low. The number of cyclists associated with this project is not likely to create any appreciable safety impacts on SR 49 where the paved shoulder is already available to provide access to the project.

Site Access

Throat Depth. Access to the site is proposed via a driveway on the south side of Northside Drive. The driveway is 40 feet wide. The main parking aisle is separated from Northside Drive by about 40 feet of throat. Two waiting vehicles can queue prior to blocking access to those parking spaces. This layout is expected to operate satisfactorily given the low traffic volumes projected to be generated by the site.

Proximity of Driveways – Safety. The project driveway and USPS driveway are slightly offset. While offset driveway can sometimes cause conflicts between turning vehicles, the characteristics of the two driveways and the volume of traffic anticipated combine to preclude typical concerns. The Post Office driveway is slightly west of the Dollar General driveway. In this alignment the typical turning conflict would have been between outbound left turns from each driveway who might meet between the intersections. In this case because Northside Drive is a cul-de-sac, all of the traffic observed leaving the Post Office did so by turning right to go back to SR 49. The vehicles would not occupy the same space as left turns from the Dollar General, and no conflict occurs. While an occasional Post Office customer may turn left to visit the Dollar General, the number of potential conflicts between Dollar General traffic and these left turns will be minimal. Sight lines between the two driveways are not obstructed. The anticipated operation of the two driveways will be safe, and no change to the design is warranted.



EXISTING PLUS PROJECT SATURDAY TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

9470-02 RA 9/10/2020

figure 4

SUMMARY AND CONCLUSIONS

This supplemental report documents **KD Anderson & Associates'** analysis of the Saturday traffic effects of a Dollar General Store on Northside Drive in El Dorado County, California. The analysis identified current summer Saturday conditions based on new traffic count data that was adjusted to reflect the effects of COVID-19. To assess project effects, the trip generation associated with the highest volume hour rate for the project was determined and superimposed onto the Saturday condition.

Saturday Peak Hour Traffic. Traffic volume data was collected for the midday peak traffic period at the SR 49 / SR 193 intersection and for the SR 49/ Northside Drive intersection. That data was adjusted to reflect summer 2019 conditions using "big data' derived from cell phone GIS activity. The resulting Level of Service and queuing analyses indicated that summer midday Saturday conditions are similar to but no worse than the weekday p.m. peak hour conditions identified in the original report.

Weekend Peak Hour Trip Generation. The ITE Trip Generation Manual, 10th Edition was reviewed to identify Saturday trip generation rates for this use. Because no specific Saturday data was available, the weekday rates associated with the greatest amount of project traffic (i.e., peak hour of generator) were employed. Under these assumptions the Dollar General Store is expected to generate a total of 68 trips during the peak hour. After discounting for pass-by trips already occurring on SR 49 adjacent to the site, the project is projected to generate 44 new primary trips in the peak hour.

Existing Plus Project Saturday Traffic Conditions. Development of the project alone does not result in a significant effect on traffic based on the criteria adopted by El Dorado County. No changes to existing Saturday Levels of Service are projected with development of the site. The Level of Service at the site access and at the SR 49 / Northside Drive intersection will be LOS C or better. Traffic signal warrants are met with and without the project at the SR 49/ SR 193 intersection. Peak period queues with and without the project can be accommodated within existing turn lanes. The current Saturday peak hour roadway segment Levels of Service on state highways near the project will not change as a result of the project.

Safety. Current pedestrian and bicycle volumes were monitored during Saturday midday traffic counts, and use of both transportation modes at the SR 49 / SR 193 intersection are very low (i.e., fewer than 6 pedestrians or 4 bicyclists over two midday hours). As is the case today, any pedestrians for cyclists generated by the Dollar General Store will be able to use the available shoulder on SR 49 and use the crosswalks at the SR 49 / SR 193 intersection.

APPENDIX

(Traffic Counts, LOS Calculations)

Prepared by National Data & Surveying Services

SR 49 & Northside Dr

Peak Hour Turning Movement Count

ID: 20-070147-001
City: Cool

Day: Saturday
Date: 08/29/2020

PEAK HOURS

AM	NONE
NOON	12:30 PM - 01:30 PM
PM	NONE

COUNT PERIODS

AM	NONE
NOON	12:00 PM - 02:00 PM
PM	NONE

SR 49 — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	361	2	0	326	NOON
PM	0	0	0	0	0	PM

EASTBOUND — Northside Dr

AM	NOON	PM
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

AM NOON PM

WESTBOUND — Northside Dr

PM	NOON	AM
0	1	0
0	0	0
0	15	0
0	0	0
0	13	0

PM NOON AM

CONTROL

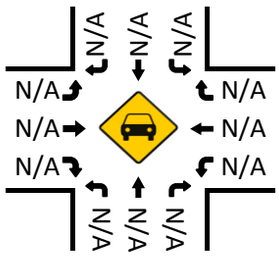
1 Way Stop (WB)

TEV	0 AM	715 NOON	0 PM
PHF		0.91	

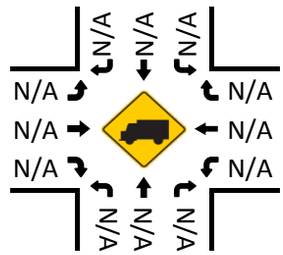
NORTHBOUND — SR 49

PM	0	0	0	0	0	PM
NOON	376	0	0	325	11	NOON
AM	0	0	0	0	0	AM

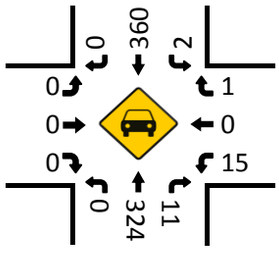
Cars (AM)



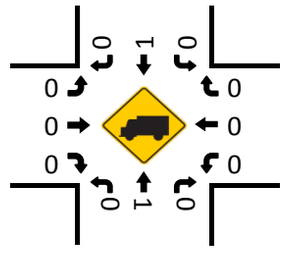
HT (AM)



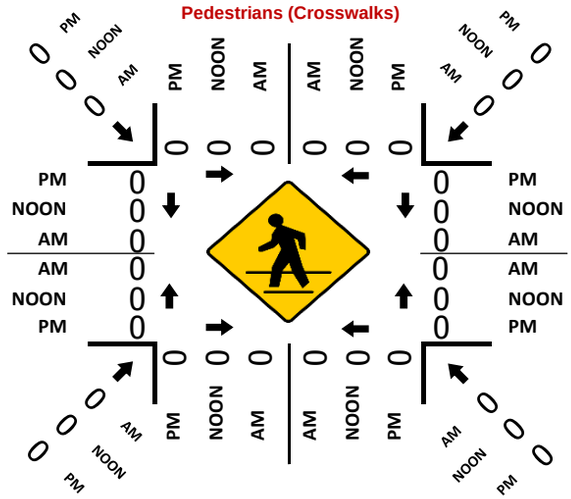
Cars (NOON)



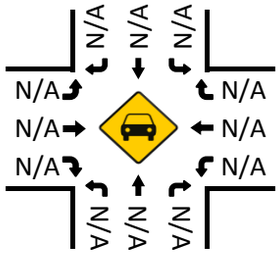
HT (NOON)



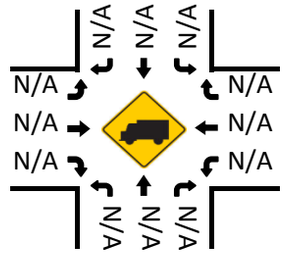
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & Northside Dr
City: Cool
Control: 1 Way Stop (WB)

Project ID: 20-070147-001
Date: 8/29/2020

Total

NS/EW Streets:	SR 49				SR 49				Northside Dr				Northside Dr				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	0	70	3	0	0	88	0	0	0	0	0	0	2	0	2	0	165
12:15 PM	0	84	4	0	5	65	0	0	0	0	0	0	6	0	2	0	166
12:30 PM	0	85	6	0	1	85	0	0	0	0	0	0	9	0	0	0	186
12:45 PM	0	77	1	0	0	85	0	0	0	0	0	0	1	0	0	0	164
1:00 PM	0	83	3	0	1	104	0	0	0	0	0	0	4	0	1	0	196
1:15 PM	0	80	1	0	0	87	0	0	0	0	0	0	1	0	0	0	169
1:30 PM	0	70	3	0	0	80	0	0	0	0	0	0	2	0	1	0	156
1:45 PM	0	73	5	0	0	79	0	0	0	0	0	0	3	0	1	0	161
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	622	26	0	7	673	0	0	0	0	0	0	28	0	7	0	1363
APPROACH %'s :	0.00%	95.99%	4.01%	0.00%	1.03%	98.97%	0.00%	0.00%					80.00%	0.00%	20.00%	0.00%	
PEAK HR :	12:30 PM - 01:30 PM																TOTAL
PEAK HR VOL :	0	325	11	0	2	361	0	0	0	0	0	0	15	0	1	0	715
PEAK HR FACTOR :	0.000	0.956	0.458	0.000	0.500	0.868	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.250	0.000	0.912
	0.923				0.864								0.444				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & Northside Dr
City: Cool
Control: 1 Way Stop (WB)

Project ID: 20-070147-001
Date: 8/29/2020

Cars

NS/EW Streets:	SR 49				SR 49				Northside Dr				Northside Dr				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	0	69	3	0	0	88	0	0	0	0	0	0	2	0	2	0	164
12:15 PM	0	82	4	0	5	65	0	0	0	0	0	0	6	0	2	0	164
12:30 PM	0	85	6	0	1	84	0	0	0	0	0	0	9	0	0	0	185
12:45 PM	0	77	1	0	0	85	0	0	0	0	0	0	1	0	0	0	164
1:00 PM	0	83	3	0	1	104	0	0	0	0	0	0	4	0	1	0	196
1:15 PM	0	79	1	0	0	87	0	0	0	0	0	0	1	0	0	0	168
1:30 PM	0	70	3	0	0	79	0	0	0	0	0	0	2	0	1	0	155
1:45 PM	0	73	5	0	0	78	0	0	0	0	0	0	3	0	1	0	160
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	618	26	0	7	670	0	0	0	0	0	0	28	0	7	0	1356
APPROACH %'s :	0.00%	95.96%	4.04%	0.00%	1.03%	98.97%	0.00%	0.00%					80.00%	0.00%	20.00%	0.00%	
PEAK HR :	**12:30 PM - 01:30 PM**																TOTAL
PEAK HR VOL :	0	324	11	0	2	360	0	0	0	0	0	0	15	0	1	0	713
PEAK HR FACTOR :	0.00	0.953	0.458	0.000	0.500	0.865	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.250	0.000	0.909
		0.920				0.862								0.444			

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & Northside Dr
City: Cool
Control: 1 Way Stop (WB)

Project ID: 20-070147-001
Date: 8/29/2020

HT

NS/EW Streets:	SR 49				SR 49				Northside Dr				Northside Dr				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	**12:30 PM - 01:30 PM**																TOTAL
PEAK HR VOL :	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
		0.250				0.250											

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & Northside Dr
City: Cool
Control: 1 Way Stop (WB)

Project ID: 20-070147-001
Date: 8/29/2020

Bikes

NS/EW Streets:	SR 49				SR 49				Northside Dr				Northside Dr				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	12:30 PM - 01:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & Northside Dr
City: Cool

Project ID: 20-070147-001
Date: 8/29/2020

Pedestrians (Crosswalks)

NS/EW Streets:	SR 49		SR 49		Northside Dr		Northside Dr		
NOON	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
12:00 PM	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**12:30 PM - 01:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

SR 49 & SR 193/Georgetown Rd

Peak Hour Turning Movement Count

ID: 20-070147-002
City: Cool

Day: Saturday
Date: 08/29/2020

PEAK HOURS

AM: NONE
NOON: 12:30 PM - 01:30 PM
PM: NONE

COUNT PERIODS

AM: NONE
NOON: 12:00 PM - 02:00 PM
PM: NONE

SR 49 — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	9	183	221	1	353	NOON
PM	0	0	0	0	0	PM

SR 193/Georgetown Rd — EASTBOUND

AM	NOON	PM
0	51	0
0	0	0
0	4	0
0	24	0
0	8	0

SR 193/Georgetown Rd — WESTBOUND

PM	NOON	AM
0	207	0
0	23	0
0	46	0
0	0	0
0	280	0

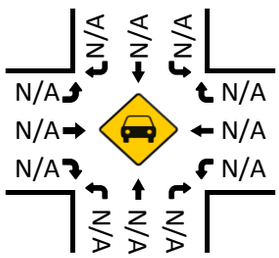
CONTROL: 4 Way Stop

	AM	NOON	PM
TEV	0	921	0
PHF		0.94	

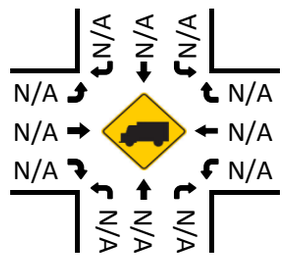
SR 49 — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	237	0	19	141	35	NOON
AM	0	0	0	0	0	AM

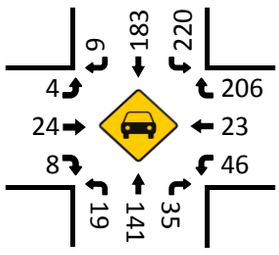
Cars (AM)



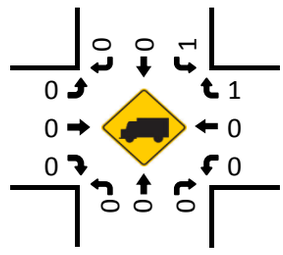
HT (AM)



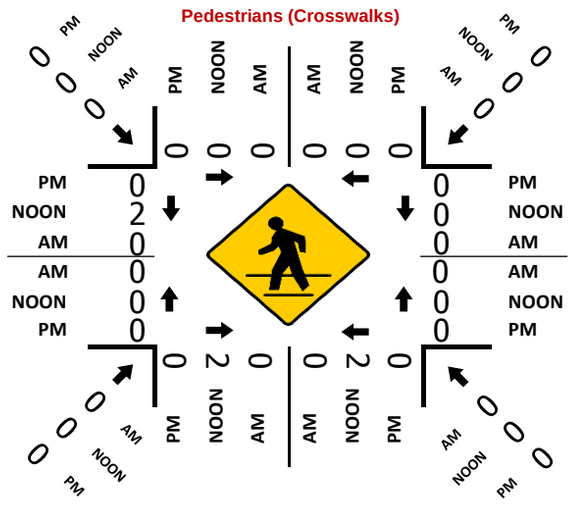
Cars (NOON)



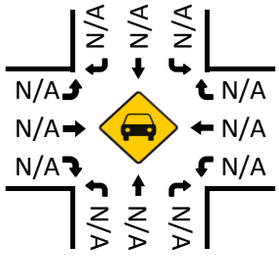
HT (NOON)



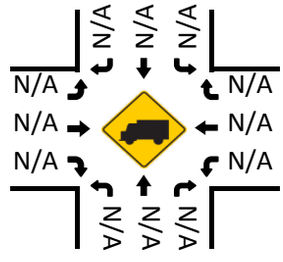
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & SR 193/Georgetown Rd
City: Cool
Control: 4 Way Stop

Project ID: 20-070147-002
Date: 8/29/2020

Total

NS/EW Streets:	SR 49				SR 49				SR 193/Georgetown Rd				SR 193/Georgetown Rd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	5	29	9	0	57	41	4	1	3	12	3	0	9	2	46	0	221
12:15 PM	6	40	12	0	44	42	0	2	1	3	4	0	10	5	54	0	223
12:30 PM	7	37	7	0	50	43	2	0	0	7	2	0	13	6	58	0	232
12:45 PM	5	33	5	0	50	48	3	0	2	5	3	0	11	7	47	0	219
1:00 PM	6	41	9	0	65	53	0	0	0	8	0	0	12	3	47	0	244
1:15 PM	1	30	14	0	56	39	4	1	2	4	3	0	10	7	55	0	226
1:30 PM	3	22	16	0	49	34	1	2	0	5	4	0	10	6	48	0	200
1:45 PM	2	37	14	0	54	35	2	0	1	4	1	0	12	2	48	1	213
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	35	269	86	0	425	335	16	6	9	48	20	0	87	38	403	1	1778
APPROACH %'s :	8.97%	68.97%	22.05%	0.00%	54.35%	42.84%	2.05%	0.77%	11.69%	62.34%	25.97%	0.00%	16.45%	7.18%	76.18%	0.19%	
PEAK HR :	12:30 PM - 01:30 PM																TOTAL
PEAK HR VOL :	19	141	35	0	221	183	9	1	4	24	8	0	46	23	207	0	921
PEAK HR FACTOR :	0.679	0.860	0.625	0.000	0.850	0.863	0.563	0.250	0.500	0.750	0.667	0.000	0.885	0.821	0.892	0.000	0.944
	0.871				0.877				0.900				0.896				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & SR 193/Georgetown Rd
City: Cool
Control: 4 Way Stop

Project ID: 20-070147-002
Date: 8/29/2020

Cars

NS/EW Streets:	SR 49				SR 49				SR 193/Georgetown Rd				SR 193/Georgetown Rd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	5	29	9	0	57	41	4	1	3	12	3	0	9	2	45	0	220
12:15 PM	6	39	12	0	44	42	0	2	1	3	4	0	10	5	53	0	221
12:30 PM	7	37	7	0	49	43	2	0	0	7	2	0	13	6	58	0	231
12:45 PM	5	33	5	0	50	48	3	0	2	5	3	0	11	7	47	0	219
1:00 PM	6	41	9	0	65	53	0	0	0	8	0	0	12	3	47	0	244
1:15 PM	1	30	14	0	56	39	4	1	2	4	3	0	10	7	54	0	225
1:30 PM	3	22	16	0	48	34	1	2	0	5	4	0	10	6	48	0	199
1:45 PM	2	37	14	0	54	34	2	0	1	4	1	0	12	2	48	1	212
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	35	268	86	0	423	334	16	6	9	48	20	0	87	38	400	1	1771
APPROACH %'s :	9.00%	68.89%	22.11%	0.00%	54.30%	42.88%	2.05%	0.77%	11.69%	62.34%	25.97%	0.00%	16.54%	7.22%	76.05%	0.19%	
PEAK HR :	12:30 PM - 01:30 PM																TOTAL
PEAK HR VOL :	19	141	35	0	220	183	9	1	4	24	8	0	46	23	206	0	919
PEAK HR FACTOR :	0.68	0.860	0.625	0.000	0.846	0.863	0.563	0.250	0.500	0.750	0.667	0.000	0.885	0.821	0.888	0.000	0.942
	0.871				0.875				0.900				0.893				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & SR 193/Georgetown Rd
City: Cool
Control: 4 Way Stop

Project ID: 20-070147-002
Date: 8/29/2020

HT

NS/EW Streets:	SR 49				SR 49				SR 193/Georgetown Rd				SR 193/Georgetown Rd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
12:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
12:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	2	1	0	0	0	0	0	0	0	0	3	0	7
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	66.67%	33.33%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	**12:30 PM - 01:30 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.500
					0.250								0.250				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & SR 193/Georgetown Rd
City: Cool
Control: 4 Way Stop

Project ID: 20-070147-002
Date: 8/29/2020

Bikes

NS/EW Streets:	SR 49				SR 49				SR 193/Georgetown Rd				SR 193/Georgetown Rd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	12:30 PM - 01:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250
															0.250		

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 49 & SR 193/Georgetown Rd
City: Cool

Project ID: 20-070147-002
Date: 8/29/2020

Pedestrians (Crosswalks)

NS/EW Streets:	SR 49		SR 49		SR 193/Georgetown Rd		SR 193/Georgetown Rd		
NOON	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
12:00 PM	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	2	2	0	0	0	2	6
1:00 PM	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	2	2	0	0	0	2	6
APPROACH %'s :			50.00%	50.00%			0.00%	100.00%	
PEAK HR :	12:30 PM - 01:30 PM								TOTAL
PEAK HR VOL :	0	0	2	2	0	0	0	2	6
PEAK HR FACTOR :			0.250	0.250				0.250	0.250
			0.250				0.250		

KDA

Day Type

2: Weekend Day (Sa-Sa)

TURNING MOVEMENT COUNTS - SATURDAY 2018_2019 - JULY AUGUST

	Cool D/W West Leg EB In			SR 193 East Leg WB Inbound			SR 49 South Leg NB Inbound			SR 49 North Leg SB Inbound			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
0: All Day (12am-12am)	63	259	118	656	445	2,899	447	2,541	560	3,059	2,363	51	13,461
1: 11am (11am-12noon)	-	18	-	73	58	248	58	192	55	174	217	-	1,093
2: 12pm (12noon-1pm)	-	12	-	56	22	248	8	142	48	188	225	-	949
3: 1pm (1pm-2pm)	17	57	8	49	47	229	35	179	32	212	157	-	1,022
4: 2pm (2pm-3pm)	-	11	13	25	24	137	19	185	25	226	194	-	859
5: 3pm (3pm-4pm)	-	29	22	32	27	181	11	241	41	216	155	-	955
6: 4pm (4pm-5pm)	-	24	56	31	23	154	12	164	44	227	156	-	891
7: 5pm (5pm-6pm)	-	12	-	40	13	170	18	181	55	249	143	-	881
	-	-	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-

TURNING MOVEMENT PERCENTAGE

	Cool D/W West Leg EB In			SR 193 East Leg WB Inbound			SR 49 South Leg NB Inbound			SR 49 North Leg SB Inbound		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
0: All Day (12am-12am)	14%	59%	27%	16%	11%	72%	13%	72%	16%	56%	43%	1%
1: 11am (11am-12noon)	0%	100%	0%	19%	15%	65%	19%	63%	18%	45%	55%	0%
2: 12pm (12noon-1pm)	0%	100%	0%	17%	7%	76%	4%	72%	24%	46%	54%	0%
3: 1pm (1pm-2pm)	21%	70%	10%	15%	14%	70%	14%	73%	13%	57%	43%	0%
4: 2pm (2pm-3pm)	0%	46%	54%	13%	13%	74%	8%	81%	11%	54%	46%	0%
5: 3pm (3pm-4pm)	0%	57%	43%	13%	11%	75%	4%	82%	14%	58%	42%	0%
6: 4pm (4pm-5pm)	0%	30%	70%	15%	11%	74%	5%	75%	20%	59%	41%	0%
7: 5pm (5pm-6pm)	0%	100%	0%	18%	6%	76%	7%	71%	22%	64%	36%	0%
	-	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-

Day Type

2: Weekend Day (Sa-Sa)

TURNING MOVEMENT COUNTS - SATURDAY 2020 - JULY AUGUST

Day Part	Cool D/W West Leg EB In			SR 193 East Leg WB Inbound			SR 49 South Leg NB Inbound			SR 49 North Leg SB Inbound			Total
	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	
0: All Day (12am-12am)	87	260	73	615	524	2,077	74	1,982	554	2,439	2,148	45	10,878
1: 11am (11am-12noon)	-	30	-	64	35	277	-	132	55	153	193	24	963
2: 12pm (12noon-1pm)	18	-	70	25	31	220	-	167	34	278	158	-	1,001
3: 1pm (1pm-2pm)	-	85	-	16	-	178	30	135	3	148	232	-	827
4: 2pm (2pm-3pm)	-	31	-	26	58	140	-	157	32	215	216	-	875
5: 3pm (3pm-4pm)	26	34	-	83	29	132	-	134	49	208	236	-	931
6: 4pm (4pm-5pm)	-	-	-	27	28	92	-	163	73	203	154	-	740
7: 5pm (5pm-6pm)	-	-	-	31	-	103	-	85	47	138	130	-	534
	-	-	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-

TURNING MOVEMENT PERCENTAGE

Day Part	Cool D/W West Leg EB In			SR 193 East Leg WB Inbound			SR 49 South Leg NB Inbound			SR 49 North Leg SB Inbound		
	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
0: All Day (12am-12am)	21%	62%	17%	19%	16%	65%	3%	76%	21%	53%	46%	1%
1: 11am (11am-12noon)	0%	100%	0%	17%	9%	74%	0%	71%	29%	41%	52%	6%
2: 12pm (12noon-1pm)	20%	0%	80%	9%	11%	80%	0%	83%	17%	64%	36%	0%
3: 1pm (1pm-2pm)	0%	100%	0%	8%	0%	92%	18%	80%	2%	39%	61%	0%
4: 2pm (2pm-3pm)	0%	100%	0%	12%	26%	63%	0%	83%	17%	50%	50%	0%
5: 3pm (3pm-4pm)	43%	57%	0%	34%	12%	54%	0%	73%	27%	47%	53%	0%
6: 4pm (4pm-5pm)	-	-	-	18%	19%	63%	0%	69%	31%	57%	43%	0%
7: 5pm (5pm-6pm)	-	-	-	23%	0%	77%	0%	64%	36%	51%	49%	0%
	-	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-

KDA

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	1	358	12	2	397
Future Vol, veh/h	17	1	358	12	2	397
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	1	389	13	2	432

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	832	396	0	0	402	0
Stage 1	396	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	339	653	-	-	1157	-
Stage 1	680	-	-	-	-	-
Stage 2	652	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	338	653	-	-	1157	-
Mov Cap-2 Maneuver	338	-	-	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	651	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	347	1157	-
HCM Lane V/C Ratio	-	-	0.056	0.002	-
HCM Control Delay (s)	-	-	16	8.1	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Intersection Delay, s/veh	13.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	26	9	51	25	228	21	155	39	243	201	10
Future Vol, veh/h	4	26	9	51	25	228	21	155	39	243	201	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	28	10	55	27	248	23	168	42	264	218	11
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	1
HCM Control Delay	11.1	13.1	12.4	15.3
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	10%	67%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	67%	33%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	23%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	155	39	39	76	228	243	201	10
LT Vol	21	0	0	4	51	0	243	0	0
Through Vol	0	155	0	26	25	0	0	201	0
RT Vol	0	0	39	9	0	228	0	0	10
Lane Flow Rate	23	168	42	42	83	248	264	218	11
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.048	0.33	0.075	0.09	0.166	0.426	0.513	0.394	0.017
Departure Headway (Hd)	7.57	7.06	6.346	7.623	7.228	6.19	6.994	6.486	5.774
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	470	505	560	473	493	577	512	551	615
Service Time	5.368	4.857	4.143	5.323	5.015	3.976	4.775	4.267	3.554
HCM Lane V/C Ratio	0.049	0.333	0.075	0.089	0.168	0.43	0.516	0.396	0.018
HCM Control Delay	10.8	13.3	9.7	11.1	11.5	13.6	17	13.5	8.7
HCM Lane LOS	B	B	A	B	B	B	C	B	A
HCM 95th-tile Q	0.2	1.4	0.2	0.3	0.6	2.1	2.9	1.9	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	0	0	0	0	0	0	0	0	0	0	18
Future Vol, veh/h	14	0	0	0	0	0	0	0	0	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	0	0	0	0	0	0	0	0	0	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	0	0	0	41	31	0	31	31	1
Stage 1	-	-	-	-	-	-	30	30	-	1	1	-
Stage 2	-	-	-	-	-	-	11	1	-	30	30	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1622	-	-	-	-	-	963	862	-	977	862	1084
Stage 1	-	-	-	-	-	-	987	870	-	1022	895	-
Stage 2	-	-	-	-	-	-	1010	895	-	987	870	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1622	-	-	-	-	-	939	854	-	-	854	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	939	854	-	-	854	-
Stage 1	-	-	-	-	-	-	978	862	-	1013	895	-
Stage 2	-	-	-	-	-	-	992	895	-	978	862	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.2	0	0	
HCM LOS			A	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1622	-	-	-	-	-	-
HCM Lane V/C Ratio	-	0.009	-	-	-	-	-	-
HCM Control Delay (s)	0	7.2	0	-	0	-	-	-
HCM Lane LOS	A	A	A	-	A	-	-	-
HCM 95th %tile Q(veh)	-	0	-	-	-	-	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	9	352	38	10	391
Future Vol, veh/h	43	9	352	38	10	391
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	10	383	41	11	425

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	851	404	0	0	424	0
Stage 1	404	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	330	647	-	-	1135	-
Stage 1	674	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	327	647	-	-	1135	-
Mov Cap-2 Maneuver	327	-	-	-	-	-
Stage 1	674	-	-	-	-	-
Stage 2	638	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	358	1135	-
HCM Lane V/C Ratio	-	-	0.158	0.01	-
HCM Control Delay (s)	-	-	16.9	8.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	26	9	51	25	237	21	164	39	252	210	10
Future Vol, veh/h	4	26	9	51	25	237	21	164	39	252	210	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	28	10	55	27	258	23	178	42	274	228	11
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	1
HCM Control Delay	11.3	13.7	13	16.1
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	10%	67%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	67%	33%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	23%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	164	39	39	76	237	252	210	10
LT Vol	21	0	0	4	51	0	252	0	0
Through Vol	0	164	0	26	25	0	0	210	0
RT Vol	0	0	39	9	0	237	0	0	10
Lane Flow Rate	23	178	42	42	83	258	274	228	11
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.049	0.36	0.077	0.092	0.171	0.458	0.539	0.417	0.018
Departure Headway (Hd)	7.777	7.266	6.55	7.776	7.435	6.396	7.197	6.688	5.975
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	462	497	548	462	486	567	504	541	603
Service Time	5.501	4.99	4.275	5.502	5.135	4.096	4.897	4.388	3.675
HCM Lane V/C Ratio	0.05	0.358	0.077	0.091	0.171	0.455	0.544	0.421	0.018
HCM Control Delay	10.9	14	9.8	11.3	11.7	14.4	18	14.1	8.8
HCM Lane LOS	B	B	A	B	B	B	C	B	A
HCM 95th-tile Q	0.2	1.6	0.2	0.3	0.6	2.4	3.2	2	0.1

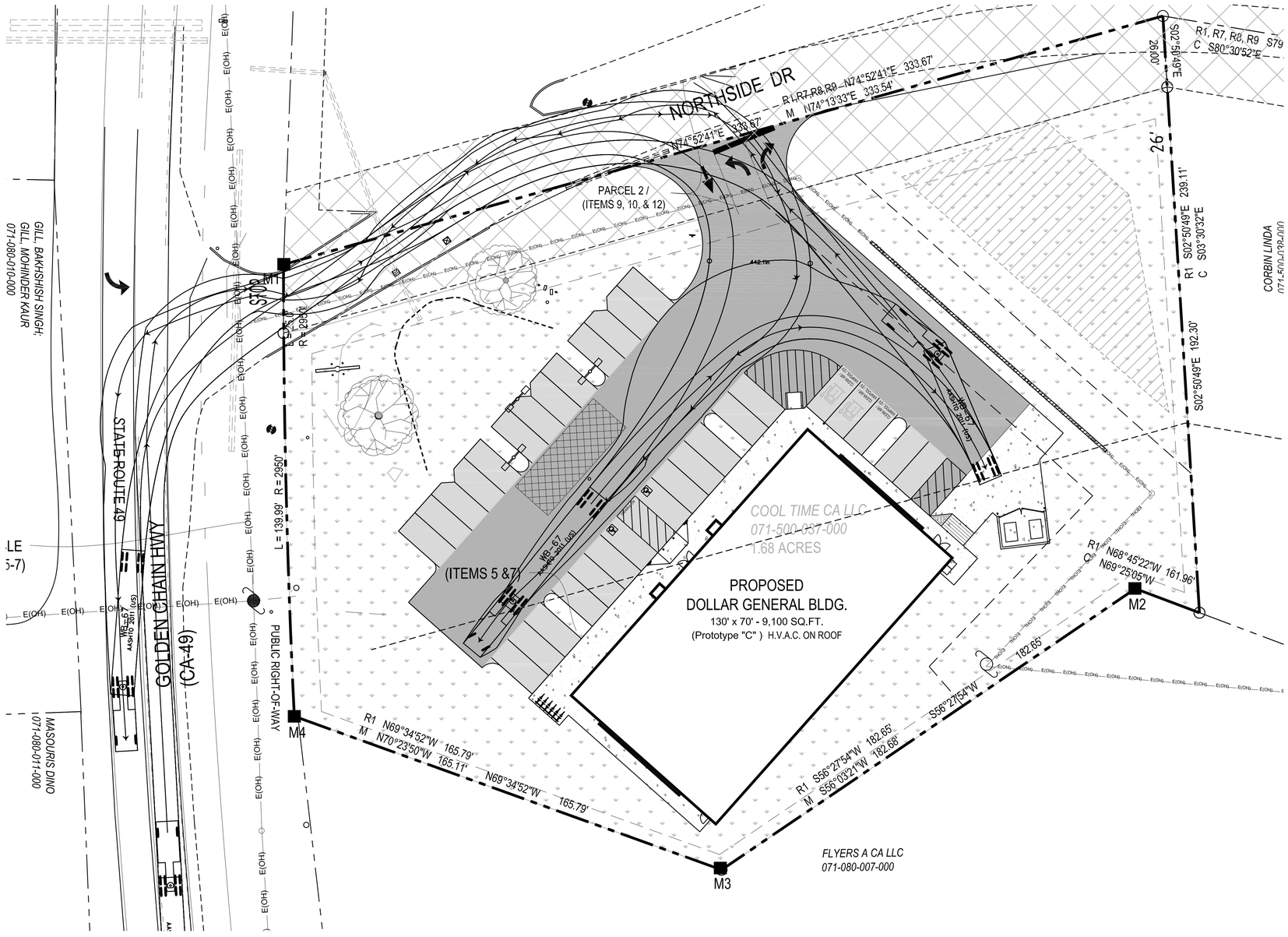
Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	0	34	0	0	0	34	0	0	0	0	18
Future Vol, veh/h	14	0	34	0	0	0	34	0	0	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	0	37	0	0	0	37	0	0	0	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	37	0	0	60	50	19	50	68	1
Stage 1	-	-	-	-	-	-	49	49	-	1	1	-
Stage 2	-	-	-	-	-	-	11	1	-	49	67	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1622	-	-	1574	-	-	936	841	1059	950	823	1084
Stage 1	-	-	-	-	-	-	964	854	-	1022	895	-
Stage 2	-	-	-	-	-	-	1010	895	-	964	839	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1622	-	-	1574	-	-	913	833	1059	943	816	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	913	833	-	943	816	-
Stage 1	-	-	-	-	-	-	955	846	-	1013	895	-
Stage 2	-	-	-	-	-	-	992	895	-	955	831	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.1	0	9.1	8.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	913	1622	-	-	1574	-	-	1084
HCM Lane V/C Ratio	0.04	0.009	-	-	-	-	-	0.018
HCM Control Delay (s)	9.1	7.2	0	-	0	-	-	8.4
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1



SITE PLAN A

SCALE 1"=20'

FLOOD ZONE NOTE

FLOOD ZONE CLASSIFICATION IS BASED UPON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) MAP PANEL NUMBER 06017C0175E ALL OF THE PARCEL ARE LOCATED WITHIN ZONE X - DESCRIBED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

EXCEPTIONS: per amended title report provided by First American Title Co. order no: 0901-5921611

(ITEM 1) AN EASEMENT FOR POLE LINES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 9, 1928 IN BOOK 208, PAGE 216 OF OFFICIAL RECORDS.
IN FAVOR OF: PACIFIC GAS AND ELECTRICAL COMPANY. AFFECTS: AS DESCRIBED THEREIN. THE LOCATIONS OF THE EASEMENT CANNOT BE DETERMINED FROM RECORD INFORMATION.

(ITEM 2) AN EASEMENT FOR POLE LINES AND INCIDENTAL PURPOSES, RECORDED JANUARY 9, 1942 IN BOOK 192, PAGE 84 OF OFFICIAL RECORDS. IN FAVOR OF: PACIFIC GAS AND ELECTRIC COMPANY. AFFECTS: AS DESCRIBED THEREIN. THE LOCATION OF THE EASEMENT CANNOT BE DETERMINED FROM RECORD INFORMATION.

(ITEM 3) AN EASEMENT FOR POLE LINES AND INCIDENTAL PURPOSES, RECORDED JUNE 8, 1953 IN BOOK 326, PAGE 158 OF OFFICIAL RECORDS. IN FAVOR OF: PACIFIC TELEPHONE AND TELEGRAPH COMPANY. AFFECTS: AS DESCRIBED THEREIN. THE LOCATION OF THE EASEMENT CANNOT BE DETERMINED FROM RECORD INFORMATION.

(ITEM 4) THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "AGREEMENT TO PAY ROAD IMPROVEMENT FEE" RECORDED JANUARY 5, 1982 IN BOOK 2044, PAGE 91 OF OFFICIAL RECORDS.

(ITEM 5) AN EASEMENT SHOWN OR DEDICATED ON THE MAP AS REFERRED TO IN THE LEGAL DESCRIPTION. FOR: 50' RADIUS TURNAROUND EASEMENT & NONEXCLUSIVE ROAD AND PUBLIC UTILITIES EASEMENT AND INCIDENTAL PURPOSES.

(ITEM 6) AN EASEMENT FOR ROAD AND PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED JANUARY 27, 1982 IN BOOK 2049, PAGE 20 OF OFFICIAL RECORDS. IN FAVOR OF: NEWTON LEVESKIS AND BETTY LEVESKES, HIS WIFE AS JOINT TENANTS. AFFECTS: NORTHERLY 25 FEET.(DEED FOR APN 071-500-044-000)

(ITEM 7) A LEASE DATED JANUARY 26, 1983, EXECUTED BY NEWTON G. LEVESKIS AND ELIZABETH J. LEVESKIS, HUSBAND AND WIFE AS LESSOR AND UNITED STATES POSTAL SERVICE AS LESSEE, RECORDED IN INSTRUMENT NO. 10172 IN BOOK 2155, PAGE 197 OF OFFICIAL RECORDS. DEFECTS, LIENS, ENCUMBRANCES OR OTHER MATTERS AFFECTING THE LEASEHOLD ESTATE, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS. (LEASE FOR APN 071-500-044-000)

(ITEM 8) AN EASEMENT FOR A 50' NONEXCLUSIVE ROAD AND PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED MAY 29, 1992 AS INSTRUMENT NO. 33414 IN BOOK 3795, PAGE 385 OF OFFICIAL RECORDS. IN FAVOR OF: JOHN W. DELTON AND PATTY G. DALTON, HUSBAND AND WIFE, AS JOINT TENANT, AS TO AN UNDIVIDED 1/2 INTEREST AND DAVID E. HOPKINS AND MARY A. HOPKINS, HUSBAND AND WIFE, AS JOINT TENANTS, AS TO AN UNDIVED 1/2 INTEREST. AFFECTS: AS DESCRIBED THEREIN.

SURVEYORS NOTES

1.) UNDERGROUND UTILITIES EXIST AND WERE MEASURED CONFORMED WITH THE LOCATIONS ON THE AS-BUILT IMPROVEMENT PLANS. HOWEVER EXACT LOCATIONS ARE NOT KNOWN AND CAN ONLY BE DETERMINED BY CAREFULLY EXCAVATING AND HAND PROBING. ASSISTANCE CAN BE OBTAINED BY CALLING UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600. 48 HOURS IN ADVANCE OF ANY EXCAVATION.

2.) THE PROPERTY IS NOW BEING USED FOR LAND DEVELOPMENT.

3.) THERE IS NO OBSERVABLE EVIDENCE THAT THE PROPERTY WAS USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LAND FILL.

3) THERE ARE SEVERAL TREES ALONG THE ON PROPERTY AND THE TREES LARGER THAN 12-INCH DIAMETER HAVE BEEN NOTED.

SITE LEGEND

	HEAVY DUTY CONCRETE		STAND. DUTY ASPHALT
	HEAVY DUTY ASPHALT		LANDSCAPE/OPEN AREA
■	FOUND MONUMENT AS DESCRIBED	— — —	(E) SEWER SERVICE
●	FOUND 5/8" REBAR WITH CAP STAMPED LS 5161	— — —	(E) WATER SERVICE
○	CALCULATED POINT,NOTHING FOUND OR SET	•	(E) FIRE HYDRANT
▲	FOUND STANDARD MONUMENT IN WELL		(E) STREET LIGHT
(E)	EXISTING		(E) FENCE
( )	EMBRACES RECORD DATA		(E) TREE - APPROX DRIP LINE W/TRUNK DIAMETER
M	REPRESENTS MEASURED DATA		(E) POWER POLE/ UTILITY POLE
C	REPRESENTS CALCULATED DATA	S.N.F.	SEARCH NOT FOUND
P.S.E.	(PUBLIC SERVICE EASEMENT)	EDOR	EL DORADO COUNTY OFFICIAL RECORDS
ROS	RECORD OF SURVEY	(T)	TOTAL
R/W	RIGHT-OF-WAY		

MPA ARCHITECTS INC.
3578 30th Street
San Diego, CA 92104
V. 619.236.0595
F. 619.236.0557
www.mpa-architects.com
MEMBER
AMERICAN INSTITUTE OF ARCHITECTS

CLIENT

WOODCREST
1410 MAIN STREET, SUITE C
RAMONA, CALIFORNIA 92065
CONTACT: WADE WYLIE
P: 760-789-5493
e-mail: wade@woodcrestrev.com

PROJECT

A PROPOSED COMMERCIAL DEVELOPMENT FOR:

DOLLAR GENERAL

SEC STATE HWY 49 & NORTHSIDE DR
COOL, CA 95614

REVISIONS

NO.	DESCRIPTION	DATE

LICENSED ARCHITECT
JOHN RUM SEY
C26819
Exp. 3-31-2021
STATE OF CALIFORNIA

SHEET TITLE

ARCHITECTURAL SITE PLAN

DATE:	05-21-20	SCALE:	AS NOTED
DRAWN BY:	L. DALE	DATABASE:	19091
CHECKED BY:	-	SHEET NUMBER:	AS1.1
PROJECT NO:	19091		

853 LINCOLN WAY, SUITE 208
AUBURN, CALIFORNIA 95603
T 530.887.8500 F 530.887.1250

February 25, 2020 12450.01

Mr. Evan Mattes
Associate Planner, El Dorado County
2850 Fairlane Court
Placerville, CA 95667

Subject: DR19-0006/Cool Dollar General, Oak Resources Technical Report

Dear Mr. Mattes:

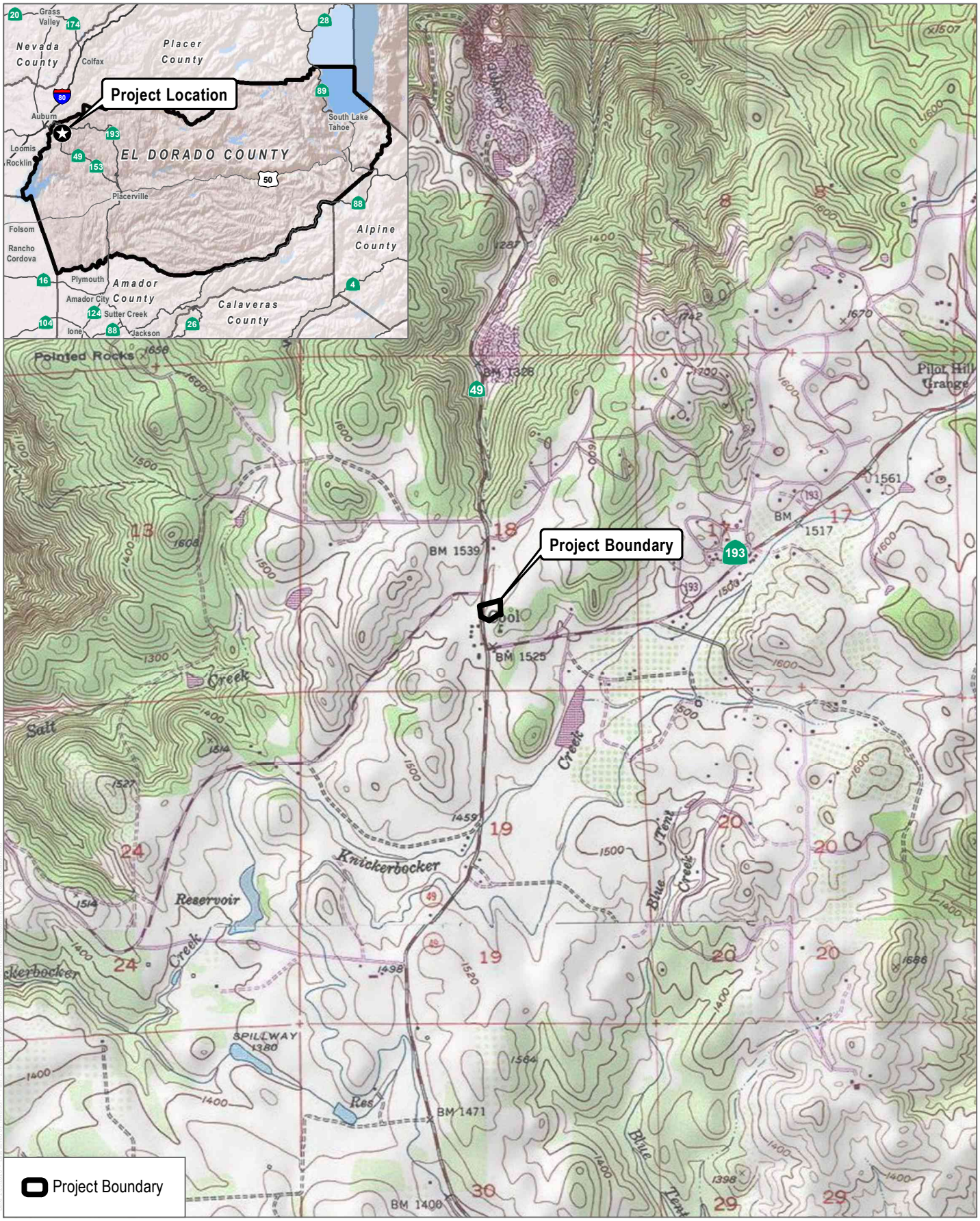
This Oak Resources Technical Report (ORTP) summarizes Dudek's field evaluation of oak resources on the subject project site located on the south side of Northside Drive, east of State Route (SR) 49 in the community of Cool, El Dorado County, California. This report includes a discussion of site evaluation methods, a summary of findings, identification of anticipated impacts, and oak resource protection recommendations, consistent with the El Dorado County Oak Resources Conservation Ordinance (Ordinance No. 5061).

SITE AND PROJECT DESCRIPTION

The 1.69-acre project site (APN 071-500-037) is located on the south side of Northside Drive, east of SR 49 in the community of Cool, El Dorado County, California (Figure 1). The site is undeveloped with gently sloping to flat terrain. Elevations on site range from approximately 1,525 to 1,555 feet above mean sea level (msl) and drainage generally flows to the southeast. The site bordered by commercial development to the north, SR 49 to the west, and vacant property to the south and east. A graded, gravel driveway and pad exist in the central portion of the property, accessed by Northside Drive. Vegetative cover on site is dominated by annual, non-native grasses, with eleven (11) native oak and pine trees concentrated along the eastern boundary and the northwest corner. The site contains eight (8) Individual Native Oak Trees, one (1) of which is classified as a Heritage Tree. No Oak Woodlands were mapped on the project site.

The project proposes construction of a 9,100 square foot building for commercial/retail uses (Dollar General Store) and associated driveway, parking lot, utility, and landscaping improvements.

Exhibit



SOURCE: USGS 7.5 Minute Series Auburn Quadrangle(s)
Township 12N / Range 9E / Section 18

DUDEK

FIGURE 1

Project Location

County of El Dorado Dollar General Project

REGULATORY FRAMEWORK

The project site is located within unincorporated El Dorado County and is therefore subject to the County's oak resources reporting and impact mitigation requirements outlines in El Dorado County's Oak Resources Management Plan (ORMP) and codified in County Ordinance No. 5061. As defined in this ordinance, Oak Resources are defined as:

> *"Collectively, Oak Woodlands, Individual Native Oak Trees, and Heritage Trees."*

Individual Native Oak Tree are defined as:

> *"Any live native oak tree of the genus Quercus (including blue oak (Quercus douglasii), valley oak (Quercus lobata), California black oak (Quercus kelloggii), interior live oak (Quercus wislizeni), canyon live oak (Quercus chrysolepis), Oregon oak (Quercus garryana), oracle oak (Quercus x morehus), or hybrids thereof) with a single main trunk measuring greater than 6 but less than 36 inches dbh, or with a multiple trunk with an aggregate trunk diameter measuring greater than 10 but less than 36 inches dbh."*

Hertitage Trees are defined as:

> *"Any live native oak tree of the genus Quercus (including blue oak (Quercus douglasii), valley oak (Quercus lobata), California black oak (Quercus kelloggii), interior live oak (Quercus wislizeni), canyon live oak (Quercus chrysolepis), Oregon oak (Quercus garryana), oracle oak (Quercus x morehus), or hybrids thereof) with a single main trunk measuring 36 inches dbh or greater, or with a multiple trunk with an aggregate trunk diameter measuring 36 inches or greater."*

The ordinance and ORMP also define oak resource impact reporting requirements and standards for impact mitigation. This Oak Resources Technical Report has been developed to address County requirements and includes mapped tree locations (Attachment A), tree size and attribute data and impact status (Attachment B), and recommendations for protection of trees to be retained on the project site (Attachment C).

METHODS

A Qualified Professional[1] (Registered Professional Forester and International Society of Arboriculture (ISA) Certified Arborist) conducted a site evaluation on January 30, 2020 to document Oak Resources and collect necessary location and attribute information. Attribute information was collected for all trees on the project site with trunk Diameter at Breast Height

[1] El Dorado County Ordinance No. 5061, Section 130.39.030

(dbh) measurement equal to or exceeding 6 inches. Tree attribute data collected during the site evaluation included trunk diameter (dbh), tree height, canopy spread, general health condition, structural condition and presences of observable pests or other tree maladies. Trunk diameters were measured using a diameter tape which provides adjusted figures[2] for diameter measurements when wrapping the tape around a tree's circumference. Diameter measurements were collected using standard protocol described by the Council of Tree and Landscape Appraisers in the "Guide for Plant Appraisal," published by the ISA.[3]

Trunk diameter measurements were taken at 4.5 feet above the ground along the trunk axis, with a few common exceptions. In cases where a tree's trunk split into multiple stems at approximately 4.5 feet above ground, the measurement was made at the location that best represented the trunk's diameter. Tree height measurements were estimated by the arborist and tree canopy diameter measurements were typically estimated by "pacing-off" the measurement based on the arborist's knowledge of his stride length or by visually estimating the canopy width. The tree crown measurements were made along an imaginary line intersecting the tree trunk that best represented the trees longest canopy diameter.

Pursuant to the Guide for Plant Appraisal, tree health and structure were evaluated with respect to five distinct tree components: roots, trunk, scaffold branches, small branches, and foliage. Each tree component was assessed with regard to health factors such as insect, fungal or pathogen damage, mechanical damage, presence of decay, presence of wilted or dead leaves, and wound closure. Components were graded as *good*, *fair to good*, *fair*, *fair to poor*, and *poor*, with 'good' representing no apparent problems, and 'poor' representing a tree with significant health or structural inferiorities.

The location of each individual tree was mapped using a Trimble Geo-7x global positioning systems (GPS) unit. Individual tree attribute data was collected concurrently with tree location mapping and entered into the GPS datalogger. Trees were tagged by the project biologist (Bole and Associates, February 2020) prior to Dudek's site evaluation. The unique tree identification numbers on each tag were recorded during our field assessment and are presented herein as the tree identification numbers (Tree ID)[4]. Following field evaluation efforts, tree location data was entered into a geographic information systems (GIS) format to facilitate mapping and tree impact determination.

[2] Circumference measurement (inches) divided by 3.14 (π) provides diameter measurement in inches

[3] International Society of Arboriculture (ISA). 2000. Guide for Plant Appraisal (9th Edition)

[4] Trees #9 and 10 included in the project's Revised Biological Assessment (Bole and Associates, February 18, 2020) are located off-site and are therefore not included in this report.

RESULTS

A total of eight (8) Individual Native Oak Trees meeting the size criteria identified in County Ordinance No. 5061 were mapped on the project site, including two species (blue oak (*Quercus douglasii*) and interior live oak (*Quercus wislizeni*)). One (1) tree met the criteria for classification as a Heritage Tree (36-inch dbh or greater). No Oak Woodlands were mapped on the project site. Tree impacts were determined by evaluating mapped tree locations and the proposed project's grading plan. Seven (7) Individual Native Oak Trees would require removal to accommodate development of the proposed project, which includes the one (1) Heritage Tree located on site. The project's grading plan identifies that Tree #1 will be retained; however, grading activity will disturb approximately 50% of this tree's root area. Post-construction survival of Tree #1 with this level of root disturbance is unlikely, therefore, it has been identifies as an impact for the purposes of this report. A summary individual tree attributes and impact status is presented in Table 1. Attribute data for all trees mapped and assessed on the project site is presented in Attachment B. It is anticipated that the one (1) retained tree would require some level of canopy or root pruning or may be subject to construction-related dripline encroachment. Recommendations to minimize impacts to retained trees are provided in Attachment C.

Table 1
Individual Tree Data – DR19-0006/Cool Dollar General Project Site

Tree ID*	Botanical Name	Common Name	Total Trunk Diameter (in.)	Individual Native Oak Tree	Heritage Tree	Retain
1	*Quercus douglasii*	Blue oak	21	Yes	No	No
2	*Quercus douglasii*	Blue oak	19	Yes	No	Yes
3	*Quercus wislizeni*	Interior live oak	40	Yes	Yes	No
4	*Pinus sabiniana*	Gray pine	17	No	No	No
5	*Quercus douglasii*	Blue oak	15	Yes	No	No
6	*Quercus douglasii*	Blue oak	21	Yes	No	No
7	*Quercus wislizeni*	Interior live oak	27	Yes	No	No
8	*Pinus sabiniana*	Gray pine	16	No	No	No
11	*Quercus douglasii*	Blue oak	20	Yes	No	No
12	*Pinus sabiniana*	Gray pine	7	No	No	No
13	*Quercus wislizeni*	Interior live oak	24	Yes	No	No

**As noted, Trees #9 and 10 included in the project's Revised Biological Assessment are located off-site and are not included in this report.*

MITIGATION

As presented in Table 1, a total of seven (7) Individual Native Oak Trees will require removal, which includes one (1) Heritage Tree (Tree #3). The project is not exempt from mitigation

requirements and does not qualify for mitigation reductions, as outlined in County Ordinance 5061, Section 130.39.050. Mitigation for Individual Native Oak Tree and Heritage Tree impacts is therefore required, as outlined in County Ordinance 5061, Section 130.39.070(C)(2). As outlined, mitigation shall be reached according to the following options:

- In-lieu fee payment of $37,944. This is calculated based on an in-lieu fee of $153/diameter inch for removed Individual Native Oak Trees (128 total inches) plus $459/diameter inch for removed Heritage Trees (40 total inches).

- Off-site replacement planting consistent with Section 2 of the County's ORMP within an area subject to a Conservation Easement or acquisition in fee title by a land conservation organization. Replacement sizes and quantities shall be consistent with Table 4 in the ORMP. Based on a review of the project site and proposed development plan, the site is not large enough to accommodate on-site replacement trees. A Replacement Planting Plan shall be prepared, consistent with Section 2.4 of the ORMP, if this mitigation option is selected.

In addition to the mitigation requirements listed above, it is recommended that the tree protection recommendations outlined in Attachment C be implemented to minimize construction-related impacts to retained Tree #2.

ARBORIST'S DISCLOSURE

This report provides conclusions and recommendations based only on a visual examination of the trees and surrounding site by an ISA Certified Arborist and reasonable reliance upon the completeness and accuracy of the information provided to the arborist. The examination did not include subterranean or internal examination of the trees.

Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near them. Although trees provide many benefits to those who live near them, they also include inherent risks from breakage or failure that can be minimized, but not eliminated.

Arborists cannot detect every condition that could possibly lead to the failure of a tree. Trees are living organisms subject to attack by disease, insects, fungi, weather, and other forces of nature, and conditions that lead to failure are often hidden within trees and below ground. There are some inherent risks with trees that cannot be predicted with any degree of certainty, even by a skilled and experienced arborist.

Arborists cannot predict acts of nature including, without limitation, storms of sufficient strength, which can cause even an apparently healthy tree to fail. Additionally, arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for any specific period of time. A tree's condition could change over a short or long period of time due to climatic, cultural or environmental conditions. Further, there is no guaranty or certainty that recommendations or efforts to correct unsafe conditions will prevent future breakage or failure of a tree.

To live or work near trees is to accept some degree of risk. Neither the author of this report nor Dudek have assumed any responsibility for, nor will either of them be liable for, any claims, losses or damages for damage to any tree, death or injury to any person, or any loss of or damage to any personal or real property.

Sincerely,

Scott Eckardt
Registered Professional Forester #2835
ISA Certified Arborist #WE-5914A

Cc: Brian Grattidge, Dudek

Att: Attachment A –Tree Location Exhibit
Attachment B – Tree Information Matrix
Attachment C – Tree Protection Measures

ATTACHMENT A

Tree Location Exhibit

SOURCE: USDA 2018

DUDEK

0 30 60 Feet

ATTACHMENT A

Oak Resources Technical Report

County of El Dorado Dollar General Project

ATTACHMENT B

Tree Information Matrix

Tree ID (tag)	Botanical Name	Common Name	Trunk Diameter (dbh) (in.)			Aggregate dbh (in.)	Height (ft.)	Canopy Radius (ft.)	Health	Structure	On-Site	Heritage Tree	Retain	Notes
			Trunk 1	Trunk 2	Trunk 3									
1	*Quercus douglasii*	Blue oak	21			21	25	15	Good-Fair	Good-Fair	Yes	No	No	nails, horseshoes on trunk
2	*Quercus douglasii*	Blue oak	19			19	25	13	Good-Fair	Good-Fair	Yes	No	Yes	
3	*Quercus wislizeni*	Interior live oak	40			40	30	20	Good-Fair	Fair	Yes	Yes	No	basal cavities, decay
4	*Pinus sabiniana*	Gray pine	17			17	45	11	Good-Fair	Good-Fair	Yes	No	No	
5	*Quercus douglasii*	Blue oak	15			15	30	11	Good-Fair	Good-Fair	Yes	No	No	
6	*Quercus douglasii*	Blue oak	21			21	35	13	Fair	Good-Fair	Yes	No	No	mistletoe
7	*Quercus wislizeni*	Interior live oak	20	7		27	30	16	Fair	Fair	Yes	No	No	basal cavities, canopy dieback
8	*Pinus sabiniana*	Gray pine	16			16	20	10	Fair-Poor	Poor	Yes	No	No	topped
11	*Quercus douglasii*	Blue oak	6	7	7	20	12	8	Fair	Fair-Poor	Yes	No	No	suppressed, basal cavities, lean
12	*Pinus sabiniana*	Gray pine	7			7	25	6	Fair	Fair-Poor	Yes	No	No	codominant leaders, included bark
13	*Quercus wislizeni*	Interior live oak	11	7	6	24	12	10	Fair	Poor	Yes	No	No	growing along ground

ATTACHMENT C

Tree Protection Recommendations

Attachment C
Tree Protection Recommendations

Tree Protection Measures Prior to Construction

Prior to any grading activity, retained trees with canopies that fall within 30 feet of construction activity shall be protected by fencing and signage. All contractors shall be made aware of the tree protection measures. A project arborist shall be assigned to monitor tree health and construction activity near retained trees on site. The project arborist shall be an International Society of Arboriculture (ISA) Certified Arborist or Registered Consulting Arborist.

Inspection: Any large tree proposed for preservation on site should be thoroughly inspected for internal or subterranean decay by an ISA Certified Arborist or Registered Consulting Arborist prior to construction activity to determine if retention/protection on site is a viable management option. A Level 2 Risk Assessment is recommended for all large retained trees on site.

Site Preparation: Tree removal, pruning, and inspection should be conducted during site preparation activities. Where permitted by the City, tree removal and pruning activity should be conducted according to industry standards (ANSI A300).

Fencing and Signage: A 4-foot high, orange web fence with tree protection signs shall be erected around all trees (or tree groups) to be retained. The protective fence shall be installed around the tree's dripline. This will delineate the tree protection zone and prevent unwanted activity in and around the trees in order to reduce soil compaction in the root zones of the trees and other damage from heavy equipment. Fences are to be mounted on stakes at no more than 10-foot spacing. In areas where fencing is located on paving or concrete that will not be demolished, then the stakes may be supported by an appropriate grade level concrete base. Tree protection signs should be attached to every fourth post. The contractor shall maintain the fence to keep it upright, taut, and aligned at all times. Fencing shall be removed only after all construction activities are complete.

Pre-Construction Meeting: A pre-construction meeting shall be held between all contractors (including grading, tree removal/pruning, builders, etc.) and the project arborist. The project arborist will instruct the contractors on tree protection practices and answer any questions. All equipment operators and spotters, assistants, or those directing operators from the ground, shall provide written acknowledgement of their receiving tree protection training. This training shall include information on the location and marking of retained trees, the necessity of preventing damage, and the discussion of work practices that will accomplish such.

Protection and Maintenance during Construction

Once construction activities have begun the following measures shall be adhered to:

Avoidance: Signs, ropes, cables, or any other items shall not be attached to any retained tree.

Equipment Operation and Storage: Operating heavy machinery around the root zones of trees will increase soil compaction, which decreases soil aeration and subsequently reduces water penetration in the soil. All heavy equipment and vehicles shall stay out of the fenced tree protection zone, unless where specifically approved in writing by the project arborist.

Storage and Disposal: Do not store or discard any supply or material, including paint, lumber, concrete overflow, etc. within the fenced tree protection zone or within 10 feet of any tree. Remove all foreign debris within the fenced tree protection zone; it is important to leave the duff, mulch,

chips, and leaves around the retained trees for water retention and nutrients. Avoid draining or leakage of equipment fluids near retained trees. Fluids such as: gasoline, diesel, oils, hydraulics, brake and transmission fluids, paint, paint thinners, and glycol (anti-freeze) should be disposed of properly. Keep equipment parked outside of the fenced tree protection zone of retained trees to avoid the possibility of leakage of equipment fluids into the soil. The effect of toxic equipment fluids on the retained trees could lead to decline and death.

Grade Changes: Grade changes are not recommended within the dripline of retained trees. No grade changes (cut, fill, compact) shall occur within 4 feet (measured horizontally) of the base of any retained tree. Lowering the grade within a tree's dripline will necessitate cutting main support and feeder roots, jeopardizing the health and structural integrity of the tree(s). Adding soil, even temporarily, on top of the existing grade will compact the soil further, and decrease both water and air availability to the trees' roots. A drainage outlet shall be provided, if necessary, to allow for appropriate surface drainage within the tree's dripline.

Moving Construction Materials: Care shall be taken when moving equipment or supplies near the trees, especially overhead. Avoid damaging the tree(s) when transporting or moving construction materials and working around retained trees (even outside of the fenced tree protection zone). Above ground tree parts that could be damaged (e.g., low limbs, trunks) should be flagged with red flagging. If contact with the tree crown is unavoidable, prune the conflicting branch(es) using ISA or ANSI A300 standards.

Trenching: All trenching shall be outside of the fenced tree protection zone. Roots primarily extend in a horizontal direction forming a support base to the tree similar to the base of a wineglass. Where trenching is necessary in areas that contain tree roots, prune the roots using a root pruner. All cuts should be clean and sharp, to minimize ripping, tearing, and fracturing of the root system. The trench should be made no deeper than necessary.

Irrigation: Trees that have been substantially root pruned (30% or more of their root zone) will require irrigation for the first twelve months. The first irrigation should be within 48 hours of root pruning. They should be deep watered every two to four weeks during the summer and once a month during the winter (adjust accordingly with rainfall). One irrigation cycle should thoroughly soak the root zones of the trees to a depth of 3 feet. The soil should dry out between watering; avoid keeping a consistently wet soil. Designate one person to be responsible for irrigating (deep watering) the trees. Check soil moisture with a soil probe before irrigating. Irrigation is best accomplished by installing a temporary above ground micro-spray system that will distribute water slowly (to avoid runoff) and evenly throughout the fenced tree protection zone ***but never soaking the area located within 6- feet of the tree trunk, especially during warmer months***. For trees not subject to root pruning activity, the amount of irrigation provided shall not be changed from that which was provided prior to the commencement of construction activity.

Canopy Pruning: All pruning shall be completed under the direction of an ISA Certified Arborist and following ISA or ANSI A300 standards. Only conflicting limbs, broken limbs and dead wood shall be removed from tree canopies.

Washing: Periodic washing of the foliage is recommended during construction but no more than once every two weeks. Washing should include the upper and lower leaf surfaces and the tree bark. This should continue beyond the construction period at a less frequent rate with a high-powered hose only

in the early morning hours. Washing will help control dirt/dust buildup that can lead to mite and insect infestations.

Maintenance after Construction

Once construction is complete the tree protection fencing may be removed and the following measures performed to sustain and enhance the vigor of the retained trees.

Mulch: Provide a 4-inch mulch layer under the canopy of trees. Mulch should include clean, organic mulch that will provide long-term soil conditioning, soil moisture retention, and soil temperature control.

Pruning: Pruning should *only* be done to maintain clearance and remove broken, dead or diseased branches. Pruning shall only take place following a recommendation by an ISA Certified Arborist and performed under the supervision of an ISA Certified Arborist. No more than 15% of the canopy shall be removed at any one time. All pruning shall conform to ISA or ANSI A300 standards.

Watering: Retained trees on site shall be watered as they were prior to the commencement of construction activity. Supplemental irrigation may be necessary for twelve months following substantial root pruning.

Watering Adjacent Plant Material: All plants near the trees shall be compatible with water requirements of said trees. Watering regime included in the site's landscape plan shall be developed with consideration for the water needs of retained trees.

Spraying: If the trees are maintained in a healthy state, regular spraying for insect or disease control should not be necessary. If a problem does develop, an ISA Certified Arborist should be consulted; the trees may require application of insecticides to prevent the intrusion of bark-boring beetles and other invading pests. All chemical spraying should be performed by a licensed applicator under the direction of a licensed pest control advisor.

COOL PILOT HILL ADVISORY COMMITTEE
% Aloha Adams, Chair
P. O. Box 365, Cool, CA 95614
530-320-0887

March 16, 2020

Evan.mattes@edcgov.us
Mr. Evan Mattes, Planner
El Dorado County Planning Department
2850 Fairlane Court
Placerville, CA 95667

RE: DR19-0006 Dollar General/Cool General Retail

Dear Mr. Mattes:

On behalf of the **COOL PILOT HILL ADVISORY COMMITTEE,** I, as Chair, have been charged to write you with our concerns regarding the above proposed Dollar General project on Northside Drive in Cool.

In the case of the project on Parcel 071-500-037-000, Cool General Retail, there are multiple and significant aspects that result in the need for mitigation measures before determining that the project is applicable for this location, including the following.

CEQA, or the **California Environmental Quality Act**, is a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, Significance is determined not by a county wide determination but a project based at minimum on location and negative effects it has to the community.

A**spects of CEQA which are significant to this project:**
Traffic: Traffic congestion is currently a problem with the local businesses and during this non-tourist season at the intersection of SR 49 and SR 193 just south of this proposed building. Traffic currently backs up during mornings and especially late afternoon causing drivers to incur long delays to get thru the intersection. This does not include traffic during any holiday or tourist season. Additional traffic from Northside Drive would add to the congestion. Also, having additional large delivery trucks coming into the area will significantly add to the congestion. This doesn't even take into consideration the significant congestion that is caused by emergencies such as the recent Country Fire. Additionally, the traffic from local businesses, such as the Cool Boardwalk and the gas station also contribute to the congestion and must be taken into consideration..

Page four of the Traffic Impact Analysis (TIA) states that Northside Drive is a two-lane street, which is certainly a stretch as it does not have a center line and two vehicles travelling in opposite direction must stop and move slowly.

Exhibit N

Further on page four, “intersection has been identified for evaluation: SR 49 and/Florian Court and SR 49/Northside Drive. Both can be challenging to access any time of day; the same for the commercial driveway as well as SR 193.

Page six notes LOS as D, which can cause long delays and unstable flow. It is unconscionable that Cal Trans would identify the long range plan for SR 49 as LOS D. The residents of the area deserve better than that, which only increases in the event of an emergency.

Geotechnical Strata: There appears to be significant earthwork leading to concern regarding the amount of dust, fill, rock disposal, slope stability and cut areas. Measures must be taken to ensure that the builder adheres to requirements for development and removal. The construction manager or representative should be present at all times to observe all grading operations.

Environmental Justice: The Project must consider the impacts to the general area financially as well as environmentally. This type of project does not provide any enhancement to this Gold Rush area. Instead it degrades the quality by providing “low-end” services. It also will create a negative impact on surrounding businesses which are struggling in the current economic environment. Keep in mind that a small sporting goods shop recently closed because it could not survive. Unfortunately the most recent impact of the Coronavirus causing many local small businesses to close and many may never reopen, which will impact our communities significantly. Based on these facts only, this project should be rejected.

Stormwater: The area surrounding the project has no measures to control stormwater runoff from the project area. Currently the bare land provides for minimal absorption of rainfall, which could cause unabated run-off. Multiple times during the year ponding of water in the intersection occurs causing dangerous traffic hazards for people driving, as well as the people walking thru that area. There needs to be mitigation for a walkway from Northside Drive to the intersection of SR 193.

Percolation: There are no current wastewater systems in the area. To get a health dept approved system there would have to be a significant system approved and installed to pump and treat their wastewater before it enters the environment if it can even be absorbed into the ground. Long-term plans must be in place to monitor wastewater systems.

Cultural/Historic: This is a Gold Rush area and the historic, cultural and archeological regulations of CEQA need to be considered and mitigated before this project goes forward.

It is extremely important to the community of Cool and the surrounding areas, that El Dorado County not minimize the concerns and issues of this type of project or look at it for the minimal income potential.

Based on the above areas of concern and needs for extensive mitigations, it is the opinion of the members of **COOL PILOT HILL ADVISORY COMMITTEE** this project should be rejected.

Respectfully submitted,

/s/Aloha Adams, Chair

EL DORADO COUNTY
PLANNING SERVICES

2850 Fairlane Court
Placerville, CA 95667

http://co.el-dorado.ca.us/planning

Phone: (530) 621-5355
Fax: (530) 642-0508

Pre-application Worksheet **PA 19-0006 Cool Dollar General Pre-Application**
Assessor's Parcel Numbers (APN): **071-500-037**

1. Pre-Application Request: Request for 9,100 square foot retail store including landscaping, a 31 space parking lot and an encroachment onto State Highway 49.

2. Location:

The project is located on the east side of State Highway 49 south of the intersection with Northside Drive in the Cool area, consisting of a 1.69 acre parcel.

3. General Plan Land Use Designation Consistency:

The project parcels have a General Plan Land Use designation of Commercial (C).

4. Zoning Consistency:

The project site has a zoning designation General Commercial (CG) with a Design Control (DC) zoning overlay. Retail sales and service is a use allowed by right within the CG zoning designation. The DC overlay requires that the project obtain a Design Review permit, which is to ensure project compatibility with historical, scenic, or community design criteria

5. Advice and Recommendation

Formal application processing will include project review for Completeness, formal agency review and conditioning, and environmental analysis (ie. California Environmental Quality Act). The applications shall be required to submit applicable project materials (project plans, technical studies and reports) in order to adequately review and analyze the project. The project will be reviewed for consistency with the applicable policies of the General Plan including land use compatibility with surrounding uses, aesthetics, noise, air quality, and traffic, and for adherence with applicable development standards in the Zoning Ordinance including setbacks, building heights, site lighting and landscaping, signs, and parking.

The General Plan and Zoning Ordinance can be accessed by clicking on the following links:

https://www.edcgov.us/Government/Planning/pages/Adopted_General_Plan.aspx

https://www.edcgov.us/Government/planning/Pages/zoning_ordinance.aspx

Typically for Design Review Permits located outside of the Scenic Corridor the Planning Director will be the approving authority. The Director may defer action and refer any permit or authorization application to the Planning Commission for determination. The Planning Director has determined that this is a project that will be deferred to the Planning Commission

for determination. Through this Pre-App submittal staff has determined that this DR would have an applicable fee of $10,484. Of this total amount $7,156 is a Planning fee, $328 is an Environmental Management fee, and $3,000 is a Transportation Department time and materials deposit.

Planning Commissioner James Williams identified that he would like for the applicant to conduct public outreach meetings for the project as well as incorporating elements of DR14-0005 Dollar General Georgetown (Attachment G).

6. Other Affected Agencies

Submittal of a formal project application would be routed to the following agencies for input and comment:

- Resource Conservation District: Review of grading impacts and soil types
- Environmental Management: Hazardous Materials, Septic
- Air Quality Management District: Review of short and long term air quality impacts and Green House Gas
- Utility Companies: AT&T, PG&E, Comcast, etc. to review impacts to utilities in area.
- Building Department: Review of building permit plans for streamlined permitting process upon approval
- Department of Transportation: Traffic and Circulation; Review of Preliminary Grading Plan and Drainage;
- Surveyor: Property surveys/Addressing
- Fish and Game: Review of potential existence and effects to natural and sensitive habitats and species; water quality
- El Dorado County Fire Protection District
- Georgetown Public Utility District (GPUD)
- CALTRANS District 3
- El Dorado County Sheriff

8. Attachments:

Attachment A: Comments Received on Pre-Application PA19-0002
Attachment B: Design Review Application
Attachment C: Zoning Designation Map
Attachment D: General Plan Land Use Designation Map
Attachment E: Aerial Map
Attachment F: Fee Schedule
Attachment G: DR14-0005 Dollar General Georgetown Plan Set

Disclaimer: The preliminary analysis by Planning Services is based upon the documentation provided at the Pre-Application Meeting. While Planning Services makes every attempt to provide a comprehensive review for future formal applications, often the information submitted by the applicant's changes over time. Additional information and studies may be required by the application at the time of submittal. Any re-design of the project or potential impacts not known at the time of Pre-Application may require additional information in order to process formal applications.

Community Design Guide

El Dorado County
Planning Department
Prepared: November 1981

Reformatted: May 2017 [1, 2]

Adopted by the Board of Supervisors
April 24, 2018 by Resolution 071-2018

Exhibit P

Reformatting Notes:

[1] Original document produced in 1981 not in electronic format. Due to poor print quality, the original photographs could not be reproduced in reformatting this document. For purposes of consistency, photographs of similar buildings, features or architectural theme(s) were used whenever possible.

[2] For purposes of readability, minor layout/typeface changes have been made to various section(s) of this document. However, no changes were made to the text.

TABLE OF CONTENTS

The photographs in this guide illustrate good design in buildings, sties, and landscaping of existing projects in this County. This guide is not intended to exemplify a particular style of architecture to which developments must conform.

Prepared: November 1981, by the El Dorado County Planning Department,
John Branch, Project Leader

FOREWORD

Good architecture is always desirable both for aesthetic and economic reasons.

Well-designed buildings and landscaping enhance the visual character of an area, reflect the values of a community and increase business and property values.

The very quality of life is affected by building design and the blending of structures to the building site.

Resident and tourist alike can take pleasure in an interesting roof line, contrasting textures of wood and stone, or landscaping of green lawn and flowering shrubs.

DESIGN REVIEW

To promote good architecture, the El Dorado County Board of Supervisors has adopted a design review ordinance that regulates design within designated districts judged to be of special natural beauty or contributing to the County's character and tourist economy.

The same ordinance provides design review for sites and structures of special historical interest and for development in the visually sensitive mountain areas of El Dorado County. This ordinance is also intended to help in situations where there are buffer zones between residential and commercial development or special uses which may be desirable, but are attended by problems like noise and traffic congestion.

Within design review districts, as designated on maps, the County has the ability to review and control the design of commercial, industrial and multi-family residential development.

Design review is just one of several procedures the County can use to guide development in the interest of the public's health, safety and general welfare. It is separate from, and in addition to, other procedures that might be necessary, such as a use permit, rezoning, variance or building permit.

The process looks at more than the proposed building. It also examines the project's layout, landscaping, parking, signs, and other features. It covers all the factors in the project's appearance, plus how well it fits its surroundings. This does not mean the County is dictating a particular style of architecture for design review districts. Variety is preferred, not uniformity. But it does mean the County is seeking higher standards of architecture.

GENERAL

In reviewing plans, County authorities will evaluate a project on its contribution to the County's character and on its suitabi1ity for its 1ocation. Stock building plans might not be acceptable. Some basic questions by which projects will be evaluated are:

Will the project be a good neighbor?

It should not impair the use, value or good development of neighboring property. Its design should minimize interference with the privacy, quiet and views of its neighbors and avoid traffic problems and damage to the natural environment.

Does the project follow the basic principles of good design?

Harmony, continuity, variety, proportion, simplicity and balance should prevail in all aspects of the project, whether it's a multi-unit complex or a single sign. The project should be designed as a whole, fit into its surroundings and avoid monotony in form, detai1 and siting.

Does the project give people some variety and something interesting to look at?

Aesthetics are important. Landscaped areas, benches and fountains are much more appealing to the eye than blank walls and uninterrupted rows of parking.

GUIDELINES

Does the project suit its purpose? Do the various components of the project work well together?

An apartment building, for example, should look residential and be livable.

Does the project make good use of the site?

The interior spaces should be oriented to take advantage of outward views. Natural topography and trees should be retained where possible.

Do different elements fit together logically?

Parking ought to be located so a person can easily get from car to building entrance.

Are materials, forms and other elements of a project suitable for its uses?

Exterior finishes should aid maintenance and be harmonious with surroundings.

SPECIFIC CRITERIA

SITE PLANNING

During review of development projects, specific criteria relating to the site, the building, landscaping, signs, parking and other features will be considered.

Suiting the Site – A designer should try to fit a project to the existing site, rather than alter the site to accommodate a stock plan. Preserve topography, the natural grade and vegetation. Avoid excessive cuts and fills.

Open Space – Natural features and views should be maintained and protected through use of adequate open space.

Parking Areas – Screen parking areas from public ways and divide them up with landscaping, walls, fences, berms and other means.

Lighting – Exterior lighting should be subdued and avoid creating a glare for occupants or neighboring properties. Lighting should enhance the building design and landscaping as well as providing for safety and security.

Trash and other Service Areas – Locate trash containers and loading docks away from public streets and store entrances and screen them. Screening should be durable and an integral part of the overall structural design.

BUILDING DESIGN

The building design should consider many points:

Harmony – Different structures and parts of structures should harmonize with each other and the neighborhood. New construction should go well with the old, or the old may be remodeled to go with the new.

Materials – Use materials honestly. Simulated wood or masonry, for example, generally is not acceptable.

Finishes, Textures, Colors – Exterior treatment should be subdued and restrained. Treatment should aim at durability and ease of maintenance as well as initial beauty. The different building materials of stone, wood and timber need to be skillfully blended. Large building masses should be broken with architectural detail, roof lines developed with interest and variety, and windows enlivened with detail.

Mechanical Equipment and Utilities – Design service equipment, including meter boxes, as part of the structure and provide screening for them.

Energy Conservation – Design should minimize the need for mechanical heating and cooling. Wherever possible, use sunlight for heating and illumination, and natural ventilation and shading for coolness.

LANDSCAPING

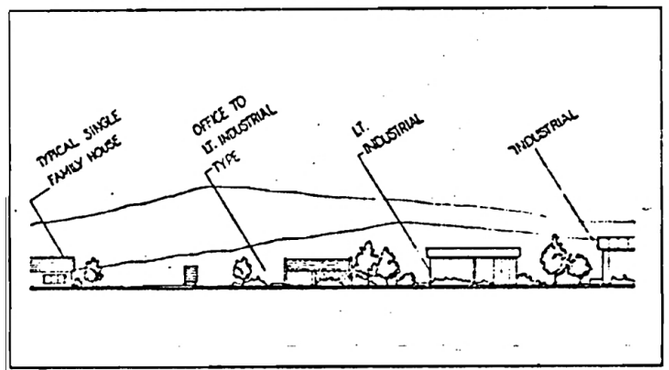
Landscaping improves the appearance of sites and buildings, helps erosion control and provides screening and shade. Landscaping, including trees, shrubs and ground cover, should be included in all development projects.

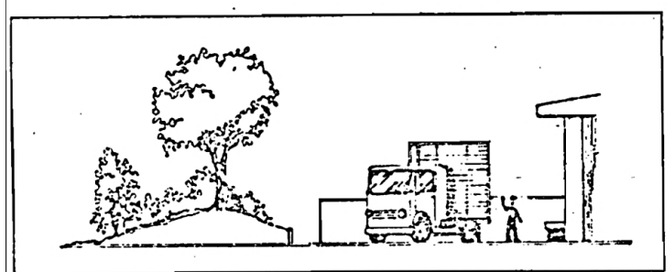
The good designer will incorporate existing vegetation and natural rock formations where possible. The plant materials used should be appropriate for the sun, wind, soil compaction and water conditions of the project.

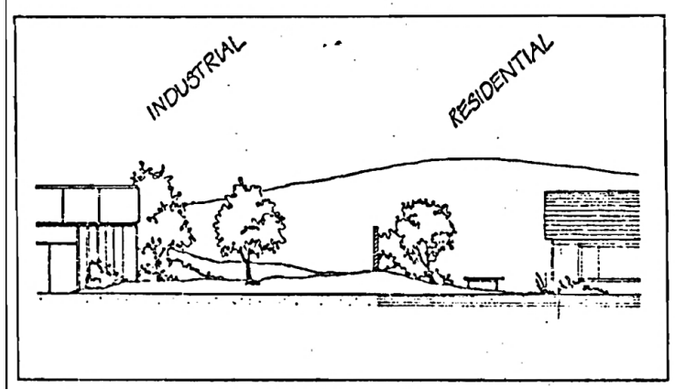
Maintenance – Choose landscape materials and arrangements to minimize maintenance. A permanent irrigation system should be provided. Automatic watering systems, set to water at night or early morning, are encouraged.

Parking Lots – Landscaping ought to include planters at suitable intervals throughout the lot and at the ends of parking rows. It should include trees that will provide adequate visual relief and shading when they mature. Landscaping must not block a driver's view.

Trees – Trees have many uses. They can provide summer shade for parked cars and pedestrian walkways; provide visual screening; provide accent points that help reduce the formless expanse of a parking lot; filter the glare of reflective pavement, muffle noise and trap dust and airborne particles.







BUFFERING

Adequate buffering and screening may be required in areas where different land uses are adjacent to each other.

The purpose of screening and buffering is to reduce or eliminate the conflicts and nuisances that some land uses cause to others.

Industrial and commercial land uses should be screened from adjacent residential areas by use of dense landscaping, earth berms and fences so that noise, light glare, and other visual disturbances are minimized.

Where some types of land uses front on and can be viewed from a public road, the use of buffers and other screening techniques may be required to shield areas where there is outside storage of materials and equipment.

When new developments are proposed to be located in existing neighborhoods, the project should not be sited to overlook adjacent homes. The new structures should also be located so that the buildings do not block the sun's light to the adjacent parcels.

Changes of grade, fences, walls, earth berms and dense plantings of shrubs and trees can provide permanent buffering and screening to reduce or minimize the conflicts that one type of land use may cause to another.

SIGNS

Signs are a necessary aid to commercial enterprise but need as careful handling as the building and site.

Design Compatibility – Signs, their materials, size, color, lettering, location and arrangement, should be an integral part of the site and building design and compatible with the surroundings.

Consistency – Keep signing consistent in location and design throughout a development. This includes shopping centers.

Restraint – Signing should be simple, restrained and subordinate to the overall project design. A sign ought to attract and identify, but not dominate the site.

Types – Wall signs, graphic symbol signs and low profile free-standing signs are encouraged. Flashing, moving and rotating signs are prohibited by County ordinance.

Simplicity – Signs should use minimum copy and suitable lettering and avoid garish materials and shapes.

Lighting – Subtle lighting and landscaping can enhance a sign's setting and draw attention to it. The light source should be screened.

An excess of signs or wrong placing confuses a potential customer and destroys the sign's purpose.

PARKING

Designers should give careful thought to parking areas.
Well designed buildings on choice sites lose their visual impact
if all that is seen on approach is barren blacktop and monotonous
rows of cars.

Parking lots also contribute to the deterioration of the environment
by reducing ground water and increasing surface runoff and
erosion.

Second, there must be a practical and economic use of land in
layout of parking spaces, landscape areas and vehicle and
pedestrian access.

Third, landscape plants, along with earth berms and walls, must be
designed to screen, shade and soften the impact of parking areas.

A good designer should consider locating the parking to the rear
or side of a building rather than in front. For a large development,
a parking area's apparent size can be reduced by dividing it into
several smaller lots or placing it on more than one level.

REVIEW PROCEDURE

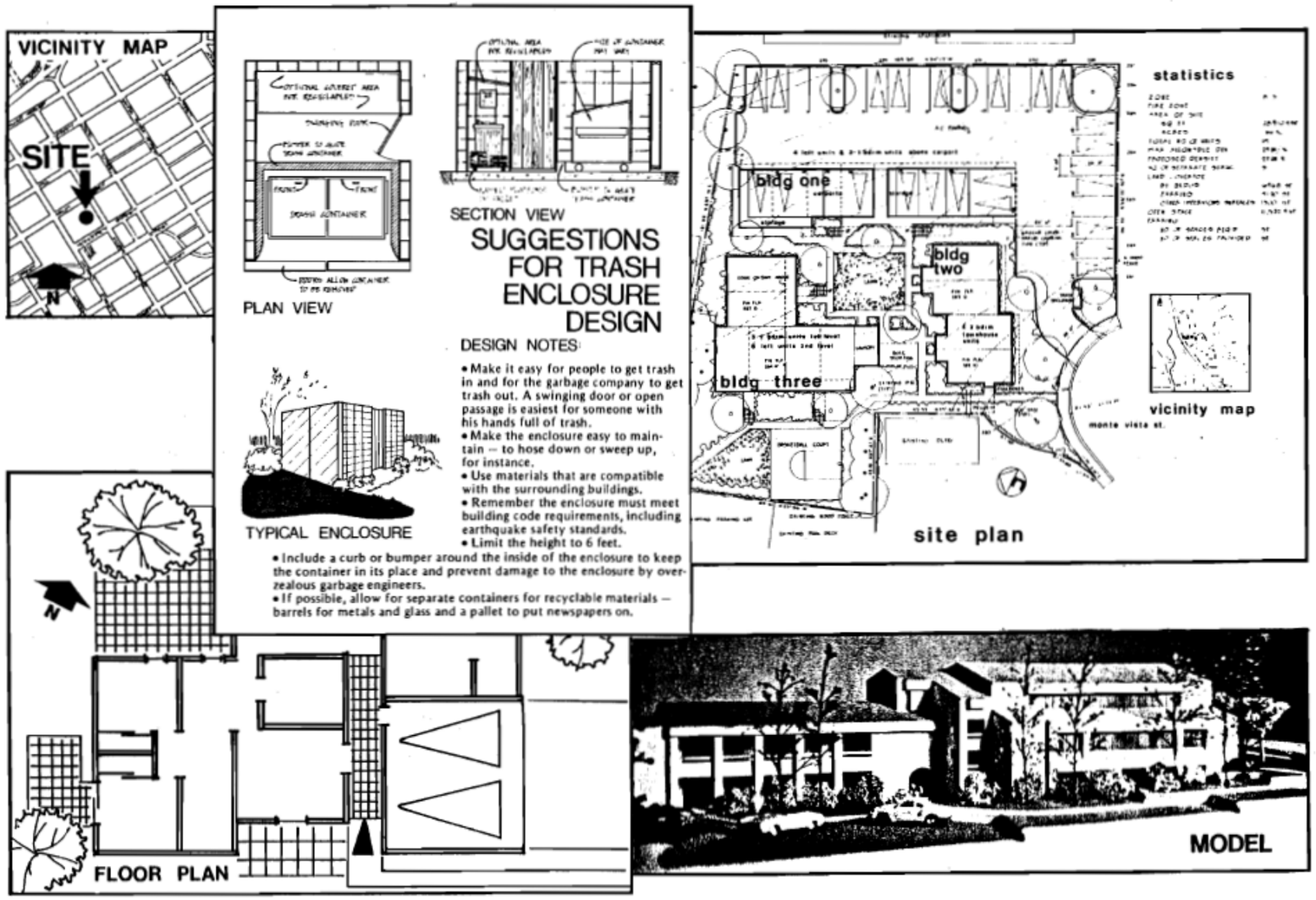
A developer planning to build in a design review district is encouraged to hold early, informal talks with county officials on what information will be required and in how much detail.

Then the developer should submit detailed plans covering the site, drainage, landscaping and sometimes grading, along with elevations of the proposed buildings and information on such features as signs. These papers first go to the County's Building Department which will pass them on to the Planning Department for review.

The County Planning Director, sometimes with the help of an advisory Design Review Committee, will be responsible for reviewing and approving or denying an application.

Any appeal will go to a public hearing before, the County's Planning Commission and its decision is final.

The Planning Director will have 15-20 days from the filing of the completed application for design review to give a written decision on whether the application meets the ordinance and a building permit should be issued.


VICINITY MAP
SITE
N
PLAN VIEW
SECTION VIEW
SUGGESTIONS FOR TRASH ENCLOSURE DESIGN
DESIGN NOTES:
• Make it easy for people to get trash in and for the garbage company to get trash out. A swinging door or open passage is easiest for someone with his hands full of trash.
• Make the enclosure easy to maintain — to hose down or sweep up, for instance.
• Use materials that are compatible with the surrounding buildings.
• Remember the enclosure must meet building code requirements, including earthquake safety standards.
• Limit the height to 6 feet.
TYPICAL ENCLOSURE
• Include a curb or bumper around the inside of the enclosure to keep the container in its place and prevent damage to the enclosure by over-zealous garbage engineers.
• If possible, allow for separate containers for recyclable materials — barrels for metals and glass and a pallet to put newspapers on.
bldg one
bldg two
bldg three
statistics
vicinity map
monte vista st.
site plan
N
FLOOR PLAN
MODEL

PROJECT TYPES

INDUSTRIAL

This section shows different types of projects and lists design considerations which particularly apply to that kind of building.

Select a site large enough to accommodate future expansion as well as provide a buffer to adjacent development.

Present your “best face” to public view.

Screen outdoor storage and loading operations with fencing and planting and separate them from car parking areas.

Install underground utilities where possible.

Provide ample parking for employees and separate from visitor parking.

Use landscaping to break up large areas of asphalt and soften the lines of building and site.

COMMERCIAL

Employ variations from conventional building design and materials.

Provide ample landscaping with large plant materials for quick effect.

Use a minimum of site grading and replant cuts and fills.

Integrate signing with the total architectural design.

Provide screening and light shielding from adjacent residential properties.

Separate pedestrian and car traffic.

Keep the public entrance free of parking.

Provide screening for utilities, trash disposal, vent stacks, etc.

Consider bicycle parking facilities.

PROFESSIONAL

Use landscaping plants suited to the general climate.

Take advantage of special environmental features at and around the site.

Provide sheltered outdoor spaces for informal conversation.

Install underground utilities where possible.

Architectural treatment is important and should integrate the building with the site and surrounding community.

Use construction materials suited to the building type and style and avoid garish colors and contrasts.

Minimize excessive site preparation and grading.

MULTIFAMILY

Take advantage of changes in grade but utilizing site terracing and avoid mass grading.

Leave open space areas within the project for landscaping and group use.

Provide private areas such as patios.

On steep sites, consider locating parking under buildings.

Screen the parking areas from public view.

Maintain driveways and parking areas at a minimum grade.

Avoid monotonous building design.

Provide for children's play areas.

SERVICE STATION

Provide ample landscaping to relieve large, paved areas.

Reduce outdoor display and storage to a minimum.

Screen outdoor storage with fencing and planting.

Reduce signing to that which is necessary for identification.

Separate pedestrian from vehicular circulation.

Refrain from using banners, pennants and wind powered devices.

RESTAURANTS

Choose an architectural treatment that fits into the natural environment.

Provide facilities for outdoor waiting areas.

Provide open areas for visual relief.

Use natural slopes to enhance the design.

Use appropriately placed landscaping to direct pedestrian and vehicular traffic.

Use a well-designed, carefully placed sign for identification.

MOTELS

Select your site to take advantage of special views.

Let the site design, architecture and landscaping works as a unit.

Design your sign to reflect your reputation of service.

Design the facilities to take advantage of the local climate.

Install underground utilities where possible.

Retain native tree cover and replant cuts and fills.

Screen outdoor storage with fencing and planting.

SHOPPING CENTERS

Design the complex to be attractive from ALL directions.

Select a site large enough to provide ample parking.

Enhance the parking area with landscaping.

Retain architectural unity throughout the center.

If outdoor display is necessary, provide a specially designed area for that purpose.

Provide screening and light shielding from adjacent residential properties.

Use planting and fencing to screen loading and outdoor storage or sales areas.

FRONT ELEVATION
1/8"=1'-0" (WEST ELEVATION @ HWY 49) 1

REAR ELEVATION
1/8"=1'-0" (EAST ELEVATION) 2

LEFT ELEVATION
1/8"=1'-0" (NORTH ELEVATION) 3

RIGHT ELEVATION
1/8"=1'-0" (SOUTH ELEVATION) 4

Exhibit

MPA ARCHITECTS INC.
3578 30th Street
San Diego, CA 92104
V. 619.236.0595
F. 619.236.0557
www.mpa-architects.com
MEMBER
AMERICAN INSTITUTE OF ARCHITECTS

CLIENT

WOODCREST
1410 MAIN STREET, SUITE C
RAMONA, CALIFORNIA 92065
CONTACT: WADE WYLIE
P: 760-789-5493
e-mail: wade@woodcrestrev.com

PROJECT

A PROPOSED COMMERCIAL DEVELOPMENT LOCATED AT:

PAD BLDG. (GEN. RETAIL)

SEC STATE HWY 49 & NORTHSIDE DR
COOL, CA 95614

REVISIONS

NO.	DESCRIPTION	DATE

SHEET TITLE

EXTERIOR COLOR ELEVATIONS

DATE:	06-26-19	SCALE:	AS NOTED
DRAWN BY:	L. DALE	DATABASE:	19091
CHECKED BY:	-	SHEET NUMBER:	A3.1
PROJECT NO:	19091		

NORTHWEST ELEVATION
N.T.S.
1

NORTHEAST ELEVATION
N.T.S.
2

MPA ARCHITECTS INC.
3578 30th Street
San Diego, CA 92104
V. 619.236.0595
F. 619.236.0557
www.mpa-architects.com
MEMBER
AMERICAN INSTITUTE OF ARCHITECTS

CLIENT

WOODCREST
1410 MAIN STREET, SUITE C
RAMONA, CALIFORNIA 92065
CONTACT: WADE WYLIE
P: 760-789-5493
e-mail: wade@woodcrestrev.com

PROJECT

A PROPOSED COMMERCIAL DEVELOPMENT LOCATED AT:

PAD BLDG. (GEN. RETAIL)

SEC STATE HWY 49 & NORTHSIDE DR
COOL, CA 95614

REVISIONS

NO.	DESCRIPTION	DATE

SHEET TITLE

EXTERIOR COLOR ELEVATIONS

DATE: 06-26-19	SCALE: AS NOTED
DRAWN BY: L. DALE	DATABASE: 19091
CHECKED BY: -	SHEET NUMBER: A3.2
PROJECT NO: 19091	

FRONT ELEVATION
1/8"=1'-0"
(WEST ELEVATION @ HWY 49)
1

REAR ELEVATION
1/8"=1'-0"
(EAST ELEVATION)
2

LEFT ELEVATION
1/8"=1'-0"
(NORTH ELEVATION)
3

RIGHT ELEVATION
1/8"=1'-0"
(SOUTH ELEVATION)
4

MPA ARCHITECTS INC.
3578 30th Street
San Diego, CA 92104
V. 619.236.0595
F. 619.236.0557
www.mpa-architects.com
MEMBER
AMERICAN INSTITUTE OF ARCHITECTS

CLIENT

WOODCREST
1410 MAIN STREET, SUITE C
RAMONA, CALIFORNIA 92065
CONTACT: WADE WYLIE
P: 760-789-5493
e-mail: wade@woodcrestrev.com

PROJECT

A PROPOSED COMMERCIAL DEVELOPMENT FOR:
DOLLAR GENERAL®
SEC STATE HWY 49 & NORTHSIDE DR
COOL, CA 95614

REVISIONS

NO.	DESCRIPTION	DATE

SHEET TITLE

EXTERIOR ELEVATIONS

DATE: 09-26-19	SCALE: AS NOTED
DRAWN BY: L. DALE	DATABASE: 19091
CHECKED BY: -	SHEET NUMBER: A3.0
PROJECT NO: 19091	

NORTH ELEVATION

N.T.S.

1

SOUTH ELEVATION

N.T.S.

2

MPA ARCHITECTS INC.

3578 30th Street
San Diego, CA 92104
V. 619.236.0595
F. 619.236.0557
www.mpa-architects.com

MEMBER
AMERICAN INSTITUTE OF ARCHITECTS

CLIENT

WOODCREST

1410 MAIN STREET, SUITE C
RAMONA, CALIFORNIA 92065

CONTACT: WADE WYLIE
P: 760-789-5493
e-mail: wade@woodcrestrev.com

PROJECT

A PROPOSED COMMERCIAL DEVELOPMENT FOR:

DOLLAR GENERAL®

SEC STATE HWY 49 & NORTHSIDE DR
COOL, CA 95614

REVISIONS

NO.	DESCRIPTION	DATE

SHEET TITLE

EXTERIOR COLOR ELEVATIONS

DATE: 09-26-19	SCALE: AS NOTED
DRAWN BY: L. DALE	DATABASE: 19091
CHECKED BY: -	SHEET NUMBER: A3.2
PROJECT NO: 19091	